

EXCAVATION REPORT ARENS G26-19

ECMC REMEDIATION # 34770

Prepared for:



1099 18th Street
Suite 1500
Denver, CO 80202

Prepared by:



4725 Independence Street
Wheat Ridge, CO 80033

BKG01@2' (08/07/2024) PID = 0.2 ppm	FL01R-W@2' (08/07/2024) PID = 0.1 ppm	FL01-01@3' (08/07/2024) PID = 0.2 ppm	FL01-02@3' (08/07/2024) PID = 0.1 ppm	FL01-03@2' (08/07/2024) PID = 0.1 ppm	FL01-04@4' (08/07/2024) PID = 0.2 ppm
BKG01@3' (08/07/2024) PID = 0.2 ppm					
BKG01@4' (08/07/2024) PID = 0.1 ppm					

FL01-05@2'
(08/07/2024)
PID = 0.1 ppm

SEP01-FL@3'[A]
(08/06/2024)
PID = 0.8 ppm

Legend

- Flowline Location (Collected via Trimble GPS)
- Flowline Location – Abandoned in Place
- Soil Sample Location – Field Screen (Collected via Trimble GPS)
- Soil Sample Location – Lab Analyzed (Collected via Trimble GPS)
- Soil Sample Location – GSSL Exceedance (Collected via Trimble GPS)

Notes

- 1) All locations are approximate unless otherwise noted.
- 2) Buried infrastructure has been spatially projected.
- 3) Color coded sample exceedances are in reference to ECMC Table 915-1 Organic Compounds in Soil.

GPS – Global Positioning System
 PID – Photoionization Detector
 ppm – Parts per million
 GSSL – Protection of Groundwater Soil Screening Levels

[A] Soil sample reported on under Beebe Draw T4N R65W S26 L04 Tank Battery (REM #34682)

0 ft. 150 ft. 300 ft.

Image Source: Google Earth; Google 2021
 Projection: WGS 1984, UTM Zone 13 North

DATE: June 27, 2025

DESIGNED BY: J. Whritenour

DRAWN BY: N. Crozier



Tasman, Inc.
 4725 Independence Street
 Wheat Ridge, CO 80033

**Noble Energy, Inc. – 100322 – DJ Basin
 Arens G26-19 Flowline**
 SWNW, Section 26, Township 4 North, Range 65 West
 Weld County, Colorado

Flowline Closure & Soil
 Analytical Map
 (08/06/2024 & 08/07/2024)

FIGURE
 1

BKG02@1-2'
(02/07/2025)
PID = 0.4 ppm

BKG02@3-4'
(02/07/2025)
PID = 0.2 ppm

BKG02@4-5'
(02/07/2025)
PID = 0.2 ppm

BKG01@2'
(08/07/2024)
PID = 0.2 ppm

BKG01@3'
(08/07/2024)
PID = 0.2 ppm

BKG01@4'
(08/07/2024)
PID = 0.1 ppm

FL01R-W@2'
(08/07/2024)
PID = 0.1 ppm

SS01@2'
(02/07/2025)
PID = 0.5 ppm

SS04@2'
(02/07/2025)
PID = 4.0 ppm

SS02@2'
(02/07/2025)
PID = 0.4 ppm

FL01-01@3'
(08/07/2024)
PID = 0.2 ppm

SS03@2'
(02/07/2025)
PID = 0.6 ppm

FS01@4'
(02/07/2025)
PID = 0.7 ppm

BKG03@1-2'
(02/07/2025)
PID = 0.1 ppm

BKG03@3-4'
(02/07/2025)
PID = 0.2 ppm

BKG03@4-5'
(02/07/2025)
PID = 0.2 ppm

BKG04@1-2'
(02/07/2025)
PID = 0.1 ppm

BKG04@3-4'
(02/07/2025)
PID = 0.1 ppm

BKG04@4-5'
(02/07/2025)
PID = 0.2 ppm

Legend

- Flowline Location (Collected via Trimble GPS)
- + Soil Sample Location – Field Screen (Collected via Trimble GPS)
- + Soil Sample Location – Lab Analyzed (Collected via Trimble GPS)
- + Soil Sample Location – GSSL Exceedance (Collected via Trimble GPS)

Notes

- 1) All locations are approximate unless otherwise noted.
- 2) Buried infrastructure has been spatially projected.
- 3) Color coded sample exceedances are in reference to ECMC Table 915-1 Organic Compounds in Soil.

GPS – Global Positioning System
 PID – Photoionization Detector
 ppm – Parts per million
 GSSL – Protection of Groundwater Soil Screening Levels

0 ft. 150 ft. 300 ft.

Image Source: Google Earth; Google 2021
 Projection: WGS 1984, UTM Zone 13 North



DATE: February 7, 2025

DESIGNED BY: J. Whritenour

DRAWN BY: L. Reed



Tasman, Inc.
 4725 Independence Street
 Wheat Ridge, CO 80033

**Noble Energy, Inc. – 100322 – DJ Basin
 Arens G26-19 Flowline**
 SWNW, Section 26, Township 4 North, Range 65 West
 Weld County, Colorado

SOIL SAMPLE
 LOCATION MAP
 (FLOWLINE)

FIGURE
 2

TABLE 1
FIELD DATA SUMMARY TABLE
NOBLE ENERGY, INC - 100322
ARENS G26-19 FLOWLINE, WELD COUNTY, COLORADO
REM # 34770

Sample ID	Sample Date	Depth (ft. bgs)	GPS Data Latitude/Longitude		PDOP Value	VOC Concentration (ppm)
FL01R-W@2'	08/07/2024	2	40.286506	-104.635328	0.8	0.1
FL01-01@3'	08/07/2024	3	40.286533	-104.634759	0.8	0.2
FL01-02@3'	08/07/2024	3	40.286517	-104.634301	0.8	0.1
FL01-03@2'	08/07/2024	2	40.286510	-104.633969	0.8	0.1
FL01-04@4'	08/07/2024	4	40.286524	-104.633572	0.7	0.2
FL01-05@2'	08/07/2024	2	40.283141	-104.634148	0.8	0.1
FS01@4'	02/07/2025	4	40.286505	-104.635323	NC	0.7
SS01@2'	02/07/2025	2	40.286527	-104.635319	0.8	0.5
SS02@2'	02/07/2025	2	40.286500	-104.635296	0.7	0.4
SS03@2'	02/07/2025	2	40.286480	-104.635327	0.7	0.6
SS04@2'	02/07/2025	2	40.286507	-104.635350	0.7	4.0
BKG01@2'	08/07/2024	2	40.286695	-104.635278	0.9	0.2
BKG01@3'	08/07/2024	3	40.286695	-104.635278	0.9	0.2
BKG01@4'	08/07/2024	4	40.286695	-104.635278	0.9	0.1
BKG02@1-2'	02/07/2025	1-2	40.286696	-104.635639	0.7	0.4
BKG02@3-4'	02/07/2025	3-4	40.286696	-104.635639	0.7	0.2
BKG02@4-5'	02/07/2025	4-5	40.286696	-104.635639	0.7	0.2
BKG03@1-2'	02/07/2025	1-2	40.286300	-104.635645	0.7	0.1
BKG03@3-4'	02/07/2025	3-4	40.286300	-104.635645	0.7	0.2
BKG03@4-5'	02/07/2025	4-5	40.286300	-104.635645	0.7	0.2
BKG04@1-2'	02/07/2025	1-2	40.286218	-104.635323	0.7	0.1
BKG04@3-4'	02/07/2025	3-4	40.286218	-104.635323	0.7	0.1
BKG04@4-5'	02/07/2025	4-5	40.286218	-104.635323	0.7	0.2

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).

PDOP = Position Dilution of Precision

ppm = Parts per million

ft. = Feet

bgs = Below ground surface

= Material excavated and transported off site for disposal.

TABLE 2
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
NOBLE ENERGY, INC - 100322
ARENS G26-19 FLOWLINE, WELD COUNTY, COLORADO
REM # 34770

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@2'	08/07/2024	2	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50	<50
FL01-04@4'	08/07/2024	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50	<50
FL01-05@2'	08/07/2024	2	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50	<50
FS01@4'	02/07/2025	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50	<50
SS01@2'	02/07/2025	2	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50	<50
SS02@2'	02/07/2025	2	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50	<50
SS03@2'	02/07/2025	2	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50	<50
SS04@2'	02/07/2025	2	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<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

 = Material excavated and transported off site for disposal.

TABLE 3
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
NOBLE ENERGY, INC - 100322
ARENS G26-19 FLOWLINE, WELD COUNTY, COLORADO
REM # 34770

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@2'	08/07/2024	2	0.0265	0.105	0.154	0.104	0.151	0.0499	0.135	0.0138	0.303	0.0373	0.116	0.392	<0.00500	<0.00500
FL01-04@4'	08/07/2024	4	0.0238	0.0805	0.0660	0.0408	0.0585	0.0193	0.0591	<0.00500	0.138	0.0347	0.0480	0.186	<0.00500	<0.00500
FL01-05@2'	08/07/2024	2	<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
FS01@4'	02/07/2025	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
SS01@2'	02/07/2025	2	<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
SS02@2'	02/07/2025	2	<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
SS03@2'	02/07/2025	2	<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
SS04@2'	02/07/2025	2	<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

 = Material excavated and transported off site for disposal.

TABLE 4
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
NOBLE ENERGY, INC - 100322
ARENS G26-19 FLOWLINE, WELD COUNTY, COLORADO
REM # 34770

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@2'	08/07/2024	2	8.15	1.86	4.98	<2.00
FL01-04@4'	08/07/2024	4	7.81	8.01	13.6	<2.00
FL01-05@2'	08/07/2024	2	8.26	0.547	0.472	<2.00
FS01@4'	02/07/2025	4	8.17	2.97	7.04	<2.00
SS01@2'	02/07/2025	2	8.25	3.55	10.4	<2.00
SS02@2'	02/07/2025	2	8.31	2.46	7.75	<2.00
SS03@2'	02/07/2025	2	8.37	3.26	11.2	<2.00
SS04@2'	02/07/2025	2	7.84	1.62	4.71	<2.00
BKG01@2'	08/07/2024	2	8.14	2.67	7.62	<2.00
BKG01@3'	08/07/2024	3	8.08	0.250	7.57	<2.00
BKG01@4'	08/07/2024	4	8.02	1.97	5.43	<2.00
BKG02@1-2'	02/07/2025	1-2	8.03	1.18	4.59	<2.00
BKG02@3-4'	02/07/2025	3-4	7.85	0.73	3.08	<2.00
BKG02@4-5'	02/07/2025	4-5	7.88	0.61	3.88	<2.00
BKG03@1-2'	02/07/2025	1-2	8.41	2.12	9.45	<2.00
BKG03@3-4'	02/07/2025	3-4	7.94	1.09	5.67	<2.00
BKG03@4-5'	02/07/2025	4-5	7.72	0.70	3.88	<2.00
BKG04@1-2'	02/07/2025	1-2	7.83	7.64	11.8	<2.00
BKG04@3-4'	02/07/2025	3-4	8.00	3.58	11.5	<2.00
BKG04@4-5'	02/07/2025	4-5	7.78	1.41	4.79	<2.00
Maximum Background Concentration			8.41	7.64	11.8	-

Notes:

- Bold** faced values exceed the ECMC Table 915-1 limit(s), but are within background concentrations.
- Bold** faced values exceed the ECMC Table 915-1 limit(s) and native background concentrations.
- Brown highlighted soil analytical values indicate a regulatory exceedance.

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

= Material excavated and transported off site for disposal.

TABLE 5
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
NOBLE ENERGY, INC - 100322
ARENS G26-19 FLOWLINE, WELD COUNTY, COLORADO
REM # 34770

Sample ID	Sample Date	Depth (ft. bgs)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) ⁽⁴⁾ (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@2'	08/07/2024	2	1.78	52.8	<0.200	<0.30*	4.74	6.85	4.63	<0.260	0.0213	19.3
FL01-04@4'	08/07/2024	4	1.38	35.7	<0.200	<0.30*	4.78	4.74	3.70	<0.260	<0.0200	20.8
FL01-05@2'	08/07/2024	2	1.72	49.3	<0.200	<0.30*	4.70	4.52	4.64	<0.260	<0.0200	20.0
FS01@4'	02/07/2025	4	1.79	53.8	<0.200	<0.30*	4.29	5.31	4.77	<0.260	0.0218	18.5
SS01@2'	02/07/2025	2	2.07	73.4	<0.200	<0.30*	3.82	4.40	4.57	<0.260	0.0267	17.9
SS02@2'	02/07/2025	2	1.64	46.3	<0.200	<0.30*	2.61	3.35	3.47	<0.260	<0.0200	13.4
SS03@2'	02/07/2025	2	2.11	48.8	<0.200	<0.30*	4.31	4.26	4.34	<0.260	<0.0200	17.2
SS04@2'	02/07/2025	2	2.39	65.4	<0.200	<0.30*	4.92	9.09	5.44	<0.260	0.0295	21.8
BKG01@2'	08/07/2024	2	1.45	48.4	<0.200	<0.30*	3.29	2.88	3.69	<0.260	0.0323	13.6
BKG01@3'	08/07/2024	3	1.35	47.6	<0.200	<0.30*	2.73	3.32	3.54	<0.260	<0.0200	14.0
BKG01@4'	08/07/2024	4	1.69	42.2	<0.200	<0.30*	2.92	3.17	3.46	<0.260	<0.0200	14.2
BKG02@1-2'	02/07/2025	1-2	0.458	26.3	<0.200	<0.30*	1.34	3.28	1.10	<0.260	<0.0200	5.22
BKG02@3-4'	02/07/2025	3-4	0.499	41.0	<0.200	<0.30*	1.23	3.49	1.25	<0.260	0.0231	5.54
BKG02@4-5'	02/07/2025	4-5	0.411	49.6	<0.200	<0.30*	1.31	3.69	1.22	<0.260	0.0256	6.12
BKG03@1-2'	02/07/2025	1-2	0.973	40.0	<0.200	<0.30*	1.27	5.24	0.986	<0.260	<0.0200	5.07
BKG03@3-4'	02/07/2025	3-4	0.450	45.9	<0.200	<0.30*	1.37	3.63	1.10	<0.260	<0.0200	5.01
BKG03@4-5'	02/07/2025	4-5	0.601	79.7	<0.200	<0.30*	2.09	7.19	2.15	<0.260	0.0383	9.13
BKG04@1-2'	02/07/2025	1-2	0.599	48.1	<0.200	<0.30*	1.77	5.24	1.65	<0.260	0.0228	7.90
BKG04@3-4'	02/07/2025	3-4	0.693	66.2	<0.200	<0.30*	1.60	4.77	1.78	<0.260	0.0339	7.06
BKG04@4-5'	02/07/2025	4-5	0.633	44.5	<0.200	<0.30*	1.06	3.34	1.34	<0.260	0.0220	5.14
Maximum Background Concentration X 1.25			2.11	-	-	-	-	-	-	-	-	-

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) and native background concentrations.
- Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL).

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

= Material excavated and transported off site for disposal.

Photographic Log

Photo 1 Date&Time: 2025-02-07 10:39

Photo 2 Date&Time: 2025-02-07 10:42



Notes FS01@4' facing N

Notes SS01@2' facing N

Photo 3 Date&Time: 2025-02-07 10:44

Photo 4 Date&Time: 2025-02-07 10:45



Notes SS02@2' facing east

Notes SS03@3' facing S

Photographic Log

Photo 5 Date&Time: _____

Photo 6 Date&Time: _____



Notes SS04@2' facing W

Notes

Photo 7 Date&Time: _____

Photo 8 Date&Time: _____



Notes

Notes