

March 5, 2024

Mr. Jacob Evans  
Environmental Compliance Advisor  
Civitas Resources  
650 Southgate Drive  
Windsor, Colorado 80550

**Re: Miller 4-17J, 14-17 Pit Excavation  
Soil Analytic Summary Report  
SWSW Sec 17, T2S, R67W  
ECMC Facility ID 103315  
Remediation Project # 25332**

Dear Mr. Evans,

### **Site Background**

On behalf Civitas Resources (Civitas), Quandary Consultants, LLC (Quandary) has prepared a soil analytic summary report for the site assessment at the Miller 4-17J, 14-17 location (Site). A topographic site location map is presented as Figure 1. An aerial site location map is presented as Figure 2. A soil and hydrology map is presented as Figure 3. Sample locations identified on figures without defined concentrations are non-detect (ND) for all constituents of concern (COCs).

While collecting samples for root zone soil suitability analysis on March 8, 2023, for the Miller 14-17 pit (ECMC Location ID 103309), suspected hydrocarbon impacts were encountered by Quandary. Quandary mobilized again on March 14, 2023, and March 21, 2023 to conduct a site assessment for Energy and Carbon Management Commission (ECMC) Table 915-1. Five source area boreholes (SB01-SB05) and five background boreholes (BG01-BG05) were advanced. All ten boreholes were dry to refusal at approximately 20 to 22 feet (ft.) below ground surface (bgs). After review of the soil delineation samples, it was determined that the impacts were associated with the Miller 4-17J (ECMC location ID 103315), located approximately 60 ft. northeast of Miller 14-17. All samples had been labeled as the Miller 14-17 at the time.

Civitas commenced with excavation to remediate the impacts that were encountered. Approximately 4,000 cubic yards of soil were excavated and taken to the Front Range Landfill in Erie, Colorado. Quandary mobilized to the location on July 6, 2023, July 19, 2023, August 29, 2023, January 18, 2024, and January 19, 2024 to collect confirmation soil samples from the open excavation. Samples collected on January 18, 2024, and January 19, 2024 were samples recollected in the vicinity of previous sample exceedances.

Confirmation and reconfirmation sample soil samples were collected along the sidewalls approximately every 20 ft. and 6 confirmation soil samples were collected from the base of the excavation with an area of approximately 4,225 square ft. A shale layer was encountered at approximately 24 ft. bgs. Groundwater was not encountered in the open excavation at that time.

### **Soil Analytical Results**

Confirmation soil samples with exceedances were resampled on January 18, 2024 and January 19, 2024. Resample soil analysis for pH was collected at W03R@22', S01R@22', S02R@22', S03R@22', W04R@22' from the sidewalls of the excavation. Resample soil analysis for SAR was collected at E03R@22', N01R@22', and W01R@22', from the sidewalls and B07R@24' from the base of the excavation. Resample soil analysis for arsenic was collected at E03@22', N01R@22', N02R@22', W01R@22', W02R@22', W03R@22', S01R@22', S02R@22', and S03R@22' from the sidewalls of the excavation and B07R@24' and B08R@24' from the base of the excavation.

Seven background boreholes were advanced to refusal and soil samples were collected at approximately 4 to 5 ft. intervals. Two boreholes (BG-01 and BG-02) were subsequently eliminated from analysis due to proximity to the excavation. The five background boreholes were advanced to 24 ft. bgs. or refusal on November 21, 2023 to compare background levels against the base of the excavation given the similar lithology and depth. Excavation confirmation and background soil sample results are depicted in Figures 4 through 12 and presented in Tables 1 through 4. Site-specific confirmation and background sample figures are presented as Figures 4 through 10.

A total of thirty (30) background samples were collected in March, August, and November of 2023 from similar depths and lithologies represented by the excavation confirmation samples. Site concentrations from the sidewalls and the base were compared to Table 915-1 Protection of Groundwater Soil Screening Levels Concentrations (GSSLs) or site-specific background levels. The results indicate the following.

- Soil analytical results indicated volatile organic compound and polyaromatic compound concentrations above GSSLs along the south sidewall of the excavation.
- Soil analytical results indicated SAR levels above 915-1 Soil Suitability for Reclamation allowable levels are present on the north, east, and west sidewalls of the excavation and pH levels above background are present along the south and west sidewalls of the excavation. One confirmation soil sample had an elevated level for SAR in the base of the excavation.
- Soil analytical results indicated two soil confirmation samples with arsenic concentrations above background levels in the base of the excavation and two soil confirmation samples with barium concentrations above background levels along the south sidewall of the excavation.

Photo logs, bore logs and the laboratory analytical reports are attached.

## Conclusion

Arsenic resampling within the base was conducted prior to removal of soils to determine variability compared to prior confirmation samples. Additional confirmation samples were collected after source removal in the vicinity of B07R@24' and B08R@24' for full Table 915-1 analysis to vertically delineate SAR and arsenic. Base confirmation analytical concentrations and updated statistical analysis for SAR and arsenic in the base of the excavation will be provided to the ECMC in a future update report. Groundwater was encountered in the open excavation but could not safely be sampled due to weather and the large size and benching of the excavation. Quandary will remobilize and attempt to sample the groundwater during dry conditions.

Based upon the results presented above, Quandary recommends additional excavation or statistical analysis. Please let Mike Dinkel know if you have any questions or require additional information on this summary report. He can be reached at [mdinkel@quandaryconsultants.com](mailto:mdinkel@quandaryconsultants.com) or 785-691-7788.

## Attachments:

- Figures
- Tables
- Photo Logs
- Bore Logs
- Laboratory Reports

## FIGURES









#### Legend

- MILLER 14-17 Pit (103309)
- MILLER 4-17J Pit (103315)
- CDWR Water Well Application
- PLSS Township & Range
- PLSS Section
- PLSS Qtr-Qtr
- Parcel Boundary
- County Boundary

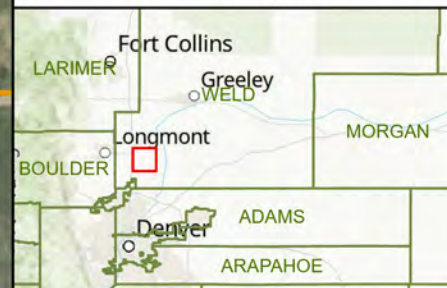
0 125 250 Feet



#### CIVITAS RESOURCES

**Figure 2. MILLER 14-17 & MILLER 4-17J  
Aerial Site Location Map**

Facility ID: 103309 (40.133080, -104.921035)  
Facility ID: 103315 (40.133170, -104.921157)  
SWSW Qtr-Qtr, Sec 17, T2N, R67W, 6PM  
Weld County, CO

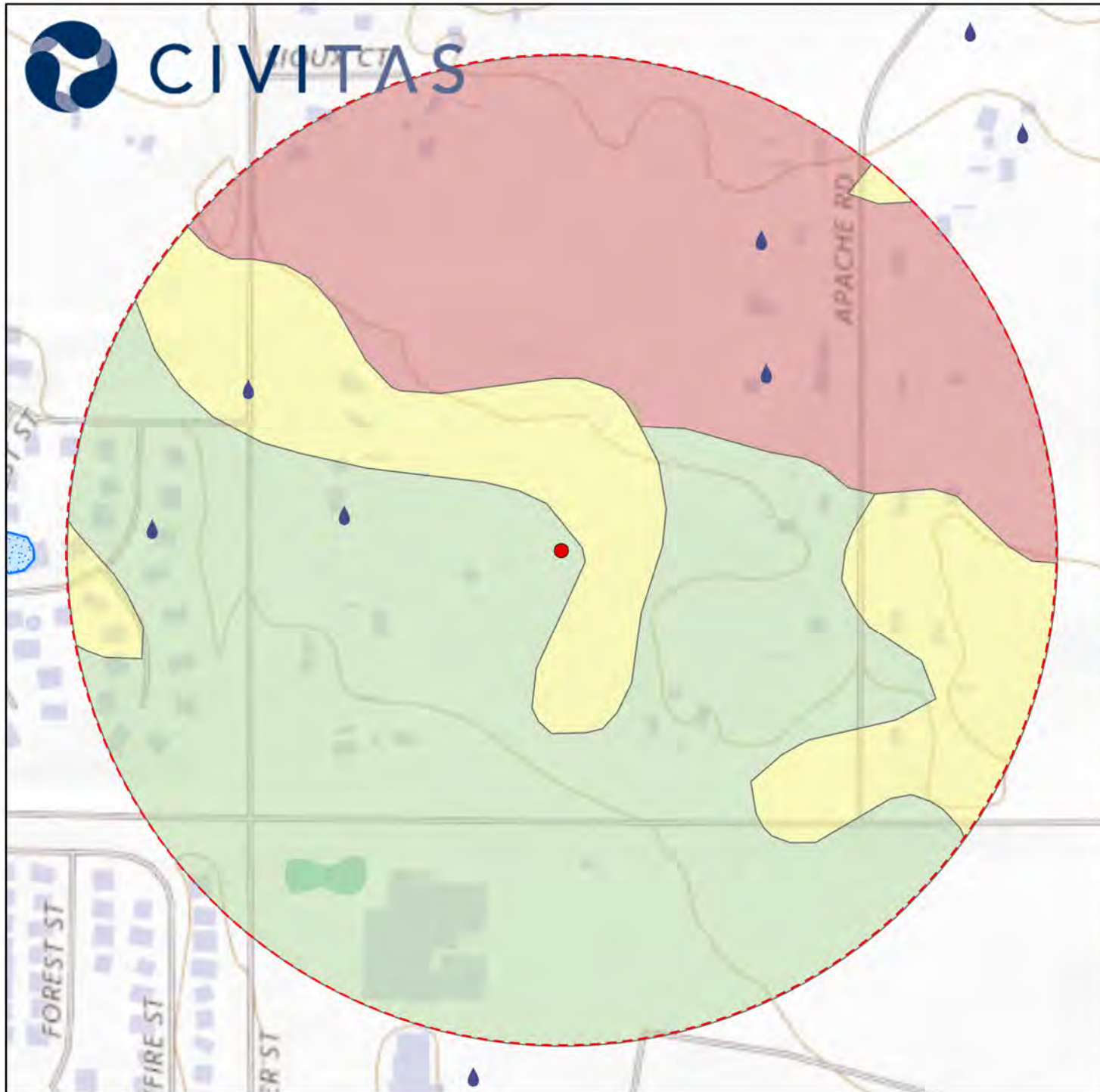


Author: CSJ Date: 04/20/2023

Data Sources: Esri, CGIAR, USGS, Maxar,  
CDWR, NWI, NHD

PARCELA: PICKERING, CODY & RANA - 9131 Apache Rd, Longmont, CO 80504-5440 (Account: R5407486, Parcel: 131117005054).





#### Legend

- MILLER 14-17 Pit (103309)
- 0.25-Mile Buffer
- 💧 CDWR Water Well Application
- NWI Freshwater Pond
- NRCS Soils**  
(Map Unit Symbol - Map Unit Name)
- 44 - Olney loamy sand, 1-3% slopes
- 72 - Vona loamy sand, 0-3% slopes
- 73 - Vona loamy sand, 3-5% slopes

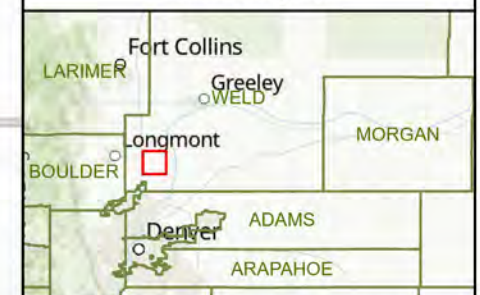
0 125 250 375 500  
Feet



#### CIVITAS RESOURCES

#### Figure 3. MILLER 14-17 & MILLER 4-17J Soil & Hydrology Map

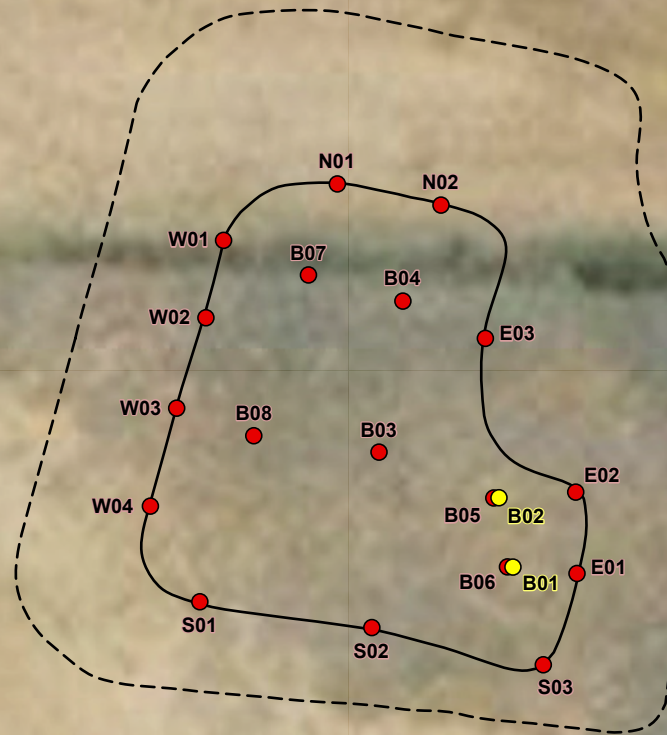
Facility ID: 103309 (40.133080, -104.921035)  
Facility ID: 103315 (40.133170, -104.921157)  
SWSW Qtr-Qtr, Sec 17, T2N, R67W, 6PM  
Weld County, CO



**QUANDARY**  
CONSULTANTS

Author: CSJ Date: 04/20/2023

Data Sources: Esri, CGIAR, USGS, Maxar,  
CDWR, NWI, NHD, NRCS



## Legend

- Soil Sample Location
- Soil Sample Location - Removed by Excavation
- Excavation Extent
- Surface Excavation Extent Due to Sidewall Benching

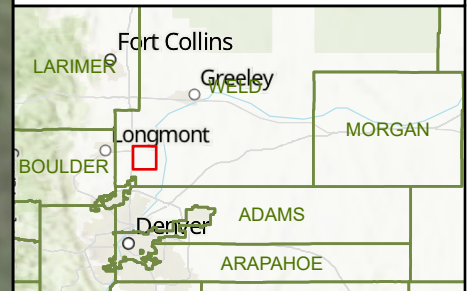
0 12.5 25  
Feet



## CIVITAS RESOURCES

### Figure 4. MILLER 14-17 & MILLER 4-17J Excavation Soil Sample Location Map

Facility ID: 103309 (40.133080, -104.921035)  
Facility ID: 103315 (40.133170, -104.921157)  
SWSW Qtr-Qtr, Sec 17, T2N, R67W, 6PM  
Weld County, CO

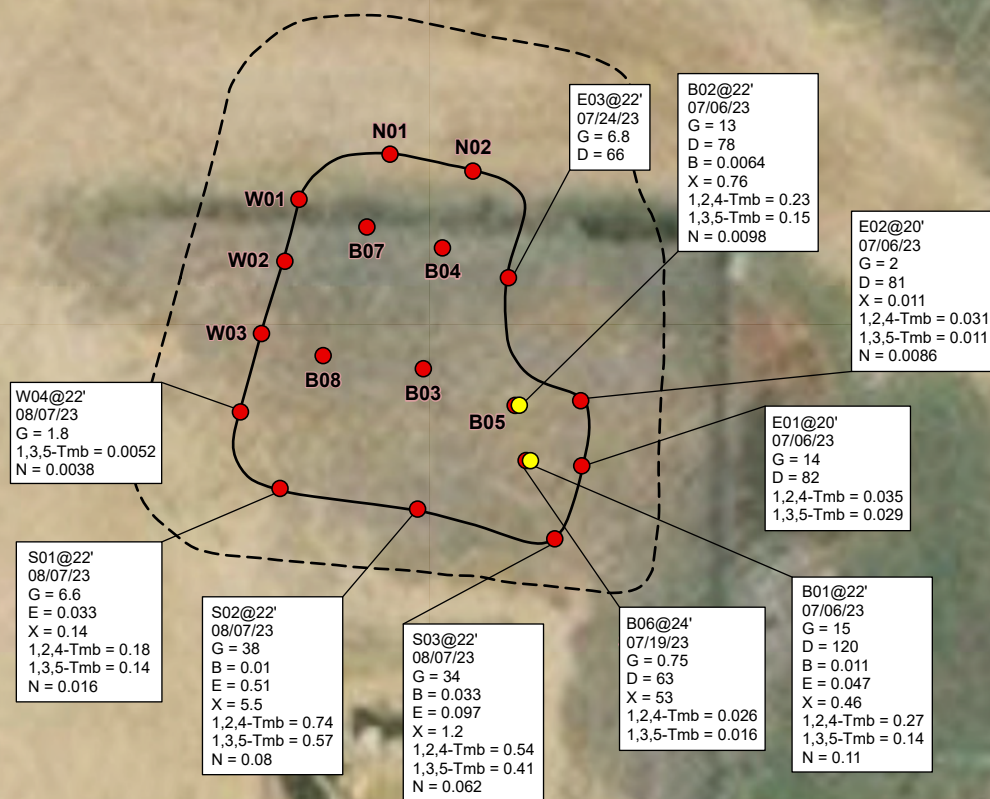


**QUANDARY**  
CONSULTANTS

Author: CSJ Date: 09/22/2023

Data Sources: Esri, CGIAR, USGS, Maxar, Civitas





## Legend

- Soil Sample Location
- Soil Sample Location - Removed by Excavation
- ▭ Excavation Extent
- ▭ Surface Excavation Extent Due to Sidewall Benching

## Parameters

Sample Location @ Depth (ft.)  
 Sample Date  
 G = TPH-GRO (mg/kg)  
 D = TPH-DRO (mg/kg)  
 R = TPH-RRO (mg/kg)  
 B = Benzene (mg/kg)  
 E = Ethylbenzene (mg/kg)  
 X = Total Xylenes (mg/kg)  
 1,2,4-Tmb = 1,2,4-Trimethylbenzene (mg/kg)  
 1,3,5-Tmb = 1,3,5-Trimethylbenzene (mg/kg)  
 N = Naphthalene (mg/kg)

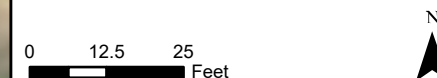
mg/kg = Milligrams per Kilogram

TPH-GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics

TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics

TPH-RRO = Total Petroleum Hydrocarbons - Residual Range Organics

**Note:** Values presented in **bold** indicate an ECMC Table 915-1 exceedance above Residential Soil Screening Levels for that compound. Values not present for a sample indicate a non-detect for that compound.



## CIVITAS RESOURCES

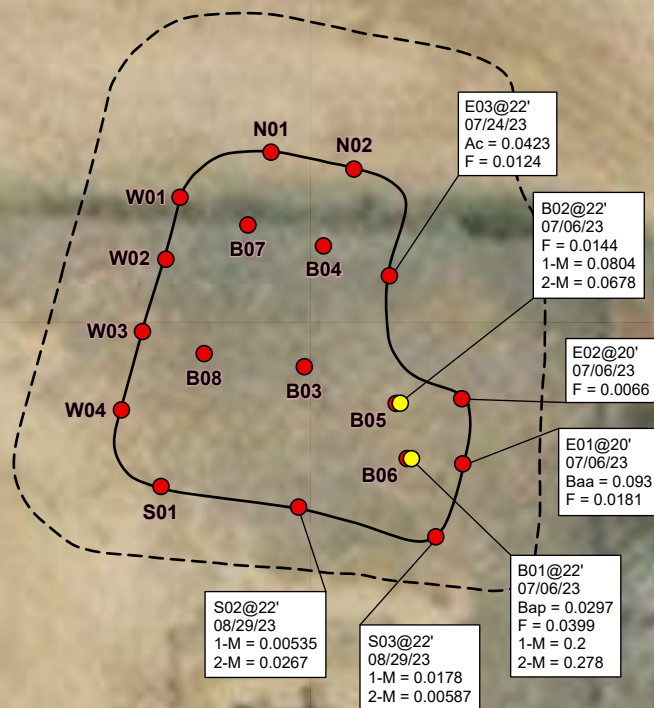
### Figure 5. MILLER 14-17 & MILLER 4-17J Excavation Results Map Volatile Organic Compounds

Facility ID: 103309 (40.133080, -104.921035)  
 Facility ID: 103315 (40.133170, -104.921157)  
 SWSW Qtr-Qtr, Sec 17, T2N, R67W, 6PM  
 Weld County, CO



Author: CSJ Date: 09/22/2023

Data Sources: Esri, CGIAR, USGS, Maxar, Civitas



## Legend

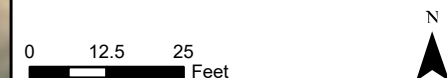
- Soil Sample Location
- Soil Sample Location - Removed by Excavation
- Excavation Extent
- Surface Excavation Extent Due to Sidewall Benching

## Parameters

Sample Location @ Depth (ft.)  
Sample Date  
Ac = Acenaphthene (mg/kg)  
An = Anthracene (mg/kg)  
Baa = Benz[a]anthracene (mg/kg)  
Bap = Benzo[a]pyrene (mg/kg)  
Bbf = Benzo[b]fluoranthene (mg/kg)  
Bkf = Benzo[k]fluoranthene (mg/kg)  
C = Chrysene (mg/kg)  
Di = Dibenzo[a,h]anthracene (mg/kg)  
Fa = Fluoranthene (mg/kg)  
F = Fluorene (mg/kg)  
I = Indeno[1,2,3-cd]pyrene (mg/kg)  
P = Pyrene (mg/kg)  
1-M = 1-Methylnaphthalene (mg/kg)  
2-M = 2-Methylnaphthalene (mg/kg)

mg/kg = Milligrams per Kilogram

**Note:** Values presented in **bold** indicate an ECMC Table 915-1 exceedance above Residential Soil Screening Levels for that compound. Values not present for a sample indicate a non-detect for that compound.



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### Figure 6. MILLER 14-17 & MILLER 4-17J Excavation Results Map Polycyclic Aromatic Hydrocarbons

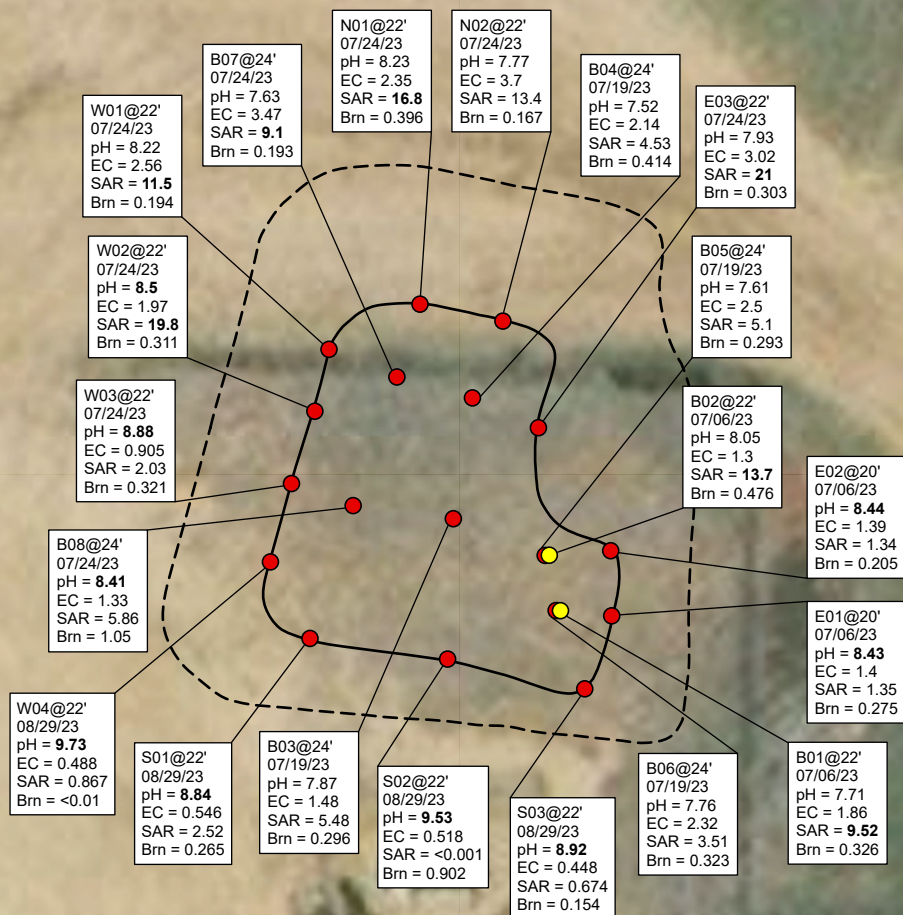
Facility ID: 103309 (40.133080, -104.921035)  
Facility ID: 103315 (40.133170, -104.921157)  
SWSW Qtr-Qtr, Sec 17, T2N, R67W, 6PM  
Weld County, CO



Author: CSJ Date: 09/22/2023

Data Sources: Esri, CGIAR, USGS, Maxar, Civitas





## Legend

- Soil Sample Location
- Soil Sample Location - Removed by Excavation
- ▭ Excavation Extent
- ▭ Surface Excavation Extent Due to Sidewall Benching

## Parameters

Sample Location @ Depth (ft.)  
 Sample Date  
 pH = pH  
 EC = Electrical Conductivity (mmhos/cm)  
 SAR = Sodium Absorption Ratio  
 Brn = Boron (mg/L)

mmhos/cm = Millimhos per Centimeter  
 mg/L = Milligrams per Liter

**Note:** Values presented in **bold** indicate an ECMC Table 915-1 exceedance above Residential Soil Screening Levels for that compound.

0 12.5 25  
 Feet



## CIVITAS RESOURCES

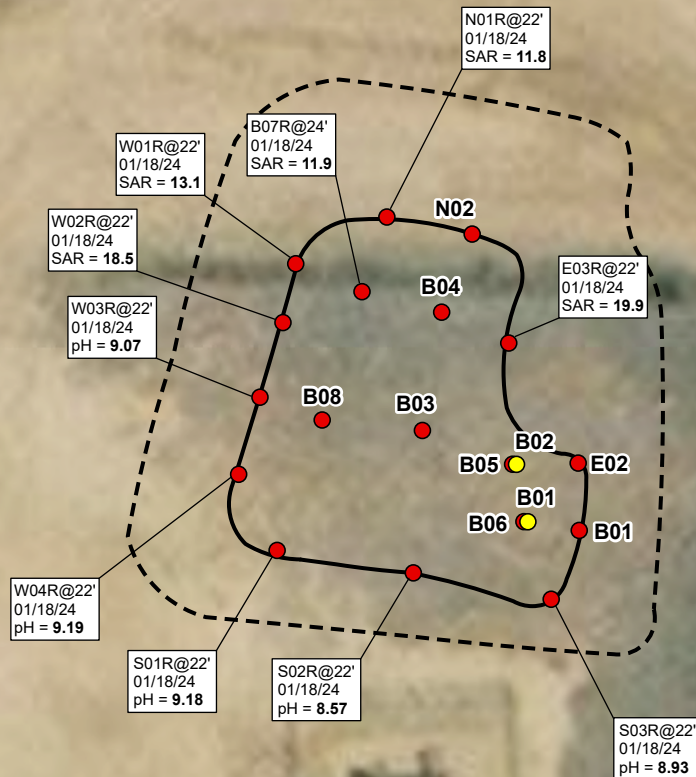
### Figure 7. MILLER 14-17 & MILLER 4-17J Excavation Results Map Soil Suitability

Facility ID: 103309 (40.133080, -104.921035)  
 Facility ID: 103315 (40.133170, -104.921157)  
 SWSW Qtr-Qtr, Sec 17, T2N, R67W, 6PM  
 Weld County, CO



Author: CSJ Date: 09/22/2023

Data Sources: Esri, CGIAR, USGS, Maxar, Civitas



## Legend

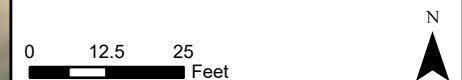
- Soil Sample Location
- Soil Sample Location - Removed by Excavation
- ▭ Excavation Extent
- ▭ Surface Excavation Extent Due to Sidewall Benching

## Parameters

Sample Location @ Depth (ft.)  
Sample Date  
pH = pH  
SAR = Sodium Absorption Ratio

mg/kg = Milligrams per Kilogram

Note: Values presented in **bold** indicate an ECMC Table 915-1 exceedance above Residential Soil Screening Levels for that compound. Values not present for a sample indicate a non-detect for that compound.



## CIVITAS RESOURCES

### Figure 7B. MILLER 14-17 & MILLER 4-17J Excavation Results Map Soil Suitability

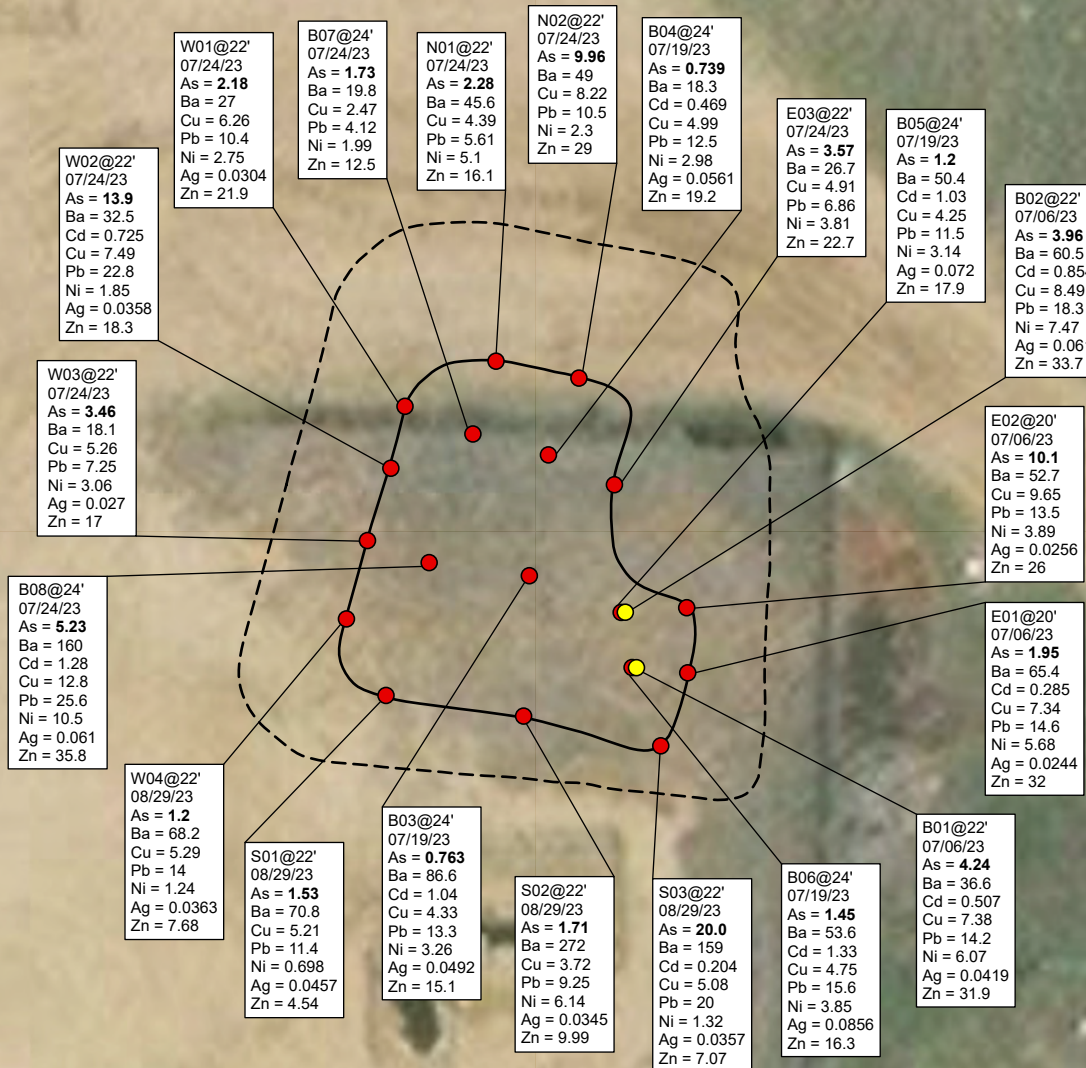
Facility ID: 103309 (40.133080, -104.921035)  
Facility ID: 103315 (40.133170, -104.921157)  
SWSW Qtr-Qtr, Sec 17, T2N, R67W, 6PM  
Weld County, CO



Author: JG Date: 02/07/2024

Data Sources: Esri, CGIAR, USGS, Maxar, Civitas





## Legend

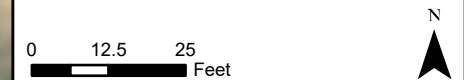
- Soil Sample Location
- Soil Sample Location - Removed by Excavation
- Excavation Extent
- Surface Excavation Extent Due to Sidewall Benching

## Parameters

Sample Location @ Depth (ft.)  
 Sample Date  
 As = Arsenic (mg/kg)  
 Ba = Barium (mg/kg)  
 Cd = Cadmium (mg/kg)  
 Cr = Chromium (VI) (mg/kg)  
 Cu = Copper (mg/kg)  
 Pb = Lead (mg/kg)  
 Ni = Nickel (mg/kg)  
 Se = Selenium (mg/kg)  
 Ag = Silver (mg/kg)  
 Zn = Zinc (mg/kg)

mg/kg = Milligrams per Kilogram

Note: Values presented in **bold** indicate an ECMC Table 915-1 exceedance above Residential Soil Screening Levels for that compound. Values not present for a sample indicate a non-detect for that compound.



## CIVITAS RESOURCES

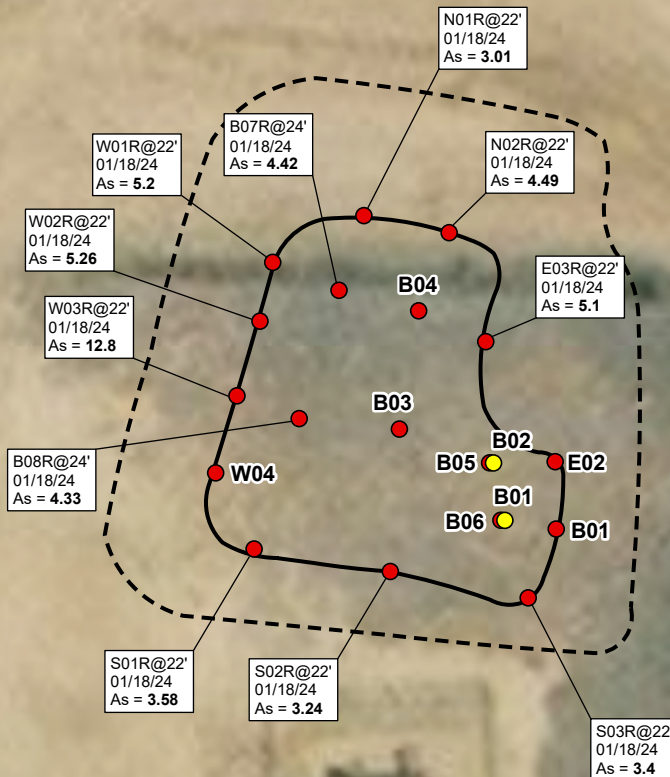
### Figure 8. MILLER 14-17 & MILLER 4-17J Excavation Results Map Metals

Facility ID: 103309 (40.133080, -104.921035)  
 Facility ID: 103315 (40.133170, -104.921157)  
 SWSW Qtr-Qtr, Sec 17, T2N, R67W, 6PM  
 Weld County, CO



Author: CSJ Date: 09/22/2023

Data Sources: Esri, CGIAR, USGS, Maxar, Civitas



## Legend

- Soil Sample Location
- Soil Sample Location - Removed by Excavation
- ▭ Excavation Extent
- ▭ Surface Excavation Extent Due to Sidewall Benching

## Parameters

Sample Location @ Depth (ft.)  
Sample Date  
As = Arsenic (mg/kg)

mg/kg = Milligrams per Kilogram

Note: Values presented in **bold** indicate an ECMC Table 915-1 exceedance above Residential Soil Screening Levels for that compound. Values not present for a sample indicate a non-detect for that compound.

0 12.5 25 Feet



## CIVITAS RESOURCES

### Figure 8B. MILLER 14-17 & MILLER 4-17J Excavation Results Map Metals

Facility ID: 103309 (40.133080, -104.921035)  
Facility ID: 103315 (40.133170, -104.921157)  
SWSW Qtr-Qtr, Sec 17, T2N, R67W, 6PM  
Weld County, CO



Author: JG Date: 02/07/2024

Data Sources: Esri, CGIAR, USGS, Maxar, Civitas





BG01@4'	BG01@8'	BG01@12'	BG01@16'	BG01@18'
08/02/23	08/02/23	08/02/23	08/02/23	08/02/23
pH = 7.81	pH = 8.06	pH = <b>8.32</b>	pH = 8.22	pH = 8.00
EC = 0.312	EC = 0.39	EC = 0.552	EC = 0.744	EC = 0.93
SAR = 0.258	SAR = 1.12	SAR = 4.0	SAR = 4.63	SAR = 3.4
Brn = 0.261	Brn = 0.223	Brn = 0.412	Brn = 0.352	Brn = 0.228

BG02@4'	BG02@8'	BG02@12'	BG02@16'	BG02@18'
08/02/23	08/02/23	08/02/23	08/02/23	08/02/23
pH = 6.95	pH = 7.95	pH = 7.88	pH = 8.04	pH = 8.03
EC = 0.157	EC = 0.269	EC = 0.929	EC = 1.06	EC = 0.968
SAR = 0.108	SAR = 0.603	SAR = 3.73	SAR = 5.24	SAR = 4.0
Brn = 0.21	Brn = 0.129	Brn = 0.338	Brn = 0.228	Brn = 0.208

BG03@4-5'	BG03@9-10'	BG03@14-15'	BG03@19-20'
03/21/23	03/21/23	03/21/23	03/21/23
pH = <b>8.64</b>	pH = 8.05	pH = 8.30	pH = 8.20
EC = 0.292	EC = 0.592	EC = 0.653	EC = 0.469
SAR = 1.25	SAR = 2.11	SAR = 2.49	SAR = 2.9
Brn = 0.136	Brn = 0.103	Brn = 0.23	Brn = 0.301

BG04@4-5'	BG04@9-10'	BG04@14-15'	BG04@19-20'
03/21/23	03/21/23	03/21/23	03/21/23
pH = 7.83	pH = 8.17	pH = <b>8.60</b>	pH = 8.32
EC = 0.319	EC = 0.318	EC = 0.255	EC = 0.382
SAR = 0.117	SAR = 1.74	SAR = 1.73	SAR = 0.645
Brn = 0.12	Brn = 0.152	Brn = 0.173	Brn = 0.296

BG02@4-5'	BG02@9-10'	BG02@14-15'	BG02@19-20'
03/14/23	03/14/23	03/14/23	03/14/23
pH = 8.02	pH = 8.12	pH = <b>8.67</b>	pH = 8.19
EC = 0.208	EC = 0.327	EC = 0.353	EC = 1.39
SAR = 0.0977	SAR = 0.16	SAR = 2.42	SAR = <b>8.40</b>
Brn = 0.0329	Brn = 0.0452	Brn = 0.0626	Brn = 0.227

BG01@4-5'	BG01@9-10'	BG01@14-15'	BG01@19-20'
03/14/23	03/14/23	03/14/23	03/14/23
pH = 8.09	pH = 8.15	pH = <b>8.51</b>	pH = 8.25
EC = 0.252	EC = 0.282	EC = 0.266	EC = 0.718
SAR = 0.147	SAR = 0.162	SAR = 1.66	SAR = 4.6
Brn = 0.0416	Brn = 0.0402	Brn = 0.14	Brn = 0.0822

BG05@4-5'	BG05@9-10'	BG05@14-15'	BG05@19-20'
03/21/23	03/21/23	03/21/23	03/21/23
pH = 7.83	pH = 8.17	pH = <b>8.60</b>	pH = 8.45
EC = 0.319	EC = 0.318	EC = 0.255	EC = 0.291
SAR = 0.117	SAR = 1.74	SAR = 1.73	SAR = 1.12
Brn = 0.12	Brn = 0.152	Brn = 0.173	Brn = 0.347

## Legend

- Background Soil Sample Location
- Background Soil Sample Location - Removed by Excavation

## Parameters

Sample Location @ Depth (ft.)  
Sample Date  
pH = pH  
EC = Electrical Conductivity (mmhos/cm)  
SAR = Sodium Absorption Ratio  
Brn = Boron (mg/L)

mmhos/cm = Millimhos per Centimeter  
mg/L = Milligrams per Liter

**Note:** Values presented in **bold** indicate an ECMC Table 915-1 exceedance above Residential Soil Screening Levels for that compound.

0 12.5 25  
Feet



## CIVITAS RESOURCES

### Figure 9. MILLER 14-17 & MILLER 4-17J Excavation Results Map Background Soil Suitability

Facility ID: 103309 (40.133080, -104.921035)  
Facility ID: 103315 (40.133170, -104.921157)  
SWSW Qtr-Qtr, Sec 17, T2N, R67W, 6PM  
Weld County, CO



Author: CSJ Date: 09/19/2023

Data Sources: Esri, CGIAR, USGS, Maxar, Civitas



BG01@4' 08/02/23 As = <b>0.755</b> Ba = 50.4 Cu = 2.29 Pb = 3.02 Ni = 2.48 Ag = 0.0207 Zn = 7.89	BG01@8' 08/02/23 As = 0.671 Ba = 36.2 Cu = 1.93 Pb = 2.54 Ni = 1.94 Zn = 6.58	BG01@12' 08/02/23 As = <b>1.56</b> Ba = 221 Cu = 2.41 Pb = 3.95 Ni = 2.76 Zn = 8.11	BG01@16' 08/02/23 As = <b>1.19</b> Ba = 28 Cu = 2.56 Pb = 4.68 Ni = 2.77 Zn = 8.96	BG01@18' 08/02/23 As = <b>1.07</b> Ba = 48 Cd = 0.318 Cu = 3.02 Pb = 6.97 Ni = 2.11 Ag = 0.0204 Zn = 10.7
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BG03@4-5' 03/21/23 As = <b>1.61</b> Ba = 65.1 Cd = 0.0812 Cu = 3.65 Pb = 4.23 Ni = 4.31 Ag = 0.0239 Zn = 13.3	BG03@9-10' 03/21/23 As = <b>5.01</b> Ba = 124 Cd = 0.257 Cu = 6.28 Pb = 8.61 Ni = 7.36 Ag = 0.0203 Zn = 22.6	BG03@14-15' 03/21/23 As = <b>3.29</b> Ba = 70.7 Cd = 0.145 Cu = 5.38 Pb = 6.17 Ni = 5.36 Ag = 0.0108 Zn = 18.2	BG03@19-20' 03/21/23 As = <b>3.64</b> Ba = 49.5 Cd = 0.147 Cu = 7.99 Pb = 13.6 Ni = 3.01 Ag = 0.03 Zn = 20.1
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BG02@4' 08/02/23 As = <b>0.705</b> Ba = 44.2 Cu = 2.27 Pb = 3.13 Ni = 2.57 Ag = 0.0289 Zn = 7.6	BG02@8' 08/02/23 As = <b>0.797</b> Ba = 50 Cu = 2.27 Pb = 2.91 Ni = 2.27 Zn = 7.77	BG02@12' 08/02/23 As = <b>1.21</b> Ba = 51.3 Cu = 2.4 Pb = 4.28 Ni = 2.96 Zn = 7.79	BG02@16' 08/02/23 As = <b>1.25</b> Ba = 37.7 Cu = 2.4 Pb = 4.48 Ni = 2.88 Zn = 8.64	BG02@18.5' 08/02/23 As = 0.286 Ba = 17.7 Cd = 0.325 Cu = 1.12 Pb = 5.12 Ni = 2.55 Zn = 9.17
---	---	--	--	---

BG04@4-5' 03/21/23 As = <b>2.56</b> Ba = 71.5 Cd = 0.135 Cu = 4.63 Pb = 11.9 Ni = 5.17 Ag = 0.0256 Zn = 28.4	BG04@9-10' 03/21/23 As = <b>3.11</b> Ba = 33 Cd = 0.116 Cu = 4.32 Pb = 4.42 Ag = 0.00816 Zn = 16.6	BG04@14-15' 03/21/23 As = <b>2.72</b> Ba = 37.8 Cd = 0.0748 Cu = 4.99 Pb = 6.91 Ni = 7.53 Ag = 0.0131 Zn = 18.7	BG04@19-20' 03/21/23 As = <b>29.5</b> Ba = 44 Cd = 0.352 Cu = 18.2 Ni = 4.15 Ag = 0.0612 Zn = 23.7
---	--	--	--

BG02@4-5' 03/14/23 As = <b>2.06</b> Ba = 80.3 Cd = 0.119 Cu = 4.58 Pb = 4.96 Ni = 5.02 Ag = 0.0248 Zn = 16	BG02@9-10' 03/14/23 As = <b>5.26</b> Ba = 116 Cd = 0.313 Cu = 6.06 Pb = 8.56 Ni = 7.54 Ag = 0.0184 Zn = 21.9	BG02@14-15' 03/14/23 As = <b>3.25</b> Ba = 65 Cd = 0.237 Cu = 4.1 Pb = 5.98 Ni = 5.4 Ag = 0.0131 Zn = 16.1	BG02@19-20' 03/14/23 As = <b>7.18</b> Ba = 38.6 Cd = 0.117 Cu = 8.12 Pb = 9.92 Ni = 2.22 Ag = 0.0305 Zn = 21.4
---	---	---	---

BG05@4-5' 03/21/23 As = <b>2.7</b> Ba = 79.2 Cd = 0.178 Cu = 5.3 Pb = 8.25 Ni = 5.56 Ag = 0.0325 Zn = 19.8	BG05@9-10' 03/21/23 As = <b>4.16</b> Ba = 429 Cd = 0.207 Cu = 5.27 Pb = 7.52 Ni = 6.22 Ag = 0.0137 Zn = 20.9	BG05@14-15' 03/21/23 As = <b>4.85</b> Ba = 348 Cd = 0.245 Cu = 5.65 Pb = 8.41 Ni = 6.59 Ag = 0.015 Zn = 22.4	BG05@19-20' 03/21/23 As = <b>0.727</b> Ba = 33.6 Cd = 0.175 Cu = 8.03 Pb = 19.0 Ni = 1.40 Ag = 0.0662 Zn = 2.48
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BG01@4-5' 03/14/23 As = <b>4.5</b> Ba = 83.6 Cd = 0.182 Cu = 5.21 Pb = 6.85 Ni = 5.6 Ag = 0.0191 Zn = 18.3	BG01@9-10' 03/14/23 As = <b>3.91</b> Ba = 96.6 Cd = 0.199 Cu = 5.46 Pb = 7.63 Ni = 5.72 Ag = 0.0144 Zn = 19.8	BG01@14-15' 03/14/23 As = <b>5.11</b> Ba = 46.5 Cd = 0.113 Cu = 5.71 Pb = 6.4 Ni = 5.27 Ag = 0.00888 Zn = 16.8	BG01@19-20' 03/14/23 As = <b>7.69</b> Ba = 31.8 Cd = 0.169 Cu = 7.32 Pb = 21.3 Ni = 2.74 Ag = 0.0374 Zn = 18.1
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## Legend

- Background Soil Sample Location
- Background Soil Sample Location - Removed by Excavation

## Parameters

Sample Location @ Depth (ft.)  
Sample Date  
As = Arsenic (mg/kg)  
Ba = Barium (mg/kg)  
Cd = Cadmium (mg/kg)  
Cr = Chromium (VI) (mg/kg)  
Cu = Copper (mg/kg)  
Pb = Lead (mg/kg)  
Ni = Nickel (mg/kg)  
Se = Selenium (mg/kg)  
Ag = Silver (mg/kg)  
Zn = Zinc (mg/kg)

mg/kg = Milligrams per Kilogram

**Note:** Values presented in **bold** indicate an ECMC Table 915-1 exceedance above Residential Soil Screening Levels for that compound. Values not present for a sample indicate a non-detect for that compound.

0 12.5 25  
Feet



## CIVITAS RESOURCES

### Figure 10. MILLER 14-17 & MILLER 4-17J Excavation Results Map Background Metals

Facility ID: 103309 (40.133080, -104.921035)  
Facility ID: 103315 (40.133170, -104.921157)  
SWSW Qtr-Qtr, Sec 17, T2N, R67W, 6PM  
Weld County, CO



Author: CSJ Date: 09/19/2023

Data Sources: Esri, CGIAR, USGS, Maxar, Civitas





## Legend

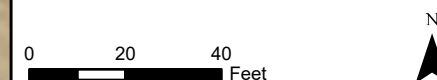
- Background Soil Sample Location

## Parameters

Sample Location @ Depth (ft.)  
Sample Date  
pH = pH  
EC = Electrical Conductivity (mmhos/cm)  
SAR = Sodium Absorption Ratio  
Brn = Boron (mg/L)

mmhos/cm = Millimhos per Centimeter  
mg/L = Milligrams per Liter

Note: Values presented in **bold** indicate an ECMC Table 915-1 exceedance above Residential Soil Screening Levels for that compound.



## CIVITAS RESOURCES

**Figure 11. MILLER 14-17 & MILLER 4-17J**  
Background Soil Suitability

Facility ID: 103309 (40.133080, -104.921035)  
Facility ID: 103315 (40.133170, -104.921157)  
SWSW Qtr-Qtr, Sec 17, T2N, R67W, 6PM  
Weld County, CO



Author: JG Date: 12/13/2023

Data Sources: Esri, CGIAR, USGS, Maxar

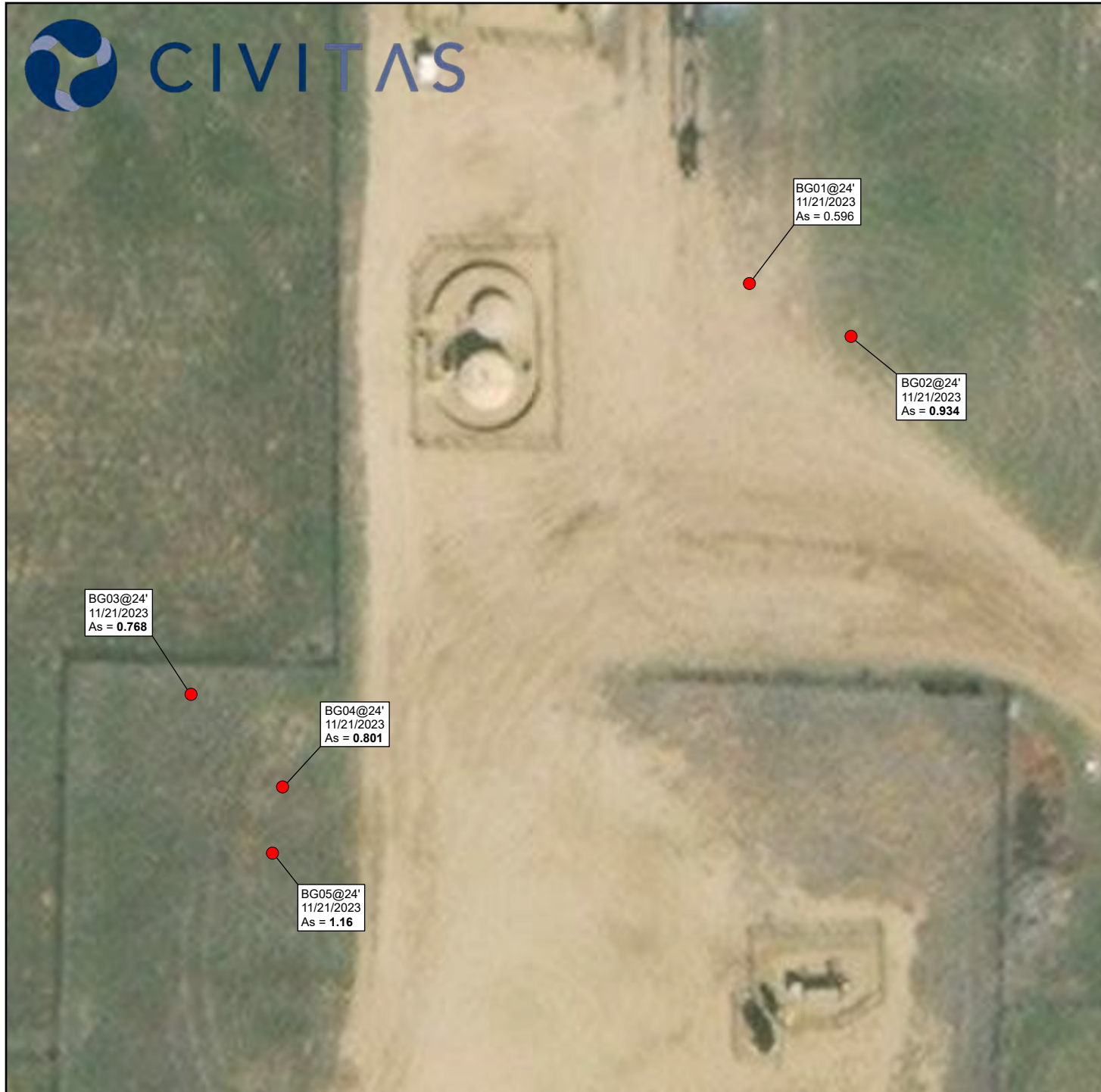
BG03@24'  
11/21/2023  
pH = 8.16  
EC = 0.366  
SAR = 2.35  
Brn = <2.00

BG04@24'  
11/21/2023  
pH = **8.65**  
EC = 0.306  
SAR = 1.67  
Brn = <2.00

BG05@24'  
11/21/2023  
pH = **8.73**  
EC = 0.33  
SAR = 2.85  
Brn = <2.00

BG01@24'  
11/21/2023  
pH = **8.47**  
EC = 0.828  
SAR = 3.85  
Brn = <2.00

BG02@24'  
11/21/2023  
pH = 7.87  
EC = 1.22  
SAR = 3.86  
Brn = <2.00



## Legend

- Background Soil Sample Location

## Parameters

Sample Location @ Depth (ft.)  
Sample Date  
As = Arsenic (mg/kg)

(mg/kg) Milligrams per Kilograms

Note: Values presented in **bold** indicate an ECMC Table 915-1 exceedance above Residential Soil Screening Levels for that compound.

0 20 40  
Feet



## CIVITAS RESOURCES

**Figure 12. MILLER 14-17 & MILLER 4-17J**  
Background Soil Suitability - Metals

Facility ID: 103309 (40.133080, -104.921035)  
Facility ID: 103315 (40.133170, -104.921157)  
SWSW Qtr-Qtr, Sec 17, T2N, R67W, 6PM  
Weld County, CO



**QUANDARY**  
CONSULTANTS

Author: JG Date: 12/13/2023

Data Sources: Esri, CGIAR, USGS, Maxar

## TABLES

Table 1 - Miller 4-17J, 14-17 Excavation VOC Results

Sample ID	Date Sampled	Depth	TPH-GRO	TPH-DRO	TPH-ORO	benzene	Toluene	ethyl-benzene	xylene (total)	1,2,4- trimethyl- benzene	1,3,5- trimethyl- benzene	Naphthalene
Table 915-1 Protection of Groundwater Soil Screening Levels		ft. (bgs)	500 mg/kg			0.026 mg/kg	0.69 mg/kg	0.78 mg/kg	9.9 mg/kg	0.0801 mg/kg	0.0087 mg/kg	0.0038 mg/kg
B01@22'	7/6/23	22'	15	120	<50	0.011	<0.005	0.047	0.46	<b>0.27</b>	0.14	0.11
B02@22'	7/6/23	22'	13	78	<50	0.0064	<0.005	<0.005	0.76	<b>0.23</b>	0.15	0.0098
E01@20'	7/6/23	20'	14	82	<50	<0.002	<0.005	<0.005	<0.010	0.035	0.029	<0.0038
E02@20'	7/6/23	20'	2	81	<50	<0.002	<0.005	<0.005	0.011	0.031	0.011	0.0086
B03@24'	7/19/23	24'	<0.5	<50	<50	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B04@24'	7/19/23	24'	<0.5	<50	<50	<0.002	<0.005	<0.005	<0.010	<0.005	<0.005	<0.0038
B05@24'	7/19/23	24'	<0.5	<50	<50	<0.002	<0.005	<0.005	<0.010	<0.005	<0.005	<0.0038
B06@24'	7/19/23	24'	0.75	63	53	<0.002	<0.005	<0.005	<0.010	0.026	0.016	<0.0038
E03@22'	7/24/23	22'	6.8	66	<50	<0.002	<0.005	<0.005	<0.010	<0.005	<0.005	<0.0038
N01@22'	7/24/23	22'	<0.5	<50	<50	<0.002	<0.005	<0.005	<0.010	<0.005	<0.005	<0.0038
N02@22'	7/24/23	22'	<0.5	<50	<50	<0.002	<0.005	<0.005	<0.010	<0.005	<0.005	<0.0038
B07@24'	7/24/23	24'	<0.5	<50	<50	<0.002	<0.005	<0.005	<0.010	<0.005	<0.005	<0.0038
W01@22'	7/24/23	22'	<0.5	<50	<50	<0.002	<0.005	<0.005	<0.010	<0.005	<0.005	<0.0038
W02@22'	7/24/23	22'	<0.5	<50	<50	<0.002	<0.005	<0.005	<0.010	<0.005	<0.005	<0.0038
W03@22'	7/24/23	22'	<0.5	<50	<50	<0.002	<0.005	<0.005	<0.010	<0.005	<0.005	<0.0038
B08@24'	7/24/23	24'	<0.5	<50	<50	<0.002	<0.005	<0.005	<0.010	<0.005	<0.005	<0.0038
S01@22'	8/29/23	22	6.6	<50	<50	<0.0020	<0.0050	0.033	0.14	<b>0.18</b>	<b>0.14</b>	<b>0.016</b>
S02@22'	8/29/23	22	38	<50	<50	0.01	<0.0050	0.51	5.5	<b>0.74</b>	<b>0.57</b>	<b>0.08</b>
S03@22'	8/29/23	22	34	<50	<50	<b>0.033</b>	<0.0050	0.097	1.2	<b>0.54</b>	<b>0.41</b>	<b>0.062</b>
W04@22'	8/29/23	22	1.8	<50	<50	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	0.0052	0.0038

Notes:

mg/kg-milligrams per kilogram

TPH-GRO = total petroleum hydrocarbons-gasoline range organics

TPH-DRO = total petroleum hydrocarbons-diesel range organics

TPH-ORO = total petroleum hydrocarbons-residual range organics

Bold indicates a Table 915-1 exceedance above Residential Soil Screening Levels

Highlighted confirmation samples were removed via excavation.



Table 2 - Miller 4-17J, 14-17 PAH results																
Sample ID	Date Sampled	Depth	ace-naphthene	anthracene	benz (a)-anthracene	benzo-(a)pyrene	benzo (b)-fluoranthene	benzo (k)-fluoranthene	chrysene	dibenzo-(a,h)-anthracene	fluoranthene	fluorene	indeno-(1,2,3-cd)-pyrene	pyrene	1-methylnaphthalene	2-methylnaphthalene
Table 915-1 Protection of Grounwater Soil Screening Levels		ft. (bgs)	0.55 mg/kg	5.8 mg/kg	0.011 mg/kg	0.24 mg/kg	0.3 mg/kg	2.9 mg/kg	9 mg/kg	0.096 mg/kg	8.9 mg/kg	0.54 mg/kg	0.98 mg/kg	1.3 mg/kg	0.006 mg/kg	0.019 mg/kg
B01@22'	7/6/23	22'	<0.005	<0.05	<0.005	0.0297	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0399	<0.00500	<0.00500	<b>0.2</b>	<b>0.278</b>
B02@22'	7/6/23	22'	<0.05	<0.05	<0.05	<0.05	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0144	<0.00500	<0.00500	<b>0.0804</b>	<b>0.0678</b>
E01@20'	7/6/23	20'	<0.05	<0.05	0.093	<0.05	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0181	<0.00500	<0.00500	<0.00500	<0.00500
E02@20'	7/6/23	20'	<0.005	<0.005	<0.005	<0.005	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0066	<0.00500	<0.00500	<0.00500	<0.00500
B03@24'	7/19/23	24'	<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
B04@24'	7/19/23	24'	<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
B05@24'	7/19/23	24'	<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
B06@24'	7/19/23	24'	<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
E03@22'	7/24/23	22'	<0.00500	0.0423	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0124	<0.00500	<0.00500	<0.00500	<0.00500
N01@22'	7/24/23	22'	<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
N02@22'	7/24/23	22'	<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
B07@24'	7/24/23	24'	<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
W01@22'	7/24/23	22'	<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
W02@22'	7/24/23	22'	<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
W03@22'	7/24/23	22'	<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
B08@24'	7/24/23	24'	<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
S01@22'	8/29/23	22'	<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
S02@22'	8/29/23	22'	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00535	<b>0.0267</b>
S03@22'	8/29/23	22'	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<b>0.0178</b>	0.00587
W04@22'	8/29/23	22'	<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:

mg/kg-milligrams per kilogram

Bold indicates a Table 915-1 exceedance above Residential Soil Screening Levels

Highlighted confirmation samples were removed via excavation

Table 3 - Miller 4-17J, 14-17 Soil Suitability Results						
Sample ID	Date Sampled	Depth	pH (units)	EC (mmhos/ cm)	SAR (units)	Boron (mg/L)
Soil Suitabilty for Reclamation Standard (1)			6-8.3	<4	<6	2
E01@20'	7/6/23	20'	<b>8.43</b>	1.4	1.35	0.275
E02@20'	7/6/23	20'	<b>8.44</b>	1.39	1.34	0.205
E03@22'	7/24/23	22'	7.93	3.02	<b>21</b>	0.303
E03R@22'	1/18/23	22'	NA	NA	<b>19.9</b>	NA
N01@22'	7/24/23	22'	8.23	2.35	<b>16.8</b>	0.396
N01R@22'	1/18/23	22'	NA	NA	<b>11.8</b>	NA
N02@22'	7/24/23	22'	7.77	3.7	13.4	0.167
W01@22'	7/24/23	22'	8.22	2.56	<b>11.5</b>	0.194
W01R@22'	1/18/23	22'	NA	NA	<b>13.1</b>	NA
W02@22'	7/24/23	22'	<b>8.5</b>	1.97	<b>19.8</b>	0.311
W02R@22'	1/18/23	22'	NA	NA	<b>18.5</b>	NA
W03@22'	7/24/23	22'	NA	0.905	2.03	0.321
W03R@22'	1/18/23	22'	<b>9.07</b>	NA	NA	NA
S01@22'	8/29/23	22'	<b>8.84</b>	0.546	2.52	0.265
S01R@22'	1/18/23	24'	<b>9.18</b>	NA	NA	NA
S02@22'	8/29/23	22'	<b>9.53</b>	0.518	<0.00100	0.902
S02R@22'	1/18/23	22'	<b>8.57</b>	NA	NA	NA
S03@22'	8/29/23	22'	<b>8.92</b>	0.448	0.674	0.154
S03R@22'	1/18/23	22'	<b>8.93</b>	NA	NA	NA
W04@22'	8/29/23	22'	<b>9.73</b>	0.488	0.867	<0.0100
W04R@22'	8/29/23	22'	<b>9.19</b>	NA	NA	NA
B01@22'	7/6/23	22'	7.71	1.86	<b>9.52</b>	0.326
B02@22'	7/6/23	22'	8.05	1.3	<b>13.7</b>	0.476
B03@24'	7/19/23	24'	7.87	1.48	5.48	0.296
B04@24'	7/19/23	24'	7.52	2.14	4.53	0.414
B05@24'	7/19/23	24'	7.61	2.5	5.1	0.293
B06@24'	7/19/23	24'	7.67	2.32	3.51	0.323
B07@24'	7/24/23	24'	7.63	3.47	<b>9.1</b>	0.193
B07R@24'	1/18/24	24'	NA	NA	<b>11.9</b>	NA
B08@24'	7/24/23	24'	<b>8.41</b>	1.33	5.86	1.05

Notes:

mg/L = milligrams per liter

mg/kg = milligrams per kilogram

mmhos/cm-millimhos per centimeter

EC = Electrical Conductivity

SAR = Sodium absorption ratio

Bold indicates a Table 915-1 exceedance

Highlighted confirmation samples were removed via excavation

Table 3 - Miller 4-17J, 14-17 Soil Suitability Results continued						
Sample ID	Date Sampled	Depth	pH	EC	SAR	boron
Soil Suitability for Reclamation Standard (1)		ft. (bgs)	6–8.3	<4 mmhos/cm	6	2.0 mg/L
BG01@4-5'	3/14/23	4-5	8.09	0.252	0.147	0.0416
BG01@9-10'	3/14/23	9-10	8.15	0.282	0.162	0.0402
BG01@14-15'	3/14/23	14-15	8.51	0.266	1.66	0.14
BG01@19-20'	3/14/23	19-20	8.25	0.718	4.6	0.0822
BG02@4-5'	3/14/23	4-5	8.02	0.208	0.0977	0.0329
BG02@9-10'	3/14/23	9-10	8.12	0.327	0.16	0.0452
BG02@14-15'	3/14/23	14-15	<b>8.67</b>	0.353	2.42	0.0626
BG02@19-20'	3/14/23	19-20	8.19	1.39	8.40	0.227
BG03@4.5'	3/21/23	4.5	<b>8.64</b>	0.292	1.25	0.136
BG03@9-10'	3/21/23	9-10	8.05	0.592	2.11	0.103
BG03@14-15'	3/21/23	14-15	8.3	0.653	2.49	0.23
BG03@19-20'	3/21/23	19-20	8.2	0.469	2.9	0.301
BG03@24'	11/21/23	24	8.16	0.366	2.35	<2.00
BG04@4.5'	3/21/23	4.5	7.83	0.319	0.117	0.12
BG04@9-10'	3/21/23	9-10	8.17	0.318	1.74	0.152
BG04@14-15'	3/21/23	14-15	<b>8.6</b>	0.255	1.73	0.173
BG04@19-20'	3/21/23	19-20	8.32	0.382	0.645	0.296
BG04@24'	11/21/23	24'	8.65	0.306	1.67	<2.00
BG05@4.5'	3/21/23	4.5	7.91	0.532	1.71	0.0798
BG05@9-10'	3/21/23	9-10	7.99	0.683	2.05	0.0779
BG05@14-15'	3/21/23	14-15	7.91	0.829	2.23	0.113
BG05@19-20'	3/21/23	19-20	<b>8.45</b>	0.291	1.12	0.347
BG05@24'	11/21/23	24	<b>8.73</b>	0.330	2.85	<2.00
BG01@4'	8/2/23	4	7.81	0.312	0.258	0.261
BG01@8'	8/2/23	8	8.06	0.39	1.12	0.223
BG01@12'	8/2/23	12	<b>8.32</b>	0.552	4	0.412
BG01@16'	8/2/23	16	8.22	0.744	4.63	0.352
BG01@18'	8/2/23	18	8	0.93	3.4	0.228
BG01@24'	11/21/23	24	8.47	0.828	3.85	<2.00
BG02@4'	8/2/23	4	6.95	0.157	0.108	0.21
BG02@8'	8/2/23	8	7.95	0.269	0.603	0.129
BG02@12'	8/2/23	12	7.88	0.929	3.73	0.338
BG02@16'	8/2/23	16	8.04	1.06	5.24	0.228
BG02@18'	8/2/23	18	8.03	0.968	4	0.208
BG02@24'	11/21/23	24	7.87	1.22	3.86	<2.00

Notes:

mg/L = milligrams per liter

mg/kg = milligrams per kilogram

mmhos/cm-millimhos per centimeter

EC = Electrical Conductivity

SAR = Sodium absorption ratio

Bold indicates background above Table 915-1

Highlighted background samples were removed via excavation

Highlighted background samples were used to compare to sidewalls and base.

Table 4 - Miller 4-17J, 14-17 Metals Results												
Sample ID	Date Sampled	Date Sampled	arsenic	barium	cadmium	chromium (VI)	copper	lead	nickel	selenium	silver	zinc
Table 915-1 Protection of Grounwater Soil Screening Levels		ft. (bgs)	0.29 mg/kg	82 mg/kg	0.38 mg/kg	0.00067 mg/kg	46 mg/kg	14 mg/kg	26 mg/kg	0.26 mg/kg	390 mg/kg	23000 mg/kg
E01 @20'	7/6/23	20'	1.95	65.4	0.285	<0.30	7.34	14.6	5.68	<0.305	0.0244	32
E02 @20'	7/6/23	20'	10.1	52.7	<0.232	<0.30	9.65	13.5	3.89	<0.302	0.0256	26
E03 @22'	7/24/23	22'	3.57	26.7	<0.233	<0.30	4.91	6.86	3.81	<0.204	<0.023	22.7
E03R @22'	1/18/24	22'	5.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
N01 @22'	7/24/23	22'	2.28	45.6	<0.224	<0.30	4.39	5.61	5.1	<0.196	<0.0224	16.1
N01R @22'	1/18/24	22'	3.01	NA	NA	NA	NA	NA	NA	NA	NA	NA
N02 @22'	7/24/23	22'	9.96	49	<0.229	<0.30	8.22	10.5	2.3	<0.201	<0.0426	29
N02R @22'	1/18/24	22'	4.49	NA	NA	NA	NA	NA	NA	NA	NA	NA
W01 @22'	7/24/23	22'	2.18	27	<0.223	<0.30	6.26	10.4	2.75	<0.195	0.0304	21.9
W01R @22'	1/18/24	22'	5.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
W02 @22'	7/24/23	22'	13.9	32.5	0.725	<0.30	7.49	22.8	1.85	<0.201	0.0358	18.3
W02R @22'	1/18/24	22'	5.26	NA	NA	NA	NA	NA	NA	NA	NA	NA
W03 @22'	7/24/23	22'	3.46	18.1	<0.229	<0.30	5.26	7.25	3.06	<0.201	0.027	17
W03R @22'	1/18/24	22'	12.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
S01 @22'	8/29/23	22'	1.53	70.8	<0.200	<0.30	5.21	11.4	0.698	<0.260	0.0457	4.54
S01R @22'	1/18/24	22'	3.58	NA	NA	NA	NA	NA	NA	NA	NA	NA
S02 @22'	8/29/23	22'	1.71	272	<0.200	<0.30	3.72	9.25	6.14	<0.260	0.0345	9.99
S02R @22'	1/18/24	22'	3.24	NA	NA	NA	NA	NA	NA	NA	NA	NA
S03 @22'	8/29/23	22'	20.0	159	0.204	<0.30	5.08	20	1.32	<0.260	0.0357	7.07
S03R @22'	1/18/24	22'	3.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
W04 @22'	8/29/23	22'	1.2	68.2	<0.200	<0.30	5.29	14	1.24	<0.260	0.0363	7.68
B01 @22'	7/6/23	22'	4.24	36.6	0.507	<0.30	7.38	14.2	6.07	<0.299	0.0419	31.9
B02 @22'	7/6/23	22'	3.96	60.5	0.854	<0.30	8.49	18.3	7.47	<0.300	0.061	33.7
B03 @24'	7/19/23	24'	0.763	86.6	1.04	<0.30	4.33	13.3	3.36	<0.209	0.0492	15.1
B04 @24'	7/19/23	24'	0.739	18.3	0.469	<0.30	4.99	12.5	2.98	<0.205	0.0561	19.2
B05 @24'	7/19/23	24'	1.2	50.4	1.03	<0.30	4.25	11.5	3.14	<0.202	0.072	17.9
B06 @24'	7/19/23	24'	1.45	53.6	1.33	<0.30	4.75	15.6	3.85	<0.202	0.0856	16.3
B07 @24'	7/24/23	24'	1.73	19.8	<0.234	<0.30	2.47	4.12	1.99	<0.205	<0.0234	12.5
B07R @24'	1/18/24	24'	4.42	NA	NA	NA	NA	NA	NA	NA	NA	NA
B08 @24'	7/24/23	24'	5.23	160	1.28	<0.30	12.8	25.6	10.5	<0.210	0.061	35.8
B08R @24'	1/19/24	24'	4.33	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

mg/kg-milligrams per kilogram

Bold indicates a Table 915-1 exceedance above Residential Soil Screening Levels

Highlighted confirmation samples were removed via excavation

Table 4 -Miller 4-17J, 14-17 Metals Results continued												
Sample ID	Date Sampled	Date Sampled	arsenic	barium	cadmium	chromium (VI)	copper	lead	nickel	selenium	silver	zinc
Table 915-1 Protection of Grounwater Soil Screening Levels		ft. (bgs)	0.29 mg/kg	82 mg/kg	0.38 mg/kg	0.00067 mg/kg	46 mg/kg	14 mg/kg	26 mg/kg	0.26 mg/kg	390 mg/kg	23000 mg/kg
BG01@4-5'	3/14/23	4-5	<b>4.5</b>	83.6	0.182	<0.3	5.21	6.85	5.60	<0.175	0.0191	18.3
BG01@9-10'	3/14/23	9-10	<b>3.91</b>	<b>96.6</b>	0.199	<0.3	5.46	7.63	5.72	<0.175	0.0144	19.8
BG01@14-15'	3/14/23	14-15	<b>5.11</b>	46.5	0.113	<0.3	5.71	6.4	5.27	<0.175	0.00888	16.8
BG01@19-20'	3/14/23	19-20	<b>7.69</b>	31.8	0.169	<0.3	7.32	21.3	2.74	<0.175	0.0374	18.1
BG02@4-5'	3/14/23	4-5	<b>2.06</b>	80.3	0.119	<0.3	4.58	4.96	5.02	<0.175	0.0248	16.0
BG02@9-10'	3/14/23	9-10	<b>5.26</b>	<b>116</b>	0.313	<0.3	6.06	8.56	7.54	<0.175	0.0184	21.9
BG02@14-15'	3/14/23	14-15	<b>3.25</b>	65	0.237	<0.3	4.1	5.98	5.40	<0.175	0.0131	16.1
BG02@19-20'	3/14/23	19-20	<b>7.18</b>	38.6	0.117	<0.3	8.12	9.92	2.22	<0.175	0.0305	21.4
BG03@4.5'	3/21/23	4-5	<b>1.61</b>	65.1	0.0812	<0.3	3.65	4.23	4.31	<0.175	0.0239	13.3
BG03@9-10'	3/21/23	9-10	<b>5.01</b>	<b>124</b>	0.257	<0.3	6.28	8.61	7.36	<0.175	0.0203	22.6
BG03@14-15'	3/21/23	14-15	<b>3.29</b>	70.7	0.145	<0.3	5.38	6.17	5.36	<0.175	0.0108	18.2
BG03@19-20'	3/21/23	19-20	<b>3.64</b>	49.5	0.147	<0.3	7.99	13.6	3.01	<0.175	0.03	20.1
BG03@24'	11/21/23	24	<b>0.768</b>	25.8	<0.200	<0.30	1.14	8.46	2.53	<0.260	<0.0200	18.0
BG04@4.5'	3/21/23	4-5	<b>2.56</b>	71.5	0.135	<0.3	4.63	11.9	5.17	<0.175	0.0256	28.4
BG04@9-10'	3/21/23	9-10	<b>3.11</b>	33	0.116	<0.3	4.32	<0.215	4.42	<0.175	0.00816	16.6
BG04@14-15'	3/21/23	14-15	<b>2.72</b>	37.8	0.0748	<0.3	4.99	6.91	7.53	<0.175	0.0131	18.7
BG04@19-20'	3/21/23	19-20	<b>29.5</b>	44	0.352	<0.3	18.2	<0.235	4.15	<0.175	0.0612	23.7
BG04@24'	11/21/23	24	<b>0.801</b>	190	<0.200	<0.30	0.879	8.17	2.43	<0.260	<0.0200	13.6
BG05@4.5'	3/21/23	4-5	2.7	79.2	0.178	<0.3	5.3	8.25	5.56	<0.175	0.0325	19.8
BG05@9-10'	3/21/23	9-10	<b>4.16</b>	<b>429</b>	0.207	<0.3	5.27	7.52	6.22	<0.175	0.0137	20.9
BG05@14-15'	3/21/23	14-15	<b>4.85</b>	<b>348</b>	0.245	<0.3	5.65	8.41	6.59	<0.175	0.015	22.4
BG05@19-20'	3/21/23	19-20	<b>0.727</b>	33.6	0.175	<0.3	8.03	19.0	1.4	<0.175	0.0662	2.48
BG05@24'	11/21/23	24	<b>1.16</b>	<b>153</b>	0.319	<0.30	1.57	12.3	2.96	<0.260	0.0365	13.5
BG01@4'	8/2/23	4	<b>0.755</b>	50.4	<0.02	<0.3	2.29	3.02	2.48	<0.26	0.0207	7.89
BG01@8'	8/2/23	8	<b>0.671</b>	36.2	<0.02	<0.3	1.93	2.54	1.94	<0.26	<0.02	6.58
BG01@12'	8/2/23	12	<b>1.56</b>	<b>221</b>	<0.02	<0.3	2.41	3.95	2.76	<0.26	<0.02	8.11
BG01@16'	8/2/23	16	<b>1.19</b>	28	<0.02	<0.3	2.56	4.68	2.77	<0.26	<0.02	8.96
BG01@18'	8/2/23	18	<b>1.07</b>	48	0.318	<0.3	3.02	6.97	2.11	<0.26	0.0204	10.7
BG01@24'	11/21/23	24	<b>0.596</b>	10.4	<0.200	<0.30	0.425	4.15	1.86	<0.260	<0.0200	10.5
BG02@4'	8/2/23	4	<b>0.705</b>	44.2	<0.02	<0.3	2.27	3.13	2.57	<0.26	0.0289	7.6
BG02@8'	8/2/23	8	<b>0.797</b>	50	<0.02	<0.3	2.27	2.91	2.27	<0.26	<0.02	7.77
BG02@12'	8/2/23	12	<b>1.21</b>	51.3	<0.02	<0.3	2.4	4.28	2.96	<0.26	<0.02	7.79
BG02@16'	8/2/23	16	<b>1.25</b>	37.7	<0.02	<0.3	2.4	4.48	2.88	<0.26	<0.02	8.64
BG02@18.5'	8/2/23	18.5	<b>0.286</b>	17.7	0.325	<0.3	1.12	5.12	2.55	<0.26	<0.02	9.17
BG02@24'	11/21/23	24	<b>0.934</b>	32.8	<0.200	<0.30	1.03	5.76	2.60	<0.260	<0.0200	14.4

Notes:

mg/kg-milligrams per kilogram

Bold indicates a Table 915-1 exceedance above Residential Soil Screening Levels

Highlighted background samples were removed via excavation

Highlighted background samples were used to compare to sidewalls and base.

## PHOTO LOG



# Photographic Log



Sample ID – E01@20' (7/6/23)



Sample ID – E02@20' (7/6/23)



## Photographic Log



Sample ID – B01@22' (7/6/23)



Sample ID – B02@22' (7/6/23)



## Photographic Log



Sample ID – B03@24' (7/19/23)



Sample ID – B05@24' (7/19/23)



# Photographic Log



Sample ID – B06@24' (7/19/23)



Sample ID – B07@24' (7/19/2023)



# Photographic Log



Sample ID – N01@22' (7/24/23)



Sample ID – W01@22' (7/24/23)



# Photographic Log



Sample ID – E03@22' (7/24/23)



Sample ID – N02@22' (7/24/23)



## Photographic Log



Sample ID – W02@22' (7/24/23)



Sample ID – W03@22' (7/24/23)



## Photographic Log



Sample ID – B08@24' (7/24/23)



Sample ID – S03@22' (8/29/23)



## Photographic Log



Sample ID – S02@22' (8/29/23)



Sample ID – S01@22' (8/29/23)



# Photographic Log



Sample ID – E03R@22' (1/18/24)



Sample ID – N02R@22' (1/18/24)



# Photographic Log



Sample ID – B07R@24' (1/18/24)



Sample ID – N01R@22' (1/18/24)



# Photographic Log



Sample ID – B08R@24' (1/19/24)



Sample ID – S01R@24' (1/18/24)



# Photographic Log



Sample ID -W03R@24' (1/18/24)



Sample ID - S02@24' (1/18/24)



# Photographic Log



Sample ID – S03R@22' (1/18/24)



Sample ID – W02R@22' (1/18/24)



# Photographic Log






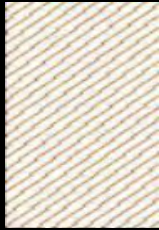
Sample ID – W01R@22' (1/18/24)







Sample ID – E03R@22' (1/18/23)








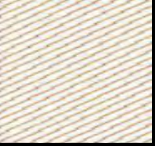
## **SOIL BORING LOGS**




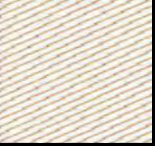
		BORING LOG/MONITORING WELL COMPLETION LOG										
		Boring/Well Number: SB01				Project: Miller 14-17						
Date: 3/14/23		Logged By: Mike Dinkel				Driller: DrillPro						
Drilling Method: Direct Push		Sampling Method: Single Rod				Field Screening Equipment: Mini Rae 2000 PID						
Gravel Pack: NA		Seal: 0-22' BGS				Grout: NA						
Casing Type: NA		Diameter: NA				Length: NA				Depth to Water (ft. bgs): Dry		
Screen Type: NA		Slot: NA		Diameter: NA		Length: NA				Total Depth (ft.): 22		
Depth (ft. bgs)	Lithology	Water Level	Moisture Content	Vapor (ppm)	Staining (Y/N)	Sample	Sample Run	Lithology/Remarks			Well Completion	
0			Dry				0-4'	SP - Sand, medium, brown				
5			Dry	477	Yes	SB01@4-5'	4-8'					
10			Dry	778	Yes	SB01@9-10'	8-12'					
15				Dry	1467	Yes	SB01@14-15'	12-16'				
20				Dry	630	Yes	SB01@19-20'	16-20'				
							20-22'	CL - Clay, gray and orange, compacted, refusal at 20'				
NOTES:												

		BORING LOG/MONITORING WELL COMPLETION LOG											
		Boring/Well Number: SB02				Project: Miller 14-17							
Date: 3/14/23		Logged By: Mike Dinkel				Driller: DrillPro							
Drilling Method: Direct Push		Sampling Method: Single Rod				Field Screening Equipment: Mini Rae 2000 PID							
Gravel Pack: NA		Seal: 0-20' BGS				Grout: NA							
Casing Type: NA		Diameter: NA				Length: NA				Depth to Water (ft. bgs): Dry			
Screen Type: NA		Slot: NA		Diameter: NA		Length: NA				Total Depth (ft.): 20			
Depth (ft. bgs)	Lithology	Water Level	Moisture Content	Vapor (ppm)	Staining (Y/N)	Sample	Sample Run	Lithology/Remarks			Well Completion		
0			Dry		No		0-4'	SP - Sand, medium, brown					
5			Dry	1.1	No	SB02@4-5'	4-8'						
10			Dry	13.8	No	SB02@9-10'	8-12'						
15				Dry	5.6	No	SB02@14-15'	12-16'	SC - Clayey-sand, brown, orange, and gray				
20				Dry	29.6	No	SB02@19-20'	16-20'	CL - Clay, gray and orange, compacted, refusal at 20'				
NOTES:													



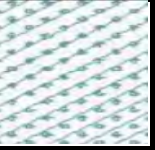
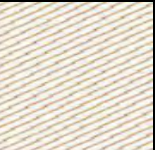





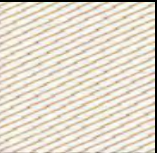
		BORING LOG/MONITORING WELL COMPLETION LOG										
		Boring/Well Number: SB03				Project: Miller 14-17						
Date: 3/14/23		Logged By: Mike Dinkel				Driller: DrillPro						
Drilling Method: Direct Push		Sampling Method: Single Rod				Field Screening Equipment: Mini Rae 2000 PID						
Gravel Pack: NA		Seal: 0-20' BGS				Grout: NA						
Casing Type: NA		Diameter: NA				Length: NA				Depth to Water (ft. bgs): Dry		
Screen Type: NA		Slot: NA		Diameter: NA		Length: NA				Total Depth (ft.): 20		
Depth (ft. bgs)	Lithology	Water Level	Moisture Content	Vapor (ppm)	Staining (Y/N)	Sample	Sample Run	Lithology/Remarks		Well Completion		
0			Dry		No		0-4'	SP - Sand, medium, brown				
5			Dry	0.4	No	SB03@4-5'	4-8'					
10			Dry	0.6	No	SB03@9-10'	8-12'					
15			Dry	1.4	No	SB03@14-15'	12-16'					
20			Dry	1.8	No	SB03@19-20'	16-20'					
CL - Clay, gray and orange, compacted, refusal at 20'												
NOTES:												



		BORING LOG/MONITORING WELL COMPLETION LOG											
		Boring/Well Number: SB04				Project: Miller 14-17							
Date: 3/14/23		Logged By: Mike Dinkel				Driller: DrillPro							
Drilling Method: Direct Push		Sampling Method: Single Rod				Field Screening Equipment: Mini Rae 2000 PID							
Gravel Pack: NA		Seal: 0-20' BGS				Grout: NA							
Casing Type: NA		Diameter: NA				Length: NA				Depth to Water (ft. bgs): Dry			
Screen Type: NA		Slot: NA		Diameter: NA		Length: NA				Total Depth (ft.): 20			
Depth (ft. bgs)	Lithology	Water Level	Moisture Content	Vapor (ppm)	Staining (Y/N)	Sample	Sample Run	Lithology/Remarks			Well Completion		
0			Dry		No		0-4'	SP - Sand, medium, brown					
5			Dry	6.8	Yes	SB04@4-5'	4-8'						
10			Dry	4.7	Yes	SB04@9-10'	8-12'						
15			Dry	877	Yes	SB04@14-15'	12-16'	SC - Clayey-sand, brown, orange, and gray					
20			Dry	345	Yes	SB04@19-20'	16-20'	CL - Clay, gray and orange, compacted, refusal at 20'					
NOTES:													

		BORING LOG/MONITORING WELL COMPLETION LOG										
		Boring/Well Number: SB05					Project: Miller 14-17					
Date: 3/14/23		Logged By: Mike Dinkel					Driller: DrillPro					
Drilling Method: Direct Push		Sampling Method: Single Rod					Field Screening Equipment: Mini Rae 2000 PID					
Gravel Pack: NA		Seal: 0-20' BGS					Grout: NA					
Casing Type: NA		Diameter: NA			Length: NA			Depth to Water (ft. bgs): Dry				
Screen Type: NA		Slot: NA		Diameter: NA		Length: NA			Total Depth (ft.): 20			
Depth (ft. bgs)	Lithology	Water Level	Moisture Content	Vapor (ppm)	Staining (Y/N)	Sample	Sample Run	Lithology/Remarks		Well Completion		
0			Dry		No		0-4'	SP - Sand, medium, brown				
5			Dry	2.5	No	SB05@4-5'	4-8'					
10			Dry	1.5	No	SB05@9-10'	8-12'					
15				Dry	1.7	No	SB05@14-15'	12-16'				
20					Dry	0.2	No	SB05@19-20'				16-20'
								CL - Clay, gray and orange, compacted, refusal at 20'				
NOTES: Stepped out approximately 50' to the west after higher PID detections in the original borehole.												









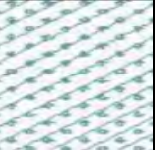

		BORING LOG/MONITORING WELL COMPLETION LOG										
		Boring/Well Number: BG01				Project: Miller 14-17						
Date: 3/14/23		Logged By: Mike Dinkel				Driller: DrillPro						
Drilling Method: Direct Push		Sampling Method: Single Rod				Field Screening Equipment: Mini Rae 2000 PID						
Gravel Pack: NA		Seal: 0-20' BGS				Grout: NA						
Casing Type: NA		Diameter: NA				Length: NA				Depth to Water (ft. bgs): Dry		
Screen Type: NA		Slot: NA		Diameter: NA		Length: NA				Total Depth (ft.): 20		
Depth (ft. bgs)	Lithology	Water Level	Moisture Content	Vapor (ppm)	Staining (Y/N)	Sample	Sample Run	Lithology/Remarks		Well Completion		
0			Dry				0-4'	SP - Sand, medium, brown				
5			Dry	0	No	BG01@4-5'	4-8'					
10			Dry	0	No	BG01@9-10	8-12'					
15				Dry	0	No	BG01@14-15'	12-16'				
20					Dry	0	No	BG01@19-20'				16-20'
								CL - Clay, gray and orange, compacted, refusal at 20'				
NOTES:												

		BORING LOG/MONITORING WELL COMPLETION LOG											
		Boring/Well Number: BG02				Project: Miller 14-17							
Date: 3/14/23		Logged By: Mike Dinkel				Driller: DrillPro							
Drilling Method: Direct Push		Sampling Method: Single Rod				Field Screening Equipment: Mini Rae 2000 PID							
Gravel Pack: NA		Seal: 0-20' BGS				Grout: NA							
Casing Type: NA		Diameter: NA				Length: NA				Depth to Water (ft. bgs): Dry			
Screen Type: NA		Slot: NA		Diameter: NA		Length: NA				Total Depth (ft.): 20			
Depth (ft. bgs)	Lithology	Water Level	Moisture Content	Vapor (ppm)	Staining (Y/N)	Sample	Sample Run	Lithology/Remarks			Well Completion		
0			Dry				0-4'	SP - Sand, medium, brown					
5			Dry	0	No	BG02@4-5'	4-8'						
10			Dry	0	No	BG02@9-10	8-12'						
15				Dry	0	No	BG02@14-15'	12-16'	SC - Clayey-sand, brown, orange, and gray				
20			Dry	0	No	BG02@19-20'	16-20'	CL - Clay, gray and orange, compacted, refusal at 20'					
NOTES:													


		BORING LOG/MONITORING WELL COMPLETION LOG										
		Boring/Well Number: BG03				Project: Miller 14-17						
Date: 3/14/23		Logged By: Mike Dinkel				Driller: DrillPro						
Drilling Method: Direct Push		Sampling Method: Single Rod				Field Screening Equipment: Mini Rae 2000 PID						
Gravel Pack: NA		Seal: 0-20' BGS				Grout: NA						
Casing Type: NA		Diameter: NA				Length: NA				Depth to Water (ft. bgs): Dry		
Screen Type: NA		Slot: NA		Diameter: NA		Length: NA				Total Depth (ft.): 20		
Depth (ft. bgs)	Lithology	Water Level	Moisture Content	Vapor (ppm)	Staining (Y/N)	Sample	Sample Run	Lithology/Remarks			Well Completion	
0			Dry				0-4'	SP - Sand, medium, brown				
5			Dry	0	No	BG03@4-5'	4-8'					
10			Dry	0	No	BG03@9-10	8-12'					
15			Dry	0	No	BG03@14-15'	12-16'					
20			Dry	0	No	BG03@19-20'	16-20'					
NOTES:												





		BORING LOG/MONITORING WELL COMPLETION LOG										
		Boring/Well Number: BG04					Project: Miller 14-17					
Date: 3/14/23		Logged By: Mike Dinkel					Driller: DrillPro					
Drilling Method: Direct Push		Sampling Method: Single Rod					Field Screening Equipment: Mini Rae 2000 PID					
Gravel Pack: NA		Seal: 0-20' BGS					Grout: NA					
Casing Type: NA		Diameter: NA			Length: NA			Depth to Water (ft. bgs): Dry				
Screen Type: NA		Slot: NA		Diameter: NA		Length: NA			Total Depth (ft.): 20			
Depth (ft. bgs)	Lithology	Water Level	Moisture Content	Vapor (ppm)	Staining (Y/N)	Sample	Sample Run	Lithology/Remarks		Well Completion		
0			Dry				0-4'	SP - Sand, medium, brown				
5			Dry	0	No	BG04@4-5'	4-8'					
10			Dry	0	No	BG04@9-10'	8-12'					
15				Dry	0	No	BG04@14-15'	12-16'				
20				Dry	0	No	BG04@19-20'	16-20'				
												CL - Clay, gray and orange, compacted, refusal at 20'
NOTES:												



		BORING LOG/MONITORING WELL COMPLETION LOG											
		Boring/Well Number: BG05				Project: Miller 14-17							
Date: 3/14/23		Logged By: Mike Dinkel				Driller: DrillPro							
Drilling Method: Direct Push		Sampling Method: Single Rod				Field Screening Equipment: Mini Rae 2000 PID							
Gravel Pack: NA		Seal: 0-20' BGS				Grout: NA							
Casing Type: NA		Diameter: NA				Length: NA				Depth to Water (ft. bgs): Dry			
Screen Type: NA		Slot: NA		Diameter: NA		Length: NA				Total Depth (ft.): 20			
Depth (ft. bgs)	Lithology	Water Level	Moisture Content	Vapor (ppm)	Staining (Y/N)	Sample	Sample Run	Lithology/Remarks			Well Completion		
0			Dry				0-4'	SP - Sand, medium, brown					
5			Dry	0	No	BG05@4-5'	4-8'						
10			Dry	0	No	BG05@9-10'	8-12'						
15				Dry	0	No	BG05@14-15'	12-16'	SC - Clayey-sand, brown, orange, and gray				
20			Dry	0	No	BG05@19-20'	16-20'	CL - Clay, gray and orange, compacted, refusal at 20'					
NOTES:													





		BORING LOG/MONITORING WELL COMPLETION LOG										
		Boring/Well Number: <b>BG01</b>					Project: <b>Miller 14-17</b>					
Date: <b>11/21/223</b>		Logged By: <b>Will Blust</b>					Driller: <b>DrillPro</b>					
Drilling Method: <b>HSA</b>		Sampling Method: <b>Split Spoon</b>					Field Screening Equipment: <b>PID</b>					
Gravel Pack: <b>NA</b>		Seal: <b>Bentonite</b>					Grout: <b>NA</b>					
Casing Type: <b>NA</b>		Diameter: <b>NA</b>					Length: <b>NA</b>			Depth to Water (ft. bgs): <b>NA</b>		
Screen Type: <b>NA</b>		Slot: <b>NA</b>		Diameter: <b>NA</b>			Length: <b>NA</b>			Total Depth (ft.): <b>24'</b>		
Depth (ft. bgs)	Lithology	Water Level	Moisture Content	Vapor (ppm)	Staining (Y/N)	Sample	Sample Run	Lithology/Remarks			Well Completion	
5												
10												
15												
20												
25			Dry	0.5	N	24'		White/Grey Brown, no petrol odor, sandy silt				
30												
NOTES:												


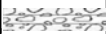
		BORING LOG/MONITORING WELL COMPLETION LOG									
		Boring/Well Number: BG02					Project: Miller 14-17				
Date: 11/21/223		Logged By: Will Blust					Driller: DrillPro				
Drilling Method: HSA		Sampling Method: Split Spoon					Field Screening Equipment: PID				
Gravel Pack: NA		Seal: Bentonite					Grout: NA				
Casing Type: NA		Diameter: NA					Length: NA		Depth to Water (ft. bgs): NA		
Screen Type: NA		Slot: NA		Diameter: NA		Length: NA		Total Depth (ft.): 24'			
Depth (ft. bgs)	Lithology	Water Level	Moisture Content	Vapor (ppm)	Staining (Y/N)	Sample	Sample Run	Lithology/Remarks		Well Completion	
5			Dry	0.7	N	24'		Light gray, brown, no petrol odor, sandy silt			
10											
15											
20											
25											
30											
NOTES:											



		BORING LOG/MONITORING WELL COMPLETION LOG										
		Boring/Well Number: BG03					Project: Miller 14-17					
Date: 11/21/223		Logged By: Will Blust					Driller: DrillPro					
Drilling Method: HSA		Sampling Method: Split Spoon					Field Screening Equipment: PID					
Gravel Pack: NA		Seal: Bentonite					Grout: NA					
Casing Type: NA		Diameter: NA					Length: NA			Depth to Water (ft. bgs): NA		
Screen Type: NA		Slot: NA		Diameter: NA		Length: NA			Total Depth (ft.): 24'			
Depth (ft. bgs)	Lithology	Water Level	Moisture Content	Vapor (ppm)	Staining (Y/N)	Sample	Sample Run	Lithology/Remarks			Well Completion	
5			Dry	0.9	N	24'		Light gray, orange, brwon, slight petrol odor, sandy silt				
10												
15												
20												
25												
30												
NOTES:												

		BORING LOG/MONITORING WELL COMPLETION LOG										
		Boring/Well Number: <b>BG04</b>					Project: <b>Miller 14-17</b>					
Date: <b>11/21/223</b>		Logged By: <b>Will Blust</b>					Driller: <b>DrillPro</b>					
Drilling Method: <b>HSA</b>		Sampling Method: <b>Split Spoon</b>					Field Screening Equipment: <b>PID</b>					
Gravel Pack: <b>NA</b>		Seal: <b>Bentonite</b>					Grout: <b>NA</b>					
Casing Type: <b>NA</b>		Diameter: <b>NA</b>					Length: <b>NA</b>			Depth to Water (ft. bgs): <b>NA</b>		
Screen Type: <b>NA</b>		Slot: <b>NA</b>		Diameter: <b>NA</b>		Length: <b>NA</b>			Total Depth (ft.): <b>24'</b>			
Depth (ft. bgs)	Lithology	Water Level	Moisture Content	Vapor (ppm)	Staining (Y/N)	Sample	Sample Run	Lithology/Remarks		Well Completion		
5			Dry	15.8	N	24'		Gray, brown, no petrol odor, sandy silt				
10												
15												
20												
25												
30												
NOTES:												



		BORING LOG/MONITORING WELL COMPLETION LOG										
		Boring/Well Number: BG05					Project: Miller 14-17					
Date: 11/21/223		Logged By: Will Blust					Driller: DrillPro					
Drilling Method: HSA		Sampling Method: Split Spoon					Field Screening Equipment: PID					
Gravel Pack: NA		Seal: Bentonite					Grout: NA					
Casing Type: NA		Diameter: NA					Length: NA			Depth to Water (ft. bgs): NA		
Screen Type: NA		Slot: NA		Diameter: NA		Length: NA			Total Depth (ft.): 24'			
Depth (ft. bgs)	Lithology	Water Level	Moisture Content	Vapor (ppm)	Staining (Y/N)	Sample	Sample Run	Lithology/Remarks		Well Completion		
5			Dry	12.9	N	24'		Brown, orange, no petrol odor, shale				
10												
15												
20												
25												
30												
NOTES:												

## **LABORATORY REPORTS**



# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80401

303.277.9310

July 18, 2023

Mike Dinkel

Quandary Consultants

4480 Grfeld St

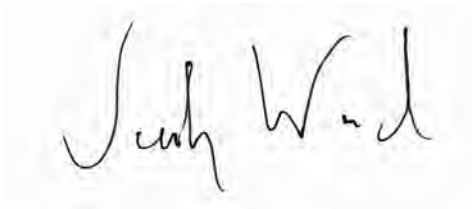
Denver, CO 80237

RE: Civitas - Miller 4-17J, 14-17

Work Order # 2307065

Enclosed are the results of analyses for samples received by Summit Scientific on 07/06/23 12:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Jacob Wood". The signature is written in a cursive, flowing style.

Jacob Wood For Paul Shrewsbury

President



Quandary Consultants  
4480 Grfeld St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
E01@20'	2307065-01	Soil	07/06/23 09:48	07/06/23 12:35
E02@20'	2307065-02	Soil	07/06/23 09:53	07/06/23 12:35
B01@22'	2307065-03	Soil	07/06/23 09:57	07/06/23 12:35
B02@22'	2307065-04	Soil	07/06/23 10:01	07/06/23 12:35

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

4653 Table Mountain Drive  
Golden, CO 80403  
303-277-9310

Lab ID	Page 1 of 1
2307065	

Client: Civitas		Send Data To:		Send Invoice To:	
Address: 650 Southgate		Project Manager: Mike Dinkel		Company: Civitas	
City/State/Zip: Windsor, CO		E-Mail: mdinkel@guardaryconsultants.com		Project Name/Location: Miller 45 r17	
Phone: 785-691-7788		Project Name:		AFE#:	
Sampler Name: Mike Dinkel Austin Lange		Project Number:		PO/Billing Codes:	
				Contact: Jacob Evans	

					Preservative				Matrix				Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	full Table 2151									
1	E01 @ 20'	7-6-23	0948	3			X			X			X									
2	E02 @ 20'	↓	0953	↓			↓			↓			↓									
3	B01 @ 22'	↓	0957	↓			↓			↓			↓									
4	B02 @ 22'	↓	1001	↓			↓			↓			↓									
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

Relinquished by: <u>nee</u>	Date/Time: <u>7/6-23/1235</u>	Received by: <u>Jah Wnd</u>	Date/Time: <u>7/6/23 12:35</u>	TAT Business Days	Field DO	Notes: same day for voc
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day <input checked="" type="checkbox"/>	Field EC	
				1 Day <input type="checkbox"/>	Field ORP	
				2 Days <input type="checkbox"/>	Field pH	
				3 Days <input type="checkbox"/>	Field Temp.	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Standard <input checked="" type="checkbox"/>	Field Turb.	
Temperature Upon Receipt: <u>10.0</u>	Corrected Temperature	IR gun #: <u>2</u>	HNO3 lot #:			

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2307065Client: Civitas Client Project ID: Miller 45-17Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: \_\_\_\_\_
☒ ☐ ☐ ☐ ☐
Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 10.0 Thermometer # Z

	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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same day
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 checked="" type="checkbox"/>	<input 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 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.

John Ward

Custodian Printed Name

7/6/23 12:35

Date/Time





Quandary Consultants  
4480 Grfeld St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**E01@20'**  
**2307065-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/06/23 09:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0150	07/06/23	07/06/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.035</b>	0.0050		"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.029</b>	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>14</b>	0.50		"	"	"	"	"	"	

Date Sampled: **07/06/23 09:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		147 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		71.0 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.6 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/06/23 09:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<b>C10-C28 (DRO)</b>	<b>82</b>	50		mg/kg	1	BGG0149	07/06/23	07/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/06/23 09:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		91.0 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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.



Quandary Consultants  
4480 Grfeld St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**E01@20'**  
**2307065-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/06/23 09:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Acenaphthene	ND	0.00500		mg/kg	1	BGG0154	07/07/23	07/08/23	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		"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0181</b>	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: **07/06/23 09:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 2-Methylnaphthalene-d10		60.1 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		59.0 %		40-150		"	"	"	"	

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

Date Sampled: **07/06/23 09:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<b>Boron</b>	<b>0.275</b>	0.0100		mg/L	1	BGG0283	07/11/23	07/13/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/06/23 09:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

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Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**E01@20'**  
**2307065-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.95	0.235		mg/kg dry	1	BGG0253	07/10/23	07/13/23	EPA 6020B	
Barium	65.4	0.469		"	"	"	"	"	"	
Cadmium	0.285	0.235		"	"	"	"	"	"	
Copper	7.34	0.469		"	"	"	"	"	"	
Lead	14.6	0.235		"	"	"	"	"	"	
Nickel	5.68	0.469		"	"	"	"	"	"	
Selenium	ND	0.305	0.205	"	"	"	"	"	"	
Silver	0.0244	0.0235		"	"	"	"	"	"	
Zinc	32.0	0.469		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **07/06/23 09:48**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0213	07/10/23	07/10/23	EPA 7196A	

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

Date Sampled: **07/06/23 09:48**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	126	0.0587		mg/L dry	1	BGG0276	07/11/23	07/14/23	EPA 6020B	
Magnesium	18.3	0.0587		"	"	"	"	"	"	
Sodium	61.3	0.0587		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **07/06/23 09:48**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.35	0.00100		units	1	BGG0461	07/15/23	07/15/23	Calculation	

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

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Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**E01@20'**  
**2307065-01 (Soil)**

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

Date Sampled: **07/06/23 09:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	85.2			%	1	BGG0217	07/10/23	07/10/23	Calculation	

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

Date Sampled: **07/06/23 09:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.39	0.0100		mmhos/cm	1	BGG0327	07/12/23	07/13/23	EPA 120.1	

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

Date Sampled: **07/06/23 09:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	8.43			pH Units	1	BGG0328	07/12/23	07/13/23	EPA 9045D	

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Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**E02@20'**  
**2307065-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/06/23 09:53**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020		mg/kg	1	BGG0150	07/06/23	07/06/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.011</b>	0.010		"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.031</b>	0.0050		"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.011</b>	0.0050		"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.0086</b>	0.0038		"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>2.0</b>	0.50		"	"	"	"	"	"	

Date Sampled: **07/06/23 09:53**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		149 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		77.6 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		81.4 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/06/23 09:53**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>81</b>	50		mg/kg	1	BGG0149	07/06/23	07/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/06/23 09:53**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		92.6 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**E02@20'**  
**2307065-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/06/23 09:53**

Analyte	Result	Reporting		MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit									
Acenaphthene	ND	0.00500			mg/kg	1	BGG0154	07/07/23	07/08/23	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			"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.00660</b>	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: **07/06/23 09:53**

Analyte	Result	Reporting		MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit									
Surrogate: 2-Methylnaphthalene-d10		89.6 %			40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		90.0 %			40-150		"	"	"	"	

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

Date Sampled: **07/06/23 09:53**

Analyte	Result	Reporting		MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit									
<b>Boron</b>	<b>0.205</b>	0.0100			mg/L	1	BGG0283	07/11/23	07/13/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/06/23 09:53**

Analyte	Result	Reporting		MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit									

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Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**E02@20'**  
**2307065-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	10.1	0.232		mg/kg dry	1	BGG0253	07/10/23	07/13/23	EPA 6020B	
Barium	52.7	0.465		"	"	"	"	"	"	
Cadmium	ND	0.232		"	"	"	"	"	"	
Copper	9.65	0.465		"	"	"	"	"	"	
Lead	13.5	0.232		"	"	"	"	"	"	
Nickel	3.89	0.465		"	"	"	"	"	"	
Selenium	ND	0.302	0.203	"	"	"	"	"	"	
Silver	0.0256	0.0232		"	"	"	"	"	"	
Zinc	26.0	0.465		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **07/06/23 09:53**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0213	07/10/23	07/10/23	EPA 7196A	

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

Date Sampled: **07/06/23 09:53**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	163	0.0581		mg/L dry	1	BGG0276	07/11/23	07/14/23	EPA 6020B	
Magnesium	19.6	0.0581		"	"	"	"	"	"	
Sodium	67.8	0.0581		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **07/06/23 09:53**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.34	0.00100		units	1	BGG0461	07/15/23	07/15/23	Calculation	

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

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Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**E02@20'**  
**2307065-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/06/23 09:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	86.0			%	1	BGG0217	07/10/23	07/10/23	Calculation	

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

Date Sampled: **07/06/23 09:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.39	0.0100		mmhos/cm	1	BGG0327	07/12/23	07/13/23	EPA 120.1	

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

Date Sampled: **07/06/23 09:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	8.44			pH Units	1	BGG0328	07/12/23	07/13/23	EPA 9045D	

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Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**B01@22'**  
**2307065-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/06/23 09:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.011</b>	0.0020		mg/kg	1	BGG0150	07/06/23	07/06/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.047</b>	0.0050		"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.46</b>	0.010		"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.27</b>	0.0050		"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.14</b>	0.0050		"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.11</b>	0.0038		"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>15</b>	0.50		"	"	"	"	"	"	

Date Sampled: **07/06/23 09:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		149 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		74.2 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		85.5 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/06/23 09:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>120</b>	50		mg/kg	1	BGG0149	07/06/23	07/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/06/23 09:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.4 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**B01@22'**  
**2307065-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/06/23 09:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGG0154	07/07/23	07/08/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	
<b>Benzo (a) anthracene</b>	<b>0.00870</b>	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		"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0399</b>	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.229</b>	0.00500		"	"	"	"	"	"	E
<b>2-Methylnaphthalene</b>	<b>0.278</b>	0.00500		"	"	"	"	"	"	E

Date Sampled: **07/06/23 09:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		102 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		95.6 %		40-150		"	"	"	"	

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

Date Sampled: **07/06/23 09:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.326</b>	0.0100		mg/L	1	BGG0283	07/11/23	07/13/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/06/23 09:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**B01@22'**  
**2307065-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.24	0.230		mg/kg dry	1	BGG0253	07/10/23	07/13/23	EPA 6020B	
Barium	36.6	0.460		"	"	"	"	"	"	
Cadmium	0.507	0.230		"	"	"	"	"	"	
Copper	7.38	0.460		"	"	"	"	"	"	
Lead	14.2	0.230		"	"	"	"	"	"	
Nickel	6.07	0.460		"	"	"	"	"	"	
Selenium	ND	0.299	0.201	"	"	"	"	"	"	
Silver	0.0419	0.0230		"	"	"	"	"	"	
Zinc	31.9	0.460		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **07/06/23 09:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0213	07/10/23	07/10/23	EPA 7196A	

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

Date Sampled: **07/06/23 09:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	30.2	0.0575		mg/L dry	1	BGG0276	07/11/23	07/14/23	EPA 6020B	
Magnesium	22.0	0.0575		"	"	"	"	"	"	
Sodium	282	0.0575		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **07/06/23 09:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	9.52	0.00100		units	1	BGG0461	07/15/23	07/15/23	Calculation	

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

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Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**B01@22'**  
**2307065-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/06/23 09:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	87.0			%	1	BGG0217	07/10/23	07/10/23	Calculation	

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

Date Sampled: **07/06/23 09:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.86	0.0100		mmhos/cm	1	BGG0327	07/12/23	07/13/23	EPA 120.1	

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

Date Sampled: **07/06/23 09:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.71			pH Units	1	BGG0328	07/12/23	07/13/23	EPA 9045D	

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4480 Grfeld St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**B02@22'**  
**2307065-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/06/23 10:01**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.0064</b>	0.0020		mg/kg	1	BGG0150	07/06/23	07/06/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.060</b>	0.0050		"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.76</b>	0.010		"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.23</b>	0.0050		"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.15</b>	0.0050		"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.098</b>	0.0038		"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>13</b>	0.50		"	"	"	"	"	"	

Date Sampled: **07/06/23 10:01**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		167 %		50-150		"	"	"	"	S-02
Surrogate: Toluene-d8		75.2 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.1 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/06/23 10:01**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>78</b>	50		mg/kg	1	BGG0149	07/06/23	07/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/06/23 10:01**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		87.5 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**B02@22'**  
**2307065-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/06/23 10:01**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGG0154	07/07/23	07/08/23	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		"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0144</b>	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.0804</b>	0.00500		"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.0678</b>	0.00500		"	"	"	"	"	"	

Date Sampled: **07/06/23 10:01**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		96.5 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		71.1 %		40-150		"	"	"	"	

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

Date Sampled: **07/06/23 10:01**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.476</b>	0.0100		mg/L	1	BGG0283	07/11/23	07/13/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/06/23 10:01**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**B02@22'**  
**2307065-04 (Soil)**

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**Total Metals by EPA 6020B**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.96	0.231		mg/kg dry	1	BGG0253	07/10/23	07/13/23	EPA 6020B	
Barium	60.5	0.462		"	"	"	"	"	"	
Cadmium	0.854	0.231		"	"	"	"	"	"	
Copper	8.49	0.462		"	"	"	"	"	"	
Lead	18.3	0.231		"	"	"	"	"	"	
Nickel	7.47	0.462		"	"	"	"	"	"	
Selenium	ND	0.300	0.202	"	"	"	"	"	"	
Silver	0.0610	0.0231		"	"	"	"	"	"	
Zinc	33.7	0.462		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **07/06/23 10:01**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0213	07/10/23	07/10/23	EPA 7196A	

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

Date Sampled: **07/06/23 10:01**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	13.4	0.0577		mg/L dry	1	BGG0276	07/11/23	07/14/23	EPA 6020B	
Magnesium	5.61	0.0577		"	"	"	"	"	"	
Sodium	237	0.0577		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **07/06/23 10:01**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	13.7	0.00100		units	1	BGG0461	07/15/23	07/15/23	Calculation	

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

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Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**B02@22'**  
**2307065-04 (Soil)**

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

Date Sampled: **07/06/23 10:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	86.6			%	1	BGG0217	07/10/23	07/10/23	Calculation	

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

Date Sampled: **07/06/23 10:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.30	0.0100		mmhos/cm	1	BGG0327	07/12/23	07/13/23	EPA 120.1	

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

Date Sampled: **07/06/23 10:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	8.05			pH Units	1	BGG0328	07/12/23	07/13/23	EPA 9045D	

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Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

## 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 BGG0150 - EPA 5030 Soil MS

##### Blank (BGG0150-BLK1)

Prepared: 07/06/23 Analyzed: 07/07/23

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	0.0326		"	0.0400		81.4	50-150			
Surrogate: Toluene-d8	0.0397		"	0.0400		99.3	50-150			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.4	50-150			

##### LCS (BGG0150-BS1)

Prepared: 07/06/23 Analyzed: 07/07/23

Benzene	0.0662	0.0020	mg/kg	0.0750		88.2	70-130			
Toluene	0.0816	0.0050	"	0.0750		109	70-130			
Ethylbenzene	0.0917	0.0050	"	0.0750		122	70-130			
m,p-Xylene	0.183	0.010	"	0.150		122	70-130			
o-Xylene	0.0827	0.0050	"	0.0750		110	70-130			
1,2,4-Trimethylbenzene	0.0885	0.0050	"	0.0750		118	70-130			
1,3,5-Trimethylbenzene	0.0924	0.0050	"	0.0750		123	70-130			
Naphthalene	0.0764	0.0038	"	0.0750		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0326		"	0.0400		81.5	50-150			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.3	50-150			

##### Matrix Spike (BGG0150-MS1)

Source: 2307063-01

Prepared: 07/06/23 Analyzed: 07/07/23

Benzene	0.0661	0.0020	mg/kg	0.0750	ND	88.1	70-130			
Toluene	0.0770	0.0050	"	0.0750	ND	103	70-130			
Ethylbenzene	0.0977	0.0050	"	0.0750	ND	130	70-130			
m,p-Xylene	0.192	0.010	"	0.150	ND	128	70-130			
o-Xylene	0.0855	0.0050	"	0.0750	ND	114	70-130			
1,2,4-Trimethylbenzene	0.0913	0.0050	"	0.0750	ND	122	70-130			
1,3,5-Trimethylbenzene	0.0946	0.0050	"	0.0750	ND	126	70-130			
Naphthalene	0.0840	0.0038	"	0.0750	ND	112	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0310		"	0.0400		77.4	50-150			
Surrogate: Toluene-d8	0.0374		"	0.0400		93.5	50-150			
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0400		96.4	50-150			

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Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**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 BGG0150 - EPA 5030 Soil MS**

Matrix Spike Dup (BGG0150-MSD1)	Source: 2307063-01			Prepared: 07/06/23 Analyzed: 07/07/23						
Benzene	0.0695	0.0020	mg/kg	0.0750	ND	92.7	70-130	5.13	30	
Toluene	0.0813	0.0050	"	0.0750	ND	108	70-130	5.42	30	
Ethylbenzene	0.0951	0.0050	"	0.0750	ND	127	70-130	2.74	30	
m,p-Xylene	0.186	0.010	"	0.150	ND	124	70-130	2.98	30	
o-Xylene	0.0853	0.0050	"	0.0750	ND	114	70-130	0.281	30	
1,2,4-Trimethylbenzene	0.0898	0.0050	"	0.0750	ND	120	70-130	1.66	30	
1,3,5-Trimethylbenzene	0.0946	0.0050	"	0.0750	ND	126	70-130	0.0317	30	
Naphthalene	0.0850	0.0038	"	0.0750	ND	113	70-130	1.24	30	
Surrogate: 1,2-Dichloroethane-d4	0.0349		"	0.0400		87.2	50-150			
Surrogate: Toluene-d8	0.0385		"	0.0400		96.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0383		"	0.0400		95.8	50-150			

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Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**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 BGG0149 - EPA 3550A**

**Blank (BGG0149-BLK1)**

Prepared & Analyzed: 07/06/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	11.0		"	12.5		88.3	30-150			

**LCS (BGG0149-BS1)**

Prepared: 07/06/23 Analyzed: 07/07/23

C10-C28 (DRO)	478	50	mg/kg	500		95.6	70-130			
Surrogate: o-Terphenyl	11.7		"	12.5		93.8	30-150			

**Matrix Spike (BGG0149-MS1)**

Source: 2307063-01

Prepared: 07/06/23 Analyzed: 07/07/23

C10-C28 (DRO)	429	50	mg/kg	500	30.8	79.6	70-130			
Surrogate: o-Terphenyl	11.4		"	12.5		91.6	30-150			

**Matrix Spike Dup (BGG0149-MSD1)**

Source: 2307063-01

Prepared: 07/06/23 Analyzed: 07/07/23

C10-C28 (DRO)	429	50	mg/kg	500	30.8	79.6	70-130	0.0431	20	
Surrogate: o-Terphenyl	11.3		"	12.5		90.2	30-150			

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Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

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

### Summit Scientific

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

#### Batch BGG0154 - EPA 5030 Soil MS

##### Blank (BGG0154-BLK1)

Prepared & Analyzed: 07/07/23

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	0.0325		"	0.0333		97.4	40-150			
Surrogate: Fluoranthene-d10	0.0320		"	0.0333		96.0	40-150			

##### LCS (BGG0154-BS1)

Prepared & Analyzed: 07/07/23

Acenaphthene	0.0368	0.00500	mg/kg	0.0333	110	31-137
Anthracene	0.0374	0.00500	"	0.0333	112	30-120
Benzo (a) anthracene	0.0398	0.00500	"	0.0333	119	30-120
Benzo (a) pyrene	0.0346	0.00500	"	0.0333	104	30-120
Benzo (b) fluoranthene	0.0368	0.00500	"	0.0333	111	30-120
Benzo (k) fluoranthene	0.0353	0.00500	"	0.0333	106	30-120
Chrysene	0.0373	0.00500	"	0.0333	112	30-120
Dibenz (a,h) anthracene	0.0360	0.00500	"	0.0333	108	30-120
Fluoranthene	0.0346	0.00500	"	0.0333	104	30-120
Fluorene	0.0361	0.00500	"	0.0333	108	30-120
Indeno (1,2,3-cd) pyrene	0.0308	0.00500	"	0.0333	92.5	30-120
Pyrene	0.0399	0.00500	"	0.0333	120	35-142
1-Methylnaphthalene	0.0291	0.00500	"	0.0333	87.2	35-142
2-Methylnaphthalene	0.0394	0.00500	"	0.0333	118	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0306		"	0.0333	91.9	40-150
Surrogate: Fluoranthene-d10	0.0369		"	0.0333	111	40-150

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4480 Grfeld St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

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

### Summit Scientific

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

#### Batch BGG0154 - EPA 5030 Soil MS

##### Matrix Spike (BGG0154-MS1)

Source: 2307053-01

Prepared & Analyzed: 07/07/23

Acenaphthene	0.0241	0.00500	mg/kg	0.0333	ND	72.4	31-137		
Anthracene	0.0243	0.00500	"	0.0333	ND	73.0	30-120		
Benzo (a) anthracene	0.0225	0.00500	"	0.0333	ND	67.5	30-120		
Benzo (a) pyrene	0.0202	0.00500	"	0.0333	ND	60.5	30-120		
Benzo (b) fluoranthene	0.0215	0.00500	"	0.0333	ND	64.5	30-120		
Benzo (k) fluoranthene	0.0214	0.00500	"	0.0333	ND	64.2	30-120		
Chrysene	0.0228	0.00500	"	0.0333	ND	68.5	30-120		
Dibenz (a,h) anthracene	0.0202	0.00500	"	0.0333	ND	60.7	30-120		
Fluoranthene	0.0230	0.00500	"	0.0333	ND	69.1	30-120		
Fluorene	0.0235	0.00500	"	0.0333	ND	70.4	30-120		
Indeno (1,2,3-cd) pyrene	0.0179	0.00500	"	0.0333	ND	53.8	30-120		
Pyrene	0.0249	0.00500	"	0.0333	ND	74.6	35-142		
1-Methylnaphthalene	0.0179	0.00500	"	0.0333	ND	53.8	15-130		
2-Methylnaphthalene	0.0255	0.00500	"	0.0333	ND	76.4	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0203		"	0.0333		60.8	40-150		
Surrogate: Fluoranthene-d10	0.0268		"	0.0333		80.5	40-150		

##### Matrix Spike Dup (BGG0154-MSD1)

Source: 2307053-01

Prepared & Analyzed: 07/07/23

Acenaphthene	0.0254	0.00500	mg/kg	0.0333	ND	76.3	31-137	5.22	30
Anthracene	0.0265	0.00500	"	0.0333	ND	79.6	30-120	8.67	30
Benzo (a) anthracene	0.0270	0.00500	"	0.0333	ND	81.0	30-120	18.1	30
Benzo (a) pyrene	0.0248	0.00500	"	0.0333	ND	74.5	30-120	20.7	30
Benzo (b) fluoranthene	0.0250	0.00500	"	0.0333	ND	75.1	30-120	15.2	30
Benzo (k) fluoranthene	0.0246	0.00500	"	0.0333	ND	73.7	30-120	13.7	30
Chrysene	0.0263	0.00500	"	0.0333	ND	79.0	30-120	14.3	30
Dibenz (a,h) anthracene	0.0235	0.00500	"	0.0333	ND	70.5	30-120	15.0	30
Fluoranthene	0.0253	0.00500	"	0.0333	ND	75.9	30-120	9.44	30
Fluorene	0.0253	0.00500	"	0.0333	ND	75.9	30-120	7.44	30
Indeno (1,2,3-cd) pyrene	0.0205	0.00500	"	0.0333	ND	61.4	30-120	13.2	30
Pyrene	0.0287	0.00500	"	0.0333	ND	86.2	35-142	14.4	30
1-Methylnaphthalene	0.0216	0.00500	"	0.0333	ND	64.7	15-130	18.4	50
2-Methylnaphthalene	0.0281	0.00500	"	0.0333	ND	84.4	15-130	9.95	50
Surrogate: 2-Methylnaphthalene-d10	0.0253		"	0.0333		76.0	40-150		
Surrogate: Fluoranthene-d10	0.0295		"	0.0333		88.4	40-150		

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.





Quandary Consultants  
4480 Grfeld St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**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 BGG0283 - EPA 3050B**

**Blank (BGG0283-BLK1)**

Prepared: 07/11/23 Analyzed: 07/13/23

Boron ND 0.0100 mg/L

**LCS (BGG0283-BS1)**

Prepared: 07/11/23 Analyzed: 07/13/23

Boron 5.67 0.0100 mg/L 5.00 113 80-120

**Duplicate (BGG0283-DUP1)**

**Source: 2307065-01**

Prepared: 07/11/23 Analyzed: 07/13/23

Boron 0.245 0.0100 mg/L 0.275 11.4 20

**Matrix Spike (BGG0283-MS1)**

**Source: 2307065-01**

Prepared: 07/11/23 Analyzed: 07/13/23

Boron 5.72 0.0100 mg/L 5.00 0.275 109 75-125

**Matrix Spike Dup (BGG0283-MSD1)**

**Source: 2307065-01**

Prepared: 07/11/23 Analyzed: 07/13/23

Boron 5.86 0.0100 mg/L 5.00 0.275 112 75-125 2.45 25

Summit Scientific

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Quandary Consultants  
4480 Grfeld St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BGG0253 - EPA 3050B**

**Blank (BGG0253-BLK1)**

Prepared: 07/10/23 Analyzed: 07/12/23

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

**LCS (BGG0253-BS1)**

Prepared: 07/10/23 Analyzed: 07/12/23

Arsenic	43.8	0.200	mg/kg wet	40.0	109	80-120
Barium	46.8	0.400	"	40.0	117	80-120
Cadmium	2.20	0.200	"	2.00	110	80-120
Copper	46.1	0.400	"	40.0	115	80-120
Lead	22.1	0.200	"	20.0	111	80-120
Nickel	44.3	0.400	"	40.0	111	80-120
Selenium	4.36	0.260	"	4.00	109	80-120
Silver	2.10	0.0200	"	2.00	105	80-120
Zinc	43.9	0.400	"	40.0	110	80-120

**Duplicate (BGG0253-DUP1)**

Source: 2306074-01

Prepared: 07/10/23 Analyzed: 07/12/23

Arsenic	1.32	0.233	mg/kg dry	1.54	15.8	20	
Barium	106	0.467	"	150	34.5	20	QR-04
Cadmium	0.100	0.233	"	0.137	31.0	20	QR-01
Copper	3.27	0.467	"	3.66	11.4	20	
Lead	6.16	0.233	"	7.56	20.4	20	QR-04
Nickel	2.62	0.467	"	3.14	18.0	20	
Selenium	ND	0.303	"	ND		20	
Silver	0.0135	0.0233	"	0.0163	18.8	20	
Zinc	23.3	0.467	"	35.8	42.4	20	QR-04

Summit Scientific

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Quandary Consultants  
4480 Grfeld St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BGG0253 - EPA 3050B**

Matrix Spike (BGG0253-MS1)		Source: 2306074-01			Prepared: 07/10/23		Analyzed: 07/12/23			
Arsenic	48.8	0.233	mg/kg dry	46.7	1.54	101	75-125			
Barium	262	0.467	"	46.7	150	241	75-125			QM-07
Cadmium	2.60	0.233	"	2.33	0.137	106	75-125			
Copper	43.7	0.467	"	46.7	3.66	85.8	75-125			
Lead	31.3	0.233	"	23.3	7.56	102	75-125			
Nickel	42.0	0.467	"	46.7	3.14	83.3	75-125			
Selenium	5.48	0.303	"	4.67	ND	117	75-125			
Silver	2.31	0.0233	"	2.33	0.0163	98.2	75-125			
Zinc	63.2	0.467	"	46.7	35.8	58.6	75-125			QM-07

Matrix Spike Dup (BGG0253-MSD1)		Source: 2306074-01			Prepared: 07/10/23		Analyzed: 07/12/23			
Arsenic	51.2	0.233	mg/kg dry	46.7	1.54	106	75-125	4.64	25	
Barium	259	0.467	"	46.7	150	234	75-125	1.23	25	QM-07
Cadmium	2.62	0.233	"	2.33	0.137	106	75-125	0.733	25	
Copper	46.5	0.467	"	46.7	3.66	91.8	75-125	6.22	25	
Lead	31.4	0.233	"	23.3	7.56	102	75-125	0.350	25	
Nickel	44.6	0.467	"	46.7	3.14	89.0	75-125	6.10	25	
Selenium	5.85	0.303	"	4.67	ND	125	75-125	6.66	25	
Silver	2.37	0.0233	"	2.33	0.0163	101	75-125	2.62	25	
Zinc	74.1	0.467	"	46.7	35.8	82.1	75-125	15.9	25	

Summit Scientific

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Quandary Consultants  
4480 Grfeld St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BGG0213 - 3060A Mod**

**Blank (BGG0213-BLK1)**

Prepared & Analyzed: 07/10/23

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BGG0213-BS1)**

Prepared & Analyzed: 07/10/23

Chromium, Hexavalent 23.2 0.30 mg/kg wet 25.0 92.8 80-120

**Duplicate (BGG0213-DUP1)**

**Source: 2306426-02**

Prepared & Analyzed: 07/10/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BGG0213-MS1)**

**Source: 2306426-02**

Prepared & Analyzed: 07/10/23

Chromium, Hexavalent 28.5 0.30 mg/kg dry 29.6 ND 96.2 75-125

**Matrix Spike Dup (BGG0213-MSD1)**

**Source: 2306426-02**

Prepared & Analyzed: 07/10/23

Chromium, Hexavalent 28.5 0.30 mg/kg dry 29.6 ND 96.2 75-125 0.00 20

Summit Scientific

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Quandary Consultants  
4480 Grfeld St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

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

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

**Batch BGG0276 - General Preparation**

**Blank (BGG0276-BLK1)**

Prepared: 07/11/23 Analyzed: 07/13/23

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

**LCS (BGG0276-BS1)**

Prepared: 07/11/23 Analyzed: 07/13/23

Calcium	5.76	0.0500	mg/L wet	5.00	115	70-130
Magnesium	5.60	0.0500	"	5.00	112	70-130
Sodium	5.61	0.0500	"	5.00	112	70-130

Summit Scientific

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Quandary Consultants  
4480 Grfeld St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

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

#### Summit Scientific

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

#### Batch BGG0217 - General Preparation

Duplicate (BGG0217-DUP1)

Source: 2305288-23

Prepared & Analyzed: 07/10/23

% Solids	87.7	%	89.3	1.85	20
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Summit Scientific

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Quandary Consultants  
4480 Grfeld St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**

07/18/23 09:26

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

#### Summit Scientific

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

#### Batch BGG0327 - General Preparation

##### Blank (BGG0327-BLK1)

Prepared: 07/12/23 Analyzed: 07/13/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

##### LCS (BGG0327-BS1)

Prepared: 07/12/23 Analyzed: 07/13/23

Specific Conductance (EC) 0.158 0.0100 mmhos/cm 0.150 105 95-105

##### Duplicate (BGG0327-DUP1)

Source: 2307052-01

Prepared: 07/12/23 Analyzed: 07/13/23

Specific Conductance (EC) 0.413 0.0100 mmhos/cm 0.421 1.89 20

Summit Scientific

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Quandary Consultants  
4480 Grfeld St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**

07/18/23 09:26

**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 BGG0328 - General Preparation**

**LCS (BGG0328-BS1)**

Prepared: 07/12/23 Analyzed: 07/13/23

pH	9.10	pH Units	9.18	99.1	95-105
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**Duplicate (BGG0328-DUP1)**

**Source: 2307052-01**

Prepared: 07/12/23 Analyzed: 07/13/23

pH	7.65	pH Units	7.19	6.20	20
----	------	----------	------	------	----

Summit Scientific

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Quandary Consultants  
4480 Grfeld St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
07/18/23 09:26

### Notes and Definitions

S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
QR-04	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-01	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
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.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
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



# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80401

303.277.9310

August 03, 2023

Mike Dinkel

Civitas Resources

650 Southgate Drive

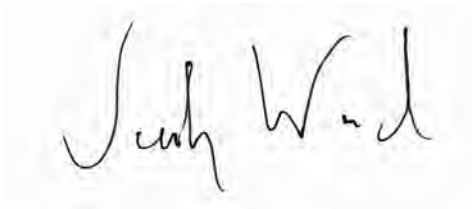
Windsor, CO 80550

RE: Miller 4-17J, 14-17

Work Order # 2307344

Enclosed are the results of analyses for samples received by Summit Scientific on 07/19/23 11:39. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Jacob Wood". The signature is written in a cursive, flowing style. The first name "Jacob" is written with a large, stylized 'J' and 'a'. The last name "Wood" is written with a large 'W' and 'o'. The signature is positioned on a light-colored, slightly textured background.

Jacob Wood For Paul Shrewsbury

President



Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B03@24'	2307344-01	Soil	07/19/23 09:30	07/19/23 11:39
B04@24'	2307344-02	Soil	07/19/23 09:42	07/19/23 11:39
B05@24'	2307344-03	Soil	07/19/23 09:58	07/19/23 11:39
B06@24'	2307344-04	Soil	07/19/23 10:08	07/19/23 11:39

#### Case Narrative

Michael Dinkel took B05@24' & B06@24' off of hold on 7/24/2023.

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.*


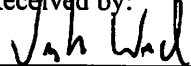
# SUMMIT SCIENTIFIC

4653 Table Mountain Drive  
Golden, CO 80403  
303-277-9310

Lab ID	Page 1 of 1
2307344	

Client: Civitas		Send Data To:		Send Invoice To:	
Address: 650 Southgate		Project Manager: Mike Dinkel		Company: Civitas	
City/State/Zip: Windsor		E-Mail: mdinkel		Project Name/Location: Miller 4-175, 14-17	
Phone: 785-691-7788		Project Name: Miller 4-175, 14-17		AFE#:	
Sampler Name: Mike Dinkel		Project Number:		PO/Billing Codes:	
				Contact: Jacob Evans	

					Preservative				Matrix				Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Table 915-1									
1	B03 @ 24'	7-12-23	0930	2						X			X									
2	B04 @ 24'	↓	0942	↓						↓			X									
3	B05 @ 24'	↓	0958	↓						↓			X									
4	B06 @ 24'	↓	1008	↓						↓			X									HOLD
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

Relinquished by: 	Date/Time: 7-12-23/1135	Received by: 	Date/Time: 7/19/23 11:39	TAT Business Days	Field DO	Notes: Same day Organics
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
Relinquished by:	Date/Time:	Received by:	Date/Time:	2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
Temperature Upon Receipt: 9.1	Corrected Temperature	IR gun #: 2	HNO3 lot #:	Standard	Field Turb.	



S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2307344Client: Civitas Client Project ID: Miller 4-175, 14-17Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: \_\_\_\_\_

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-------------------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 9.1 Thermometer # 2

	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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	48 hours + same day
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 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.

Vah Wad  
Custodian Printed Name

7/19/23 11:39  
Date/Time



Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**B03@24'**  
**2307344-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/19/23 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0598	07/19/23	07/19/23	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: **07/19/23 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		88.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		88.6 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/19/23 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0599	07/19/23	07/19/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/19/23 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		89.8 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**B03@24'**  
**2307344-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/19/23 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Acenaphthene	ND	0.00500		mg/kg	1	BGG0643	07/20/23	07/22/23	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: **07/19/23 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 2-Methylnaphthalene-d10		53.1 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		55.8 %		40-150		"	"	"	"	

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

Date Sampled: **07/19/23 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<b>Boron</b>	<b>0.296</b>	0.0100		mg/L	1	BGG0627	07/20/23	07/22/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/19/23 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**B03@24'**  
**2307344-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.763	0.239		mg/kg dry	1	BGG0601	07/20/23	07/20/23	EPA 6020B	
Barium	86.6	0.478		"	"	"	"	"	"	
Cadmium	1.04	0.239		"	"	"	"	"	"	
Copper	4.33	0.478		"	"	"	"	"	"	
Lead	13.3	0.239		"	"	"	"	"	"	
Nickel	3.36	0.478		"	"	"	"	"	"	
Selenium	ND	0.311	0.209	"	"	"	"	"	"	
Silver	0.0492	0.0239		"	"	"	"	"	"	
Zinc	15.1	0.478		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **07/19/23 09:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0603	07/20/23	07/20/23	EPA 7196A	

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

Date Sampled: **07/19/23 09:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	37.5	0.0598		mg/L dry	1	BGG0623	07/20/23	07/22/23	EPA 6020B	
Magnesium	46.0	0.0598		"	"	"	"	"	"	
Sodium	212	0.0598		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **07/19/23 09:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.48	0.00100		units	1	BGG0744	07/24/23	07/24/23	Calculation	

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

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Civitas Resources  
650 Southgate Drive  
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Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**B03@24'**  
**2307344-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/19/23 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	83.7			%	1	BGG0605	07/20/23	07/20/23	Calculation	

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

Date Sampled: **07/19/23 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.48	0.0100		mmhos/cm	1	BGG0663	07/21/23	07/21/23	EPA 120.1	

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

Date Sampled: **07/19/23 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.87			pH Units	1	BGG0662	07/21/23	07/21/23	EPA 9045D	

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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**B04@24'**  
**2307344-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/19/23 09:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0598	07/19/23	07/19/23	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: **07/19/23 09:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		87.3 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		89.3 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/19/23 09:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0599	07/19/23	07/19/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/19/23 09:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		86.9 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**B04@24'**  
**2307344-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/19/23 09:42**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGG0643	07/20/23	07/22/23	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: **07/19/23 09:42**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		54.6 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		58.1 %		40-150		"	"	"	"	

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

Date Sampled: **07/19/23 09:42**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.414</b>	0.0100		mg/L	1	BGG0627	07/20/23	07/22/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/19/23 09:42**

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

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**B04@24'**  
**2307344-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.739	0.234		mg/kg dry	1	BGG0601	07/20/23	07/20/23	EPA 6020B	
Barium	18.3	0.468		"	"	"	"	"	"	
Cadmium	0.469	0.234		"	"	"	"	"	"	
Copper	4.99	0.468		"	"	"	"	"	"	
Lead	12.5	0.234		"	"	"	"	"	"	
Nickel	2.98	0.468		"	"	"	"	"	"	
Selenium	ND	0.304	0.205	"	"	"	"	"	"	
Silver	0.0561	0.0234		"	"	"	"	"	"	
Zinc	19.2	0.468		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **07/19/23 09:42**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0603	07/20/23	07/20/23	EPA 7196A	

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

Date Sampled: **07/19/23 09:42**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	49.6	0.0585		mg/L dry	1	BGG0623	07/20/23	07/22/23	EPA 6020B	
Magnesium	65.1	0.0585		"	"	"	"	"	"	
Sodium	206	0.0585		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **07/19/23 09:42**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.53	0.00100		units	1	BGG0744	07/24/23	07/24/23	Calculation	

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

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Civitas Resources  
650 Southgate Drive  
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Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**B04@24'**  
**2307344-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/19/23 09:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	85.5			%	1	BGG0605	07/20/23	07/20/23	Calculation	

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

Date Sampled: **07/19/23 09:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	2.14	0.0100		mmhos/cm	1	BGG0663	07/21/23	07/21/23	EPA 120.1	

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

Date Sampled: **07/19/23 09:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.52			pH Units	1	BGG0662	07/21/23	07/21/23	EPA 9045D	

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Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**B05@24'**  
**2307344-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/19/23 09:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0853	07/26/23	07/26/23	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: **07/19/23 09:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		80.4 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		98.6 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.7 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/19/23 09:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0856	07/26/23	07/26/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/19/23 09:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		90.7 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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650 Southgate Drive  
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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**B05@24'**  
**2307344-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/19/23 09:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Acenaphthene	ND	0.00500		mg/kg	1	BGG0833	07/26/23	07/27/23	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: **07/19/23 09:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 2-Methylnaphthalene-d10		48.6 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		43.3 %		40-150		"	"	"	"	

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

Date Sampled: **07/19/23 09:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<b>Boron</b>	<b>0.293</b>	0.0100		mg/L	1	BGG0916	07/27/23	08/01/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/19/23 09:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

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650 Southgate Drive  
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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**B05@24'**  
**2307344-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.20	0.231		mg/kg dry	1	BGG0890	07/27/23	07/28/23	EPA 6020B	
Barium	50.4	0.461		"	"	"	"	"	"	
Cadmium	1.03	0.231		"	"	"	"	"	"	
Copper	4.25	0.461		"	"	"	"	"	"	
Lead	11.5	0.231		"	"	"	"	"	"	
Nickel	3.14	0.461		"	"	"	"	"	"	
Selenium	ND	0.300	0.202	"	"	"	"	"	"	
Silver	0.0720	0.0231		"	"	"	"	"	"	
Zinc	17.9	0.461		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **07/19/23 09:58**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0893	07/27/23	07/27/23	EPA 7196A	

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

Date Sampled: **07/19/23 09:58**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	96.4	0.0577		mg/L dry	1	BGG0911	07/27/23	07/31/23	EPA 6020B	
Magnesium	50.1	0.0577		"	"	"	"	"	"	
Sodium	248	0.0577		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **07/19/23 09:58**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.10	0.00100		units	1	BGH0027	08/01/23	08/01/23	Calculation	

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

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**B05@24'**  
**2307344-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/19/23 09:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	86.7			%	1	BGG0910	07/27/23	07/27/23	Calculation	

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

Date Sampled: **07/19/23 09:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	2.54	0.0100		mmhos/cm	1	BGG0963	07/28/23	07/28/23	EPA 120.1	

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

Date Sampled: **07/19/23 09:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.61			pH Units	1	BGG0962	07/28/23	07/28/23	EPA 9045D	

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**B06@24'**  
**2307344-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/19/23 10:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0853	07/26/23	07/26/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.026</b>	0.0050		"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.016</b>	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>0.75</b>	0.50		"	"	"	"	"	"	

Date Sampled: **07/19/23 10:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		74.9 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		97.6 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.3 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/19/23 10:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<b>C10-C28 (DRO)</b>	<b>63</b>	50		mg/kg	1	BGG0856	07/26/23	07/26/23	EPA 8015M	
<b>C28-C36 (ORO)</b>	<b>53</b>	50		"	"	"	"	"	"	

Date Sampled: **07/19/23 10:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		84.6 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**B06@24'**  
**2307344-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/19/23 10:08**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGG0833	07/26/23	07/27/23	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: **07/19/23 10:08**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		70.8 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		101 %		40-150		"	"	"	"	

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

Date Sampled: **07/19/23 10:08**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.323</b>	0.0100		mg/L	1	BGG0916	07/27/23	08/01/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/19/23 10:08**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Civitas Resources  
650 Southgate Drive  
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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**B06@24'**  
**2307344-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.45	0.231		mg/kg dry	1	BGG0890	07/27/23	07/28/23	EPA 6020B	
Barium	53.6	0.463		"	"	"	"	"	"	
Cadmium	1.33	0.231		"	"	"	"	"	"	
Copper	4.75	0.463		"	"	"	"	"	"	
Lead	15.6	0.231		"	"	"	"	"	"	
Nickel	3.85	0.463		"	"	"	"	"	"	
Selenium	ND	0.301	0.202	"	"	"	"	"	"	
Silver	0.0856	0.0231		"	"	"	"	"	"	
Zinc	16.3	0.463		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **07/19/23 10:08**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0893	07/27/23	07/27/23	EPA 7196A	

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

Date Sampled: **07/19/23 10:08**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	106	0.0578		mg/L dry	1	BGG0911	07/27/23	08/01/23	EPA 6020B	
Magnesium	65.0	0.0578		"	"	"	"	"	"	
Sodium	186	0.0578		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **07/19/23 10:08**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.51	0.00100		units	1	BGH0027	08/01/23	08/01/23	Calculation	

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

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**B06@24'**  
**2307344-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/19/23 10:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	86.4			%	1	BGG0910	07/27/23	07/27/23	Calculation	

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

Date Sampled: **07/19/23 10:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	2.32	0.0100		mmhos/cm	1	BGG0963	07/28/23	07/28/23	EPA 120.1	

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

Date Sampled: **07/19/23 10:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.67			pH Units	1	BGG0962	07/28/23	07/28/23	EPA 9045D	

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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

## 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 BGG0598 - EPA 5030 Soil MS

##### Blank (BGG0598-BLK1)

Prepared & Analyzed: 07/19/23

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	0.0338		"	0.0400		84.4	50-150			
Surrogate: Toluene-d8	0.0360		"	0.0400		90.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0406		"	0.0400		101	50-150			

##### LCS (BGG0598-BS1)

Prepared & Analyzed: 07/19/23

Benzene	0.0798	0.0020	mg/kg	0.100		79.8	70-130			
Toluene	0.0827	0.0050	"	0.100		82.7	70-130			
Ethylbenzene	0.0941	0.0050	"	0.100		94.1	70-130			
m,p-Xylene	0.186	0.010	"	0.200		93.0	70-130			
o-Xylene	0.0881	0.0050	"	0.100		88.1	70-130			
1,2,4-Trimethylbenzene	0.100	0.0050	"	0.100		100	70-130			
1,3,5-Trimethylbenzene	0.0958	0.0050	"	0.100		95.8	70-130			
Naphthalene	0.0934	0.0038	"	0.100		93.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0293		"	0.0400		73.2	50-150			
Surrogate: Toluene-d8	0.0367		"	0.0400		91.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	50-150			

##### Matrix Spike (BGG0598-MS1)

Source: 2307344-01

Prepared & Analyzed: 07/19/23

Benzene	0.0724	0.0020	mg/kg	0.100	ND	72.4	70-130			
Toluene	0.0729	0.0050	"	0.100	ND	72.9	70-130			
Ethylbenzene	0.0803	0.0050	"	0.100	ND	80.3	70-130			
m,p-Xylene	0.160	0.010	"	0.200	ND	79.9	70-130			
o-Xylene	0.0765	0.0050	"	0.100	ND	76.5	70-130			
1,2,4-Trimethylbenzene	0.0849	0.0050	"	0.100	ND	84.9	70-130			
1,3,5-Trimethylbenzene	0.0806	0.0050	"	0.100	ND	80.6	70-130			
Naphthalene	0.0620	0.0038	"	0.100	ND	62.0	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0333		"	0.0400		83.2	50-150			
Surrogate: Toluene-d8	0.0356		"	0.0400		89.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0422		"	0.0400		105	50-150			

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

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

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

**Batch BGG0598 - EPA 5030 Soil MS**

Matrix Spike Dup (BGG0598-MSD1)			Source: 2307344-01		Prepared & Analyzed: 07/19/23						
Benzene	0.0702	0.0020	mg/kg	0.100	ND	70.2	70-130	3.11	30		
Toluene	0.0711	0.0050	"	0.100	ND	71.1	70-130	2.50	30		
Ethylbenzene	0.0789	0.0050	"	0.100	ND	78.9	70-130	1.77	30		
m,p-Xylene	0.156	0.010	"	0.200	ND	78.1	70-130	2.26	30		
o-Xylene	0.0749	0.0050	"	0.100	ND	74.9	70-130	2.10	30		
1,2,4-Trimethylbenzene	0.0840	0.0050	"	0.100	ND	84.0	70-130	1.14	30		
1,3,5-Trimethylbenzene	0.0770	0.0050	"	0.100	ND	77.0	70-130	4.57	30		
Naphthalene	0.0630	0.0038	"	0.100	ND	63.0	70-130	1.54	30		QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0311		"	0.0400		77.8	50-150				
Surrogate: Toluene-d8	0.0354		"	0.0400		88.4	50-150				
Surrogate: 4-Bromofluorobenzene	0.0425		"	0.0400		106	50-150				

**Batch BGG0853 - EPA 5030 Soil MS**

Blank (BGG0853-BLK1)			Prepared & Analyzed: 07/26/23								
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	0.0296		"	0.0400		74.1	50-150				
Surrogate: Toluene-d8	0.0387		"	0.0400		96.8	50-150				
Surrogate: 4-Bromofluorobenzene	0.0362		"	0.0400		90.6	50-150				

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650 Southgate Drive  
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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**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 BGG0853 - EPA 5030 Soil MS**

**LCS (BGG0853-BS1)**

Prepared & Analyzed: 07/26/23

Benzene	0.140	0.0020	mg/kg	0.125		112	70-130			
Toluene	0.126	0.0050	"	0.125		101	70-130			
Ethylbenzene	0.121	0.0050	"	0.125		96.6	70-130			
m,p-Xylene	0.314	0.010	"	0.250		125	70-130			
o-Xylene	0.122	0.0050	"	0.125		97.9	70-130			
1,2,4-Trimethylbenzene	0.148	0.0050	"	0.125		118	70-130			
1,3,5-Trimethylbenzene	0.136	0.0050	"	0.125		109	70-130			
Naphthalene	0.128	0.0038	"	0.125		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0281		"	0.0400		70.4	50-150			
Surrogate: Toluene-d8	0.0382		"	0.0400		95.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0346		"	0.0400		86.6	50-150			

**Matrix Spike (BGG0853-MS1)**

Source: 2307344-03

Prepared & Analyzed: 07/26/23

Benzene	0.162	0.0020	mg/kg	0.125	ND	130	70-130			
Toluene	0.132	0.0050	"	0.125	ND	106	70-130			
Ethylbenzene	0.143	0.0050	"	0.125	ND	115	70-130			
m,p-Xylene	0.307	0.010	"	0.250	ND	123	70-130			
o-Xylene	0.139	0.0050	"	0.125	ND	111	70-130			
1,2,4-Trimethylbenzene	0.135	0.0050	"	0.125	ND	108	70-130			
1,3,5-Trimethylbenzene	0.117	0.0050	"	0.125	ND	93.8	70-130			
Naphthalene	0.122	0.0038	"	0.125	ND	97.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0263		"	0.0400		65.7	50-150			
Surrogate: Toluene-d8	0.0388		"	0.0400		97.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0400		96.4	50-150			

**Matrix Spike Dup (BGG0853-MSD1)**

Source: 2307344-03

Prepared & Analyzed: 07/26/23

Benzene	0.143	0.0020	mg/kg	0.125	ND	114	70-130	12.5	30	
Toluene	0.145	0.0050	"	0.125	ND	116	70-130	9.04	30	
Ethylbenzene	0.126	0.0050	"	0.125	ND	101	70-130	13.0	30	
m,p-Xylene	0.303	0.010	"	0.250	ND	121	70-130	1.53	30	
o-Xylene	0.142	0.0050	"	0.125	ND	114	70-130	2.58	30	
1,2,4-Trimethylbenzene	0.150	0.0050	"	0.125	ND	120	70-130	10.3	30	
1,3,5-Trimethylbenzene	0.148	0.0050	"	0.125	ND	118	70-130	23.2	30	
Naphthalene	0.142	0.0038	"	0.125	ND	114	70-130	15.2	30	
Surrogate: 1,2-Dichloroethane-d4	0.0273		"	0.0400		68.2	50-150			
Surrogate: Toluene-d8	0.0382		"	0.0400		95.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0362		"	0.0400		90.6	50-150			

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**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 BGG0599 - EPA 3550A**

**Blank (BGG0599-BLK1)**

Prepared & Analyzed: 07/19/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	11.2		"	12.5		89.8	30-150			

**LCS (BGG0599-BS1)**

Prepared & Analyzed: 07/19/23

C10-C28 (DRO)	723	50	mg/kg	500		145	70-130			QR-02
Surrogate: o-Terphenyl	15.4		"	12.5		123	30-150			

**Matrix Spike (BGG0599-MS1)**

Source: 2307344-01

Prepared: 07/19/23 Analyzed: 07/20/23

C10-C28 (DRO)	494	50	mg/kg	500	28.4	93.2	70-130			
Surrogate: o-Terphenyl	11.2		"	12.5		89.3	30-150			

**Matrix Spike Dup (BGG0599-MSD1)**

Source: 2307344-01

Prepared: 07/19/23 Analyzed: 07/20/23

C10-C28 (DRO)	607	50	mg/kg	500	28.4	116	70-130	20.5	20	QR-02
Surrogate: o-Terphenyl	11.7		"	12.5		93.8	30-150			

**Batch BGG0856 - EPA 3550A**

**Blank (BGG0856-BLK1)**

Prepared & Analyzed: 07/26/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	11.5		"	12.5		91.6	30-150			

**LCS (BGG0856-BS1)**

Prepared & Analyzed: 07/26/23

C10-C28 (DRO)	444	50	mg/kg	500		88.8	70-130			
Surrogate: o-Terphenyl	11.6		"	12.5		92.5	30-150			

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650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

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

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

**Batch BGG0856 - EPA 3550A**

<b>Matrix Spike (BGG0856-MS1)</b>		<b>Source: 2307344-03</b>			<b>Prepared &amp; Analyzed: 07/26/23</b>					
C10-C28 (DRO)	419	50	mg/kg	500	5.89	82.7	70-130			
Surrogate: o-Terphenyl	10.7		"	12.5		85.8	30-150			
<b>Matrix Spike Dup (BGG0856-MSD1)</b>		<b>Source: 2307344-03</b>			<b>Prepared &amp; Analyzed: 07/26/23</b>					
C10-C28 (DRO)	480	50	mg/kg	500	5.89	94.8	70-130	13.5	20	
Surrogate: o-Terphenyl	11.6		"	12.5		92.6	30-150			

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Project Number: [none]  
Project Manager: Mike Dinkel

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

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

#### Batch BGG0643 - EPA 5030 Soil MS

##### Blank (BGG0643-BLK1)

Prepared: 07/20/23 Analyzed: 07/22/23

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	0.0194		"	0.0333		58.2	40-150			
Surrogate: Fluoranthene-d10	0.0237		"	0.0333		71.1	40-150			

##### LCS (BGG0643-BS1)

Prepared: 07/20/23 Analyzed: 07/22/23

Acenaphthene	0.0297	0.00500	mg/kg	0.0333		89.2	31-137			
Anthracene	0.0301	0.00500	"	0.0333		90.2	30-120			
Benzo (a) anthracene	0.0198	0.00500	"	0.0333		59.3	30-120			
Benzo (a) pyrene	0.0301	0.00500	"	0.0333		90.2	30-120			
Benzo (b) fluoranthene	0.0318	0.00500	"	0.0333		95.4	30-120			
Benzo (k) fluoranthene	0.0287	0.00500	"	0.0333		86.0	30-120			
Chrysene	0.0304	0.00500	"	0.0333		91.1	30-120			
Dibenz (a,h) anthracene	0.0281	0.00500	"	0.0333		84.2	30-120			
Fluoranthene	0.0271	0.00500	"	0.0333		81.3	30-120			
Fluorene	0.0284	0.00500	"	0.0333		85.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0217	0.00500	"	0.0333		65.0	30-120			
Pyrene	0.0350	0.00500	"	0.0333		105	35-142			
1-Methylnaphthalene	0.0319	0.00500	"	0.0333		95.7	35-142			
2-Methylnaphthalene	0.0234	0.00500	"	0.0333		70.2	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0237		"	0.0333		71.1	40-150			
Surrogate: Fluoranthene-d10	0.0276		"	0.0333		82.9	40-150			

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Project Number: [none]  
Project Manager: Mike Dinkel

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

### Summit Scientific

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

#### Batch BGG0643 - EPA 5030 Soil MS

##### Matrix Spike (BGG0643-MS1)

Source: 2307320-01

Prepared: 07/20/23 Analyzed: 07/22/23

Acenaphthene	0.0230	0.00500	mg/kg	0.0333	ND	69.1	31-137				
Anthracene	0.0241	0.00500	"	0.0333	ND	72.4	30-120				
Benzo (a) anthracene	0.0234	0.00500	"	0.0333	ND	70.1	30-120				
Benzo (a) pyrene	0.0236	0.00500	"	0.0333	ND	70.8	30-120				
Benzo (b) fluoranthene	0.0248	0.00500	"	0.0333	ND	74.3	30-120				
Benzo (k) fluoranthene	0.0228	0.00500	"	0.0333	ND	68.4	30-120				
Chrysene	0.0245	0.00500	"	0.0333	ND	73.4	30-120				
Dibenz (a,h) anthracene	0.0234	0.00500	"	0.0333	ND	70.1	30-120				
Fluoranthene	0.0224	0.00500	"	0.0333	ND	67.2	30-120				
Fluorene	0.0233	0.00500	"	0.0333	ND	70.0	30-120				
Indeno (1,2,3-cd) pyrene	0.0185	0.00500	"	0.0333	ND	55.5	30-120				
Pyrene	0.0280	0.00500	"	0.0333	ND	84.0	35-142				
1-Methylnaphthalene	0.0172	0.00500	"	0.0333	ND	51.5	15-130				
2-Methylnaphthalene	0.0222	0.00500	"	0.0333	ND	66.7	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0190		"	0.0333		57.0	40-150				
Surrogate: Fluoranthene-d10	0.0228		"	0.0333		68.3	40-150				

##### Matrix Spike Dup (BGG0643-MSD1)

Source: 2307320-01

Prepared: 07/20/23 Analyzed: 07/22/23

Acenaphthene	0.0201	0.00500	mg/kg	0.0333	ND	60.4	31-137	13.5	30		
Anthracene	0.0198	0.00500	"	0.0333	ND	59.5	30-120	19.6	30		
Benzo (a) anthracene	0.0205	0.00500	"	0.0333	ND	61.6	30-120	12.9	30		
Benzo (a) pyrene	0.0206	0.00500	"	0.0333	ND	61.7	30-120	13.7	30		
Benzo (b) fluoranthene	0.0211	0.00500	"	0.0333	ND	63.2	30-120	16.1	30		
Benzo (k) fluoranthene	0.0194	0.00500	"	0.0333	ND	58.3	30-120	16.0	30		
Chrysene	0.0209	0.00500	"	0.0333	ND	62.6	30-120	15.9	30		
Dibenz (a,h) anthracene	0.0194	0.00500	"	0.0333	ND	58.2	30-120	18.5	30		
Fluoranthene	0.0179	0.00500	"	0.0333	ND	53.6	30-120	22.5	30		
Fluorene	0.0203	0.00500	"	0.0333	ND	60.9	30-120	13.9	30		
Indeno (1,2,3-cd) pyrene	0.0146	0.00500	"	0.0333	ND	43.9	30-120	23.4	30		
Pyrene	0.0258	0.00500	"	0.0333	ND	77.4	35-142	8.26	30		
1-Methylnaphthalene	0.0106	0.00500	"	0.0333	ND	31.8	15-130	47.5	50		
2-Methylnaphthalene	0.0135	0.00500	"	0.0333	ND	40.4	15-130	49.2	50		
Surrogate: 2-Methylnaphthalene-d10	0.0135		"	0.0333		40.6	40-150				
Surrogate: Fluoranthene-d10	0.0176		"	0.0333		52.7	40-150				

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Project Manager: Mike Dinkel

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

### Summit Scientific

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

#### Batch BGG0833 - EPA 5030 Soil MS

##### Blank (BGG0833-BLK1)

Prepared: 07/26/23 Analyzed: 07/27/23

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	0.0239		"	0.0333		71.6		40-150			
Surrogate: Fluoranthene-d10	0.0161		"	0.0333		48.2		40-150			

##### LCS (BGG0833-BS1)

Prepared: 07/26/23 Analyzed: 07/27/23

Acenaphthene	0.0195	0.00500	mg/kg	0.0333		58.6		31-137			
Anthracene	0.0177	0.00500	"	0.0333		53.2		30-120			
Benzo (a) anthracene	0.0171	0.00500	"	0.0333		51.3		30-120			
Benzo (a) pyrene	0.0154	0.00500	"	0.0333		46.3		30-120			
Benzo (b) fluoranthene	0.0156	0.00500	"	0.0333		46.7		30-120			
Benzo (k) fluoranthene	0.0171	0.00500	"	0.0333		51.2		30-120			
Chrysene	0.0186	0.00500	"	0.0333		55.9		30-120			
Dibenz (a,h) anthracene	0.0141	0.00500	"	0.0333		42.3		30-120			
Fluoranthene	0.0164	0.00500	"	0.0333		49.3		30-120			
Fluorene	0.0187	0.00500	"	0.0333		56.2		30-120			
Indeno (1,2,3-cd) pyrene	0.0147	0.00500	"	0.0333		44.2		30-120			
Pyrene	0.0185	0.00500	"	0.0333		55.5		35-142			
1-Methylnaphthalene	0.0169	0.00500	"	0.0333		50.6		35-142			
2-Methylnaphthalene	0.0188	0.00500	"	0.0333		56.5		35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0190		"	0.0333		57.0		40-150			
Surrogate: Fluoranthene-d10	0.0142		"	0.0333		42.7		40-150			

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

### Summit Scientific

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

#### Batch BGG0833 - EPA 5030 Soil MS

##### Matrix Spike (BGG0833-MS1)

Source: 2307344-03

Prepared: 07/26/23 Analyzed: 07/27/23

Acenaphthene	0.0146	0.00500	mg/kg	0.0333	ND	43.8	31-137		
Anthracene	0.0165	0.00500	"	0.0333	ND	49.5	30-120		
Benzo (a) anthracene	0.0169	0.00500	"	0.0333	ND	50.8	30-120		
Benzo (a) pyrene	0.0136	0.00500	"	0.0333	ND	40.7	30-120		
Benzo (b) fluoranthene	0.0150	0.00500	"	0.0333	ND	44.9	30-120		
Benzo (k) fluoranthene	0.0157	0.00500	"	0.0333	ND	47.2	30-120		
Chrysene	0.0134	0.00500	"	0.0333	ND	40.3	30-120		
Dibenz (a,h) anthracene	0.0139	0.00500	"	0.0333	ND	41.6	30-120		
Fluoranthene	0.0140	0.00500	"	0.0333	ND	41.9	30-120		
Fluorene	0.0141	0.00500	"	0.0333	ND	42.3	30-120		
Indeno (1,2,3-cd) pyrene	0.0136	0.00500	"	0.0333	ND	40.7	30-120		
Pyrene	0.0139	0.00500	"	0.0333	ND	41.8	35-142		
1-Methylnaphthalene	0.0183	0.00500	"	0.0333	ND	54.8	15-130		
2-Methylnaphthalene	0.0158	0.00500	"	0.0333	ND	47.4	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0139		"	0.0333		41.6	40-150		
Surrogate: Fluoranthene-d10	0.0137		"	0.0333		41.2	40-150		

##### Matrix Spike Dup (BGG0833-MSD1)

Source: 2307344-03

Prepared: 07/26/23 Analyzed: 07/27/23

Acenaphthene	0.0168	0.00500	mg/kg	0.0333	ND	50.3	31-137	13.9	30
Anthracene	0.0154	0.00500	"	0.0333	ND	46.2	30-120	6.90	30
Benzo (a) anthracene	0.0154	0.00500	"	0.0333	ND	46.1	30-120	9.70	30
Benzo (a) pyrene	0.0134	0.00500	"	0.0333	ND	40.2	30-120	1.40	30
Benzo (b) fluoranthene	0.0134	0.00500	"	0.0333	ND	40.3	30-120	10.7	30
Benzo (k) fluoranthene	0.0145	0.00500	"	0.0333	ND	43.6	30-120	7.81	30
Chrysene	0.0155	0.00500	"	0.0333	ND	46.6	30-120	14.6	30
Dibenz (a,h) anthracene	0.0153	0.00500	"	0.0333	ND	45.8	30-120	9.58	30
Fluoranthene	0.0145	0.00500	"	0.0333	ND	43.5	30-120	3.88	30
Fluorene	0.0153	0.00500	"	0.0333	ND	46.0	30-120	8.37	30
Indeno (1,2,3-cd) pyrene	0.0164	0.00500	"	0.0333	ND	49.2	30-120	19.0	30
Pyrene	0.0164	0.00500	"	0.0333	ND	49.3	35-142	16.5	30
1-Methylnaphthalene	0.0136	0.00500	"	0.0333	ND	40.9	15-130	28.9	50
2-Methylnaphthalene	0.0175	0.00500	"	0.0333	ND	52.4	15-130	9.91	50
Surrogate: 2-Methylnaphthalene-d10	0.0163		"	0.0333		49.0	40-150		
Surrogate: Fluoranthene-d10	0.0144		"	0.0333		43.2	40-150		

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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

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**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 BGG0627 - EPA 3050B**

<b>Blank (BGG0627-BLK1)</b>				Prepared: 07/20/23 Analyzed: 07/21/23						
Boron	ND	0.0100	mg/L							
<b>LCS (BGG0627-BS1)</b>				Prepared: 07/20/23 Analyzed: 07/21/23						
Boron	5.71	0.0100	mg/L	5.00		114	80-120			
<b>Duplicate (BGG0627-DUP1)</b>				<b>Source: 2307320-01</b>		Prepared: 07/20/23 Analyzed: 07/21/23				
Boron	0.440	0.0100	mg/L		0.431			2.14	20	
<b>Matrix Spike (BGG0627-MS1)</b>				<b>Source: 2307320-01</b>		Prepared: 07/20/23 Analyzed: 07/21/23				
Boron	7.12	0.0100	mg/L	5.00	0.431	134	75-125			QM-07
<b>Matrix Spike Dup (BGG0627-MSD1)</b>				<b>Source: 2307320-01</b>		Prepared: 07/20/23 Analyzed: 07/21/23				
Boron	7.18	0.0100	mg/L	5.00	0.431	135	75-125	0.881	25	QM-07

**Batch BGG0916 - EPA 3050B**

<b>Blank (BGG0916-BLK1)</b>				Prepared: 07/27/23 Analyzed: 08/01/23						
Boron	ND	0.0100	mg/L							
<b>LCS (BGG0916-BS1)</b>				Prepared: 07/27/23 Analyzed: 08/01/23						
Boron	5.25	0.0100	mg/L	5.00		105	80-120			
<b>Duplicate (BGG0916-DUP1)</b>				<b>Source: 2307344-03</b>		Prepared: 07/27/23 Analyzed: 08/01/23				
Boron	0.321	0.0100	mg/L		0.293			8.96	20	
<b>Matrix Spike (BGG0916-MS1)</b>				<b>Source: 2307344-03</b>		Prepared: 07/27/23 Analyzed: 08/01/23				
Boron	5.34	0.0100	mg/L	5.00	0.293	101	75-125			

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Project Number: [none]

Project Manager: Mike Dinkel

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08/03/23 08:25

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

**Summit Scientific**

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

**Batch BGG0916 - EPA 3050B**

**Matrix Spike Dup (BGG0916-MSD1)**

**Source: 2307344-03**

Prepared: 07/27/23 Analyzed: 08/01/23

Boron	5.39	0.0100	mg/L	5.00	0.293	102	75-125	0.999	25
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Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

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08/03/23 08:25

## Total Metals by EPA 6020B - Quality Control

### Summit Scientific

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

#### Batch BGG0601 - EPA 3050B

##### Blank (BGG0601-BLK1)

Prepared & Analyzed: 07/20/23

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

##### LCS (BGG0601-BS1)

Prepared & Analyzed: 07/20/23

Arsenic	38.3	0.200	mg/kg wet	40.0	95.7	80-120
Barium	32.2	0.400	"	40.0	80.4	80-120
Cadmium	1.90	0.200	"	2.00	94.8	80-120
Copper	38.2	0.400	"	40.0	95.5	80-120
Lead	16.2	0.200	"	20.0	80.8	80-120
Nickel	37.5	0.400	"	40.0	93.9	80-120
Selenium	4.50	0.260	"	4.00	112	80-120
Silver	1.97	0.0200	"	2.00	98.4	80-120
Zinc	38.5	0.400	"	40.0	96.2	80-120

##### Duplicate (BGG0601-DUP1)

Source: 2306023-01

Prepared & Analyzed: 07/20/23

Arsenic	1.96	0.252	mg/kg dry	1.75	11.0	20	
Barium	111	0.503	"	73.9	40.3	20	QR-04
Cadmium	0.343	0.252	"	0.219	43.9	20	QR-01
Copper	3.02	0.503	"	2.80	7.25	20	
Lead	5.76	0.252	"	4.14	32.8	20	QR-04
Nickel	3.08	0.503	"	2.75	11.4	20	
Selenium	ND	0.327	"	ND		20	
Silver	0.0307	0.0252	"	0.0211	36.9	20	QR-01
Zinc	9.93	0.503	"	8.48	15.7	20	

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Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BGG0601 - EPA 3050B**

Matrix Spike (BGG0601-MS1)			Source: 2306023-01		Prepared & Analyzed: 07/20/23						
Arsenic	17.0	0.252	mg/kg dry	50.3	1.75	30.3	75-125				QM-01
Barium	130	0.503	"	50.3	73.9	112	75-125				
Cadmium	1.89	0.252	"	2.52	0.219	66.3	75-125				QM-01
Copper	17.7	0.503	"	50.3	2.80	29.7	75-125				QM-01
Lead	20.4	0.252	"	25.2	4.14	64.7	75-125				QM-01
Nickel	17.9	0.503	"	50.3	2.75	30.2	75-125				QM-01
Selenium	3.68	0.327	"	5.03	ND	73.1	75-125				QM-01
Silver	1.62	0.0252	"	2.52	0.0211	63.7	75-125				QM-01
Zinc	25.1	0.503	"	50.3	8.48	33.0	75-125				QM-01

Matrix Spike Dup (BGG0601-MSD1)			Source: 2306023-01		Prepared & Analyzed: 07/20/23						
Arsenic	17.8	0.252	mg/kg dry	50.3	1.75	31.8	75-125	4.44	25		QM-01
Barium	129	0.503	"	50.3	73.9	109	75-125	1.40	25		
Cadmium	1.96	0.252	"	2.52	0.219	69.0	75-125	3.61	25		QM-01
Copper	18.5	0.503	"	50.3	2.80	31.1	75-125	4.07	25		QM-01
Lead	21.1	0.252	"	25.2	4.14	67.3	75-125	3.11	25		QM-01
Nickel	18.7	0.503	"	50.3	2.75	31.7	75-125	4.18	25		QM-01
Selenium	3.69	0.327	"	5.03	ND	73.3	75-125	0.301	25		QM-01
Silver	1.67	0.0252	"	2.52	0.0211	65.6	75-125	2.84	25		QM-01
Zinc	25.7	0.503	"	50.3	8.48	34.2	75-125	2.40	25		QM-01

**Batch BGG0890 - EPA 3050B**

Blank (BGG0890-BLK1)			Prepared: 07/27/23 Analyzed: 07/28/23								
Arsenic	ND	0.200	mg/kg wet								
Barium	ND	0.400	"								
Cadmium	ND	0.200	"								
Copper	ND	0.400	"								
Lead	ND	0.200	"								
Nickel	ND	0.400	"								
Selenium	ND	0.260	"								
Silver	ND	0.0200	"								
Zinc	ND	0.400	"								

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.*





Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BGG0890 - EPA 3050B**

**LCS (BGG0890-BS1)**

Prepared: 07/27/23 Analyzed: 07/28/23

Arsenic	34.0	0.200	mg/kg wet	40.0		84.9	80-120			
Barium	34.2	0.400	"	40.0		85.4	80-120			
Cadmium	1.93	0.200	"	2.00		96.5	80-120			
Copper	40.3	0.400	"	40.0		101	80-120			
Lead	18.3	0.200	"	20.0		91.4	80-120			
Nickel	36.5	0.400	"	40.0		91.3	80-120			
Selenium	4.10	0.260	"	4.00		102	80-120			
Silver	1.84	0.0200	"	2.00		92.0	80-120			
Zinc	36.6	0.400	"	40.0		91.4	80-120			

**Duplicate (BGG0890-DUP1)**

Source: 2307344-03

Prepared: 07/27/23 Analyzed: 07/28/23

Arsenic	1.25	0.231	mg/kg dry		1.20			4.10	20	
Barium	52.1	0.461	"		50.4			3.32	20	
Cadmium	1.15	0.231	"		1.03			10.9	20	
Copper	5.06	0.461	"		4.25			17.6	20	
Lead	12.2	0.231	"		11.5			5.63	20	
Nickel	3.26	0.461	"		3.14			3.81	20	
Selenium	0.261	0.300	"		ND			200	20	J, QR-01
Silver	0.0978	0.0231	"		0.0720			30.4	20	QR-01
Zinc	18.4	0.461	"		17.9			2.57	20	

**Matrix Spike (BGG0890-MS1)**

Source: 2307344-03

Prepared: 07/27/23 Analyzed: 07/28/23

Arsenic	9.60	0.231	mg/kg dry	46.1	1.20	18.2	75-125			QM-01
Barium	92.6	0.461	"	46.1	50.4	91.6	75-125			
Cadmium	2.68	0.231	"	2.31	1.03	71.3	75-125			QM-01
Copper	14.1	0.461	"	46.1	4.25	21.3	75-125			QM-01
Lead	25.6	0.231	"	23.1	11.5	61.1	75-125			QM-01
Nickel	11.2	0.461	"	46.1	3.14	17.5	75-125			QM-01
Selenium	3.97	0.300	"	4.61	ND	86.1	75-125			
Silver	1.79	0.0231	"	2.31	0.0720	74.7	75-125			QM-01
Zinc	26.9	0.461	"	46.1	17.9	19.4	75-125			QM-01

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

### Total Metals by EPA 6020B - Quality Control

#### Summit Scientific

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

#### Batch BGG0890 - EPA 3050B

Matrix Spike Dup (BGG0890-MSD1)	Source: 2307344-03			Prepared: 07/27/23 Analyzed: 07/28/23							
Arsenic	8.79	0.231	mg/kg dry	46.1	1.20	16.5	75-125	8.83	25		QM-01
Barium	97.9	0.461	"	46.1	50.4	103	75-125	5.53	25		
Cadmium	2.87	0.231	"	2.31	1.03	79.8	75-125	7.05	25		
Copper	13.2	0.461	"	46.1	4.25	19.5	75-125	6.17	25		QM-01
Lead	28.0	0.231	"	23.1	11.5	71.5	75-125	8.94	25		QM-01
Nickel	10.8	0.461	"	46.1	3.14	16.7	75-125	3.44	25		QM-01
Selenium	4.41	0.300	"	4.61	ND	95.6	75-125	10.4	25		
Silver	1.90	0.0231	"	2.31	0.0720	79.3	75-125	5.74	25		
Zinc	25.7	0.461	"	46.1	17.9	17.0	75-125	4.28	25		QM-01

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BGG0603 - 3060A Mod**

**Blank (BGG0603-BLK1)**

Prepared & Analyzed: 07/20/23

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BGG0603-BS1)**

Prepared & Analyzed: 07/20/23

Chromium, Hexavalent 23.5 0.30 mg/kg wet 25.0 94.0 80-120

**Duplicate (BGG0603-DUP1)**

**Source: 2306023-01**

Prepared & Analyzed: 07/20/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BGG0603-MS1)**

**Source: 2306023-01**

Prepared & Analyzed: 07/20/23

Chromium, Hexavalent 30.0 0.30 mg/kg dry 31.5 ND 95.2 75-125

**Matrix Spike Dup (BGG0603-MSD1)**

**Source: 2306023-01**

Prepared & Analyzed: 07/20/23

Chromium, Hexavalent 29.8 0.30 mg/kg dry 31.5 ND 94.6 75-125 0.632 20

**Batch BGG0893 - 3060A Mod**

**Blank (BGG0893-BLK1)**

Prepared & Analyzed: 07/27/23

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BGG0893-BS1)**

Prepared & Analyzed: 07/27/23

Chromium, Hexavalent 23.8 0.30 mg/kg wet 25.0 95.2 80-120

**Duplicate (BGG0893-DUP1)**

**Source: 2306638-04**

Prepared & Analyzed: 07/27/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BGG0893-MS1)**

**Source: 2306638-04**

Prepared & Analyzed: 07/27/23

Chromium, Hexavalent 26.9 0.30 mg/kg dry 28.9 ND 93.0 75-125

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BGG0893 - 3060A Mod**

Matrix Spike Dup (BGG0893-MSD1)		Source: 2306638-04			Prepared & Analyzed: 07/27/23					
Chromium, Hexavalent	26.9	0.30	mg/kg dry	28.9	ND	93.0	75-125	0.00	20	

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

## 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 BGG0623 - General Preparation

##### Blank (BGG0623-BLK1)

Prepared: 07/20/23 Analyzed: 07/22/23

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

##### LCS (BGG0623-BS1)

Prepared: 07/20/23 Analyzed: 07/22/23

Calcium	4.76	0.0500	mg/L wet	5.00	95.1	70-130
Magnesium	6.05	0.0500	"	5.00	121	70-130
Sodium	6.30	0.0500	"	5.00	126	70-130

#### Batch BGG0911 - General Preparation

##### Blank (BGG0911-BLK1)

Prepared: 07/27/23 Analyzed: 07/31/23

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

##### LCS (BGG0911-BS1)

Prepared: 07/27/23 Analyzed: 07/31/23

Calcium	5.05	0.0500	mg/L wet	5.00	101	70-130
Magnesium	6.18	0.0500	"	5.00	124	70-130
Sodium	6.26	0.0500	"	5.00	125	70-130

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.*



Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

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

#### Summit Scientific

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

#### Batch BGG0605 - General Preparation

##### Duplicate (BGG0605-DUP1)

Source: 2307335-01

Prepared & Analyzed: 07/20/23

% Solids	90.0	%		90.2		0.216	20
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#### Batch BGG0910 - General Preparation

##### Duplicate (BGG0910-DUP1)

Source: 2307344-03

Prepared & Analyzed: 07/27/23

% Solids	86.4	%		86.7		0.339	20
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Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

**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 BGG0663 - General Preparation**

**Blank (BGG0663-BLK1)**

Prepared & Analyzed: 07/21/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGG0663-BS1)**

Prepared & Analyzed: 07/21/23

Specific Conductance (EC) 0.156 0.0100 mmhos/cm 0.150 104 95-105

**Duplicate (BGG0663-DUP1)**

**Source: 2307344-01**

Prepared & Analyzed: 07/21/23

Specific Conductance (EC) 1.48 0.0100 mmhos/cm 1.48 0.00 20

**Batch BGG0963 - General Preparation**

**Blank (BGG0963-BLK1)**

Prepared & Analyzed: 07/28/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGG0963-BS1)**

Prepared & Analyzed: 07/28/23

Specific Conductance (EC) 0.157 0.0100 mmhos/cm 0.150 105 95-105

**Duplicate (BGG0963-DUP1)**

**Source: 2307344-03**

Prepared & Analyzed: 07/28/23

Specific Conductance (EC) 2.52 0.0100 mmhos/cm 2.54 0.435 20

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

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

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

**Batch BGG0662 - General Preparation**

**LCS (BGG0662-BS1)**

Prepared & Analyzed: 07/21/23

pH	8.83	pH Units	9.18	96.2	95-105
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**Duplicate (BGG0662-DUP1)**

Source: 2307344-01

Prepared & Analyzed: 07/21/23

pH	8.19	pH Units	7.87	3.99	20
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**Batch BGG0962 - General Preparation**

**LCS (BGG0962-BS1)**

Prepared & Analyzed: 07/28/23

pH	9.02	pH Units	9.18	98.3	95-105
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**Duplicate (BGG0962-DUP1)**

Source: 2307344-03

Prepared & Analyzed: 07/28/23

pH	7.66	pH Units	7.61	0.655	20
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Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/03/23 08:25

### Notes and Definitions

QR-04	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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.
QR-01	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
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.
QM-01	The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration
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

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80401

303.277.9310

August 02, 2023

Mike Dinkel

Civitas Resources

650 Southgate Drive

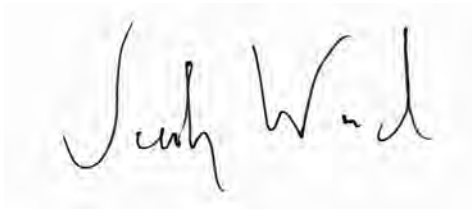
Windsor, CO 80550

RE: Miller 4-17J, 14-17

Work Order # 2307427

Enclosed are the results of analyses for samples received by Summit Scientific on 07/24/23 16:32. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Jacob Wood". The signature is written in a cursive, flowing style.

Jacob Wood For Paul Shrewsbury

President



Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
E03@22'	2307427-01	Soil	07/24/23 14:16	07/24/23 16:32
N01@22'	2307427-02	Soil	07/24/23 14:25	07/24/23 16:32
N02@22'	2307427-03	Soil	07/24/23 14:35	07/24/23 16:32
B07@24'	2307427-04	Soil	07/24/23 14:40	07/24/23 16:32
W01@22'	2307427-05	Soil	07/24/23 14:45	07/24/23 16:32
W02@22'	2307427-06	Soil	07/24/23 14:51	07/24/23 16:32
W03@22'	2307427-07	Soil	07/24/23 15:01	07/24/23 16:32
B08@24'	2307427-08	Soil	07/24/23 15:09	07/24/23 16:32

Summit Scientific

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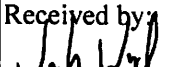
# SUMMIT SCIENTIFIC

4653 Table Mountain Drive  
Golden, CO 80403  
303-277-9310

Lab ID	Page 1 of 1
2307427	

Client: Civitas	Send Data To: Project Manager: Mike Dinkel	Send Invoice To: Company: Civitas
Address: 650 Southgate	E-Mail: m.dinkel@aquadary.com	Project Name/Location: Miller 4-175, 14-17
City/State/Zip: Windsor, CO	Project Name: Miller 4-175, 14-17	AFE#:
Phone: 785-691-2700	Project Number:	PO/Billing Codes:
Sampler Name: Mike Dinkel		Contact: J. Evans

					Preservative				Matrix				Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Full Table 915-1									
1	E03@22'	7-24-23	1416	2						X			X									
2	A101@22'		1425	1																		
3	N02@22'		1435	1																		
4	B07@24'		1440	1																		
5	W01@22'		1445	1																		
6	W02@22'		1451	1																		
7	W03@22'		1501	1																		
8	B08@24'	4	1509	1																		
9																						
10																						
11																						
12																						
13																						
14																						
15																						

Relinquished by: 	Date/Time: 7/24/23 14:50	Received by: 	Date/Time: 7/24/23 16:32	TAT Business Days	Field DO	Notes: Same day organics
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day	Field EC	
				1 Day	Field ORP	
				2 Days <input checked="" type="checkbox"/>	Field pH	
				3 Days	Field Temp.	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Standard	Field Turb.	
Temperature Upon Receipt: 10.9	Corrected Temperature	IR gun #: 2	HNO3 lot #:			



S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2307427Client: Civilis Client Project ID: Miller 4-175, 14-17Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐
☒ ☐ ☐ ☐ ☐
Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 10.9 Thermometer # 2

	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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	48 hours + same day
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 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? <b>If yes, contact client and note in narrative.</b>	<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"/>	
<u>Additional Comments (if any):</u>				
<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.				

  
 Custodian Printed Name

7/24/23 16:32  
 Date/Time



Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**E03@22'**  
**2307427-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/24/23 14:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0764	07/24/23	07/24/23	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		"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>6.8</b>	0.50		"	"	"	"	"	"	

Date Sampled: **07/24/23 14:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		94.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		94.7 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		130 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/24/23 14:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<b>C10-C28 (DRO)</b>	<b>66</b>	50		mg/kg	1	BGG0765	07/24/23	07/24/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/24/23 14:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		95.0 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**E03@22'**  
**2307427-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/24/23 14:16**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGG0776	07/25/23	07/25/23	EPA 8270D SIM	
<b>Anthracene</b>	<b>0.0420</b>	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		"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0124</b>	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: **07/24/23 14:16**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		44.2 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		42.1 %		40-150		"	"	"	"	

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

Date Sampled: **07/24/23 14:16**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.303</b>	0.0100		mg/L	1	BGG0838	07/26/23	07/28/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/24/23 14:16**

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

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**E03@22'**  
**2307427-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.57	0.233		mg/kg dry	1	BGG0770	07/25/23	07/27/23	EPA 6020B	
Barium	26.7	0.467		"	"	"	"	"	"	
Cadmium	ND	0.233		"	"	"	"	"	"	
Copper	4.91	0.467		"	"	"	"	"	"	
Lead	6.86	0.233		"	"	"	"	"	"	
Nickel	3.81	0.467		"	"	"	"	"	"	
Selenium	ND	0.303	0.204	"	"	"	"	"	"	
Silver	ND	0.0233		"	"	"	"	"	"	
Zinc	22.7	0.467		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **07/24/23 14:16**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0772	07/25/23	07/25/23	EPA 7196A	

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

Date Sampled: **07/24/23 14:16**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	18.1	0.0584		mg/L dry	1	BGG0790	07/25/23	07/26/23	EPA 6020B	
Magnesium	18.1	0.0584		"	"	"	"	"	"	
Sodium	527	0.0584		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **07/24/23 14:16**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	21.0	0.00100		units	1	BGG0936	07/27/23	07/27/23	Calculation	

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

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Civitas Resources  
650 Southgate Drive  
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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**E03@22'**  
**2307427-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/24/23 14:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	85.7			%	1	BGG0778	07/25/23	07/25/23	Calculation	

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

Date Sampled: **07/24/23 14:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	3.02	0.0100		mmhos/cm	1	BGG0841	07/26/23	07/27/23	EPA 120.1	

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

Date Sampled: **07/24/23 14:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.93			pH Units	1	BGG0839	07/26/23	07/26/23	EPA 9045D	

Summit Scientific

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Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**N01@22'**  
**2307427-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/24/23 14:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0764	07/24/23	07/24/23	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: **07/24/23 14:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		94.5 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		103 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/24/23 14:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0765	07/24/23	07/24/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/24/23 14:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		92.6 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**N01@22'**  
**2307427-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/24/23 14:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Acenaphthene	ND	0.00500		mg/kg	1	BGG0776	07/25/23	07/25/23	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: **07/24/23 14:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 2-Methylnaphthalene-d10		85.3 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		40.3 %		40-150		"	"	"	"	

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

Date Sampled: **07/24/23 14:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<b>Boron</b>	<b>0.396</b>	0.0100		mg/L	1	BGG0838	07/26/23	07/28/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/24/23 14:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**N01@22'**  
**2307427-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.28	0.224		mg/kg dry	1	BGG0770	07/25/23	07/27/23	EPA 6020B	
Barium	45.6	0.448		"	"	"	"	"	"	
Cadmium	ND	0.224		"	"	"	"	"	"	
Copper	4.39	0.448		"	"	"	"	"	"	
Lead	5.61	0.224		"	"	"	"	"	"	
Nickel	5.10	0.448		"	"	"	"	"	"	
Selenium	ND	0.291	0.196	"	"	"	"	"	"	
Silver	ND	0.0224		"	"	"	"	"	"	
Zinc	16.1	0.448		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 07/24/23 14:25

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0772	07/25/23	07/25/23	EPA 7196A	

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

Date Sampled: 07/24/23 14:25

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	10.1	0.0560		mg/L dry	1	BGG0790	07/25/23	07/26/23	EPA 6020B	
Magnesium	13.9	0.0560		"	"	"	"	"	"	
Sodium	351	0.0560		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 07/24/23 14:25

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	16.8	0.00100		units	1	BGG0936	07/27/23	07/27/23	Calculation	

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

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650 Southgate Drive  
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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**N01@22'**  
**2307427-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/24/23 14:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	89.2			%	1	BGG0778	07/25/23	07/25/23	Calculation	

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

Date Sampled: **07/24/23 14:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	2.35	0.0100		mmhos/cm	1	BGG0841	07/26/23	07/27/23	EPA 120.1	

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

Date Sampled: **07/24/23 14:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	8.23			pH Units	1	BGG0839	07/26/23	07/26/23	EPA 9045D	

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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**N02@22'**  
**2307427-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/24/23 14:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0764	07/24/23	07/24/23	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: **07/24/23 14:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		96.7 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		103 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/24/23 14:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0765	07/24/23	07/24/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/24/23 14:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		97.4 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**N02@22'**  
**2307427-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/24/23 14:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Acenaphthene	ND	0.00500		mg/kg	1	BGG0776	07/25/23	07/25/23	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: **07/24/23 14:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 2-Methylnaphthalene-d10		42.8 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		44.4 %		40-150		"	"	"	"	

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

Date Sampled: **07/24/23 14:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<b>Boron</b>	<b>0.167</b>	0.0100		mg/L	1	BGG0838	07/26/23	07/28/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/24/23 14:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**N02@22'**  
**2307427-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	9.96	0.229		mg/kg dry	1	BGG0770	07/25/23	07/27/23	EPA 6020B	
Barium	49.0	0.458		"	"	"	"	"	"	
Cadmium	ND	0.229		"	"	"	"	"	"	
Copper	8.22	0.458		"	"	"	"	"	"	
Lead	10.5	0.229		"	"	"	"	"	"	
Nickel	2.30	0.458		"	"	"	"	"	"	
Selenium	ND	0.298	0.201	"	"	"	"	"	"	
Silver	0.0426	0.0229		"	"	"	"	"	"	
Zinc	29.0	0.458		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 07/24/23 14:35

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0772	07/25/23	07/25/23	EPA 7196A	

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

Date Sampled: 07/24/23 14:35

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	37.9	0.0573		mg/L dry	1	BGG0790	07/25/23	07/26/23	EPA 6020B	
Magnesium	41.0	0.0573		"	"	"	"	"	"	
Sodium	500	0.0573		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 07/24/23 14:35

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	13.4	0.00100		units	1	BGG0936	07/27/23	07/27/23	Calculation	

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

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**N02@22'**  
**2307427-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/24/23 14:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	87.3			%	1	BGG0778	07/25/23	07/25/23	Calculation	

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

Date Sampled: **07/24/23 14:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	3.72	0.0100		mmhos/cm	1	BGG0841	07/26/23	07/27/23	EPA 120.1	

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

Date Sampled: **07/24/23 14:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.77			pH Units	1	BGG0839	07/26/23	07/26/23	EPA 9045D	

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Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**B07@24'**  
**2307427-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/24/23 14:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0764	07/24/23	07/24/23	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: **07/24/23 14:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		95.8 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		102 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/24/23 14:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0765	07/24/23	07/24/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/24/23 14:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		91.9 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**B07@24'**  
**2307427-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/24/23 14:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Acenaphthene	ND	0.00500		mg/kg	1	BGG0776	07/25/23	07/25/23	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: **07/24/23 14:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 2-Methylnaphthalene-d10		41.1 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		43.7 %		40-150		"	"	"	"	

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

Date Sampled: **07/24/23 14:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<b>Boron</b>	<b>0.193</b>	0.0100		mg/L	1	BGG0838	07/26/23	07/28/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/24/23 14:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**B07@24'**  
**2307427-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.73	0.234		mg/kg dry	1	BGG0770	07/25/23	07/27/23	EPA 6020B	
Barium	19.8	0.468		"	"	"	"	"	"	
Cadmium	ND	0.234		"	"	"	"	"	"	
Copper	2.47	0.468		"	"	"	"	"	"	
Lead	4.12	0.234		"	"	"	"	"	"	
Nickel	1.99	0.468		"	"	"	"	"	"	
Selenium	ND	0.304	0.205	"	"	"	"	"	"	
Silver	ND	0.0234		"	"	"	"	"	"	
Zinc	12.5	0.468		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 07/24/23 14:40

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0772	07/25/23	07/25/23	EPA 7196A	

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

Date Sampled: 07/24/23 14:40

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	60.2	0.0585		mg/L dry	1	BGG0790	07/25/23	07/26/23	EPA 6020B	
Magnesium	59.5	0.0585		"	"	"	"	"	"	
Sodium	416	0.0585		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 07/24/23 14:40

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	9.10	0.00100		units	1	BGG0936	07/27/23	07/27/23	Calculation	

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

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**B07@24'**  
**2307427-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/24/23 14:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	85.5			%	1	BGG0778	07/25/23	07/25/23	Calculation	

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

Date Sampled: **07/24/23 14:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	3.47	0.0100		mmhos/cm	1	BGG0841	07/26/23	07/27/23	EPA 120.1	

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

Date Sampled: **07/24/23 14:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.63			pH Units	1	BGG0839	07/26/23	07/26/23	EPA 9045D	

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Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**W01@22'**  
**2307427-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/24/23 14:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0764	07/24/23	07/24/23	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: **07/24/23 14:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		93.2 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		103 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/24/23 14:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0765	07/24/23	07/24/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/24/23 14:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		76.4 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**W01@22'**  
**2307427-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/24/23 14:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Acenaphthene	ND	0.00500		mg/kg	1	BGG0776	07/25/23	07/25/23	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: **07/24/23 14:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 2-Methylnaphthalene-d10		46.9 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		56.9 %		40-150		"	"	"	"	

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

Date Sampled: **07/24/23 14:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<b>Boron</b>	<b>0.194</b>	0.0100		mg/L	1	BGG0838	07/26/23	07/28/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/24/23 14:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

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650 Southgate Drive  
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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**W01@22'**  
**2307427-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.18	0.223		mg/kg dry	1	BGG0770	07/25/23	07/27/23	EPA 6020B	
Barium	27.0	0.446		"	"	"	"	"	"	
Cadmium	ND	0.223		"	"	"	"	"	"	
Copper	6.26	0.446		"	"	"	"	"	"	
Lead	10.4	0.223		"	"	"	"	"	"	
Nickel	2.75	0.446		"	"	"	"	"	"	
Selenium	ND	0.290	0.195	"	"	"	"	"	"	
Silver	0.0304	0.0223		"	"	"	"	"	"	
Zinc	21.9	0.446		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 07/24/23 14:45

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0772	07/25/23	07/25/23	EPA 7196A	

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

Date Sampled: 07/24/23 14:45

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	26.9	0.0558		mg/L dry	1	BGG0790	07/25/23	07/26/23	EPA 6020B	
Magnesium	30.2	0.0558		"	"	"	"	"	"	
Sodium	367	0.0558		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 07/24/23 14:45

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	11.5	0.00100		units	1	BGG0936	07/27/23	07/27/23	Calculation	

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

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Civitas Resources  
650 Southgate Drive  
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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**W01@22'**  
**2307427-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/24/23 14:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	89.6			%	1	BGG0778	07/25/23	07/25/23	Calculation	

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

Date Sampled: **07/24/23 14:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	2.56	0.0100		mmhos/cm	1	BGG0841	07/26/23	07/27/23	EPA 120.1	

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

Date Sampled: **07/24/23 14:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	8.22			pH Units	1	BGG0839	07/26/23	07/26/23	EPA 9045D	

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**W02@22'**  
**2307427-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/24/23 14:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0764	07/24/23	07/24/23	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: **07/24/23 14:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		95.5 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		103 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/24/23 14:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0765	07/24/23	07/24/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/24/23 14:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		81.8 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**W02@22'**  
**2307427-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/24/23 14:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Acenaphthene	ND	0.00500		mg/kg	1	BGG0776	07/25/23	07/26/23	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: **07/24/23 14:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 2-Methylnaphthalene-d10		94.8 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		43.3 %		40-150		"	"	"	"	

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

Date Sampled: **07/24/23 14:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<b>Boron</b>	<b>0.311</b>	0.0100		mg/L	1	BGG0838	07/26/23	07/28/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/24/23 14:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**W02@22'**  
**2307427-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	13.9	0.230		mg/kg dry	1	BGG0770	07/25/23	07/27/23	EPA 6020B	
Barium	32.5	0.459		"	"	"	"	"	"	
Cadmium	0.725	0.230		"	"	"	"	"	"	
Copper	7.49	0.459		"	"	"	"	"	"	
Lead	22.8	0.230		"	"	"	"	"	"	
Nickel	1.85	0.459		"	"	"	"	"	"	
Selenium	ND	0.298	0.201	"	"	"	"	"	"	
Silver	0.0358	0.0230		"	"	"	"	"	"	
Zinc	18.3	0.459		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 07/24/23 14:51

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0772	07/25/23	07/25/23	EPA 7196A	

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

Date Sampled: 07/24/23 14:51

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2.85	0.0574		mg/L dry	1	BGG0790	07/25/23	07/26/23	EPA 6020B	
Magnesium	5.57	0.0574		"	"	"	"	"	"	
Sodium	250	0.0574		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 07/24/23 14:51

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	19.8	0.00100		units	1	BGG0936	07/27/23	07/27/23	Calculation	

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

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Civitas Resources  
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Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**W02@22'**  
**2307427-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/24/23 14:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	87.1			%	1	BGG0778	07/25/23	07/25/23	Calculation	

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

Date Sampled: **07/24/23 14:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.97	0.0100		mmhos/cm	1	BGG0841	07/26/23	07/27/23	EPA 120.1	

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

Date Sampled: **07/24/23 14:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	8.50			pH Units	1	BGG0839	07/26/23	07/26/23	EPA 9045D	

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Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**W03@22'**  
**2307427-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/24/23 15:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0764	07/24/23	07/24/23	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: **07/24/23 15:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		95.8 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		103 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/24/23 15:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0765	07/24/23	07/24/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/24/23 15:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		82.6 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Civitas Resources  
650 Southgate Drive  
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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**W03@22'**  
**2307427-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/24/23 15:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Acenaphthene	ND	0.00500		mg/kg	1	BGG0776	07/25/23	07/26/23	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: **07/24/23 15:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 2-Methylnaphthalene-d10		47.8 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		45.5 %		40-150		"	"	"	"	

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

Date Sampled: **07/24/23 15:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<b>Boron</b>	<b>0.321</b>	0.0100		mg/L	1	BGG0838	07/26/23	07/28/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/24/23 15:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

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Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**W03@22'**  
**2307427-07 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	3.46	0.229		mg/kg dry	1	BGG0770	07/25/23	07/27/23	EPA 6020B
Barium	18.1	0.458		"	"	"	"	"	"
Cadmium	ND	0.229		"	"	"	"	"	"
Copper	5.26	0.458		"	"	"	"	"	"
Lead	7.25	0.229		"	"	"	"	"	"
Nickel	3.06	0.458		"	"	"	"	"	"
Selenium	ND	0.298	0.201	"	"	"	"	"	"
Silver	0.0270	0.0229		"	"	"	"	"	"
Zinc	17.0	0.458		"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **07/24/23 15:01**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0772	07/25/23	07/25/23	EPA 7196A	

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

Date Sampled: **07/24/23 15:01**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	266	0.0573		mg/L dry	1	BGG0790	07/25/23	07/26/23	EPA 6020B	
Magnesium	86.4	0.0573		"	"	"	"	"	"	
Sodium	149	0.0573		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **07/24/23 15:01**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.03	0.00100		units	1	BGG0936	07/27/23	07/27/23	Calculation	

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

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**W03@22'**  
**2307427-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/24/23 15:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	87.3			%	1	BGG0778	07/25/23	07/25/23	Calculation	

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

Date Sampled: **07/24/23 15:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	0.905	0.0100		mmhos/cm	1	BGG0841	07/26/23	07/27/23	EPA 120.1	

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

Date Sampled: **07/24/23 15:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	8.80			pH Units	1	BGG0839	07/26/23	07/26/23	EPA 9045D	

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Civitas Resources  
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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**B08@24'**  
**2307427-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/24/23 15:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0764	07/24/23	07/24/23	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: **07/24/23 15:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		95.3 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		101 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/24/23 15:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0765	07/24/23	07/24/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/24/23 15:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		71.3 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**B08@24'**  
**2307427-08 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/24/23 15:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Acenaphthene	ND	0.00500		mg/kg	1	BGG0776	07/25/23	07/26/23	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: **07/24/23 15:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 2-Methylnaphthalene-d10		52.6 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		51.5 %		40-150		"	"	"	"	

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

Date Sampled: **07/24/23 15:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<b>Boron</b>	<b>1.05</b>	0.0100		mg/L	1	BGG0838	07/26/23	07/28/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/24/23 15:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**B08@24'**  
**2307427-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	5.23	0.240		mg/kg dry	1	BGG0770	07/25/23	07/27/23	EPA 6020B	
Barium	160	0.480		"	"	"	"	"	"	
Cadmium	1.28	0.240		"	"	"	"	"	"	
Copper	12.8	0.480		"	"	"	"	"	"	
Lead	25.6	0.240		"	"	"	"	"	"	
Nickel	10.5	0.480		"	"	"	"	"	"	
Selenium	ND	0.312	0.210	"	"	"	"	"	"	
Silver	0.0610	0.0240		"	"	"	"	"	"	
Zinc	35.8	0.480		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **07/24/23 15:09**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0772	07/25/23	07/25/23	EPA 7196A	

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

Date Sampled: **07/24/23 15:09**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	43.9	0.0600		mg/L dry	1	BGG0790	07/25/23	07/26/23	EPA 6020B	
Magnesium	57.0	0.0600		"	"	"	"	"	"	
Sodium	250	0.0600		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **07/24/23 15:09**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.86	0.00100		units	1	BGG0936	07/27/23	07/27/23	Calculation	

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

Summit Scientific

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650 Southgate Drive  
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Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**B08@24'**  
**2307427-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/24/23 15:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	83.3			%	1	BGG0778	07/25/23	07/25/23	Calculation	

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

Date Sampled: **07/24/23 15:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.33	0.0100		mmhos/cm	1	BGG0841	07/26/23	07/27/23	EPA 120.1	

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

Date Sampled: **07/24/23 15:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	8.41			pH Units	1	BGG0839	07/26/23	07/26/23	EPA 9045D	

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

## 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 BGG0764 - EPA 5030 Soil MS

##### Blank (BGG0764-BLK1)

Prepared & Analyzed: 07/24/23

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	0.0331		"	0.0400		82.8	50-150			
Surrogate: Toluene-d8	0.0384		"	0.0400		96.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0400		95.6	50-150			

##### LCS (BGG0764-BS1)

Prepared: 07/24/23 Analyzed: 07/25/23

Benzene	0.101	0.0020	mg/kg	0.100		101	70-130			
Toluene	0.103	0.0050	"	0.100		103	70-130			
Ethylbenzene	0.120	0.0050	"	0.100		120	70-130			
m,p-Xylene	0.236	0.010	"	0.200		118	70-130			
o-Xylene	0.111	0.0050	"	0.100		111	70-130			
1,2,4-Trimethylbenzene	0.108	0.0050	"	0.100		108	70-130			
1,3,5-Trimethylbenzene	0.116	0.0050	"	0.100		116	70-130			
Naphthalene	0.0708	0.0038	"	0.100		70.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0320		"	0.0400		80.0	50-150			
Surrogate: Toluene-d8	0.0384		"	0.0400		96.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0400		99.7	50-150			

##### Matrix Spike (BGG0764-MS1)

Source: 2307427-01

Prepared: 07/24/23 Analyzed: 07/25/23

Benzene	0.101	0.0020	mg/kg	0.100	ND	101	70-130			
Toluene	0.103	0.0050	"	0.100	ND	103	70-130			
Ethylbenzene	0.121	0.0050	"	0.100	ND	121	70-130			
m,p-Xylene	0.238	0.010	"	0.200	ND	119	70-130			
o-Xylene	0.112	0.0050	"	0.100	ND	112	70-130			
1,2,4-Trimethylbenzene	0.108	0.0050	"	0.100	ND	108	70-130			
1,3,5-Trimethylbenzene	0.116	0.0050	"	0.100	ND	116	70-130			
Naphthalene	0.0930	0.0038	"	0.100	ND	93.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0154		"	0.0400		38.6	50-150			QM-07
Surrogate: Toluene-d8	0.0391		"	0.0400		97.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	50-150			

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

## 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 BGG0764 - EPA 5030 Soil MS

Matrix Spike Dup (BGG0764-MSD1)	Source: 2307427-01			Prepared: 07/24/23 Analyzed: 07/25/23						
Benzene	0.103	0.0020	mg/kg	0.100	ND	103	70-130	1.56	30	
Toluene	0.105	0.0050	"	0.100	ND	105	70-130	1.15	30	
Ethylbenzene	0.123	0.0050	"	0.100	ND	123	70-130	1.67	30	
m,p-Xylene	0.237	0.010	"	0.200	ND	118	70-130	0.606	30	
o-Xylene	0.113	0.0050	"	0.100	ND	113	70-130	0.879	30	
1,2,4-Trimethylbenzene	0.110	0.0050	"	0.100	ND	110	70-130	1.35	30	
1,3,5-Trimethylbenzene	0.121	0.0050	"	0.100	ND	121	70-130	4.47	30	
Naphthalene	0.101	0.0038	"	0.100	ND	101	70-130	7.96	30	
Surrogate: 1,2-Dichloroethane-d4	0.0298		"	0.0400		74.5	50-150			
Surrogate: Toluene-d8	0.0384		"	0.0400		96.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0445		"	0.0400		111	50-150			

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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**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 BGG0765 - EPA 3550A**

**Blank (BGG0765-BLK1)**

Prepared: 07/24/23 Analyzed: 07/25/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	11.5		"	12.5		91.7	30-150			

**LCS (BGG0765-BS1)**

Prepared: 07/24/23 Analyzed: 07/25/23

C10-C28 (DRO)	534	50	mg/kg	500		107	70-130			
Surrogate: o-Terphenyl	11.4		"	12.5		91.2	30-150			

**Matrix Spike (BGG0765-MS1)**

Source: 2307427-01

Prepared: 07/24/23 Analyzed: 07/25/23

C10-C28 (DRO)	482	50	mg/kg	500	66.2	83.1	70-130			
Surrogate: o-Terphenyl	11.4		"	12.5		91.5	30-150			

**Matrix Spike Dup (BGG0765-MSD1)**

Source: 2307427-01

Prepared: 07/24/23 Analyzed: 07/25/23

C10-C28 (DRO)	458	50	mg/kg	500	66.2	78.4	70-130	5.03	20	
Surrogate: o-Terphenyl	11.1		"	12.5		88.4	30-150			

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Civitas Resources  
650 Southgate Drive  
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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

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

### Summit Scientific

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

#### Batch BGG0776 - EPA 5030 Soil MS

##### Blank (BGG0776-BLK1)

Prepared & Analyzed: 07/25/23

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	0.0245	"	0.0333	73.6	40-150
Surrogate: Fluoranthene-d10	0.0178	"	0.0333	53.3	40-150

##### LCS (BGG0776-BS1)

Prepared & Analyzed: 07/25/23

Acenaphthene	0.0315	0.00500	mg/kg	0.0333	94.6	31-137
Anthracene	0.0331	0.00500	"	0.0333	99.2	30-120
Benzo (a) anthracene	0.0278	0.00500	"	0.0333	83.3	30-120
Benzo (a) pyrene	0.0295	0.00500	"	0.0333	88.6	30-120
Benzo (b) fluoranthene	0.0290	0.00500	"	0.0333	86.9	30-120
Benzo (k) fluoranthene	0.0301	0.00500	"	0.0333	90.3	30-120
Chrysene	0.0299	0.00500	"	0.0333	89.6	30-120
Dibenz (a,h) anthracene	0.0308	0.00500	"	0.0333	92.5	30-120
Fluoranthene	0.0338	0.00500	"	0.0333	101	30-120
Fluorene	0.0245	0.00500	"	0.0333	73.5	30-120
Indeno (1,2,3-cd) pyrene	0.0223	0.00500	"	0.0333	66.8	30-120
Pyrene	0.0216	0.00500	"	0.0333	64.7	35-142
1-Methylnaphthalene	0.0246	0.00500	"	0.0333	73.9	35-142
2-Methylnaphthalene	0.0262	0.00500	"	0.0333	78.6	35-142

Surrogate: 2-Methylnaphthalene-d10	0.0242	"	0.0333	72.7	40-150
Surrogate: Fluoranthene-d10	0.0343	"	0.0333	103	40-150

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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

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

### Summit Scientific

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

#### Batch BGG0776 - EPA 5030 Soil MS

##### Matrix Spike (BGG0776-MS1)

Source: 2307402-21

Prepared & Analyzed: 07/25/23

Acenaphthene	0.0237	0.00500	mg/kg	0.0333	ND	71.1	31-137		
Anthracene	0.0247	0.00500	"	0.0333	ND	74.0	30-120		
Benzo (a) anthracene	0.0224	0.00500	"	0.0333	ND	67.2	30-120		
Benzo (a) pyrene	0.0209	0.00500	"	0.0333	ND	62.7	30-120		
Benzo (b) fluoranthene	0.0209	0.00500	"	0.0333	ND	62.7	30-120		
Benzo (k) fluoranthene	0.0204	0.00500	"	0.0333	ND	61.2	30-120		
Chrysene	0.0248	0.00500	"	0.0333	ND	74.5	30-120		
Dibenz (a,h) anthracene	0.0208	0.00500	"	0.0333	ND	62.3	30-120		
Fluoranthene	0.0239	0.00500	"	0.0333	ND	71.6	30-120		
Fluorene	0.0260	0.00500	"	0.0333	ND	78.1	30-120		
Indeno (1,2,3-cd) pyrene	0.0205	0.00500	"	0.0333	ND	61.4	30-120		
Pyrene	0.0148	0.00500	"	0.0333	ND	44.4	35-142		
1-Methylnaphthalene	0.0179	0.00500	"	0.0333	ND	53.6	15-130		
2-Methylnaphthalene	0.0261	0.00500	"	0.0333	ND	78.2	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0142		"	0.0333		42.6	40-150		
Surrogate: Fluoranthene-d10	0.0194		"	0.0333		58.2	40-150		

##### Matrix Spike Dup (BGG0776-MSD1)

Source: 2307402-21

Prepared & Analyzed: 07/25/23

Acenaphthene	0.0263	0.00500	mg/kg	0.0333	ND	78.8	31-137	10.3	30
Anthracene	0.0242	0.00500	"	0.0333	ND	72.6	30-120	1.96	30
Benzo (a) anthracene	0.0236	0.00500	"	0.0333	ND	70.9	30-120	5.40	30
Benzo (a) pyrene	0.0204	0.00500	"	0.0333	ND	61.1	30-120	2.57	30
Benzo (b) fluoranthene	0.0202	0.00500	"	0.0333	ND	60.6	30-120	3.48	30
Benzo (k) fluoranthene	0.0191	0.00500	"	0.0333	ND	57.3	30-120	6.60	30
Chrysene	0.0256	0.00500	"	0.0333	ND	76.7	30-120	2.88	30
Dibenz (a,h) anthracene	0.0192	0.00500	"	0.0333	ND	57.5	30-120	8.00	30
Fluoranthene	0.0181	0.00500	"	0.0333	ND	54.3	30-120	27.5	30
Fluorene	0.0334	0.00500	"	0.0333	ND	100	30-120	24.8	30
Indeno (1,2,3-cd) pyrene	0.0203	0.00500	"	0.0333	ND	60.9	30-120	0.750	30
Pyrene	0.0197	0.00500	"	0.0333	ND	59.1	35-142	28.3	30
1-Methylnaphthalene	0.0198	0.00500	"	0.0333	ND	59.3	15-130	10.0	50
2-Methylnaphthalene	0.0288	0.00500	"	0.0333	ND	86.5	15-130	10.2	50
Surrogate: 2-Methylnaphthalene-d10	0.0144		"	0.0333		43.2	40-150		
Surrogate: Fluoranthene-d10	0.0142		"	0.0333		42.7	40-150		

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**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 BGG0838 - EPA 3050B**

**Blank (BGG0838-BLK1)**

Prepared: 07/26/23 Analyzed: 07/27/23

Boron ND 0.0100 mg/L

**LCS (BGG0838-BS1)**

Prepared: 07/26/23 Analyzed: 07/27/23

Boron 5.24 0.0100 mg/L 5.00 105 80-120

**Duplicate (BGG0838-DUP1)**

**Source: 2307427-01**

Prepared: 07/26/23 Analyzed: 07/28/23

Boron 0.542 0.0100 mg/L 0.303 56.4 20 QM-04

**Matrix Spike (BGG0838-MS1)**

**Source: 2307427-01**

Prepared: 07/26/23 Analyzed: 07/28/23

Boron 5.09 0.0100 mg/L 5.00 0.303 95.7 75-125

**Matrix Spike Dup (BGG0838-MSD1)**

**Source: 2307427-01**

Prepared: 07/26/23 Analyzed: 07/28/23

Boron 5.20 0.0100 mg/L 5.00 0.303 97.9 75-125 2.11 25

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Civitas Resources  
650 Southgate Drive  
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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

### Total Metals by EPA 6020B - Quality Control

#### Summit Scientific

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

#### Batch BGG0770 - EPA 3050B

##### Blank (BGG0770-BLK1)

Prepared: 07/25/23 Analyzed: 07/27/23

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

##### LCS (BGG0770-BS1)

Prepared: 07/25/23 Analyzed: 07/27/23

Arsenic	33.1	0.200	mg/kg wet	40.0	82.7	80-120
Barium	35.3	0.400	"	40.0	88.2	80-120
Cadmium	1.64	0.200	"	2.00	82.0	80-120
Copper	36.3	0.400	"	40.0	90.7	80-120
Lead	16.1	0.200	"	20.0	80.6	80-120
Nickel	35.3	0.400	"	40.0	88.2	80-120
Selenium	4.11	0.260	"	4.00	103	80-120
Silver	1.63	0.0200	"	2.00	81.5	80-120
Zinc	35.2	0.400	"	40.0	88.1	80-120

##### Duplicate (BGG0770-DUP1)

Source: 2307426-01

Prepared: 07/25/23 Analyzed: 07/27/23

Arsenic	1.58	0.240	mg/kg dry	1.76	10.7	20	
Barium	18.2	0.480	"	22.4	20.6	20	QR-04
Cadmium	0.102	0.240	"	0.127	21.8	20	QR-01
Copper	3.73	0.480	"	4.34	14.9	20	
Lead	4.11	0.240	"	4.67	12.9	20	
Nickel	3.12	0.480	"	3.55	12.8	20	
Selenium	ND	0.312	"	ND		20	
Silver	0.0115	0.0240	"	0.0154	28.6	20	QR-01
Zinc	12.2	0.480	"	14.3	16.0	20	

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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BGG0770 - EPA 3050B**

Matrix Spike (BGG0770-MS1)		Source: 2307426-01			Prepared: 07/25/23		Analyzed: 07/27/23				
Arsenic	32.8	0.240	mg/kg dry	48.0	1.76	64.7	75-125				QM-07
Barium	61.7	0.480	"	48.0	22.4	82.0	75-125				
Cadmium	1.97	0.240	"	2.40	0.127	76.7	75-125				
Copper	35.0	0.480	"	48.0	4.34	63.9	75-125				QM-07
Lead	22.0	0.240	"	24.0	4.67	72.2	75-125				QM-07
Nickel	34.3	0.480	"	48.0	3.55	64.1	75-125				QM-07
Selenium	4.33	0.312	"	4.80	ND	90.4	75-125				
Silver	1.82	0.0240	"	2.40	0.0154	75.1	75-125				
Zinc	44.4	0.480	"	48.0	14.3	62.8	75-125				QM-07

Matrix Spike Dup (BGG0770-MSD1)		Source: 2307426-01			Prepared: 07/25/23		Analyzed: 07/27/23				
Arsenic	32.5	0.240	mg/kg dry	48.0	1.76	64.1	75-125	0.860	25		QM-07
Barium	62.3	0.480	"	48.0	22.4	83.1	75-125	0.884	25		
Cadmium	2.01	0.240	"	2.40	0.127	78.7	75-125	2.41	25		
Copper	35.0	0.480	"	48.0	4.34	63.9	75-125	0.0302	25		QM-07
Lead	22.2	0.240	"	24.0	4.67	73.1	75-125	0.940	25		QM-07
Nickel	34.4	0.480	"	48.0	3.55	64.3	75-125	0.356	25		QM-07
Selenium	4.37	0.312	"	4.80	ND	91.0	75-125	0.761	25		
Silver	1.83	0.0240	"	2.40	0.0154	75.5	75-125	0.501	25		
Zinc	43.9	0.480	"	48.0	14.3	61.8	75-125	1.09	25		QM-07

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Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BGG0772 - 3060A Mod**

**Blank (BGG0772-BLK1)**

Prepared & Analyzed: 07/25/23

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BGG0772-BS1)**

Prepared & Analyzed: 07/25/23

Chromium, Hexavalent 23.4 0.30 mg/kg wet 25.0 93.6 80-120

**Duplicate (BGG0772-DUP1)**

**Source: 2307426-01**

Prepared & Analyzed: 07/25/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BGG0772-MS1)**

**Source: 2307426-01**

Prepared & Analyzed: 07/25/23

Chromium, Hexavalent 27.7 0.30 mg/kg dry 30.0 ND 92.4 75-125

**Matrix Spike Dup (BGG0772-MSD1)**

**Source: 2307426-01**

Prepared & Analyzed: 07/25/23

Chromium, Hexavalent 28.5 0.30 mg/kg dry 30.0 ND 95.2 75-125 2.99 20

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.*



Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**

08/02/23 11:42

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

**Summit Scientific**

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

**Batch BGG0790 - General Preparation**

**Blank (BGG0790-BLK1)**

Prepared: 07/25/23 Analyzed: 07/26/23

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

**LCS (BGG0790-BS1)**

Prepared: 07/25/23 Analyzed: 07/26/23

Calcium	4.20	0.0500	mg/L wet	5.00	84.0	70-130
Magnesium	5.14	0.0500	"	5.00	103	70-130
Sodium	4.91	0.0500	"	5.00	98.2	70-130

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

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

**Summit Scientific**

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

**Batch BGG0778 - General Preparation**

Duplicate (BGG0778-DUP1)		Source: 2307396-01			Prepared & Analyzed: 07/25/23					
% Solids	78.3		%		89.6		13.4		20	

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**

08/02/23 11:42

### 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 BGG0841 - General Preparation

##### Blank (BGG0841-BLK1)

Prepared: 07/26/23 Analyzed: 07/27/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

##### LCS (BGG0841-BS1)

Prepared: 07/26/23 Analyzed: 07/27/23

Specific Conductance (EC) 0.153 0.0100 mmhos/cm 0.150 102 95-105

##### Duplicate (BGG0841-DUP1)

Source: 2307241-01

Prepared: 07/26/23 Analyzed: 07/27/23

Specific Conductance (EC) 0.487 0.0100 mmhos/cm 0.487 0.144 20

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**

08/02/23 11:42

**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 BGG0839 - General Preparation**

**LCS (BGG0839-BS1)**

Prepared & Analyzed: 07/26/23

pH	9.03	pH Units	9.18	98.4	95-105
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**Duplicate (BGG0839-DUP1)**

**Source: 2307186-03**

Prepared & Analyzed: 07/26/23

pH	7.84	pH Units	7.78	0.768	20
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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/02/23 11:42

### Notes and Definitions

QR-04	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-01	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
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.
QM-04	Visual evaluation of the sample indicates the RPD is above the control limit due to a non-homogeneous sample matrix.
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

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 07, 2023

Mike Dinkel

Civitas Resources

650 Southgate Drive

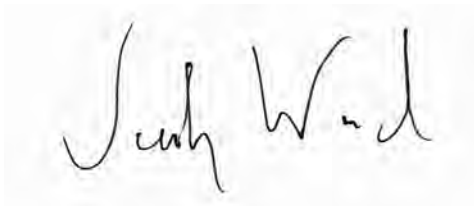
Windsor, CO 80550

RE: Miller 14-17, 4-175

Work Order #2308637

Enclosed are the results of analyses for samples received by Summit Scientific on 08/29/23 15:59. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Jacob Wood", is shown on a light gray background.

Jacob Wood For Paul Shrewsbury

President





Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S01@22'	2308637-01	Soil	08/29/23 10:17	08/29/23 15:59
S02@22'	2308637-02	Soil	08/29/23 10:04	08/29/23 15:59
S03@22'	2308637-03	Soil	08/29/23 09:57	08/29/23 15:59
W04@22'	2308637-04	Soil	08/29/23 10:22	08/29/23 15:59

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

4653 Table Mountain Drive  
Golden, CO 80403  
303-277-9310

Lab ID	Page 1 of 1
2308637	

Client: <u>Civitas</u>	Send Data To: Project Manager: <u>Mike Dinkel</u>	Send Invoice To: Company: <u>Civitas</u>
Address: <u>656 Southgate</u>	E-Mail: <u>mdinkel@quandaryconsultants.com</u>	Project Name/Location: <u>Miller 14-17, 4-17J</u>
City/State/Zip: <u>Windsor CO</u>	<u>Samples@quandaryconsultants.com</u>	AFE#:
Phone: <u>785-691-7788</u>	Project Name: <u>Miller 14-17, 4-17J</u>	PO/Billing Codes:
Sampler Name: <u>Mike Dinkel</u>	Project Number:	Contact: <u>Jacob Evans</u>

					Preservative				Matrix				Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other										
1	501 @ 22'	8-29-23	1017	2						✓			1964915-1									
2	502 @ 22'	↓	1004	↓						✓			✓									
3	503 @ 22'		0957							✓			✓									
4	504 @ 22'	↓	1022	✓						✓			✓									
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

Relinquished by: <u>ASD</u>	Date/Time: <u>8-29-23/148</u>	Received by: <u>Jah Wd</u>	Date/Time: <u>8/29/23 15:59</u>	TAT Business Days	Field DO	Notes: <u>same day or so</u> <u>VOCs</u> <u>standard everything</u> <u>019</u>
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day <input checked="" type="checkbox"/>	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
				Standard <input checked="" type="checkbox"/>	Field Turb.	
Temperature Upon Receipt: <u>8.4</u>	Corrected Temperature	IR gun #: <u>2</u>	HNO3 lot #:			

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2308637Client: Civitas Client Project ID: Miller 14-17, 4-175Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐
☒ ☐ ☐ ☐ ☐
Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 8.4 Thermometer # 2

	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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same day
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 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.				

Vah Wald

Custodian Printed Name

8/29/23 15:59

Date/Time



Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**S01@22'**  
**2308637-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/29/23 10:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGH1192	08/29/23	08/30/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	<b>0.033</b>	0.0050	"	"	"	"	"	"	
Xylenes (total)	<b>0.14</b>	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	<b>0.18</b>	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	<b>0.14</b>	0.0050	"	"	"	"	"	"	
Naphthalene	<b>0.016</b>	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	<b>6.6</b>	0.50	"	"	"	"	"	"	

Date Sampled: **08/29/23 10:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0271	67.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0371	92.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.7 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/29/23 10:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGH1136	08/29/23	08/29/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/29/23 10:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.1	97.0 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**S01@22'**  
**2308637-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/29/23 10:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0012	09/01/23	09/01/23	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: **08/29/23 10:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0158	47.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0141	42.4 %	40-150		"	"	"	"	

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

Date Sampled: **08/29/23 10:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.265</b>	0.0100	mg/L	1	BGH1200	08/30/23	08/31/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/29/23 10:17**

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: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**S01@22'**  
**2308637-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.53	0.200	mg/kg dry	1	BGH1207	08/30/23	08/31/23	EPA 6020B
Barium	70.8	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	5.21	0.400	"	"	"	"	"	"
Lead	11.4	0.200	"	"	"	"	"	"
Nickel	0.698	0.400	"	"	"	"	"	"
Silver	0.0457	0.0200	"	"	"	"	"	"
Zinc	4.54	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/29/23 10:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH1208	08/30/23	08/30/23	EPA 7196A	

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

Date Sampled: **08/29/23 10:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	50.4	0.0642	mg/L dry	1	BGH1254	08/31/23	09/04/23	EPA 6020B	
Magnesium	8.48	0.0642	"	"	"	"	"	"	
Sodium	73.4	0.0642	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/29/23 10:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.52	0.00100	units	1	BGI0094	09/05/23	09/05/23	Calculation	

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

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**S01@22'**  
**2308637-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/29/23 10:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	77.8			%	1	BGH1199	08/30/23	08/30/23	Calculation	

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

Date Sampled: **08/29/23 10:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.546	0.0100		mmhos/cm	1	BGI0003	09/01/23	09/01/23	EPA 120.1	

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

Date Sampled: **08/29/23 10:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.84			pH Units	1	BGI0004	09/01/23	09/01/23	EPA 9045D	

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**S02@22'**  
**2308637-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/29/23 10:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Benzene</b>	<b>0.010</b>	0.0020	mg/kg	1	BGH1192	08/29/23	08/30/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.51</b>	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>5.5</b>	0.010	"	"	"	"	08/29/23	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.74</b>	0.050	"	10	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.57</b>	0.050	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.080</b>	0.0038	"	1	"	"	08/30/23	"	
<b>Gasoline Range Hydrocarbons</b>	<b>38</b>	5.0	"	10	"	"	08/29/23	"	

Date Sampled: **08/29/23 10:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0348	87.0 %	50-150		"	"	08/30/23	"	
<i>Surrogate: Toluene-d8</i>	0.0368	91.9 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.134	335 %	50-150		"	"	"	"	S-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/29/23 10:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGH1136	08/29/23	08/29/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/29/23 10:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: o-Terphenyl</i>	13.1	105 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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.



Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**S02@22'**  
**2308637-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/29/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0012	09/01/23	09/01/23	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	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.00535</b>	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.0267</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **08/29/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.00719	21.6 %	40-150		"	"	"	"	S-04
Surrogate: Fluoranthene-d10	0.0139	41.7 %	40-150		"	"	"	"	

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

Date Sampled: **08/29/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.902</b>	0.0100	mg/L	1	BGH1200	08/30/23	08/31/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/29/23 10:04**

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

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**S02@22'**  
**2308637-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.71	0.200	mg/kg dry	1	BGH1207	08/30/23	08/31/23	EPA 6020B
Barium	272	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.72	0.400	"	"	"	"	"	"
Lead	9.25	0.200	"	"	"	"	"	"
Nickel	6.14	0.400	"	"	"	"	"	"
Silver	0.0345	0.0200	"	"	"	"	"	"
Zinc	9.99	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/29/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH1208	08/30/23	08/30/23	EPA 7196A	

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

Date Sampled: **08/29/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	0.204	0.0616	mg/L dry	1	BGH1254	08/31/23	09/04/23	EPA 6020B	
Magnesium	ND	0.0616	"	"	"	"	"	"	
Sodium	ND	0.0616	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/29/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	ND	0.00100	units	1	BGI0094	09/05/23	09/05/23	Calculation	

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

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**S02@22'**  
**2308637-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/29/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.2		%	1	BGH1199	08/30/23	08/30/23	Calculation	

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

Date Sampled: **08/29/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.518	0.0100	mmhos/cm	1	BGI0003	09/01/23	09/01/23	EPA 120.1	

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

Date Sampled: **08/29/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.53		pH Units	1	BGI0004	09/01/23	09/01/23	EPA 9045D	

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650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**S03@22'**  
**2308637-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/29/23 09:57**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Benzene</b>	<b>0.033</b>	0.0020	mg/kg	1	BGH1192	08/29/23	08/30/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.097</b>	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>1.2</b>	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.54</b>	0.0050	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.41</b>	0.0050	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.062</b>	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>34</b>	0.50	"	"	"	"	"	"	

Date Sampled: **08/29/23 09:57**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0281	70.4 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	0.0394	98.6 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0640	160 %	50-150		"	"	"	"	S-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/29/23 09:57**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGH1136	08/29/23	08/29/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/29/23 09:57**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: o-Terphenyl</i>	12.1	96.9 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**S03@22'**  
**2308637-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/29/23 09:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0012	09/01/23	09/01/23	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	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.0178</b>	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.00587</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **08/29/23 09:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.00985	29.6 %	40-150		"	"	"	"	S-04
Surrogate: Fluoranthene-d10	0.0143	43.0 %	40-150		"	"	"	"	

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

Date Sampled: **08/29/23 09:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.154</b>	0.0100	mg/L	1	BGH1200	08/30/23	08/31/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/29/23 09:57**

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

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**S03@22'**  
**2308637-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	20.0	0.200	mg/kg dry	1	BGH1207	08/30/23	08/31/23	EPA 6020B
Barium	159	0.400	"	"	"	"	"	"
Cadmium	0.204	0.200	"	"	"	"	"	"
Copper	5.08	0.400	"	"	"	"	"	"
Lead	20.0	0.200	"	"	"	"	"	"
Nickel	1.32	0.400	"	"	"	"	"	"
Silver	0.0357	0.0200	"	"	"	"	"	"
Zinc	7.07	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/29/23 09:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH1208	08/30/23	08/30/23	EPA 7196A	

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

Date Sampled: **08/29/23 09:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	104	0.0594	mg/L dry	1	BGH1254	08/31/23	09/04/23	EPA 6020B	
Magnesium	16.4	0.0594	"	"	"	"	"	"	
Sodium	28.0	0.0594	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/29/23 09:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.674	0.00100	units	1	BGI0094	09/05/23	09/05/23	Calculation	

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

Date Sampled: **08/29/23 09:57**

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

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**S03@22'**  
**2308637-03 (Soil)**

**Summit Scientific**

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

% Solids	84.1	%	1	BGH1199	08/30/23	08/30/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **08/29/23 09:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.448	0.0100	mmhos/cm	1	BGI0003	09/01/23	09/01/23	EPA 120.1	

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

Date Sampled: **08/29/23 09:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.92		pH Units	1	BGI0004	09/01/23	09/01/23	EPA 9045D	

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**W04@22'**  
**2308637-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/29/23 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGH1192	08/29/23	08/29/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.0052</b>	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>1.8</b>	0.50	"	"	"	"	"	"	

Date Sampled: **08/29/23 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0263	65.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0362	90.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0391	97.6 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/29/23 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGH1136	08/29/23	08/29/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/29/23 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.9	103 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**W04@22'**  
**2308637-04 (Soil)**

### Summit Scientific

#### PAH by EPA Method 8270D SIM

Date Sampled: **08/29/23 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0070	09/05/23	09/05/23	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: **08/29/23 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0177	53.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0144	43.2 %	40-150		"	"	"	"	

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

Date Sampled: **08/29/23 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	0.0100	mg/L	1	BGH1200	08/30/23	08/31/23	EPA 6020B	

#### Total Metals by EPA 6020B

Date Sampled: **08/29/23 10:22**

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

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**W04@22'**  
**2308637-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.20	0.200	mg/kg dry	1	BGH1207	08/30/23	08/31/23	EPA 6020B
Barium	68.2	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	5.29	0.400	"	"	"	"	"	"
Lead	14.0	0.200	"	"	"	"	"	"
Nickel	1.24	0.400	"	"	"	"	"	"
Silver	0.0363	0.0200	"	"	"	"	"	"
Zinc	7.68	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/29/23 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH1208	08/30/23	08/30/23	EPA 7196A	

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

Date Sampled: **08/29/23 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	204	0.0597	mg/L dry	1	BGH1254	08/31/23	09/04/23	EPA 6020B	
Magnesium	32.2	0.0597	"	"	"	"	"	"	
Sodium	50.5	0.0597	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/29/23 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.867	0.00100	units	1	BGI0094	09/05/23	09/05/23	Calculation	

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

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**W04@22'**  
**2308637-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/29/23 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.7		%	1	BGH1199	08/30/23	08/30/23	Calculation	

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

Date Sampled: **08/29/23 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.488	0.0100	mmhos/cm	1	BGI0003	09/01/23	09/01/23	EPA 120.1	

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

Date Sampled: **08/29/23 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.73		pH Units	1	BGI0004	09/01/23	09/01/23	EPA 9045D	

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

## 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 BGH1192 - EPA 5030 Soil MS

##### Blank (BGH1192-BLK1)

Prepared: 08/29/23 Analyzed: 08/30/23

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	0.0255		"	0.0400		63.7	50-150			
Surrogate: Toluene-d8	0.0359		"	0.0400		89.7	50-150			
Surrogate: 4-Bromofluorobenzene	0.0300		"	0.0400		75.1	50-150			

##### LCS (BGH1192-BS1)

Prepared: 08/29/23 Analyzed: 08/30/23

Benzene	0.0922	0.0020	mg/kg	0.100		92.2	70-130			
Toluene	0.0906	0.0050	"	0.100		90.6	70-130			
Ethylbenzene	0.102	0.0050	"	0.100		102	70-130			
m,p-Xylene	0.188	0.010	"	0.200		93.8	70-130			
o-Xylene	0.0746	0.0050	"	0.100		74.6	70-130			
1,2,4-Trimethylbenzene	0.0785	0.0050	"	0.100		78.5	70-130			
1,3,5-Trimethylbenzene	0.0732	0.0050	"	0.100		73.2	70-130			
Naphthalene	0.100	0.0038	"	0.100		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0260		"	0.0400		65.0	50-150			
Surrogate: Toluene-d8	0.0367		"	0.0400		91.7	50-150			
Surrogate: 4-Bromofluorobenzene	0.0300		"	0.0400		74.9	50-150			

##### Matrix Spike (BGH1192-MS1)

Source: 2308385-01RE1

Prepared: 08/29/23 Analyzed: 08/30/23

Benzene	0.0977	0.0020	mg/kg	0.100	ND	97.7	70-130			
Toluene	0.0892	0.0050	"	0.100	ND	89.2	70-130			
Ethylbenzene	0.149	0.0050	"	0.100	ND	149	70-130			QM-07
m,p-Xylene	0.351	0.010	"	0.200	ND	175	70-130			QM-07
o-Xylene	0.0907	0.0050	"	0.100	ND	90.7	70-130			
1,2,4-Trimethylbenzene	0.242	0.0050	"	0.100	ND	242	70-130			QM-07
1,3,5-Trimethylbenzene	0.197	0.0050	"	0.100	ND	197	70-130			QM-07
Naphthalene	0.116	0.0038	"	0.100	ND	116	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0279		"	0.0400		69.8	50-150			
Surrogate: Toluene-d8	0.0381		"	0.0400		95.3	50-150			
Surrogate: 4-Bromofluorobenzene	0.0351		"	0.0400		87.8	50-150			

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

## 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 BGH1192 - EPA 5030 Soil MS

##### Matrix Spike Dup (BGH1192-MSD1)

Source: 2308385-01RE1

Prepared: 08/29/23 Analyzed: 08/30/23

Benzene	0.0912	0.0020	mg/kg	0.100	ND	91.2	70-130	6.89	30	
Toluene	0.0861	0.0050	"	0.100	ND	86.1	70-130	3.56	30	
Ethylbenzene	0.156	0.0050	"	0.100	ND	156	70-130	4.78	30	QM-07
m,p-Xylene	0.376	0.010	"	0.200	ND	188	70-130	7.00	30	QM-07
o-Xylene	0.100	0.0050	"	0.100	ND	100	70-130	9.84	30	
1,2,4-Trimethylbenzene	0.350	0.0050	"	0.100	ND	350	70-130	36.3	30	QM-07
1,3,5-Trimethylbenzene	0.287	0.0050	"	0.100	ND	287	70-130	37.4	30	QM-07
Naphthalene	0.118	0.0038	"	0.100	ND	118	70-130	1.69	30	
Surrogate: 1,2-Dichloroethane-d4	0.0282		"	0.0400		70.5	50-150			
Surrogate: Toluene-d8	0.0388		"	0.0400		97.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0421		"	0.0400		105	50-150			

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Civitas Resources  
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Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**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 BGH1136 - EPA 3550A**

**Blank (BGH1136-BLK1)**

Prepared: 08/28/23 Analyzed: 08/29/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	12.4		"	12.5		99.2	30-150			

**LCS (BGH1136-BS1)**

Prepared: 08/28/23 Analyzed: 08/29/23

C10-C28 (DRO)	524	50	mg/kg	500		105	70-130			
Surrogate: o-Terphenyl	12.9		"	12.5		103	30-150			

**Matrix Spike (BGH1136-MS1)**

Source: 2308616-01

Prepared: 08/28/23 Analyzed: 08/29/23

C10-C28 (DRO)	440	50	mg/kg	500	5.38	86.9	70-130			
Surrogate: o-Terphenyl	12.1		"	12.5		96.4	30-150			

**Matrix Spike Dup (BGH1136-MSD1)**

Source: 2308616-01

Prepared: 08/28/23 Analyzed: 08/29/23

C10-C28 (DRO)	470	50	mg/kg	500	5.38	92.9	70-130	6.55	20	
Surrogate: o-Terphenyl	12.5		"	12.5		99.7	30-150			

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Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

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

#### Summit Scientific

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

#### Batch BGI0012 - EPA 5030 Soil MS

##### Blank (BGI0012-BLK1)

Prepared & Analyzed: 09/01/23

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	0.0248		"	0.0333		74.5		40-150			
Surrogate: Fluoranthene-d10	0.0224		"	0.0333		67.2		40-150			

##### LCS (BGI0012-BS1)

Prepared & Analyzed: 09/01/23

Acenaphthene	0.0248	0.00500	mg/kg	0.0333		74.3		31-137			
Anthracene	0.0241	0.00500	"	0.0333		72.2		30-120			
Benzo (a) anthracene	0.0265	0.00500	"	0.0333		79.5		30-120			
Benzo (a) pyrene	0.0240	0.00500	"	0.0333		71.9		30-120			
Benzo (b) fluoranthene	0.0261	0.00500	"	0.0333		78.4		30-120			
Benzo (k) fluoranthene	0.0255	0.00500	"	0.0333		76.5		30-120			
Chrysene	0.0255	0.00500	"	0.0333		76.5		30-120			
Dibenz (a,h) anthracene	0.0244	0.00500	"	0.0333		73.2		30-120			
Fluoranthene	0.0235	0.00500	"	0.0333		70.5		30-120			
Fluorene	0.0257	0.00500	"	0.0333		77.1		30-120			
Indeno (1,2,3-cd) pyrene	0.0200	0.00500	"	0.0333		60.0		30-120			
Pyrene	0.0266	0.00500	"	0.0333		79.7		35-142			
1-Methylnaphthalene	0.0242	0.00500	"	0.0333		72.5		35-142			
2-Methylnaphthalene	0.0246	0.00500	"	0.0333		73.9		35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0278		"	0.0333		83.3		40-150			
Surrogate: Fluoranthene-d10	0.0232		"	0.0333		69.7		40-150			

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

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

### Summit Scientific

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

#### Batch BGI0012 - EPA 5030 Soil MS

##### Matrix Spike (BGI0012-MS1)

Source: 2308633-01

Prepared & Analyzed: 09/01/23

Acenaphthene	0.0173	0.00500	mg/kg	0.0333	ND	52.0	31-137		
Anthracene	0.0159	0.00500	"	0.0333	ND	47.7	30-120		
Benzo (a) anthracene	0.0179	0.00500	"	0.0333	ND	53.7	30-120		
Benzo (a) pyrene	0.0160	0.00500	"	0.0333	ND	48.0	30-120		
Benzo (b) fluoranthene	0.0182	0.00500	"	0.0333	ND	54.7	30-120		
Benzo (k) fluoranthene	0.0180	0.00500	"	0.0333	ND	54.1	30-120		
Chrysene	0.0172	0.00500	"	0.0333	ND	51.6	30-120		
Dibenz (a,h) anthracene	0.0169	0.00500	"	0.0333	ND	50.8	30-120		
Fluoranthene	0.0153	0.00500	"	0.0333	ND	46.0	30-120		
Fluorene	0.0171	0.00500	"	0.0333	ND	51.3	30-120		
Indeno (1,2,3-cd) pyrene	0.0144	0.00500	"	0.0333	ND	43.1	30-120		
Pyrene	0.0185	0.00500	"	0.0333	ND	55.6	35-142		
1-Methylnaphthalene	0.0159	0.00500	"	0.0333	ND	47.6	15-130		
2-Methylnaphthalene	0.0167	0.00500	"	0.0333	ND	50.2	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0145		"	0.0333		43.5	40-150		
Surrogate: Fluoranthene-d10	0.0145		"	0.0333		43.6	40-150		

##### Matrix Spike Dup (BGI0012-MSD1)

Source: 2308633-01

Prepared & Analyzed: 09/01/23

Acenaphthene	0.0146	0.00500	mg/kg	0.0333	ND	43.8	31-137	17.1	30
Anthracene	0.0138	0.00500	"	0.0333	ND	41.4	30-120	14.1	30
Benzo (a) anthracene	0.0157	0.00500	"	0.0333	ND	47.1	30-120	13.2	30
Benzo (a) pyrene	0.0139	0.00500	"	0.0333	ND	41.7	30-120	14.0	30
Benzo (b) fluoranthene	0.0162	0.00500	"	0.0333	ND	48.5	30-120	11.9	30
Benzo (k) fluoranthene	0.0160	0.00500	"	0.0333	ND	48.1	30-120	11.6	30
Chrysene	0.0152	0.00500	"	0.0333	ND	45.6	30-120	12.3	30
Dibenz (a,h) anthracene	0.0151	0.00500	"	0.0333	ND	45.4	30-120	11.4	30
Fluoranthene	0.0144	0.00500	"	0.0333	ND	43.1	30-120	6.49	30
Fluorene	0.0151	0.00500	"	0.0333	ND	45.4	30-120	12.3	30
Indeno (1,2,3-cd) pyrene	0.0126	0.00500	"	0.0333	ND	37.9	30-120	12.9	30
Pyrene	0.0161	0.00500	"	0.0333	ND	48.3	35-142	14.0	30
1-Methylnaphthalene	0.0198	0.00500	"	0.0333	ND	59.5	15-130	22.1	50
2-Methylnaphthalene	0.0135	0.00500	"	0.0333	ND	40.6	15-130	21.2	50
Surrogate: 2-Methylnaphthalene-d10	0.0172		"	0.0333		51.7	40-150		
Surrogate: Fluoranthene-d10	0.0135		"	0.0333		40.6	40-150		

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

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

### Summit Scientific

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

#### Batch BGI0070 - EPA 5030 Soil MS

##### Blank (BGI0070-BLK1)

Prepared & Analyzed: 09/05/23

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	0.0245		"	0.0333		73.6		40-150			
Surrogate: Fluoranthene-d10	0.0372		"	0.0333		112		40-150			

##### LCS (BGI0070-BS1)

Prepared & Analyzed: 09/05/23

Acenaphthene	0.0228	0.00500	mg/kg	0.0333		68.4		31-137			
Anthracene	0.0283	0.00500	"	0.0333		84.9		30-120			
Benzo (a) anthracene	0.0301	0.00500	"	0.0333		90.4		30-120			
Benzo (a) pyrene	0.0279	0.00500	"	0.0333		83.8		30-120			
Benzo (b) fluoranthene	0.0295	0.00500	"	0.0333		88.6		30-120			
Benzo (k) fluoranthene	0.0313	0.00500	"	0.0333		93.8		30-120			
Chrysene	0.0327	0.00500	"	0.0333		98.0		30-120			
Dibenz (a,h) anthracene	0.0245	0.00500	"	0.0333		73.4		30-120			
Fluoranthene	0.0312	0.00500	"	0.0333		93.7		30-120			
Fluorene	0.0235	0.00500	"	0.0333		70.4		30-120			
Indeno (1,2,3-cd) pyrene	0.0324	0.00500	"	0.0333		97.1		30-120			
Pyrene	0.0331	0.00500	"	0.0333		99.3		35-142			
1-Methylnaphthalene	0.0352	0.00500	"	0.0333		106		35-142			
2-Methylnaphthalene	0.0357	0.00500	"	0.0333		107		35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0279		"	0.0333		83.8		40-150			
Surrogate: Fluoranthene-d10	0.0317		"	0.0333		95.0		40-150			

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650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

## 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 BGI0070 - EPA 5030 Soil MS

##### Matrix Spike (BGI0070-MS1)

Source: 2308637-04

Prepared & Analyzed: 09/05/23

Acenaphthene	0.0135	0.00500	mg/kg	0.0333	ND	40.6	31-137		
Anthracene	0.0138	0.00500	"	0.0333	ND	41.4	30-120		
Benzo (a) anthracene	0.0169	0.00500	"	0.0333	ND	50.8	30-120		
Benzo (a) pyrene	0.0147	0.00500	"	0.0333	ND	44.2	30-120		
Benzo (b) fluoranthene	0.0156	0.00500	"	0.0333	ND	46.8	30-120		
Benzo (k) fluoranthene	0.0164	0.00500	"	0.0333	ND	49.2	30-120		
Chrysene	0.0175	0.00500	"	0.0333	ND	52.6	30-120		
Dibenz (a,h) anthracene	0.0151	0.00500	"	0.0333	ND	45.2	30-120		
Fluoranthene	0.0153	0.00500	"	0.0333	ND	46.0	30-120		
Fluorene	0.0137	0.00500	"	0.0333	ND	41.0	30-120		
Indeno (1,2,3-cd) pyrene	0.0168	0.00500	"	0.0333	ND	50.3	30-120		
Pyrene	0.0177	0.00500	"	0.0333	ND	53.2	35-142		
1-Methylnaphthalene	0.0171	0.00500	"	0.0333	ND	51.4	15-130		
2-Methylnaphthalene	0.0190	0.00500	"	0.0333	ND	57.0	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0190		"	0.0333		57.0	40-150		
Surrogate: Fluoranthene-d10	0.0160		"	0.0333		48.0	40-150		

##### Matrix Spike Dup (BGI0070-MSD1)

Source: 2308637-04

Prepared & Analyzed: 09/05/23

Acenaphthene	0.0135	0.00500	mg/kg	0.0333	ND	40.5	31-137	0.288	30
Anthracene	0.0140	0.00500	"	0.0333	ND	42.1	30-120	1.79	30
Benzo (a) anthracene	0.0138	0.00500	"	0.0333	ND	41.5	30-120	20.0	30
Benzo (a) pyrene	0.0146	0.00500	"	0.0333	ND	43.7	30-120	1.17	30
Benzo (b) fluoranthene	0.0140	0.00500	"	0.0333	ND	41.9	30-120	11.2	30
Benzo (k) fluoranthene	0.0153	0.00500	"	0.0333	ND	45.8	30-120	7.03	30
Chrysene	0.0143	0.00500	"	0.0333	ND	42.9	30-120	20.4	30
Dibenz (a,h) anthracene	0.0135	0.00500	"	0.0333	ND	40.4	30-120	11.2	30
Fluoranthene	0.0140	0.00500	"	0.0333	ND	41.9	30-120	9.30	30
Fluorene	0.0162	0.00500	"	0.0333	ND	48.6	30-120	16.9	30
Indeno (1,2,3-cd) pyrene	0.0134	0.00500	"	0.0333	ND	40.3	30-120	22.1	30
Pyrene	0.0150	0.00500	"	0.0333	ND	45.0	35-142	16.6	30
1-Methylnaphthalene	0.0138	0.00500	"	0.0333	ND	41.3	15-130	21.8	50
2-Methylnaphthalene	0.0144	0.00500	"	0.0333	ND	43.3	15-130	27.2	50
Surrogate: 2-Methylnaphthalene-d10	0.0157		"	0.0333		47.2	40-150		
Surrogate: Fluoranthene-d10	0.0140		"	0.0333		41.9	40-150		

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**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 BGH1200 - EPA 3050B**

**Blank (BGH1200-BLK1)**

Prepared: 08/30/23 Analyzed: 08/31/23

Boron ND 0.0100 mg/L

**LCS (BGH1200-BS1)**

Prepared: 08/30/23 Analyzed: 08/31/23

Boron 5.91 0.0100 mg/L 5.00 118 80-120

**Duplicate (BGH1200-DUP1)**

**Source: 2306151-10**

Prepared: 08/30/23 Analyzed: 08/31/23

Boron ND 0.0100 mg/L 0.0456 200 20 QR-01

**Matrix Spike (BGH1200-MS1)**

**Source: 2306151-10**

Prepared: 08/30/23 Analyzed: 08/31/23

Boron 6.40 0.0100 mg/L 5.00 0.0456 127 75-125 QM-01

**Matrix Spike Dup (BGH1200-MSD1)**

**Source: 2306151-10**

Prepared: 08/30/23 Analyzed: 08/31/23

Boron 6.86 0.0100 mg/L 5.00 0.0456 136 75-125 6.93 25 QM-01

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.*



Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

### Total Metals by EPA 6020B - Quality Control

#### Summit Scientific

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

#### Batch BGH1207 - EPA 3050B

##### Blank (BGH1207-BLK1)

Prepared: 08/30/23 Analyzed: 08/31/23

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"
Selenium	ND	0.260	"

##### LCS (BGH1207-BS1)

Prepared: 08/30/23 Analyzed: 08/31/23

Arsenic	38.2	0.200	mg/kg wet	40.0	95.6	80-120
Barium	41.4	0.400	"	40.0	103	80-120
Cadmium	2.10	0.200	"	2.00	105	80-120
Copper	37.1	0.400	"	40.0	92.9	80-120
Lead	20.7	0.200	"	20.0	103	80-120
Nickel	36.9	0.400	"	40.0	92.1	80-120
Silver	2.08	0.0200	"	2.00	104	80-120
Zinc	37.4	0.400	"	40.0	93.5	80-120

##### Duplicate (BGH1207-DUP1)

Source: 2308637-01

Prepared: 08/30/23 Analyzed: 08/31/23

Arsenic	2.08	0.200	mg/kg dry	1.53	30.2	20	QR-01
Barium	73.3	0.400	"	70.8	3.40	20	
Cadmium	0.0612	0.200	"	0.0653	6.50	20	
Copper	5.61	0.400	"	5.21	7.48	20	
Lead	11.7	0.200	"	11.4	2.81	20	
Nickel	0.834	0.400	"	0.698	17.6	20	
Silver	0.0380	0.0200	"	0.0457	18.4	20	
Zinc	4.90	0.400	"	4.54	7.81	20	
Selenium	ND	0.260	"	ND		200	

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BGH1207 - EPA 3050B**

**Matrix Spike (BGH1207-MS1)**

Source: 2308637-01

Prepared: 08/30/23 Analyzed: 08/31/23

Arsenic	16.2	0.200	mg/kg dry	51.4	1.53	28.4	75-125			QM-01
Barium	120	0.400	"	51.4	70.8	96.0	75-125			
Cadmium	2.48	0.200	"	2.57	0.0653	94.1	75-125			
Copper	20.3	0.400	"	51.4	5.21	29.4	75-125			QM-01
Lead	33.4	0.200	"	25.7	11.4	85.7	75-125			
Nickel	15.6	0.400	"	51.4	0.698	29.1	75-125			QM-01
Silver	2.49	0.0200	"	2.57	0.0457	95.1	75-125			
Zinc	19.3	0.400	"	51.4	4.54	28.8	75-125			QM-01

**Matrix Spike Dup (BGH1207-MSD1)**

Source: 2308637-01

Prepared: 08/30/23 Analyzed: 08/31/23

Arsenic	16.6	0.200	mg/kg dry	51.4	1.53	29.4	75-125	2.93	25	QM-01
Barium	141	0.400	"	51.4	70.8	136	75-125	15.9	25	QM-01
Cadmium	2.63	0.200	"	2.57	0.0653	99.9	75-125	5.82	25	
Copper	20.0	0.400	"	51.4	5.21	28.8	75-125	1.45	25	QM-01
Lead	34.4	0.200	"	25.7	11.4	89.7	75-125	3.02	25	
Nickel	15.8	0.400	"	51.4	0.698	29.4	75-125	1.19	25	QM-01
Silver	2.59	0.0200	"	2.57	0.0457	99.1	75-125	4.09	25	
Zinc	20.4	0.400	"	51.4	4.54	31.0	75-125	5.70	25	QM-01

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BGH1208 - 3060A Mod**

**Blank (BGH1208-BLK1)**

Prepared & Analyzed: 08/30/23

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BGH1208-BS1)**

Prepared & Analyzed: 08/30/23

Chromium, Hexavalent 27.0 0.30 mg/kg wet 25.0 108 80-120

**Duplicate (BGH1208-DUP1)**

**Source: 2308637-01**

Prepared & Analyzed: 08/30/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BGH1208-MS1)**

**Source: 2308637-01**

Prepared & Analyzed: 08/30/23

Chromium, Hexavalent 31.8 0.30 mg/kg dry 32.1 ND 99.0 75-125

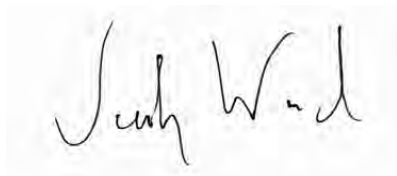
**Matrix Spike Dup (BGH1208-MSD1)**

**Source: 2308637-01**

Prepared & Analyzed: 08/30/23

Chromium, Hexavalent 31.6 0.30 mg/kg dry 32.1 ND 98.4 75-125 0.608 20

Summit Scientific



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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**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 BGH1254 - General Preparation**

**Blank (BGH1254-BLK1)**

Prepared: 08/31/23 Analyzed: 09/04/23

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

**LCS (BGH1254-BS1)**

Prepared: 08/31/23 Analyzed: 09/04/23

Calcium	4.99	0.0500	mg/L wet	5.00	99.7	70-130
Magnesium	5.94	0.0500	"	5.00	119	70-130
Sodium	5.99	0.0500	"	5.00	120	70-130

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

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

**Summit Scientific**

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

**Batch BGH1199 - General Preparation**

**Duplicate (BGH1199-DUP1)**

**Source: 2308632-01**

**Prepared & Analyzed: 08/30/23**

% Solids	85.9	%		86.4		0.648	20
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Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

**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 BGI0003 - General Preparation**

**Blank (BGI0003-BLK1)**

Prepared & Analyzed: 09/01/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGI0003-BS1)**

Prepared & Analyzed: 09/01/23

Specific Conductance (EC) 0.155 0.0100 mmhos/cm 0.150 103 95-105

**Duplicate (BGI0003-DUP1)**

**Source: 2308633-01**

Prepared & Analyzed: 09/01/23

Specific Conductance (EC) 0.359 0.0100 mmhos/cm 0.359 0.0279 20

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

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

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

**Batch BGI0004 - General Preparation**

**LCS (BGI0004-BS1)**

Prepared & Analyzed: 09/01/23

pH	9.12	pH Units	9.18	99.3	95-105
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**Duplicate (BGI0004-DUP1)**

Source: 2308633-01

Prepared & Analyzed: 09/01/23

pH	8.35	pH Units	8.35	0.00	20
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Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17, 4-175

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
09/07/23 09:05

### Notes and Definitions

S-04	A sample matrix effect prevented complete surrogate recovery.
S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
QR-01	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
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.
QM-01	The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
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

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80401

303.277.9310

April 03, 2023

Mike Dinkel

Civitas Resources

650 Southgate Drive

Windsor, CO 80550

RE: Miller 14-17

Work Order # 2303556

Enclosed are the results of analyses for samples received by Summit Scientific on 03/22/23 17:02. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Sheely", is written over a light blue rectangular background.

Scott Sheely For Paul Shrewsbury

President



Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG03@4.5'	2303556-01	Soil	03/21/23 13:40	03/22/23 17:02
BG03@9-10'	2303556-02	Soil	03/21/23 13:50	03/22/23 17:02
BG03@14-15'	2303556-03	Soil	03/21/23 13:55	03/22/23 17:02
BG03@19-20'	2303556-04	Soil	03/21/23 14:00	03/22/23 17:02
BG04@4.5'	2303556-05	Soil	03/21/23 14:10	03/22/23 17:02
BG04@9-10'	2303556-06	Soil	03/21/23 14:20	03/22/23 17:02
BG04@14-15'	2303556-07	Soil	03/21/23 14:30	03/22/23 17:02
BG04@19-20'	2303556-08	Soil	03/21/23 14:40	03/22/23 17:02
BG05@4.5'	2303556-09	Soil	03/21/23 14:50	03/22/23 17:02
BG05@9-10'	2303556-10	Soil	03/21/23 15:00	03/22/23 17:02
BG05@14-15'	2303556-11	Soil	03/21/23 15:10	03/22/23 17:02
BG05@19-20'	2303556-12	Soil	03/21/23 15:20	03/22/23 17:02

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

4653 Table Mountain Drive  
Golden, CO 80403  
303-277-9310

Lab ID	Page 1 of 1
2303556	

Client: Civitas		Send Data To: Project Manager: Mike Dinkel		Send Invoice To: Company: Civitas	
Address: 650 Southgate		E-Mail: mdinkel@gundaryconsultants		Project Name/Location:	
City/State/Zip: Windsor CO		Show Boundary Consultants, etc		AFE#:	
Phone: 785-691-77		Project Name: Miller 14-17		PO/Billing Codes:	
Sampler Name: Mike Dinkel		Project Number:		Contact: Jacob Evans	

					Preservative				Matrix				Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other										
1	B603 @ 4-5'	3-21-23	1340	1			X			X			X									
2	B603 @ 7-10'		1350	1																		
3	B603 @ 14-15'		1355	1																		
4	B603 @ 19-20'		1400	1																		
5	B604 @ 4-5'		1410	1																		
6	B604 @ 7-10'		1420	1																		
7	B604 @ 14-15'		1430	1																		
8	B604 @ 19-20'		1440	1																		
9	B605 @ 4-5'		1450	1																		
10	B605 @ 7-10'		1500	1																		
11	B605 @ 14-15'		1510	1																		
12	B605 @ 19-20'		1520	1						X												
13																						
14																						
15																						


Relinquished by: [Signature]	Date/Time: 3-22-23/1300	Received by: [Signature]	Date/Time: 3/22/23 1654	TAT Business Days	Field DO	Notes:
Relinquished by: [Signature]	Date/Time: 3/22/23 1654	Received by: [Signature]	Date/Time: 3/22/23 1702	Same Day	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Standard	X Field Turb.	
Temperature Upon Receipt: 9.9	Corrected Temperature	IR gun #: 02	HNO3 lot #:			

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2303556Client: Civitas Client Project ID: Miller 14-17Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐
☒ ☐ ☐ ☐ ☐
Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 6.7 Thermometer # 02

	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"/>	<u>On Ice</u>
If custody seals are present, are they intact? <sup>(1)</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 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? <b>If yes, contact client and note in narrative.</b>	<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

3/22/23 1702  
 Date/Time



Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG03@4.5'**  
**2303556-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/21/23 13:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.136	0.0100		mg/L	1	BGC0937	03/27/23	03/29/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/21/23 13:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	1.61	0.209	0.176	mg/kg dry	1	BGC0929	03/27/23	03/31/23	EPA 6020B	
Barium	65.1	0.419	0.331	"	"	"	"	"	"	
Cadmium	0.0812	0.209	0.00754	"	"	"	"	"	"	
Copper	3.65	0.419	0.0219	"	"	"	"	"	"	
Lead	4.23	0.209	0.0575	"	"	"	"	"	"	
Nickel	4.31	0.419	0.0639	"	"	"	"	"	"	
Selenium	ND	0.260	0.175	"	"	"	"	"	"	
Silver	0.0239	0.0209	0.00279	"	"	"	"	"	"	
Zinc	13.3	0.419	0.278	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **03/21/23 13:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGC0901	03/27/23	03/27/23	EPA 7196A	

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

Date Sampled: **03/21/23 13:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	26.3	0.0523		mg/L dry	1	BGC0912	03/27/23	03/28/23	EPA 6020B	
Magnesium	4.46	0.0523		"	"	"	"	"	"	
Sodium	26.3	0.0523		"	"	"	"	"	"	

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.*





Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG03@4.5'**  
**2303556-01 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **03/21/23 13:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.25	0.00100		units	1	BGC0976	03/29/23	03/29/23	Calculation	

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

Date Sampled: **03/21/23 13:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.5			%	1	BGC0903	03/27/23	03/28/23	Calculation	

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

Date Sampled: **03/21/23 13:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.292	0.0100		mmhos/cm	1	BGC0958	03/28/23	03/28/23	EPA 120.1	

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

Date Sampled: **03/21/23 13:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.64			pH Units	1	BGC0957	03/28/23	03/28/23	EPA 9045D	

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG03@9-10'**  
**2303556-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/21/23 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.103	0.0100		mg/L	1	BGC0937	03/27/23	03/29/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/21/23 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	5.01	0.225	0.190	mg/kg dry	1	BGC0929	03/27/23	03/31/23	EPA 6020B	
Barium	124	0.450	0.356	"	"	"	"	"	"	
Cadmium	0.257	0.225	0.00811	"	"	"	"	"	"	
Copper	6.28	0.450	0.0235	"	"	"	"	"	"	
Lead	8.61	0.225	0.0619	"	"	"	"	"	"	
Nickel	7.36	0.450	0.0687	"	"	"	"	"	"	
Selenium	ND	0.260	0.175	"	"	"	"	"	"	
Silver	0.0203	0.0225	0.00301	"	"	"	"	"	"	
Zinc	22.6	0.450	0.300	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **03/21/23 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGC0901	03/27/23	03/27/23	EPA 7196A	

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

Date Sampled: **03/21/23 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	29.0	0.0563		mg/L dry	1	BGC0912	03/27/23	03/28/23	EPA 6020B	
Magnesium	16.9	0.0563		"	"	"	"	"	"	
Sodium	57.9	0.0563		"	"	"	"	"	"	

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG03@9-10'**  
**2303556-02 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **03/21/23 13:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.11	0.00100		units	1	BGC0976	03/29/23	03/29/23	Calculation	

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

Date Sampled: **03/21/23 13:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.8			%	1	BGC0903	03/27/23	03/28/23	Calculation	

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

Date Sampled: **03/21/23 13:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.592	0.0100		mmhos/cm	1	BGC0958	03/28/23	03/28/23	EPA 120.1	

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

Date Sampled: **03/21/23 13:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.05			pH Units	1	BGC0957	03/28/23	03/28/23	EPA 9045D	

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650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG03@14-15'**  
**2303556-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/21/23 13:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.230	0.0100		mg/L	1	BGC0937	03/27/23	03/29/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/21/23 13:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	3.29	0.226	0.190	mg/kg dry	1	BGC0929	03/27/23	03/31/23	EPA 6020B	
Barium	70.7	0.451	0.356	"	"	"	"	"	"	
Cadmium	0.145	0.226	0.00812	"	"	"	"	"	"	
Copper	5.38	0.451	0.0236	"	"	"	"	"	"	
Lead	6.17	0.226	0.0620	"	"	"	"	"	"	
Nickel	5.36	0.451	0.0688	"	"	"	"	"	"	
Selenium	ND	0.260	0.175	"	"	"	"	"	"	
Silver	0.0108	0.0226	0.00301	"	"	"	"	"	"	
Zinc	18.2	0.451	0.300	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **03/21/23 13:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGC0901	03/27/23	03/27/23	EPA 7196A	

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

Date Sampled: **03/21/23 13:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	28.5	0.0564		mg/L dry	1	BGC0912	03/27/23	03/29/23	EPA 6020B	
Magnesium	15.0	0.0564		"	"	"	"	"	"	
Sodium	66.1	0.0564		"	"	"	"	"	"	

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Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG03@14-15'**  
**2303556-03 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **03/21/23 13:55**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.49	0.00100		units	1	BGC0976	03/29/23	03/29/23	Calculation	

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

Date Sampled: **03/21/23 13:55**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.7			%	1	BGC0903	03/27/23	03/28/23	Calculation	

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

Date Sampled: **03/21/23 13:55**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.653	0.0100		mmhos/cm	1	BGC0958	03/28/23	03/28/23	EPA 120.1	

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

Date Sampled: **03/21/23 13:55**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.30			pH Units	1	BGC0957	03/28/23	03/28/23	EPA 9045D	

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Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG03@19-20'**  
**2303556-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/21/23 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<b>Boron</b>	<b>0.301</b>	0.0100		mg/L	1	BGC0937	03/27/23	03/29/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/21/23 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<b>Arsenic</b>	<b>3.64</b>	0.231	0.194	mg/kg dry	1	BGC0929	03/27/23	03/31/23	EPA 6020B	
<b>Barium</b>	<b>49.5</b>	0.461	0.365	"	"	"	"	"	"	
<b>Cadmium</b>	<b>0.147</b>	0.231	0.00831	"	"	"	"	"	"	
<b>Copper</b>	<b>7.99</b>	0.461	0.0241	"	"	"	"	"	"	
<b>Lead</b>	<b>13.6</b>	0.231	0.0634	"	"	"	"	"	"	
<b>Nickel</b>	<b>3.01</b>	0.461	0.0704	"	"	"	"	"	"	
Selenium	ND	0.260	0.175	"	"	"	"	"	"	
<b>Silver</b>	<b>0.0300</b>	0.0231	0.00308	"	"	"	"	"	"	
<b>Zinc</b>	<b>20.1</b>	0.461	0.307	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **03/21/23 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGC0901	03/27/23	03/27/23	EPA 7196A	

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

Date Sampled: **03/21/23 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<b>Calcium</b>	<b>16.8</b>	0.0577		mg/L dry	1	BGC0912	03/27/23	03/29/23	EPA 6020B	
<b>Magnesium</b>	<b>8.73</b>	0.0577		"	"	"	"	"	"	
<b>Sodium</b>	<b>58.8</b>	0.0577		"	"	"	"	"	"	

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650 Southgate Drive  
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Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG03@19-20'**  
**2303556-04 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **03/21/23 14:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.90	0.00100		units	1	BGC0976	03/29/23	03/29/23	Calculation	

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

Date Sampled: **03/21/23 14:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.7			%	1	BGC0903	03/27/23	03/28/23	Calculation	

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

Date Sampled: **03/21/23 14:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.469	0.0100		mmhos/cm	1	BGC0958	03/28/23	03/28/23	EPA 120.1	

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

Date Sampled: **03/21/23 14:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.20			pH Units	1	BGC0957	03/28/23	03/28/23	EPA 9045D	

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650 Southgate Drive  
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Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG04@4.5'**  
**2303556-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/21/23 14:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.120	0.0100		mg/L	1	BGC0937	03/27/23	03/29/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/21/23 14:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	2.56	0.210	0.177	mg/kg dry	1	BGC0929	03/27/23	03/31/23	EPA 6020B	
Barium	71.5	0.420	0.332	"	"	"	"	"	"	
Cadmium	0.135	0.210	0.00756	"	"	"	"	"	"	
Copper	4.63	0.420	0.0219	"	"	"	"	"	"	
Lead	11.9	0.210	0.0577	"	"	"	"	"	"	
Nickel	5.17	0.420	0.0640	"	"	"	"	"	"	
Selenium	ND	0.260	0.175	"	"	"	"	"	"	
Silver	0.0256	0.0210	0.00280	"	"	"	"	"	"	
Zinc	28.4	0.420	0.279	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **03/21/23 14:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGC0901	03/27/23	03/27/23	EPA 7196A	

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

Date Sampled: **03/21/23 14:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	33.9	0.0525		mg/L dry	1	BGC0912	03/27/23	03/29/23	EPA 6020B	
Magnesium	9.05	0.0525		"	"	"	"	"	"	
Sodium	2.97	0.0525		"	"	"	"	"	"	

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650 Southgate Drive  
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Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG04@4.5'**  
**2303556-05 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **03/21/23 14:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.117	0.00100		units	1	BGC0976	03/29/23	03/29/23	Calculation	

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

Date Sampled: **03/21/23 14:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.2			%	1	BGC0903	03/27/23	03/28/23	Calculation	

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

Date Sampled: **03/21/23 14:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.319	0.0100		mmhos/cm	1	BGC0958	03/28/23	03/28/23	EPA 120.1	

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

Date Sampled: **03/21/23 14:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.83			pH Units	1	BGC0957	03/28/23	03/28/23	EPA 9045D	

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Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG04@9-10'**  
**2303556-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/21/23 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.152	0.0100		mg/L	1	BGC0937	03/27/23	03/29/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/21/23 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	3.11	0.215	0.181	mg/kg dry	1	BGC0929	03/27/23	03/31/23	EPA 6020B	
Barium	33.0	0.429	0.339	"	"	"	"	"	"	
Cadmium	0.116	0.215	0.00773	"	"	"	"	"	"	
Copper	4.32	0.429	0.0224	"	"	"	"	"	"	
Lead	ND	0.215	0.0590	"	"	"	"	"	"	
Nickel	4.42	0.429	0.0655	"	"	"	"	"	"	
Selenium	ND	0.260	0.175	"	"	"	"	"	"	
Silver	0.00816	0.0215	0.00287	"	"	"	"	"	"	
Zinc	16.6	0.429	0.286	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **03/21/23 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGC0901	03/27/23	03/27/23	EPA 7196A	

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

Date Sampled: **03/21/23 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	15.5	0.0537		mg/L dry	1	BGC0912	03/27/23	03/29/23	EPA 6020B	
Magnesium	7.19	0.0537		"	"	"	"	"	"	
Sodium	32.9	0.0537		"	"	"	"	"	"	

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650 Southgate Drive  
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Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG04@9-10'**  
**2303556-06 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **03/21/23 14:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.74	0.00100		units	1	BGC0976	03/29/23	03/29/23	Calculation	

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

Date Sampled: **03/21/23 14:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.2			%	1	BGC0903	03/27/23	03/28/23	Calculation	

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

Date Sampled: **03/21/23 14:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.318	0.0100		mmhos/cm	1	BGC0958	03/28/23	03/28/23	EPA 120.1	

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

Date Sampled: **03/21/23 14:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.17			pH Units	1	BGC0957	03/28/23	03/28/23	EPA 9045D	

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650 Southgate Drive  
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Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG04@14-15'**  
**2303556-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/21/23 14:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.173	0.0100		mg/L	1	BGC0937	03/27/23	03/29/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/21/23 14:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	2.72	0.219	0.184	mg/kg dry	1	BGC0929	03/27/23	03/31/23	EPA 6020B	
Barium	37.8	0.437	0.345	"	"	"	"	"	"	
Cadmium	0.0748	0.219	0.00787	"	"	"	"	"	"	
Copper	4.99	0.437	0.0228	"	"	"	"	"	"	
Lead	6.91	0.219	0.0601	"	"	"	"	"	"	
Nickel	7.53	0.437	0.0667	"	"	"	"	"	"	
Selenium	ND	0.260	0.175	"	"	"	"	"	"	
Silver	0.0131	0.0219	0.00292	"	"	"	"	"	"	
Zinc	18.7	0.437	0.291	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **03/21/23 14:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGC0901	03/27/23	03/27/23	EPA 7196A	

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

Date Sampled: **03/21/23 14:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	20.8	0.0547		mg/L dry	1	BGC0912	03/27/23	03/29/23	EPA 6020B	
Magnesium	6.78	0.0547		"	"	"	"	"	"	
Sodium	35.6	0.0547		"	"	"	"	"	"	

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Civitas Resources  
650 Southgate Drive  
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Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG04@14-15'**  
**2303556-07 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **03/21/23 14:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.73	0.00100		units	1	BGC0976	03/29/23	03/29/23	Calculation	

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

Date Sampled: **03/21/23 14:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.5			%	1	BGC0903	03/27/23	03/28/23	Calculation	

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

Date Sampled: **03/21/23 14:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.255	0.0100		mmhos/cm	1	BGC0958	03/28/23	03/28/23	EPA 120.1	

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

Date Sampled: **03/21/23 14:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.60			pH Units	1	BGC0957	03/28/23	03/28/23	EPA 9045D	

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG04@19-20'**  
**2303556-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/21/23 14:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.296	0.0100		mg/L	1	BGC0937	03/27/23	03/29/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/21/23 14:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	29.5	0.235	0.198	mg/kg dry	1	BGC0929	03/27/23	03/31/23	EPA 6020B	
Barium	44.0	0.470	0.372	"	"	"	"	"	"	
Cadmium	0.352	0.235	0.00847	"	"	"	"	"	"	
Copper	18.2	0.470	0.0246	"	"	"	"	"	"	
Lead	ND	0.235	0.0646	"	"	"	"	"	"	
Nickel	4.15	0.470	0.0717	"	"	"	"	"	"	
Selenium	ND	0.260	0.175	"	"	"	"	"	"	
Silver	0.0612	0.0235	0.00314	"	"	"	"	"	"	
Zinc	23.7	0.470	0.313	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **03/21/23 14:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGC0901	03/27/23	03/27/23	EPA 7196A	

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

Date Sampled: **03/21/23 14:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	95.3	0.0588		mg/L dry	1	BGC0912	03/27/23	03/29/23	EPA 6020B	
Magnesium	23.5	0.0588		"	"	"	"	"	"	
Sodium	27.1	0.0588		"	"	"	"	"	"	

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG04@19-20'**  
**2303556-08 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **03/21/23 14:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	<b>0.645</b>	0.00100		units	1	BGC0976	03/29/23	03/29/23	Calculation	

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

Date Sampled: **03/21/23 14:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>85.0</b>			%	1	BGC0903	03/27/23	03/28/23	Calculation	

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

Date Sampled: **03/21/23 14:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.382</b>	0.0100		mmhos/cm	1	BGC0958	03/28/23	03/28/23	EPA 120.1	

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

Date Sampled: **03/21/23 14:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.32</b>			pH Units	1	BGC0957	03/28/23	03/28/23	EPA 9045D	

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG05@4.5'**  
**2303556-09 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/21/23 14:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.0798	0.0100		mg/L	1	BGC0937	03/27/23	03/29/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/21/23 14:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	2.70	0.211	0.178	mg/kg dry	1	BGC0929	03/27/23	03/31/23	EPA 6020B	
Barium	79.2	0.422	0.333	"	"	"	"	"	"	
Cadmium	0.178	0.211	0.00759	"	"	"	"	"	"	
Copper	5.30	0.422	0.0220	"	"	"	"	"	"	
Lead	8.25	0.211	0.0579	"	"	"	"	"	"	
Nickel	5.56	0.422	0.0643	"	"	"	"	"	"	
Selenium	ND	0.260	0.175	"	"	"	"	"	"	
Silver	0.0325	0.0211	0.00282	"	"	"	"	"	"	
Zinc	19.8	0.422	0.280	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **03/21/23 14:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGC0901	03/27/23	03/27/23	EPA 7196A	

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

Date Sampled: **03/21/23 14:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	34.2	0.0527		mg/L dry	1	BGC0912	03/27/23	03/29/23	EPA 6020B	
Magnesium	8.54	0.0527		"	"	"	"	"	"	
Sodium	43.0	0.0527		"	"	"	"	"	"	

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG05@4.5'**  
**2303556-09 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **03/21/23 14:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.71	0.00100		units	1	BGC0976	03/29/23	03/29/23	Calculation	

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

Date Sampled: **03/21/23 14:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.8			%	1	BGC0903	03/27/23	03/28/23	Calculation	

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

Date Sampled: **03/21/23 14:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.532	0.0100		mmhos/cm	1	BGC0958	03/28/23	03/28/23	EPA 120.1	

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

Date Sampled: **03/21/23 14:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.91			pH Units	1	BGC0957	03/28/23	03/28/23	EPA 9045D	

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG05@9-10'**  
**2303556-10 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/21/23 15:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.0779	0.0100		mg/L	1	BGC0937	03/27/23	03/29/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/21/23 15:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	4.16	0.220	0.186	mg/kg dry	1	BGC0929	03/27/23	03/31/23	EPA 6020B	
Barium	429	0.441	0.348	"	"	"	"	"	"	
Cadmium	0.207	0.220	0.00793	"	"	"	"	"	"	
Copper	5.27	0.441	0.0230	"	"	"	"	"	"	
Lead	7.52	0.220	0.0606	"	"	"	"	"	"	
Nickel	6.22	0.441	0.0672	"	"	"	"	"	"	
Selenium	ND	0.260	0.175	"	"	"	"	"	"	
Silver	0.0137	0.0220	0.00294	"	"	"	"	"	"	
Zinc	20.9	0.441	0.293	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **03/21/23 15:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGC0901	03/27/23	03/27/23	EPA 7196A	

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

Date Sampled: **03/21/23 15:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	33.0	0.0551		mg/L dry	1	BGC0912	03/27/23	03/29/23	EPA 6020B	
Magnesium	17.8	0.0551		"	"	"	"	"	"	
Sodium	58.8	0.0551		"	"	"	"	"	"	

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG05@9-10'**  
**2303556-10 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **03/21/23 15:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.05	0.00100		units	1	BGC0976	03/29/23	03/29/23	Calculation	

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

Date Sampled: **03/21/23 15:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.8			%	1	BGC0903	03/27/23	03/28/23	Calculation	

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

Date Sampled: **03/21/23 15:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.683	0.0100		mmhos/cm	1	BGC0958	03/28/23	03/28/23	EPA 120.1	

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

Date Sampled: **03/21/23 15:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.99			pH Units	1	BGC0957	03/28/23	03/28/23	EPA 9045D	

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG05@14-15'**  
**2303556-11 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/21/23 15:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.113	0.0100		mg/L	1	BGC0937	03/27/23	03/29/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/21/23 15:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	4.85	0.227	0.192	mg/kg dry	1	BGC0929	03/27/23	03/31/23	EPA 6020B	
Barium	348	0.455	0.359	"	"	"	"	"	"	
Cadmium	0.245	0.227	0.00819	"	"	"	"	"	"	
Copper	5.65	0.455	0.0238	"	"	"	"	"	"	
Lead	8.41	0.227	0.0625	"	"	"	"	"	"	
Nickel	6.59	0.455	0.0694	"	"	"	"	"	"	
Selenium	ND	0.260	0.175	"	"	"	"	"	"	
Silver	0.0150	0.0227	0.00304	"	"	"	"	"	"	
Zinc	22.4	0.455	0.302	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **03/21/23 15:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGC0901	03/27/23	03/27/23	EPA 7196A	

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

Date Sampled: **03/21/23 15:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	41.3	0.0568		mg/L dry	1	BGC0912	03/27/23	03/29/23	EPA 6020B	
Magnesium	21.5	0.0568		"	"	"	"	"	"	
Sodium	70.8	0.0568		"	"	"	"	"	"	

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG05@14-15'**  
**2303556-11 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **03/21/23 15:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.23	0.00100		units	1	BGC0976	03/29/23	03/29/23	Calculation	

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

Date Sampled: **03/21/23 15:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.0			%	1	BGC0903	03/27/23	03/28/23	Calculation	

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

Date Sampled: **03/21/23 15:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.829	0.0100		mmhos/cm	1	BGC0958	03/28/23	03/28/23	EPA 120.1	

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

Date Sampled: **03/21/23 15:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.91			pH Units	1	BGC0957	03/28/23	03/28/23	EPA 9045D	

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG05@19-20'**  
**2303556-12 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/21/23 15:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.347	0.0100		mg/L	1	BGC0937	03/27/23	03/29/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/21/23 15:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	0.727	0.235	0.198	mg/kg dry	1	BGC0929	03/27/23	03/31/23	EPA 6020B	
Barium	33.6	0.470	0.371	"	"	"	"	"	"	
Cadmium	0.175	0.235	0.00845	"	"	"	"	"	"	
Copper	8.03	0.470	0.0245	"	"	"	"	"	"	
Lead	19.0	0.235	0.0645	"	"	"	"	"	"	
Nickel	1.40	0.470	0.0716	"	"	"	"	"	"	
Selenium	ND	0.260	0.175	"	"	"	"	"	"	
Silver	0.0662	0.0235	0.00313	"	"	"	"	"	"	
Zinc	2.48	0.470	0.312	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **03/21/23 15:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGC0901	03/27/23	03/27/23	EPA 7196A	

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

Date Sampled: **03/21/23 15:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	35.1	0.0587		mg/L dry	1	BGC0912	03/27/23	03/29/23	EPA 6020B	
Magnesium	16.3	0.0587		"	"	"	"	"	"	
Sodium	32.0	0.0587		"	"	"	"	"	"	

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**BG05@19-20'**  
**2303556-12 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **03/21/23 15:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.12	0.00100		units	1	BGC0976	03/29/23	03/29/23	Calculation	

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

Date Sampled: **03/21/23 15:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.2			%	1	BGC0903	03/27/23	03/28/23	Calculation	

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

Date Sampled: **03/21/23 15:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.291	0.0100		mmhos/cm	1	BGC0958	03/28/23	03/28/23	EPA 120.1	

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

Date Sampled: **03/21/23 15:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.45			pH Units	1	BGC0957	03/28/23	03/28/23	EPA 9045D	

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

### 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 BGC0937 - EPA 3050B

##### Blank (BGC0937-BLK1)

Prepared: 03/27/23 Analyzed: 03/29/23

Boron	ND	0.0100	mg/L
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##### LCS (BGC0937-BS1)

Prepared: 03/27/23 Analyzed: 03/29/23

Boron	5.98	0.0100	mg/L	5.00	120	80-120
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##### Duplicate (BGC0937-DUP1)

Source: 2303540-01

Prepared: 03/27/23 Analyzed: 03/29/23

Boron	0.249	0.0100	mg/L	0.237	5.12	20
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##### Matrix Spike (BGC0937-MS1)

Source: 2303540-01

Prepared: 03/27/23 Analyzed: 03/29/23

Boron	6.09	0.0100	mg/L	5.00	0.237	117	75-125
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##### Matrix Spike Dup (BGC0937-MSD1)

Source: 2303540-01

Prepared: 03/27/23 Analyzed: 03/29/23

Boron	6.14	0.0100	mg/L	5.00	0.237	118	75-125	0.785	25
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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.





Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

## Total Metals by EPA 6020B - Quality Control

### Summit Scientific

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

#### Batch BGC0929 - EPA 3050B

##### Blank (BGC0929-BLK1)

Prepared: 03/27/23 Analyzed: 03/31/23

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

##### LCS (BGC0929-BS1)

Prepared: 03/27/23 Analyzed: 03/31/23

Arsenic	41.0	0.200	mg/kg wet	40.0	103	80-120
Barium	40.0	0.400	"	40.0	100	80-120
Cadmium	1.94	0.200	"	2.00	97.1	80-120
Copper	39.0	0.400	"	40.0	97.4	80-120
Lead	19.3	0.200	"	20.0	96.4	80-120
Nickel	37.3	0.400	"	40.0	93.3	80-120
Selenium	4.10	0.260	"	4.00	103	80-120
Silver	1.95	0.0200	"	2.00	97.5	80-120
Zinc	37.1	0.400	"	40.0	92.7	80-120

##### Duplicate (BGC0929-DUP1)

Source: 2303556-01

Prepared: 03/27/23 Analyzed: 03/31/23

Arsenic	1.62	0.209	mg/kg dry	1.61	0.569	20
Barium	66.1	0.419	"	65.1	1.41	20
Cadmium	0.0854	0.209	"	0.0812	5.03	20
Copper	3.70	0.419	"	3.65	1.24	20
Lead	4.29	0.209	"	4.23	1.33	20
Nickel	4.37	0.419	"	4.31	1.52	20
Selenium	ND	0.260	"	ND		20
Silver	0.0239	0.0209	"	0.0239	0.00	20
Zinc	13.4	0.419	"	13.3	0.710	20

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

### Total Metals by EPA 6020B - Quality Control

#### Summit Scientific

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

#### Batch BGC0929 - EPA 3050B

Matrix Spike (BGC0929-MS1)		Source: 2303556-01			Prepared: 03/27/23		Analyzed: 03/31/23			
Arsenic	45.1	0.209	mg/kg dry	41.9	1.61	104	75-125			
Barium	115	0.419	"	41.9	65.1	120	75-125			
Cadmium	2.19	0.209	"	2.09	0.0812	101	75-125			
Copper	32.7	0.419	"	41.9	3.65	69.3	75-125			QM-07
Lead	25.5	0.209	"	20.9	4.23	101	75-125			
Nickel	32.6	0.419	"	41.9	4.31	67.5	75-125			QM-07
Selenium	4.75	0.260	"	4.19	ND	114	75-125			
Silver	2.04	0.0209	"	2.09	0.0239	96.3	75-125			
Zinc	43.4	0.419	"	41.9	13.3	72.0	75-125			QM-07

Matrix Spike Dup (BGC0929-MSD1)		Source: 2303556-01			Prepared: 03/27/23		Analyzed: 03/31/23			
Arsenic	44.6	0.209	mg/kg dry	41.9	1.61	103	75-125	1.06	25	
Barium	114	0.419	"	41.9	65.1	116	75-125	1.20	25	
Cadmium	2.20	0.209	"	2.09	0.0812	101	75-125	0.476	25	
Copper	32.8	0.419	"	41.9	3.65	69.6	75-125	0.462	25	QM-07
Lead	ND	0.209	"	20.9	4.23	NR	75-125	200	25	QM-07
Nickel	32.6	0.419	"	41.9	4.31	67.6	75-125	0.215	25	QM-07
Selenium	4.89	0.260	"	4.19	ND	117	75-125	2.90	25	
Silver	2.04	0.0209	"	2.09	0.0239	96.4	75-125	0.103	25	
Zinc	43.8	0.419	"	41.9	13.3	73.0	75-125	0.924	25	QM-07

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.*



Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BGC0901 - 3060A Mod**

**Blank (BGC0901-BLK1)**

Prepared & Analyzed: 03/27/23

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BGC0901-BS1)**

Prepared & Analyzed: 03/27/23

Chromium, Hexavalent 25.3 0.30 mg/kg wet 25.0 101 80-120

**Duplicate (BGC0901-DUP1)**

**Source: 2303552-01**

Prepared & Analyzed: 03/27/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BGC0901-MS1)**

**Source: 2303552-01**

Prepared & Analyzed: 03/27/23

Chromium, Hexavalent 33.1 0.30 mg/kg dry 33.9 ND 97.8 75-125

**Matrix Spike Dup (BGC0901-MSD1)**

**Source: 2303552-01**

Prepared & Analyzed: 03/27/23

Chromium, Hexavalent 33.3 0.30 mg/kg dry 33.9 ND 98.4 75-125 0.612 20

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

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

**Summit Scientific**

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

**Batch BGC0912 - General Preparation**

**Blank (BGC0912-BLK1)**

Prepared: 03/27/23 Analyzed: 03/28/23

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

**LCS (BGC0912-BS1)**

Prepared: 03/27/23 Analyzed: 03/28/23

Calcium	4.88	0.0500	mg/L wet	5.00	97.7	70-130
Magnesium	4.70	0.0500	"	5.00	93.9	70-130
Sodium	4.87	0.0500	"	5.00	97.3	70-130

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

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

#### Summit Scientific

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

#### Batch BGC0903 - General Preparation

Duplicate (BGC0903-DUP1)		Source: 2303539-01			Prepared: 03/27/23 Analyzed: 03/28/23					
% Solids	71.9		%		73.1			1.70	20	

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

### 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 BGC0958 - General Preparation

##### Blank (BGC0958-BLK1)

Prepared & Analyzed: 03/28/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

##### LCS (BGC0958-BS1)

Prepared & Analyzed: 03/28/23

Specific Conductance (EC) 0.151 0.0100 mmhos/cm 0.150 101 95-105

##### Duplicate (BGC0958-DUP1)

Source: 2303556-01

Prepared & Analyzed: 03/28/23

Specific Conductance (EC) 0.287 0.0100 mmhos/cm 0.292 1.90 20

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.*





Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]

Project Manager: Mike Dinkel

**Reported:**

04/03/23 13:31

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

**Summit Scientific**

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

**Batch BGC0957 - General Preparation**

**LCS (BGC0957-BS1)**

Prepared & Analyzed: 03/28/23

pH	9.14	pH Units	9.18	99.6	95-105
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**Duplicate (BGC0957-DUP1)**

**Source: 2303556-01**

Prepared & Analyzed: 03/28/23

pH	8.65	pH Units	8.64	0.116	20
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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.*



Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Miller 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
04/03/23 13:31

### Notes and Definitions

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

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 14, 2023

Mike Dinkel

Quandary Consultants

4480 Garfield St

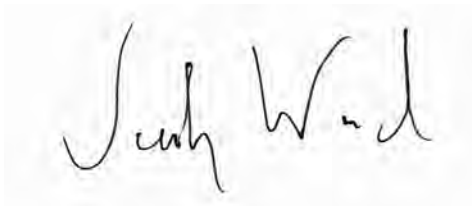
Denver, CO 80237

RE: Civitas - Miller 4-17J, 14-17

Work Order #2308047

Enclosed are the results of analyses for samples received by Summit Scientific on 08/02/23 15:23. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Jacob Wood". The signature is written in a cursive, flowing style. The first name "Jacob" is written with a large, stylized 'J' and 'a'. The last name "Wood" is written with a large 'W' and 'o'. The signature is positioned on a light gray background.

Jacob Wood For Paul Shrewsbury

President



Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG01@4'	2308047-01	Soil	08/02/23 12:10	08/02/23 15:23
BG01@8'	2308047-02	Soil	08/02/23 12:13	08/02/23 15:23
BG01@12'	2308047-03	Soil	08/02/23 12:14	08/02/23 15:23
BG01@16'	2308047-04	Soil	08/02/23 12:20	08/02/23 15:23
BG01@18'	2308047-05	Soil	08/02/23 12:22	08/02/23 15:23
BG02@4'	2308047-06	Soil	08/02/23 12:30	08/02/23 15:23
BG02@8'	2308047-07	Soil	08/02/23 12:32	08/02/23 15:23
BG02@12'	2308047-08	Soil	08/02/23 12:35	08/02/23 15:23
BG02@16'	2308047-09	Soil	08/02/23 12:39	08/02/23 15:23
BG02@18.5'	2308047-10	Soil	08/02/23 12:42	08/02/23 15:23

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.*

Send Data To:		Send Invoice To:	
Client: <u>Quandary Consultants</u>	Project Manager: <u>Mike Dinkel</u>	Company: <u>Civitas</u>	
Address: <u>4490 Garfield St</u>	E-Mail: <u>mdinkel@quandaryconsultants.com</u>	Project Name/Location: <u>Miller 4D-17, 14-17</u>	
City/State/Zip: <u>Denver, CO 80216</u>	<u>wblust@quandaryconsultants.com</u>	AFE#:	
Phone: <u>303-239-465-1052</u>	Project Name: <u>Miller 4D-17, 14-17</u>	PO/Billing Codes:	
Sampler Name: <u>WB</u>	Project Number:	Contact:	

					Preservative				Matrix			Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	All Inorganics								
1	B601 @ 4'	8/2/23	12:10	1			X			X			X								
2	B601 @ 8'		12:13																		
3	B601 @ 12'		12:14																		
4	B601 @ 16'		12:20																		
5	B601 @ 18'		12:22																		
6	B602 @ 4'		12:30																		
7	B602 @ 8'		12:32																		
8	B602 @ 12'		12:35																		
9	B602 @ 16'		12:39																		
10	B602 @ 19.5'		12:42																		
11																					
12																					
13																					
14																					
15																					

Relinquished by: <u>WB</u>	Date/Time: <u>8/2/23 3:18</u>	Received by: <u>WB</u>	Date/Time: <u>8/2/23 15:23</u>	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: <u>8.6</u>	Corrected Temperature	IR gun #: <u>2</u>	HNO3 lot #:			



S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2308047Client: Quang Client Project ID: Miller 45-17, 14-17Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐
☒ ☐ ☐ ☐ ☐
Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 8.6 Thermometer # 2

	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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 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? <b>If yes, contact client and note in narrative.</b>	<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.

John Ward  
Custodian Printed Name

8/2/23 15:23  
Date/Time





Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG01@4'**  
**2308047-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/02/23 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.261	0.0100	mg/L	1	BGH0207	08/04/23	08/08/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/02/23 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	0.755	0.200	mg/kg dry	1	BGH0173	08/04/23	08/08/23	EPA 6020B	
Barium	50.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.29	0.400	"	"	"	"	"	"	
Lead	3.02	0.200	"	"	"	"	"	"	
Nickel	2.48	0.400	"	"	"	"	"	"	
Selenium	ND	0.269	"	"	"	"	"	"	
Silver	0.0207	0.0200	"	"	"	"	"	"	
Zinc	7.89	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/02/23 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0205	08/04/23	08/04/23	EPA 7196A	

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

Date Sampled: **08/02/23 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	37.3	0.0517	mg/L dry	1	BGH0192	08/04/23	08/09/23	EPA 6020B	
Magnesium	6.25	0.0517	"	"	"	"	"	"	
Sodium	6.46	0.0517	"	"	"	"	"	"	

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.*



Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG01@4'**  
**2308047-01 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **08/02/23 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.258	0.00100	units	1	BGH0426	08/10/23	08/10/23	Calculation	

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

Date Sampled: **08/02/23 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.7		%	1	BGH0165	08/03/23	08/04/23	Calculation	

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

Date Sampled: **08/02/23 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.312	0.0100	mmhos/cm	1	BGH0257	08/07/23	08/08/23	EPA 120.1	

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

Date Sampled: **08/02/23 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.81		pH Units	1	BGH0258	08/07/23	08/08/23	EPA 9045D	

Summit Scientific

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Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG01@8'**  
**2308047-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/02/23 12:13**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Boron</b>	<b>0.223</b>	0.0100	mg/L	1	BGH0207	08/04/23	08/08/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/02/23 12:13**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Arsenic</b>	<b>0.671</b>	0.200	mg/kg dry	1	BGH0173	08/04/23	08/08/23	EPA 6020B	
<b>Barium</b>	<b>36.2</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>1.93</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>2.54</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>1.94</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.266	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>6.58</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/02/23 12:13**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0205	08/04/23	08/04/23	EPA 7196A	

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

Date Sampled: **08/02/23 12:13**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Calcium</b>	<b>18.6</b>	0.0511	mg/L dry	1	BGH0192	08/04/23	08/09/23	EPA 6020B	
<b>Magnesium</b>	<b>13.6</b>	0.0511	"	"	"	"	"	"	
<b>Sodium</b>	<b>26.0</b>	0.0511	"	"	"	"	"	"	

Summit Scientific

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Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG01@8'**  
**2308047-02 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **08/02/23 12:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.12	0.00100	units	1	BGH0426	08/10/23	08/10/23	Calculation	

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

Date Sampled: **08/02/23 12:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.9		%	1	BGH0165	08/03/23	08/04/23	Calculation	

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

Date Sampled: **08/02/23 12:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.390	0.0100	mmhos/cm	1	BGH0257	08/07/23	08/08/23	EPA 120.1	

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

Date Sampled: **08/02/23 12:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.06		pH Units	1	BGH0258	08/07/23	08/08/23	EPA 9045D	

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Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG01@12'**  
**2308047-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/02/23 12:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Boron</b>	<b>0.412</b>	0.0100	mg/L	1	BGH0207	08/04/23	08/08/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/02/23 12:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Arsenic</b>	<b>1.56</b>	0.200	mg/kg dry	1	BGH0173	08/04/23	08/08/23	EPA 6020B	
<b>Barium</b>	<b>221</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>2.41</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>3.95</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>2.76</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.280	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>8.11</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/02/23 12:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0205	08/04/23	08/04/23	EPA 7196A	

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

Date Sampled: **08/02/23 12:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Calcium</b>	<b>14.9</b>	0.0538	mg/L dry	1	BGH0192	08/04/23	08/09/23	EPA 6020B	
<b>Magnesium</b>	<b>9.01</b>	0.0538	"	"	"	"	"	"	
<b>Sodium</b>	<b>79.2</b>	0.0538	"	"	"	"	"	"	

Summit Scientific

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4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG01@12'**  
**2308047-03 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **08/02/23 12:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.00	0.00100	units	1	BGH0426	08/10/23	08/10/23	Calculation	

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

Date Sampled: **08/02/23 12:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.0		%	1	BGH0165	08/03/23	08/04/23	Calculation	

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

Date Sampled: **08/02/23 12:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.552	0.0100	mmhos/cm	1	BGH0257	08/07/23	08/08/23	EPA 120.1	

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

Date Sampled: **08/02/23 12:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.32		pH Units	1	BGH0258	08/07/23	08/08/23	EPA 9045D	

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Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG01@16'**  
**2308047-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/02/23 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Boron</b>	<b>0.352</b>	0.0100	mg/L	1	BGH0207	08/04/23	08/08/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/02/23 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Arsenic</b>	<b>1.19</b>	0.200	mg/kg dry	1	BGH0173	08/04/23	08/08/23	EPA 6020B	
<b>Barium</b>	<b>28.0</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>2.56</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>4.68</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>2.77</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.284	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>8.96</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/02/23 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0205	08/04/23	08/04/23	EPA 7196A	

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

Date Sampled: **08/02/23 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Calcium</b>	<b>21.6</b>	0.0547	mg/L dry	1	BGH0192	08/04/23	08/09/23	EPA 6020B	
<b>Magnesium</b>	<b>11.5</b>	0.0547	"	"	"	"	"	"	
<b>Sodium</b>	<b>107</b>	0.0547	"	"	"	"	"	"	

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4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG01@16'**  
**2308047-04 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **08/02/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.63	0.00100	units	1	BGH0426	08/10/23	08/10/23	Calculation	

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

Date Sampled: **08/02/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.5		%	1	BGH0165	08/03/23	08/04/23	Calculation	

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

Date Sampled: **08/02/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.744	0.0100	mmhos/cm	1	BGH0257	08/07/23	08/08/23	EPA 120.1	

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

Date Sampled: **08/02/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.22		pH Units	1	BGH0258	08/07/23	08/08/23	EPA 9045D	

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4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG01@18'**  
**2308047-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/02/23 12:22**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Boron</b>	<b>0.228</b>	0.0100	mg/L	1	BGH0207	08/04/23	08/08/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/02/23 12:22**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Arsenic</b>	<b>1.07</b>	0.200	mg/kg dry	1	BGH0173	08/04/23	08/08/23	EPA 6020B	
<b>Barium</b>	<b>48.0</b>	0.400	"	"	"	"	"	"	
<b>Cadmium</b>	<b>0.318</b>	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>3.02</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>6.97</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>2.11</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.301	"	"	"	"	"	"	
<b>Silver</b>	<b>0.0204</b>	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>10.7</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/02/23 12:22**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0205	08/04/23	08/04/23	EPA 7196A	

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

Date Sampled: **08/02/23 12:22**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Calcium</b>	<b>43.0</b>	0.0578	mg/L dry	1	BGH0192	08/04/23	08/09/23	EPA 6020B	
<b>Magnesium</b>	<b>24.7</b>	0.0578	"	"	"	"	"	"	
<b>Sodium</b>	<b>113</b>	0.0578	"	"	"	"	"	"	

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4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG01@18'**  
**2308047-05 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **08/02/23 12:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.40	0.00100	units	1	BGH0426	08/10/23	08/10/23	Calculation	

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

Date Sampled: **08/02/23 12:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.5		%	1	BGH0165	08/03/23	08/04/23	Calculation	

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

Date Sampled: **08/02/23 12:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.930	0.0100	mmhos/cm	1	BGH0257	08/07/23	08/08/23	EPA 120.1	

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

Date Sampled: **08/02/23 12:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.00		pH Units	1	BGH0258	08/07/23	08/08/23	EPA 9045D	

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4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG02@4'**  
**2308047-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/02/23 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Boron</b>	<b>0.210</b>	0.0100	mg/L	1	BGH0207	08/04/23	08/08/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/02/23 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Arsenic</b>	<b>0.705</b>	0.200	mg/kg dry	1	BGH0173	08/04/23	08/08/23	EPA 6020B	
<b>Barium</b>	<b>44.2</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>2.27</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>3.13</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>2.57</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.272	"	"	"	"	"	"	
<b>Silver</b>	<b>0.0289</b>	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>7.60</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/02/23 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0205	08/04/23	08/04/23	EPA 7196A	

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

Date Sampled: **08/02/23 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Calcium</b>	<b>198</b>	0.0523	mg/L dry	1	BGH0192	08/04/23	08/09/23	EPA 6020B	
<b>Magnesium</b>	<b>32.1</b>	0.0523	"	"	"	"	"	"	
<b>Sodium</b>	<b>6.24</b>	0.0523	"	"	"	"	"	"	

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Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG02@4'**  
**2308047-06 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **08/02/23 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	<b>0.108</b>	0.00100	units	1	BGH0426	08/10/23	08/10/23	Calculation	

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

Date Sampled: **08/02/23 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>95.5</b>		%	1	BGH0165	08/03/23	08/04/23	Calculation	

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

Date Sampled: **08/02/23 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.157</b>	0.0100	mmhos/cm	1	BGH0257	08/07/23	08/08/23	EPA 120.1	

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

Date Sampled: **08/02/23 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>6.95</b>		pH Units	1	BGH0258	08/07/23	08/08/23	EPA 9045D	

Summit Scientific

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Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG02@8'**  
**2308047-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/02/23 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.129</b>	0.0100	mg/L	1	BGH0207	08/04/23	08/08/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/02/23 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Arsenic</b>	<b>0.797</b>	0.200	mg/kg dry	1	BGH0173	08/04/23	08/08/23	EPA 6020B	
<b>Barium</b>	<b>50.0</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>2.27</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>2.91</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>2.27</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.274	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>7.77</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/02/23 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0205	08/04/23	08/04/23	EPA 7196A	

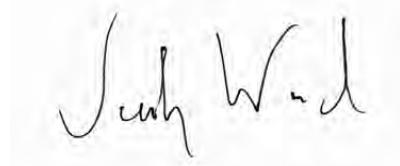
**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **08/02/23 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>21.4</b>	0.0526	mg/L dry	1	BGH0192	08/04/23	08/09/23	EPA 6020B	
<b>Magnesium</b>	<b>8.72</b>	0.0526	"	"	"	"	"	"	
<b>Sodium</b>	<b>13.1</b>	0.0526	"	"	"	"	"	"	

Summit Scientific

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4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG02@8'**  
**2308047-07 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **08/02/23 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	<b>0.603</b>	0.00100	units	1	BGH0426	08/10/23	08/10/23	Calculation	

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

Date Sampled: **08/02/23 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>95.0</b>		%	1	BGH0165	08/03/23	08/04/23	Calculation	

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

Date Sampled: **08/02/23 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.269</b>	0.0100	mmhos/cm	1	BGH0257	08/07/23	08/08/23	EPA 120.1	

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

Date Sampled: **08/02/23 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>7.95</b>		pH Units	1	BGH0258	08/07/23	08/08/23	EPA 9045D	

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Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG02@12'**  
**2308047-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/02/23 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Boron</b>	<b>0.338</b>	0.0100	mg/L	1	BGH0207	08/04/23	08/08/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/02/23 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Arsenic</b>	<b>1.21</b>	0.200	mg/kg dry	1	BGH0173	08/04/23	08/08/23	EPA 6020B	
<b>Barium</b>	<b>51.3</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>2.40</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>4.28</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>2.96</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.278	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>7.79</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/02/23 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0205	08/04/23	08/04/23	EPA 7196A	

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

Date Sampled: **08/02/23 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Calcium</b>	<b>37.9</b>	0.0534	mg/L dry	1	BGH0192	08/04/23	08/09/23	EPA 6020B	
<b>Magnesium</b>	<b>18.4</b>	0.0534	"	"	"	"	"	"	
<b>Sodium</b>	<b>112</b>	0.0534	"	"	"	"	"	"	

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4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG02@12'**  
**2308047-08 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **08/02/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.73	0.00100	units	1	BGH0426	08/10/23	08/10/23	Calculation	

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

Date Sampled: **08/02/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.6		%	1	BGH0165	08/03/23	08/04/23	Calculation	

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

Date Sampled: **08/02/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.929	0.0100	mmhos/cm	1	BGH0257	08/07/23	08/08/23	EPA 120.1	

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

Date Sampled: **08/02/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.88		pH Units	1	BGH0258	08/07/23	08/08/23	EPA 9045D	

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4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG02@16'**  
**2308047-09 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/02/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.228</b>	0.0100	mg/L	1	BGH0207	08/04/23	08/08/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/02/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Arsenic</b>	<b>1.25</b>	0.200	mg/kg dry	1	BGH0173	08/04/23	08/08/23	EPA 6020B	
<b>Barium</b>	<b>37.7</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>2.40</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>4.48</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>2.88</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.286	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>8.64</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/02/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0205	08/04/23	08/04/23	EPA 7196A	

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

Date Sampled: **08/02/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>41.9</b>	0.0550	mg/L dry	1	BGH0192	08/04/23	08/09/23	EPA 6020B	
<b>Magnesium</b>	<b>18.6</b>	0.0550	"	"	"	"	"	"	
<b>Sodium</b>	<b>162</b>	0.0550	"	"	"	"	"	"	

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4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG02@16'**  
**2308047-09 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **08/02/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.24	0.00100	units	1	BGH0426	08/10/23	08/10/23	Calculation	

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

Date Sampled: **08/02/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.9		%	1	BGH0165	08/03/23	08/04/23	Calculation	

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

Date Sampled: **08/02/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.06	0.0100	mmhos/cm	1	BGH0257	08/07/23	08/08/23	EPA 120.1	

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

Date Sampled: **08/02/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.04		pH Units	1	BGH0258	08/07/23	08/08/23	EPA 9045D	

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4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG02@18.5'**  
**2308047-10 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/02/23 12:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Boron</b>	<b>0.208</b>	0.0100	mg/L	1	BGH0207	08/04/23	08/08/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/02/23 12:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Arsenic</b>	<b>0.286</b>	0.200	mg/kg dry	1	BGH0173	08/04/23	08/08/23	EPA 6020B	
<b>Barium</b>	<b>17.7</b>	0.400	"	"	"	"	"	"	
<b>Cadmium</b>	<b>0.325</b>	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>1.12</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>5.12</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>2.55</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.298	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>9.17</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/02/23 12:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0205	08/04/23	08/04/23	EPA 7196A	

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

Date Sampled: **08/02/23 12:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Calcium</b>	<b>41.0</b>	0.0573	mg/L dry	1	BGH0192	08/04/23	08/09/23	EPA 6020B	
<b>Magnesium</b>	<b>21.5</b>	0.0573	"	"	"	"	"	"	
<b>Sodium</b>	<b>127</b>	0.0573	"	"	"	"	"	"	

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Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**BG02@18.5'**  
**2308047-10 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **08/02/23 12:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.00	0.00100	units	1	BGH0426	08/10/23	08/10/23	Calculation	

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

Date Sampled: **08/02/23 12:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.3		%	1	BGH0165	08/03/23	08/04/23	Calculation	

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

Date Sampled: **08/02/23 12:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.968	0.0100	mmhos/cm	1	BGH0257	08/07/23	08/08/23	EPA 120.1	

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

Date Sampled: **08/02/23 12:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.03		pH Units	1	BGH0258	08/07/23	08/08/23	EPA 9045D	

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Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

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

#### Summit Scientific

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

#### Batch BGH0207 - EPA 3050B

##### Blank (BGH0207-BLK1)

Prepared: 08/04/23 Analyzed: 08/08/23

Boron ND 0.0100 mg/L

##### LCS (BGH0207-BS1)

Prepared: 08/04/23 Analyzed: 08/08/23

Boron 5.16 0.0100 mg/L 5.00 103 80-120

##### Duplicate (BGH0207-DUP1)

Source: 2308047-01

Prepared: 08/04/23 Analyzed: 08/08/23

Boron 0.222 0.0100 mg/L 0.261 16.2 20

##### Matrix Spike (BGH0207-MS1)

Source: 2308047-01

Prepared: 08/04/23 Analyzed: 08/08/23

Boron 6.08 0.0100 mg/L 5.00 0.261 116 75-125

##### Matrix Spike Dup (BGH0207-MSD1)

Source: 2308047-01

Prepared: 08/04/23 Analyzed: 08/08/23

Boron 6.31 0.0100 mg/L 5.00 0.261 121 75-125 3.61 25

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Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BGH0173 - EPA 3050B**

**Blank (BGH0173-BLK1)**

Prepared: 08/04/23 Analyzed: 08/08/23

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"
Selenium	ND	0.260	"

**LCS (BGH0173-BS1)**

Prepared: 08/04/23 Analyzed: 08/08/23

Arsenic	36.8	0.200	mg/kg wet	40.0	91.9	80-120
Barium	33.0	0.400	"	40.0	82.5	80-120
Cadmium	1.79	0.200	"	2.00	89.5	80-120
Copper	35.1	0.400	"	40.0	87.7	80-120
Lead	17.6	0.200	"	20.0	88.1	80-120
Nickel	34.8	0.400	"	40.0	87.0	80-120
Selenium	3.95	0.260	"	4.00	98.8	80-120
Silver	1.83	0.0200	"	2.00	91.6	80-120
Zinc	37.3	0.400	"	40.0	93.3	80-120

**Duplicate (BGH0173-DUP1)**

Source: 2308047-01

Prepared: 08/04/23 Analyzed: 08/08/23

Arsenic	0.722	0.200	mg/kg dry	0.755	4.54	20
Barium	48.2	0.400	"	50.4	4.37	20
Cadmium	0.0732	0.200	"	0.0773	5.49	20
Copper	2.10	0.400	"	2.29	8.55	20
Lead	2.90	0.200	"	3.02	3.93	20
Nickel	2.18	0.400	"	2.48	12.5	20
Selenium	ND	0.269	"	ND		20
Silver	0.0232	0.0200	"	0.0207	11.3	20
Zinc	6.89	0.400	"	7.89	13.6	20
Selenium	ND	0.260	"	ND		200

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Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BGH0173 - EPA 3050B**

**Matrix Spike (BGH0173-MS1)**

Source: 2308047-01

Prepared: 08/04/23 Analyzed: 08/08/23

Arsenic	17.1	0.200	mg/kg dry	41.4	0.755	39.4	75-125			QM-01
Barium	80.6	0.400	"	41.4	50.4	73.0	75-125			QM-01
Cadmium	1.49	0.200	"	2.07	0.0773	68.1	75-125			QM-01
Copper	17.7	0.400	"	41.4	2.29	37.3	75-125			QM-01
Lead	15.8	0.200	"	20.7	3.02	61.7	75-125			QM-01
Nickel	17.8	0.400	"	41.4	2.48	37.1	75-125			QM-01
Selenium	3.61	0.269	"	4.14	ND	87.3	75-125			
Silver	1.41	0.0200	"	2.07	0.0207	67.3	75-125			QM-01
Zinc	24.0	0.400	"	41.4	7.89	39.0	75-125			QM-01

**Matrix Spike Dup (BGH0173-MSD1)**

Source: 2308047-01

Prepared: 08/04/23 Analyzed: 08/08/23

Arsenic	17.0	0.200	mg/kg dry	41.4	0.755	39.2	75-125	0.457	25	QM-01
Barium	78.0	0.400	"	41.4	50.4	66.9	75-125	3.22	25	QM-01
Cadmium	1.46	0.200	"	2.07	0.0773	66.8	75-125	1.88	25	QM-01
Copper	17.4	0.400	"	41.4	2.29	36.5	75-125	1.78	25	QM-01
Lead	15.2	0.200	"	20.7	3.02	59.1	75-125	3.52	25	QM-01
Nickel	17.6	0.400	"	41.4	2.48	36.6	75-125	1.19	25	QM-01
Selenium	3.38	0.269	"	4.14	ND	81.8	75-125	6.56	25	
Silver	1.40	0.0200	"	2.07	0.0207	66.6	75-125	0.971	25	QM-01
Zinc	23.6	0.400	"	41.4	7.89	38.1	75-125	1.66	25	QM-01

Summit Scientific

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Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BGH0205 - 3060A Mod**

**Blank (BGH0205-BLK1)**

Prepared & Analyzed: 08/04/23

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BGH0205-BS1)**

Prepared & Analyzed: 08/04/23

Chromium, Hexavalent 21.8 0.30 mg/kg wet 25.0 87.4 80-120

**Duplicate (BGH0205-DUP1)**

**Source: 2308003-01**

Prepared & Analyzed: 08/04/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BGH0205-MS1)**

**Source: 2308003-01**

Prepared & Analyzed: 08/04/23

Chromium, Hexavalent 29.8 0.30 mg/kg dry 30.5 ND 97.6 75-125

**Matrix Spike Dup (BGH0205-MSD1)**

**Source: 2308003-01**

Prepared & Analyzed: 08/04/23

Chromium, Hexavalent 30.1 0.30 mg/kg dry 30.5 ND 98.4 75-125 0.816 20

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.*



Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**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 BGH0192 - General Preparation**

**Blank (BGH0192-BLK1)**

Prepared: 08/04/23 Analyzed: 08/09/23

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

**LCS (BGH0192-BS1)**

Prepared: 08/04/23 Analyzed: 08/09/23

Calcium	6.18	0.0500	mg/L wet	5.00	124	70-130
Magnesium	5.87	0.0500	"	5.00	117	70-130
Sodium	6.21	0.0500	"	5.00	124	70-130

Summit Scientific

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Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

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

#### Summit Scientific

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

#### Batch BGH0165 - General Preparation

Duplicate (BGH0165-DUP1)

Source: 2308047-01

Prepared: 08/03/23 Analyzed: 08/04/23

% Solids	96.8	%	96.7	0.104	20
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Summit Scientific

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Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**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 BGH0257 - General Preparation**

**Blank (BGH0257-BLK1)**

Prepared: 08/07/23 Analyzed: 08/08/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGH0257-BS1)**

Prepared: 08/07/23 Analyzed: 08/08/23

Specific Conductance (EC) 0.156 0.0100 mmhos/cm 0.150 104 95-105

**Duplicate (BGH0257-DUP1)**

**Source: 2308047-01**

Prepared: 08/07/23 Analyzed: 08/08/23

Specific Conductance (EC) 0.310 0.0100 mmhos/cm 0.312 0.900 20

Summit Scientific

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Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

**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 BGH0258 - General Preparation**

**LCS (BGH0258-BS1)**

Prepared: 08/07/23 Analyzed: 08/08/23

pH	9.02	pH Units	9.18	98.3	95-105
----	------	----------	------	------	--------

**Duplicate (BGH0258-DUP1)**

**Source: 2308047-01**

Prepared: 08/07/23 Analyzed: 08/08/23

pH	7.73	pH Units	7.81	1.03	20
----	------	----------	------	------	----

Summit Scientific

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Quandary Consultants  
4480 Grfield St  
Denver CO, 80237

Project: Civitas - Miller 4-17J, 14-17

Project Number: [none]  
Project Manager: Mike Dinkel

**Reported:**  
08/14/23 10:49

### Notes and Definitions

QM-01      The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.

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

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

December 05, 2023

Patrick Lawer

Quandary Consultants

4480 Garfield St

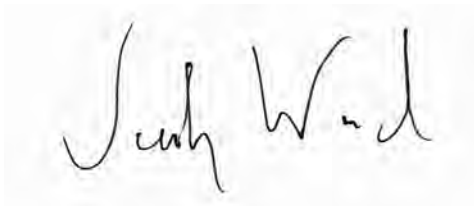
Denver, CO 80237

RE: Civitas - Miller 14-17

Work Order #2311455

Enclosed are the results of analyses for samples received by Summit Scientific on 11/21/23 14:38. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Jacob Wood". The signature is written in a cursive, flowing style.

Jacob Wood For Paul Shrewsbury

President



Quandary Consultants  
4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG01@24'	2311455-01	Soil	11/21/23 12:18	11/21/23 14:38
BG02@24'	2311455-02	Soil	11/21/23 11:47	11/21/23 14:38
BG03@24'	2311455-03	Soil	11/21/23 11:04	11/21/23 14:38
BG05@24'	2311455-04	Soil	11/21/23 09:40	11/21/23 14:38
BG04@24'	2311455-05	Soil	11/21/23 10:34	11/21/23 14:38

Summit Scientific

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# SUMMIT SCIENTIFIC

4653 Table Mountain Drive  
Golden, CO 80403  
303-277-9310

Lab ID	Page 1 of 1
2311455	

Client: <u>Quandary Consultants</u>		Send Data To:		Send Invoice To:	
Address: <u>4480 Garfield St</u>		Project Manager: <u>Patrick Lawler</u>		Company: <u>Civitas</u>	
City/State/Zip: <u>Denver, CO 80216</u>		E-Mail: <u>samples@quandaryconsultants.com</u>		Project Name/Location: <u>Miller 14-17 Excavation</u>	
Phone: <u>239-465-1052</u>		Project Name: <u>Miller 14-17</u>		AFE#:	
Sampler Name: <u>Will Blust</u>		Project Number:		PO/Billing Codes:	
				Contact: <u>Jacob Evans</u>	

					Preservative				Matrix				Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other										
1	B601 @ 24'	11/21/23	12:18	1			X			X			X									
2	B602 @ 24'		1:47																			
3	B603 @ 24'		11:04																			
4	B605 @ 24'		9:40																			
5	B604 @ 24'		10:34																			
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

Relinquished by: <u>W. Blust</u>	Date/Time: <u>11/21/23 2:37</u>	Received by: <u>J. W. L.</u>	Date/Time: <u>11/21/23 14:38</u>	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: <u>5.2</u>	Corrected Temperature	IR gun #:	<u>2</u>	HNO3 lot #:		



S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2311455Client: Quandary Client Project ID: Miller 14-17Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-------------------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 5.2 Thermometer # 2

	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 fire
If custody seals are present, are they intact? <sup>(1)</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 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.				

John W. L.

Custodian Printed Name

11/21/23 14:38

Date/Time



Quandary Consultants  
4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

**BG01@24'**  
**2311455-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/21/23 12:18**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGK1119	11/30/23	12/02/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/21/23 12:18**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	<b>0.596</b>	0.200	mg/kg dry	1	BGL0028	12/01/23	12/02/23	EPA 6020B	
Barium	<b>10.4</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	<b>0.425</b>	0.400	"	"	"	"	"	"	
Lead	<b>4.15</b>	0.200	"	"	"	"	"	"	
Nickel	<b>1.86</b>	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	<b>10.5</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/21/23 12:18**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK1080	11/29/23	12/01/23	EPA 7196A	

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

Date Sampled: **11/21/23 12:18**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	<b>19.8</b>	0.0500	mg/L dry	1	BGK1164	11/30/23	12/03/23	EPA 6020B	
Magnesium	<b>18.6</b>	0.0500	"	"	"	"	"	"	
Sodium	<b>99.4</b>	0.0500	"	"	"	"	"	"	

Summit Scientific

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Quandary Consultants  
4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

**BG01@24'**  
**2311455-01 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **11/21/23 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.85	0.00100	units	1	BGL0070	12/04/23	12/04/23	Calculation	

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

Date Sampled: **11/21/23 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.4		%	1	BGK1133	11/30/23	11/30/23	Calculation	

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

Date Sampled: **11/21/23 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.828	0.0100	mmhos/cm	1	BGL0003	12/01/23	12/04/23	EPA 120.1	

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

Date Sampled: **11/21/23 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.47		pH Units	1	BGL0001	12/01/23	12/04/23	EPA 9045D	

Summit Scientific

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Quandary Consultants  
4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

**BG02@24'**  
**2311455-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/21/23 11:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGK1119	11/30/23	12/02/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/21/23 11:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	<b>0.934</b>	0.200	mg/kg dry	1	BGL0028	12/01/23	12/02/23	EPA 6020B	
Barium	<b>32.8</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	<b>1.03</b>	0.400	"	"	"	"	"	"	
Lead	<b>5.76</b>	0.200	"	"	"	"	"	"	
Nickel	<b>2.60</b>	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	<b>14.4</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/21/23 11:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK1080	11/29/23	12/01/23	EPA 7196A	

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

Date Sampled: **11/21/23 11:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	<b>37.4</b>	0.0500	mg/L dry	1	BGK1164	11/30/23	12/03/23	EPA 6020B	
Magnesium	<b>28.6</b>	0.0500	"	"	"	"	"	"	
Sodium	<b>129</b>	0.0500	"	"	"	"	"	"	

Summit Scientific

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Quandary Consultants  
4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

**BG02@24'**  
**2311455-02 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **11/21/23 11:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.86	0.00100	units	1	BGL0070	12/04/23	12/04/23	Calculation	

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

Date Sampled: **11/21/23 11:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.7		%	1	BGK1133	11/30/23	11/30/23	Calculation	

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

Date Sampled: **11/21/23 11:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.22	0.0100	mmhos/cm	1	BGL0003	12/01/23	12/04/23	EPA 120.1	

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

Date Sampled: **11/21/23 11:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.87		pH Units	1	BGL0001	12/01/23	12/04/23	EPA 9045D	

Summit Scientific

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Quandary Consultants  
4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

**BG03@24'**  
**2311455-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/21/23 11:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGK1119	11/30/23	12/02/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/21/23 11:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	<b>0.768</b>	0.200	mg/kg dry	1	BGL0028	12/01/23	12/02/23	EPA 6020B	
Barium	<b>25.8</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	<b>1.14</b>	0.400	"	"	"	"	"	"	
Lead	<b>8.46</b>	0.200	"	"	"	"	"	"	
Nickel	<b>2.53</b>	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	<b>18.0</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/21/23 11:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK1080	11/29/23	12/01/23	EPA 7196A	

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

Date Sampled: **11/21/23 11:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	<b>18.4</b>	0.0500	mg/L dry	1	BGK1164	11/30/23	12/03/23	EPA 6020B	
Magnesium	<b>10.1</b>	0.0500	"	"	"	"	"	"	
Sodium	<b>50.6</b>	0.0500	"	"	"	"	"	"	

Summit Scientific

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Quandary Consultants  
4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

**BG03@24'**  
**2311455-03 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **11/21/23 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.35	0.00100	units	1	BGL0070	12/04/23	12/04/23	Calculation	

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

Date Sampled: **11/21/23 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.5		%	1	BGK1133	11/30/23	11/30/23	Calculation	

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

Date Sampled: **11/21/23 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.366	0.0100	mmhos/cm	1	BGL0003	12/01/23	12/04/23	EPA 120.1	

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

Date Sampled: **11/21/23 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.16		pH Units	1	BGL0001	12/01/23	12/04/23	EPA 9045D	

Summit Scientific

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Quandary Consultants  
4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

**BG05@24'**  
**2311455-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/21/23 09:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGK1119	11/30/23	12/02/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/21/23 09:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	1.16	0.200	mg/kg dry	1	BGL0028	12/01/23	12/02/23	EPA 6020B	
Barium	153	0.400	"	"	"	"	"	"	
Cadmium	0.319	0.200	"	"	"	"	"	"	
Copper	1.57	0.400	"	"	"	"	"	"	
Lead	12.3	0.200	"	"	"	"	"	"	
Nickel	2.96	0.400	"	"	"	"	"	"	
Silver	0.0365	0.0200	"	"	"	"	"	"	
Zinc	13.5	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/21/23 09:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK1080	11/29/23	12/01/23	EPA 7196A	

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

Date Sampled: **11/21/23 09:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	8.91	0.0500	mg/L dry	1	BGK1164	11/30/23	12/03/23	EPA 6020B	
Magnesium	7.60	0.0500	"	"	"	"	"	"	
Sodium	48.0	0.0500	"	"	"	"	"	"	

Summit Scientific

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Quandary Consultants  
4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

**BG05@24'**  
**2311455-04 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **11/21/23 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.85	0.00100	units	1	BGL0070	12/04/23	12/04/23	Calculation	

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

Date Sampled: **11/21/23 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.8		%	1	BGK1133	11/30/23	11/30/23	Calculation	

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

Date Sampled: **11/21/23 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.330	0.0100	mmhos/cm	1	BGL0003	12/01/23	12/04/23	EPA 120.1	

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

Date Sampled: **11/21/23 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.73		pH Units	1	BGL0001	12/01/23	12/04/23	EPA 9045D	

Summit Scientific

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Quandary Consultants  
4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

**BG04@24'**  
**2311455-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/21/23 10:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGK1119	11/30/23	12/02/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/21/23 10:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Arsenic</b>	<b>0.801</b>	0.200	mg/kg dry	1	BGL0028	12/01/23	12/02/23	EPA 6020B	
<b>Barium</b>	<b>190</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>0.879</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>8.17</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>2.43</b>	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>13.6</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/21/23 10:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK1080	11/29/23	12/01/23	EPA 7196A	

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

Date Sampled: **11/21/23 10:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Calcium</b>	<b>25.0</b>	0.0500	mg/L dry	1	BGK1164	11/30/23	12/03/23	EPA 6020B	
<b>Magnesium</b>	<b>9.14</b>	0.0500	"	"	"	"	"	"	
<b>Sodium</b>	<b>38.4</b>	0.0500	"	"	"	"	"	"	

Summit Scientific

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Quandary Consultants  
4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

**BG04@24'**  
**2311455-05 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **11/21/23 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.67	0.00100	units	1	BGL0070	12/04/23	12/04/23	Calculation	

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

Date Sampled: **11/21/23 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.9		%	1	BGK1133	11/30/23	11/30/23	Calculation	

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

Date Sampled: **11/21/23 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.306	0.0100	mmhos/cm	1	BGL0003	12/01/23	12/04/23	EPA 120.1	

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

Date Sampled: **11/21/23 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.65		pH Units	1	BGL0001	12/01/23	12/04/23	EPA 9045D	

Summit Scientific

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Quandary Consultants  
4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

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

**Summit Scientific**

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

**Batch BGK1119 - EPA 3050B**

**Blank (BGK1119-BLK1)**

Prepared: 11/30/23 Analyzed: 12/02/23

Boron ND 2.00 mg/L

**LCS (BGK1119-BS1)**

Prepared: 11/30/23 Analyzed: 12/02/23

Boron 5.16 2.00 mg/L 5.00 103 80-120

**Duplicate (BGK1119-DUP1)**

**Source: 2311431-01**

Prepared: 11/30/23 Analyzed: 12/02/23

Boron ND 2.00 mg/L ND 20

**Matrix Spike (BGK1119-MS1)**

**Source: 2311431-01**

Prepared: 11/30/23 Analyzed: 12/02/23

Boron 5.20 2.00 mg/L 5.00 ND 104 75-125

**Matrix Spike Dup (BGK1119-MSD1)**

**Source: 2311431-01**

Prepared: 11/30/23 Analyzed: 12/02/23

Boron 5.30 2.00 mg/L 5.00 ND 106 75-125 1.78 25

Summit Scientific

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Quandary Consultants  
4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

### Total Metals by EPA 6020B - Quality Control

#### Summit Scientific

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

#### Batch BGL0028 - EPA 3050B

##### Blank (BGL0028-BLK1)

Prepared: 12/01/23 Analyzed: 12/02/23

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"
Selenium	ND	0.260	"

##### LCS (BGL0028-BS1)

Prepared: 12/01/23 Analyzed: 12/02/23

Arsenic	44.0	0.200	mg/kg wet	40.0	110	80-120
Barium	43.7	0.400	"	40.0	109	80-120
Cadmium	2.10	0.200	"	2.00	105	80-120
Copper	42.0	0.400	"	40.0	105	80-120
Lead	20.1	0.200	"	20.0	101	80-120
Nickel	42.8	0.400	"	40.0	107	80-120
Silver	2.05	0.0200	"	2.00	103	80-120
Zinc	43.6	0.400	"	40.0	109	80-120
Selenium	4.06	0.260	"	4.00	102	80-120

##### Duplicate (BGL0028-DUP1)

Source: 2310194-07

Prepared: 12/01/23 Analyzed: 12/02/23

Arsenic	0.492	0.200	mg/kg dry	0.498	1.14	20
Barium	14.3	0.400	"	12.1	16.4	20
Cadmium	0.0451	0.200	"	0.0515	13.3	20
Copper	ND	0.400	"	ND		20
Lead	2.23	0.200	"	2.15	3.85	20
Nickel	0.745	0.400	"	0.687	8.09	20
Silver	0.0113	0.0200	"	0.0117	3.51	20
Zinc	3.73	0.400	"	3.19	15.5	20
Selenium	ND	0.260	"	ND		20

Summit Scientific

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Quandary Consultants  
4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BGL0028 - EPA 3050B**

**Matrix Spike (BGL0028-MS1)**

Source: 2310194-07

Prepared: 12/01/23 Analyzed: 12/02/23

Arsenic	22.0	0.200	mg/kg dry	40.2	0.498	53.6	75-125			QM-07
Barium	62.2	0.400	"	40.2	12.1	124	75-125			
Cadmium	2.17	0.200	"	2.01	0.0515	105	75-125			
Copper	20.8	0.400	"	40.2	ND	51.8	75-125			QM-07
Lead	20.9	0.200	"	20.1	2.15	93.3	75-125			
Nickel	21.4	0.400	"	40.2	0.687	51.6	75-125			QM-07
Silver	1.99	0.0200	"	2.01	0.0117	98.1	75-125			
Zinc	24.9	0.400	"	40.2	3.19	53.8	75-125			QM-07
Selenium	7.27	0.260	"	4.02	ND	181	75-125			QM-07

**Matrix Spike Dup (BGL0028-MSD1)**

Source: 2310194-07

Prepared: 12/01/23 Analyzed: 12/02/23

Arsenic	22.0	0.200	mg/kg dry	40.2	0.498	53.5	75-125	0.0146	25	QM-07
Barium	63.8	0.400	"	40.2	12.1	128	75-125	2.62	25	QM-07
Cadmium	2.24	0.200	"	2.01	0.0515	109	75-125	3.41	25	
Copper	21.0	0.400	"	40.2	ND	52.1	75-125	0.545	25	QM-07
Lead	21.7	0.200	"	20.1	2.15	97.3	75-125	3.76	25	
Nickel	21.6	0.400	"	40.2	0.687	52.0	75-125	0.931	25	QM-07
Silver	2.03	0.0200	"	2.01	0.0117	100	75-125	2.26	25	
Zinc	24.7	0.400	"	40.2	3.19	53.5	75-125	0.549	25	QM-07
Selenium	8.45	0.260	"	4.02	ND	210	75-125	15.1	25	QM-07

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Quandary Consultants  
4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BGK1080 - 3060A Mod**

**Blank (BGK1080-BLK1)**

Prepared: 11/29/23 Analyzed: 12/01/23

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BGK1080-BS1)**

Prepared: 11/29/23 Analyzed: 12/01/23

Chromium, Hexavalent 25.0 0.30 mg/kg wet 25.0 100 80-120

**Duplicate (BGK1080-DUP1)**

**Source: 2311455-01**

Prepared: 11/29/23 Analyzed: 12/01/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BGK1080-MS1)**

**Source: 2311455-01**

Prepared: 11/29/23 Analyzed: 12/01/23

Chromium, Hexavalent 28.9 0.30 mg/kg dry 28.9 ND 99.8 75-125

**Matrix Spike Dup (BGK1080-MSD1)**

**Source: 2311455-01**

Prepared: 11/29/23 Analyzed: 12/01/23

Chromium, Hexavalent 28.8 0.30 mg/kg dry 28.9 ND 99.4 75-125 0.402 20

Summit Scientific

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4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

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

**Summit Scientific**

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

**Batch BGK1164 - General Preparation**

**Blank (BGK1164-BLK1)**

Prepared: 11/30/23 Analyzed: 12/03/23

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

**LCS (BGK1164-BS1)**

Prepared: 11/30/23 Analyzed: 12/03/23

Calcium	5.19	0.0500	mg/L wet	5.00	104	70-130
Magnesium	5.55	0.0500	"	5.00	111	70-130
Sodium	5.78	0.0500	"	5.00	116	70-130

Summit Scientific

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Quandary Consultants  
4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

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

**Summit Scientific**

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

**Batch BGK1133 - General Preparation**

**Duplicate (BGK1133-DUP1)**

**Source: 2311455-01**

**Prepared & Analyzed: 11/30/23**

% Solids	86.1	%	86.4	0.318	20
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Quandary Consultants  
4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

**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 BGL0003 - General Preparation**

**Blank (BGL0003-BLK1)**

Prepared: 12/01/23 Analyzed: 12/04/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGL0003-BS1)**

Prepared: 12/01/23 Analyzed: 12/04/23

Specific Conductance (EC) 0.157 0.0100 mmhos/cm 0.150 104 95-105

**Duplicate (BGL0003-DUP1)**

**Source: 2311455-01**

Prepared: 12/01/23 Analyzed: 12/04/23

Specific Conductance (EC) 0.828 0.0100 mmhos/cm 0.828 0.00 20

Summit Scientific

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Quandary Consultants  
4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

**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 BGL0001 - General Preparation**

**LCS (BGL0001-BS1)**

Prepared: 12/01/23 Analyzed: 12/04/23

pH	9.00	pH Units	9.18	98.0	95-105
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**Duplicate (BGL0001-DUP1)**

Source: 2311455-01

Prepared: 12/01/23 Analyzed: 12/04/23

pH	8.47	pH Units	8.47	0.00	20
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Summit Scientific

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Quandary Consultants  
4480 Garfield St  
Denver CO, 80237

Project: Civitas - Miller 14-17

Project Number: [none]  
Project Manager: Patrick Lawer

**Reported:**  
12/05/23 11:59

### Notes and Definitions

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



January 29, 2024

**Quandary Consultants**

**Mike Dinkel**

**2252 Emerson St.**

**Denver**

**CO 80205**

**Project Name - Civitas - Miller 14-17, 4-17J**

**Project Number - [none]**

Attached are your analytical results for Civitas - Miller 14-17, 4-17J received by Origins Laboratory, Inc. January 18, 2024. This project is associated with Origins project number Y401416-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.  
303.433.1322  
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1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645



Quandary Consultants  
2252 Emerson St.  
Denver CO 80205

Mike Dinkel  
Project Number: [none]  
Project: Civitas - Miller 14-17, 4-17J

**CROSS REFERENCE REPORT**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
E03R@22'	Y401416-01	Soil	January 18, 2024 9:38	01/18/2024 14:34
N02R@22'	Y401416-02	Soil	January 18, 2024 9:30	01/18/2024 14:34
N01R@22'	Y401416-03	Soil	January 18, 2024 9:16	01/18/2024 14:34
B07R@24'	Y401416-04	Soil	January 18, 2024 9:23	01/18/2024 14:34
W01R@22'	Y401416-05	Soil	January 18, 2024 9:37	01/18/2024 14:34
W02R@22'	Y401416-06	Soil	January 18, 2024 9:51	01/18/2024 14:34
W03R@22'	Y401416-07	Soil	January 18, 2024 10:10	01/18/2024 14:34
W04R@22'	Y401416-08	Soil	January 18, 2024 10:20	01/18/2024 14:34
S01R@22'	Y401416-09	Soil	January 18, 2024 10:14	01/18/2024 14:34
S02R@22'	Y401416-10	Soil	January 18, 2024 10:02	01/18/2024 14:34
S03R@22'	Y401416-11	Soil	January 18, 2024 9:57	01/18/2024 14:34

Origins Laboratory, Inc.



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

Quandary Consultants  
2252 Emerson St.  
Denver CO 80205

Mike Dinkel  
Project Number: [none]  
Project: Civitas - Miller 14-17, 4-17J

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4401410

**ORIGINS**  
LABORATORY, INC

page of

Client: Civitas  
Address: 650 Southgate  
Windsor, CO  
Telephone Number: 788-691-7788  
Email Address: mdinkel@quandaryconsultants.com

Project Manager: Mike Dinkel  
Project Name: Miller 14-17, 4-17J  
Project Number: Invoice J. Evans  
Samples Collected By: M. Dinkel

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis		Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air/Summit	Other	Aspenic	
E03R @ 22'	1-18-24	0933	1	X						X			1
N12R @ 22'		0940											2
N01R @ 22'		0916											3
B07R @ 24'		0923											4
W01R @ 23'		0937											5
W02R @ 22'		0951											6
W03R @ 22'		1010											7
W04R @ 22'		1020											8
S01R @ 22'		1014											9
S02R @ 22'		1602											10
Relinquished By:	Date: 1-18-24	Time: 1434		Received By:	Date: 1-18-24	Time: 1434		Received By:	Date: 1-18-24	Time: 1434		Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input checked="" type="checkbox"/> Standard	

Date Results Needed

Temp Received- 2

Origins Laboratory, Inc.

*J. Bynon*

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Quandary Consultants  
2252 Emerson St.  
Denver CO 80205

Mike Dinkel  
Project Number: [none]  
Project: Civitas - Miller 14-17, 4-17J

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page 2 of 3

Client: Civitas  
Address: 650 Southgate  
Windsor, CO  
Telephone Number: 785-611-7788  
Email Address: mdinkel@quandaryconsultants.com

Project Manager: Mike Dinkel  
Project Name: Miller 14-17, 4-17J  
Project Number: Invoice J. Evans  
Samples Collected By: M. Dinkel

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis			Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summation	Other	Arsenic	PH	
803A @ 22'	1-18-23	0957	1	C					X				X	
Relinquished By: <u>[Signature]</u>	Date: <u>1-18-23</u>	Time: <u>1434</u>						Received By: <u>[Signature]</u>	Date: <u>1-19-24</u>	Time: <u>1424</u>			Turnaround Time: <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input checked="" type="checkbox"/> Standard	
Relinquished By:	Date:	Time:						Received By:	Date:	Time:				

1725 Elk Place

Denver, CO 80211

Phone: 303.433.1322

Fax: 303.265.9645

Temp Received: 2

Date Results Needed: 2

Origins Laboratory, Inc.

*J. Bynon*

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.

Quandary Consultants

2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

Origins Laboratory

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

### Sample Receipt Checklist

Origins Work Order: 14014112

Client: Quandary

Client Project ID: Miller 14-17

Checklist Completed by: FOOT EXS

Shipped Via: HL

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

Date/time completed: 1/18/24

Airbill #: N/A

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

Cooler Number/Temperature: 1, 2 °C 1 °C 1 °C (Describe) °C

Thermometer ID: T004

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

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

Reviewed by (Project Manager) [Signature]

Date/Time Reviewed 1/19/24

Origins Laboratory, Inc.

[Signature]

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



Quandary Consultants

2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

E03R@22'

1/18/2024 9:38:00AM

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

Y401416-01 (Soil)

### Metals by Saturated Paste by EPA 6010

Calcium	4.08	0.499	meq/L	10	[CALC]	ACC	01/22/2024	01/23/2024
Magnesium	3.22	0.823	"	"	"	ACC	"	"
Sodium	38.0	0.435	"	"	"	ACC	"	"

### SAR by 20B Saturated Paste

SAR	19.9	0.0100	SAR	1	B4A2206	ACC	"	"
-----	------	--------	-----	---	---------	-----	---	---

### Table 915 metals by EPA 6020B

Arsenic	5.10	0.0973	mg/kg	10	B4A1829	JAH	01/18/2024	01/19/2024
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Origins Laboratory, Inc.



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

Quandary Consultants

2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

N02R@22'

1/18/2024 9:30:00AM

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

Y401416-02 (Soil)

## Table 915 metals by EPA 6020B

Arsenic	4.49	0.0914	mg/kg	10	B4A1829	JAH	01/18/2024	01/19/2024
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Origins Laboratory, Inc.



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

Quandary Consultants

2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

N01R@22'

1/18/2024 9:16:00AM

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

Y401416-03 (Soil)

## Metals by Saturated Paste by EPA 6010

Calcium	5.03	0.499	meq/L	10	[CALC]	ACC	01/22/2024	01/23/2024
Magnesium	6.32	0.823	"	"	"	ACC	"	"
Sodium	28.1	0.435	"	"	"	ACC	"	"

## SAR by 20B Saturated Paste

SAR	11.8	0.0100	SAR	1	B4A2206	ACC	"	"
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## Table 915 metals by EPA 6020B

Arsenic	3.01	0.0986	mg/kg	10	B4A1829	JAH	01/18/2024	01/19/2024
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Origins Laboratory, Inc.



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



Quandary Consultants

2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

B07R@24'

1/18/2024 9:23:00AM

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

Y401416-04 (Soil)

## Metals by Saturated Paste by EPA 6010

Calcium	5.40	0.499	meq/L	10	[CALC]	ACC	01/22/2024	01/23/2024
Magnesium	8.24	0.823	"	"	"	ACC	"	"
Sodium	31.0	0.435	"	"	"	ACC	"	"

## SAR by 20B Saturated Paste

SAR	11.9	0.0100	SAR	1	B4A2206	ACC	"	"
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## Table 915 metals by EPA 6020B

Arsenic	4.42	0.0910	mg/kg	10	B4A1829	JAH	01/18/2024	01/19/2024
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Origins Laboratory, Inc.



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Quandary Consultants

2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

W01R@22'

1/18/2024 9:37:00AM

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

Y401416-05 (Soil)

## Metals by Saturated Paste by EPA 6010

Calcium	2.27	0.499	meq/L	10	[CALC]	ACC	01/22/2024	01/23/2024
Magnesium	3.47	0.823	"	"	"	ACC	"	"
Sodium	22.2	0.435	"	"	"	ACC	"	"

## SAR by 20B Saturated Paste

SAR	13.1	0.0100	SAR	1	B4A2206	ACC	"	"
-----	------	--------	-----	---	---------	-----	---	---

## Table 915 metals by EPA 6020B

Arsenic	5.20	0.0869	mg/kg	10	B4A1829	JAH	01/18/2024	01/19/2024
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Origins Laboratory, Inc.



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Quandary Consultants

2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

W02R@22'

1/18/2024 9:51:00AM

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

Y401416-06 (Soil)

## Metals by Saturated Paste by EPA 6010

Calcium	2.58	0.499	meq/L	10	[CALC]	ACC	01/22/2024	01/23/2024
Magnesium	3.64	0.823	"	"	"	ACC	"	"
Sodium	32.7	0.435	"	"	"	ACC	"	"

## SAR by 20B Saturated Paste

SAR	18.5	0.0100	SAR	1	B4A2206	ACC	"	"
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## Table 915 metals by EPA 6020B

Arsenic	5.26	0.0869	mg/kg	10	B4A1829	JAH	01/18/2024	01/19/2024
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Origins Laboratory, Inc.



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

Quandary Consultants

2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

W03R@22'

1/18/2024 10:10:00AM

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

Y401416-07 (Soil)

## pH in Soil by 9045D

pH	9.07		pH Units	1	B4A2010	ACN	01/20/2024	01/21/2024
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## Table 915 metals by EPA 6020B

Arsenic	12.8	0.0977	mg/kg	10	B4A1829	JAH	01/18/2024	01/19/2024
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Origins Laboratory, Inc.



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Quandary Consultants

2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

W04R@22'

1/18/2024 10:20:00AM

Analyte	Result	Reporting	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y401416-08 (Soil)

**pH in Soil by 9045D**

pH	9.19	pH Units	1	B4A2010	ACN	01/20/2024	01/21/2024
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Origins Laboratory, Inc.



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2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

S01R@22'

1/18/2024 10:14:00AM

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

Y401416-09 (Soil)

## pH in Soil by 9045D

pH	9.18		pH Units	1	B4A2010	ACN	01/20/2024	01/21/2024
----	------	--	----------	---	---------	-----	------------	------------

## Table 915 metals by EPA 6020B

Arsenic	3.58	0.0891	mg/kg	10	B4A1829	JAH	01/18/2024	01/19/2024
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Origins Laboratory, Inc.



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Quandary Consultants

2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

S02R@22'

1/18/2024 10:02:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
Y401416-10 (Soil)

**pH in Soil by 9045D**

pH	8.79		pH Units	1	B4A2010	ACN	01/20/2024	01/21/2024
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**Table 915 metals by EPA 6020B**

Arsenic	3.24	0.0942	mg/kg	10	B4A1829	JAH	01/18/2024	01/19/2024
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Origins Laboratory, Inc.



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Quandary Consultants

2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

S03R@22'

1/18/2024 9:57:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
---------	--------	--------------------	-------	----------	-------	---------	----------	----------	-------

Origins Laboratory, Inc.

Y401416-11 (Soil)

## pH in Soil by 9045D

pH	8.93		pH Units	1	B4A2010	ACN	01/20/2024	01/21/2024
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## Table 915 metals by EPA 6020B

Arsenic	3.44	0.0935	mg/kg	10	B4A1829	JAH	01/18/2024	01/19/2024
---------	------	--------	-------	----	---------	-----	------------	------------

Origins Laboratory, Inc.



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Quandary Consultants

2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

## Metals by EPA 6000/7000 Series Methods - Quality Control

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B4A1829 - EPA 3050B</b>										
<b>Blank (B4A1829-BLK1)</b>					Prepared: 01/18/2024 Analyzed: 01/19/2024					
Arsenic	ND	0.0100	mg/kg							
<b>LCS (B4A1829-BS1)</b>					Prepared: 01/18/2024 Analyzed: 01/19/2024					
Arsenic	4.95	0.0100	mg/kg	5.00		99.0	80-120			
<b>Matrix Spike (B4A1829-MS1)</b>		<b>Source: Y401419-01</b>			Prepared: 01/18/2024 Analyzed: 01/19/2024					
Arsenic	7.36	0.0892	mg/kg	4.46	2.81	102	75-125			
<b>Matrix Spike Dup (B4A1829-MSD1)</b>		<b>Source: Y401419-01</b>			Prepared: 01/18/2024 Analyzed: 01/19/2024					
Arsenic	7.55	0.0877	mg/kg	4.39	2.81	108	75-125	2.56	20	

Origins Laboratory, Inc.



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

Quandary Consultants  
2252 Emerson St.  
Denver CO 80205

Mike Dinkel  
Project Number: [none]  
Project: Civitas - Miller 14-17, 4-17J

**Classical Chemistry Parameters - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B4A2206 - Saturated Paste Metals</b>										
<b>Blank (B4A2206-BLK1)</b>					Prepared: 01/22/2024 Analyzed: 01/23/2024					
SAR	ND	0.0100	SAR							
Calcium PPM	ND	10.0	mg/L							
Magnesium PPM	ND	10.0	"							
Sodium PPM	ND	10.0	"							
<b>Duplicate (B4A2206-DUP1)</b>					<b>Source: Y401440-01</b>		Prepared: 01/22/2024 Analyzed: 01/23/2024			
SAR	ND	0.0100	SAR		5.60				200	
Calcium PPM	12.6	10.0	mg/L		11.2			11.9	50	
Magnesium PPM	2.34	10.0	"		2.06			12.7	50	
Sodium PPM	84.8	10.0	"		77.7			8.70	50	

Origins Laboratory, Inc.



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Quandary Consultants  
2252 Emerson St.  
Denver CO 80205

Mike Dinkel  
Project Number: [none]  
Project: Civitas - Miller 14-17, 4-17J

**Saturated Paste - Quality Control**  
**Origins Laboratory, Inc.**

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

**Batch B4A2010 - Saturated Paste pH/EC**

<b>Duplicate (B4A2010-DUP1)</b>		<b>Source: Y401408-04</b>			Prepared: 01/20/2024 Analyzed: 01/21/2024					
pH	8.17		pH Units		8.16			0.122	25	

Origins Laboratory, Inc.



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Quandary Consultants

2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

### Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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



January 30, 2024

**Quandary Consultants**

**Mike Dinkel**

**2252 Emerson St.**

**Denver**

**CO 80205**

**Project Name - Civitas - Miller 14-17, 4-17J**

**Project Number - [none]**

Attached are your analytical results for Civitas - Miller 14-17, 4-17J received by Origins Laboratory, Inc. January 19, 2024. This project is associated with Origins project number Y401482-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.  
303.433.1322  
o-squad@oelabinc.com



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

Quandary Consultants

2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B08R@24'	Y401482-01	Soil	January 18, 2024 10:00	01/19/2024 16:15

Origins Laboratory, Inc.



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



Quandary Consultants  
2252 Emerson St.  
Denver CO 80205

Mike Dinkel  
Project Number: [none]  
Project: Civitas - Miller 14-17, 4-17J

www.originslaboratory.com

Y401482

page 1 of 1

**ORIGINS**  
LABORATORY, INC

Client: Civitas Project Manager: Mike Dinkel  
Address: 650 Wabasha St. Southgate Project Name: Miller 14-17, 4-17J  
Windsor, CO Project Number: Invoice Jacob Evans  
Telephone Number: 785.641.2798 Samples Collected By: Mike Dinkel  
Email Address: mdinkel@quandaryconsultants.com

Sample ID Description	Date Sampled	Time Sampled	Preservative				Matrix			Analysis		Sample Instructions
			Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa	Other		
009R.024	1-18-24	1000	X					X				1
												2
												3
												4
												5
												6
												7
												8
												9
												10

Relinquished By: <u>[Signature]</u>	Date: <u>1-18-24</u>	Time: <u>1615</u>	Received By: <u>[Signature]</u>	Date: <u>11/19/24</u>	Time: <u>1015</u>
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Turnaround Time:	Some Day <input type="checkbox"/>	24 Hr <input type="checkbox"/>
	48 Hr <input type="checkbox"/>	72 Hr <input type="checkbox"/>
	Standard <input checked="" type="checkbox"/>	

Date Results Needed

Temp Received: 4

Origins Laboratory, Inc.

*J. Bynon*

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Quandary Consultants  
2252 Emerson St.  
Denver CO 80205

Mike Dinkel  
Project Number: [none]  
Project: Civitas - Miller 14-17, 4-17J

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: 1401482 Client: Quandary  
Client Project ID: Miller 14-17, 4-17  
Checklist Completed by: TST/ELH Shipped Via: HL  
Date/time completed: 1/19/24 (UPS, FedEx, Hand Delivered, Pick-up, etc.)  
Airbill #: N/A  
Matrix(s) Received: (Check all that apply): X Soil/Solid      Water      Other:      (Describe)  
Cooler Number/Temperature: 1, 4 °C      °C      °C      °C  
Thermometer ID: T004

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (If so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (If so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact <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"/>	
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely <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"/>	
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH >10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)	<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 date, time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by (Project Manager)

Date/Time Reviewed 1/23/24

Origins Laboratory, Inc.

*J. Bynon*

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Quandary Consultants

2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

B08R@24'

1/18/2024 10:00:00AM

Analyte	Result	Reporting	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y401482-01 (Soil)

## Table 915 metals by EPA 6020B

Arsenic	4.33	0.0872	mg/kg	10	B4A1940	HJD	01/22/2024	01/25/2024
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Origins Laboratory, Inc.



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Quandary Consultants  
2252 Emerson St.  
Denver CO 80205

Mike Dinkel  
Project Number: [none]  
Project: Civitas - Miller 14-17, 4-17J

**Metals by EPA 6000/7000 Series Methods - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B4A1940 - EPA 3050B</b>										
<b>Blank (B4A1940-BLK1)</b>					Prepared: 01/19/2024 Analyzed: 01/25/2024					
Arsenic	ND	0.0100	mg/kg							
<b>LCS (B4A1940-BS1)</b>					Prepared: 01/19/2024 Analyzed: 01/25/2024					
Arsenic	5.24	0.0100	mg/kg	5.00		105	80-120			
<b>Matrix Spike (B4A1940-MS1)</b>		<b>Source: Y401476-08</b>			Prepared: 01/19/2024 Analyzed: 01/25/2024					
Arsenic	9.42	0.0961	mg/kg	4.80	3.95	114	75-125			
<b>Matrix Spike Dup (B4A1940-MSD1)</b>		<b>Source: Y401476-08</b>			Prepared: 01/19/2024 Analyzed: 01/25/2024					
Arsenic	8.06	0.0877	mg/kg	4.39	3.95	93.7	75-125	15.5	20	

Origins Laboratory, Inc.



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---

Quandary Consultants

2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

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### Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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





January 30, 2024

**Quandary Consultants**

**Mike Dinkel**

**2252 Emerson St.**

**Denver**

**CO 80205**

**Project Name - Civitas - Miller 14-17, 4-17J**

**Project Number - [none]**

Attached are your analytical results for Civitas - Miller 14-17, 4-17J received by Origins Laboratory, Inc. January 19, 2024. This project is associated with Origins project number Y401482-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.  
303.433.1322  
o-squad@oelabinc.com



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

Quandary Consultants

2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B08R@24'	Y401482-01	Soil	January 18, 2024 10:00	01/19/2024 16:15

Origins Laboratory, Inc.



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Quandary Consultants  
2252 Emerson St.  
Denver CO 80205

Mike Dinkel  
Project Number: [none]  
Project: Civitas - Miller 14-17, 4-17J

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Y401482

page 1 of 1

# ORIGINS

LABORATORY, INC

Client: Civitas Project Manager: Mike Dinkel  
Address: 650 Cambridge Southgate Project Name: Miller 14-17, 4-17J  
Windsor, CO Project Number: Invoice Jacob Evans  
Telephone Number: 785-641-2798 Samples Collected By: Mike Dinkel  
Email Address: mdinkel@quandaryconsultants.com

Sample ID Description	Date Sampled	Time Sampled	Preservative				Matrix			Analysis		Sample Instructions
			Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa	Other		
009R.024	1-18-24	1000	X					X				1
												2
												3
												4
												5
												6
												7
												8
												9
												10

Relinquished By: <u>[Signature]</u>	Date: <u>1-18-24</u>	Time: <u>1615</u>	Received By: <u>[Signature]</u>	Date: <u>11/19/24</u>	Time: <u>1015</u>
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Turnaround Time:	Some Day <input type="checkbox"/>	24 Hr <input type="checkbox"/>
	48 Hr <input type="checkbox"/>	72 Hr <input type="checkbox"/>
	Standard <input checked="" type="checkbox"/>	

Date Results Needed

4

Temp Received:

Origins Laboratory, Inc.

*J. Bynon*

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.

Quandary Consultants  
2252 Emerson St.  
Denver CO 80205

Mike Dinkel  
Project Number: [none]  
Project: Civitas - Miller 14-17, 4-17J

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: 1401482 Client: Quandary  
Client Project ID: Miller 14-17, 4-17  
Checklist Completed by: TST/ELH Shipped Via: HL  
Date/time completed: 1/19/24 (UPS, FedEx, Hand Delivered, Pick-up, etc.)  
Airbill #: N/A  
Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: \_\_\_\_\_  
(Describe)  
Cooler Number/Temperature: 1, 4 °C 1 °C 1 °C 1 °C  
Thermometer ID: T004

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (If so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (If so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact <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"/>	
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely <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"/>	
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Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH >10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)	<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 date, time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by (Project Manager)

Date/Time Reviewed 1/23/24

Origins Laboratory, Inc.

*J. Bynon*

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Quandary Consultants

2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

B08R@24'

1/18/2024 10:00:00AM

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

Y401482-01 (Soil)

## Table 915 metals by EPA 6020B

Arsenic	4.33	0.0872	mg/kg	10	B4A1940	HJD	01/22/2024	01/25/2024
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Origins Laboratory, Inc.



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Denver CO 80205

Mike Dinkel  
Project Number: [none]  
Project: Civitas - Miller 14-17, 4-17J

**Metals by EPA 6000/7000 Series Methods - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B4A1940 - EPA 3050B</b>										
<b>Blank (B4A1940-BLK1)</b>					Prepared: 01/19/2024 Analyzed: 01/25/2024					
Arsenic	ND	0.0100	mg/kg							
<b>LCS (B4A1940-BS1)</b>					Prepared: 01/19/2024 Analyzed: 01/25/2024					
Arsenic	5.24	0.0100	mg/kg	5.00		105	80-120			
<b>Matrix Spike (B4A1940-MS1)</b>		<b>Source: Y401476-08</b>			Prepared: 01/19/2024 Analyzed: 01/25/2024					
Arsenic	9.42	0.0961	mg/kg	4.80	3.95	114	75-125			
<b>Matrix Spike Dup (B4A1940-MSD1)</b>		<b>Source: Y401476-08</b>			Prepared: 01/19/2024 Analyzed: 01/25/2024					
Arsenic	8.06	0.0877	mg/kg	4.39	3.95	93.7	75-125	15.5	20	

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Quandary Consultants

2252 Emerson St.

Denver CO 80205

Mike Dinkel

Project Number: [none]

Project: Civitas - Miller 14-17, 4-17J

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### Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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