



SITE NAME: STROH H12-16 FLOWLINE							DATE: 8/29/2024	REM. PROJECT #: 34390	WEATHER: SUNNY, 70s			
SITE DIRECTIONS: Cr 49 & Cr 34, N 0.1, W 0.1 into							CLIENT: Noble					
LEGALS AND LAT/LONG: 40.23380971, -104.604270							TASMAN PERSONNEL: MW, JB					
SOIL TYPES:							SURFACE GRADIENT:					
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)					
08-29-2024 11:10	FL01R-W@2'	0.5	No Staining	No Odor	Yes	Lab	Buried or Partially Buried Vessel					
							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:					



Date: 08/29/2024

GENERAL OBSERVATION FORM

Site Area/AOC: STROH H12-16 FLOWLINE Client: Noble

Daily Forecast/Weather: SUNNY, 70s Personnel: MW, JB

Task/Location Description: _____

Time	Description
09:00	Arrived on site began JSA
09:24	Completed JSA reviewed with crew, began facility sampling activities
11:00	Completed sampling of facility
11:10	Began sampling of Flowline
	Due to potential Asbestos, and lack of personnel, the rest of the flowline will be sampled on following date pending results
11:30	Completed sampling
13:00	Departed site
	POINT FL01R-S SAMPLED WITH FACILITY UNDER NAME SEP01-FL@2'
	SITE NAME/ REM #: STROH H-63N65W-12SESE #34398
	NO CLEAR INDICATIONS OF FLOWLINE MARKINGS, AND THUS UNABLE TO COLLECT FLOWLINE GPS PATH
	ENTIRE FLOWLINE TO BE ABANDONED IN PLACE PERMANENTLY DUE TO MULTIPLE CONFLICTING LOCAL LINES

Need photo log?



Equipment ID: FL01R-W@2'		Equipment Type:		Equipment ID:		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions: FACING E.				Notes/Conditions:			



SITE NAME: STROH H-63N65W-12SESE							DATE: 8/29/2024	REM. PROJECT #: 34398	WEATHER: SUNNY, 70s	
SITE DIRECTIONS: Take dirt access Rd W at intersection of Co Rd 49 & 34. Site to the N in ~500ft.							CLIENT: Noble			
LEGALS AND LAT/LONG: (40.2325429, -104.6054036)							TASMAN PERSONNEL: MW, JB			
SOIL TYPES: SP							SURFACE GRADIENT:			
SOIL SAMPLING							FACILITY INFRASTRUCTURE			
Date/Time	Soil Sample ID	PID (ppm)	Visual	Olfactory	Photo?	Grab or Lab Sample?	EQUIPMENT	Quantity	Photo?	
08-29-2024 09:27	PWV01-N@2'	0.3	No Staining	No Odor	Yes	On-hold	Above Ground Storage Tank (AST)	1	✓	
08-29-2024 09:30	PWV01-E@2'	0.0	No Staining	No Odor	Yes	On-hold	Buried or Partially Buried Vessel	1	✓	
08-29-2024 09:33	PWV01-S@2'	2.2	No Staining	No Odor	Yes	On-hold	Separator	1	✓	
08-29-2024 09:36	PWV01-W@2'	6.2	No Staining	No Odor	Yes	Lab	Emission Control Device (ECD)	2	✓	
08-29-2024 09:39	PWV01-B@4'	0.1	No Staining	No Odor	Yes	Lab	Dump Line			
08-29-2024 09:52	SEP01-FL@2'	0.3	No Staining	No Odor	Yes	Lab	Wellhead			
08-29-2024 09:54	SEP01-DL@2'	0.3	No Staining	No Odor	Yes	Lab	Flowline			
08-29-2024 10:06	AST01@0-6"	0.4	No Staining	No Odor	Yes	Lab	Other:			
08-29-2024 10:13	FLARE01@0-6"	0.1	No Staining	No Odor	Yes	Grab	Soil Loads Removed			
08-29-2024 10:15	FLARE02@0-6"	0.1	No Staining	No Odor	Yes	Grab	IMPACTED SOIL IDENTIFIED?			
08-29-2024 10:24	MH01@0-6"	0.1	No Staining	No Odor	Yes	Grab	ESTIMATED VOLUME OF IMPACTS:			
08-29-2024 10:27	AUTO01@0-6"	0.3	No Staining	No Odor	Yes	Grab	Date	Number	CY	
08-29-2024 11:19	BKG01@0-6"	0.2	No Staining	No Odor	Yes	Lab				
08-29-2024 11:20	BKG01@2'	0.1	No Staining	No Odor	Yes	Lab				
08-29-2024 11:21	BKG01@4'	0.1	No Staining	No Odor	Yes	Lab				
							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:			



Date: 8/29/2024

GENERAL OBSERVATION FORM

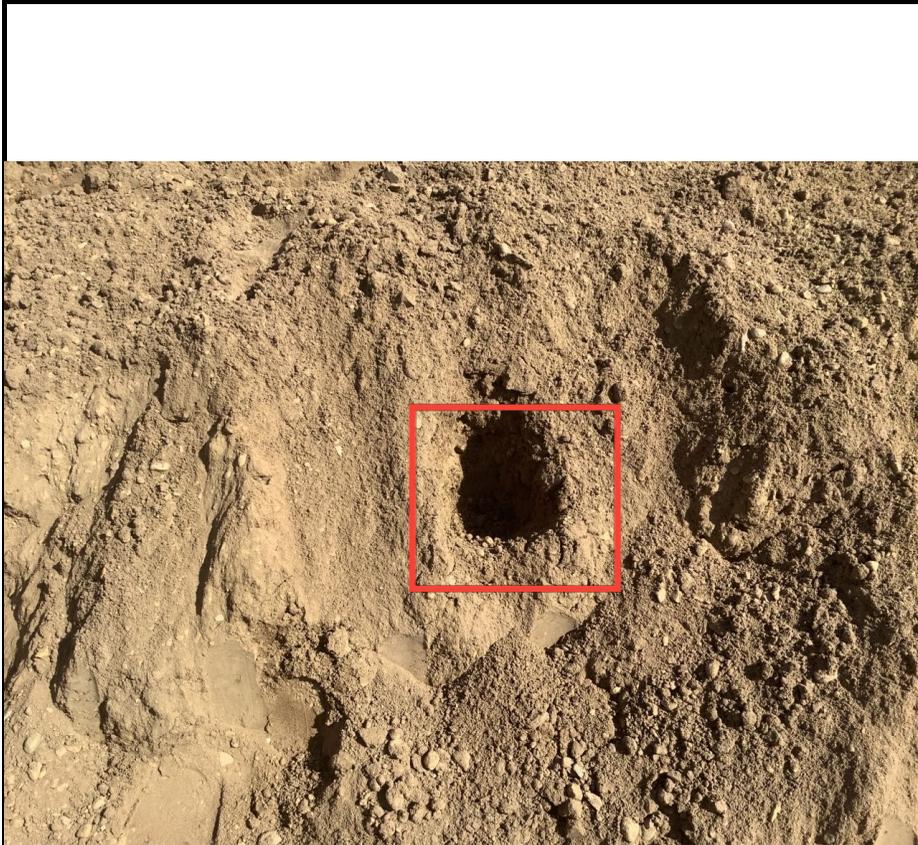
Site Area/AOC: STROH H-63N65W-12SESE Client: Noble

Daily Forecast/Weather: SUNNY, 70s Personnel: MW, JB

Task/Location Description: FACILITY DECOMMISSIONING

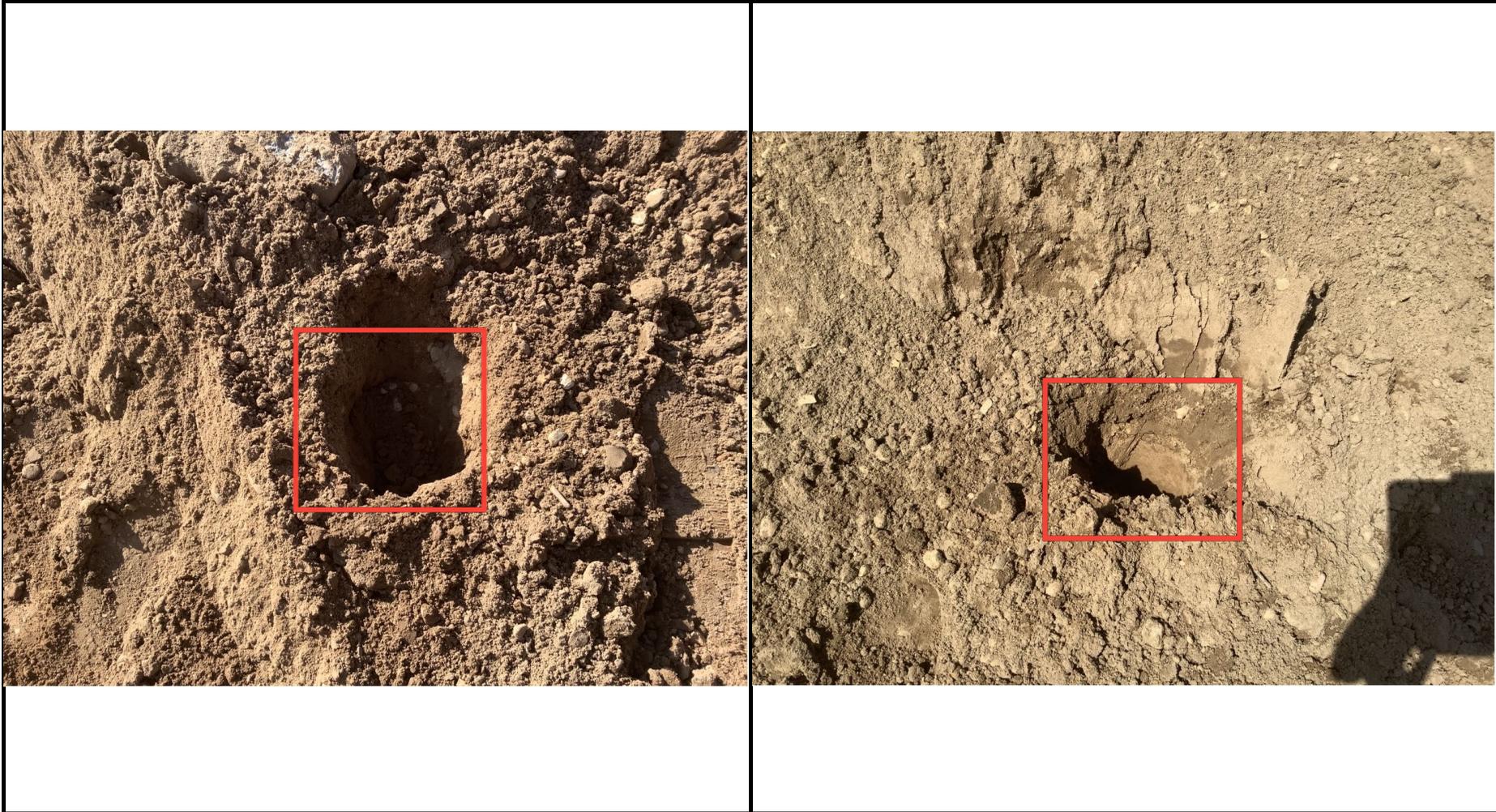
Time	Description
09:00	Arrived on site began JSA
09:24	Completed JSA reviewed with crew
09:27	Began sampling activities
11:30	Completed sampling activities
13:00	Departed site
	BKG01 DESCRIPTION:
	0-4': Brown, sand, fine grain, well sorted, dry, no odor, no staining
	SEP01-FL@2' SHARED POINT FOR FLOWLINE POINT FL01R-S
	SITE NAME/ REM #: STROH H12-16 #34390

Need photo log?

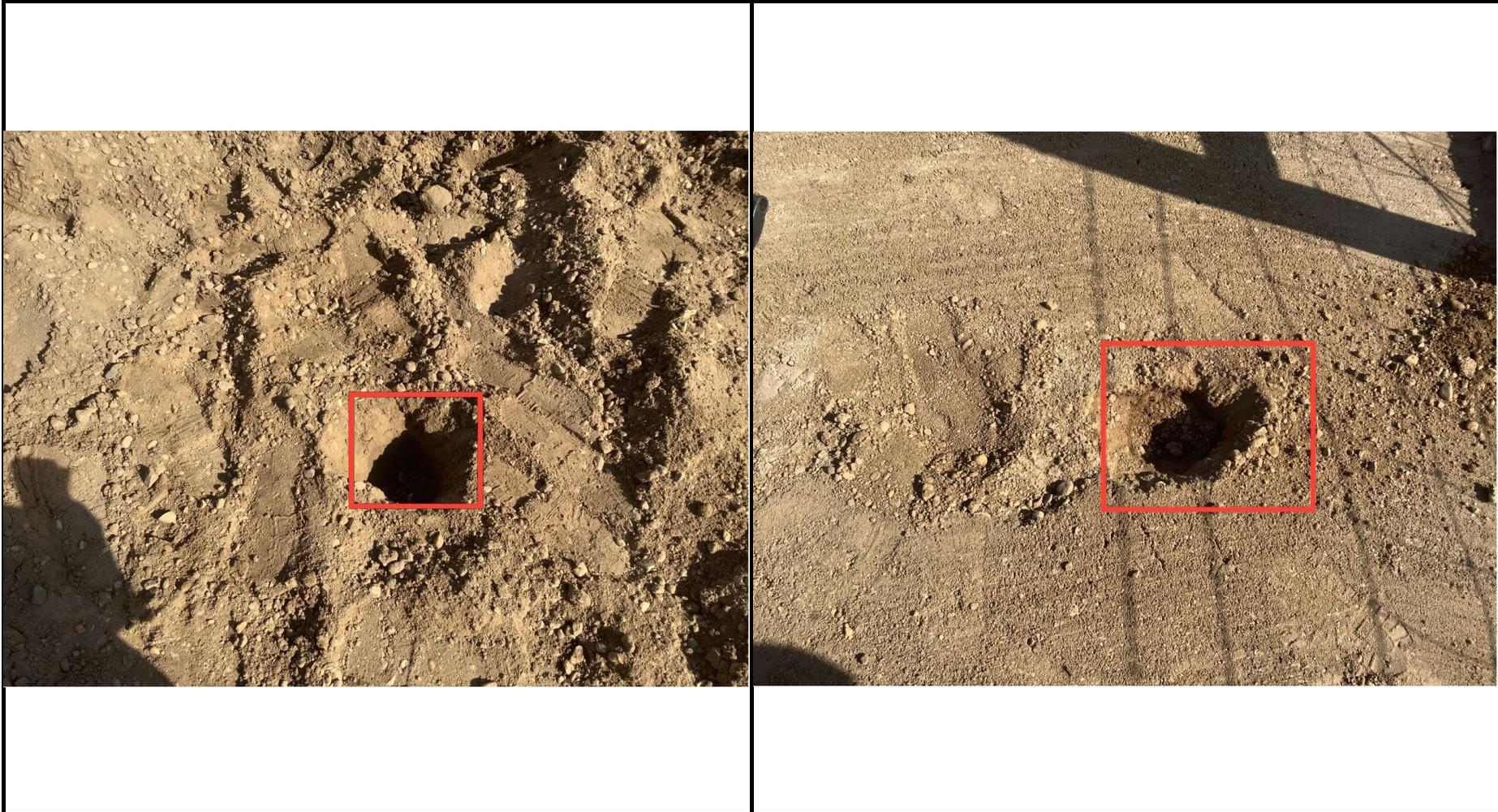


Equipment ID: PWV01-N@2'		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions: FACING N.			

Equipment ID: PWV01-E@2'		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions: FACING E.			



Equipment ID: PWV01-S@2'		Equipment Type:		Equipment ID: PWV01-W@2'		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions: FACING S.				Notes/Conditions: FACING W.			



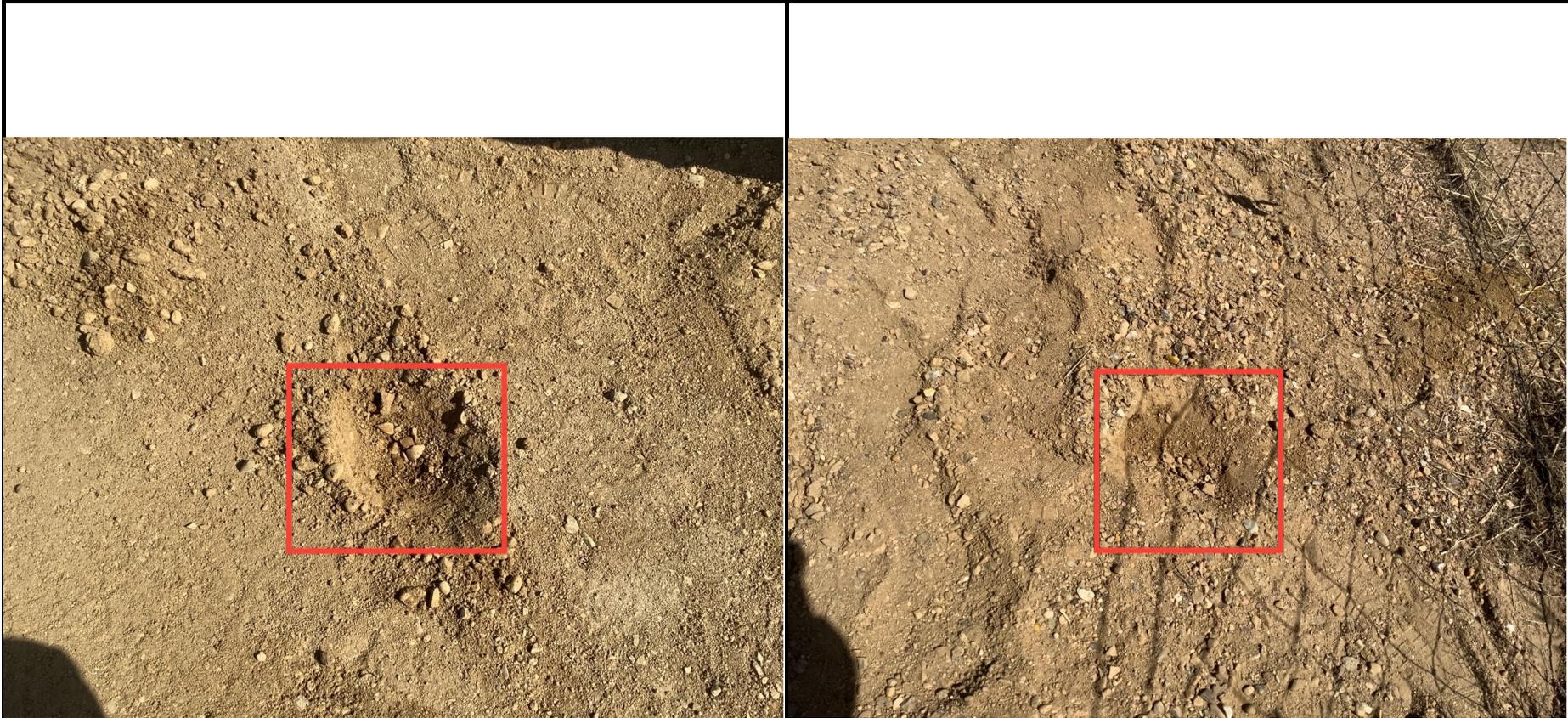
Equipment ID: PWV01-B@4'		Equipment Type:		Equipment ID: FLARE01@0-6"		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions: FACING N.				Notes/Conditions: FACING N.			

					
Material:	Volume:	Contents:	Material:	Volume:	Contents:
Notes/Conditions: FACING N.			Notes/Conditions: FACING E.		



Equipment ID: AST01 @ 0-6"		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions: FACING S.			

Equipment ID: MH01 @ 0-6"		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions: FACING N.			



Equipment ID: FLARE02@0-6"		Equipment Type:		Equipment ID: AUTO01@0-6"		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions: FACING N.				Notes/Conditions: FACING N.			



Equipment ID: PWV01		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions:			

Equipment ID: SEPARATOR		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions:			



Equipment ID: BKG01		Equipment Type:		Equipment ID:		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions: FACING E.				Notes/Conditions:			

TABLE 1
FIELD DATA SUMMARY TABLE
NOBLE ENERGY, INC. 100322
STROH H12-16 FLOWLINE, WELD COUNTY, COLORADO
REM # 34390

Sample ID	Sample Date	Depth (ft. bgs)	GPS Data Latitude/Longitude		PDOP Value	VOC Concentration (ppm)
FL01R-W@2'	8/29/2024	2	40.233808	-104.604276	1.0	0.5
SEP01-FL@2' ^[a]	8/29/2024	2	40.232575	-104.605072	0.8	0.3
BKG01@0-6" ^[a]	8/29/2024	0-0.5	40.232274	-104.605240	0.9	0.2
BKG01@2' ^[a]	8/29/2024	2	40.232274	-104.605240	0.9	0.1
BKG01@4' ^[a]	8/29/2024	4	40.232274	-104.605240	0.9	0.1

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).
- a. Samples collected at the nearby Stroh H-63N65W 12SESE Tank Battery (Remediation # 34398).

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
STROH H12-16 FLOWLINE, WELD COUNTY, COLORADO
REM # 34390

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'	8/29/2024	2	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
SEP01-FL@2' ^[a]	8/29/2024	2	<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).
 4. ** Summation of GRO+DRO+ORO must be less than 500 mg/kg.
- a. Samples collected at the nearby Stroh H-63N65W 12SESE Tank Battery (Remediation # 34398).

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
STROH H12-16 FLOWLINE, WELD COUNTY, COLORADO
REM # 34390

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'	8/29/2024	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
SEP01-FL@2' ^(a)	8/29/2024	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

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).
- a. Samples collected at the nearby Stroh H-63N65W 12SESE Tank Battery (Remediation # 34398).

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
STROH H12-16 FLOWLINE, WELD COUNTY, COLORADO
REM # 34390

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
FLO1R-W@2'	8/29/2024	2	7.80	2.26	0.541	<2.00
SEP01-FL@2' ^[a]	8/29/2024	2	8.42	0.150	0.0116	<2.00
BKG01@0-6" ^[a]	8/29/2024	0-0.5	8.21	0.297	0.0437	<2.00
BKG01@2' ^[a]	8/29/2024	2	8.49	0.235	0.589	<2.00
BKG01@4' ^[a]	8/29/2024	4	8.87	0.127	0.0317	<2.00
Maximum Background Concentration			8.87	-	-	-

Notes:

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.
- a. Samples collected at the nearby Stroh H-63N65W 12SESE Tank Battery (Remediation # 34398).

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

TABLE 5
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
NOBLE ENERGY, INC. 100322
STROH H12-16 FLOWLINE, WELD COUNTY, COLORADO
REM # 34390

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'	8/29/2024	2	2.09	45.3	0.374	<0.30*	8.49	7.82	3.98	<0.236	0.0294	20.9
SEP01-FL@2' ^[a]	8/29/2024	2	0.508	28.6	<0.200	<0.30*	1.23	3.91	1.14	<0.260	<0.0200	4.97
BKG01@0-6" ^[a]	8/29/2024	0-0.5	1.32	87.5	<0.200	<0.30*	2.26	8.52	2.72	<0.260	0.0914	9.16
BKG01@2' ^[a]	8/29/2024	2	0.952	50.3	<0.200	<0.30*	1.77	5.30	2.08	<0.260	0.0407	7.11
BKG01@4' ^[a]	8/29/2024	4	0.532	23.4	<0.200	<0.30*	1.06	3.81	0.916	<0.260	<0.0200	4.12
Maximum Background Concentration			1.32	-	-	-	-	-	-	-	-	-
Maximum Background Concentration X 1.25			1.65	-	-	-	-	-	-	-	-	-

Notes:

1. **Bold** faced values exceed the ECMC Table 915-1 limit(s), but are within 1.25x background concentrations.
 2. **Red** 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. Compound falls within ECMC Table 915-1 Footnote 9.
 5. Non-detect background results accounted for in the highest background concentration by using the reporting limit.
- a. Samples collected at the nearby Stroh H-63N65W 12SESE Tank Battery (Remediation # 34398).

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



BKG01 @0-6"^[a]
 (08/29/2024)
 PID = 0.2 ppm
BKG01 @2"^[a]
 (08/29/2024)
 PID = 0.1 ppm
BKG01 @4"^[a]
 (08/29/2024)
 PID = 0.1 ppm

SEP01-FL @2"^[a]
 (08/29/2024)
 PID = 0.3 ppm

FL01R-W@2'
 (08/29/2024)
 PID = 0.5 ppm

Legend

- Flowline Location – Abandoned in Place
- Soil Sample Location – No Exceedances (Collected via Trimble GPS)

Notes

- 1) All locations are approximate unless otherwise noted.
 - 2) Buried infrastructure has been spatially projected.
- [a] Soil sample collected under the nearby Stroh H-63N65W 12SESE, Rem #34398.

GPS – Global Positioning System
 PID – Photoionization Detector
 ppm – Parts per million

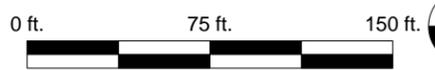


Image Source: Google Earth; Google 2021

DATE:	10/18/2024
DESIGNED BY:	J. Whritenour
DRAWN BY:	E. Hossink

Tasman, Inc.
 6855 W 119th Avenue
 Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
Stroh H12-16 Flowline
 SESE, Section 12, Township 3 North, Range 65 West
 Weld County, Colorado

Flowline Closure & Soil
 Analytical Results Map
 (08/29/2024)

FIGURE
 1