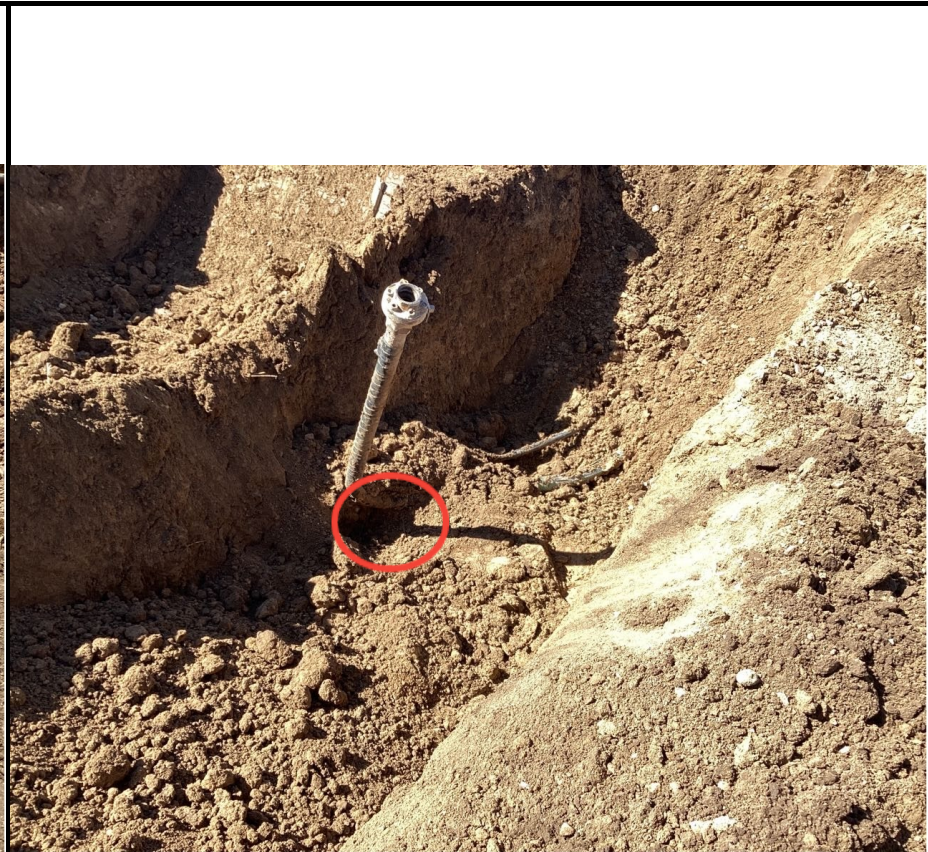
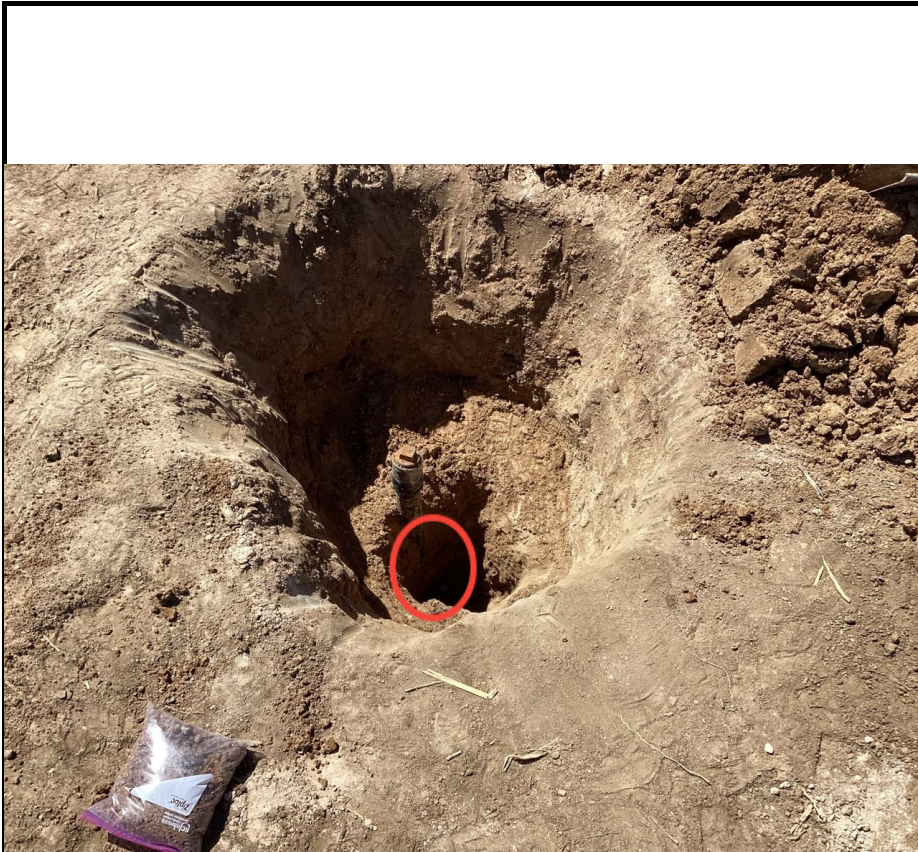




<b>SITE NAME:</b> Firestien 30-13 Flowline							<b>DATE:</b> 5/16/2024	<b>REM. PROJECT #:</b> 33051	<b>WEATHER:</b> 70s sunny		
<b>SITE DIRECTIONS:</b> CR64.5 & CR27, 0.3 N, W into							<b>CLIENT:</b> Noble				
<b>LEGALS AND LAT/LONG:</b> 40.460920, 104.81867							<b>TASMAN PERSONNEL:</b> GS				
<b>SOIL TYPES:</b> Poorly Graded Sand - SP							<b>SURFACE GRADIENT:</b> Southeast				
SOIL SAMPLING							FACILITY INFRASTRUCTURE				
Date/Time	Soil Sample ID	PID (ppm)	Visual	Olfactory	Photo?	Grab or Lab Sample?	EQUIPMENT	Quantity	Photo?		
							Above Ground Storage Tank (AST)				
5/16/2024 11:03	FL01R-W@4'	0.0	No Staining	No Odor	Yes	Lab	Buried or Partially Buried Vessel				
5/17/2024 10:08	FL01R-S@3'	0.0	No Staining	No Odor	Yes	Lab	Separator				
							Emission Control Device (ECD)				
							Dump Line				
							Wellhead				
							Flowline	1	✓		
							Other:				
							Soil Loads Removed				
							IMPACTED SOIL IDENTIFIED?				
							ESTIMATED VOLUME OF IMPACTS:				
							Date	Number	CY		
							Total Removed	0	0		
							Disposal Facility:				
							Groundwater Recovery				
							DATE GW ENCOUNTERED:			DEPTH:	
							GROUNDWATER IN CONTACT WITH IMPACTED SOIL?				
							LNAPL OR SHEEN OBSERVED ON GW?				
GROUNDWATER SAMPLING							Date	BBLs			
Date/Time	Groundwater Sample ID	Depth Collected	Turbid?	Sheen?	Odor?	Photo?					
							Total Removed	0			
							Disposal Facility:				




**Equipment ID:** FL01R-W

**Equipment Type:** Flowline

**Material:** Steel

**Volume:**
**Contents:** Oil/Gas/Water

**Notes/Conditions:**
**Equipment ID:** FL01R-S

**Equipment Type:** Flowline

**Material:** Steel

**Volume:**
**Contents:** Oil/Gas/Water

**Notes/Conditions:**



<b>SITE NAME:</b> Firestien 30-13 TB							<b>DATE:</b> 5/16/2024	<b>REM. PROJECT #:</b> 33311	<b>WEATHER:</b> 70s sunny		
<b>SITE DIRECTIONS:</b> CR64.5 & CR27, 0.3 N, W into							<b>CLIENT:</b> Noble				
<b>LEGALS AND LAT/LONG:</b> 40.464157, -104.816643 NWNE S30 T6N R66W M6							<b>TASMAN PERSONNEL:</b> GS				
<b>SOIL TYPES:</b> Poorly Graded Sand - SP							<b>SURFACE GRADIENT:</b> Southeast				
SOIL SAMPLING							FACILITY INFRASTRUCTURE				
Date/Time	Soil Sample ID	PID (ppm)	Visual	Olfactory	Photo?	Grab or Lab Sample?	EQUIPMENT	Quantity	Photo?		
							Above Ground Storage Tank (AST)	2	✓		
5/16/2024 10:10	AST01 @ 0-6"	0.1	No Staining	No Odor	Yes	Lab	Buried or Partially Buried Vessel	2	✓		
5/16/2024 10:32	MH01 @ 0-6"	0.0	No Staining	No Odor	Yes	Grab	Separator	1	✓		
5/16/2024 11:18	AST02 @ 0-6"	0.0	No Staining	No Odor	Yes	Lab	Emission Control Device (ECD)	2	✓		
5/16/2024 14:30	PWV01-B @ 4'	0.4	No Staining	No Odor	Yes	Lab	Dump Line	1	✓		
5/16/2024 14:32	PWV01-W @ 2.5'	0.0	No Staining	No Odor	Yes	On-hold	Wellhead				
5/16/2024 14:34	PWV01-N @ 2.5'	3.9	No Staining	No Odor	Yes	Lab	Flowline	1	✓		
5/16/2024 14:36	PWV01-E @ 2.5'	0.2	No Staining	No Odor	Yes	On-hold	Other:				
5/16/2024 14:38	PWV02-B @ 4'	7.2	No Staining	No Odor	Yes	Lab	Soil Loads Removed				
5/16/2024 14:40	PWV02-W @ 2.5'	0.0	No Staining	No Odor	Yes	On-hold	IMPACTED SOIL IDENTIFIED?				
5/16/2024 14:42	PWV02-S @ 2.5'	0.0	No Staining	No Odor	Yes	On-hold	ESTIMATED VOLUME OF IMPACTS:				
5/16/2024 14:44	PWV02-E @ 2.5'	65.1	No Staining	No Odor	Yes	Lab	Date	Number	CY		
5/17/2024 09:32	FLARE01 @ 0-6"	0.0	No Staining	No Odor	Yes	Grab					
5/17/2024 09:34	GS01 @ 0-6"	0.1	No Staining	No Odor	Yes	Grab					
5/17/2024 09:36	FLARE02 @ 0-6"	0.3	No Staining	No Odor	Yes	Grab					
5/17/2024 10:04	SEP01-DL @ 3'	8.2	No Staining	No Odor	Yes	Lab	Total Removed	0	0		
							Disposal Facility:				
5/17/2024 11:40	BKG01 @ 0-6"	0.0	No Staining	No Odor	Yes	Lab	Groundwater Recovery				
5/17/2024 11:42	BKG01 @ 2.5'	0.1	No Staining	No Odor	Yes	Lab	DATE GW ENCOUNTERED:	DEPTH:			
5/17/2024 11:44	BKG01 @ 3'	0.0	No Staining	No Odor	Yes	Lab	GROUNDWATER IN CONTACT WITH IMPACTED SOIL?				
5/17/2024 11:46	BKG01 @ 4'	0.0	No Staining	No Odor	Yes	Lab					
							LNAPL OR SHEEN OBSERVED ON GW?				
GROUNDWATER SAMPLING							Date	BBLs			
Date/Time	Groundwater Sample ID	Depth Collected	Turbid?	Sheen?	Odor?	Photo?					
							Total Removed	0			
							Disposal Facility:				





<b>Equipment ID:</b> AST01		<b>Equipment Type:</b>	
<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>	
<b>Notes/Conditions:</b>			

<b>Equipment ID:</b> MH01		<b>Equipment Type:</b>	
<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>	
<b>Notes/Conditions:</b>			



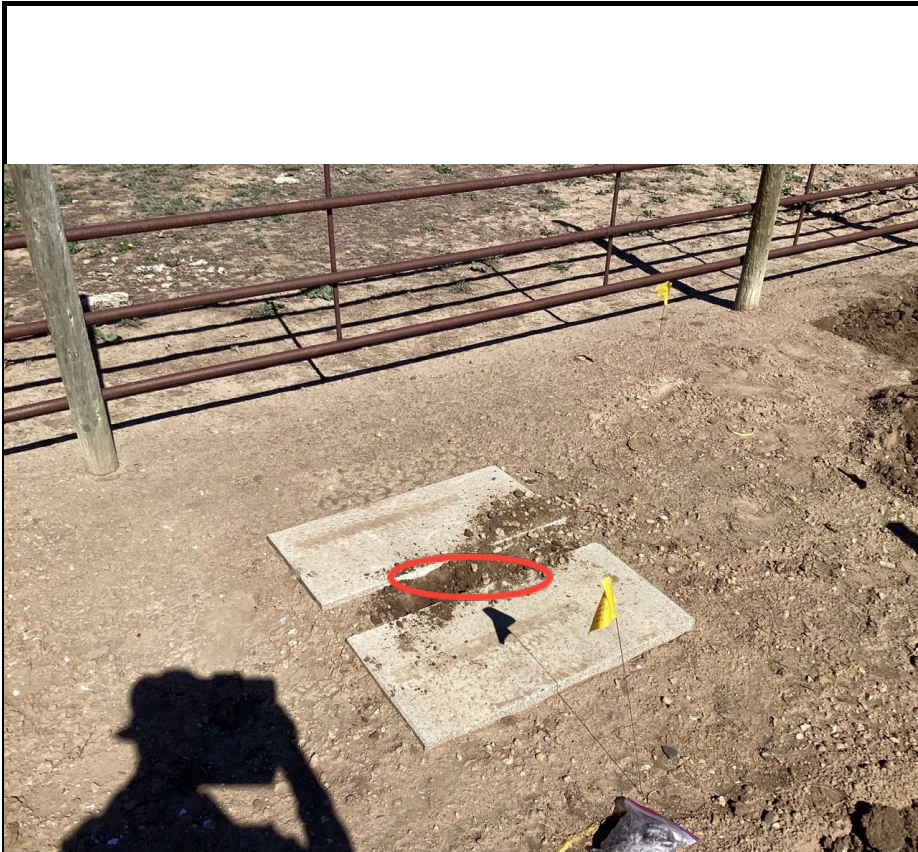
<b>Equipment ID:</b> AST02		<b>Equipment Type:</b>	
<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>	
<b>Notes/Conditions:</b>			

<b>Equipment ID:</b> PWV01 (W, N, E, B)		<b>Equipment Type:</b>	
<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>	
<b>Notes/Conditions:</b>			



<b>Equipment ID:</b> PWV02 (E, S, W, B)		<b>Equipment Type:</b>	
<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>	
<b>Notes/Conditions:</b>			

<b>Equipment ID:</b> FLARE01		<b>Equipment Type:</b>	
<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>	
<b>Notes/Conditions:</b>			



<b>Equipment ID:</b> GS01		<b>Equipment Type:</b>	
<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>	
<b>Notes/Conditions:</b>			

<b>Equipment ID:</b> FLARE02		<b>Equipment Type:</b>	
<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>	
<b>Notes/Conditions:</b>			



<b>Equipment ID:</b> SEP01-DL		<b>Equipment Type:</b>		<b>Equipment ID:</b>		<b>Equipment Type:</b>	
<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>		<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>	
<b>Notes/Conditions:</b>				<b>Notes/Conditions:</b>			



<b>Equipment ID:</b> BKG01		<b>Equipment Type:</b>	
<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>	
<b>Notes/Conditions:</b>			

<b>Equipment ID:</b>		<b>Equipment Type:</b>	
<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>	
<b>Notes/Conditions:</b> Dumpline removal			



<b>Equipment ID:</b>		<b>Equipment Type:</b>	
<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>	
<b>Notes/Conditions:</b> Site photo taken from South			

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

**TABLE 1**  
**FIELD DATA SUMMARY TABLE**  
**NOBLE ENERGY, INC. - 100322**  
**FIRESTEIN 30-13 WELLHEAD AND FLOWLINE, WELD COUNTY, COLORADO**  
**REM # 33051**

Sample ID	Sample Date	Depth (ft. bgs)	GPS Data Latitude/Longitude		PDOP Value	VOC Concentration (ppm)
FL01R-W@4'	5/16/2024	4	40.460914	-104.818683	0.9	0.0
FL01R-S@3'	5/17/2024	3	40.464177	-104.816609	0.9	0.0
BKG01@0-6" <sup>3</sup>	5/17/2024	0.5	40.463429	-104.816807	1.0	0.0
BKG01@2.5' <sup>3</sup>	5/17/2024	2.5	40.463429	-104.816807	1.0	0.1
BKG01@3' <sup>3</sup>	5/17/2024	3	40.463429	-104.816807	1.0	0.0
BKG01@4' <sup>3</sup>	5/17/2024	4	40.463429	-104.816807	1.0	0.0

**Notes:**

1. Global Positioning System (GPS) data is provided in decimal degrees using North American Datum (NAD) 83 UTMZone 13 North.
2. Volatile organic compound (VOC) concentrations are measured in the field using a photoionization detector (PID).
3. Background samples collected at the nearby Firestein 30-13 Tank Battery, Remediation no. 33311

PDOP = Position Dilution of Precision

ppm = Parts per million

ft. = Feet

bgs = Below ground surface

TABLE 2  
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA  
NOBLE ENERGY, INC. - 100322  
FIRESTEIN 30-13 WELLHEAD AND FLOWLINE, WELD COUNTY, COLORADO  
REM # 33051

Sample ID	Sample Date	Depth (ft. bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	1,2,4-Trimethyl-Benzene (mg/kg)	1,3,5-Trimethyl-Benzene (mg/kg)	Naphthalene (mg/kg)	TPH (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			1.2	490	5.8	58	30	27	2	500	500**		
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500	500**		
FL01R-W@4'	5/16/2024	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
FL01R-S@3'	5/17/2024	3	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50

**Notes:**

1. **Bold** values exceed the ECMC Table 915-1 limit(s)
2. Pink & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)
3. \* Indicates laboratory minimum detection limit in excess of SSL
4. \*\* Summation of GRO+DRO+ORO must be less than 500 mg/kg

ECMC = Energy & Carbon Management Commission

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

TPH-GRO = Total petroleum hydrocarbons - gasoline range organics

TPH-DRO = Total petroleum hydrocarbons - diesel range organics

TPH-ORO = Total petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram

ft. = Feet

bgs = Below ground surface

TABLE 3  
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA  
NOBLE ENERGY, INC. - 100322  
FIRESTEIN 30-13 WELLHEAD AND FLOWLINE, WELD COUNTY, COLORADO  
REM # 33051

Sample ID	Sample Date	Depth (ft. bgs)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo (a) Anthracene (mg/kg)	Benzo (a) Pyrene (mg/kg)	Benzo (b) Fluoranthene (mg/kg)	Benzo (k) Fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo (a,h) Anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno (1,2,3-cd) Pyrene (mg/kg)	Pyrene (mg/kg)	1-Methyl - Naphthalene (mg/kg)	2-Methyl- Naphthalene (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
FL01R-W @ 4'	5/16/2024	4	<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
FL01R-S @ 3'	5/17/2024	3	<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:**

1. **Bold** values exceed the ECMC Table 915-1 limit(s)
2. Pink & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)
3. \* Indicates laboratory minimum detection limit in excess of SSL

ECMC = Colorado Energy & Carbon Management Commission

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

ft. = Feet

bgs = Below ground surface

mg/kg = Milligrams per kilogram

**TABLE 4**  
**SUMMARY OF SOIL SUITABILITY FOR RECLAMATION**  
**NOBLE ENERGY, INC. - 100322**  
**FIRESTEIN 30-13 WELLHEAD AND FLOWLINE, WELD COUNTY, COLORADO**  
**REM # 33051**

Sample ID	Sample Date	Depth (ft. bgs)	pH (Standard Units)	EC (mmhos/cm)	SAR (Standard Units)	Boron (mg/L)
ECMC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
FL01R-W@4'	5/16/2024	4	<b>8.72</b>	0.187	0.141	<2.00
FL01R-S@3'	5/17/2024	3	8.21	0.253	0.133	<2.00
BKG01@0-6" <sup>4</sup>	5/17/2024	0.5	7.41	0.649	1.02	NA
BKG01@2.5' <sup>4</sup>	5/17/2024	2.5	7.84	0.660	2.07	NA
BKG01@3' <sup>4</sup>	5/17/2024	3	7.92	0.801	2.39	NA
BKG01@4' <sup>4</sup>	5/17/2024	4	8.06	0.876	2.01	NA
Maximum Root Background Concentration (0 - 3 ft)			7.92	-	-	-
Mean Root Background Concentration (0 - 3 ft)			7.72	-	-	-
Maximum Background Concentration			8.06	-	-	-
Mean Background Concentration			7.81	-	-	-

**Notes:**

1. **Bold** faced values exceed the ECMC Table 915-1 limit(s), but are within 1.25x background concentrations.
  2. **Bold** faced values exceed the ECMC Table 915-1 limit(s) above native background concentrations.
  3. Brown highlighted soil analytical values indicate a regulatory exceedance.
  4. Background samples collected at the nearby Firestein 30-13 Tank Battery, Remediation no. 33311 ECMC = Colorado Energy & Carbon Management Commission
- EC = Electrical conductivity  
SAR = Sodium adsorption ratio  
mmhos/cm = millimhos per centimeter  
mg/L = milligram per liter  
(<) = Analytical result is less than the indicated laboratory reporting limit.  
ft. = Feet  
bgs = Below ground surface  
NA = Constituent not analyzed

TABLE 5  
SUMMARY OF METALS IN SOIL CHEMISTRY DATA  
NOBLE ENERGY, INC. - 100322  
FIRESTEIN 30-13 WELLHEAD AND FLOWLINE, WELD COUNTY, COLORADO  
REM # 33051

Sample ID	Sample Date	Depth (ft. bgs)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) <sup>[4]</sup> (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
FL01R-W@ 4'	5/16/2024	4	<b>4.83</b>	<b>95.8</b>	0.211	<0.30*	8.06	7.08	9.38	<0.260	0.0400	27.7
FL01R-S@3'	5/17/2024	3	<b>3.99</b>	76.0	<0.200	<0.30*	4.18	6.12	5.26	<0.260	0.0283	17.0
BKG01@0-6" <sup>6</sup>	5/17/2024	0.5	3.41	72.6	0.183	<0.30*	35.4	7.15	4.21	0.269	0.0297	24.4
BKG01@2.5' <sup>6</sup>	5/17/2024	2.5	4.06	71.4	<0.200	<0.30*	4.70	6.61	4.79	<0.260	0.0314	16.8
BKG01@3' <sup>6</sup>	5/17/2024	3	4.74	104	0.212	<0.30*	5.34	9.05	5.36	<0.236	0.0464	19.9
BKG01@4' <sup>6</sup>	5/17/2024	4	5.43	95.3	<0.200	<0.30*	5.69	8.63	7.34	<0.260	0.0583	19.9
Maximum Background Concentration			5.43	104	-	-	-	-	-	-	-	-
Maximum Background Concentration X 1.25			6.79	130	-	-	-	-	-	-	-	-
Mean Background Concentration			4.41	85.8	-	-	-	-	-	-	-	-
Mean Background Concentration X 1.25			5.51	107	-	-	-	-	-	-	-	-

**Notes:**

- Bold** faced values exceed the ECMC Table 915-1 limit(s), but are within 1.25x background concentrations.
- Bold** faced values exceed the ECMC Table 915-1 limit(s) above native background concentrations.
- Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)
- Compound falls within ECMC Table 915-1 Footnote 9.
- Non-detect background results accounted for in the highest background concentration by using the reporting limit.
- Background samples collected at the nearby Firestein 30-13 Tank Battery, Remediation no. 33311

ECMC = Energy & Carbon Management Commission

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

mg/kg = Milligrams per kilogram

ft. = Feet

bgs = Below ground surface

\* Indicates laboratory minimum detection limit in excess of SSL



DATE: May 17, 2024

DESIGNED BY: J. Whritenour

DRAWN BY: E. Brauer



**TASMAN** Tasman, Inc.  
 6855 W 119<sup>th</sup> Avenue  
 Broomfield, CO 80020

**Noble Energy, Inc. – 100322 – DJ Basin**  
**Firestein 30-13 Flowline**  
 SWNE, Section 30, Township 6 North, Range 66 West  
 Weld County, Colorado

SOIL SAMPLE  
 LOCATION MAP  
 (FLOWLINE)

FIGURE  
 1

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 03, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

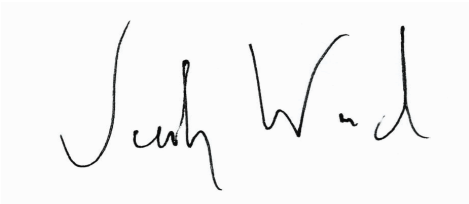
Broomfield, CO 80020

RE: Noble - Firestien 30-13 FL

Work Order #2405261

Enclosed are the results of analyses for samples received by Summit Scientific on 05/16/24 17:56. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial "J" and a distinct "W".

Jacob Wood For Paul Shrewsbury

President



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

Project: Noble - Firestien 30-13 FL

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/03/24 15:19

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01R-W@4'	2405261-01	Soil	05/16/24 11:03	05/16/24 17:56

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.*



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

Lab ID	Page 1 of 1
2405261	

		<b>Send Data To:</b>	<b>Send Invoice To:</b>
Client: Noble / Tasman	Project Manager: Jake Whritenour	Company: Chevron	
Address: 6855 W 119th Ave	E-Mail: jwhritenour@tasman-geo.com	Project Name/Location:	
City/State/Zip: Broomfield / CO / 80020	Project Name: Firestien 30-13 FL	AFE#: UWRWE-A3681-ABN	
Phone: 303-487-1228	Project Number:	PO/Billing Codes:	
Sampler Name: Gabe Semenza	Contact: Miguel Barron <sup>65</sup> Mike Montoya		

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	Metals - 915	PAH - 915	
1	FLOIR-W@4'	5/16/24	1103	3			X			X				X	X	X	X	X	X	
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: <i>G. Semenza</i>	Date/Time: 5/16/24 1710	Received by: Tasman Lockbox	Date/Time: 5/16/24 1710	TAT Business Days	Field DO	Notes:
Relinquished by: <i>Tasman Lockbox</i>	Date/Time: 5/16/24 1750	Received by: <i>[Signature]</i>	Date/Time: 5/16/24 1750	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: 8.8	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:	Standard	X	Field Turb.

S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order# 240526

Client: Nadel Tasman

Client Project ID: Firestien 30-B FL

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

Airbill #: \_\_\_\_\_

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

Temp (°C)

Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? (1) NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact? (1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ON ICE
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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely? (1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? (1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? (1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? (1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? (1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? (1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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)? (1) 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? (1) 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):				

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

AS  
Custodian Printed Name

5/16/24  
Date/Time

5/16/24



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

Project: Noble - Firestien 30-13 FL  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/03/24 15:19

**FL01R-W@4'**  
**2405261-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/16/24 11:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHE0583	05/17/24	05/18/24	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: **05/16/24 11:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0290	72.4 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0381	95.2 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0435	109 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/16/24 11:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHE0586	05/17/24	05/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/16/24 11:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	10.1	80.9 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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**Reported:**  
06/03/24 15:19

**FL01R-W@4'**  
**2405261-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/16/24 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHE0553	05/17/24	05/18/24	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: **05/16/24 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0161	48.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0139	41.7 %	40-150		"	"	"	"	

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

Date Sampled: **05/16/24 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHE0555	05/17/24	06/01/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/16/24 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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6855 W. 119th Ave.  
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Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/03/24 15:19

**FL01R-W@4'**  
**2405261-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.83	0.200	mg/kg dry	1	BHE0565	05/17/24	05/21/24	EPA 6020B	
Barium	95.8	0.400	"	"	"	"	"	"	
Cadmium	0.211	0.200	"	"	"	"	"	"	
Copper	8.06	0.400	"	"	"	"	"	"	
Lead	7.08	0.200	"	"	"	"	"	"	
Nickel	9.38	0.400	"	"	"	"	"	"	
Silver	0.0400	0.0200	"	"	"	"	"	"	
Zinc	27.7	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/16/24 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHE0561	05/17/24	05/17/24	EPA 7196A	

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

Date Sampled: **05/16/24 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	137	0.0500	mg/L dry	1	BHE0574	05/17/24	06/01/24	EPA 6020B	
Magnesium	10.5	0.0500	"	"	"	"	"	"	
Sodium	6.36	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/16/24 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.141	0.00100	units	1	BHF0046	06/03/24	06/03/24	Calculation	

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

Date Sampled: **05/16/24 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Firestien 30-13 FL  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/03/24 15:19

**FL01R-W@4'**  
**2405261-01 (Soil)**

**Summit Scientific**

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

<b>% Solids</b>	<b>86.9</b>	%	1	BHE0562	05/17/24	05/17/24	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/16/24 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>0.187</b>	0.0100	mmhos/cm	1	BHE0577	05/17/24	05/20/24	EPA 120.1	

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

Date Sampled: **05/16/24 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>8.72</b>		pH Units	1	BHE0578	05/17/24	05/20/24	EPA 9045D	

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Project: Noble - Firestien 30-13 FL  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/03/24 15:19

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

#### Summit Scientific

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

#### Batch BHE0583 - EPA 5030 Soil MS

##### Blank (BHE0583-BLK1)

Prepared: 05/17/24 Analyzed: 05/18/24

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0254		"	0.0400		63.4	50-150			
<i>Surrogate: Toluene-d8</i>	0.0423		"	0.0400		106	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0397		"	0.0400		99.2	50-150			

##### LCS (BHE0583-BS1)

Prepared: 05/17/24 Analyzed: 05/18/24

Benzene	0.0802	0.0020	mg/kg	0.100		80.2	70-130			
Toluene	0.111	0.0050	"	0.100		111	70-130			
Ethylbenzene	0.117	0.0050	"	0.100		117	70-130			
m,p-Xylene	0.244	0.010	"	0.200		122	70-130			
o-Xylene	0.113	0.0050	"	0.100		113	70-130			
1,2,4-Trimethylbenzene	0.111	0.0050	"	0.100		111	70-130			
1,3,5-Trimethylbenzene	0.109	0.0050	"	0.100		109	70-130			
Naphthalene	0.0934	0.0038	"	0.100		93.4	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0239		"	0.0400		59.8	50-150			
<i>Surrogate: Toluene-d8</i>	0.0409		"	0.0400		102	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0399		"	0.0400		99.8	50-150			

##### Matrix Spike (BHE0583-MS1)

Source: 2405254-02

Prepared: 05/17/24 Analyzed: 05/18/24

Benzene	0.0724	0.0020	mg/kg	0.100	ND	72.4	70-130			
Toluene	0.0991	0.0050	"	0.100	ND	99.1	70-130			
Ethylbenzene	0.0988	0.0050	"	0.100	ND	98.8	70-130			
m,p-Xylene	0.205	0.010	"	0.200	ND	102	70-130			
o-Xylene	0.0946	0.0050	"	0.100	ND	94.6	70-130			
1,2,4-Trimethylbenzene	0.0914	0.0050	"	0.100	ND	91.4	70-130			
1,3,5-Trimethylbenzene	0.0928	0.0050	"	0.100	ND	92.8	70-130			
Naphthalene	0.0788	0.0038	"	0.100	ND	78.8	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0211		"	0.0400		52.8	50-150			
<i>Surrogate: Toluene-d8</i>	0.0418		"	0.0400		105	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0416		"	0.0400		104	50-150			

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Project: Noble - Firestien 30-13 FL  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/03/24 15:19

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

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

**Batch BHE0583 - EPA 5030 Soil MS**

Matrix Spike Dup (BHE0583-MSD1)	Source: 2405254-02			Prepared: 05/17/24 Analyzed: 05/18/24						
Benzene	0.0741	0.0020	mg/kg	0.100	ND	74.1	70-130	2.38	30	
Toluene	0.101	0.0050	"	0.100	ND	101	70-130	2.01	30	
Ethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130	2.19	30	
m,p-Xylene	0.207	0.010	"	0.200	ND	104	70-130	1.15	30	
o-Xylene	0.0962	0.0050	"	0.100	ND	96.2	70-130	1.63	30	
1,2,4-Trimethylbenzene	0.0938	0.0050	"	0.100	ND	93.8	70-130	2.63	30	
1,3,5-Trimethylbenzene	0.0960	0.0050	"	0.100	ND	96.0	70-130	3.40	30	
Naphthalene	0.0797	0.0038	"	0.100	ND	79.7	70-130	1.21	30	
Surrogate: 1,2-Dichloroethane-d4	0.0249		"	0.0400		62.2	50-150			
Surrogate: Toluene-d8	0.0417		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0410		"	0.0400		103	50-150			

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Broomfield CO, 80020

Project: Noble - Firestien 30-13 FL  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/03/24 15:19

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

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

**Batch BHE0586 - EPA 3550A**

**Blank (BHE0586-BLK1)**

Prepared & Analyzed: 05/17/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	13.1		"	12.5		105		30-150			

**LCS (BHE0586-BS1)**

Prepared & Analyzed: 05/17/24

C10-C28 (DRO)	399	50	mg/kg	500		79.9		70-130			
Surrogate: <i>o</i> -Terphenyl	10.3		"	12.5		82.2		30-150			

**Matrix Spike (BHE0586-MS1)**

Source: 2405254-02

Prepared & Analyzed: 05/17/24

C10-C28 (DRO)	498	50	mg/kg	500	12.6	97.1		70-130			
Surrogate: <i>o</i> -Terphenyl	16.8		"	12.5		134		30-150			

**Matrix Spike Dup (BHE0586-MSD1)**

Source: 2405254-02

Prepared & Analyzed: 05/17/24

C10-C28 (DRO)	476	50	mg/kg	500	12.6	92.6		70-130	4.66	20	
Surrogate: <i>o</i> -Terphenyl	15.6		"	12.5		125		30-150			

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Project: Noble - Firestien 30-13 FL  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/03/24 15:19

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

**Summit Scientific**

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

**Batch BHE0553 - EPA 5030 Soil MS**

**Blank (BHE0553-BLK1)**

Prepared: 05/17/24 Analyzed: 05/18/24

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0327</i>		"	<i>0.0333</i>		<i>98.0</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0312</i>		"	<i>0.0333</i>		<i>93.5</i>		<i>40-150</i>		

**LCS (BHE0553-BS1)**

Prepared: 05/17/24 Analyzed: 05/18/24

Acenaphthene	0.0343	0.00500	mg/kg	0.0333	103	31-137
Anthracene	0.0352	0.00500	"	0.0333	106	30-120
Benzo (a) anthracene	0.0358	0.00500	"	0.0333	107	30-120
Benzo (a) pyrene	0.0328	0.00500	"	0.0333	98.4	30-120
Benzo (b) fluoranthene	0.0321	0.00500	"	0.0333	96.4	30-120
Benzo (k) fluoranthene	0.0307	0.00500	"	0.0333	92.0	30-120
Chrysene	0.0347	0.00500	"	0.0333	104	30-120
Dibenz (a,h) anthracene	0.0398	0.00500	"	0.0333	119	30-120
Fluoranthene	0.0328	0.00500	"	0.0333	98.4	30-120
Fluorene	0.0351	0.00500	"	0.0333	105	30-120
Indeno (1,2,3-cd) pyrene	0.0311	0.00500	"	0.0333	93.4	30-120
Pyrene	0.0382	0.00500	"	0.0333	114	35-142
1-Methylnaphthalene	0.0334	0.00500	"	0.0333	100	35-142
2-Methylnaphthalene	0.0343	0.00500	"	0.0333	103	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0381</i>		"	<i>0.0333</i>	<i>114</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0362</i>		"	<i>0.0333</i>	<i>108</i>	<i>40-150</i>

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Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/03/24 15:19

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

**Summit Scientific**

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

**Batch BHE0553 - EPA 5030 Soil MS**

<b>Matrix Spike (BHE0553-MS1)</b>	<b>Source: 2405259-01</b>			<b>Prepared: 05/17/24 Analyzed: 05/18/24</b>						
Acenaphthene	0.0204	0.00500	mg/kg	0.0333	ND	61.2	31-137			
Anthracene	0.0241	0.00500	"	0.0333	0.0190	15.5	30-120			QM-01
Benzo (a) anthracene	0.0281	0.00500	"	0.0333	0.0101	54.0	30-120			
Benzo (a) pyrene	0.0195	0.00500	"	0.0333	0.00792	34.8	30-120			
Benzo (b) fluoranthene	0.0213	0.00500	"	0.0333	ND	63.8	30-120			
Benzo (k) fluoranthene	0.0171	0.00500	"	0.0333	ND	51.3	30-120			
Chrysene	0.0255	0.00500	"	0.0333	0.00918	48.8	30-120			
Dibenz (a,h) anthracene	0.0230	0.00500	"	0.0333	ND	68.9	30-120			
Fluoranthene	0.0355	0.00500	"	0.0333	0.0201	46.3	30-120			
Fluorene	0.0223	0.00500	"	0.0333	ND	66.9	30-120			
Indeno (1,2,3-cd) pyrene	0.0168	0.00500	"	0.0333	0.00587	32.9	30-120			
Pyrene	0.0468	0.00500	"	0.0333	0.0248	66.0	35-142			
1-Methylnaphthalene	0.0194	0.00500	"	0.0333	ND	58.3	15-130			
2-Methylnaphthalene	0.0195	0.00500	"	0.0333	ND	58.4	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0204</i>		<i>"</i>	<i>0.0333</i>		<i>61.3</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0209</i>		<i>"</i>	<i>0.0333</i>		<i>62.8</i>	<i>40-150</i>			

<b>Matrix Spike Dup (BHE0553-MSD1)</b>	<b>Source: 2405259-01</b>			<b>Prepared: 05/17/24 Analyzed: 05/18/24</b>						
Acenaphthene	0.0233	0.00500	mg/kg	0.0333	ND	70.0	31-137	13.4	30	
Anthracene	0.0296	0.00500	"	0.0333	0.0190	31.9	30-120	20.3	30	
Benzo (a) anthracene	0.0395	0.00500	"	0.0333	0.0101	88.2	30-120	33.7	30	QR-02
Benzo (a) pyrene	0.0285	0.00500	"	0.0333	0.00792	61.7	30-120	37.4	30	QR-02
Benzo (b) fluoranthene	0.0314	0.00500	"	0.0333	ND	94.2	30-120	38.6	30	QR-02
Benzo (k) fluoranthene	0.0231	0.00500	"	0.0333	ND	69.2	30-120	29.8	30	
Chrysene	0.0358	0.00500	"	0.0333	0.00918	79.9	30-120	33.9	30	QR-02
Dibenz (a,h) anthracene	0.0254	0.00500	"	0.0333	ND	76.3	30-120	10.1	30	
Fluoranthene	0.0556	0.00500	"	0.0333	0.0201	106	30-120	44.0	30	QR-02
Fluorene	0.0258	0.00500	"	0.0333	ND	77.5	30-120	14.6	30	
Indeno (1,2,3-cd) pyrene	0.0222	0.00500	"	0.0333	0.00587	48.9	30-120	27.4	30	
Pyrene	0.0726	0.00500	"	0.0333	0.0248	143	35-142	43.1	30	QM-01
1-Methylnaphthalene	0.0221	0.00500	"	0.0333	ND	66.2	15-130	12.7	50	
2-Methylnaphthalene	0.0216	0.00500	"	0.0333	ND	64.8	15-130	10.3	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0229</i>		<i>"</i>	<i>0.0333</i>		<i>68.8</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0225</i>		<i>"</i>	<i>0.0333</i>		<i>67.5</i>	<i>40-150</i>			

Summit Scientific

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

Project: Noble - Firestien 30-13 FL  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/03/24 15:19

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

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

**Batch BHE0555 - EPA 3050B**

**Blank (BHE0555-BLK1)**

Prepared: 05/17/24 Analyzed: 06/01/24

Boron ND 2.00 mg/L

**LCS (BHE0555-BS1)**

Prepared: 05/17/24 Analyzed: 06/01/24

Boron 5.39 2.00 mg/L 5.00 108 80-120

**Duplicate (BHE0555-DUP1)**

Source: 2405255-01

Prepared: 05/17/24 Analyzed: 06/01/24

Boron 0.663 2.00 mg/L 0.693 4.45 20

**Matrix Spike (BHE0555-MS1)**

Source: 2405255-01

Prepared: 05/17/24 Analyzed: 06/01/24

Boron 5.10 2.00 mg/L 5.05 0.693 87.4 75-125

**Matrix Spike Dup (BHE0555-MSD1)**

Source: 2405255-01

Prepared: 05/17/24 Analyzed: 06/01/24

Boron 5.15 2.00 mg/L 5.05 0.693 88.3 75-125 0.876 25

Summit Scientific

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

Project: Noble - Firestien 30-13 FL

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/03/24 15:19

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

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

**Batch BHE0565 - EPA 3050B**

**Blank (BHE0565-BLK1)**

Prepared: 05/17/24 Analyzed: 05/21/24

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 (BHE0565-BS1)**

Prepared: 05/17/24 Analyzed: 05/21/24

Arsenic	43.0	0.200	mg/kg wet	40.0	108	80-120
Barium	42.2	0.400	"	40.0	105	80-120
Cadmium	2.01	0.200	"	2.00	101	80-120
Copper	43.3	0.400	"	40.0	108	80-120
Lead	20.4	0.200	"	20.0	102	80-120
Nickel	41.9	0.400	"	40.0	105	80-120
Silver	2.01	0.0200	"	2.00	101	80-120
Zinc	42.3	0.400	"	40.0	106	80-120
Selenium	4.48	0.260	"	4.00	112	80-120

**Duplicate (BHE0565-DUP1)**

Source: 2405261-01

Prepared: 05/17/24 Analyzed: 05/21/24

Arsenic	4.59	0.200	mg/kg dry	4.83	5.22	20
Barium	98.3	0.400	"	95.8	2.48	20
Cadmium	0.220	0.200	"	0.211	4.14	20
Copper	7.78	0.400	"	8.06	3.53	20
Lead	7.61	0.200	"	7.08	7.19	20
Nickel	9.16	0.400	"	9.38	2.36	20
Silver	0.0385	0.0200	"	0.0400	3.83	20
Zinc	27.1	0.400	"	27.7	2.25	20
Selenium	0.196	0.260	"	0.190	3.04	20

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

Project: Noble - Firestien 30-13 FL

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/03/24 15:19

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

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

**Batch BHE0565 - EPA 3050B**

**Matrix Spike (BHE0565-MS1)**

Source: 2405261-01

Prepared: 05/17/24 Analyzed: 05/21/24

Arsenic	51.4	0.200	mg/kg dry	44.9	4.83	104	75-125			
Barium	132	0.400	"	44.9	95.8	80.9	75-125			
Cadmium	2.49	0.200	"	2.25	0.211	101	75-125			
Copper	54.3	0.400	"	44.9	8.06	103	75-125			
Lead	29.9	0.200	"	22.5	7.08	101	75-125			
Nickel	55.4	0.400	"	44.9	9.38	102	75-125			
Silver	2.23	0.0200	"	2.25	0.0400	97.6	75-125			
Zinc	75.8	0.400	"	44.9	27.7	107	75-125			
Selenium	4.02	0.260	"	4.49	0.190	85.2	75-125			

**Matrix Spike Dup (BHE0565-MSD1)**

Source: 2405261-01

Prepared: 05/17/24 Analyzed: 05/21/24

Arsenic	50.0	0.200	mg/kg dry	44.9	4.83	101	75-125	2.70	25	
Barium	129	0.400	"	44.9	95.8	74.1	75-125	2.35	25	QM-07
Cadmium	2.43	0.200	"	2.25	0.211	98.8	75-125	2.19	25	
Copper	52.7	0.400	"	44.9	8.06	99.3	75-125	2.94	25	
Lead	29.2	0.200	"	22.5	7.08	98.4	75-125	2.32	25	
Nickel	54.2	0.400	"	44.9	9.38	99.7	75-125	2.26	25	
Silver	2.19	0.0200	"	2.25	0.0400	95.6	75-125	2.09	25	
Zinc	73.6	0.400	"	44.9	27.7	102	75-125	2.90	25	
Selenium	3.89	0.260	"	4.49	0.190	82.4	75-125	3.15	25	

Summit Scientific

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

Project: Noble - Firestien 30-13 FL  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/03/24 15:19

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

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

**Batch BHE0561 - 3060A Mod**

**Blank (BHE0561-BLK1)**

Prepared & Analyzed: 05/17/24

Chromium, Hexavalent      ND      0.30    mg/kg wet

**LCS (BHE0561-BS1)**

Prepared & Analyzed: 05/17/24

Chromium, Hexavalent      25.8      0.30    mg/kg wet      25.0      103      80-120

**Duplicate (BHE0561-DUP1)**

**Source: 2405252-01**

Prepared & Analyzed: 05/17/24

Chromium, Hexavalent      ND      0.30    mg/kg dry      ND      20

**Matrix Spike (BHE0561-MS1)**

**Source: 2405252-01**

Prepared & Analyzed: 05/17/24

Chromium, Hexavalent      22.5      0.30    mg/kg dry      28.5      ND      78.8      75-125

**Matrix Spike Dup (BHE0561-MSD1)**

**Source: 2405252-01**

Prepared & Analyzed: 05/17/24

Chromium, Hexavalent      22.5      0.30    mg/kg dry      28.5      ND      78.8      75-125      0.00      20

Summit Scientific

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

Project: Noble - Firestien 30-13 FL

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/03/24 15:19

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

**Summit Scientific**

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

**Batch BHE0574 - General Preparation**

**Blank (BHE0574-BLK1)**

Prepared: 05/17/24 Analyzed: 06/01/24

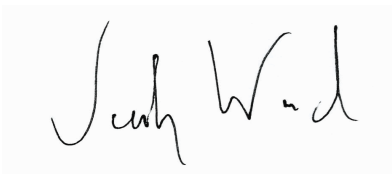
Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							

**LCS (BHE0574-BS1)**

Prepared: 05/17/24 Analyzed: 06/01/24

Calcium	5.64	0.0500	mg/L wet	5.00		113	70-130			
Magnesium	5.13	0.0500	"	5.00		103	70-130			
Sodium	4.79	0.0500	"	5.00		95.8	70-130			

Summit Scientific



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

Project: Noble - Firestien 30-13 FL  
 Project Number: UWRWE-A3681-ABN  
 Project Manager: Jacob Whritenour

**Reported:**  
 06/03/24 15:19

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

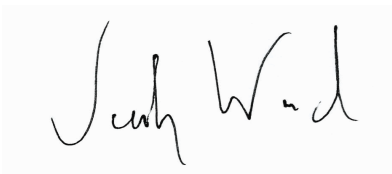
**Summit Scientific**

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

**Batch BHE0562 - General Preparation**

Duplicate (BHE0562-DUP1)	Source: 2405260-01			Prepared & Analyzed: 05/17/24		
% Solids	96.7	%		96.7		0.0677 20

Summit Scientific



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

Project: Noble - Firestien 30-13 FL

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/03/24 15:19

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

**Summit Scientific**

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

**Batch BHE0577 - General Preparation**

**Blank (BHE0577-BLK1)**

Prepared: 05/17/24 Analyzed: 05/20/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BHE0577-BS1)**

Prepared: 05/17/24 Analyzed: 05/20/24

Specific Conductance (EC) 0.153 0.0100 mmhos/cm 0.150 102 95-105

**Duplicate (BHE0577-DUP1)**

Source: 2405252-01

Prepared: 05/17/24 Analyzed: 05/20/24

Specific Conductance (EC) 1.36 0.0100 mmhos/cm 1.37 0.734 20

Summit Scientific

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

Project: Noble - Firestien 30-13 FL

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/03/24 15:19

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

**Summit Scientific**

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

**Batch BHE0578 - General Preparation**

**LCS (BHE0578-BS1)**

Prepared: 05/17/24 Analyzed: 05/20/24

pH	9.14	pH Units	9.18	99.6	95-105
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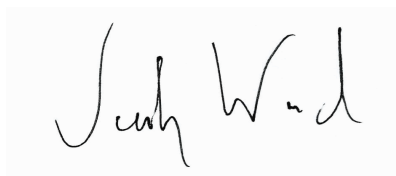
**Duplicate (BHE0578-DUP1)**

Source: 2405252-01

Prepared: 05/17/24 Analyzed: 05/20/24

pH	7.71	pH Units	7.78	0.904	20
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Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Firestien 30-13 FL

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/03/24 15:19

### Notes and Definitions

- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- 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

May 28, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Firestien 30-13 FL

Work Order #2405288

Enclosed are the results of analyses for samples received by Summit Scientific on 05/17/24 17:49. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Natalie Tessier For Paul Shrewsbury

President



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

Project: Noble - Firestien 30-13 FL

Project Number: UWRWE-A3681-ABN

Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:54

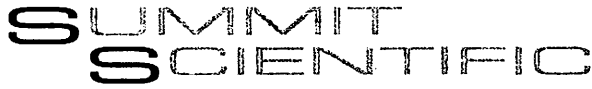
**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01R-S@3'	2405288-01	Soil	05/17/24 10:08	05/17/24 17:49

---

Summit Scientific

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

Lab ID	Page 1 of 1
2405288	

Client: <sup>CS</sup> Noble PDC / Tasman		Send Data To: Project Manager: <sup>CS</sup> Karen Olson Jake Whritenow		Send Invoice To: Company: PDC Energy <sup>CS</sup> Chevron	
Address: 6855 W 119th Ave		E-Mail: karen.olson@chevron.com <sup>CS</sup>		Project Name/Location:	
City/State/Zip: Broomfield / CO / 80020		jwhritenow@tasman-geo.com		AFE#: UWRWE-A3681-ABN	
Phone: 303-487-1228		Project Name: Firesten 30-13 FL		PO/Billing Codes:	
Sampler Name: Gabe Semenza		Project Number:		Contact: <sup>CS</sup> Karen Olson Mike Montoya	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	Metals - 915		PAH - 915
1	FL0IR-S@3'	5/17/24	1008	3			X			X				X	X	X	X	X	X	
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: <i>G. Semenza</i>	Date/Time: 5/17/24 1500	Received by: Tasman Lockbox	Date/Time: 5/17/24 1500	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <i>Tasman Lockbox</i>	Date/Time: 5/17/24 1749	Received by: <i>DAE</i>	Date/Time: 5/17/24 1749	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: 9.0	Corrected Temperature: 9	IR gun #: 1	HNO3 lot #:			

S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order# 2405288

Client: Noble Company

Client Project ID: FireStien 30-13 FL

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

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

Temp (°C) 9.0

Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? (1) NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact? (1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>none</u>
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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? (1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? (1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? (1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? (1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? (1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? (1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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)? (1) 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? (1) 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):				

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

AS  
Custodian Printed Name

5/17/24  
Date/Time



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

Project: Noble - Firestien 30-13 FL  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:54

**FL01R-S@3'**  
**2405288-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/17/24 10:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHE0654	05/21/24	05/22/24	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: **05/17/24 10:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0248	62.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0407	102 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/17/24 10:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHE0655	05/21/24	05/22/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/17/24 10:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.79	70.3 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Firestien 30-13 FL  
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Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:54

**FL01R-S@3'**  
**2405288-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/17/24 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHE0601	05/20/24	05/21/24	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: **05/17/24 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0203	60.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0234	70.3 %	40-150		"	"	"	"	

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

Date Sampled: **05/17/24 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHE0608	05/20/24	05/22/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/17/24 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences  
6855 W. 119th Ave.  
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Project: Noble - Firestien 30-13 FL

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:54

**FL01R-S@3'**  
**2405288-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	3.99	0.200	mg/kg dry	1	BHE0602	05/20/24	05/24/24	EPA 6020B
Barium	76.0	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	4.18	0.400	"	"	"	"	"	"
Lead	6.12	0.200	"	"	"	"	"	"
Nickel	5.26	0.400	"	"	"	"	"	"
Silver	0.0283	0.0200	"	"	"	"	"	"
Zinc	17.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/17/24 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHE0605	05/20/24	05/20/24	EPA 7196A	

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

Date Sampled: **05/17/24 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	34.6	0.0500	mg/L dry	1	BHE0611	05/20/24	05/22/24	EPA 6020B	
Magnesium	9.43	0.0500	"	"	"	"	"	"	
Sodium	3.41	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/17/24 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.133	0.00100	units	1	BHE0728	05/23/24	05/23/24	Calculation	

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

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**Reported:**  
05/28/24 12:54

**FL01R-S@3'**  
**2405288-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/17/24 10:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	86.4			%	1	BHE0612	05/20/24	05/20/24	Calculation	

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

Date Sampled: **05/17/24 10:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.253	0.0100		mmhos/cm	1	BHE0614	05/20/24	05/21/24	EPA 120.1	

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

Date Sampled: **05/17/24 10:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.21			pH Units	1	BHE0613	05/20/24	05/21/24	EPA 9045D	

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Project: Noble - Firestien 30-13 FL

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:54

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

#### Summit Scientific

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

#### Batch BHE0654 - EPA 5030 Soil MS

##### Blank (BHE0654-BLK1)

Prepared & Analyzed: 05/21/24

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		81.6	50-150			
Surrogate: Toluene-d8	0.0422		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0400		99.8	50-150			

##### LCS (BHE0654-BS1)

Prepared: 05/21/24 Analyzed: 05/22/24

Benzene	0.0710	0.0020	mg/kg	0.100		71.0	70-130			
Toluene	0.0960	0.0050	"	0.100		96.0	70-130			
Ethylbenzene	0.0903	0.0050	"	0.100		90.3	70-130			
m,p-Xylene	0.184	0.010	"	0.200		92.0	70-130			
o-Xylene	0.0888	0.0050	"	0.100		88.8	70-130			
1,2,4-Trimethylbenzene	0.0798	0.0050	"	0.100		79.8	70-130			
1,3,5-Trimethylbenzene	0.0821	0.0050	"	0.100		82.1	70-130			
Naphthalene	0.0728	0.0038	"	0.100		72.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0244		"	0.0400		61.1	50-150			
Surrogate: Toluene-d8	0.0448		"	0.0400		112	50-150			
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0400		96.4	50-150			

##### Matrix Spike (BHE0654-MS1)

Source: 2405280-01

Prepared: 05/21/24 Analyzed: 05/22/24

Benzene	0.0777	0.0020	mg/kg	0.100	ND	77.7	70-130			
Toluene	0.105	0.0050	"	0.100	ND	105	70-130			
Ethylbenzene	0.103	0.0050	"	0.100	ND	103	70-130			
m,p-Xylene	0.203	0.010	"	0.200	ND	102	70-130			
o-Xylene	0.0987	0.0050	"	0.100	ND	98.7	70-130			
1,2,4-Trimethylbenzene	0.0898	0.0050	"	0.100	ND	89.8	70-130			
1,3,5-Trimethylbenzene	0.0918	0.0050	"	0.100	ND	91.8	70-130			
Naphthalene	0.0794	0.0038	"	0.100	ND	79.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0206		"	0.0400		51.6	50-150			
Surrogate: Toluene-d8	0.0435		"	0.0400		109	50-150			
Surrogate: 4-Bromofluorobenzene	0.0388		"	0.0400		96.9	50-150			

Summit Scientific

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Firestien 30-13 FL

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:54

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

**Summit Scientific**

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

**Batch BHE0654 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BHE0654-MSD1)</b>	<b>Source: 2405280-01</b>			<b>Prepared: 05/21/24 Analyzed: 05/22/24</b>						
Benzene	0.0785	0.0020	mg/kg	0.100	ND	78.5	70-130	1.08	30	
Toluene	0.107	0.0050	"	0.100	ND	107	70-130	1.93	30	
Ethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130	2.02	30	
m,p-Xylene	0.210	0.010	"	0.200	ND	105	70-130	3.20	30	
o-Xylene	0.101	0.0050	"	0.100	ND	101	70-130	1.90	30	
1,2,4-Trimethylbenzene	0.0930	0.0050	"	0.100	ND	93.0	70-130	3.48	30	
1,3,5-Trimethylbenzene	0.0950	0.0050	"	0.100	ND	95.0	70-130	3.47	30	
Naphthalene	0.0844	0.0038	"	0.100	ND	84.4	70-130	6.12	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0232</i>		<i>"</i>	<i>0.0400</i>		<i>58.1</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0439</i>		<i>"</i>	<i>0.0400</i>		<i>110</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0389</i>		<i>"</i>	<i>0.0400</i>		<i>97.4</i>	<i>50-150</i>			

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Broomfield CO, 80020

Project: Noble - Firestien 30-13 FL  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:54

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

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

**Batch BHE0655 - EPA 3550A**

**Blank (BHE0655-BLK1)**

Prepared & Analyzed: 05/21/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	15.9		"	12.5		127		30-150			

**LCS (BHE0655-BS1)**

Prepared & Analyzed: 05/21/24

C10-C28 (DRO)	482	50	mg/kg	500		96.5		70-130			
Surrogate: <i>o</i> -Terphenyl	16.9		"	12.5		135		30-150			

**Matrix Spike (BHE0655-MS1)**

Source: 2405280-01

Prepared & Analyzed: 05/21/24

C10-C28 (DRO)	520	50	mg/kg	500	41.9	95.7		70-130			
Surrogate: <i>o</i> -Terphenyl	10.3		"	12.5		82.6		30-150			

**Matrix Spike Dup (BHE0655-MSD1)**

Source: 2405280-01

Prepared & Analyzed: 05/21/24

C10-C28 (DRO)	460	50	mg/kg	500	41.9	83.7		70-130	12.3	20	
Surrogate: <i>o</i> -Terphenyl	11.0		"	12.5		88.3		30-150			

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Project: Noble - Firestien 30-13 FL  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:54

**PAH by EPA Method 8270D SIM - Quality Control**  
**Summit Scientific**

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

**Batch BHE0601 - EPA 5030 Soil MS**

**Blank (BHE0601-BLK1)**

Prepared & Analyzed: 05/20/24

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0299</i>		"	<i>0.0333</i>		<i>89.8</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0355</i>		"	<i>0.0333</i>		<i>106</i>	<i>40-150</i>			

**LCS (BHE0601-BS1)**

Prepared & Analyzed: 05/20/24

Acenaphthene	0.0354	0.00500	mg/kg	0.0333	106	31-137
Anthracene	0.0371	0.00500	"	0.0333	111	30-120
Benzo (a) anthracene	0.0332	0.00500	"	0.0333	99.6	30-120
Benzo (a) pyrene	0.0295	0.00500	"	0.0333	88.4	30-120
Benzo (b) fluoranthene	0.0307	0.00500	"	0.0333	92.0	30-120
Benzo (k) fluoranthene	0.0345	0.00500	"	0.0333	104	30-120
Chrysene	0.0366	0.00500	"	0.0333	110	30-120
Dibenz (a,h) anthracene	0.0240	0.00500	"	0.0333	72.1	30-120
Fluoranthene	0.0356	0.00500	"	0.0333	107	30-120
Fluorene	0.0339	0.00500	"	0.0333	102	30-120
Indeno (1,2,3-cd) pyrene	0.0190	0.00500	"	0.0333	56.9	30-120
Pyrene	0.0398	0.00500	"	0.0333	119	35-142
1-Methylnaphthalene	0.0332	0.00500	"	0.0333	99.7	35-142
2-Methylnaphthalene	0.0343	0.00500	"	0.0333	103	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0331</i>		"	<i>0.0333</i>	<i>99.3</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0360</i>		"	<i>0.0333</i>	<i>108</i>	<i>40-150</i>

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Project: Noble - Firestien 30-13 FL  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:54

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

**Summit Scientific**

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

**Batch BHE0601 - EPA 5030 Soil MS**

<b>Matrix Spike (BHE0601-MS1)</b>	<b>Source: 2405268-04</b>			<b>Prepared &amp; Analyzed: 05/20/24</b>						
Acenaphthene	0.0251	0.00500	mg/kg	0.0333	ND	75.3	31-137			
Anthracene	0.0260	0.00500	"	0.0333	ND	78.0	30-120			
Benzo (a) anthracene	0.0286	0.00500	"	0.0333	ND	85.8	30-120			
Benzo (a) pyrene	0.0251	0.00500	"	0.0333	ND	75.4	30-120			
Benzo (b) fluoranthene	0.0260	0.00500	"	0.0333	ND	78.1	30-120			
Benzo (k) fluoranthene	0.0241	0.00500	"	0.0333	ND	72.4	30-120			
Chrysene	0.0296	0.00500	"	0.0333	ND	88.9	30-120			
Dibenz (a,h) anthracene	0.0258	0.00500	"	0.0333	ND	77.5	30-120			
Fluoranthene	0.0289	0.00500	"	0.0333	ND	86.8	30-120			
Fluorene	0.0254	0.00500	"	0.0333	ND	76.3	30-120			
Indeno (1,2,3-cd) pyrene	0.0201	0.00500	"	0.0333	ND	60.2	30-120			
Pyrene	0.0336	0.00500	"	0.0333	0.00734	78.7	35-142			
1-Methylnaphthalene	0.0269	0.00500	"	0.0333	ND	80.7	15-130			
2-Methylnaphthalene	0.0272	0.00500	"	0.0333	ND	81.5	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0265</i>		<i>"</i>	<i>0.0333</i>		<i>79.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0270</i>		<i>"</i>	<i>0.0333</i>		<i>81.0</i>	<i>40-150</i>			

<b>Matrix Spike Dup (BHE0601-MSD1)</b>	<b>Source: 2405268-04</b>			<b>Prepared &amp; Analyzed: 05/20/24</b>						
Acenaphthene	0.0202	0.00500	mg/kg	0.0333	ND	60.5	31-137	21.7	30	
Anthracene	0.0213	0.00500	"	0.0333	ND	63.8	30-120	20.1	30	
Benzo (a) anthracene	0.0242	0.00500	"	0.0333	ND	72.7	30-120	16.5	30	
Benzo (a) pyrene	0.0214	0.00500	"	0.0333	ND	64.1	30-120	16.1	30	
Benzo (b) fluoranthene	0.0220	0.00500	"	0.0333	ND	65.9	30-120	16.9	30	
Benzo (k) fluoranthene	0.0190	0.00500	"	0.0333	ND	57.0	30-120	23.8	30	
Chrysene	0.0249	0.00500	"	0.0333	ND	74.7	30-120	17.4	30	
Dibenz (a,h) anthracene	0.0238	0.00500	"	0.0333	ND	71.5	30-120	8.03	30	
Fluoranthene	0.0245	0.00500	"	0.0333	ND	73.4	30-120	16.7	30	
Fluorene	0.0206	0.00500	"	0.0333	ND	61.9	30-120	20.7	30	
Indeno (1,2,3-cd) pyrene	0.0186	0.00500	"	0.0333	ND	55.9	30-120	7.29	30	
Pyrene	0.0296	0.00500	"	0.0333	0.00734	66.9	35-142	12.4	30	
1-Methylnaphthalene	0.0228	0.00500	"	0.0333	ND	68.4	15-130	16.5	50	
2-Methylnaphthalene	0.0231	0.00500	"	0.0333	ND	69.4	15-130	16.1	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0230</i>		<i>"</i>	<i>0.0333</i>		<i>68.9</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0222</i>		<i>"</i>	<i>0.0333</i>		<i>66.7</i>	<i>40-150</i>			

Summit Scientific

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

Project: Noble - Firestien 30-13 FL

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:54

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

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

**Batch BHE0608 - EPA 3050B**

**Blank (BHE0608-BLK1)**

Prepared: 05/20/24 Analyzed: 05/21/24

Boron ND 2.00 mg/L

**LCS (BHE0608-BS1)**

Prepared: 05/20/24 Analyzed: 05/21/24

Boron 5.14 2.00 mg/L 5.00 103 80-120

**Duplicate (BHE0608-DUP1)**

Source: 2403269-05RE1

Prepared: 05/20/24 Analyzed: 05/22/24

Boron 6.21 2.00 mg/L 5.98 3.85 20

**Matrix Spike (BHE0608-MS1)**

Source: 2403269-05RE1

Prepared: 05/20/24 Analyzed: 05/22/24

Boron 14.0 2.00 mg/L 4.97 5.98 162 75-125 QM-05

**Matrix Spike Dup (BHE0608-MSD1)**

Source: 2403269-05RE1

Prepared: 05/20/24 Analyzed: 05/22/24

Boron 12.5 2.00 mg/L 4.97 5.98 130 75-125 11.8 25 QM-05

Summit Scientific

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

Project: Noble - Firestien 30-13 FL

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:54

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

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

**Batch BHE0602 - EPA 3050B**

**Blank (BHE0602-BLK1)**

Prepared: 05/20/24 Analyzed: 05/24/24

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 (BHE0602-BS1)**

Prepared: 05/20/24 Analyzed: 05/24/24

Arsenic	39.7	0.200	mg/kg wet	40.0	99.2	80-120
Barium	42.9	0.400	"	40.0	107	80-120
Cadmium	2.11	0.200	"	2.00	105	80-120
Copper	42.6	0.400	"	40.0	106	80-120
Lead	20.7	0.200	"	20.0	103	80-120
Nickel	42.3	0.400	"	40.0	106	80-120
Silver	2.12	0.0200	"	2.00	106	80-120
Zinc	41.4	0.400	"	40.0	104	80-120
Selenium	4.17	0.260	"	4.00	104	80-120

**Duplicate (BHE0602-DUP1)**

Source: 2405274-01

Prepared: 05/20/24 Analyzed: 05/24/24

Arsenic	1.57	0.200	mg/kg dry	2.58	48.8	20	QR-01
Barium	27.7	0.400	"	30.7	10.2	20	
Cadmium	0.0415	0.200	"	0.0538	25.8	20	QR-01
Copper	1.99	0.400	"	2.36	16.9	20	
Lead	2.15	0.200	"	2.37	9.35	20	
Nickel	2.20	0.400	"	2.76	22.5	20	QR-01
Silver	0.00536	0.0200	"	0.00828	42.9	20	QR-01
Zinc	7.60	0.400	"	8.42	10.2	20	
Selenium	ND	0.260	"	ND		20	

Summit Scientific

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

Project: Noble - Firestien 30-13 FL

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:54

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

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

**Batch BHE0602 - EPA 3050B**

**Matrix Spike (BHE0602-MS1)**

Source: 2405274-01

Prepared: 05/20/24 Analyzed: 05/24/24

Arsenic	46.2	0.200	mg/kg dry	44.6	2.58	97.7	75-125			
Barium	70.6	0.400	"	44.6	30.7	89.4	75-125			
Cadmium	2.37	0.200	"	2.23	0.0538	104	75-125			
Copper	36.1	0.400	"	44.6	2.36	75.5	75-125			
Lead	24.7	0.200	"	22.3	2.37	100	75-125			
Nickel	36.6	0.400	"	44.6	2.76	75.9	75-125			
Silver	2.28	0.0200	"	2.23	0.00828	102	75-125			
Zinc	42.7	0.400	"	44.6	8.42	76.7	75-125			
Selenium	4.83	0.260	"	4.46	ND	108	75-125			

**Matrix Spike Dup (BHE0602-MSD1)**

Source: 2405274-01

Prepared: 05/20/24 Analyzed: 05/24/24

Arsenic	46.1	0.200	mg/kg dry	44.6	2.58	97.5	75-125	0.121	25
Barium	72.7	0.400	"	44.6	30.7	94.0	75-125	2.92	25
Cadmium	2.41	0.200	"	2.23	0.0538	106	75-125	1.83	25
Copper	36.4	0.400	"	44.6	2.36	76.3	75-125	0.884	25
Lead	25.2	0.200	"	22.3	2.37	103	75-125	2.08	25
Nickel	37.0	0.400	"	44.6	2.76	76.6	75-125	0.856	25
Silver	2.31	0.0200	"	2.23	0.00828	103	75-125	1.15	25
Zinc	43.2	0.400	"	44.6	8.42	77.9	75-125	1.24	25
Selenium	4.75	0.260	"	4.46	ND	106	75-125	1.58	25

**Post Spike (BHE0602-PS1)**

Source: 2405274-01

Prepared: 05/20/24 Analyzed: 05/24/24

Arsenic	111		ug/l	100	5.64	105	75-125		
Barium	176		"	100	67.2	108	75-125		
Cadmium	5.65		"	5.00	0.118	111	75-125		
Copper	87.9		"	100	5.16	82.7	75-125		
Lead	59.4		"	50.0	5.18	108	75-125		
Nickel	89.0		"	100	6.04	82.9	75-125		
Silver	5.53		"	5.00	0.0181	110	75-125		
Zinc	103		"	100	18.4	84.2	75-125		
Selenium	11.9		"	10.0	0.107	118	75-125		

Summit Scientific

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

Project: Noble - Firestien 30-13 FL  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:54

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

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

**Batch BHE0605 - 3060A Mod**

**Blank (BHE0605-BLK1)**

Prepared & Analyzed: 05/20/24

Chromium, Hexavalent      ND      0.30    mg/kg wet

**LCS (BHE0605-BS1)**

Prepared & Analyzed: 05/20/24

Chromium, Hexavalent      25.7      0.30    mg/kg wet      25.0      103      80-120

**Duplicate (BHE0605-DUP1)**

**Source: 2405268-04**

Prepared & Analyzed: 05/20/24

Chromium, Hexavalent      ND      0.30    mg/kg dry      ND      20

**Matrix Spike (BHE0605-MS1)**

**Source: 2405268-04**

Prepared & Analyzed: 05/20/24

Chromium, Hexavalent      27.7      0.30    mg/kg dry      27.1      ND      102      75-125

**Matrix Spike Dup (BHE0605-MSD1)**

**Source: 2405268-04**

Prepared & Analyzed: 05/20/24

Chromium, Hexavalent      27.6      0.30    mg/kg dry      27.1      ND      102      75-125      0.196      20

Summit Scientific

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

Project: Noble - Firestien 30-13 FL

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:54

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

**Summit Scientific**

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

**Batch BHE0611 - General Preparation**

**Blank (BHE0611-BLK1)**

Prepared: 05/20/24 Analyzed: 05/22/24

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

**LCS (BHE0611-BS1)**

Prepared: 05/20/24 Analyzed: 05/22/24

Calcium	5.15	0.0500	mg/L wet	5.00	103	70-130				
Magnesium	5.19	0.0500	"	5.00	104	70-130				
Sodium	5.22	0.0500	"	5.00	104	70-130				

Summit Scientific

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

Project: Noble - Firestien 30-13 FL

Project Number: UWRWE-A3681-ABN  
 Project Manager: Jacob Whritenour

**Reported:**  
 05/28/24 12:54

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

**Summit Scientific**

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

**Batch BHE0612 - General Preparation**

Duplicate (BHE0612-DUP1)	Source: 2405282-01			Prepared & Analyzed: 05/20/24							
% Solids	94.7		%		94.6				0.184	20	

Summit Scientific

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

Project: Noble - Firestien 30-13 FL  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:54

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

**Summit Scientific**

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

**Batch BHE0614 - General Preparation**

**Blank (BHE0614-BLK1)**

Prepared: 05/20/24 Analyzed: 05/21/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BHE0614-BS1)**

Prepared: 05/20/24 Analyzed: 05/21/24

Specific Conductance (EC) 0.150 0.0100 mmhos/cm 0.150 100 95-105

**Duplicate (BHE0614-DUP1)**

Source: 2405280-01

Prepared: 05/20/24 Analyzed: 05/21/24

Specific Conductance (EC) 1.01 0.0100 mmhos/cm 1.04 2.05 20

Summit Scientific

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

Project: Noble - Firestien 30-13 FL

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:54

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

**Summit Scientific**

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

**Batch BHE0613 - General Preparation**

**LCS (BHE0613-BS1)**

Prepared: 05/20/24 Analyzed: 05/21/24

pH	9.20	pH Units	9.18	100	95-105
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**Duplicate (BHE0613-DUP1)**

Source: 2405280-01

Prepared: 05/20/24 Analyzed: 05/21/24

pH	8.50	pH Units	8.50	0.00	20
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Summit Scientific

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

Project: Noble - Firestien 30-13 FL

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:54

### Notes and Definitions

- 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-05      The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
- 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

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 28, 2024

Jacob Whritenour  
Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield, CO 80020  
RE: Noble - Firestien 30-13 FAC  
Work Order #2405287

Enclosed are the results of analyses for samples received by Summit Scientific on 05/17/24 17:49. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Natalie Tessier For Paul Shrewsbury  
President



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

Project: Noble - Firestien 30-13 FAC

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SEP01-DL@3'	2405287-01	Soil	05/17/24 10:04	05/17/24 17:49
BKG01@0-6"	2405287-02	Soil	05/17/24 11:40	05/17/24 17:49
BKG01@2.5'	2405287-03	Soil	05/17/24 11:42	05/17/24 17:49
BKG01@3'	2405287-04	Soil	05/17/24 11:44	05/17/24 17:49
BKG01@4'	2405287-05	Soil	05/17/24 11:46	05/17/24 17:49

Summit Scientific

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Client: Noble / Tasman		Send Data To: Project Manager: Jake Whritenour		Send Invoice To: Company: Chevron	
Address: 6855 W 119th Ave		E-Mail: jwhritenour@tasman-geo.com		Project Name/Location:	
City/State/Zip: Broomfield / CO / 80020		Project Name: Firestien 30-13 FAC		AFE#: UWRWE-A3681-ABN	
Phone: 303-487-1228		Project Number:		PO/Billing Codes:	
Sampler Name: Gabe Semenza		Project Number:		Contact: Miguel Barron <sup>GS</sup> Mike Montoya	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Analysis Requested							Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR		Metals - 915
1	SEPOL-DL@3'	5/17/24	1004	1			X			X			X	X	X	X	X	X	
2	BKG01@0-6"	↓	1140	↓											X	X			
3	BKG01@2.5'	↓	1142	↓											X	X			
4	BKG01@3'	↓	1144	↓											X	X			
5	BKG01@4'	↓	1146	↓											X	X			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: <i>G. Semenza</i>	Date/Time: 5/17/24 1500	Received by: Tasman Lockbox	Date/Time: 5/17/24 1500	TAT Business Days	Field DO	Notes:
Relinquished by: <i>Tasman Lockbox</i>	Date/Time: 5/17/24 1749	Received by: <i>[Signature]</i>	Date/Time: 5/17/24 1749	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: 9.0	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:	Standard	X Field Turb.	

S2

Sample Receipt Checklist

S2 Work Order# 2405087

Client: Nobel Cosman

Client Project ID: Firestien 30-13 FAC

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

Airbill #: \_\_\_\_\_

Matrix (Check all that apply)

Air

Soil/Solid

Water

Other

Temp (°C)

9.0

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> NOTE: 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"/>	
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>none</u>
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 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.

AS

Custodian Printed Name

5/17/24  
Date/Time



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

Project: Noble - Firestien 30-13 FAC  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

**SEP01-DL@3'**  
**2405287-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/17/24 10:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHE0654	05/21/24	05/22/24	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: **05/17/24 10:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0249	62.3 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.8 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0379	94.8 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/17/24 10:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHE0655	05/21/24	05/22/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/17/24 10:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	9.27	74.1 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Firestien 30-13 FAC

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

**SEP01-DL@3'**  
**2405287-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/17/24 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHE0601	05/20/24	05/21/24	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: **05/17/24 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0232	69.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0250	75.0 %	40-150		"	"	"	"	

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

Date Sampled: **05/17/24 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHE0608	05/20/24	05/22/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/17/24 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Firestien 30-13 FAC  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

**SEP01-DL@3'**  
**2405287-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	4.26	0.200	mg/kg dry	1	BHE0640	05/21/24	05/23/24	EPA 6020B
Barium	70.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	4.58	0.400	"	"	"	"	"	"
Lead	7.26	0.200	"	"	"	"	"	"
Nickel	5.07	0.400	"	"	"	"	"	"
Silver	0.0342	0.0200	"	"	"	"	"	"
Zinc	18.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/17/24 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHE0644	05/21/24	05/21/24	EPA 7196A	

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

Date Sampled: **05/17/24 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	52.7	0.0500	mg/L dry	1	BHE0611	05/20/24	05/22/24	EPA 6020B	
Magnesium	18.8	0.0500	"	"	"	"	"	"	
Sodium	11.2	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/17/24 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.337	0.00100	units	1	BHE0728	05/23/24	05/23/24	Calculation	

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

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Firestien 30-13 FAC  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

**SEP01-DL@3'**  
**2405287-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/17/24 10:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	86.0			%	1	BHE0612	05/20/24	05/20/24	Calculation	

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

Date Sampled: **05/17/24 10:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.521	0.0100		mmhos/cm	1	BHE0614	05/20/24	05/21/24	EPA 120.1	

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

Date Sampled: **05/17/24 10:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.15			pH Units	1	BHE0613	05/20/24	05/21/24	EPA 9045D	

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**Reported:**  
05/28/24 12:50

**BKG01@0-6''**  
**2405287-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **05/17/24 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.41	0.180	mg/kg dry	1	BHE0640	05/21/24	05/23/24	EPA 6020B	
Barium	72.6	0.360	"	"	"	"	"	"	
Cadmium	0.183	0.180	"	"	"	"	"	"	
Copper	35.4	0.360	"	"	"	"	"	"	
Lead	7.15	0.180	"	"	"	"	"	"	
Nickel	4.21	0.360	"	"	"	"	"	"	
Silver	0.0297	0.0180	"	"	"	"	"	"	
Zinc	24.4	0.360	"	"	"	"	"	"	
Selenium	0.269	0.234	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/17/24 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHE0644	05/21/24	05/21/24	EPA 7196A	

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

Date Sampled: **05/17/24 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	51.8	0.0500	mg/L dry	1	BHE0611	05/20/24	05/22/24	EPA 6020B	
Magnesium	19.5	0.0500	"	"	"	"	"	"	
Sodium	33.9	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/17/24 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	1.02	0.00100	units	1	BHE0728	05/23/24	05/23/24	Calculation	

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

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Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

**BKG01@0-6''**  
**2405287-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/17/24 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	89.6			%	1	BHE0612	05/20/24	05/20/24	Calculation	

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

Date Sampled: **05/17/24 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.649	0.0100		mmhos/cm	1	BHE0614	05/20/24	05/21/24	EPA 120.1	

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

Date Sampled: **05/17/24 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.41			pH Units	1	BHE0613	05/20/24	05/21/24	EPA 9045D	

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**Reported:**  
05/28/24 12:50

**BKG01@2.5'**  
**2405287-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **05/17/24 11:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	4.06	0.200	mg/kg dry	1	BHE0640	05/21/24	05/23/24	EPA 6020B	
Barium	71.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.70	0.400	"	"	"	"	"	"	
Lead	6.61	0.200	"	"	"	"	"	"	
Nickel	4.79	0.400	"	"	"	"	"	"	
Silver	0.0314	0.0200	"	"	"	"	"	"	
Zinc	16.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/17/24 11:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHE0644	05/21/24	05/21/24	EPA 7196A	

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

Date Sampled: **05/17/24 11:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	32.4	0.0500	mg/L dry	1	BHE0611	05/20/24	05/22/24	EPA 6020B	
Magnesium	10.5	0.0500	"	"	"	"	"	"	
Sodium	53.0	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/17/24 11:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	2.07	0.00100	units	1	BHE0728	05/23/24	05/23/24	Calculation	

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Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

**BKG01@2.5'**  
**2405287-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/17/24 11:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	93.2			%	1	BHE0612	05/20/24	05/20/24	Calculation	

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

Date Sampled: **05/17/24 11:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.660	0.0100		mmhos/cm	1	BHE0614	05/20/24	05/21/24	EPA 120.1	

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

Date Sampled: **05/17/24 11:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.84			pH Units	1	BHE0613	05/20/24	05/21/24	EPA 9045D	

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Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

**BKG01@3'**  
**2405287-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **05/17/24 11:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	4.74	0.181	mg/kg dry	1	BHE0640	05/21/24	05/23/24	EPA 6020B	
Barium	104	0.362	"	"	"	"	"	"	
Cadmium	0.212	0.181	"	"	"	"	"	"	
Copper	5.34	0.362	"	"	"	"	"	"	
Lead	9.05	0.181	"	"	"	"	"	"	
Nickel	5.36	0.362	"	"	"	"	"	"	
Silver	0.0464	0.0181	"	"	"	"	"	"	
Zinc	19.9	0.362	"	"	"	"	"	"	
Selenium	ND	0.236	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/17/24 11:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHE0644	05/21/24	05/21/24	EPA 7196A	

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

Date Sampled: **05/17/24 11:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	48.9	0.0500	mg/L dry	1	BHE0611	05/20/24	05/22/24	EPA 6020B	
Magnesium	19.5	0.0500	"	"	"	"	"	"	
Sodium	78.2	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/17/24 11:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	2.39	0.00100	units	1	BHE0728	05/23/24	05/23/24	Calculation	

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

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Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

**BKG01@3'**  
**2405287-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/17/24 11:44**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	86.7			%	1	BHE0612	05/20/24	05/20/24	Calculation	

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

Date Sampled: **05/17/24 11:44**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.801	0.0100		mmhos/cm	1	BHE0614	05/20/24	05/21/24	EPA 120.1	

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

Date Sampled: **05/17/24 11:44**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.92			pH Units	1	BHE0613	05/20/24	05/21/24	EPA 9045D	

Summit Scientific

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Project: Noble - Firestien 30-13 FAC

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

**BKG01@4'**  
**2405287-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **05/17/24 11:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	5.43	0.200	mg/kg dry	1	BHE0640	05/21/24	05/23/24	EPA 6020B	
Barium	95.3	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.69	0.400	"	"	"	"	"	"	
Lead	8.63	0.200	"	"	"	"	"	"	
Nickel	7.34	0.400	"	"	"	"	"	"	
Silver	0.0583	0.0200	"	"	"	"	"	"	
Zinc	19.9	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/17/24 11:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHE0644	05/21/24	05/21/24	EPA 7196A	

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

Date Sampled: **05/17/24 11:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	60.8	0.0500	mg/L dry	1	BHE0611	05/20/24	05/22/24	EPA 6020B	
Magnesium	25.4	0.0500	"	"	"	"	"	"	
Sodium	74.1	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/17/24 11:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	2.01	0.00100	units	1	BHE0728	05/23/24	05/23/24	Calculation	

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Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

**BKG01@4'**  
**2405287-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/17/24 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.1		%	1	BHE0612	05/20/24	05/20/24	Calculation	

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

Date Sampled: **05/17/24 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.876	0.0100	mmhos/cm	1	BHE0614	05/20/24	05/21/24	EPA 120.1	

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

Date Sampled: **05/17/24 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.06		pH Units	1	BHE0613	05/20/24	05/21/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Firestien 30-13 FAC

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

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

#### Summit Scientific

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

#### Batch BHE0654 - EPA 5030 Soil MS

##### Blank (BHE0654-BLK1)

Prepared & Analyzed: 05/21/24

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		81.6	50-150			
Surrogate: Toluene-d8	0.0422		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0400		99.8	50-150			

##### LCS (BHE0654-BS1)

Prepared: 05/21/24 Analyzed: 05/22/24

Benzene	0.0710	0.0020	mg/kg	0.100		71.0	70-130			
Toluene	0.0960	0.0050	"	0.100		96.0	70-130			
Ethylbenzene	0.0903	0.0050	"	0.100		90.3	70-130			
m,p-Xylene	0.184	0.010	"	0.200		92.0	70-130			
o-Xylene	0.0888	0.0050	"	0.100		88.8	70-130			
1,2,4-Trimethylbenzene	0.0798	0.0050	"	0.100		79.8	70-130			
1,3,5-Trimethylbenzene	0.0821	0.0050	"	0.100		82.1	70-130			
Naphthalene	0.0728	0.0038	"	0.100		72.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0244		"	0.0400		61.1	50-150			
Surrogate: Toluene-d8	0.0448		"	0.0400		112	50-150			
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0400		96.4	50-150			

##### Matrix Spike (BHE0654-MS1)

Source: 2405280-01

Prepared: 05/21/24 Analyzed: 05/22/24

Benzene	0.0777	0.0020	mg/kg	0.100	ND	77.7	70-130			
Toluene	0.105	0.0050	"	0.100	ND	105	70-130			
Ethylbenzene	0.103	0.0050	"	0.100	ND	103	70-130			
m,p-Xylene	0.203	0.010	"	0.200	ND	102	70-130			
o-Xylene	0.0987	0.0050	"	0.100	ND	98.7	70-130			
1,2,4-Trimethylbenzene	0.0898	0.0050	"	0.100	ND	89.8	70-130			
1,3,5-Trimethylbenzene	0.0918	0.0050	"	0.100	ND	91.8	70-130			
Naphthalene	0.0794	0.0038	"	0.100	ND	79.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0206		"	0.0400		51.6	50-150			
Surrogate: Toluene-d8	0.0435		"	0.0400		109	50-150			
Surrogate: 4-Bromofluorobenzene	0.0388		"	0.0400		96.9	50-150			

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

Project: Noble - Firestien 30-13 FAC

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

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

**Summit Scientific**

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

**Batch BHE0654 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BHE0654-MSD1)</b>	<b>Source: 2405280-01</b>			<b>Prepared: 05/21/24 Analyzed: 05/22/24</b>						
Benzene	0.0785	0.0020	mg/kg	0.100	ND	78.5	70-130	1.08	30	
Toluene	0.107	0.0050	"	0.100	ND	107	70-130	1.93	30	
Ethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130	2.02	30	
m,p-Xylene	0.210	0.010	"	0.200	ND	105	70-130	3.20	30	
o-Xylene	0.101	0.0050	"	0.100	ND	101	70-130	1.90	30	
1,2,4-Trimethylbenzene	0.0930	0.0050	"	0.100	ND	93.0	70-130	3.48	30	
1,3,5-Trimethylbenzene	0.0950	0.0050	"	0.100	ND	95.0	70-130	3.47	30	
Naphthalene	0.0844	0.0038	"	0.100	ND	84.4	70-130	6.12	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0232</i>		<i>"</i>	<i>0.0400</i>		<i>58.1</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0439</i>		<i>"</i>	<i>0.0400</i>		<i>110</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0389</i>		<i>"</i>	<i>0.0400</i>		<i>97.4</i>	<i>50-150</i>			

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Broomfield CO, 80020

Project: Noble - Firestien 30-13 FAC  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

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

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

**Batch BHE0655 - EPA 3550A**

**Blank (BHE0655-BLK1)**

Prepared & Analyzed: 05/21/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	15.9		"	12.5		127		30-150			

**LCS (BHE0655-BS1)**

Prepared & Analyzed: 05/21/24

C10-C28 (DRO)	482	50	mg/kg	500		96.5		70-130			
Surrogate: <i>o</i> -Terphenyl	16.9		"	12.5		135		30-150			

**Matrix Spike (BHE0655-MS1)**

Source: 2405280-01

Prepared & Analyzed: 05/21/24

C10-C28 (DRO)	520	50	mg/kg	500	41.9	95.7		70-130			
Surrogate: <i>o</i> -Terphenyl	10.3		"	12.5		82.6		30-150			

**Matrix Spike Dup (BHE0655-MSD1)**

Source: 2405280-01

Prepared & Analyzed: 05/21/24

C10-C28 (DRO)	460	50	mg/kg	500	41.9	83.7		70-130	12.3	20	
Surrogate: <i>o</i> -Terphenyl	11.0		"	12.5		88.3		30-150			

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Tasman Geosciences  
6855 W. 119th Ave.  
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Project: Noble - Firestien 30-13 FAC

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

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

**Summit Scientific**

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

**Batch BHE0601 - EPA 5030 Soil MS**

**Blank (BHE0601-BLK1)**

Prepared & Analyzed: 05/20/24

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0299</i>		<i>"</i>	<i>0.0333</i>		<i>89.8</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0355</i>		<i>"</i>	<i>0.0333</i>		<i>106</i>	<i>40-150</i>			

**LCS (BHE0601-BS1)**

Prepared & Analyzed: 05/20/24

Acenaphthene	0.0354	0.00500	mg/kg	0.0333	106	31-137
Anthracene	0.0371	0.00500	"	0.0333	111	30-120
Benzo (a) anthracene	0.0332	0.00500	"	0.0333	99.6	30-120
Benzo (a) pyrene	0.0295	0.00500	"	0.0333	88.4	30-120
Benzo (b) fluoranthene	0.0307	0.00500	"	0.0333	92.0	30-120
Benzo (k) fluoranthene	0.0345	0.00500	"	0.0333	104	30-120
Chrysene	0.0366	0.00500	"	0.0333	110	30-120
Dibenz (a,h) anthracene	0.0240	0.00500	"	0.0333	72.1	30-120
Fluoranthene	0.0356	0.00500	"	0.0333	107	30-120
Fluorene	0.0339	0.00500	"	0.0333	102	30-120
Indeno (1,2,3-cd) pyrene	0.0190	0.00500	"	0.0333	56.9	30-120
Pyrene	0.0398	0.00500	"	0.0333	119	35-142
1-Methylnaphthalene	0.0332	0.00500	"	0.0333	99.7	35-142
2-Methylnaphthalene	0.0343	0.00500	"	0.0333	103	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0331</i>		<i>"</i>	<i>0.0333</i>	<i>99.3</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0360</i>		<i>"</i>	<i>0.0333</i>	<i>108</i>	<i>40-150</i>

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Broomfield CO, 80020

Project: Noble - Firestien 30-13 FAC  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

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

**Summit Scientific**

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

**Batch BHE0601 - EPA 5030 Soil MS**

<b>Matrix Spike (BHE0601-MS1)</b>	<b>Source: 2405268-04</b>			<b>Prepared &amp; Analyzed: 05/20/24</b>								
Acenaphthene	0.0251	0.00500	mg/kg	0.0333	ND	75.3	31-137					
Anthracene	0.0260	0.00500	"	0.0333	ND	78.0	30-120					
Benzo (a) anthracene	0.0286	0.00500	"	0.0333	ND	85.8	30-120					
Benzo (a) pyrene	0.0251	0.00500	"	0.0333	ND	75.4	30-120					
Benzo (b) fluoranthene	0.0260	0.00500	"	0.0333	ND	78.1	30-120					
Benzo (k) fluoranthene	0.0241	0.00500	"	0.0333	ND	72.4	30-120					
Chrysene	0.0296	0.00500	"	0.0333	ND	88.9	30-120					
Dibenz (a,h) anthracene	0.0258	0.00500	"	0.0333	ND	77.5	30-120					
Fluoranthene	0.0289	0.00500	"	0.0333	ND	86.8	30-120					
Fluorene	0.0254	0.00500	"	0.0333	ND	76.3	30-120					
Indeno (1,2,3-cd) pyrene	0.0201	0.00500	"	0.0333	ND	60.2	30-120					
Pyrene	0.0336	0.00500	"	0.0333	0.00734	78.7	35-142					
1-Methylnaphthalene	0.0269	0.00500	"	0.0333	ND	80.7	15-130					
2-Methylnaphthalene	0.0272	0.00500	"	0.0333	ND	81.5	15-130					
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0265</i>		<i>"</i>	<i>0.0333</i>		<i>79.5</i>	<i>40-150</i>					
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0270</i>		<i>"</i>	<i>0.0333</i>		<i>81.0</i>	<i>40-150</i>					

<b>Matrix Spike Dup (BHE0601-MSD1)</b>	<b>Source: 2405268-04</b>			<b>Prepared &amp; Analyzed: 05/20/24</b>								
Acenaphthene	0.0202	0.00500	mg/kg	0.0333	ND	60.5	31-137	21.7	30			
Anthracene	0.0213	0.00500	"	0.0333	ND	63.8	30-120	20.1	30			
Benzo (a) anthracene	0.0242	0.00500	"	0.0333	ND	72.7	30-120	16.5	30			
Benzo (a) pyrene	0.0214	0.00500	"	0.0333	ND	64.1	30-120	16.1	30			
Benzo (b) fluoranthene	0.0220	0.00500	"	0.0333	ND	65.9	30-120	16.9	30			
Benzo (k) fluoranthene	0.0190	0.00500	"	0.0333	ND	57.0	30-120	23.8	30			
Chrysene	0.0249	0.00500	"	0.0333	ND	74.7	30-120	17.4	30			
Dibenz (a,h) anthracene	0.0238	0.00500	"	0.0333	ND	71.5	30-120	8.03	30			
Fluoranthene	0.0245	0.00500	"	0.0333	ND	73.4	30-120	16.7	30			
Fluorene	0.0206	0.00500	"	0.0333	ND	61.9	30-120	20.7	30			
Indeno (1,2,3-cd) pyrene	0.0186	0.00500	"	0.0333	ND	55.9	30-120	7.29	30			
Pyrene	0.0296	0.00500	"	0.0333	0.00734	66.9	35-142	12.4	30			
1-Methylnaphthalene	0.0228	0.00500	"	0.0333	ND	68.4	15-130	16.5	50			
2-Methylnaphthalene	0.0231	0.00500	"	0.0333	ND	69.4	15-130	16.1	50			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0230</i>		<i>"</i>	<i>0.0333</i>		<i>68.9</i>	<i>40-150</i>					
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0222</i>		<i>"</i>	<i>0.0333</i>		<i>66.7</i>	<i>40-150</i>					

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

Project: Noble - Firestien 30-13 FAC

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

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

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

**Batch BHE0608 - EPA 3050B**

**Blank (BHE0608-BLK1)**

Prepared: 05/20/24 Analyzed: 05/21/24

Boron ND 2.00 mg/L

**LCS (BHE0608-BS1)**

Prepared: 05/20/24 Analyzed: 05/21/24

Boron 5.14 2.00 mg/L 5.00 103 80-120

**Duplicate (BHE0608-DUP1)**

Source: 2403269-05RE1

Prepared: 05/20/24 Analyzed: 05/22/24

Boron 6.21 2.00 mg/L 5.98 3.85 20

**Matrix Spike (BHE0608-MS1)**

Source: 2403269-05RE1

Prepared: 05/20/24 Analyzed: 05/22/24

Boron 14.0 2.00 mg/L 4.97 5.98 162 75-125 QM-05

**Matrix Spike Dup (BHE0608-MSD1)**

Source: 2403269-05RE1

Prepared: 05/20/24 Analyzed: 05/22/24

Boron 12.5 2.00 mg/L 4.97 5.98 130 75-125 11.8 25 QM-05

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Project: Noble - Firestien 30-13 FAC

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

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

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

**Batch BHE0640 - EPA 3050B**

**Blank (BHE0640-BLK1)**

Prepared: 05/21/24 Analyzed: 05/23/24

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 (BHE0640-BS1)**

Prepared: 05/21/24 Analyzed: 05/23/24

Arsenic	34.9	0.200	mg/kg wet	40.0		87.2	80-120			
Barium	35.9	0.400	"	40.0		89.8	80-120			
Cadmium	1.85	0.200	"	2.00		92.5	80-120			
Copper	39.2	0.400	"	40.0		98.0	80-120			
Lead	18.2	0.200	"	20.0		91.2	80-120			
Nickel	38.8	0.400	"	40.0		97.0	80-120			
Silver	1.85	0.0200	"	2.00		92.5	80-120			
Zinc	38.9	0.400	"	40.0		97.2	80-120			
Selenium	4.21	0.260	"	4.00		105	80-120			

**Duplicate (BHE0640-DUP1)**

Source: 2403419-02

Prepared: 05/21/24 Analyzed: 05/23/24

Arsenic	2.77	0.200	mg/kg dry		2.77		0.0510	20		
Barium	105	0.400	"		84.7		21.8	20		QR-04
Cadmium	0.153	0.200	"		0.128		17.4	20		
Copper	2.37	0.400	"		2.27		4.43	20		
Lead	5.81	0.200	"		5.57		4.26	20		
Nickel	3.59	0.400	"		3.26		9.65	20		
Silver	0.0123	0.0200	"		0.00962		24.2	20		QR-01
Zinc	13.8	0.400	"		13.4		2.75	20		
Selenium	ND	0.260	"		ND			20		

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Firestien 30-13 FAC

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

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

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

**Batch BHE0640 - EPA 3050B**

**Matrix Spike (BHE0640-MS1)**

Source: 2403419-02

Prepared: 05/21/24 Analyzed: 05/23/24

Arsenic	39.2	0.200	mg/kg dry	41.5	2.77	87.7	75-125			
Barium	120	0.400	"	41.5	84.7	85.8	75-125			
Cadmium	2.22	0.200	"	2.08	0.128	101	75-125			
Copper	24.3	0.400	"	41.5	2.27	53.0	75-125			QM-05
Lead	24.7	0.200	"	20.8	5.57	92.1	75-125			
Nickel	25.5	0.400	"	41.5	3.26	53.5	75-125			QM-05
Silver	2.01	0.0200	"	2.08	0.00962	96.3	75-125			
Zinc	36.1	0.400	"	41.5	13.4	54.7	75-125			QM-05
Selenium	4.46	0.260	"	4.15	ND	107	75-125			

**Matrix Spike Dup (BHE0640-MSD1)**

Source: 2403419-02

Prepared: 05/21/24 Analyzed: 05/23/24

Arsenic	41.7	0.200	mg/kg dry	43.1	2.77	90.2	75-125	6.09	25	
Barium	126	0.400	"	43.1	84.7	96.1	75-125	4.72	25	
Cadmium	2.26	0.200	"	2.16	0.128	98.8	75-125	1.90	25	
Copper	24.9	0.400	"	43.1	2.27	52.5	75-125	2.51	25	QM-05
Lead	25.6	0.200	"	21.6	5.57	93.0	75-125	3.71	25	
Nickel	25.8	0.400	"	43.1	3.26	52.3	75-125	1.33	25	QM-05
Silver	2.09	0.0200	"	2.16	0.00962	96.6	75-125	4.10	25	
Zinc	37.2	0.400	"	43.1	13.4	55.2	75-125	3.02	25	QM-05
Selenium	4.69	0.260	"	4.31	ND	109	75-125	4.98	25	

**Post Spike (BHE0640-PS1)**

Source: 2403419-02

Prepared: 05/21/24 Analyzed: 05/23/24

Arsenic	106		ug/l	100	6.27	99.5	75-125			
Barium	302		"	100	192	110	75-125			
Cadmium	5.55		"	5.00	0.291	105	75-125			
Copper	63.3		"	100	5.14	58.1	75-125			QM-01
Lead	62.9		"	50.0	12.6	101	75-125			
Nickel	65.7		"	100	7.37	58.3	75-125			QM-01
Silver	5.27		"	5.00	0.0218	105	75-125			
Zinc	91.5		"	100	30.3	61.1	75-125			QM-01
Selenium	11.7		"	10.0	0.176	115	75-125			

Summit Scientific

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

Project: Noble - Firestien 30-13 FAC  
Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

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

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

**Batch BHE0644 - 3060A Mod**

**Blank (BHE0644-BLK1)**

Prepared & Analyzed: 05/21/24

Chromium, Hexavalent      ND      0.30 mg/kg wet

**LCS (BHE0644-BS1)**

Prepared & Analyzed: 05/21/24

Chromium, Hexavalent      22.8      0.30 mg/kg wet      25.0      91.2      80-120

**Duplicate (BHE0644-DUP1)**

**Source: 2405204-21**

Prepared & Analyzed: 05/21/24

Chromium, Hexavalent      ND      0.30 mg/kg dry      ND      20

**Matrix Spike (BHE0644-MS1)**

**Source: 2405204-21**

Prepared & Analyzed: 05/21/24

Chromium, Hexavalent      30.6      0.30 mg/kg dry      38.9      ND      78.6      75-125

**Matrix Spike Dup (BHE0644-MSD1)**

**Source: 2405204-21**

Prepared & Analyzed: 05/21/24

Chromium, Hexavalent      35.5      0.30 mg/kg dry      38.9      ND      91.2      75-125      14.8      20

Summit Scientific

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Broomfield CO, 80020

Project: Noble - Firestien 30-13 FAC

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

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

**Summit Scientific**

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

**Batch BHE0611 - General Preparation**

**Blank (BHE0611-BLK1)**

Prepared: 05/20/24 Analyzed: 05/22/24

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

**LCS (BHE0611-BS1)**

Prepared: 05/20/24 Analyzed: 05/22/24

Calcium	5.15	0.0500	mg/L wet	5.00	103	70-130
Magnesium	5.19	0.0500	"	5.00	104	70-130
Sodium	5.22	0.0500	"	5.00	104	70-130

Summit Scientific

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

Project: Noble - Firestien 30-13 FAC  
 Project Number: UWRWE-A3681-ABN  
 Project Manager: Jacob Whritenour

**Reported:**  
 05/28/24 12:50

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

**Summit Scientific**

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

**Batch BHE0612 - General Preparation**

Duplicate (BHE0612-DUP1)	Source: 2405282-01			Prepared & Analyzed: 05/20/24							
% Solids	94.7		%		94.6				0.184	20	

Summit Scientific

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Firestien 30-13 FAC

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

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

**Summit Scientific**

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

**Batch BHE0614 - General Preparation**

**Blank (BHE0614-BLK1)**

Prepared: 05/20/24 Analyzed: 05/21/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BHE0614-BS1)**

Prepared: 05/20/24 Analyzed: 05/21/24

Specific Conductance (EC) 0.150 0.0100 mmhos/cm 0.150 100 95-105

**Duplicate (BHE0614-DUP1)**

Source: 2405280-01

Prepared: 05/20/24 Analyzed: 05/21/24

Specific Conductance (EC) 1.01 0.0100 mmhos/cm 1.04 2.05 20

Summit Scientific

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

Project: Noble - Firestien 30-13 FAC

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

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

**Summit Scientific**

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

**Batch BHE0613 - General Preparation**

**LCS (BHE0613-BS1)**

Prepared: 05/20/24 Analyzed: 05/21/24

pH	9.20	pH Units	9.18	100	95-105
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**Duplicate (BHE0613-DUP1)**

Source: 2405280-01

Prepared: 05/20/24 Analyzed: 05/21/24

pH	8.50	pH Units	8.50	0.00	20
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Summit Scientific

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

Project: Noble - Firestien 30-13 FAC

Project Number: UWRWE-A3681-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/28/24 12:50

### 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-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
- 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