

TABLE 1
FIELD DATA SUMMARY TABLE
NOBLE 100322
HARPER KONA PIPELINE, WELD COUNTY, COLORADO
REM # 20790

Sample ID	Sample Date	Depth (ft)	GPS Data		PDOP Value	VOC Concentration (ppm)
			Latitude/Longitude			
MW-12	03/13/2025	20 Ft, 22 Ft	40.4684806	-104.5566655	-	2.7
MW-13	03/13/2025	20 Ft, 25 Ft	40.4685339	-104.5567711	-	1.8

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

TABLE 1
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
NOBLE 100322
HARPER KONA PIPELINE, WELD COUNTY, COLORADO
REM # 20790

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**		
MW-12 20FT	03/13/2025	20 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00201	<500	<0.200	<25.0	<100
MW-12 22FT	03/13/2025	22 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00201	<500	<0.200	<25.0	<100
MW-13 20FT	03/13/2025	20 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00201	<500	<0.200	<25.0	<100
MW-13 25FT	03/13/2025	25 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00201	<500	<0.200	<25.0	<100

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

TABLE 2
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
NOBLE 100322
HARPER KONA PIPELINE, WELD COUNTY, COLORADO
REM # 20790

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
MW-12 20FT	03/13/2025	20 Ft	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00201	<0.00201
MW-12 22FT	03/13/2025	22 Ft	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00201	<0.00201
MW-13 20FT	03/13/2025	20 Ft	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00201	<0.00201
MW-13 25FT	03/13/2025	25 Ft	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00201	<0.00201

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

TABLE 3
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
NOBLE 100322
HARPER KONA PIPELINE, WELD COUNTY, COLORADO
REM # 20790

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
MW-12 20FT	03/13/2025	20 Ft	8.02	5.08	4.42	0.744
MW-13 20FT	03/13/2025	20 Ft	8.07	5.82	5.30	0.823
MW-12 22FT	03/13/2025	22 Ft	7.98	3.16	1.98	0.435
MW-13 25FT	03/13/2025	25 Ft	8.09	4.14	3.50	0.595

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

TABLE 4
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
NOBLE 100322
HARPER KONA PIPELINE, WELD COUNTY, COLORADO
REM # 20790

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
MW-12 20FT	03/13/2025	20 Ft	9.05	76.4	<0.0935	<0.5	13.2	13.6	9.28	0.438	<0.0935	59.7
MW-13 20FT	03/13/2025	20 Ft	8.04	54.2	<0.0837	<0.5	11.6	11.8	9.03	0.413	<0.0837	57.2
MW-12 22FT	03/13/2025	22 Ft	5.10	16.0	<0.0957	<0.5	<9.57	4.70	4.88	<0.249	<0.0957	<35.4
MW-13 25FT	03/13/2025	25 Ft	3.47	62.5	<0.0993	<0.5	<9.93	6.09	8.71	<0.258	<0.0993	42.9

- 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).
- 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

TABLE 5
SUMMARY OF GROUNDWATER ELEVATION DATA AND ORGANIC CHEMISTRY DATA
NOBLE 100322
HARPER KONA PIPELINE, WELD COUNTY, COLORADO
REM # 20790

Sample ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4-Trimethyl-Benzene (µg/L)	1,3,5-Trimethyl-Benzene (µg/L)	TOC Elevation (ft)	Depth to Groundwater Below TOC (ft)	Groundwater Elevation (ft)	LNAPL Thickness (ft)
ECMC Table 915-1 Limits		5.0	560	700	1400	140	67	67				
MW-1	11/4/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	92.97	9.43	83.54	NP
	1/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		11.66	81.31	NP
	4/29/2022	<1.0	<1.0	<1.0	3.9	<1.0	4.2	3.3		11.85	81.12	NP
	7/26/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		7.11	85.86	NP
	10/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		9.39	83.58	NP
	1/30/2023	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		11.30	81.67	NP
	12/21/2023	NA	NA	NA	NA	NA	NA	NA		11.32	81.65	NP
	6/7/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		4.77	88.20	NP
	12/31/2024	NA	NA	NA	NA	NA	NA	NA		10.32	82.65	NP
	3/24/2025	DES	DES	DES	DES	DES	DES	DES		NM	NM	NP
MW-2	11/4/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	94.83	10.85	83.98	NP
	1/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		12.54	82.29	NP
	4/29/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		13.24	81.59	NP
	7/26/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		10.47	84.36	NP
	10/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		10.02	84.81	NP
	1/30/2023	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		12.26	82.57	NP
	12/21/2023	NA	NA	NA	NA	NA	NA	NA		12.28	82.55	NP
	6/7/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		8.27	86.56	NP
	12/31/2024	NA	NA	NA	NA	NA	NA	NA		10.98	83.85	NP
	3/24/2025	NA	NA	NA	NA	NA	NA	NA		12.05	82.78	NP
MW-3	11/4/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	94.90	11.09	83.81	NP
	1/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		12.87	82.03	NP
MW-3R	4/29/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	94.70	13.39	81.31	NP
	7/26/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		10.23	84.47	NP

TABLE 5
SUMMARY OF GROUNDWATER ELEVATION DATA AND ORGANIC CHEMISTRY DATA
NOBLE 100322
HARPER KONA PIPELINE, WELD COUNTY, COLORADO
REM # 20790

Sample ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4-Trimethyl-Benzene (µg/L)	1,3,5-Trimethyl-Benzene (µg/L)	TOC Elevation (ft)	Depth to Groundwater Below TOC (ft)	Groundwater Elevation (ft)	LNAPL Thickness (ft)
ECMC Table 915-1 Limits		5.0	560	700	1400	140	67	67				
MW-5	12/31/2024	Dry	Dry	Dry	Dry	Dry	Dry	Dry	98.39	Dry	Dry	Dry
	3/24/2025	DES	DES	DES	DES	DES	DES	DES		NM	NM	NM
MW-6	11/4/2021	Dry	Dry	Dry	Dry	Dry	Dry	Dry	98.38	13.78	84.60	NP
	1/20/2022	Dry	Dry	Dry	Dry	Dry	Dry	Dry		Dry	Dry	Dry
	4/29/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	98.51	15.94	82.57	NP
	7/26/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		14.84	83.67	NP
	10/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		13.89	84.62	NP
	1/30/2023	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		15.27	83.24	NP
	12/21/2023	NA	NA	NA	NA	NA	NA	NA		15.31	83.20	NP
	6/7/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		14.34	84.17	NP
	12/31/2024	NA	NA	NA	NA	NA	NA	NA		13.85	84.66	NP
	3/24/2025	DES	DES	DES	DES	DES	DES	DES		NM	NM	NM
MW-7	11/4/2021	Dry	Dry	Dry	Dry	Dry	Dry	Dry	100.00	Dry	Dry	Dry
	1/20/2022	Dry	Dry	Dry	Dry	Dry	Dry	Dry		Dry	Dry	Dry
	4/29/2022	Dry	Dry	Dry	Dry	Dry	Dry	Dry		Dry	Dry	Dry
	7/26/2022	Dry	Dry	Dry	Dry	Dry	Dry	Dry		Dry	Dry	Dry
	10/20/2022	IW	IW	IW	IW	IW	IW	IW		15.33	84.67	NP
	1/30/2023	Dry	Dry	Dry	Dry	Dry	Dry	Dry		Dry	Dry	Dry
	12/21/2023	Dry	Dry	Dry	Dry	Dry	Dry	Dry		Dry	Dry	Dry
	6/7/2024	Dry	Dry	Dry	Dry	Dry	Dry	Dry		Dry	Dry	Dry
	12/31/2024	NA	NA	NA	NA	NA	NA	NA		14.64	85.36	NP
	3/24/2025	NA	NA	NA	NA	NA	NA	NA		15.21	84.79	NP
MW-8	11/4/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	95.00	11.04	83.96	NP

TABLE 5
SUMMARY OF GROUNDWATER ELEVATION DATA AND ORGANIC CHEMISTRY DATA
NOBLE 100322
HARPER KONA PIPELINE, WELD COUNTY, COLORADO
REM # 20790

Sample ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4-Trimethyl-Benzene (µg/L)	1,3,5-Trimethyl-Benzene (µg/L)	TOC Elevation (ft)	Depth to Groundwater Below TOC (ft)	Groundwater Elevation (ft)	LNAPL Thickness (ft)
ECMC Table 915-1 Limits		5.0	560	700	1400	140	67	67				
MW-10	1/30/2023	Dry	Dry	Dry	Dry	Dry	Dry	Dry	98.66	Dry	Dry	Dry
	12/21/2023	Dry	Dry	Dry	Dry	Dry	Dry	Dry		Dry	Dry	Dry
	6/7/2024	Dry	Dry	Dry	Dry	Dry	Dry	Dry		Dry	Dry	Dry
	12/31/2024	Dry	Dry	Dry	Dry	Dry	Dry	Dry		Dry	Dry	Dry
	3/24/2025	DES	DES	DES	DES	DES	DES	DES		NM	NM	NM
MW-11	4/29/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	97.48	15.31	82.17	NP
	7/26/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		13.73	83.75	NP
	10/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		12.76	84.72	NP
	1/30/2023	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		14.50	82.98	NP
	12/21/2023	NA	NA	NA	NA	NA	NA	NA	97.48	14.54	82.94	NP
	6/7/2024	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0		13.42	84.06	NP
	12/31/2024	NA	NA	NA	NA	NA	NA	NA		13.10	84.38	23.19
	3/24/2025	DES	DES	DES	DES	DES	DES	DES		NM	NM	NM
MW-12	03/13/25	<1	<5	<1	<1	<5	<1	<1	NM	16.55	NM	NP
	03/24/25	NA	NA	NA	NA	NA	NA	NA		16.38	NM	NP
MW-13	03/13/25	<1	<5	<1	<1	<5	<1	<1	NM	18.12	NM	NP
	03/24/25	NA	NA	NA	NA	NA	NA	NA		16.67	NM	NP

1. Bold values exceed the ECMC limit(s)
2. Red highlighted groundwater analytical values indicate a regulatory exceedance
NP - No measurable LNAPL, NA - Not Analyzed, NL - No Limit, INA - Inaccessible, IW - Insufficient Water, DES - Destroyed

TABLE 6
SUMMARY OF INORGANIC GROUNDWATER CHEMISTRY DATA
NOBLE 100322
HARPER KONA PIPELINE, WELD COUNTY, COLORADO
REM # 20790

Sample ID	Sample Date	Total Dissolved Solids (mg/L)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)	Barium (mg/L)
ECMC Table 915-1 Limits*		<1.25 x local background	250 or <1.25 x local background	250 or <1.25 x local background	2.0
MW-1	11/4/2021	1080	55.2	899	NA
	1/20/2022	1360	35.4	499	0.0774
	4/29/2022	1510	7.76	997	0.0453
	7/26/2022	1620	64	898	0.0529
	10/20/2022	1040	92.4	230	0.0409
	1/30/2023	1150	42.2	612	0.0333
	12/21/2023	2120	90	1500	NA
	6/7/2024	2720	92.1	1580	NA
	12/31/2024	2100	129	1840	NA
3/24/2025	DES	DES	DES	DES	
MW-2	11/4/2021	2550	187	2360	NA
	1/20/2022	3670	392	1360	0.116
	4/29/2022	3160	314	2000	0.0609
	7/26/2022	2880	105	2180	0.0561
	10/20/2022	2160	102	1240	0.0547
	1/30/2023	3080	253	1500	0.0668
	12/21/2023	3890	481	1980	NA
	6/7/2024	4170	94.9	2410	NA
	12/31/2024	3270	289	1990	NA

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NOBLE 100322
HARPER KONA PIPELINE, WELD COUNTY, COLORADO
REM # 20790

Sample ID	Sample Date	Total Dissolved Solids (mg/L)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)	Barium (mg/L)
ECMC Table 915-1 Limits*		<1.25 x local background	250 or <1.25 x local background	250 or <1.25 x local background	2.0
MW-2	3/24/2025	3940	188	1910	NA
MW-3	11/4/2021	2420	46.6	2360	NA
	1/20/2022	<i>IW</i>	<i>IW</i>	<i>IW</i>	<i>IW</i>
MW-3R	4/29/2022	2240	42.4	1980	0.0305
	7/26/2022	2580	46.6	1990	0.0234
	10/20/2022	1930	59.4	1610	0.0195
	1/30/2023	2280	45.6	1620	0.0224
	12/21/2023	2380	35	1880	NA
	6/7/2024	3520	52.1	2160	NA
	12/31/2024	2370	60.5	2170	NA
	3/24/2025	3240	46.9	1880	NA
MW-4	11/4/2021	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>
	1/20/2022	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>
	4/29/2022	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>
	7/26/2022	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>
	10/20/2022	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>
	1/30/2023	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>
	6/7/2024	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>

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SUMMARY OF INORGANIC GROUNDWATER CHEMISTRY DATA
NOBLE 100322
HARPER KONA PIPELINE, WELD COUNTY, COLORADO
REM # 20790

Sample ID	Sample Date	Total Dissolved Solids (mg/L)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)	Barium (mg/L)
ECMC Table 915-1 Limits*		<1.25 x local background	250 or <1.25 x local background	250 or <1.25 x local background	2.0
MW-4	12/31/2024	Dry	Dry	Dry	Dry
	3/24/2025	DES	DES	DES	DES
MW-5	12/21/2023	Dry	Dry	Dry	Dry
	6/7/2024	Dry	Dry	Dry	Dry
	11/4/2021	Dry	Dry	Dry	Dry
	1/20/2022	Dry	Dry	Dry	Dry
	4/29/2022	Dry	Dry	Dry	Dry
	7/26/2022	Dry	Dry	Dry	Dry
	10/20/2022	Dry	Dry	Dry	Dry
	1/30/2023	Dry	Dry	Dry	Dry
	12/21/2023	Dry	Dry	Dry	Dry
	6/7/2024	Dry	Dry	Dry	Dry
	12/31/2024	Dry	Dry	Dry	Dry
	3/24/2025	DES	DES	DES	DES
MW-6	11/4/2021	Dry	Dry	Dry	Dry
	1/20/2022	Dry	Dry	Dry	Dry
MW-6R	4/29/2022	2760	123	2550	0.0311
	7/26/2022	3260	141	2800	0.0254

TABLE 6
SUMMARY OF INORGANIC GROUNDWATER CHEMISTRY DATA
NOBLE 100322
HARPER KONA PIPELINE, WELD COUNTY, COLORADO
REM # 20790

Sample ID	Sample Date	Total Dissolved Solids (mg/L)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)	Barium (mg/L)
ECMC Table 915-1 Limits*		<1.25 x local background	250 or <1.25 x local background	250 or <1.25 x local background	2.0
MW-6R	10/20/2022	2440	99.8	1950	0.0239
	1/30/2023	2910	103	1930	0.0244
	12/21/2023	2300	70.8	1040	NA
	6/7/2024	4650	147	2940	NA
	12/31/2024	3170	162	2830	NA
	3/24/2025	DES	DES	DES	DES
MW-7	11/4/2021	Dry	Dry	Dry	Dry
	1/20/2022	Dry	Dry	Dry	Dry
	4/29/2022	Dry	Dry	Dry	Dry
	7/26/2022	Dry	Dry	Dry	Dry
	10/20/2022	IW	IW	IW	IW
	1/30/2023	Dry	Dry	Dry	Dry
	12/21/2023	Dry	Dry	Dry	Dry
	6/7/2024	Dry	Dry	Dry	Dry
	12/31/2024	6160	417	5180	NA
	3/24/2025	NS	NS	NS	NS
MW-8	11/4/2021	2820	106	2620	NA
	1/20/2022	2720	63.6	1580	0.0819

TABLE 6
SUMMARY OF INORGANIC GROUNDWATER CHEMISTRY DATA
NOBLE 100322
HARPER KONA PIPELINE, WELD COUNTY, COLORADO
REM # 20790

Sample ID	Sample Date	Total Dissolved Solids (mg/L)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)	Barium (mg/L)
ECMC Table 915-1 Limits*		<1.25 x local background	250 or <1.25 x local background	250 or <1.25 x local background	2.0
MW-8	4/29/2022	<i>IW</i>	<i>IW</i>	<i>IW</i>	<i>IW</i>
	7/26/2022	2400	89.4	1840	0.0761
	10/20/2022	2270	107	2080	0.0493
	1/30/2023	2470	79.6	1830	0.0393
	12/21/2023	3030	139	2410	NA
	6/7/2024	4860	123	3020	NA
	12/31/2024	2730	85	1890	NA
	3/24/2025	3630	89.9	2090	NA
MW-9	11/4/2021	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>
	1/20/2022	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>
	7/26/2022	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>
	10/20/2022	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>
	1/30/2023	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>
	12/21/2023	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>
	6/7/2024	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>
	12/31/2024	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>
	3/24/2025	<i>DES</i>	<i>DES</i>	<i>DES</i>	<i>DES</i>
MW-10	11/4/2021	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>	<i>Dry</i>

TABLE 6
SUMMARY OF INORGANIC GROUNDWATER CHEMISTRY DATA
NOBLE 100322
HARPER KONA PIPELINE, WELD COUNTY, COLORADO
REM # 20790

Sample ID	Sample Date	Total Dissolved Solids (mg/L)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)	Barium (mg/L)
ECMC Table 915-1 Limits*		<1.25 x local background	250 or <1.25 x local background	250 or <1.25 x local background	2.0
MW-10	1/20/2022	Dry	Dry	Dry	Dry
	7/26/2022	Dry	Dry	Dry	Dry
	10/20/2022	Dry	Dry	Dry	Dry
	1/30/2023	Dry	Dry	Dry	Dry
	12/21/2023	Dry	Dry	Dry	Dry
	6/7/2024	Dry	Dry	Dry	Dry
	12/31/2024	Dry	Dry	Dry	Dry
	3/24/2025	DES	DES	DES	DES
MW-11	4/29/2022	2540	80	2360	0.0367
	7/26/2022	2970	88.8	2560	0.031
	10/20/2022	2170	77.6	1910	0.0316
	1/30/2023	2570	72.2	1850	0.0246
	12/21/2023	2960	85.4	2340	NA
	6/7/2024	4250	95.9	2680	NA
	12/31/2024	2480	72.4	2210	NA
	3/24/2025	DES	DES	DES	DES
MW-12	3/13/2025	4680	165	3110	NA
	3/24/2025	4600	163	2710	NA

TABLE 6
SUMMARY OF INORGANIC GROUNDWATER CHEMISTRY DATA
NOBLE 100322
HARPER KONA PIPELINE, WELD COUNTY, COLORADO
REM # 20790

Sample ID	Sample Date	Total Dissolved Solids (mg/L)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)	Barium (mg/L)
ECMC Table 915-1 Limits*		<1.25 x local background	250 or <1.25 x local background	250 or <1.25 x local background	2.0
MW-13	3/13/2025	4940	188	3320	NA
	3/24/2025	5020	198	3010	NA
125% Maximum Background Concentration		6275	521	3763	-

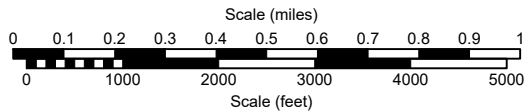
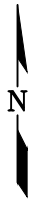
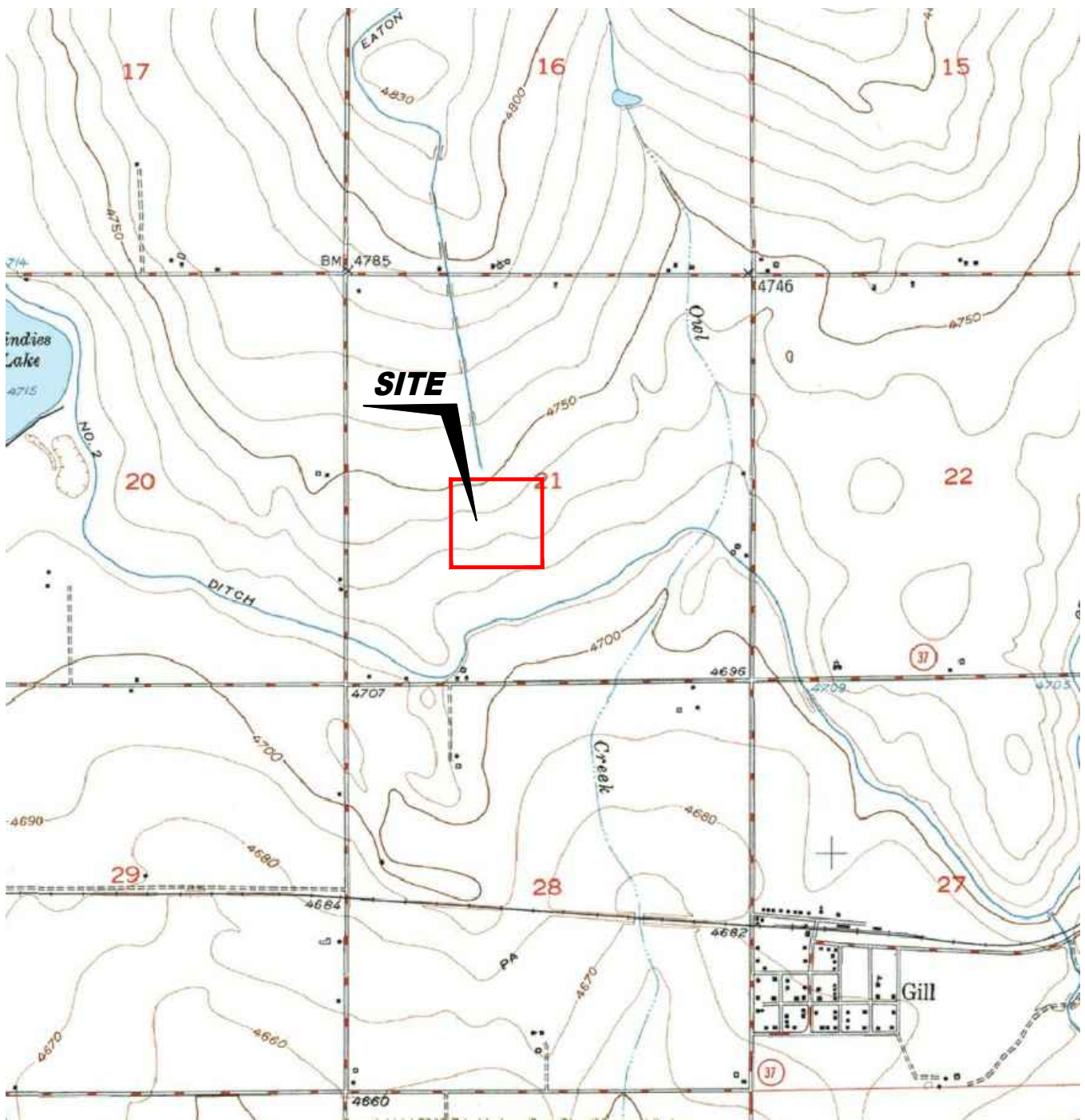
1. Bold values exceed the ECMC limit(s)

2. Blue highlighted groundwater analytical values indicate a regulatory exceedance greater than background concentrations

NP - No measurable LNAPL, NA - Not Analyzed, INA - Inaccessible, IW - Insufficient Water, DES - Destroyed

*Dissolved metals refer to Colorado Regulation 41 Standards

MW-7, MW-8, MW-12, and MW-13 used for background comparison



USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1

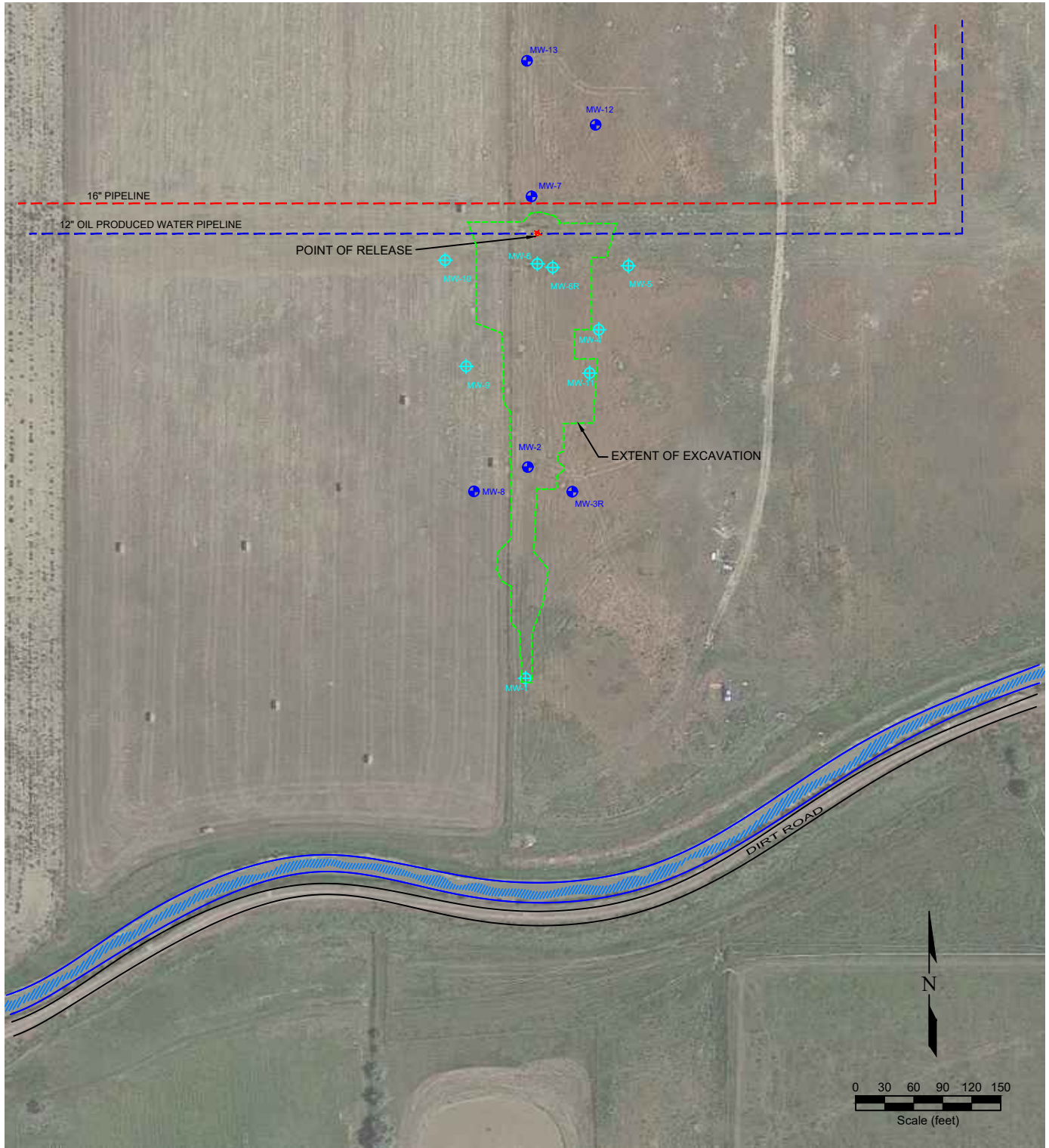
SITE LOCATION MAP

**Noble Midstream, Inc.
Harper Pipeline Release**

NESW Sec. 21, T6N, R64W, 6th PM
Weld County, Colorado
40.468274°, -104.556754°

Project No. CO21-074	API #	Facility # 480529
Date 4/29/25	Remediation # 20790	Filename 21074T1





LEGEND

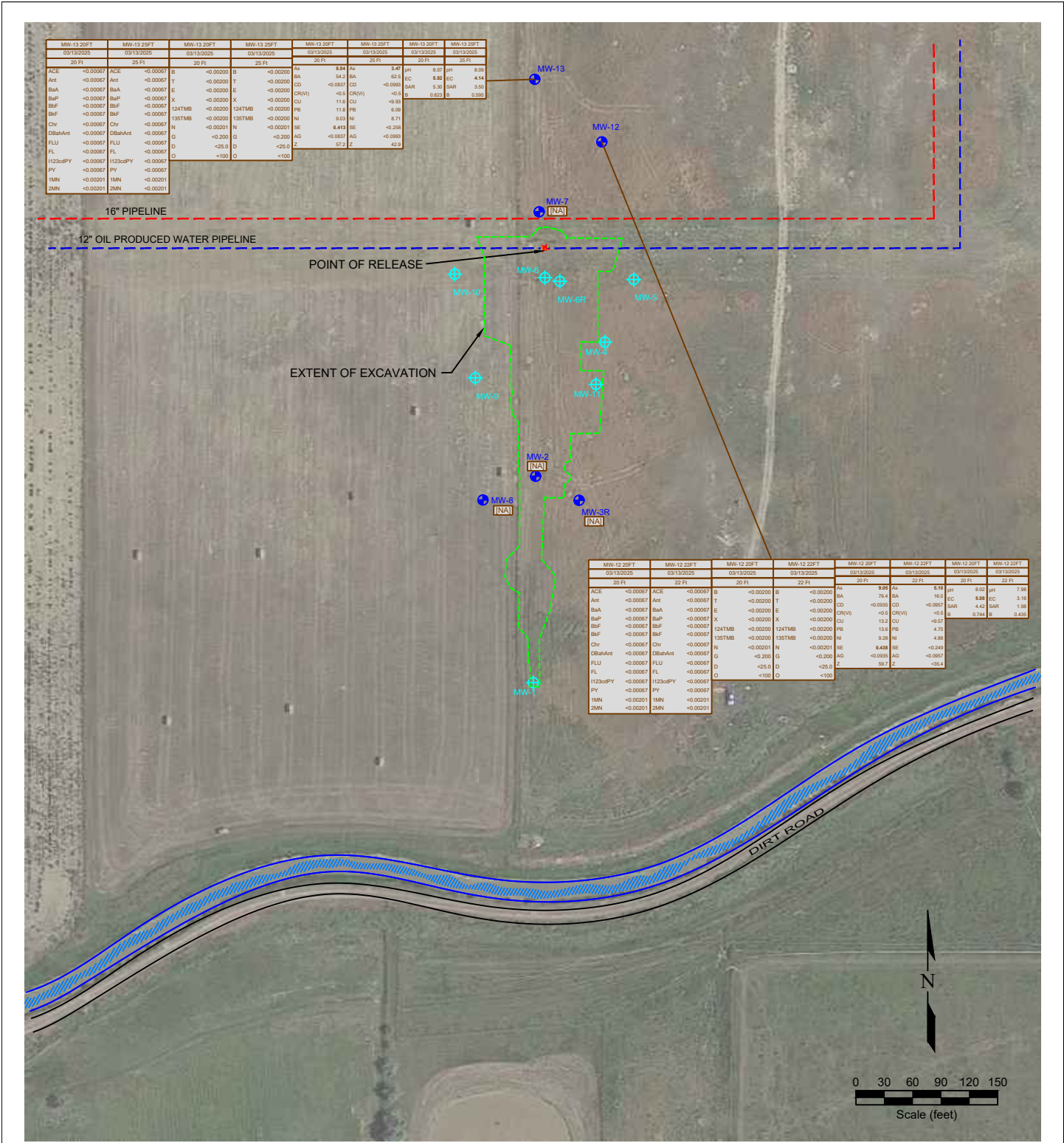
- ★ POINT OF RELEASE
- MONITORING WELL
- ⊕ DESTROYED MONITORING WELL
- EXTENT OF EXCAVATION
- 16" PIPELINE
- 12" OIL PRODUCED WATER PIPELINE

**Figure 2
SITE MAP**

**Noble Midstream, Inc.
Harper Pipeline Release**
NESW Sec. 21, T6N, R64W, 6th PM
Weld County, Colorado
40.468274°, -104.556754°

Project No. CO21-074	API #	Facility # 480529
Date 5/13/25	Remediation # 20790	Filename 21074Q1





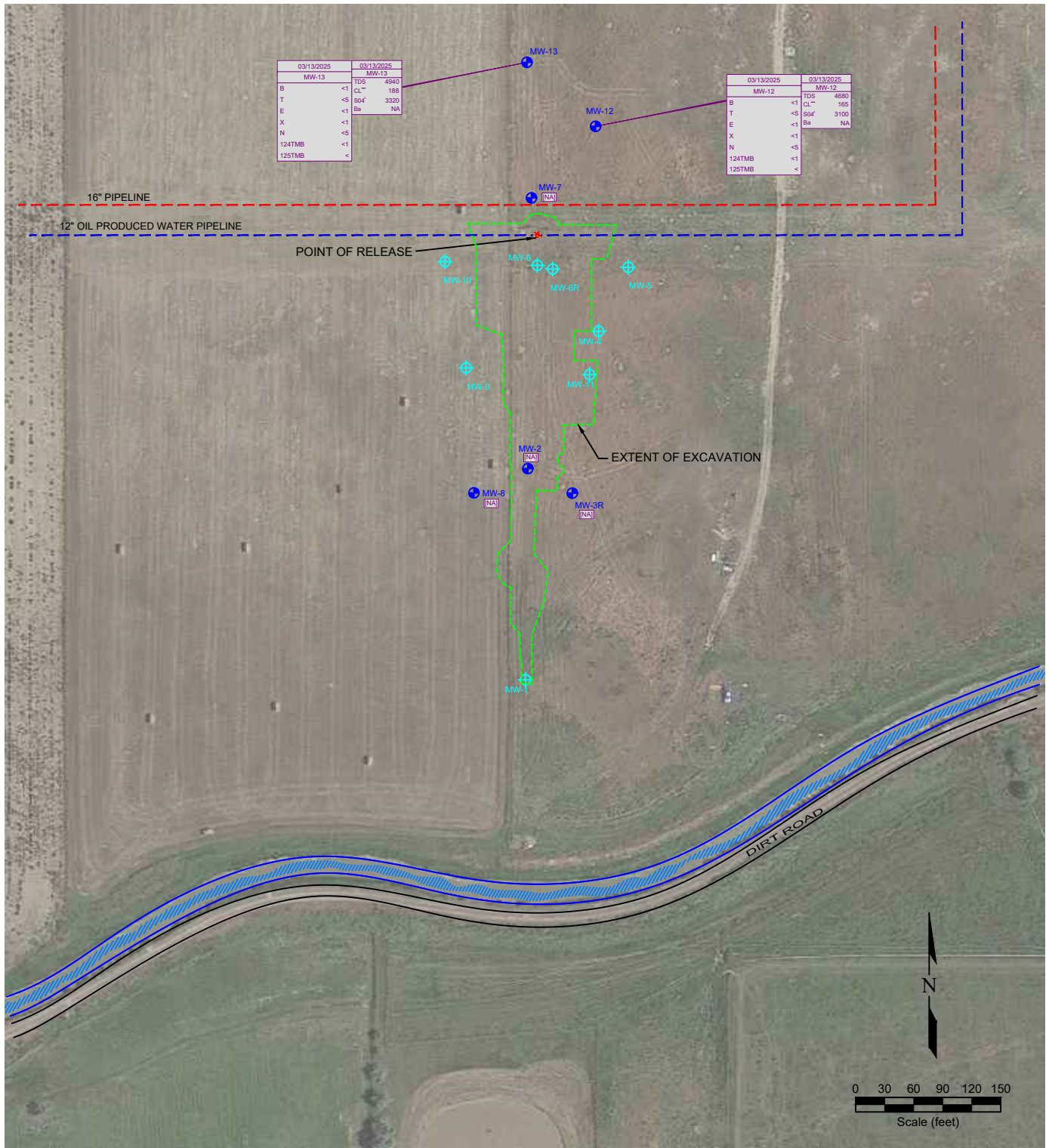
LEGEND

- POINT OF RELEASE
- MONITORING WELL
- DESTROYED MONITORING WELL
- EXTENT OF EXCAVATION
- 16" PIPELINE
- 12" OIL PRODUCED WATER PIPELINE

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	ACENAPHTHENE (mg/kg)	BA	BARIUM (mg/kg)	BA	BARIUM (mg/kg)
Ant	ANTHRACENE (mg/kg)	CD	CADMIUM (mg/kg)	EC	EC (pH units)
BaA	BENZO (A) ANTHRACENE (mg/kg)	CR(VI)	CHROMIUM (mg/kg)	SAR	SAR (units)
BaP	BENZO (A) PYRENE (mg/kg)	CU	COPPER (mg/kg)		
BaF	BENZO (B) FLUORANTHENE (mg/kg)	NI	NICKEL (mg/kg)		
BaP	BENZO (K) FLUORANTHENE (mg/kg)	SE	SELENIUM (mg/kg)		
Chr	CHRYSENE (mg/kg)	AG	SILVER (mg/kg)		
DBaHAnt	DIBENZO (A,H) ANTHRACENE (mg/kg)	Z	ZINC (mg/kg)		
FLU	FLUORANTHENE (mg/kg)				
FL	FLUORENE (mg/kg)				
1123oSPY	INDENO (1,2,3-CD) PYRENE (mg/kg)				
PY	PYRENE (mg/kg)				
1MN	1-METHYLNAPHTHALENE (mg/kg)				
2MN	2-METHYLNAPHTHALENE (mg/kg)				

Figure 3
SOIL CHEMISTRY MAP
 March 13, 2025
 Noble Midstream, Inc.
 Harper Pipeline Release
 NESW Sec. 21, T6N, R64W, 6th PM
 Weld County, Colorado
 40.468274°, -104.556754°

Project No. CO21-074	API #	Facility # 480529
Date 5/13/25	Remediation # 20790	Filename 21074Q1



LEGEND

- ★ POINT OF RELEASE
- MONITORING WELL
- ⊕ DESTROYED MONITORING WELL
- EXTENT OF EXCAVATION
- 16" PIPELINE
- 12" OIL PRODUCED WATER PIPELINE

03/13/2025		DATE SAMPLED
MW-12	<1	MW-12
B	<1	BENZENE (ug/L)
T	<5	TOLUENE (ug/L)
E	<1	ETHYLBENZENE (ug/L)
X	<1	TOTAL XYLENES (ug/L)
N	<5	NAPHTHALENE (ug/L)
124TMB	<1	1,2,4-TRIMETHYLBENZENE (ug/L)
125TMB	<	1,3,5-TRIMETHYLBENZENE (ug/L)

- [LRY] WATER NOT PRESENT
- [IW] INSUFFICIENT WATER SUPPLY
- [NS] NOT SAMPLED
- [NA] NOT ANALYZED

03/24/2025		DATE SAMPLED
MW-1	1350	MW-1
TDS	1350	TOTAL DISSOLVED SOLIDS (mg/L)
CL ⁻	42.2	CHLORIDE ION (mg/L)
SD ⁴	612	SULFATE ION (mg/L)
Ba	0.0333	BARIUM (mg/L)

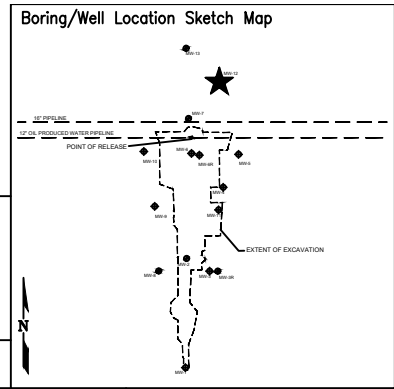
Figure 4
GROUNDWATER CHEMISTRY MAP
 March 13, 2025
 Noble Midstream, Inc.
 Harper Pipeline Release
 NESW Sec. 21, T6N, R64W, 6th PM
 Weld County, Colorado
 40.468274°, -104.556754°

Project No. CO21-074	API #	Facility # 480529
Date 5/16/25	Remediation # 20790	Filename 21074Q1





BORING/WELL CONSTRUCTION LOG



Page 1 of 2

Boring/Well No. MW-12		Total Depth 32'	Location Noble Midstream, Inc. Harper Pipeline Release NESW Sec 21, T6N, R64W, 6th PM Weld County, Colorado			
Project No./Name C021-074 / Noble ~ Harper Pipeline Release		Drilling Contractor/Driller Drill Pro / Eric, Joe				
Geologist/Office Jordan Suttles / Fremont Environmental, Inc.		Approved By				
Drilling Equipment/Method Geoprobe / Direct Push		Size/Type of Bit 2.5" direct push	Sampling Method Split Spoon	Start/Finish Date 3/13/2025		
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Casing Mtrl./Dia. 1" PVC	Screen: Type SCH40 Mtrl. PVC Length 10' Dia. 1" Slot Size 0.010"				
Elevation of: (ft. above datum)	Ground Surface	Top of Well Casing	Top of Screen	Bottom of Screen	Ground Water Surface/Date Measured 18.12 3/13/2025	

DEPTH (feet)	WELL CONSTRUCTION		LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
			GRAPHIC LOG	VISUAL DESCRIPTION				
5	Bentonite	1" Blank	SC	Clayey sand, fg, pg, non-plastic, clay coated, dry				0.0
			CL	Clay, soft, medium plastic, soft, dry				0.0
								0.0
								0.0
								0.0
10	#10-20 Silica Sand	1" Screen		Sandy clay, fg, pg, plastic, dry				0.5
								0.0
								0.0
								0.1
								0.2
15								0.3
								0.7
								0.9
								1.0
								1.2
20				Brown sand, fg, pg, wet at 22'				1.5

BORING/WELL CONSTRUCTION LOG

Page 2 of 2

Boring/Well No. MW-12	Location Noble Midstream Harper Pipeline Release SE NW Sec 21, T6N, R64W, 6th PM Weld County, Colorado
Project No./Name C021-074 / Noble ~ Harper Pipeline Release	

DEPTH (feet)	WELL CONSTRUCTION		LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
			GRAPHIC LOG	VISUAL DESCRIPTION				
25	#10-20 Silica Sand	1" Screen	SP	Brown sand, fg, pg, wet at 22', continued	27 50 for 5		0.3 2.7 0.5 0.8 1.2 0.3 0.3 0.2 0.4 0.5	
30				TD 32'	12 50 for 5		0.0 0.0 0.0	
35								
40								
45								

BORING/WELL CONSTRUCTION LOG

Page 2 of 2

Boring/Well No. MW-13	Location Noble Midstream Harper Pipeline Release SE NW Sec 21, T6N, R64W, 6th PM Weld County, Colorado
Project No./Name C021-074 / Noble ~ Harper Pipeline Release	

DEPTH (feet)	WELL CONSTRUCTION		LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
			GRAPHIC LOG	VISUAL DESCRIPTION				
25	#10-20 Silica Sand	1" Screen	SC	Brown clayey sand, wet at 22'	29 50 for 6		0.1 0.1 0.1 0.1 1.8 0.1 0.1 0.1 0.1 0.1 0.0 0.1	
30				TD 32'	18 50 for 5			
35								
40								
45								