

# **FREMONT ENVIRONMENTAL INC.**

June 26, 2022

Mr. Dan Peterson  
Noble Energy Inc.  
2115 117<sup>th</sup> Ave,  
Greeley, CO 80634

Subject:     **Limited Site Assessment Report**  
              Lockman C #14-30  
              SESE Sec 10, T4N, R64W  
              Weld County, Colorado  
              Fremont Project No. C022-023  
              API 05-123-30892, Remediation #19296

Dear Mr. Peterson:

Enclosed please find a copy of the above referenced Limited Site Investigation Report for the Lockman C 14-30 wellhead site in Weld County, Colorado. The enclosed report describes site investigation and sampling efforts to assess soil and groundwater quality at the site.

Please contact me at (303) 956-8714 if you require any additional information.

Fremont appreciates the opportunity to provide this service.

Sincerely,  
**FREMONT ENVIRONMENTAL INC.**



Paul V. Henahan, P.E.  
Senior Consultant

Enclosure

**LIMITED SITE ASSESSMENT REPORT**

**NOBLE ENERGY INC.**

**LOCKMAN C14-30**

**WELD COUNTY, COLORADO**

**FREMONT PROJECT NO. C022-023**

**REMEDIATION #19296**

**Prepared by:**

**Fremont Environmental Inc.  
1759 Redwing Lane  
Broomfield, CO 80020  
(303) 956-8714**

**June 26, 2022**

## **TABLE OF CONTENTS**

1.0 INTRODUCTION .....	1
2.0 BACKGROUND INFORMATION .....	1
2.1 Site Location .....	1
2.2 Site History .....	1
3.0 SITE INVESTIGATION ACTIVITIES.....	2
3.1 Soil Borings/Monitoring Wells.....	2
3.2 Groundwater Sampling and Analysis.....	3
4.0 DISCUSSION .....	3
5.0 REMARKS.....	4

### **Tables**

Table 1:	Summary of VOC and TPH Soil Chemistry
Table 2:	Summary of PAHs Soil Chemistry
Table 3:	Summary of Metals in Soil Chemistry
Table 4:	Summary of Inorganic Soil Chemistry
Table 5:	Summary of Organic Groundwater Chemistry and Elevation Data

### **Figures**

Figure 1:	Site Location Map
Figure 2:	Site Map
Figure 3:	Soil and Groundwater Chemistry Map

### **Appendices**

Appendix A:	Eagle Environmental Inc. Report
Appendix B:	Laboratory Documentation

# **LIMITED SITE ASSESSMENT REPORT**

**NOBLE ENERGY INC.**

**LOCKMAN C14-30**

**WELD COUNTY, COLORADO**

**FREMONT PROJECT NO. C022-023**

**REMEDIATION #19296**

## **1.0 INTRODUCTION**

The purpose of this document is to present site investigation data for the Lockman C14-30 wellhead site in Weld County, Colorado. Impacted soil was identified at the wellhead during facility closure. The facility closure sampling and analyses was conducted by Eagle Environmental Inc. (Eagle) on January 18, 2022 and indicated that 1-methylnaphthalene, naphthalene, and benzo(a)anthracene exceeded the Colorado Oil and Gas Conservation Commission's (COGCC's) Table 915-1 standard for the protection of groundwater in the floor sample adjacent to the wellhead. This site investigation was intended to determine the extent of soil impacts in the immediate area of that initial sample as well as groundwater concentrations.

## **2.0 BACKGROUND INFORMATION**

### **2.1 Site Location**

The Lockman C14-30 wellhead is located approximately five miles south of Kersey, Colorado in Weld County as shown on Figure 1. The site is located in a rural and agricultural area approximately 0.1 miles northwest of the intersection of County Road 46 and County Road 57. The location is further described as the SE ¼ of the SE ¼ of Section 10, Township 4N, Range 64W.

### **2.2 Site History**

The site consists of the former wellhead area of the Lockman C14-30 natural gas well. During facility closure in January 2022, Eagle collected a soil sample adjacent to the

wellhead on the floor of the cut and cap excavation. The soil sample had concentrations less than their respective COGCC Table 915-1 standards except for 1-methylnaphthalene, naphthalene, and benzo(a)anthracene. Therefore, additional site investigation was required. The Eagle Environmental figures illustrating the initial round of soil sampling are provided in Appendix A.

### **3.0 SITE INVESTIGATION ACTIVITIES**

#### **3.1 Soil Borings/Monitoring Wells**

A site investigation was conducted at the Lockman C14-30 wellhead site on March 25, 2022. A total of five soil borings were advanced utilizing a Geoprobe rig and were completed as stickup 1-inch diameter monitoring wells. Monitoring well MW-1 was used to determine the depth of soil impacts and to determine if groundwater was impacted. The locations of the monitoring wells are illustrated on the attached figures.

Generally, the subsurface consists of sandy silt or silty sand that extends to a depth of approximately 16 feet. The maximum depth of the borings was 16 feet. Groundwater is present at the site at a depth of approximately 9.5 feet below the ground surface.

The 1-inch diameter monitoring wells were constructed with 10 feet sections of well screen that were placed at a total depth of 16 feet and completed at the ground surface as a temporary stickup wells. Soil samples from each of the borings were evaluated in the field using a photoionization detector (PID). Soil samples were collected from each of the borings and sent to Origins Laboratory, Inc. in Denver, Colorado for analyses.

The soil samples were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX), naphthalene, 1,2,4 trimethylbenzene and 1,3,5 trimethylbenzene; Total Petroleum Hydrocarbons – Gasoline Range Organics (TPH-GRO) by EPA method 8260B,

TPH – Diesel Range Organics (TPH-DRO), and Extended Range Organics (TPH-ORO) by EPA method 8015. Polycyclic aromatic hydrocarbons (PAHs) were analyzed using EPA method 8270. Further, the soil sample from MW-1 and the background sample (BG-1 4 Ft) were analyzed for Table 915-1 metals and pH, electrical conductivity, sodium absorption ratio (SAR) and boron.

Soil impacts exceeding the COGCC's Table 915-1 Protection of Groundwater soil screening limits (PGW SSLs) for petroleum constituents were not observed in any of the borings. However, arsenic, barium and selenium exceeded the PGW SSLs in the soil sample from MW-1. The background sample (BG-1 4 Ft) also exceeded the COGCC Table 915-1 standards for arsenic, barium and selenium indicating that native concentrations of these constituents are present. The soil chemistry is presented on Figure 3 and summarized in Tables 1, 2, 3 and 4. The laboratory's report is provided in Appendix B.

### **3.2 Groundwater Sampling and Analysis**

A groundwater sample was collected from monitoring well MW-1 on March 25, 2022. The sample was submitted to Origins Laboratory Inc. for the analyses of organic petroleum constituents benzene, toluene, ethylbenzene, and xylenes (BTEX), 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene and naphthalene by EPA Method 8260B.

The groundwater concentrations in monitoring well MW-1 were below their respective COGCC Table 915-1 standards.

The groundwater chemistry is shown on Figure 3 and the analytical data are summarized in Table 5. A copy of the laboratory's report is presented in Appendix B.

## **4.0 DISCUSSION**

A site investigation was conducted at the Lockman C14-30 on March 25, 2022. Five soil boings were advanced and completed as monitoring wells to determine the extent of soil

impacts and to determine if groundwater was impacted. Soil impacts above the COGCC Table 915-1 standards for petroleum constituents were not observed in any of the soil borings/monitoring wells. Concentrations of arsenic, barium and selenium were present above the PGW SSLs in monitoring well MW-1 as well as the Background sample indicating that native concentrations of these metals are elevated and can be dismissed.

In addition, the data collected from monitoring well MW-1 indicates that the groundwater is not impacted at concentrations exceeding the COGCC Table 915-1 standards. Therefore, the Table 915-1 Residential Soil Screening Levels (RSSLs) can be utilized after four consecutive quarters of COGCC-compliant concentrations. Since the initial soil sample exceeded the PGW SSLs but not the RSSLs, that lightly impacted soil can potentially be left in place. Alternatively, the soil that was previously impacted at a depth of six feet can be excavated to a depth where the soil concentrations achieve the Table 915-1 PGW SSLs. The soil and groundwater data are presented in the attached tables and figures.

Noble is currently evaluating the remedial alternatives to achieve a no further action determination for this site.

### **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.**



6/26/22

Date\_\_\_\_\_

\_\_\_\_\_  
Ethan D. Black

Geologist

Reviewed by:



6/26/22

Date\_\_\_\_\_

\_\_\_\_\_  
Paul V. Henahan, P.E.

Senior Consultant



## TABLES

**TABLE 1**  
**SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA**  
**NOBLE ENERGY INC.**  
**LOCKMAN C14-30**  
**FREMONT PROJECT NO. C022-023**

Sample	Depth (ft)	Date Sampled	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)	Naphth- alene (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)
MW-1 4 Ft	4	3/25/2022	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.00335	<0.200	<25.0	<100
MW-2 4 Ft	4	3/25/2022	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.00067	<0.200	<25.0	<100
MW-3 4 Ft	4	3/25/2022	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.00067	<0.200	<25.0	<100
MW-4 4 Ft	4	3/25/2022	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.00067	<0.200	<25.0	<100
MW-5 4 Ft	4	3/25/2022	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.00067	<0.200	<25.0	<100
BG-1 4 Ft	4	3/25/2022	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COGCC Table 915-1 Limits (Residential SSL)			1.2	490	5.8	58	30	27	2	500	500	500
COGCC Table 915-1 Limits (Protection of Groundwater SSL)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500*	500*	500*

Bold faced values exceed the COGCC Table 915-1 concentrations

Blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

\* Summation of GRO+DRO+ORO must be less than 500 mg/kg

NA - Not analyzed

TABLE 2  
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA  
NOBLE ENERGY INC.  
LOCKMAN C14-30  
FREMONT PROJECT NO. C022-023

Sample	Depth (ft)	Date Sampled	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo (a) anthracene (mg/kg)	Benzo (b) fluoranthene (mg/kg)	Benzo (k) fluoranthene (mg/kg)	Benzo (a) pyrene (mg/kg)	Chrysene (mg/kg)	Dibenz (a,h) anthracene (mg/kg)	Fluor-anthene (mg/kg)	Fluorene (mg/kg)	Indeno pyrene (mg/kg)	1-Methyl - naphthalene (mg/kg)	2-Methyl- naphthalene (mg/kg)	Pyrene (mg/kg)
MW-1 4 Ft	4	3/25/2022	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335
MW-2 4 Ft	4	3/25/2022	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067
MW-3 4 Ft	4	3/25/2022	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067
MW-4 4 Ft	4	3/25/2022	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067
MW-5 4 Ft	4	3/25/2022	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067
BG-1 4 Ft	4	3/25/2022	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COGCC Table 915-1 Limits (Residential SSL)			360	1800	1.1	1.1	11	0.11	110	0.11	240	240	1.1	18	24	180
COGCC Table 915-1 Limits (Protection of Groundwater SSL)			0.55	5.8	0.011	0.3	2.9	0.24	9	0.096	8.9	0.54	0.98	0.006	0.019	1.3

Bold faced values exceed the COGCC Table 915-1 concentrations

Blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

**TABLE 3**  
**SUMMARY OF METALS IN SOIL CHEMISTRY DATA**  
**NOBLE ENERGY INC.**  
**LOCKMAN C14-30**  
**FREMONT PROJECT NO. C022-023**

Sample	Depth (ft)	Date Sampled	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)	Chromium (mg/kg)
MW-1 4 Ft	4	3/25/2022	<b>3.08</b>	<b>130</b>	0.193	13.9	10.7	12.8	<b>0.582</b>	0.0437	55.8	<0.244
MW-2 4 Ft	4	3/25/2022	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-3 4 Ft	4	3/25/2022	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-4 4 Ft	4	3/25/2022	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-5 4 Ft	4	3/25/2022	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BG-1 4 Ft	4	3/25/2022	<b>2.25</b>	<b>103</b>	0.0831	7	6.86	7.67	<b>0.478</b>	0.0176	30.2	<0.244
COGCC Table 915-1 Limits (Residential SSL)			0.68	15000	71	3100	400	1500	390	390	23000	0.3
COGCC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	46	14	26	0.26	0.8	370	0.00067

Bold faced values exceed the COGCC Table 915-1 concentrations

Blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

\* Summation of GRO+DRO+ORO must be less than 500 mg/kg

NA- Not applicable

TABLE 4  
SUMMARY OF INORGANIC SOIL CHEMISTRY DATA  
NOBLE ENERGY INC.  
LOCKMAN C14-30  
FREMONT PROJECT NO. C022-023

SAMPLE LOCATION	DATE SAMPLED	DEPTH ft	EC mmhos/cm	pH pH units	SAR units	BORON mg/L
MW-1 4 Ft	3/25/2022	4	1.10	8.02	4.29	0.597
MW-2 4 Ft	3/25/2022	4	NA	NA	NA	NA
MW-3 4 Ft	3/25/2022	4	NA	NA	NA	NA
MW-4 4 Ft	3/25/2022	4	NA	NA	NA	NA
MW-5 4 Ft	3/25/2022	4	NA	NA	NA	NA
BG-1 4 Ft	3/25/2022	4	2.390	<b>8.72</b>	2.39	0.941
Table 915-1 Limits			<4	6-8.3	<6	2

Bold face values exceed the COGCC Limits

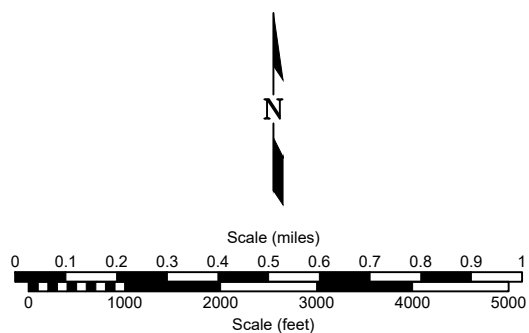
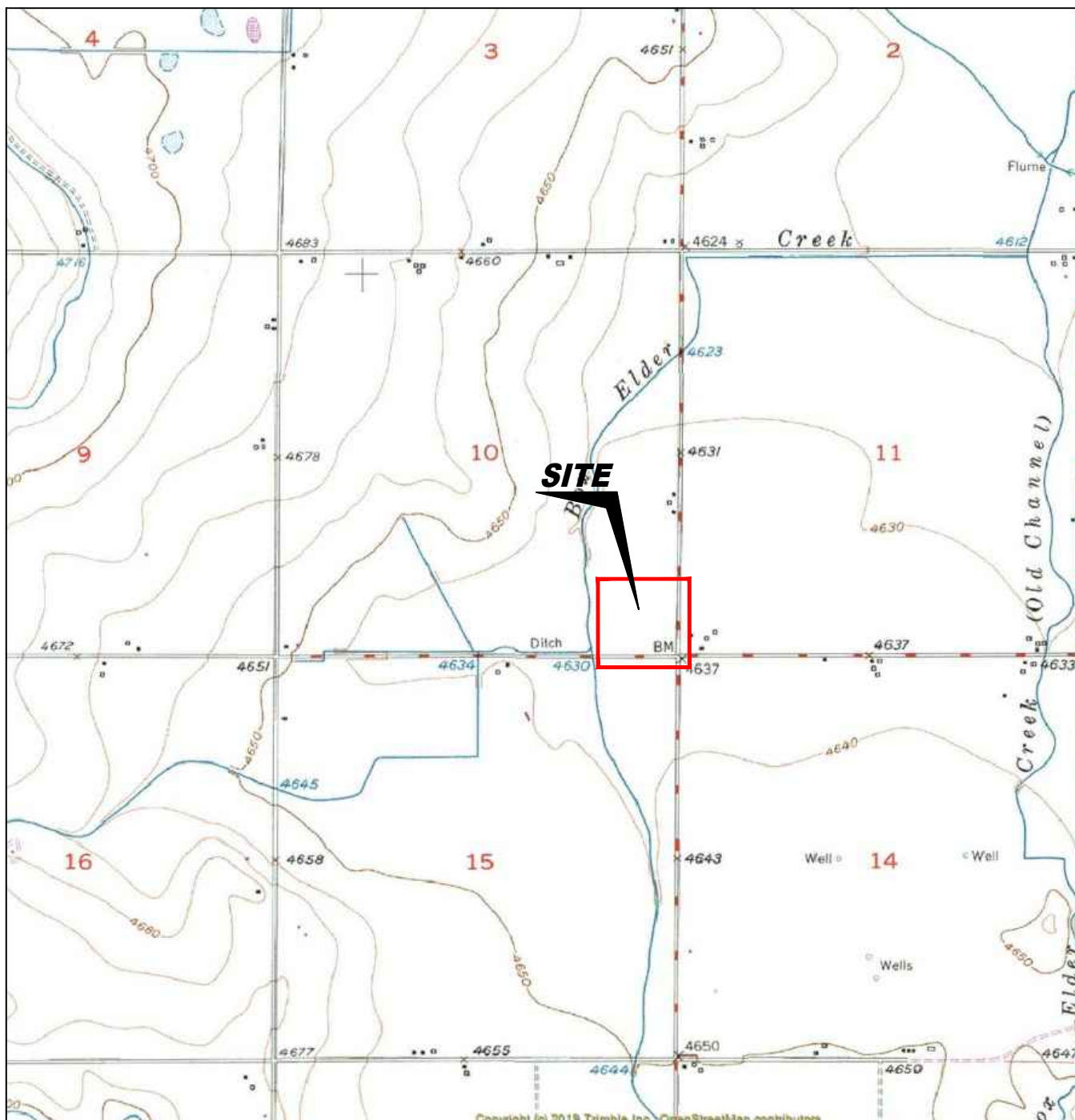
NA - Not Analyzed

**TABLE 5**  
**SUMMARY OF ORGANIC GROUNDWATER CHEMISTRY DATA**  
**NOBLE ENERGY INC.**  
**LOCKMAN C14-30**  
**FREMONT PROJECT NO. C022-023**

SAMPLE LOCATION	DATE	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL BENZENE (µg/L)	TOTAL XYLENES (µg/L)	NAPH-THALENE (µg/L)	1,2,4 TMB (µg/L)	1,3,5 TMB (µg/L)
MW-1	03/25/22	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
Table 915-1 Limits		5	560	700	1,400	140	67	67

Bold face values exceed the COGCC limits

## **FIGURES**



USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1

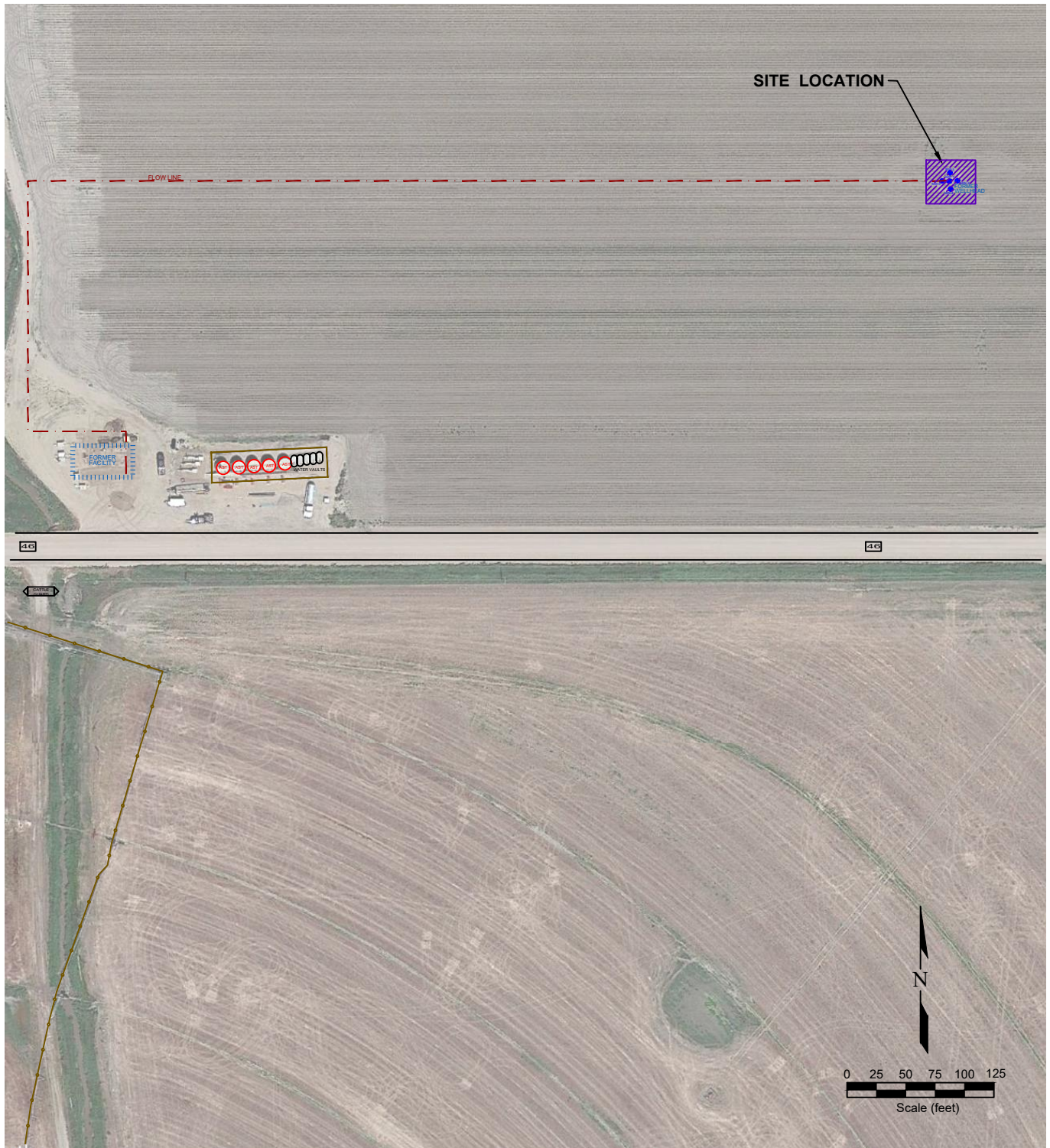
**SITE LOCATION MAP**

**Noble Energy, Inc. ~ Lockman C #14-30**  
 SESE Sec. 10, T4N, R64W, 6th PM  
 Weld County, Colorado  
 40.320651°, -104.528093°

Project # <b>C022-023</b>	API # <b>05-123-30892</b>	Location ID
Date <b>6/21/22</b>	Remediation # <b>19296</b>	Filename <b>22023T</b>








#### LEGEND

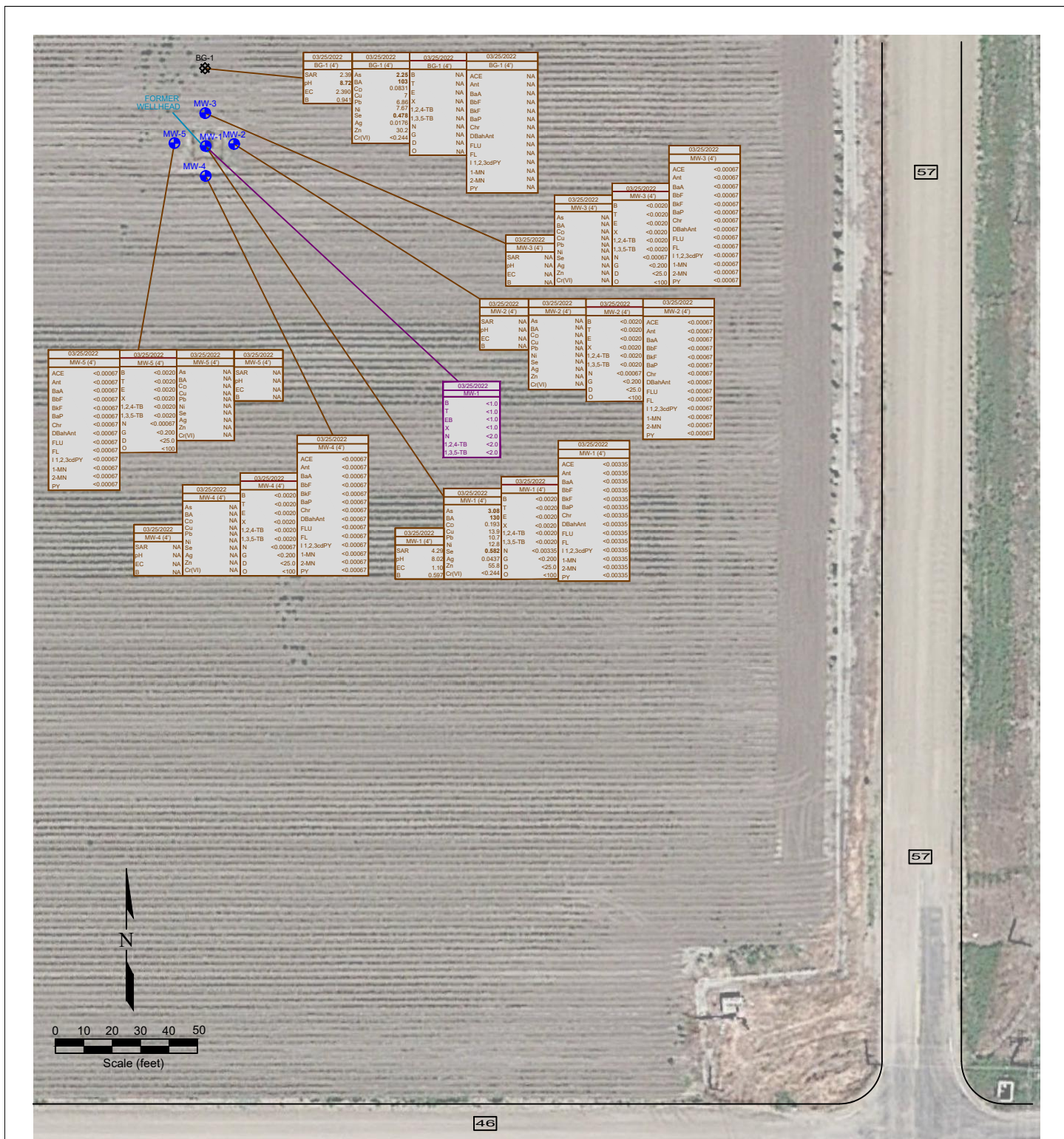
- RISER LOCATION
- MONITORING WELL LOCATION
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- CONTAINMENT BERM
- CONTAINMENT WALL
- FLOW LINE
- FENCE LINE

Figure 2  
SITE MAP

**Noble Energy, Inc. ~ Lockman C #14-30**  
SESE Sec. 10, T4N, R64W, 6th PM  
Weld County, Colorado  
40.320651°, -104.528093°

Project No. <b>C022-023</b>	API # <b>05-123-30892</b>	Facility #	
Date <b>6/21/22</b>	Reviewed By <b>19296</b>	Filename <b>22023Q</b>	





# LEGEND

DATE SAMPLED	SAMPLE ID & DEPTH (ft)	DATE SAMPLED	SAMPLE ID & DEPTH (ft)
03/25/2022	MW-2 (4')	03/25/2022	MW-1 (4')
ACE	<0.0007	As	3.88
Ant	<0.0007	BA	1.93
BaA	<0.0007	Co	0.193
BaF	<0.0007	Cu	13.9
BaP	<0.0007	EC	1.10
Ch	<0.0007	EC	1.10
DBaAnt	<0.0007	EC	1.10
FLU	<0.0007	EC	1.10
FL	<0.0007	EC	1.10
11.2.3cdPY	<0.0007	EC	1.10
1-MN	<0.0007	EC	1.10
2-MN	<0.0007	EC	1.10
PY	<0.0007	EC	1.10

Figure 3  
**SOIL CHEMISTRY AND GROUNDWATER CHEMISTRY MAP**  
 March 25, 2022  
 Noble Energy, Inc. ~ Lockman C #14-30  
 SESE Sec. 10, T4N, R64W, 6th PM  
 Weld County, Colorado  
 40.320651°, -104.528093°

Project No. <b>C022-023</b>	API # <b>05-123-30892</b>	Facility #
Date <b>6/21/22</b>	Reviewed By <b>19296</b>	Filename <b>22023QQ</b>



**APPENDIX A**

**EAGLE ENVIRONMENTAL DATA**



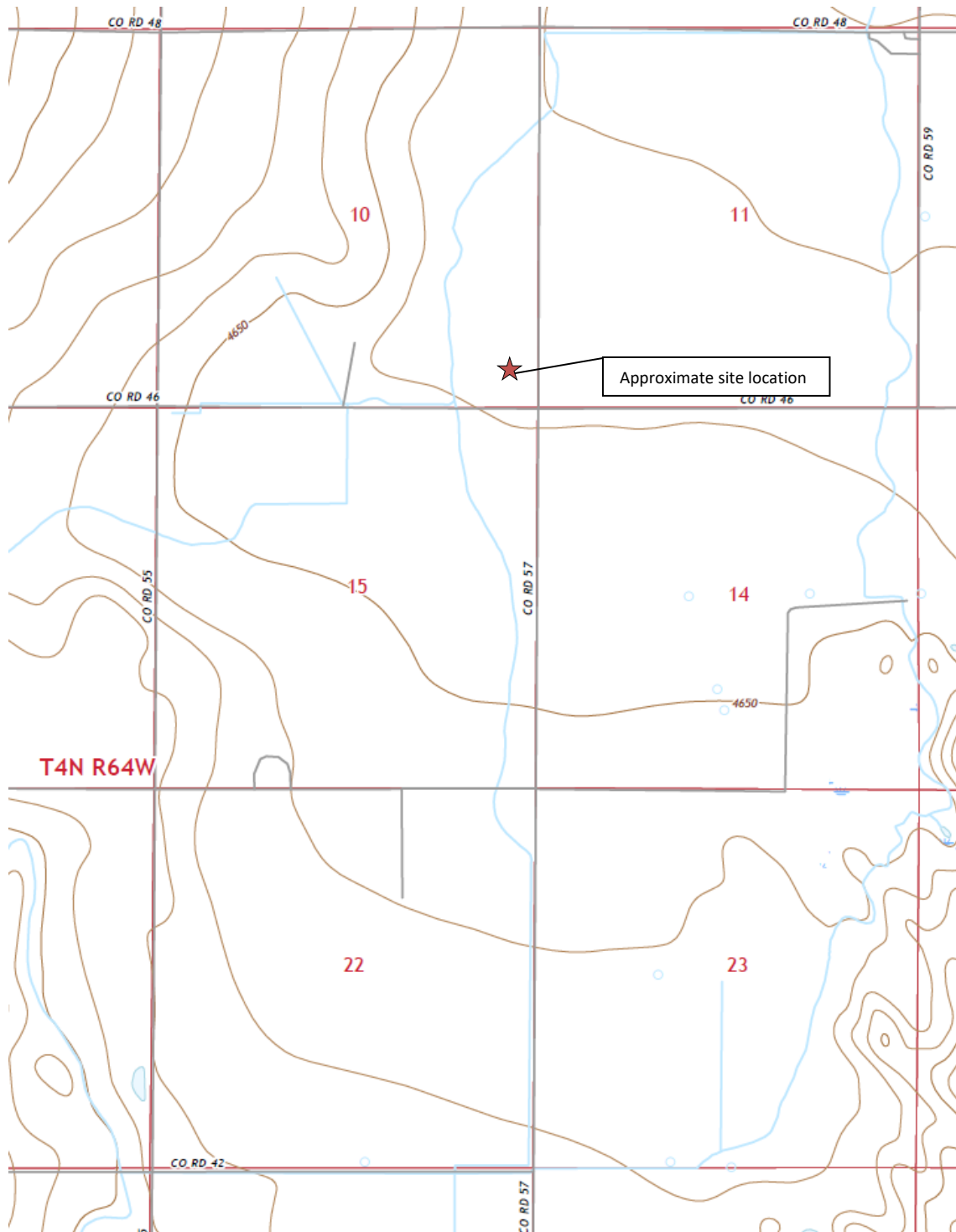
## **FIGURES**

**Figure 1: Topographic Site Location Map**

**Figure 2: Aerial Site Location Map**

**Figure 3: Soil Analytical Map**

**Figure 4: Polycyclic Aromatic Hydrocarbons Map**



**Topographic Site Location Map**

Lockman C #14-30  
 Closure Assessment  
 40.320651 / -104.528093  
 SE ¼ SE ¼ Sec. 10 T4N R64W 6PM  
 Weld County, Colorado  
 API # 05-123-30892  
 Remediation # 19296



**EAGLE**  
 ENVIRONMENTAL  
 CONSULTING, INC.

Source: USGS 7.5 Minute Topographic  
 Map, Valley View School, CO  
 Quadrangle 2019

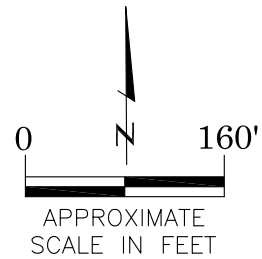
**Figure 1**





# LEGEND

- FORMER LOCKMAN C #14-30 WELLHEAD (PLUGGED/ABANDONED)
- APPROXIMATE FLOW LINE LOCATION (ABANDONED IN PLACE – TEMPORARY)
- ASSOCIATED SEPARATOR



AERIAL SITE LOCATION MAP  
 LOCKMAN C #14-30  
 CLOSURE ASSESSMENT  
 40.320651 / -104.528093  
 SE¼ SE¼ SEC.10 T4N R64W 6PM  
 WELD COUNTY, COLORADO  
 API # 05-123-30892  
 REMEDIATION # 19296

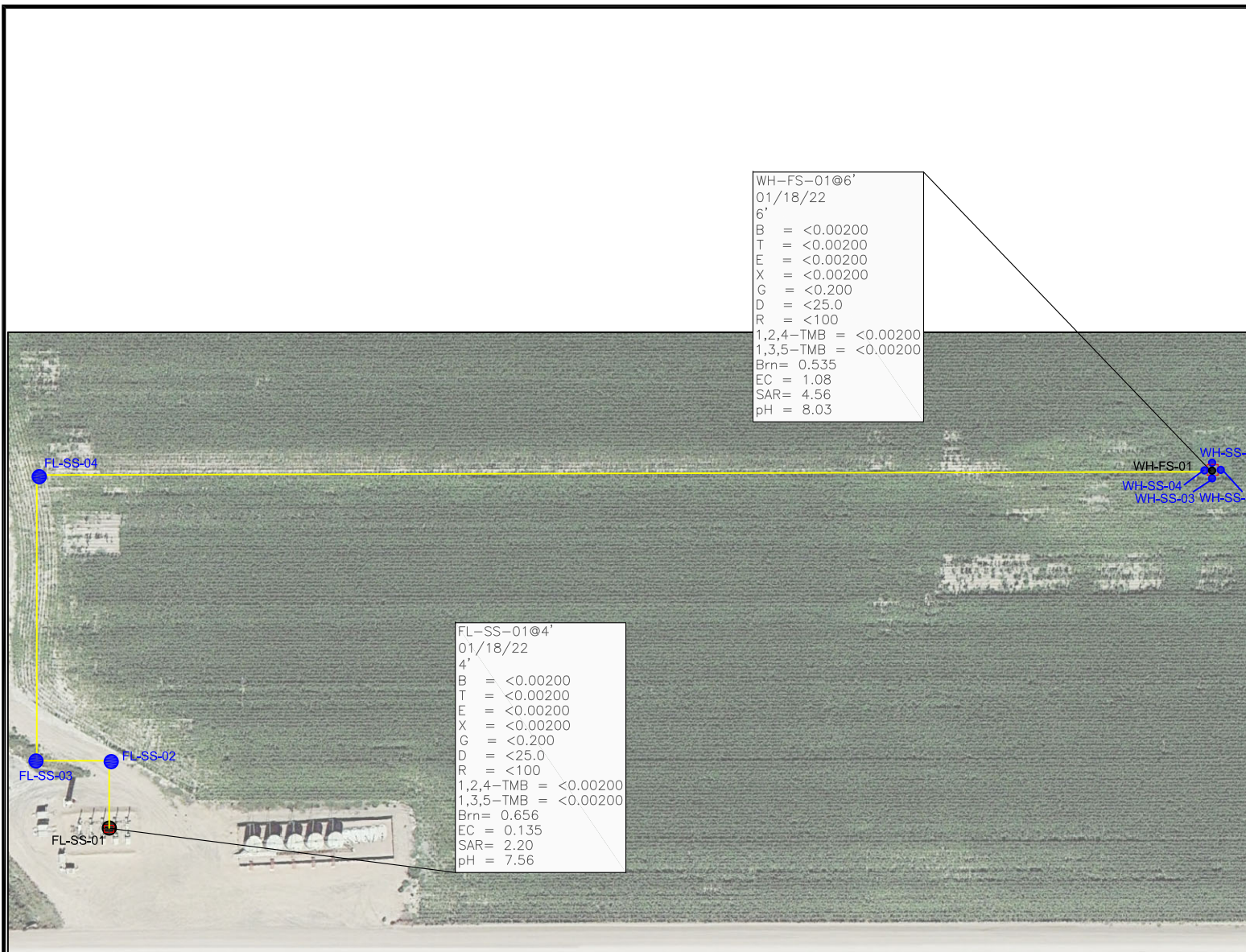
DATE:  
 01/27/22

FIG. NO. DRAWN BY:  
 2 AMN



**EAGLE**  
 ENVIRONMENTAL  
 CONSULTING, INC.  
 8000 W 44th Ave, Wheat Ridge, CO 80033  
 Ph: 303-433-0479 • F: 303-325-5449





WH-FS-01@6'  
01/18/22  
6'  
B = <0.00200  
T = <0.00200  
E = <0.00200  
X = <0.00200  
G = <0.200  
D = <25.0  
R = <100  
1,2,4-TMB = <0.00200  
1,3,5-TMB = <0.00200  
Brn= 0.535  
EC = 1.08  
SAR= 4.56  
pH = 8.03

FL-SS-01@4'  
01/18/22  
4'  
B = <0.00200  
T = <0.00200  
E = <0.00200  
X = <0.00200  
G = <0.200  
D = <25.0  
R = <100  
1,2,4-TMB = <0.00200  
1,3,5-TMB = <0.00200  
Brn= 0.656  
EC = 0.135  
SAR= 2.20  
pH = 7.56

# LEGEND

- APPROXIMATE ASSESSMENT BOUNDARIES
- APPROXIMATE FLOWLINE LOCATION (ABANDONED)
- APPROXIMATE LOCATION OF SOIL SAMPLES FIELD SCREENED, ONLY, WITH PHOTOIONIZATION DETECTOR (PID)
- APPROXIMATE LOCATION OF SOIL SAMPLES SUBMITTED FOR LABORATORY ANALYSIS

## PARAMETERS

SAMPLE LOCATION  
DATE  
DEPTH (FEET)  
B = BENZENE (mg/kg)  
T = TOLUENE (mg/kg)  
E = ETHYLBENZENE (mg/kg)  
X = TOTAL XYLENES (mg/kg)  
G = TPH-GRO (mg/kg)  
D = TPH-DRO (mg/kg)  
R = TPH-RRO (mg/kg)  
1,2,4-TMB = 1,2,4 TRIMETHYLBENZENE (mg/kg)  
1,3,5-TMB = 1,3,5 TRIMETHYLBENZENE (mg/kg)  
Brn= BORON (mg/L)  
EC = SPECIFIC CONDUCTANCE (mmhos/cm)  
SAR= SODIUM ADSORPTION RATIO  
pH = pH (pH UNITS)

mg/kg = MILLIGRAMS PER KILOGRAM  
mg/L = MILLIGRAMS PER LITER  
mmhos/cm = MILLIMHOS PER CENTIMETER

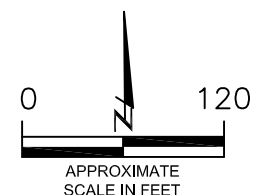
TPH-GRO = TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE ORGANICS  
TPH-DRO = TOTAL PETROLEUM HYDROCARBONS - DIESEL RANGE ORGANICS  
TPH-RRO = TOTAL PETROLEUM HYDROCARBONS - RESIDUAL RANGE ORGANICS

NOTES:  
VALUES PRESENTED WITH A LESS THAN SYMBOL (<) DID NOT CONTAIN CONCENTRATIONS AT OR ABOVE LABORATORY DETECTION LIMITS

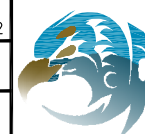
VALUES PRESENTED IN **BOLD** VALUES CONTAIN CONCENTRATIONS EXCEEDING COGCC TABLE 915-1 REGULATORY LIMITS

COGCC = COLORADO OIL AND GAS CONSERVATION COMMISSION

SOIL ANALYTICAL MAP  
LOCKMAN C #14-30  
CLOSURE ASSESSMENT  
40.320651 / -104.528093  
SE¼ SE¼ SEC.10 T4N R64W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-30892  
REMEDATION # 19296

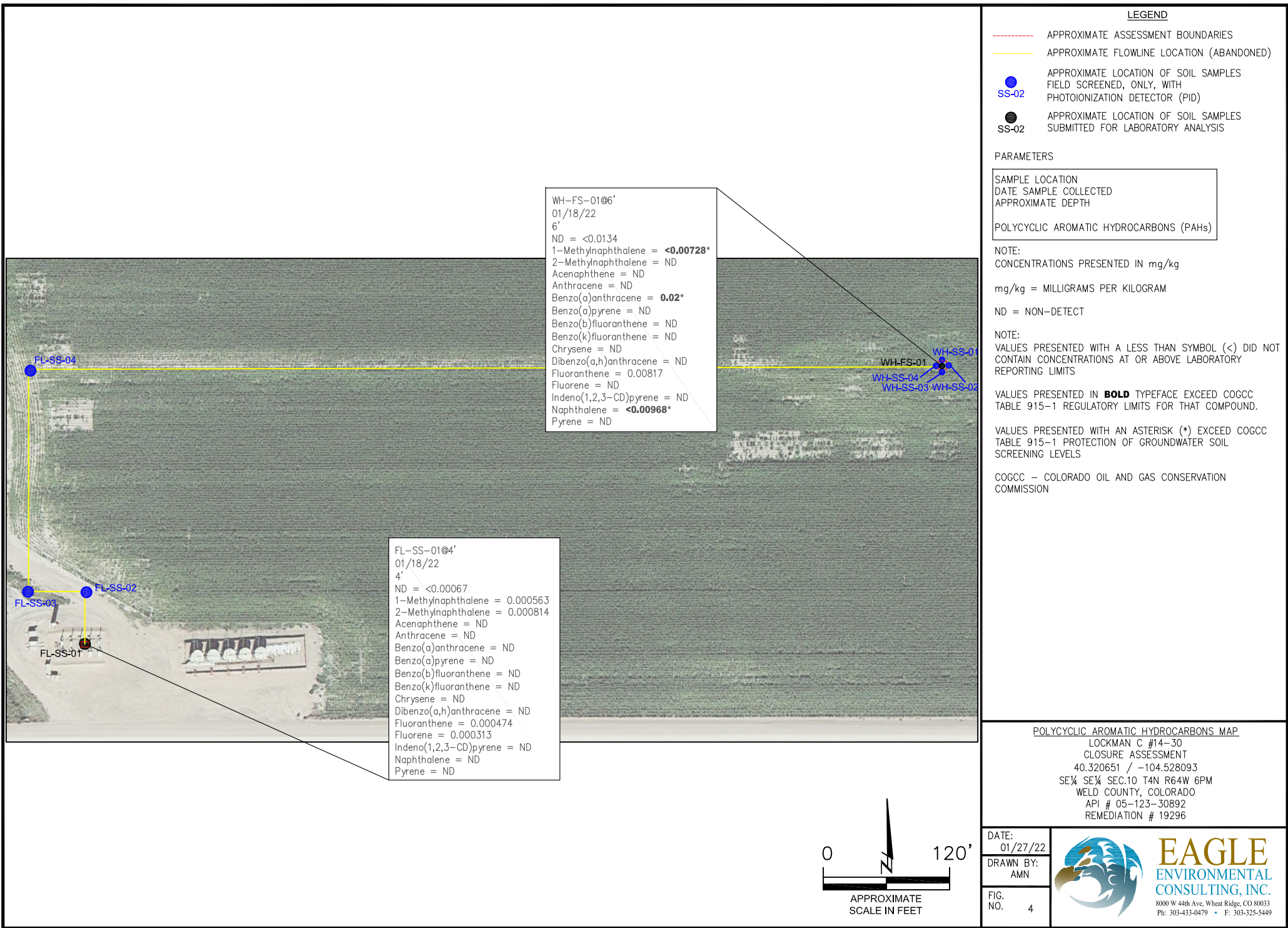


DATE:  
01/27/22  
DRAWN BY:  
AMN  
FIG.  
NO. 3



**EAGLE**  
ENVIRONMENTAL  
CONSULTING, INC.  
8000 W 44th Ave, Wheat Ridge, CO 80033  
Ph: 303-433-0479 • F: 303-325-5449









## **ATTACHMENT A**

### **Photo Log**

# Lockman C #14-30

## API # 05-123-30892

## Remediation # 19296

Closure Assessment

January 2022

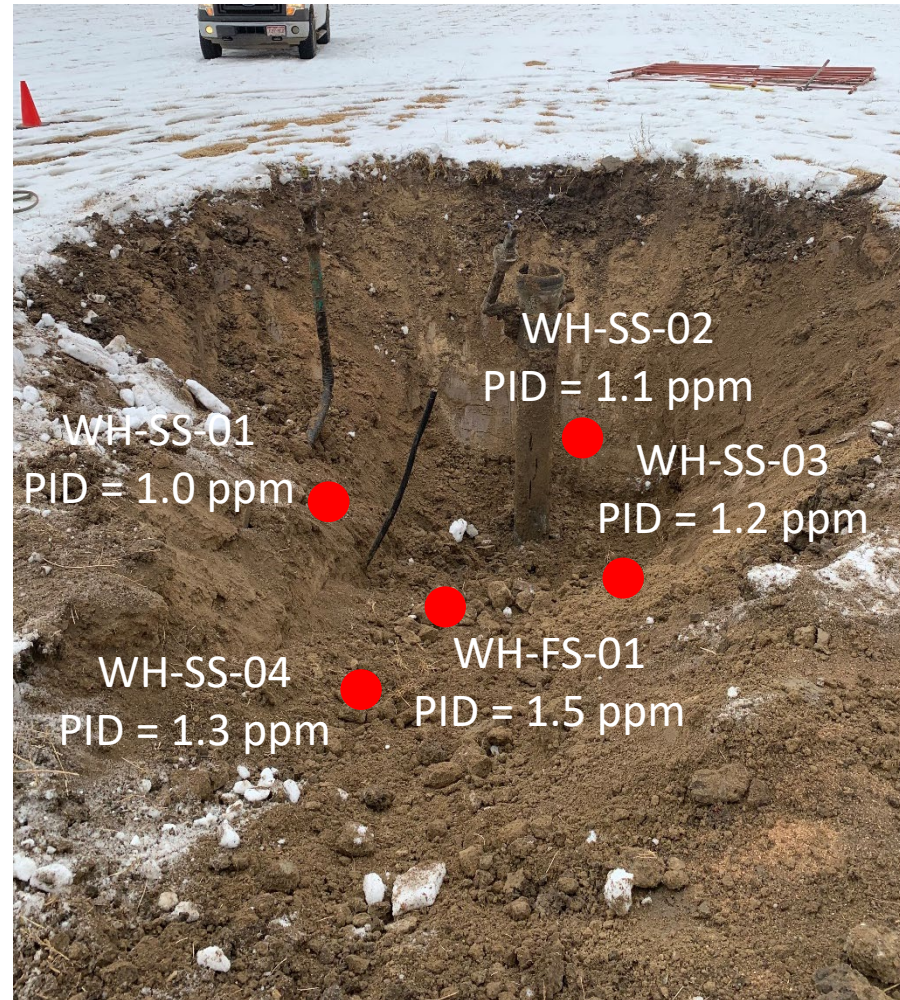


**EAGLE**  
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8000 W 44th Ave, Wheat Ridge, CO 80033  
Ph: 303-433-0479 • F: 303-325-5449

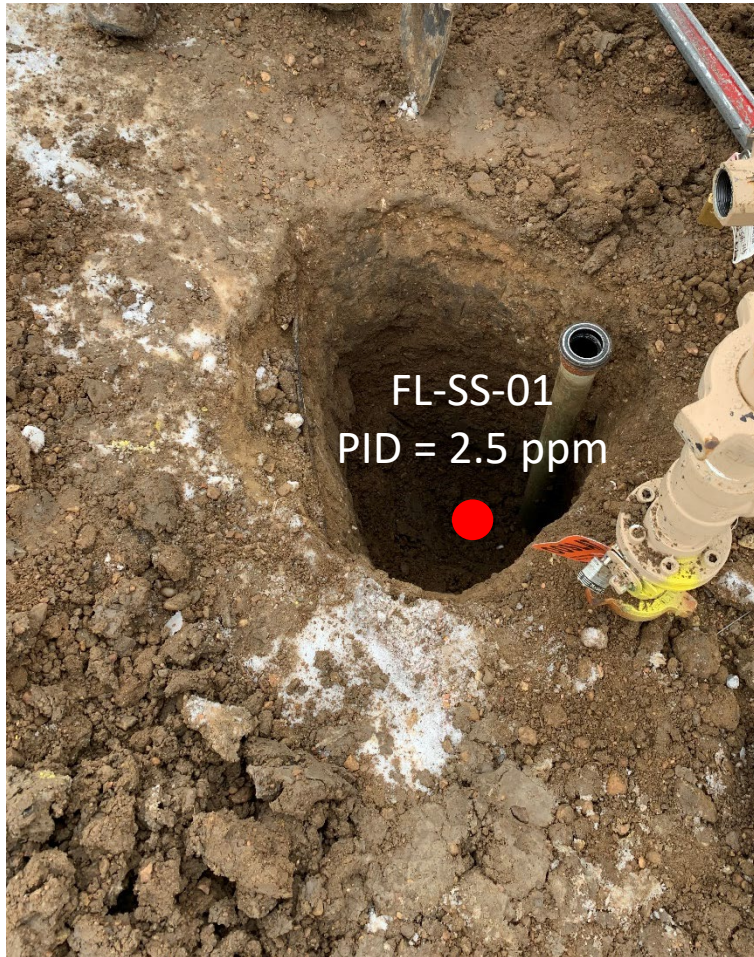


# Wellhead Excavation – 1/18/22



Looking east-northeast  
No petroleum hydrocarbon staining or odor observed

# Flowline Assessment – 01/18/22



Flowline temporarily abandoned in place

Flowline pt. B (at separator) assessed

No petroleum hydrocarbon staining or odor observed





## **ATTACHMENT B**

### **Laboratory Analytical Report**



January 27, 2022

Eagle Environmental Consulting, Inc.

Martin C Eckert III

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - Lockman C #14-30

Project Number - [none]

Attached are your analytical results for Noble - Lockman C #14-30 received by Origins Laboratory, Inc. January 18, 2022. This project is associated with Origins project number Y201316-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.  
303.433.1322  
o-squad@oelabinc.com



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Eagle Environmental Consulting, Inc.

8000 W 44th Ave

Wheat Ridge CO 80033

Martin C Eckert III

Project Number: [none]

Project: Noble - Lockman C #14-30

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-FS-01@6'	Y201316-01	Soil	January 18, 2022 14:14	01/18/2022 16:11
FL-SS-01@4	Y201316-02	Soil	January 18, 2022 15:02	01/18/2022 16:11

Origins Laboratory, Inc.



*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.*





Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

Origins Laboratory

F-012207-01-R1  
Effective Date: 01/09/12

## Sample Receipt Checklist

Origins Work Order: ✓ 201316

Client: Eagle

Client Project ID: Lockman C 14-30

Checklist Completed by: SG

Shipped Via: HD

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 1/18/22

Airbill #: N/A

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid

☐ Water

☐ Other:

(Describe)

Cooler Number/Temperature: 1, 50.°c 1 °c 1 °c 1 °c

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" 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"/>	
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely <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"/>	
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) 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 and was it checked <sup>(1)</sup> ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity) / (pH < 2 for samples preserved with HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH > 10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)	<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 date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by (Project Manager) MD

Date/Time Reviewed 1/19/22

Origins Laboratory, Inc.

*Jordan A. Merrill*

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.

Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

WH-FS-01@6'  
1/18/2022 2:14:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y201316-01 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.535	0.198	mg/L	1	B2A1909	01/19/2022	01/20/2022	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2A1812	01/18/2022	01/19/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	82.7 %	50-150			"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2A2407	01/24/2022	01/24/2022	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	111 %	70-130			"	"	"	
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Origins Laboratory, Inc.



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.

Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

WH-FS-01@6'

1/18/2022 2:14:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y201316-01 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	96.8 %		70-130			B2A24 07	01/24/2022	01/24/2022	
Surrogate: 4-Bromofluorobenzene	100 %		70-130			"	"	"	

## Metals by Saturated Paste by EPA 6010

Calcium	2.77		0.499	meq/L	10	[CALC]	01/19/2022	01/20/2022	
Magnesium	1.51		0.823	"	"	"	"	"	
Sodium	6.67		0.435	"	"	"	"	"	

## PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00728	0.0134	mg/Kg	20	L595492	01/20/2022	01/21/2022	
2-Methylnaphthalene	ND	0.0129	0.0134	"	"	"	"	"	
Acenaphthene	ND	0.00608	0.0134	"	"	"	"	"	
Anthracene	ND	0.00668	0.0134	"	"	"	"	"	
Benzo(a)anthracene	0.02	0.00986	0.0134	"	"	"	"	"	
Benzo(a)pyrene	ND	0.00936	0.0134	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.0117	0.0134	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.00874	0.0134	"	"	"	"	"	
Chrysene	ND	0.0125	0.0134	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.0123	0.0134	"	"	"	"	"	
Fluoranthene	0.00817	0.00788	0.0134	"	"	"	"	"	J

Origins Laboratory, Inc.

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.

Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

WH-FS-01@6'

1/18/2022 2:14:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**  
**Y201316-01 (Soil)**

**PAH by 8270D SIM**

Fluorene	ND	0.00572	0.0134	mg/Kg	20	L595492	01/20/2022	01/21/2022
Indeno(1,2,3-cd)pyrene	ND	0.0125	0.0134	"	"	"	"	"
Naphthalene	ND	0.00968	0.0134	"	"	"	"	"
Pyrene	ND	0.0129	0.0134	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	33.3 %		33-115			"	"	"
Surrogate: 4-Terphenyl-d14	36.3 %		33-122			"	"	"
Surrogate: Nitrobenzene-d5	33.9 %		29-110			"	"	"

**pH in Soil by 9045D**

pH	8.03			pH Units	1	B2A1910	01/19/2022	01/20/2022
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**SAR by 20B Saturated Paste**

SAR	4.56			SAR	1	B2A1908	01/19/2022	01/20/2022
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	1.08		0.00500	mmhos/cm	1	B2A1911	01/19/2022	01/20/2022
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Origins Laboratory, Inc.



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.

Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

FL-SS-01@4  
1/18/2022 3:02:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y201316-02 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.656	0.199	mg/L	1	B2A1909	01/19/2022	01/20/2022	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2A1812	01/18/2022	01/19/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	84.8 %	50-150			"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2A2407	01/24/2022	01/24/2022	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	111 %	70-130			"	"	"	
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Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

FL-SS-01@4  
1/18/2022 3:02:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y201316-02 (Soil)

### GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	96.7 %	70-130	B2A24 07	01/24/2022	01/24/2022
Surrogate: 4-Bromofluorobenzene	101 %	70-130	"	"	"

### Metals by Saturated Paste by EPA 6010

Calcium	25.8	0.499	meq/L	10	[CALC]	01/19/2022	01/20/2022
Magnesium	5.40	0.823	"	"	"	"	"
Sodium	0.535	0.435	"	"	"	"	"

### PAH by 8270D SIM

1-Methylnaphthalene	0.000563	0.000364	0.00067	mg/Kg	1	L595492	01/20/2022	01/21/2022	JB
2-Methylnaphthalene	0.000814	0.000645	0.00067	"	"	"	"	"	
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"	
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"	
Chrysene	ND	0.000624	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"	
Fluoranthene	0.000474	0.000394	0.00067	"	"	"	"	"	J
Fluorene	0.000313	0.000286	0.00067	"	"	"	"	"	J

Origins Laboratory, Inc.

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Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

FL-SS-01@4  
1/18/2022 3:02:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**  
Y201316-02 (Soil)

**PAH by 8270D SIM**

Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	mg/Kg	1	L595492	01/20/2022	01/21/2022
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"
Pyrene	ND	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	61.6 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	72.4 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	63.7 %	29-110	"	"	"

**pH in Soil by 9045D**

pH	7.56	pH Units	1	B2A1910	01/19/2022	01/20/2022
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**SAR by 20B Saturated Paste**

SAR	0.135	SAR	1	B2A1908	01/19/2022	01/20/2022
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	2.20	0.00500	mmhos/cm	1	B2A1911	01/19/2022	01/20/2022
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Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

**Extractable Petroleum Hydrocarbons by 8015D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B2A1812 - EPA 3550B</b>										
<b>Blank (B2A1812-BLK1)</b>					Prepared: 01/18/2022 Analyzed: 01/18/2022					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	21		"	24.9		85.9	50-150			

Origins Laboratory, Inc.



*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.*



Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

**Extractable Petroleum Hydrocarbons by 8015D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B2A1812 - EPA 3550B

**LCS (B2A1812-BS1)**

Prepared: 01/18/2022 Analyzed: 01/18/2022

Diesel (C10-C28)	969	50.0	mg/kg	1000		96.9	70-130			
Residual Range Organics (C28-C40)	963	200	"	1000		96.3	70-130			
Surrogate: o-Terphenyl	41		"	49.8		83.2	50-150			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

**Extractable Petroleum Hydrocarbons by 8015D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B2A1812 - EPA 3550B**

Matrix Spike (B2A1812-MS1)		Source: Y201302-01			Prepared: 01/18/2022 Analyzed: 01/18/2022					
Diesel (C10-C28)	906	50.0	mg/kg	1000	ND	90.6	70-130			
Residual Range Organics (C28-C40)	1000	200	"	1000	ND	100	70-130			
Surrogate: o-Terphenyl	41		"	49.8		82.3	50-150			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

**Extractable Petroleum Hydrocarbons by 8015D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B2A1812 - EPA 3550B**

Matrix Spike Dup (B2A1812-MSD1)		Source: Y201302-01			Prepared: 01/18/2022 Analyzed: 01/18/2022					
Diesel (C10-C28)	928	50.0	mg/kg	1000	ND	92.8	70-130	2.41	35	
Residual Range Organics (C28-C40)	965	200	"	1000	ND	96.5	70-130	3.71	35	
Surrogate: o-Terphenyl	40		"	49.8		81.4	50-150			

Origins Laboratory, Inc.



*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.*

Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

## Extractable Petroleum Hydrocarbons by 8015D - Quality Control

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2A2407 - EPA 5030 (soil)										
Blank (B2A2407-BLK1)					Prepared: 01/24/2022 Analyzed: 01/24/2022					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.0100	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		103	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		91.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		93.5	70-130			

Origins Laboratory, Inc.



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.

Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B2A2407 - EPA 5030 (soil)**

**LCS (B2A2407-BS1)**

Prepared: 01/24/2022 Analyzed: 01/24/2022

1,2,4-Trimethylbenzene	0.0811	0.00200	mg/kg	0.100		81.1	70-130			
1,3,5-Trimethylbenzene	0.0831	0.00200	"	0.100		83.1	70-130			
Benzene	0.0935	0.00200	"	0.100		93.5	70-130			
Ethylbenzene	0.0840	0.00200	"	0.100		84.0	70-130			
Naphthalene	0.0813	0.0100	"	0.100		81.3	70-130			
Toluene	0.0852	0.00200	"	0.100		85.2	70-130			
o-Xylene	0.0823	0.00200	"	0.100		82.3	70-130			
m,p-Xylene	0.169	0.00400	"	0.200		84.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		103	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		91.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.2	70-130			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B2A2407 - EPA 5030 (soil)</b>										
<b>Matrix Spike (B2A2407-MS1)</b>		<b>Source: Y201295-01</b>			Prepared: 01/24/2022 Analyzed: 01/24/2022					
1,2,4-Trimethylbenzene	0.0852	0.00200	mg/kg	0.100	ND	85.2	70-130			
1,3,5-Trimethylbenzene	0.0865	0.00200	"	0.100	ND	86.5	70-130			
Benzene	0.0989	0.00200	"	0.100	ND	98.9	70-130			
Ethylbenzene	0.0877	0.00200	"	0.100	ND	87.7	70-130			
Naphthalene	0.0947	0.0100	"	0.100	0.000520	94.2	70-130			
Toluene	0.0888	0.00200	"	0.100	ND	88.8	70-130			
o-Xylene	0.0859	0.00200	"	0.100	ND	85.9	70-130			
m,p-Xylene	0.177	0.00400	"	0.200	ND	88.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		105	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		89.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		95.3	70-130			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B2A2407 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B2A2407-MSD1)</b>		<b>Source: Y201295-01</b>			Prepared: 01/24/2022 Analyzed: 01/24/2022					
1,2,4-Trimethylbenzene	0.0811	0.00200	mg/kg	0.100	ND	81.1	70-130	4.98	20	
1,3,5-Trimethylbenzene	0.0814	0.00200	"	0.100	ND	81.4	70-130	6.03	20	
Benzene	0.0943	0.00200	"	0.100	ND	94.3	70-130	4.76	20	
Ethylbenzene	0.0832	0.00200	"	0.100	ND	83.2	70-130	5.31	20	
Naphthalene	0.0865	0.0100	"	0.100	0.000520	86.0	70-130	9.07	20	
Toluene	0.0849	0.00200	"	0.100	ND	84.9	70-130	4.45	20	
o-Xylene	0.0822	0.00200	"	0.100	ND	82.2	70-130	4.43	20	
m,p-Xylene	0.167	0.00400	"	0.200	ND	83.6	70-130	5.42	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		102	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		91.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		94.5	70-130			

Origins Laboratory, Inc.



*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.*

Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

## Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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## Saturated Paste - Quality Control

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch B2A1910 - NO PREP

<b>Duplicate (B2A1910-DUP1)</b>		<b>Source: Y201315-01</b>		Prepared: 01/19/2022 Analyzed: 01/20/2022						
pH	8.12		pH Units		8.16			0.491	25	

#### Batch B2A1911 - NO PREP

<b>Blank (B2A1911-BLK1)</b>		Prepared: 01/19/2022 Analyzed: 01/20/2022								
Specific Conductance (EC)	0.000800	0.00500	mmhos/cm							
<b>Duplicate (B2A1911-DUP1)</b>		<b>Source: Y201315-01</b>		Prepared: 01/19/2022 Analyzed: 01/20/2022						
Specific Conductance (EC)	0.542	0.00500	mmhos/cm		0.613			12.4	25	

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

**PAH by 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L595492 - 3550B**

MSD (L 87425-MSD-L595492)		Source: 87425			Prepared: 01/20/2022 Analyzed: 01/21/2022					
Pyrene	0.101	0.000643	mg/Kg	0.167	0.00279	58.8	30-130	2.9	30	
Indeno(1,2,3-cd)pyrene	0.162	0.000627	"	0.167	87425	97	30-130	14.5	30	
Fluorene	0.124	0.000286	"	0.167	0.0307	55.8	30-130	1.6	30	
Fluoranthene	0.107	0.000394	"	0.167	0.00104	63.4	30-130	5.4	30	
Dibenz(a,h)anthracene	0.168	0.000614	"	0.167	87425	101	30-130	15.3	30	
Chrysene	0.113	0.000624	"	0.167	0.00427	65.1	30-130	2.6	30	
Benzo(k)fluoranthene	0.102	0.000437	"	0.167	87425	61	30-130	3.8	30	
Naphthalene	0.147	0.000484	"	0.167	0.0417	63	30-130	1.3	30	
1-Methylnaphthalene	0.24	0.000364	"	0.167	0.106	80.2	30-130	11.9	30	
Benzo(a)pyrene	0.115	0.000468	"	0.167	0.000529	68.8	30-130	3.4	30	
Benzo(a)anthracene	0.107	0.000493	"	0.167	0.0012	63.3	30-130	6.3	30	
Anthracene	0.0777	0.000334	"	0.167	0.000837	46	30-130	3.2	30	
Acenaphthene	0.0995	0.000304	"	0.167	0.0169	49.4	30-130	2.1	30	
2-Methylnaphthalene	0.131	0.000645	"	0.167	0.124	4.1	30-130	50.7	30	*
Benzo(b)fluoranthene	0.0961	0.000585	"	0.167	0.000769	57	30-130	1	30	
Surrogate: 4-Terphenyl-d14	64.8		"	0.333	212	64.8	33-122			
Surrogate: 2-Fluorobiphenyl	56.4		"	0.333	175	56.4	33-115			
Surrogate: Nitrobenzene-d5	49.5		"	0.333	175	49.5	29-110			

MS (L 87425-MS-L595492)		Source: 87425			Prepared: 01/20/2022 Analyzed: 01/21/2022					
Chrysene	0.11	0.000624	mg/Kg	0.166	0.00427	63.6	30-130			
Benzo(k)fluoranthene	0.106	0.000437	"	0.166	87425	63.8	30-130			
Benzo(b)fluoranthene	0.0951	0.000585	"	0.166	0.000769	56.8	30-130			
Benzo(a)pyrene	0.119	0.000468	"	0.166	0.000529	71.6	30-130			
Benzo(a)anthracene	0.114	0.000493	"	0.166	0.0012	67.9	30-130			
Dibenz(a,h)anthracene	0.144	0.000614	"	0.166	87425	86.7	30-130			
Acenaphthene	0.0974	0.000304	"	0.166	0.0169	48.4	30-130			

Origins Laboratory, Inc.

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Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

**PAH by 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L595492 - 3550B**

MS (L 87425-MS-L595492)		Source: 87425			Prepared: 01/20/2022 Analyzed: 01/21/2022					
2-Methylnaphthalene	0.22	0.000645	mg/Kg	0.166	0.124	57.8	30-130			
Anthracene	0.0752	0.000334	"	0.166	0.000837	44.7	30-130			
Fluoranthene	0.113	0.000394	"	0.166	0.00104	67.4	30-130			
Fluorene	0.122	0.000286	"	0.166	0.0307	55	30-130			
Indeno(1,2,3-cd)pyrene	0.14	0.000627	"	0.166	87425	84.3	30-130			
Naphthalene	0.149	0.000484	"	0.166	0.0417	64.6	30-130			
Pyrene	0.104	0.000643	"	0.166	0.00279	60.9	30-130			
1-Methylnaphthalene	0.213	0.000364	"	0.166	0.106	64.4	30-130			
Surrogate: 2-Fluorobiphenyl	54		"	0.331	175	54	33-115			
Surrogate: 4-Terphenyl-d14	67.9		"	0.331	212	67.9	33-122			
Surrogate: Nitrobenzene-d5	53.1		"	0.331	175	53.1	29-110			

**LCS (LCS-L595492)**

Prepared: 01/20/2022 Analyzed: 01/21/2022

Fluoranthene	0.103	0.000394	mg/Kg	0.167		61.6	30-130
Indeno(1,2,3-cd)pyrene	0.102	0.000627	"	0.167		61	30-130
1-Methylnaphthalene	0.0865	0.000364	"	0.167		51.7	30-130
Pyrene	0.102	0.000643	"	0.167		61	30-130
Fluorene	0.0943	0.000286	"	0.167		56.4	30-130
Dibenz(a,h)anthracene	0.106	0.000614	"	0.167		63.4	30-130
Chrysene	0.1	0.000624	"	0.167		59.8	30-130
Benzo(k)fluoranthene	0.1	0.000437	"	0.167		59.8	30-130
2-Methylnaphthalene	0.0883	0.000645	"	0.167		52.8	30-130
Naphthalene	0.0922	0.000484	"	0.167		55.2	30-130
Benzo(b)fluoranthene	0.0885	0.000585	"	0.167		52.9	30-130
Acenaphthene	0.0834	0.000304	"	0.167		49.9	30-130
Anthracene	0.0992	0.000334	"	0.167		59.4	30-130
Benzo(a)anthracene	0.0975	0.000493	"	0.167		58.3	30-130

Origins Laboratory, Inc.

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Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

**PAH by 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L595492 - 3550B</b>										
<b>LCS (LCS-L595492)</b>					Prepared: 01/20/2022 Analyzed: 01/21/2022					
Benzo(a)pyrene	0.115	0.000468	mg/Kg	0.167		68.8	30-130			
Surrogate: Nitrobenzene-d5	57		"	0.333		57	29-110			
Surrogate: 2-Fluorobiphenyl	54		"	0.333		54	33-115			
Surrogate: 4-Terphenyl-d14	68.1		"	0.333		68.1	33-122			
<b>LRB (LRB-L595492)</b>					Prepared: 01/20/2022 Analyzed: 01/21/2022					
Chrysene	ND	0.00067	mg/Kg				-			
1-Methylnaphthalene	0.000496	0.00067	"				-			J
Naphthalene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Pyrene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Acenaphthene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00067	"				-			
Surrogate: Nitrobenzene-d5	62.4		"	0.333		62.4	29-110			
Surrogate: 4-Terphenyl-d14	69		"	0.333		69	33-122			
Surrogate: 2-Fluorobiphenyl	67.5		"	0.333		67.5	33-115			

Origins Laboratory, Inc.

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Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Lockman C #14-30

### Notes and Definitions

U Sample is Non-Detect.

JB [Undefined]

J Estimated Value. Analyte below reported quantitation limit.

\* QC Failure

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

Origins Laboratory, Inc.



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**APPENDIX B**

**LABORATORY DOCUMENTATION**





April 11, 2022

Fremont Environmental

Paul Henehan

8305 6th St, PO Box 1289

Wellington CO 80549

Project Name - Noble - Lockman

Project Number - C022-023

Attached are your analytical results for Noble - Lockman received by Origins Laboratory, Inc. March 28, 2022. This project is associated with Origins project number Y203715-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.  
303.433.1322  
o-squad@oelabinc.com



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1 4FT	Y203715-01	Soil	March 25, 2022 0:00	03/28/2022 14:30
MW-2 4FT	Y203715-03	Soil	March 25, 2022 0:00	03/28/2022 14:30
MW-3 4FT	Y203715-05	Soil	March 25, 2022 0:00	03/28/2022 14:30
MW-4 4FT	Y203715-07	Soil	March 25, 2022 0:00	03/28/2022 14:30
MW-5 4FT	Y203715-09	Soil	March 25, 2022 0:00	03/28/2022 14:30
MW-1	Y203715-11	Water	March 25, 2022 0:00	03/28/2022 14:30
BG-1	Y203715-12	Soil	March 25, 2022 0:00	03/28/2022 14:30

Origins Laboratory, Inc.



*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.*

Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

4203715

page 1 of 2

Client: Fremont Environmental Inc.  
Address:  
Telephone Number:  
Email Address:

Project Manager: Henehan  
Project Name: Noble - Lockman  
Project Number: C022-023  
Samples Collected By: PH

Fax: 303.265.9645

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative			Matrix			Analysis			Sample Instructions						
				Unpreserved	HCl	HNO <sub>3</sub>	Groundwater	Soil	Air Summa	Other	GRTEXN+TMBS	PRO/ORO		PATs	Pt, B, CSAR	Boron	915 metals	Arsenic	RTXEN+TMBS
MW-1 4 FT	3/25/22		2																1
MW-1 8 FT																			2
MW-2 4 FT																			3
MW-2 8 FT																			4
MW-3 4 FT																			5
MW-3 8 FT																			6
MW-4 4 FT																			7
MW-4 8 FT																			8
MW-5 4 FT																			9
MW-5 8 FT																			10

Relinquished By: PH Date: 3/28/22 Time: 1430  
Relinquished By: Date: Time: Standard

5.0 Date Results Needed

Origins Laboratory, Inc.

*J. Bynon*

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.

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

ORIGINS

LABORATORY, INC

Client:

Address:

Telephone Number:

Email Address:

Fremont Environmental Inc.

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page 2 of 2

Project Manager:

Project Name:

Project Number:

Samples Collected By:

Henehan

NOBLE-LOCKMAN

1022-023

PVH

Sample ID Description	Date Sampled	Time Sampled	Preservative						Matrix				Analysis						Asbestos	RTXN+TMBS	TTDS, C, Sd	Sample Instructions			
			# of Containers	Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa #	Other	GRTEXN+TMBS	PRO/ORO	PAHS	pH, EC, SAR	Boron	915 metals								
MW-1	3/25/22		2	✓					✓														✓	1	
BG-1	3/25/22		2	✓					✓														✓	2	
																								3	
																								4	
																								5	
																								6	
																								7	
																								8	
																								9	
																								10	
Relinquished By: <i>[Signature]</i>	Date: 3/28/22		Time:	Received By: <i>[Signature]</i>	Date: 3/28/22	Time:	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>																		
Relinquished By:	Date:		Time:	Received By:	Date:	Time:																			

5,2 Date Results Needed

Origins Laboratory, Inc.

Byron

*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.*

Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

Origins Laboratory

## Sample Receipt Checklist

F-012207-01-R1  
Effective Date: 01/09/12

Origins Work Order: 4205715

Client: Fremont/Noble

Client Project ID: Lockman

Checklist Completed by: JB

Shipped Via: HD  
(UPS/FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 3-29-22

Airbill #: N/A

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☒ Water ☐ Other: \_\_\_\_\_

Cooler Number/Temperature: 152 °C / \_\_\_\_\_ °C / \_\_\_\_\_ °C (Describe) \_\_\_\_\_ °C

Thermometer ID: T603

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (If so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (If so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity) (pH < 2 for samples preserved with HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH > 10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>			not checked
Additional Comments (if any):				

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by (Project Manager) JP

Date/Time Reviewed 3/30/22

Origins Laboratory, Inc.

*J. Bynon*

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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## MW-1 4FT

3/25/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y203715-01 (Soil)

### Boron (DTPA Sorbitol)

Boron	0.597	0.0995	mg/L	1	B2C2911	03/29/2022	03/30/2022	
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### DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2C2902	03/29/2022	04/05/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	99.7 %	50-150	"	"	"	"	"
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### GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2C3024	03/30/2022	04/02/2022	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130	"	"	"	"	"
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Origins Laboratory, Inc.



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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## MW-1 4FT

3/25/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y203715-01 (Soil)

### GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	94.4 %	70-130	B2C30 24	03/30/2022	04/02/2022
Surrogate: 4-Bromofluorobenzene	97.9 %	70-130	"	"	"

### Metals by Saturated Paste by EPA 6010

Calcium	3.12	0.499	meq/L	10	[CALC]	03/29/2022	03/31/2022
Magnesium	1.38	0.823	"	"	"	"	"
Sodium	6.44	0.435	"	"	"	"	"

### PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00182	0.00335	mg/Kg	5	L608836	04/05/2022	04/05/2022
2-Methylnaphthalene	ND	0.00323	0.00335	"	"	"	"	"
Acenaphthene	ND	0.00152	0.00335	"	"	"	"	"
Anthracene	ND	0.00167	0.00335	"	"	"	"	"
Benzo(a)anthracene	ND	0.00247	0.00335	"	"	"	"	"
Benzo(a)pyrene	ND	0.00234	0.00335	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.00293	0.00335	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.00219	0.00335	"	"	"	"	"
Chrysene	ND	0.00312	0.00335	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.00307	0.00335	"	"	"	"	"
Fluoranthene	ND	0.00197	0.00335	"	"	"	"	"

Origins Laboratory, Inc.



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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## MW-1 4FT

3/25/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Waypoint Analytical, Inc. Y203715-01 (Soil)

### PAH by 8270D SIM

Fluorene	ND	0.00143	0.00335	mg/Kg	5	L608836	04/05/2022	04/05/2022
Indeno(1,2,3-cd)pyrene	ND	0.00314	0.00335	"	"	"	"	"
Naphthalene	ND	0.00242	0.00335	"	"	"	"	"
Pyrene	ND	0.00322	0.00335	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	60.9 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	75.5 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	63.3 %	29-110	"	"	"

### pH in Soil by 9045D

pH	8.02	pH Units	1	B2C2922	03/31/2022	04/01/2022
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### SAR by 20B Saturated Paste

SAR	4.29	SAR	1	B2C2912	03/29/2022	03/31/2022
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.10	0.00500	mmhos/cm	1	B2C2918	03/30/2022	03/31/2022
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### Total Metals by 6020B

Arsenic	3.08	0.0855	0.25	mg/Kg	5	L608240	04/01/2022	04/04/2022
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Origins Laboratory, Inc.



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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## MW-1 4FT

3/25/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Waypoint Analytical, Inc.

Y203715-01 (Soil)

### Total Metals by 6020B

Barium	130	0.042	0.25	mg/Kg	5	L608240	04/01/2022	04/04/2022	
Cadmium	0.193	0.0259	0.25	"	"	"	"	"	J
Copper	13.9	0.0806	0.25	"	"	"	"	"	
Lead	10.7	0.031	0.25	"	"	"	"	"	
Nickel	12.8	0.0633	0.25	"	"	"	"	"	
Selenium	0.582	0.103	0.25	"	"	"	"	"	
Silver	0.0437	0.0067	0.25	"	"	"	"	"	J
Zinc	55.8	0.534	2.5	"	"	"	"	"	

### Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L609117	03/25/2022	04/06/2022	
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Origins Laboratory, Inc.



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8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## MW-2 4FT

3/25/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y203715-03 (Soil)

### DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2C2902	03/29/2022	04/05/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 109 % 50-150 " " "

### GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2C3024	03/30/2022	04/02/2022	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 104 % 70-130 " " "  
Surrogate: Toluene-d8 95.1 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 96.8 % 70-130 " " "

### PAH by 8270D SIM

Origins Laboratory, Inc.



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Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## MW-2 4FT

3/25/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Waypoint Analytical, Inc. Y203715-03 (Soil)

### PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L608836	04/05/2022	04/05/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	ND	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"
Fluorene	ND	0.000286	0.00067	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"
Pyrene	ND	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	58.4 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	74.9 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	67 %	29-110	"	"	"

Origins Laboratory, Inc.



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Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## MW-3 4FT

3/25/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y203715-05 (Soil)

### DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2C2902	03/29/2022	04/05/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 113 % 50-150 " " "

### GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2C3024	03/30/2022	04/02/2022	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 106 % 70-130 " " "  
Surrogate: Toluene-d8 94.8 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 96.0 % 70-130 " " "

### PAH by 8270D SIM

Origins Laboratory, Inc.



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Fremont Environmental  
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Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## MW-3 4FT

3/25/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Waypoint Analytical, Inc. Y203715-05 (Soil)

### PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L608836	04/05/2022	04/05/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	ND	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"
Fluorene	ND	0.000286	0.00067	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"
Pyrene	ND	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	50.8 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	66 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	57.8 %	29-110	"	"	"

Origins Laboratory, Inc.



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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## MW-4 4FT

3/25/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y203715-07 (Soil)

### DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2C2902	03/29/2022	04/06/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 69.4 % 50-150 " " "

### GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2C3024	03/30/2022	04/02/2022	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 107 % 70-130 " " "  
Surrogate: Toluene-d8 94.6 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 96.5 % 70-130 " " "

### PAH by 8270D SIM

Origins Laboratory, Inc.



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Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## MW-4 4FT

3/25/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Waypoint Analytical, Inc. Y203715-07 (Soil)

### PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L608881	04/05/2022	04/06/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	ND	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"
Fluorene	ND	0.000286	0.00067	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"
Pyrene	ND	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	46.2 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	57.1 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	47.4 %	29-110	"	"	"

Origins Laboratory, Inc.



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Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## MW-5 4FT

3/25/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y203715-09 (Soil)

### DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2C2902	03/29/2022	04/06/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 91.4 % 50-150 " " "

### GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2C3024	03/30/2022	04/02/2022	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 109 % 70-130 " " "  
Surrogate: Toluene-d8 94.1 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 96.6 % 70-130 " " "

### PAH by 8270D SIM

Origins Laboratory, Inc.



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8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## MW-5 4FT

3/25/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Waypoint Analytical, Inc. Y203715-09 (Soil)

### PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L608881	04/05/2022	04/06/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	ND	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"
Fluorene	ND	0.000286	0.00067	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"
Pyrene	ND	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	35.8 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	47.7 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	38.5 %	29-110	"	"	"

Origins Laboratory, Inc.



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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## MW-1

3/25/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y203715-11 (Water)

### BTEX+N+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	2.00	ug/L	1	B2C3109	03/31/2022	04/03/2022	U
1,3,5-Trimethylbenzene	ND	2.00	"	"	"	"	"	U
Benzene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Naphthalene	ND	2.00	"	"	"	"	"	U
Toluene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	107 %	70-130	"	"	"
Surrogate: Toluene-d8	92.2 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	98.0 %	70-130	"	"	"

Origins Laboratory, Inc.



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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## BG-1

3/25/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y203715-12 (Soil)

### Boron (DTPA Sorbitol)

Boron	0.941	0.100	mg/L	1	B2C2911	03/29/2022	03/30/2022
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### Metals by Saturated Paste by EPA 6010

Calcium	4.65	0.499	meq/L	10	[CALC]	03/29/2022	03/31/2022
Magnesium	2.95	0.823	"	"	"	"	"
Sodium	17.0	0.435	"	"	"	"	"

### pH in Soil by 9045D

pH	8.11	pH Units	1	B2C2922	03/31/2022	04/01/2022
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### SAR by 20B Saturated Paste

SAR	8.72	SAR	1	B2C2912	03/29/2022	03/31/2022
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	2.39	0.00500	mmhos/cm	1	B2C2918	03/30/2022	03/31/2022
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### Total Metals by 6020B

Arsenic	2.25	0.0855	0.25	mg/Kg	5	L608240	04/01/2022	04/04/2022
Barium	103	0.042	0.25	"	"	"	"	"
Cadmium	0.0831	0.0259	0.25	"	"	"	"	"
Copper	7	0.0806	0.25	"	"	"	"	"

Origins Laboratory, Inc.



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8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## BG-1

3/25/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Waypoint Analytical, Inc. Y203715-12 (Soil)

### Total Metals by 6020B

Lead	6.86	0.031	0.25	mg/Kg	5	L608240	04/01/2022	04/04/2022	
Nickel	7.67	0.0633	0.25	"	"	"	"	"	
Selenium	0.478	0.103	0.25	"	"	"	"	"	
Silver	0.0176	0.0067	0.25	"	"	"	"	"	J
Zinc	30.2	0.534	2.5	"	"	"	"	"	

### Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.501	mg/Kg	1	L609117	03/25/2022	04/06/2022	
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Origins Laboratory, Inc.



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Fremont Environmental  
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Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

Extractable Petroleum Hydrocarbons by 8015D - Quality Control  
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2C2902 - EPA 3550B										
Blank (B2C2902-BLK1)					Prepared: 03/29/2022 Analyzed: 04/05/2022					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	23		"	24.9		93.1	50-150			

Origins Laboratory, Inc.



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Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

**Extractable Petroleum Hydrocarbons by 8015D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B2C2902 - EPA 3550B</b>										
<b>LCS (B2C2902-BS1)</b>					Prepared: 03/29/2022 Analyzed: 04/05/2022					
Diesel (C10-C28)	931	50.0	mg/kg	1000		93.1	70-130			
Residual Range Organics (C28-C40)	1110	200	"	1000		111	70-130			
Surrogate: o-Terphenyl	49		"	49.8		98.3	50-150			

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Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## Extractable Petroleum Hydrocarbons by 8015D - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B2C2902 - EPA 3550B</b>										
<b>Matrix Spike (B2C2902-MS1)</b>		<b>Source: Y203715-01</b>			Prepared: 03/29/2022 Analyzed: 04/05/2022					
Diesel (C10-C28)	884	50.0	mg/kg	1000	ND	88.4	70-130			
Residual Range Organics (C28-C40)	1080	200	"	1000	ND	108	70-130			
Surrogate: o-Terphenyl	57		"	49.8		114	50-150			

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Project Number: C022-023  
Project: Noble - Lockman

Extractable Petroleum Hydrocarbons by 8015D - Quality Control  
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2C2902 - EPA 3550B										
Matrix Spike Dup (B2C2902-MSD1)		Source: Y203715-01			Prepared: 03/29/2022 Analyzed: 04/05/2022					
Diesel (C10-C28)	852	50.0	mg/kg	1000	ND	85.2	70-130	3.73	35	
Residual Range Organics (C28-C40)	1060	200	"	1000	ND	106	70-130	1.47	35	
Surrogate: o-Terphenyl	55		"	49.8		111	50-150			

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## Extractable Petroleum Hydrocarbons by 8015D - Quality Control

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2C3024 - EPA 5030 (soil)										
Blank (B2C3024-BLK1)					Prepared: 03/30/2022 Analyzed: 04/02/2022					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.0100	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		102	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.0	70-130			

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Fremont Environmental  
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Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B2C3024 - EPA 5030 (soil)</b>										
<b>LCS (B2C3024-BS1)</b>					Prepared: 03/30/2022 Analyzed: 04/02/2022					
1,2,4-Trimethylbenzene	0.112	0.00200	mg/kg	0.100		112	70-130			
1,3,5-Trimethylbenzene	0.113	0.00200	"	0.100		113	70-130			
Benzene	0.107	0.00200	"	0.100		107	70-130			
Ethylbenzene	0.104	0.00200	"	0.100		104	70-130			
Naphthalene	0.105	0.0100	"	0.100		105	70-130			
Toluene	0.103	0.00200	"	0.100		103	70-130			
o-Xylene	0.104	0.00200	"	0.100		104	70-130			
m,p-Xylene	0.208	0.00400	"	0.200		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		103	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.7	70-130			

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Project: Noble - Lockman

**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B2C3024 - EPA 5030 (soil)</b>										
<b>Matrix Spike (B2C3024-MS1)</b>		<b>Source: Y203681-01</b>			Prepared: 03/30/2022 Analyzed: 04/02/2022					
1,2,4-Trimethylbenzene	0.114	0.00200	mg/kg	0.100	ND	114	70-130			
1,3,5-Trimethylbenzene	0.114	0.00200	"	0.100	ND	114	70-130			
Benzene	0.108	0.00200	"	0.100	ND	108	70-130			
Ethylbenzene	0.107	0.00200	"	0.100	ND	107	70-130			
Naphthalene	0.102	0.0100	"	0.100	ND	102	70-130			
Toluene	0.104	0.00200	"	0.100	ND	104	70-130			
o-Xylene	0.105	0.00200	"	0.100	ND	105	70-130			
m,p-Xylene	0.213	0.00400	"	0.200	ND	107	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		100	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.5	70-130			

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**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B2C3024 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B2C3024-MSD1)</b>			<b>Source: Y203681-01</b>		Prepared: 03/30/2022 Analyzed: 04/02/2022					
1,2,4-Trimethylbenzene	0.106	0.00200	mg/kg	0.100	ND	106	70-130	6.95	20	
1,3,5-Trimethylbenzene	0.106	0.00200	"	0.100	ND	106	70-130	7.17	20	
Benzene	0.101	0.00200	"	0.100	ND	101	70-130	6.25	20	
Ethylbenzene	0.0984	0.00200	"	0.100	ND	98.4	70-130	8.43	20	
Naphthalene	0.101	0.0100	"	0.100	ND	101	70-130	0.513	20	
Toluene	0.0968	0.00200	"	0.100	ND	96.8	70-130	7.59	20	
o-Xylene	0.0987	0.00200	"	0.100	ND	98.7	70-130	6.53	20	
m,p-Xylene	0.196	0.00400	"	0.200	ND	98.1	70-130	8.27	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		101	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.1	70-130			

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Paul Henehan  
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Project: Noble - Lockman

**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B2C3109 - EPA 5030B (Water)</b>										
<b>Blank (B2C3109-BLK1)</b>					Prepared: 03/31/2022 Analyzed: 03/31/2022					
1,2,4-Trimethylbenzene	ND	2.00	ug/L							U
1,3,5-Trimethylbenzene	ND	2.00	"							U
Benzene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Naphthalene	ND	2.00	"							U
Toluene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	64		"	62.5		103	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.2	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.6	70-130			

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Jordan A. Bynon, Project Manager

Fremont Environmental  
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Project: Noble - Lockman

**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B2C3109 - EPA 5030B (Water)</b>										
<b>LCS (B2C3109-BS1)</b>					Prepared: 03/31/2022 Analyzed: 03/31/2022					
1,2,4-Trimethylbenzene	56.4	2.00	ug/L	50.0		113	70-130			
1,3,5-Trimethylbenzene	55.9	2.00	"	50.0		112	70-130			
Benzene	51.4	1.00	"	50.0		103	70-130			
Ethylbenzene	52.6	1.00	"	50.0		105	70-130			
m,p-Xylene	105	2.00	"	100		105	70-130			
Naphthalene	52.6	2.00	"	50.0		105	70-130			
o-Xylene	51.7	1.00	"	50.0		103	70-130			
Toluene	51.2	1.00	"	50.0		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	63		"	62.5		101	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.0	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.5	70-130			

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Project Number: C022-023  
Project: Noble - Lockman

**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B2C3109 - EPA 5030B (Water)</b>										
<b>Matrix Spike (B2C3109-MS1)</b>		<b>Source: Y203719-01</b>			Prepared: 03/31/2022 Analyzed: 04/02/2022					
1,2,4-Trimethylbenzene	54.1	2.00	ug/L	50.0	ND	108	70-130			
1,3,5-Trimethylbenzene	53.0	2.00	"	50.0	ND	106	70-130			
Benzene	52.9	1.00	"	50.0	ND	106	70-130			
Ethylbenzene	49.1	1.00	"	50.0	ND	98.2	70-130			
m,p-Xylene	98.3	2.00	"	100	ND	98.3	70-130			
Naphthalene	63.5	2.00	"	50.0	ND	127	70-130			
o-Xylene	50.9	1.00	"	50.0	ND	102	70-130			
Toluene	49.2	1.00	"	50.0	ND	98.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	64		"	62.5		103	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.0	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.8	70-130			

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Paul Henehan  
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Project: Noble - Lockman

**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B2C3109 - EPA 5030B (Water)</b>										
<b>Matrix Spike Dup (B2C3109-MSD1)</b>		<b>Source: Y203719-01</b>			Prepared: 03/31/2022 Analyzed: 04/02/2022					
1,2,4-Trimethylbenzene	52.1	2.00	ug/L	50.0	ND	104	70-130	3.80	20	
1,3,5-Trimethylbenzene	50.7	2.00	"	50.0	ND	101	70-130	4.40	20	
Benzene	52.2	1.00	"	50.0	ND	104	70-130	1.33	20	
Ethylbenzene	46.4	1.00	"	50.0	ND	92.9	70-130	5.59	20	
m,p-Xylene	93.0	2.00	"	100	ND	93.0	70-130	5.52	20	
Naphthalene	64.3	2.00	"	50.0	ND	129	70-130	1.27	20	
o-Xylene	48.6	1.00	"	50.0	ND	97.2	70-130	4.60	20	
Toluene	47.8	1.00	"	50.0	ND	95.7	70-130	2.90	20	
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5		105	70-130			
Surrogate: Toluene-d8	60		"	62.5		95.6	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.6	70-130			

Origins Laboratory, Inc.



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Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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## Saturated Paste - Quality Control

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch B2C2918 - NO PREP

##### Blank (B2C2918-BLK1)

Prepared: 03/30/2022 Analyzed: 03/31/2022

Specific Conductance (EC) 0.000800 0.00500 mmhos/cm

##### Duplicate (B2C2918-DUP1)

Source: Y203711-07

Prepared: 03/30/2022 Analyzed: 03/31/2022

Specific Conductance (EC) 0.403 0.00500 mmhos/cm 0.467 14.8 25

#### Batch B2C2922 - NO PREP

##### Duplicate (B2C2922-DUP1)

Source: Y203711-07

Prepared: 03/31/2022 Analyzed: 04/01/2022

pH 8.86 pH Units 8.77 1.02 25

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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

**PAH by 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L608881 - 3550B**

MSD (L 97385-MSD-L608881)		Source: Y203715-07			Prepared: 04/05/2022 Analyzed: 04/06/2022					
Anthracene	0.113	0.000334	mg/Kg	0.163	97385	69.3	30-130	11.2	30	
Naphthalene	0.102	0.000484	"	0.163	97385	62.5	30-130	11	30	
Indeno(1,2,3-cd)pyrene	0.0944	0.000627	"	0.163	97385	57.9	30-130	28.5	30	
Fluorene	0.114	0.000286	"	0.163	97385	69.9	30-130	11.1	30	
Fluoranthene	0.119	0.000394	"	0.163	97385	73	30-130	14.4	30	
Dibenz(a,h)anthracene	0.104	0.000614	"	0.163	97385	63.8	30-130	25.1	30	
Chrysene	0.112	0.000624	"	0.163	97385	68.7	30-130	11.8	30	
Benzo(k)fluoranthene	0.0958	0.000437	"	0.163	97385	58.7	30-130	10.5	30	
Benzo(b)fluoranthene	0.1	0.000585	"	0.163	97385	61.3	30-130	17.8	30	
1-Methylnaphthalene	0.101	0.000364	"	0.163	97385	61.9	30-130	10.1	30	
Benzo(a)anthracene	0.118	0.000493	"	0.163	97385	72.3	30-130	9.7	30	
Acenaphthene	0.106	0.000304	"	0.163	97385	65	30-130	10.7	30	
2-Methylnaphthalene	0.101	0.000645	"	0.163	97385	61.9	30-130	9.4	30	
Pyrene	0.116	0.000643	"	0.163	97385	71.1	30-130	10.9	30	
Benzo(a)pyrene	0.108	0.000468	"	0.163	97385	66.2	30-130	10.3	30	
Surrogate: Nitrobenzene-d5	51.2		"	0.326	156	51.2	29-110			
Surrogate: 4-Terphenyl-d14	60.1		"	0.326	188	60.1	33-122			
Surrogate: 2-Fluorobiphenyl	48.7		"	0.326	152	48.7	33-115			

MS (L 97385-MS-L608881)		Source: Y203715-07			Prepared: 04/05/2022 Analyzed: 04/06/2022					
Fluorene	0.102	0.000286	mg/Kg	0.165	97385	61.8	30-130			
Benzo(b)fluoranthene	0.0836	0.000585	"	0.165	97385	50.6	30-130			
Pyrene	0.104	0.000643	"	0.165	97385	63	30-130			
Indeno(1,2,3-cd)pyrene	0.0708	0.000627	"	0.165	97385	42.9	30-130			
Fluoranthene	0.103	0.000394	"	0.165	97385	62.4	30-130			
Dibenz(a,h)anthracene	0.0808	0.000614	"	0.165	97385	48.9	30-130			
Chrysene	0.0995	0.000624	"	0.165	97385	60.3	30-130			

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Fremont Environmental  
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Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

**PAH by 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L608881 - 3550B**

MS (L 97385-MS-L608881)		Source: Y203715-07			Prepared: 04/05/2022 Analyzed: 04/06/2022					
Anthracene	0.101	0.000334	mg/Kg	0.165	97385	61.2	30-130			
1-Methylnaphthalene	0.0912	0.000364	"	0.165	97385	55.2	30-130			
2-Methylnaphthalene	0.0919	0.000645	"	0.165	97385	55.6	30-130			
Acenaphthene	0.0952	0.000304	"	0.165	97385	57.6	30-130			
Benzo(k)fluoranthene	0.0862	0.000437	"	0.165	97385	52.2	30-130			
Naphthalene	0.0913	0.000484	"	0.165	97385	55.3	30-130			
Benzo(a)anthracene	0.107	0.000493	"	0.165	97385	64.8	30-130			
Benzo(a)pyrene	0.0974	0.000468	"	0.165	97385	59	30-130			
Surrogate: Nitrobenzene-d5	39		"	0.33	156	39	29-110			
Surrogate: 2-Fluorobiphenyl	37.2		"	0.33	152	37.2	33-115			
Surrogate: 4-Terphenyl-d14	53		"	0.33	188	53	33-122			

**LCS (LCS-L608881)**

Prepared: 04/05/2022 Analyzed: 04/06/2022

Indeno(1,2,3-cd)pyrene	0.0851	0.000627	mg/Kg	0.167		50.9	30-130			
2-Methylnaphthalene	0.097	0.000645	"	0.167		58	30-130			
1-Methylnaphthalene	0.0959	0.000364	"	0.167		57.4	30-130			
Naphthalene	0.097	0.000484	"	0.167		58	30-130			
Pyrene	0.105	0.000643	"	0.167		62.8	30-130			
Acenaphthene	0.101	0.000304	"	0.167		60.4	30-130			
Anthracene	0.105	0.000334	"	0.167		62.8	30-130			
Benzo(k)fluoranthene	0.0955	0.000437	"	0.167		57.1	30-130			
Fluoranthene	0.106	0.000394	"	0.167		63.4	30-130			
Fluorene	0.106	0.000286	"	0.167		63.4	30-130			
Chrysene	0.104	0.000624	"	0.167		62.2	30-130			
Dibenz(a,h)anthracene	0.0926	0.000614	"	0.167		55.4	30-130			
Benzo(b)fluoranthene	0.0906	0.000585	"	0.167		54.2	30-130			
Benzo(a)pyrene	0.0982	0.000468	"	0.167		58.8	30-130			

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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

**PAH by 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L608881 - 3550B**

**LCS (LCS-L608881)**

Prepared: 04/05/2022 Analyzed: 04/06/2022

Benzo(a)anthracene	0.109	0.000493	mg/Kg	0.167		65.2	30-130			
Surrogate: 2-Fluorobiphenyl	54.9		"	0.333		54.9	33-115			
Surrogate: Nitrobenzene-d5	46.2		"	0.333		46.2	29-110			
Surrogate: 4-Terphenyl-d14	58.2		"	0.333		58.2	33-122			

**LRB (LRB-L608881)**

Prepared: 04/05/2022 Analyzed: 04/06/2022

2-Methylnaphthalene	ND	0.00067	mg/Kg				-			
Acenaphthene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Benzo(a)anthracene	ND	0.00067	"				-			
1-Methylnaphthalene	ND	0.00067	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Pyrene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Chrysene	ND	0.00067	"				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Naphthalene	ND	0.00067	"				-			
Surrogate: 2-Fluorobiphenyl	46.8		"	0.333		46.8	33-115			
Surrogate: 4-Terphenyl-d14	50.7		"	0.333		50.7	33-122			
Surrogate: Nitrobenzene-d5	43.5		"	0.333		43.5	29-110			

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Paul Henehan  
Project Number: C022-023  
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**PAH by 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L608836 - 3550B**

MSD (L 97326-MSD-L608836)		Source: 97326			Prepared: 04/05/2022 Analyzed: 04/05/2022					
Benzo(a)anthracene	0.111	0.000493	mg/Kg	0.166	97326	66.8	30-130	7.7	30	
1-Methylnaphthalene	0.0979	0.000364	"	0.166	97326	58.9	30-130	5	30	
2-Methylnaphthalene	0.0982	0.000645	"	0.166	97326	59.1	30-130	5.7	30	
Naphthalene	0.0971	0.000484	"	0.166	97326	58.4	30-130	6.8	30	
Anthracene	0.106	0.000334	"	0.166	97326	63.8	30-130	8.1	30	
Acenaphthene	0.0992	0.000304	"	0.166	97326	59.7	30-130	9.4	30	
Indeno(1,2,3-cd)pyrene	0.101	0.000627	"	0.166	97326	60.8	30-130	8.5	30	
Fluorene	0.108	0.000286	"	0.166	97326	65	30-130	8	30	
Fluoranthene	0.112	0.000394	"	0.166	97326	67.4	30-130	6	30	
Dibenz(a,h)anthracene	0.101	0.000614	"	0.166	97326	60.8	30-130	9.4	30	
Chrysene	0.104	0.000624	"	0.166	97326	62.6	30-130	8.2	30	
Benzo(k)fluoranthene	0.0958	0.000437	"	0.166	97326	57.7	30-130	11.9	30	
Benzo(b)fluoranthene	0.0945	0.000585	"	0.166	97326	56.9	30-130	4.3	30	
Benzo(a)pyrene	0.102	0.000468	"	0.166	97326	61.4	30-130	7.5	30	
Pyrene	0.112	0.000643	"	0.166	97326	67.4	30-130	5.2	30	
Surrogate: 2-Fluorobiphenyl	57		"	0.331	183	57	33-115			
Surrogate: 4-Terphenyl-d14	73.7		"	0.331	249	73.7	33-122			
Surrogate: Nitrobenzene-d5	63.4		"	0.331	190	63.4	29-110			

MS (L 97326-MS-L608836)		Source: 97326			Prepared: 04/05/2022 Analyzed: 04/05/2022					
Acenaphthene	0.109	0.000304	mg/Kg	0.164	97326	66.4	30-130			
Benzo(k)fluoranthene	0.108	0.000437	"	0.164	97326	65.8	30-130			
Fluorene	0.117	0.000286	"	0.164	97326	71.3	30-130			
Fluoranthene	0.119	0.000394	"	0.164	97326	72.5	30-130			
Indeno(1,2,3-cd)pyrene	0.11	0.000627	"	0.164	97326	67	30-130			
Naphthalene	0.104	0.000484	"	0.164	97326	63.4	30-130			
Dibenz(a,h)anthracene	0.111	0.000614	"	0.164	97326	67.6	30-130			

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Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

**PAH by 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L608836 - 3550B**

MS (L 97326-MS-L608836)		Source: 97326			Prepared: 04/05/2022 Analyzed: 04/05/2022					
Chrysene	0.113	0.000624	mg/Kg	0.164	97326	68.9	30-130			
Benzo(b)fluoranthene	0.0987	0.000585	"	0.164	97326	60.1	30-130			
Benzo(a)pyrene	0.11	0.000468	"	0.164	97326	67	30-130			
Anthracene	0.115	0.000334	"	0.164	97326	70.1	30-130			
2-Methylnaphthalene	0.104	0.000645	"	0.164	97326	63.4	30-130			
1-Methylnaphthalene	0.103	0.000364	"	0.164	97326	62.8	30-130			
Pyrene	0.118	0.000643	"	0.164	97326	71.9	30-130			
Benzo(a)anthracene	0.12	0.000493	"	0.164	97326	73.1	30-130			
Surrogate: Nitrobenzene-d5	68.2		"	0.328	190	68.2	29-110			
Surrogate: 4-Terphenyl-d14	75.9		"	0.328	249	75.9	33-122			
Surrogate: 2-Fluorobiphenyl	58.8		"	0.328	183	58.8	33-115			

LCS (LCS-L608836)		Prepared: 04/05/2022 Analyzed: 04/05/2022								
Fluorene	0.124	0.000286	mg/Kg	0.167		74.2	30-130			
Pyrene	0.128	0.000643	"	0.167		76.6	30-130			
Naphthalene	0.111	0.000484	"	0.167		66.4	30-130			
Indeno(1,2,3-cd)pyrene	0.107	0.000627	"	0.167		64	30-130			
Anthracene	0.123	0.000334	"	0.167		73.6	30-130			
1-Methylnaphthalene	0.11	0.000364	"	0.167		65.8	30-130			
Fluoranthene	0.128	0.000394	"	0.167		76.6	30-130			
2-Methylnaphthalene	0.111	0.000645	"	0.167		66.4	30-130			
Acenaphthene	0.114	0.000304	"	0.167		68.2	30-130			
Benzo(a)anthracene	0.128	0.000493	"	0.167		76.6	30-130			
Benzo(a)pyrene	0.116	0.000468	"	0.167		69.4	30-130			
Benzo(b)fluoranthene	0.0988	0.000585	"	0.167		59.1	30-130			
Benzo(k)fluoranthene	0.113	0.000437	"	0.167		67.6	30-130			
Chrysene	0.121	0.000624	"	0.167		72.4	30-130			

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Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

**PAH by 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L608836 - 3550B</b>										
<b>LCS (LCS-L608836)</b>					Prepared: 04/05/2022 Analyzed: 04/05/2022					
Dibenz(a,h)anthracene	0.11	0.000614	mg/Kg	0.167		65.8	30-130			
Surrogate: 4-Terphenyl-d14	85.8		"	0.333		85.8	33-122			
Surrogate: Nitrobenzene-d5	75.6		"	0.333		75.6	29-110			
Surrogate: 2-Fluorobiphenyl	67.8		"	0.333		67.8	33-115			
<b>LRB (LRB-L608836)</b>					Prepared: 04/05/2022 Analyzed: 04/05/2022					
Pyrene	ND	0.00067	mg/Kg				-			
Naphthalene	ND	0.00067	"				-			
1-Methylnaphthalene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00067	"				-			
Acenaphthene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Chrysene	ND	0.00067	"				-			
Surrogate: Nitrobenzene-d5	66.6		"	0.333		66.6	29-110			
Surrogate: 2-Fluorobiphenyl	60.6		"	0.333		60.6	33-115			
Surrogate: 4-Terphenyl-d14	79.5		"	0.333		79.5	33-122			

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Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## Total Metals by 6020B - Quality Control Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L608240 - 3050B</b>										
<b>MSD (L 97393-MSD-L608240)</b>			<b>Source: 97393</b>		Prepared: 04/01/2022 Analyzed: 04/04/2022					
Arsenic	4.21	0.0855	mg/Kg	2.48	1.06	127	75-125	8.9	80	*
Barium	41.6	0.042	"	4.96	21.3	409	75-125	3.7	80	*
Cadmium	0.572	0.0259	"	0.496	0.0318	109	75-125	11	80	
Copper	6.17	0.0806	"	2.48	1.75	178	75-125	12.5	80	*
Lead	9	0.031	"	2.48	3.48	223	75-125	4.8	80	*
Nickel	5.31	0.0633	"	2.48	1.61	149	75-125	0.7	80	*
Selenium	5.18	0.103	"	4.96	0.2	100	75-125	0.9	80	
Zinc	41.1	0.534	"	24.8	8.65	131	75-125	4.9	80	*
Silver	0.534	0.0067	"	0.496	0.0203	104	75-125	1.8	80	
<b>MS (L 97393-MS-L608240)</b>			<b>Source: 97393</b>		Prepared: 04/01/2022 Analyzed: 04/04/2022					
Selenium	5.23	0.103	mg/Kg	4.78	0.2	105	75-125			
Silver	0.524	0.0067	"	0.478	0.0203	105	75-125			
Nickel	5.27	0.0633	"	2.39	1.61	153	75-125			*
Lead	8.57	0.031	"	2.39	3.48	213	75-125			*
Copper	5.44	0.0806	"	2.39	1.75	154	75-125			*
Cadmium	0.512	0.0259	"	0.478	0.0318	100	75-125			
Barium	43.2	0.042	"	4.78	21.3	458	75-125			*
Arsenic	3.85	0.0855	"	2.39	1.06	117	75-125			
Zinc	39.1	0.534	"	23.9	8.65	127	75-125			*
<b>LCS (LCS-L608240)</b>			Prepared: 04/01/2022 Analyzed: 04/04/2022							
Selenium	5.42	0.103	mg/Kg	5		108	80-120			
Silver	0.496	0.0067	"	0.5		99	80-120			
Arsenic	2.67	0.0855	"	2.5		107	80-120			
Barium	4.91	0.042	"	5		98	80-120			
Cadmium	0.483	0.0259	"	0.5		97	80-120			

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Fremont Environmental  
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Wellington CO 80549

Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## Total Metals by 6020B - Quality Control Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L608240 - 3050B</b>										
<b>LCS (LCS-L608240)</b>					Prepared: 04/01/2022 Analyzed: 04/06/2022					
Copper	2.44	0.0806	mg/Kg	2.5		98	80-120			
Lead	2.45	0.031	"	2.5		98	80-120			
Zinc	24.5	0.534	"	25		98	80-120			
Nickel	2.47	0.0633	"	2.5		99	80-120			
<b>LRB (LRB-L608240)</b>					Prepared: 04/01/2022 Analyzed: 04/04/2022					
Arsenic	ND	0.25	mg/Kg				-			
Zinc	ND	2.5	"				-			
Barium	ND	0.25	"				-			
Cadmium	ND	0.25	"				-			
Copper	ND	0.25	"				-			
Lead	ND	0.25	"				-			
Nickel	ND	0.25	"				-			
Selenium	ND	0.25	"				-			
Silver	ND	0.25	"				-			

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Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

## Total Metals by 7196A - Quality Control Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L609117 -</b>										
<b>DUP (L 97375-DUP)</b>		<b>Source: 97375</b>			Prepared: Analyzed: 04/06/2022					
Chromium, Hexavalent	ND	0.502	mg/Kg		97375	-		0	20	
<b>MS (L 97375-MS)</b>		<b>Source: 97375</b>			Prepared: Analyzed: 04/06/2022					
Chromium, Hexavalent	9.2	1.26	mg/Kg	8.26	97375	111	75-125			
<b>LCS (LCS)</b>					Prepared: Analyzed: 04/06/2022					
Chromium, Hexavalent	7.47	0.244	mg/Kg	8		93	75-125			
<b>LRB (LRB)</b>					Prepared: Analyzed: 04/06/2022					
Chromium, Hexavalent	ND	0.5	mg/Kg							

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*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.*

Jordan A. Bynon, Project Manager

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8305 6th St, PO Box 1289  
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Paul Henehan  
Project Number: C022-023  
Project: Noble - Lockman

### Notes and Definitions

- U Sample is Non-Detect.
- J Estimated Value. Analyte below reported quantitation limit.
- \* QC Failure
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- All soil results are reported on a wet weight basis.

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Jordan A. Bynon, Project Manager