

FREMONT ENVIRONMENTAL INC.

April 3, 2025

Mr. Daniel Peterson
Noble Energy Inc.
2115 117th Ave,
Greeley, CO 80634

Subject: **Excavation Report**
 Kehn USX AA01-16
 SESE Sec. 1, T6N, R63W
 Weld County, Colorado
 Fremont Project No. C023-299
 API: 05-123-27198, Remediation #: 30992

Dear Mr. Peterson:

Enclosed is a copy of the referenced Excavation Report for the Kehn USX AA01-16 release site, located in Weld County, Colorado. This report documents the excavation and sampling activities conducted to remediate impacted soil at the site, in accordance with the approved use of Residential Soil Screening Levels (RSSLs) under Supplemental Form 27 (Document No. 403648170).

Please contact me at (314) 795-2372 if you require any additional information.

Fremont appreciates the opportunity to provide this service.

Sincerely,

FREMONT ENVIRONMENTAL INC.



Jeff T. Griggs
Project Manager

Enclosure

EXCAVATION REPORT

NOBLE ENERGY INC.

KEHN USX AA01-16

WELD COUNTY, COLORADO

FREMONT PROJECT NO. C023-299

API: 05-123-27198, REMEDIATION #: 30992

**Prepared by:
Fremont Environmental Inc.
1759 Redwing Lane
Broomfield, CO 80020
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April 3, 2025

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EXCAVATION REPORT
NOBLE ENRGY INC.
KEHN USX AA01-16
WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-299
API: 05-123-27198, REMEDIATION #: 30992

1.0 INTRODUCTION

The purpose of this document is to present information collected during the excavation of petroleum-impacted soil at the Kehn USX AA01-16 location in Weld County, Colorado. This excavation project was completed on January 28, 2025.

2.0 BACKGROUND INFORMATION

2.1 Site Location

The Kehn USX AA01-16 is located approximately 11.26 miles northeast of Kersey, Colorado in Weld County as shown on Figure 1. The site is located in an agricultural rangeland area approximately 1.90 miles southeast of the intersection of Weld Road 74 and Weld County Road 69. The location is further described as the SE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 1, Township 6N, Range 63W.

2.2 Site History

The site includes the Kehn USX AA-66N63W 1SESE tank battery, which formerly serviced the Kehn USX AA01-16 and Kehn USX AA01-10 wells. Both wells were drilled in 2008, with the Kehn USX AA01-16 well reaching an approximate depth of 7,028 feet and the Kehn USX AA01-10 well reaching approximately 6,996 feet.

In November 2024, a historical release was identified during decommissioning activities along the former flowline associated with the Kehn USX AA01-16 well. Soil impacts were

observed at a depth of approximately three feet at the base of the bell hole excavation. No groundwater was encountered during the decommissioning process.

3.0 FIELD ACTIVITIES

3.1 Soil Excavation and Sampling

Soil remediation efforts involved the excavation and removal of petroleum-impacted soil located directly adjacent to the site's former flowline. The excavation area measured approximately ten feet by ten feet, with a maximum depth of four feet below ground surface (bgs). The soil encountered consisted of sandy clay (SC) to the excavation's maximum depth. No groundwater was encountered during the excavation process. The extent of the excavation is illustrated in Figures 2 through 4. Groundwater was not encountered within the excavation and is measured at approximately 120 feet deep in the nearest downgradient well (stock) 1,773 feet northwest of the release location (DWR Permit No. 10790). Refer to Appendix B for reference.

The excavation of impacted soil adjacent to the former Kehn USX AA01-16 flowline was completed on January 28, 2025. Soil samples were collected as grab samples from the excavation's exterior sidewalls at a depth of three feet, and from the floor of the excavation at four feet bgs.

The soil samples were analyzed by Summit Scientific, Inc. in Golden, Colorado for benzene, toluene, ethylbenzene and total xylenes (BTEX), naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene (TMB), total petroleum hydrocarbons - gasoline range organics (TPH-GRO) by EPA method 8260B, TPH - diesel range organics (TPH-DRO), extended range organics (TPH-ORO) by EPA method 8015, polycyclic aromatic hydrocarbons (PAH) acenaphthene, anthracene, benzo (a) anthracene, benzo (a) pyrene, benzo (b) fluoranthene, chrysene, dibenz (a,h) anthracene, fluoranthene,

fluorene, indeno (1,2,3-cd) pyrene, pyrene, 1-methylnaphthalene, 2-methylnaphthalene by EPA method 8270D, specific conductance (EC) by EPA Method 120.1 saturated paste extraction, saturated paste extraction of soluble nutrients by EPA method 6020/USDA60 6(2) for calculated analysis of sodium absorption ratio (SAR), pH by saturated paste extraction APHA/ASTM/EPA methods, Total Metals by EPA method 6020B, and Hexavalent Chromium by EPA method 7196. The laboratory reports and chain-of-custody documentation are submitted separately under attachments on the same supplemental form 27 as this report's submittal.

A summary of the soil laboratory data is provided in Tables 2 through 5. Analytical results from soil samples collected from the exterior sidewalls and floor of the excavation indicate that concentrations of organic petroleum constituents are compliant with the Energy and Carbon Management Commission (ECMC) Table 915-1 Residential Soil Screening Levels (RSSLs) and Soil Suitability for Reclamation (SSR) standards, as approved under Supplemental Form 27 (Document No. 403648170). However, all samples exceeded the ECMC Table 915-1 RSSLs for arsenic. Background samples collected from native soils adjacent to the site at depths of three and four feet similarly exceeded the arsenic RSSLs. As such, the elevated arsenic concentrations identified within the remedial excavation are interpreted to represent naturally occurring conditions within the native soil.

A total of approximately 42 tons (~ 30 cubic yards) of petroleum impacted soil was removed from the excavation by 4X Industrial during remediation efforts. Impacted soil was disposed of at Waste Management's North Weld Landfill in Ault, Colorado as non-hazardous waste. Following the remediation, the excavation was backfilled with clean, imported soil.

4.0 DISCUSSION

As demonstrated by soil sampling results, the Operator successfully removed petroleum-impacted soil to concentrations below the RSSLs through targeted excavation activities along the former Kehn USX AA01-16 flowline, as approved under Supplemental Form 27 (Document No. 403648170). Laboratory analyses of confirmation soil samples collected from the exterior sidewalls and floor of the excavation confirmed that all samples met the ECMC Table 915-1 RSSLs for organic petroleum constituents, as well as SSR standards. Approximately 30 cubic yards of impacted soil were excavated and transported to a licensed landfill for proper disposal. Excavation soil data are summarized in the attached tables and figures.

Elevated concentrations of arsenic observed in the excavation samples are attributed to native soil conditions, supported by similar exceedances in background samples collected from undisturbed native soils adjacent to the excavation.

Groundwater was not encountered during excavation activities. As such, application of RSSLs was appropriate and approved under Supplemental Form 27 (Document No. 403648170), based on data from the DWR stock well (Permit No. 10790), which indicates a vertical separation greater than 30 feet between groundwater and the soil interval containing benzo(a)anthracene and barium concentrations exceeding the Petroleum Groundwater Soil Screening Levels (PGSSLs). This vertical separation indicates the absence of a complete migration pathway to groundwater.

Accordingly, Noble Energy Inc. (Noble) recommends that a No Further Action (NFA) designation be granted upon completion of all outstanding remedial and site investigation resampling activities.

5.0 REMARKS

The discussion and conclusions contained in this report represent our professional opinions. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

This report was prepared by **FREMONT ENVIRONMENTAL INC.**

Prepared By:



04/03/25

Date _____

Jeff T. Griggs
Project Manager

Reviewed by:



04/03/25

Date _____

Ethan D. Black, P.G.
Senior Consultant

TABLES

TABLE 1
FIELD DATA SUMMARY TABLE
NOBLE 100322
KEHN USX AA 01-16, WELD COUNTY, COLORADO
REM # 30992

Sample ID	Sample Date	Depth (ft)	GPS Data Latitude/Longitude		PDOP Value	VOC Concentration (ppm)
FL01 3'	11/20/2023	3.0Ft	40.5102184	-104.3772016	-	0.0
FL02 3'	11/20/2023	3.0Ft	40.5104465	-104.3775374	-	0.1
FL04 3'	11/20/2023	3.0Ft	40.5114205	-104.3788847	-	0.2
FL05 3'	11/20/2023	3.0Ft	40.5121019	-104.3798335	-	0.7
FL06 3'	11/20/2023	3.0Ft	40.5120194	-104.3801738	-	0.4
E01-3.0	1/28/2025	3.0Ft	40.5120956	-104.3798010	0.7	0.0
N01-3.0	1/28/2025	3.0Ft	40.5121143	-104.3798312	0.7	0.0
S01-3.0	1/28/2025	3.0Ft	40.5120686	-104.3798207	0.7	0.0
W01-3.0	1/28/2025	3.0Ft	40.5120866	-104.3798506	0.7	0.0
FL03 4'	11/23/2023	4.0Ft	40.5109023	-104.3781575	-	0.5
B01-4.0ft	1/28/2025	4.0Ft	40.5120932	-104.3798262	0.8	0.0
BKG 3'	11/20/2023	3.0Ft	40.5099151	-104.3773115	-	0.0
BKG01	1/28/2025	3.0Ft, 4.0Ft	40.5123927	-104.3796716	0.8	0.0
BKG02	1/28/2025	3.0Ft, 4.0Ft	40.5122485	-104.3795124	0.8	0.0
BKG03	1/28/2025	3.0Ft, 4.0Ft	40.5120727	-104.3793334	0.8	0.0
BKG04	1/28/2025	3.0Ft, 4.0Ft	40.5119450	-104.3791600	0.8	0.0
BKG05	1/28/2025	3.0Ft, 4.0Ft	40.5118530	-104.3793362	0.8	0.0

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

in. = Inches

ft. = Feet

bgs = Below ground surface

Source material characterization sample, excavated and transported off site for disposal.

Material excavated and transported off site for disposal.

TABLE 2
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
NOBLE 100322
KEHN USX AA 01-16, WELD COUNTY, COLORADO
REM # 30992

Sample ID	Sample Date	Depth (ft)	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**		
FL01 3'	11/20/2023	3.0Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
FL05 3'	11/20/2023	3.0Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	0.0182	<0.0038	<500	<0.50	<50	<50
FL06 3'	11/20/2023	3.0Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.00500	<0.0038	<500	<0.50	<50	<50
E01-3.0	1/28/2025	3.0Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
N01-3.0	1/28/2025	3.0Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
S01-3.0	1/28/2025	3.0Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
W01-3.0	1/28/2025	3.0Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
B01-4.0ft	1/28/2025	4.0Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50

1. Bold values exceed the ECMC Table 915-1 limit(s)
 2. Red & 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
- (-) = 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
NA - Not analyzed

Source material characterization sample, excavated and transported off site for disposal.

Material excavated and transported off site for disposal.

TABLE 3
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
NOBLE 100322
KEHN USX AA 01-16, WELD COUNTY, COLORADO
REM # 30992

Sample ID	Sample Date	Depth (ft)	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	1800	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
FL01 3'	11/20/2023	3.0ft	<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
FL05 3'	11/20/2023	3.0ft	0.0117	0.365	0.367	0.022	0.322	0.0121	0.328	<0.00500	0.0918	0.0158	0.01	0.074	<0.00500	<0.00500
FL06 3'	11/20/2023	3.0ft	<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
E01-3.0	1/28/2025	3.0ft	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00586	<0.00500	<0.00500	0.00505	<0.00500	<0.00500
N01-3.0	1/28/2025	3.0ft	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00735	<0.00500	<0.00500	0.00599	<0.00500	<0.00500
S01-3.0	1/28/2025	3.0ft	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
W01-3.0	1/28/2025	3.0ft	0.0118	0.0356	0.0907	0.0571	0.0819	0.0304	0.0998	<0.00500	0.179	0.0166	0.0509	0.149	<0.00500	<0.00500
B01-4.0ft	1/28/2025	4.0ft	0.0103	0.0225	0.0434	0.0245	0.0364	0.015	0.0466	0.00677	0.0944	0.0116	0.0239	0.0825	<0.00500	<0.00500

1. Bold values exceed the ECMC Table 915-1 limit(s)

2. Red & 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

(<) = 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

NA - Not analyzed

Source material characterization sample, excavated and transported off site for disposal.

Material excavated and transported off site for disposal.

TABLE 4
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
NOBLE 100322
KEHN USX AA 01-16, WELD COUNTY, COLORADO
REM # 30992

Sample ID	Sample Date	Depth (ft)	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
FL01 3'	11/20/2023	3.0Ft	8.40	0.228	0.411	<2.00
FL05 3'	11/20/2023	3.0Ft	8.50	0.252	0.466	<2.00
FL06 3'	11/20/2023	3.0Ft	9.02	0.0796	0.0109	<2.00
E01-3.0	1/28/2025	3.0Ft	7.69	0.346	0.183	<2.00
N01-3.0	1/28/2025	3.0Ft	8.21	0.241	0.350	<2.00
S01-3.0	1/28/2025	3.0Ft	7.75	0.335	0.334	<2.00
W01-3.0	1/28/2025	3.0Ft	7.98	0.270	0.332	<2.00
B01-4.0ft	1/28/2025	4.0Ft	8.15	0.398	0.550	<2.00
BKG 3'	11/20/2023	3.0Ft	7.14	0.069	0.0186	<2.00
BKG01-3.0ft	01/28/2025	3.0Ft	7.37	0.0507	0.0336	<2.00
BKG02-3.0ft	01/28/2025	3.0Ft	7.45	0.0438	0.0323	<2.00
BKG03-3.0ft	01/28/2025	3.0Ft	7.39	0.0591	0.0311	<2.00
BKG04-3.0ft	01/28/2025	3.0Ft	7.44	0.0364	0.0357	<2.00
BKG05-3.0ft	01/28/2025	3.0Ft	7.25	0.0461	0.0339	<2.00
BKG01-4.0ft	01/28/2025	4.0Ft	7.61	0.0402	0.0268	<2.00
BKG02-4.0ft	01/28/2025	4.0Ft	7.42	0.0538	0.0266	<2.00
BKG03-4.0ft	01/28/2025	4.0Ft	7.93	0.0862	0.0375	<2.00
BKG04-4.0ft	1/28/2025	4.0Ft	7.67	0.0585	0.0335	<2.00
BKG05-4.0ft	01/28/2025	4.0Ft	7.63	0.0303	0.0183	<2.00
Maximum Background Concentration		3.0Ft	7.45	0.0686	0.0357	<2.00
Maximum Background Concentration		4.0Ft	7.93	0.0862	0.0375	<2.00

1. **Bold** faced values exceed the ECMC Table 915-1 limit(s), but are within background concentrations.

2. **Bold** faced values exceed the ECMC Table 915-1 limit(s) and native background concentrations.

3. Brown highlighted soil analytical values indicate a regulatory exceedance.

NA - Not analyzed/Not applicable

Source material characterization sample, excavated and transported off site for disposal.

Material excavated and transported off site for disposal.

TABLE 5
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
NOBLE 100322
KEHN USX AA 01-16, WELD COUNTY, COLORADO
REM # 30992

Sample ID	Sample Date	Depth (ft)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			0.68	15000	71	0.3	3100	400	1500	390	390	23000
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
FL01 3'	11/20/2023	3.0Ft	1.08	80.6	0.270	<0.30	3.88	13.3	2.61	0.443	0.0354	13.6
FL05 3'	11/20/2023	3.0Ft	0.685	96.0	<0.200	<0.30	1.50	4.77	1.75	<0.260	0.0231	6.67
FL06 3'	11/20/2023	3.0Ft	0.992	57.7	<0.200	<0.30	1.04	3.58	1.22	<0.260	<0.0200	4.67
E01-3.0	1/28/2025	3.0Ft	1.53	84.9	<0.200	<0.30	2.88	5.20	3.50	<0.260	0.0222	14.5
N01-3.0	1/28/2025	3.0Ft	1.55	74.5	<0.200	<0.30	3.30	5.24	3.75	<0.260	0.0231	28.7
S01-3.0	1/28/2025	3.0Ft	2.10	75.3	0.208	<0.30	3.38	5.62	3.75	<0.260	0.0265	15.8
W01-3.0	1/28/2025	3.0Ft	1.74	59.1	<0.200	<0.30	3.03	5.06	3.36	<0.260	0.0208	13.8
B01-4.0ft	1/28/2025	4.0Ft	1.63	113	0.202	<0.30	3.18	5.40	3.86	<0.260	0.0262	15.8
BKG 3'	11/20/2023	3.0Ft	0.913	26.6	<0.200	<0.30	1.47	3.39	1.43	<0.260	<0.0200	5.93
BKG01-3.0ft	01/28/2025	3.0Ft	1.56	26.7	<0.200	<0.30	2.19	3.38	2.04	<0.260	<0.0200	9.44
BKG02-3.0ft	01/28/2025	3.0Ft	2.14	43.6	<0.200	<0.30	2.43	3.99	2.50	<0.260	<0.0200	10.9
BKG03-3.0ft	01/28/2025	3.0Ft	1.90	35.5	<0.200	<0.30	2.29	3.94	2.38	<0.260	<0.0200	11.0
BKG04-3.0ft	01/28/2025	3.0Ft	2.25	44.6	<0.200	<0.30	2.20	4.06	2.41	<0.260	<0.0200	10.3
BKG05-3.0ft	01/28/2025	3.0Ft	1.57	26.4	<0.200	<0.30	2.25	3.49	2.12	<0.260	<0.0200	9.72
BKG01-4.0ft	01/28/2025	4.0Ft	1.49	35.6	<0.200	<0.30	2.41	3.72	2.30	<0.260	<0.0200	10.4
BKG02-4.0ft	01/28/2025	4.0Ft	2.18	40.4	<0.200	<0.30	2.44	4.13	2.46	<0.260	<0.0200	11.3
BKG03-4.0ft	01/28/2025	4.0Ft	2.12	38.4	<0.200	<0.30	2.50	3.60	2.41	<0.260	<0.0200	10.9
BKG04-4.0ft	01/28/2025	4.0Ft	2.36	45.0	<0.200	<0.30	2.47	4.30	2.85	<0.260	<0.0200	11.3
BKG05-4.0ft	01/28/2025	4.0Ft	1.85	41.6	<0.200	<0.30	2.51	4.15	2.41	<0.260	<0.0200	11.0
1.25x Maximum Background Concentration		3.0Ft	2.81	55.8	<0.200	<0.30	3.04	5.08	3.13	<0.260	<0.0200	13.8
1.25x Maximum Background Concentration		4.0Ft	2.95	141	0.253	<0.30	3.98	6.75	4.83	<0.260	0.0328	19.8

- 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.
3. Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL).
4. Non-detect background results accounted for in the highest background concentration by using the reporting limit.

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

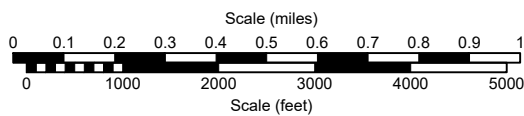
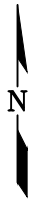
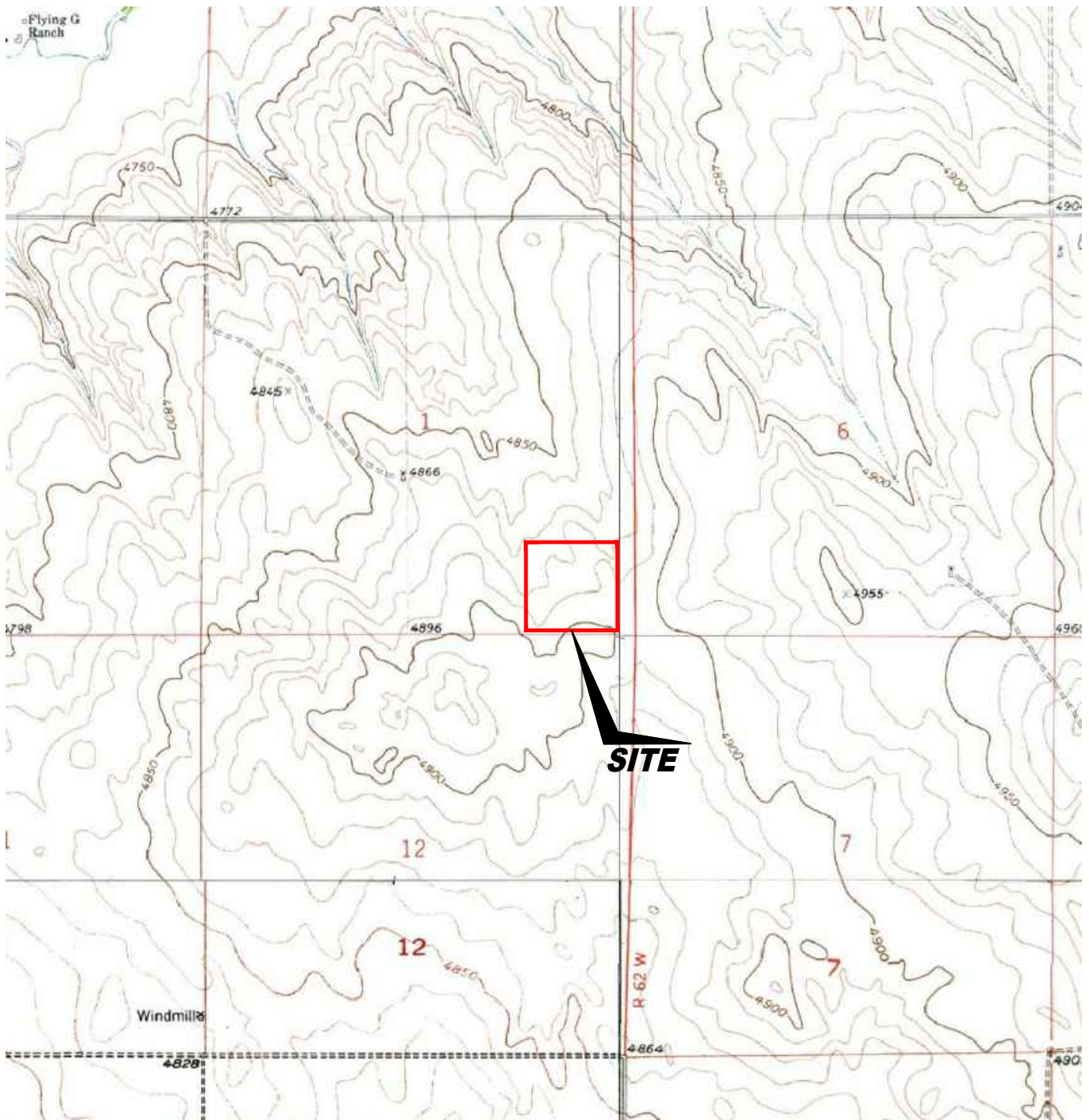
* Indicates laboratory minimum detection limit in excess of SSL

NA - Not analyzed/Not applicable

Source material characterization sample, excavated and transported off site for disposal.

Material excavated and transported off site for disposal.

FIGURES



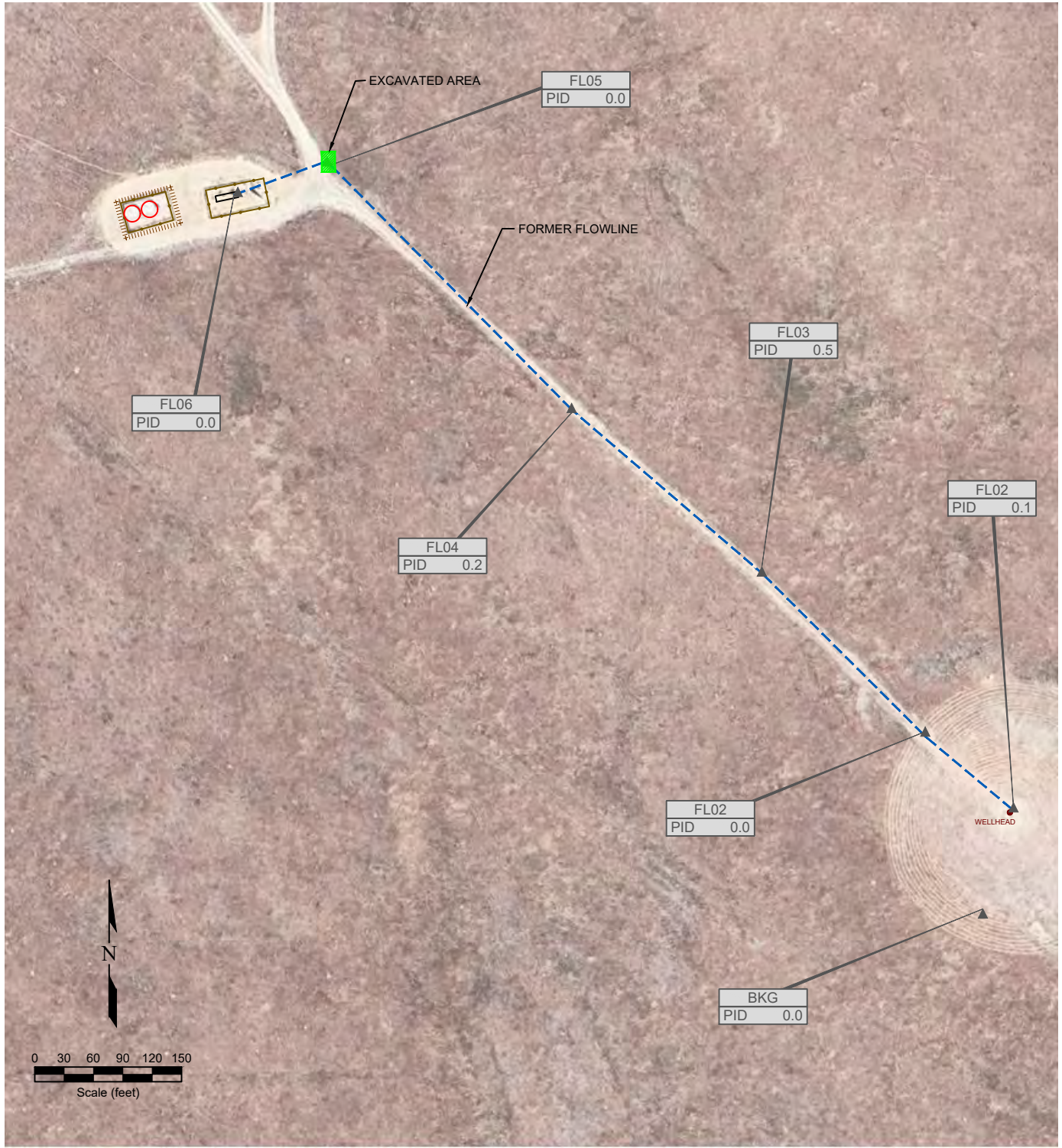
USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1
SITE LOCATION MAP

NOBLE ENERGY INC ~ KEHN USX AA 01 -16
 SESE Sec. 1, T6N, R63W, 6th PM
 Weld County, Colorado
 40.510216°, -104.377220°

Project # C023-299	API # 05-123-27198	Facility #
Date 2/24/25	Remediation # 30992	Filename 23299T





LEGEND

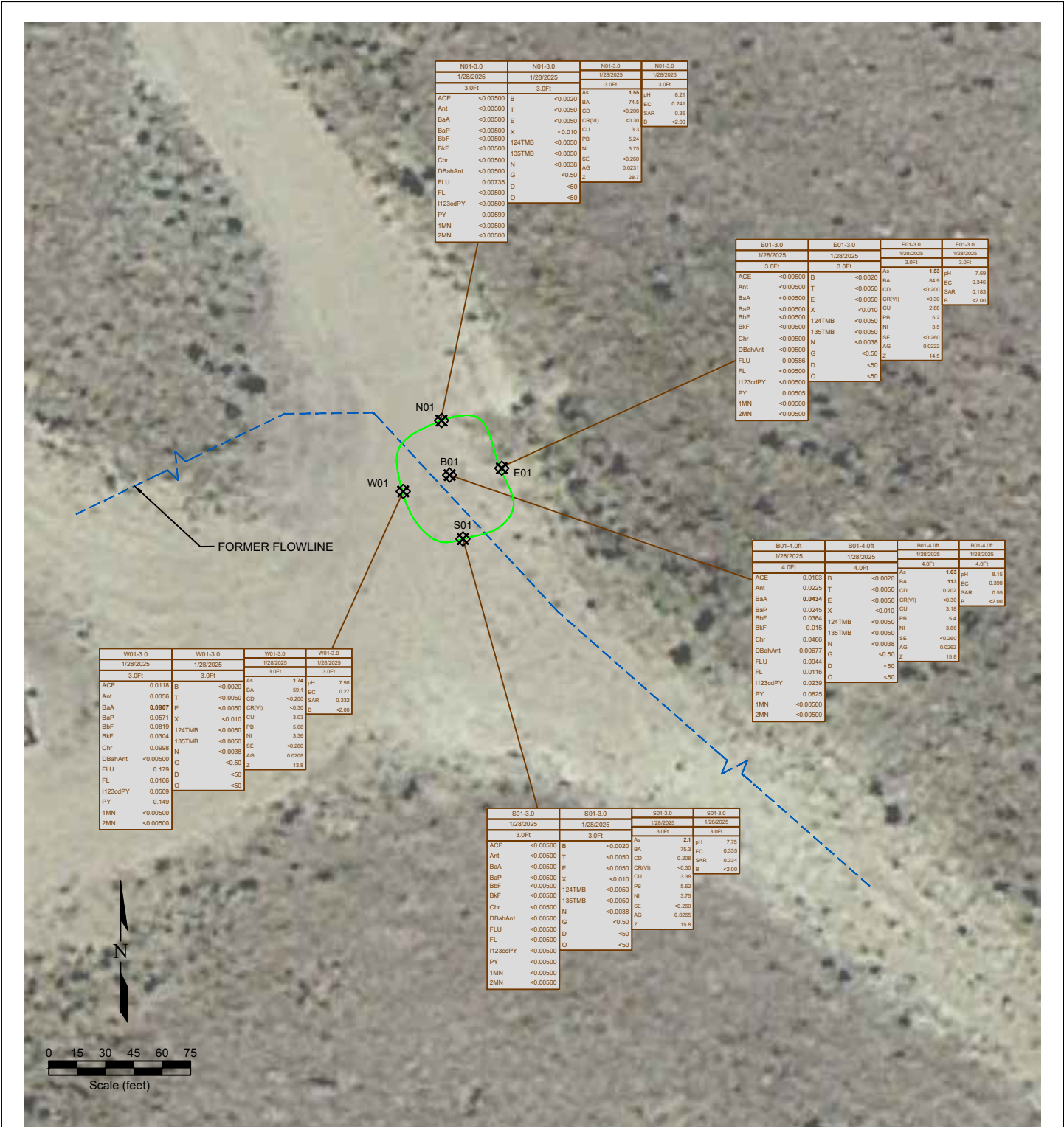
- WELL HEAD LOCATION
- ▲ PID READING LOCATION
- ABOVE GROUND STORAGE TANK
- AREA OF EXCAVATION
- FORMER FLOWLINE
- EXTENT OF EXCAVATION
- FENCE LINE
- ||||| CONTAINMENT BERM
- CONTAINMENT WALL

**Figure 2
SITE MAP**

NOBLE ENERGY INC ~ KEHN USX AA 01 -16
 SESE Sec. 1, T6N, R63W, 6th PM
 Weld County, Colorado
 40.510216°, -104.377220°

Project No. C023-299	API # 05-123-27198	Facility #
Date 2/24/25	Remediation # 30992	Filename 23299Q





N01-3.0		N01-3.0		N01-3.0		N01-3.0	
1/28/2025		1/28/2025		1/28/2025		1/28/2025	
3.0Fl		3.0Fl		3.0Fl		3.0Fl	
ACE	<0.00500	B	<0.0020	As	1.63	pH	8.21
Ant	<0.00500	T	<0.0050	BA	74.5	EC	0.241
BaA	<0.00500	E	<0.0050	CD	<0.200	SAR	0.35
BaP	<0.00500	X	<0.010	CR(VI)	<0.30	B	<2.00
BbF	<0.00500	124TMB	<0.0050	PB	5.24		
BkF	<0.00500	135TMB	<0.0050	Ni	3.75		
Chr	<0.00500	N	<0.0038	SE	<0.260		
DBahAnt	<0.00500	G	<0.50	AG	0.0221		
FLU	0.00735	D	<0.50	Z	19.7		
FL	<0.00500	O	<0.50				
1123cdPY	<0.00500						
PY	0.00599						
1MN	<0.00500						
2MN	<0.00500						

E01-3.0		E01-3.0		E01-3.0		E01-3.0	
1/28/2025		1/28/2025		1/28/2025		1/28/2025	
3.0Fl		3.0Fl		3.0Fl		3.0Fl	
ACE	<0.00500	B	<0.0020	As	1.63	pH	7.69
Ant	<0.00500	T	<0.0050	BA	84.9	EC	0.346
BaA	<0.00500	E	<0.0050	CD	<0.200	SAR	0.183
BaP	<0.00500	X	<0.010	CR(VI)	<0.30	B	<2.00
BbF	<0.00500	124TMB	<0.0050	PB	5.2		
BkF	<0.00500	135TMB	<0.0050	Ni	3.5		
Chr	<0.00500	N	<0.0038	SE	<0.260		
DBahAnt	<0.00500	G	<0.50	AG	0.0222		
FLU	0.00586	D	<0.50	Z	14.3		
FL	<0.00500	O	<0.50				
1123cdPY	<0.00500						
PY	0.00605						
1MN	<0.00500						
2MN	<0.00500						

B01-4.0fl		B01-4.0fl		B01-4.0fl		B01-4.0fl	
1/28/2025		1/28/2025		1/28/2025		1/28/2025	
4.0Fl		4.0Fl		4.0Fl		4.0Fl	
ACE	0.0103	B	<0.0020	As	1.63	pH	8.15
Ant	0.0225	T	<0.0050	BA	113	EC	0.398
BaA	0.0434	E	<0.0050	CD	0.302	SAR	0.35
BaP	0.0245	X	<0.010	CR(VI)	<0.30	B	<2.00
BbF	0.0364	124TMB	<0.0050	PB	5.4		
BkF	0.015	135TMB	<0.0050	Ni	3.86		
Chr	0.0488	N	<0.0038	SE	<0.260		
DBahAnt	0.00877	G	<0.50	AG	0.0262		
FLU	0.0944	D	<0.50	Z	15.8		
FL	0.0116	O	<0.50				
1123cdPY	0.0239						
PY	0.0825						
1MN	<0.00500						
2MN	<0.00500						

W01-3.0		W01-3.0		W01-3.0		W01-3.0	
1/28/2025		1/28/2025		1/28/2025		1/28/2025	
3.0Fl		3.0Fl		3.0Fl		3.0Fl	
ACE	0.0118	B	<0.0020	As	1.74	pH	7.98
Ant	0.0356	T	<0.0050	BA	59.1	EC	0.27
BaA	0.0907	E	<0.0050	CD	<0.200	SAR	0.332
BaP	0.0571	X	<0.010	CR(VI)	<0.30	B	<2.00
BbF	0.0819	124TMB	<0.0050	PB	5.06		
BkF	0.0304	135TMB	<0.0050	Ni	3.36		
Chr	0.0998	N	<0.0038	SE	<0.260		
DBahAnt	<0.00500	G	<0.50	AG	0.0208		
FLU	0.178	D	<0.50	Z	13.8		
FL	0.0168	O	<0.50				
1123cdPY	0.0508						
PY	0.143						
1MN	<0.00500						
2MN	<0.00500						

S01-3.0		S01-3.0		S01-3.0		S01-3.0	
1/28/2025		1/28/2025		1/28/2025		1/28/2025	
3.0Fl		3.0Fl		3.0Fl		3.0Fl	
ACE	<0.00500	B	<0.0020	As	2.1	pH	7.75
Ant	<0.00500	T	<0.0050	BA	75.3	EC	0.336
BaA	<0.00500	E	<0.0050	CD	0.289	SAR	0.334
BaP	<0.00500	X	<0.010	CR(VI)	<0.30	B	<2.00
BbF	<0.00500	124TMB	<0.0050	PB	5.62		
BkF	<0.00500	135TMB	<0.0050	Ni	3.75		
Chr	<0.00500	N	<0.0038	SE	<0.260		
DBahAnt	<0.00500	G	<0.50	AG	0.0205		
FLU	<0.00500	D	<0.50	Z	15.9		
FL	<0.00500	O	<0.50				
1123cdPY	<0.00500						
PY	<0.00500						
1MN	<0.00500						
2MN	<0.00500						

LEGEND

- SOIL SAMPLE LOCATION
- ABOVE GROUND STORAGE TANK
- AREA OF EXCAVATION
- FORMER FLOWLINE
- EXTENT OF EXCAVATION
- FENCE LINE
- CONTAINMENT BERM
- CONTAINMENT WALL

SAMPLE ID	SAMPLE ID	SAMPLE ID	SAMPLE ID	SAMPLE ID	SAMPLE ID
DATE	DATE	DATE	DATE	DATE	DATE
DEPTH	DEPTH	DEPTH	DEPTH	DEPTH	DEPTH
ACE	<0.00500	B	<0.0020	As	1.63
Ant	<0.00500	T	<0.0050	BA	28.7
BaA	<0.00500	E	<0.0050	CD	<0.200
BaP	<0.00500	X	<0.010	CR(VI)	<0.30
BbF	<0.00500	124TMB	<0.0050	PB	5.24
BkF	<0.00500	135TMB	<0.0050	Ni	3.75
Chr	<0.00500	N	<0.0038	SE	<0.260
DBahAnt	<0.00500	G	<0.50	AG	0.0221
FLU	0.00735	D	<0.50	Z	19.7
FL	<0.00500	O	<0.50		
1123cdPY	<0.00500				
PY	0.00599				
1MN	<0.00500				
2MN	<0.00500				

Figure 3
EXCAVATION SOIL CHEMISTRY MAP

NOBLE ENERGY INC ~ KEHN USX AA 01 -16
 SESE Sec. 1, T6N, R63W, 6th PM
 Weld County, Colorado
 40.510216°, -104.377220°

Project No. C023-299	API # 05-123-27198	Facility #
Date 2/24/25	Remediation # 30992	Filename 23299QE

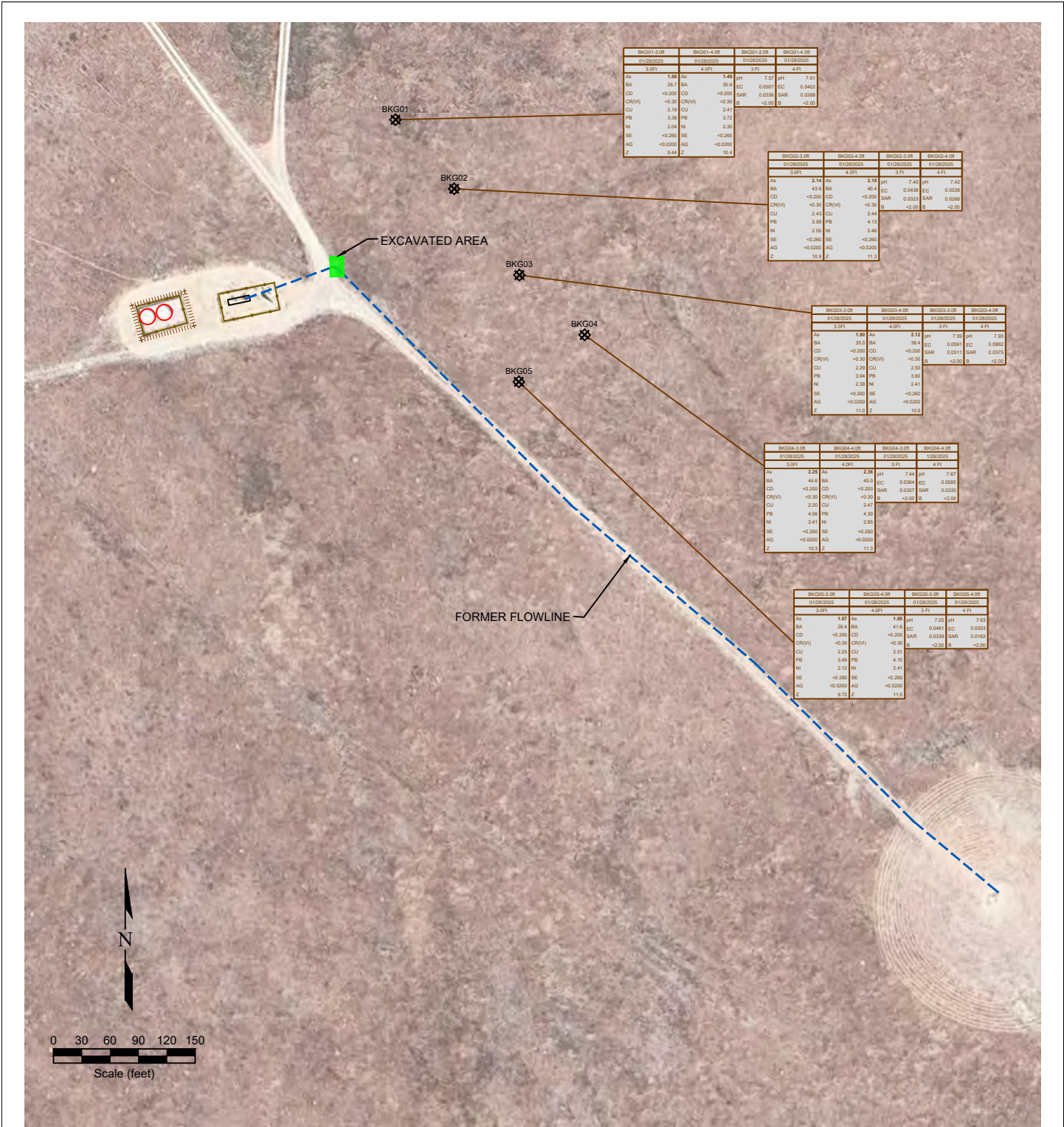


Figure 4
BACKGROUND SAMPLE SOIL CHEMISTRY MAP

NOBLE ENERGY INC ~ KEHN USX AA 01 -16
SESE Sec. 1, T6N, R63W, 6th PM
Weld County, Colorado
40.510216°, -104.377220°

Project No. C023-299	API # 05-123-27198	Facility #	
Date 2/24/25	Remediation # 30992	Filename 23299QBKG	

LEGEND

SAMPLE DATE	SAMPLE ID	SAMPLE DATE	SAMPLE ID
DATE	DEPTH (ft)	DATE	DEPTH (ft)
As	<-0.01	As	<-0.01
BA	<-0.01	BA	<-0.01
CD	<-0.01	CD	<-0.01
CR(V)	<-0.01	CR(V)	<-0.01
CU	<-0.01	CU	<-0.01
PB	<-0.01	PB	<-0.01
Ni	<-0.01	Ni	<-0.01
SE	<-0.01	SE	<-0.01
AG	<-0.01	AG	<-0.01
Z	<-0.01	Z	<-0.01

SAMPLE DATE	SAMPLE ID	SAMPLE DATE	SAMPLE ID
DATE	DEPTH (ft)	DATE	DEPTH (ft)
As	<-0.01	As	<-0.01
BA	<-0.01	BA	<-0.01
CD	<-0.01	CD	<-0.01
CR(V)	<-0.01	CR(V)	<-0.01
CU	<-0.01	CU	<-0.01
PB	<-0.01	PB	<-0.01
Ni	<-0.01	Ni	<-0.01
SE	<-0.01	SE	<-0.01
AG	<-0.01	AG	<-0.01
Z	<-0.01	Z	<-0.01

APPENDIX A

PHOTO LOG



Description:

Excavation overview-facing north



Description:

Excavation overview- facing west



Description:

Excavation overview - facing south



Description:

Excavation overview

Photo Log



Description:

BKG01



Description:

BKG02



Description:

BKG03

Photo Log



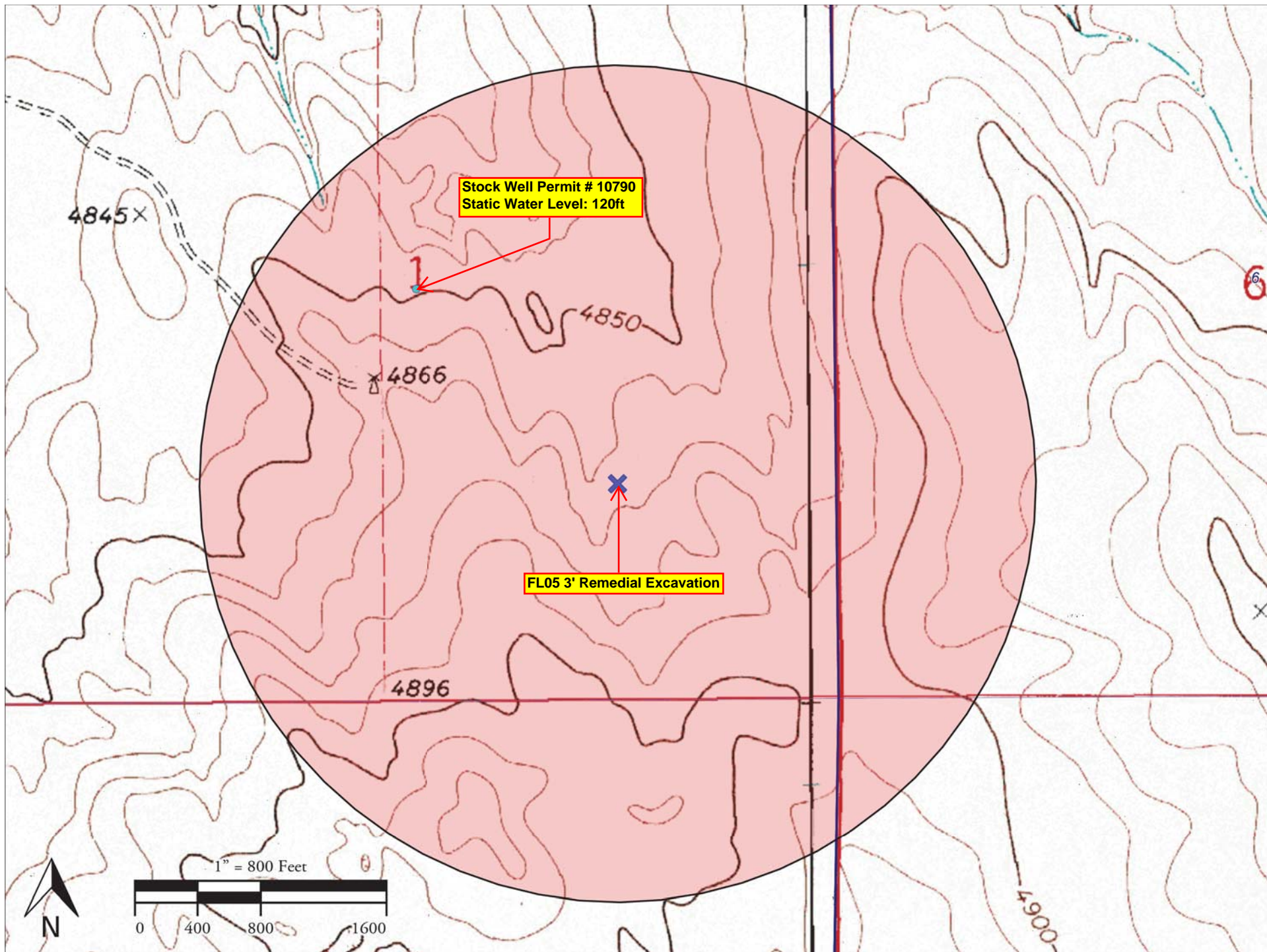
Description:

BKG04

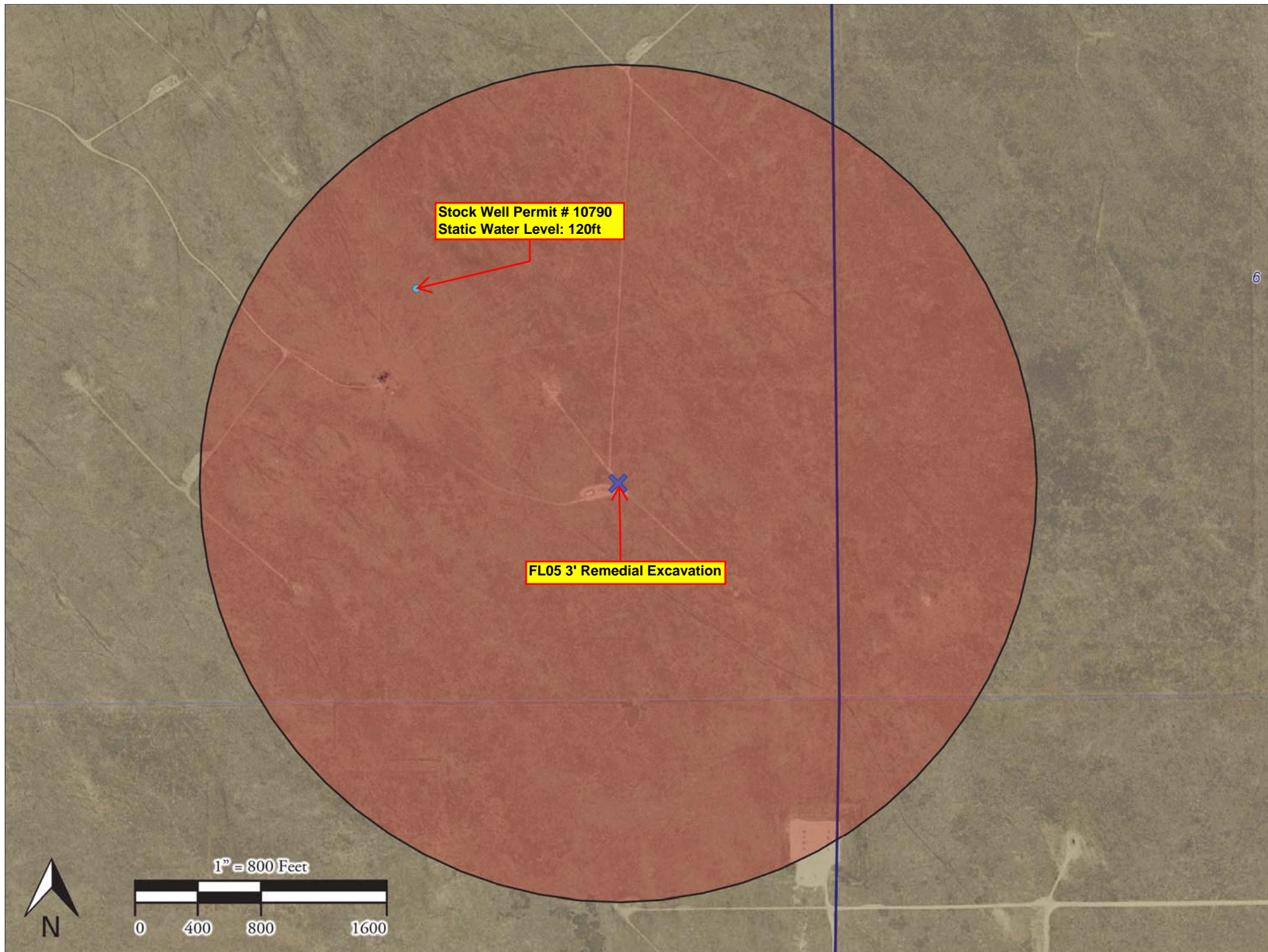
APPENDIX B

DWR PERMIT # 10790 DATA

Comparison Between Nearest Downgradient Stock Well and FL05 3' Remedial Excavation (Topographic Map)



Comparison Between Nearest Downgradient Stock Well and FL05 3' Remedial Excavation (Aerial Map)



RECEIVED
 APR 30 1962
 GROUND WATER SECT.
 COLORADO
 STATE ENGINEER

STATE OF COLORADO
 DIVISION OF WATER RESOURCES
 OFFICE OF THE STATE ENGINEER
 GROUND WATER SECTION

LOG AND HISTORY OF WELL
 PERMIT NO. 10790

Index No.	<u>1339</u>
IDWD	<u>1-1</u>
Use	<u>Stock</u>
Registered	<u>4-30-62</u>
Cards Typed	_____

Drilled by Oliver Well Works, Inc. Lic. No. 6

WELL LOCATION

✓ Owner Mike Guterson

Well _____ County _____

✓ Address Briggsdale, Colorado

SE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Sect. 1

Tenant _____

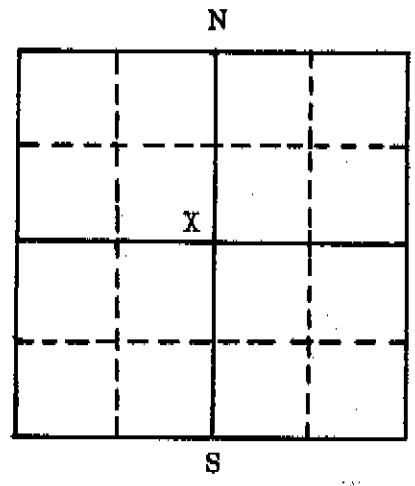
Twp. 6 N, Rge. 63 W, 6 PM

✓ Used for Stock

LOCATE WELL ACCURATELY
 IN THE SMALL SQUARES REPRESENTING 40 ACRES

on or by SE $\frac{1}{4}$, NW $\frac{1}{4}$, Sec. 1 Twp. 6 N, Rge. 63 W
 (description of site or land)

Date Started March 15, 1962



✓ Date Completed March 21, 1962

Date Tested March 21, 1962

✓ Yield 10 gpm _____ cfs

Pump type Not known Outlet Size _____

Driven by Windmill HP @ RPM _____

✓ Depth to Water 120 Ft. Draw down 50 Ft.

Depth to Inlet _____ Ft.; Bowl _____ Ft.

Size and Kind of Casing:

From 0 to 203 Type 5 9/16 O.B. Wt. 10.79

From _____ to _____ Type _____ Wt. _____

From _____ to _____ Type _____ Wt. _____

Perforations: Size and Type

From 203 to 235 Type 6" Size 1 1/2 ga.

From _____ to _____ Type _____ Size _____

From _____ to _____ Type _____ Size _____

Well description: Total Depth 235 ✓ Ft.

(from 0 to 235, 7 7/8 in.)

Hole Diam. (from _____ to _____, _____ in.)

(from _____ to _____, _____ in.)

If the above is not applicable fill in:

Town or Subdivision _____

Street Address or Lot & Block _____

Ground elevation _____ (if known)

How Drilled: Rotary

REMARKS

Cementing, Packing, Type of Shut-off, Depth to Shut-off, etc.
 PUT LOG OF WELL ON REVERSE SIDE

LOG OF WELL
(ADD SPACES AS NEEDED)

From	<u>0</u>	ft. to	<u>5</u>	ft.	Top Soil
	<u>5</u>	ft. to	<u>65</u>	ft.	Shale and Glass Shells
	<u>65</u>	ft. to	<u>66</u>	ft.	Rock and Glass Shells
	<u>66</u>	ft. to	<u>71</u>	ft.	Shale
	<u>71</u>	ft. to	<u>73</u>	ft.	Gray Coarse Sandrock
	73		75		Shale
	75		85		Shale and Streaks of Coal
	85		94		Shale and Streaks of Sandrock
	94		95		Rock
	95		97		Hard Coal
	97		128		Shale
	128		159		Heavy Sandrock
	159		163		Coal
	163		225		Light Gray Sandrock
	225		235		Gray Sandrock with Streaks of Shale

Static Water - 120 feet

RECEIVED
 APR 30 1962
 GROUND WATER SECT.
 COLORADO
 STATE ENGINEER

STATE OF COLORADO
 DIVISION OF WATER RESOURCES
 OFFICE OF THE STATE ENGINEER
 GROUND WATER SECTION

LOG AND HISTORY OF WELL
 PERMIT NO. 10790

Index No.	<u>1339</u>
IDWD	<u>1-1</u>
Use	<u>Stock</u>
Registered	<u>4-30-62</u>
Cards Typed	_____

Drilled by Oliver Well Works, Inc. Lic. No. 6

WELL LOCATION

✓ Owner Mike Guterson

Well _____ County _____

✓ Address Briggsdale, Colorado

SE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Sect. 1

Tenant _____

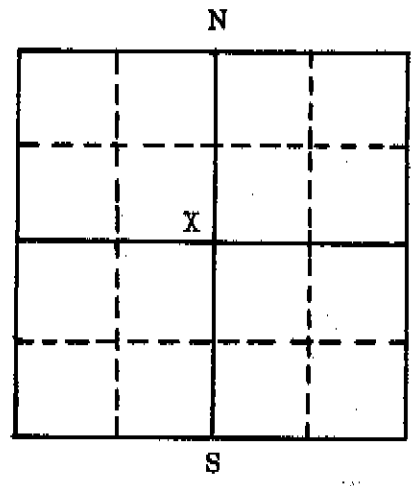
Twp. 6 N, Rge. 63 W, 6 PM

✓ Used for Stock

LOCATE WELL ACCURATELY
 IN THE SMALL SQUARES REP-
 REPRESENTING 40 ACRES

on or by SE $\frac{1}{4}$, NW $\frac{1}{4}$, Sec. 1 Twp. 6 N, Rge. 63 W
 (description of site or land)

Date Started March 15, 1962



✓ Date Completed March 21, 1962

Date Tested March 21, 1962

✓ Yield 10 gpm _____ cfs

Pump type Not known Outlet Size _____

Driven by Windmill HP @ RPM _____

✓ Depth to Water 120 Ft. Draw down 50 Ft.

Depth to Inlet _____ Ft.; Bowl _____ Ft.

Size and Kind of Casing:

From 0 to 203 Type 5 9/16 O.B. Wt. 10.79

From _____ to _____ Type _____ Wt. _____

From _____ to _____ Type _____ Wt. _____

Perforations: Size and Type

From 203 to 235 Type 6" Size 1 1/2 ga.

From _____ to _____ Type _____ Size _____

From _____ to _____ Type _____ Size _____

Well description: Total Depth 235 ✓ Ft.

(from 0 to 235, 7 7/8 in.

Hole (from _____ to _____, _____ in.

Diam. (from _____ to _____, _____ in.

If the above is not applicable
 fill in:

Town or Subdivision _____

Street Address or Lot & Block _____

Ground elevation _____
 (if known)

How Drilled:
Rotary

REMARKS

Cementing, Packing, Type of
 Shut-off, Depth to Shut-off, etc.
 PUT LOG OF WELL ON RE-
 VERSE SIDE

LOG OF WELL
(ADD SPACES AS NEEDED)

From	<u>0</u>	ft. to	<u>5</u>	ft.	Top Soil
	<u>5</u>	ft. to	<u>65</u>	ft.	Shale and Clay Shells
	<u>65</u>	ft. to	<u>66</u>	ft.	Rock and Clay Shells
	<u>66</u>	ft. to	<u>71</u>	ft.	Shale
	<u>71</u>	ft. to	<u>73</u>	ft.	Gray Coarse Sandrock
	73		75		Shale
	75		85		Shale and Streaks of Coal
	85		94		Shale and Streaks of Sandrock
	94		95		Rock
	95		97		Hard Coal
	97		128		Shale
	128		159		Heavy Sandrock
	159		163		Coal
	163		225		Light Gray Sandrock
	225		235		Gray Sandrock with Streaks of Shale

Static Water - 120 feet

STATE OF COLORADO
APPLICATION FOR USE OF GROUND WATER
(Use Indelible Pencil or Typewriter)

RECEIVED

MAR 2 1962

GROUND WATER SECT.

COLORADO

STATE ENGINEER

Applicant Mike Gutersen

County Weld

P.O. Address Briggsdale, Colorado

Quantity applied for 15 gpm or
 AF Storage

SE $\frac{1}{4}$ NW $\frac{1}{4}$ Sect. 1 Twp. 6 N

Used for Stock Purposes
SE $\frac{1}{4}$, NW $\frac{1}{4}$,
on/at Sec. 1, Twp. 6N, Rge. 63 W
(legal description of land site)

Rge. 63 W, 6 P.M. OR

Street Address or Lot & Block No.

Town or Subdivision

Total acreage irrigated and other rts.

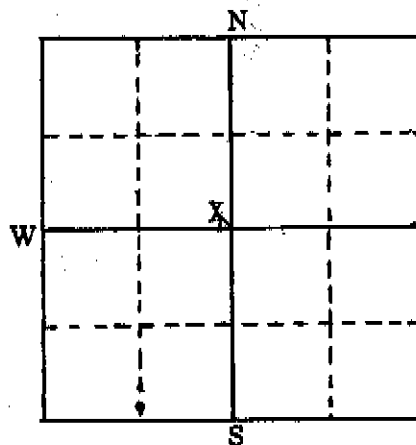
ESTIMATED DATA OF WELL

Hole size: 77/8 in. to 130 ft.
 in. to ft.

Casing Plain 5 in. from 0 to 100ft.
 in. from to ft.
Perf. 5 in. from 100 to 130 ft.
 in. from to ft.

PUMP
DATA: Type Windmill . HP . Size

Use initiation date March 10 19 62.
(Use Supplemental pages for additional data)



Locate well in 40 acre (small) square as near as possible.

\$25.00 fee required for Industrial, Commercial or Irrigation uses.

THIS APPLICATION APPROVED
NO. 10790
DATE MAR 2 1962 19

Applicant Michael Gutersen
Agent or
Driller Oliver Well Works, Inc. No. 6

Address 603 - 8th Street - Greeley, Colorado

NOTE — SATISFACTORY COMPLETION REQUIRED FOR APPROVAL OF APPLICATION