

# **FREMONT ENVIRONMENTAL INC.**

August 14, 2024

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

Subject:     **Excavation Report**  
Bernhardt 64N67W 13NWNE  
NWNE Sec. 13, T4N, R67W  
Weld County, Colorado  
Fremont Project No. C023-131  
Facility # 329441, Remediation #27437

Dear Mr. Peterson:

Enclosed please find a copy of the above referenced Excavation Report for the Bernhardt 64N67W 13NWNE release site in Weld County, Colorado. The enclosed report describes excavation and sampling efforts to remediate impacted soil at the site.

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

Fremont appreciates the opportunity to provide this service.

Sincerely,  
**FREMONT ENVIRONMENTAL INC.**



Jeff T. Griggs  
Consultant

Enclosure

**EXCAVATION REPORT**

**NOBLE ENERGY INC.**

**BERNHARDT 64N67W 13NWN**

**WELD COUNTY, COLORADO**

**FREMONT PROJECT NO. C023-131**

**FACILITY #329441, REMEDIATION #27437**

**Prepared by:**

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**August 14, 2024**

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**EXCAVATION REPORT**  
**NOBLE ENERGY INC.**  
**BERNHARDT 64N67W 13NWNE**  
**WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C023-131**  
**FACILITY #329441, REMEDIATION #27437**

**1.0 INTRODUCTION**

The purpose of this document is to present information collected during the excavation of petroleum-impacted soil at the Bernhardt 64N67W 13NWNE location in Weld County, Colorado. This excavation project was completed on June 03, 2024.

**2.0 BACKGROUND INFORMATION**

**2.1 Site Location**

The Bernhardt 64N67W 13NWNE is located within the city limits of Milliken, Colorado in Weld County as shown on Figure 1. The site is located in an agricultural area approximately 0.23 miles west of the intersection of Dawner Lane and Weld County Road 46. The location is further described as the NW  $\frac{1}{4}$  of the NE  $\frac{1}{4}$  of Section 13, Township 4N, Range 67W.

**2.2 Site History**

The site consisted of the Bernhardt 64N67W 13NWNE tank battery which serviced the Bernhardt 13-12, Bernhardt O 13-7 and Bernhardt O 13-18D natural gas wells. Bernhardt tank battery was constructed in 1994 following the completion of the Bernhardt 13-12 natural gas well, drilled to a depth of approximately 7,410 feet.

A release was discovered adjacent to two former on-site produced water vaults and one separator at the Bernhardt 64N67W 13NWNE location during decommissioning activities in May 2023. Groundwater was not encountered at that time.



### **3.0 FIELD ACTIVITIES**

#### **3.1 Soil Excavation and Sampling**

Soil remediation efforts consisted of the excavation and removal of petroleum impacted soil directly adjacent to two former on-site produced water vault and one separator. The excavation extents measured approximately 10 feet x 10 feet, with a maximum depth of 4.5 feet for two of the three excavations and approximately 15 feet x 15 feet, with a maximum depth of 4.5 feet for the third excavation. The soil consisted of sandy clay to 3.5 feet transitioning to well sorted sand to the excavation's maximum depth of approximately 4.5 feet. Groundwater was not encountered in any of the excavations. The excavation extents are illustrated on Figures 3 and 4.

The excavation of impacts adjacent to the former Bernhardt 64N67W 13NWN produced water vaults and separator was completed on June 03, 2024. Soil samples were collected, as grab samples, from each excavation's sidewalls at 3.5 feet and at the floor of each excavation at 4.5 feet below ground surface (bgs).

The soil samples were analyzed by Origins Laboratory, Inc. in Denver, Colorado in Golden, Colorado for benzene, toluene, ethylbenzene and total xylenes (BTEX), naphthalene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene (TMB), Total Petroleum Hydrocarbons - Gasoline Range Organics (TPH-GRO) by EPA method 8260B, TPH - Diesel Range Organics (TPH-DRO), Extended Range Organics (TPH-ORO) by EPA method 8015, Polycyclic Aromatic Hydrocarbons (PAH): Acenaphthene, Anthracene, Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Chrysene, Dibenzo (a,h) anthracene, Fluoranthene, Fluorene, Indeno (1,2,3-cd) pyrene, Pyrene, 1-Methylnaphthalene, 2-Methylnaphthalene by EPA method 8270D, Specific Conductance (EC) by EPA Method 120.1 saturated paste extraction, saturated paste extraction of soluble nutrients by EPA method 6020/USDA60 6(2) for calculated analysis of Sodium

Absorption Ratio (SAR), pH by saturated paste extraction APHA/ASTM/EPA methods, Total Metals by EPA method 6020B, and Hexavalent Chromium by EPA method 7196. The laboratory reports and chain-of-custody documentation are included in Appendix B.

A summary of the soil laboratory data is included in Tables 2 through 5. The laboratory analyses indicate that organic petroleum constituents in soil samples collected from the sidewalls and floor of each excavation achieved the ECMC Table 915-1 Protection of Groundwater Soil Screening Levels (PGSSLs). However, seven samples exceeded ECMC Table 915-1 standards for pH, three samples exceeded Table 915-1 standards for barium, three samples exceeded Table 915-1 standards for chromium and all samples exceeded ECMC Table 915-1 standards for arsenic. Local background samples collected adjacent to the site's excavations, in native soil at similar depths of 3.5 and 4.5 feet also exceeded the ECMC Table 915-1 standards for pH, barium, chromium and arsenic.

A total of approximately 112 tons (~ 80 cubic yards) of petroleum impacted soil was removed by Tasman Geosciences Inc. during remediation efforts. Impacted soil was disposed of at Buffalo Ridge Landfill in Keenesburg, Colorado as non-hazardous waste, and the excavation was backfilled using clean fill.

#### **4.0 DISCUSSION**

As demonstrated by the soil sampling, petroleum impacted soil was removed at the Bernhardt 64N67W 13NWNE via excavation. This was confirmed by analysis of soil samples collected from the exterior sidewalls and floor of each excavation which were below the ECMC Table 915-1 PGSSLs for organic petroleum constituents. Approximately 80 cubic yards of impacted soil were removed and transported to the landfill. The soil data for the excavation is illustrated and summarized in the attached tables and figures.

Elevated concentrations of pH, barium and arsenic are proposed to be attributed to native soil conditions, based on concentrations observed in local background samples collected adjacent to the site's excavations. Sample locations, located within the PWV02 excavation, exhibiting concentrations of chromium not attributable to background concentrations, and greater than the Table 915-1 PGSSLs and RSSLs will be resampled to verify the presence of elevated concentrations of chromium (VI) initially observed. Remedial alternatives will be evaluated if concentrations of elevated chromium (VI) are confirmed following receipt of resampling results. A no further action designation will be requested if chromium concentrations comply with the Table 915-1 standard or are attributable to background concentrations.

#### **5.0 REMARKS**

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

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

Prepared By:

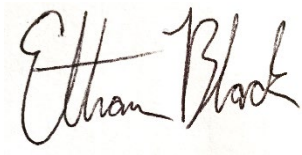


08/14/24

Date \_\_\_\_\_

\_\_\_\_\_  
Jeff T. Griggs  
Geologist

Reviewed by:

A handwritten signature in black ink that reads "Ethan Black". The signature is written in a cursive style with a large, stylized "E" and "B".

08/14/24

Date\_\_\_\_\_

\_\_\_\_\_  
Ethan D. Black, P.G.

Geologist

## **TABLES**

**TABLE 1**  
**FIELD DATA SUMMARY TABLE**  
**NOBLE 100322**  
**BERNHARDT 64N67W 13NWNE, WELD COUNTY, COLORADO**  
**REM # 27437**

Sample ID	Sample Date	Depth	GPS Data Latitude/Longitude		PDOP Value	VOC Concentration (ppm)
PWV01 N WALL 2 feet	05/15/2023	2.0 Ft	40.3186966	-104.8387852	0.90	499.1 ppm
PWV02 FLOOR 4 feet	05/15/2023	4.0 Ft	40.3186713	-104.8390068	1.00	20.2 ppm
SEP02 DL 4 feet	05/15/2023	4.0 Ft	40.3184371	-104.8390436	1.00	1707 ppm
(PWV02) B01@4.5'	5/31/2024	4.5 Ft	40.3186726	-104.8390056	1.00	0.0 ppm
(PWV02) N01@3.5'	5/31/2024	3.5 Ft	40.3186892	-104.8390073	0.90	0.0 ppm
(PWV02) S01@3.5'	5/31/2024	3.5 Ft	40.3186575	-104.8390045	1.00	0.0 ppm
(PWV02) E01@3.5'	5/31/2024	3.5 Ft	40.3186740	-104.8389871	1.00	0.0 ppm
(PWV02) W01@3.5'	5/31/2024	3.5 Ft	40.3186714	-104.8390244	1.00	0.0 ppm
(PWV02) Backfill	5/31/2024	N/A	N/A	N/A	N/A	0.0 ppm
(PWV02) S02@3.5'	6/3/2024	3.5 Ft	40.3186465	-104.8390191	0.90	0.0 ppm
(PWV02) W02@3.5'	6/3/2024	3.5 Ft	40.3186691	-104.8390427	0.80	0.0 ppm
(SEP02) B01@4.5'	6/3/2024	4.5 Ft	40.3184359	-104.8390458	1.00	0.0 ppm
(SEP02) N01@3.5'	6/3/2024	3.5 Ft	40.3184534	-104.8390431	1.20	0.0 ppm
(SEP02) S01@3.5'	6/3/2024	3.5 Ft	40.3184216	-104.8390467	1.00	0.0 ppm
(SEP02) E01@3.5'	6/3/2024	3.5 Ft	40.3184359	-104.8390259	1.30	0.0 ppm
(SEP02) W01@3.5'	6/3/2024	3.5 Ft	40.3184385	-104.8390621	1.10	0.0 ppm
(SEP02) Backfill	6/3/2024	N/A	N/A	N/A	N/A	0.0 ppm
(PWV01) B01@4.5'	6/3/2024	4.5 Ft	40.3186938	-104.8387866	0.90	0.0 ppm
(PWV01) N01@3.5'	6/3/2024	3.5 Ft	40.3187112	-104.8387865	0.90	0.0 ppm
(PWV01) S01@3.5'	6/3/2024	3.5 Ft	40.3186800	-104.8387895	0.90	1.7 ppm
(PWV01) E01@3.5'	6/3/2024	3.5 Ft	40.3186934	-104.8387676	0.90	4.3 ppm
(PWV01) W01@3.5'	6/3/2024	3.5 Ft	40.3186974	-104.8388071	0.90	0.0 ppm

Sample ID	Sample Date	Depth	GPS Data		PDOP Value	VOC Concentration (ppm)
			Latitude/Longitude			
(PWV01) Backfill	6/3/2024	N/A	N/A	N/A	N/A	0.0 ppm

1. Global Positioning System (GPS) data is provided in decimal degrees using North American Datum (NAD) 83 UTMZone 13 North.

2. Volatile organic compound (VOC) concentrations are measured in the field using a photoionization detector (PID).

PDOP = Position Dilution of Precision

ppm = Parts per million

in. = Inches

ft. = Feet

bgs = Below ground surface

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

  = Material excavated and transported off site for disposal.

TABLE 2  
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA  
NOBLE 100322  
BERNHARDT 64N67W 13NWN, WELD COUNTY, COLORADO  
REM # 27437

Sample ID	Sample Date	Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	1,2,4- Trimethyl- Benzene (mg/kg)	1,3,5- Trimethyl- Benzene (mg/kg)	Naphthalene (mg/kg)	TPH (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			1.2	490	5.8	58	30	27	2	500	500**		
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500	500**		
PWV01 N WALL 2 feet	05/15/2023	2.0 Ft	0.02	0.19	0.021	0.26	0.037	0.05	0.0065	<500	1.9	<50	<50
PWV02 FLOOR 4 feet	05/15/2023	4.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<50	<50
SEP02 DL 4 feet	05/15/2023	4.0 Ft	<0.0020	<0.0050	<0.0050	0.052	<0.0050	0.22	<0.0038	<500	5.1	57	<50
(PWV02) B01@4.5'	5/31/2024	4.5 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100
(PWV02) N01@3.5'	5/31/2024	3.5 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100
(PWV02) S01@3.5'	5/31/2024	3.5 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100
(PWV02) E01@3.5'	5/31/2024	3.5 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100
(PWV02) W01@3.5'	5/31/2024	3.5 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100
(PWV02) Backfill	5/31/2024	N/A	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100
(PWV02) S02@3.5'	6/3/2024	3.5 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100
(PWV02) W02@3.5'	6/3/2024	3.5 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100
(SEP02) B01@4.5'	6/3/2024	4.5 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100
(SEP02) N01@3.5'	6/3/2024	3.5 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100
(SEP02) S01@3.5'	6/3/2024	3.5 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100
(SEP02) E01@3.5'	6/3/2024	3.5 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100
(SEP02) W01@3.5'	6/3/2024	3.5 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100
(SEP02) Backfill	6/3/2024	N/A	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100
(PWV01) B01@4.5'	6/3/2024	4.5 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100
(PWV01) N01@3.5'	6/3/2024	3.5 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100
(PWV01) S01@3.5'	6/3/2024	3.5 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100
(PWV01) E01@3.5'	6/3/2024	3.5 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100
(PWV01) W01@3.5'	6/3/2024	3.5 Ft	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100
(PWV01) Backfill	6/3/2024	N/A	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<500	<0.200	<25.0	<100

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

2. Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)

3. \* Indicates laboratory minimum detection limit in excess of SSL

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

NA - Not analyzed

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

Material excavated and transported off site for disposal.



TABLE 3  
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA  
NOBLE 100322  
BERNHARDT 64N67W 13NWN, WELD COUNTY, COLORADO  
REM # 27437

Sample ID	Sample Date	Depth (ft)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo (a) Anthracene (mg/kg)	Benzo (a) Pyrene (mg/kg)	Benzo (b) Fluoranthene (mg/kg)	Benzo (k) Fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo (a,h) Anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno (1,2,3- cd) Pyrene (mg/kg)	Pyrene (mg/kg)	1-Methyl - Naphthalene (mg/kg)	2-Methyl- Naphthalene (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			360	1800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
PWV01 N WALL 2 feet	05/15/2023	2.0 Ft	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00658
PWV02 FLOOR 4 feet	05/15/2023	4.0 Ft	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00702	0.00675
SEP02 DL 4 feet	05/15/2023	4.0 Ft	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0089	<0.00500	<0.00500	0.0129	0.00899
(PWV02) B01@4.5'	5/31/2024	4.5 Ft	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
(PWV02) N01@3.5'	5/31/2024	3.5 Ft	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
(PWV02) S01@3.5'	5/31/2024	3.5 Ft	<0.020	<0.020	0.012	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
(PWV02) E01@3.5'	5/31/2024	3.5 Ft	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
(PWV02) W01@3.5'	5/31/2024	3.5 Ft	<0.020	<0.020	0.016	<0.020	<0.020	<0.020	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
(PWV02) Backfill	5/31/2024	N/A	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
(PWV02) S02@3.5'	6/3/2024	3.5 Ft	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
(PWV02) W02@3.5'	6/3/2024	3.5 Ft	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
(SEP02) B01@4.5'	6/3/2024	4.5 Ft	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
(SEP02) N01@3.5'	6/3/2024	3.5 Ft	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
(SEP02) S01@3.5'	6/3/2024	3.5 Ft	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
(SEP02) E01@3.5'	6/3/2024	3.5 Ft	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
(SEP02) W01@3.5'	6/3/2024	3.5 Ft	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
(SEP02) Backfill	6/3/2024	N/A	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
(PWV01) B01@4.5'	6/3/2024	4.5 Ft	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
(PWV01) N01@3.5'	6/3/2024	3.5 Ft	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
(PWV01) S01@3.5'	6/3/2024	3.5 Ft	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
(PWV01) E01@3.5'	6/3/2024	3.5 Ft	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
(PWV01) W01@3.5'	6/3/2024	3.5 Ft	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002
(PWV01) Backfill	6/3/2024	N/A	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002

1. Bold values exceed the ECMC Table 915-1 limit(s)  
2. Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)  
3. \* Indicates laboratory minimum detection limit in excess of SSL  
NA - Not analyzed  
= Source material characterization sample, excavated and transported off site for disposal.  
= Material excavated and transported off site for disposal.

**TABLE 4**  
**SUMMARY OF SOIL SUITABILITY FOR RECLAMATION**  
**NOBLE 100322**  
**BERNHARDT 64N67W 13NWNE, WELD COUNTY, COLORADO**  
**REM # 27437**

Sample ID	Sample Date	Depth (ft)	pH (Standard Units)	EC (mmhos/cm)	SAR (Standard Units)	Boron (mg/L)
ECMC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
PWV01 N WALL 2 feet	05/15/2023	2.0 Ft	6.96	0.224	0.142	0.0964
PWV02 FLOOR 4 feet	05/15/2023	4.0 Ft	7.61	0.371	0.453	0.0909
SEP02 DL 4 feet	05/15/2023	4.0 Ft	8.11	0.408	0.947	0.194
(PWV02) B01@4.5'	5/31/2024	4.5 Ft	8.20	0.140	0.514	<0.101
(PWV02) N01@3.5'	5/31/2024	3.5 Ft	8.27	0.364	0.157	0.197
(PWV02) S01@3.5'	5/31/2024	3.5 Ft	8.35	0.333	0.124	0.124
(PWV02) E01@3.5'	5/31/2024	3.5 Ft	8.47	0.320	0.189	0.170
(PWV02) W01@3.5'	5/31/2024	3.5 Ft	8.34	0.365	0.279	0.163
(PWV02) Backfill	5/31/2024	N/A	8.47	0.267	0.228	<0.0985
(PWV02) S02@3.5'	6/3/2024	3.5 Ft	8.46	0.326	0.141	0.139
(PWV02) W02@3.5'	6/3/2024	3.5 Ft	8.33	0.245	0.290	0.205
(SEP02) B01@4.5'	6/3/2024	4.5 Ft	8.52	0.197	1.26	0.130
(SEP02) N01@3.5'	6/3/2024	3.5 Ft	8.48	0.256	0.223	0.155
(SEP02) S01@3.5'	6/3/2024	3.5 Ft	8.20	0.225	0.368	0.191
(SEP02) E01@3.5'	6/3/2024	3.5 Ft	7.38	0.134	0.283	<0.0997
(SEP02) W01@3.5'	6/3/2024	3.5 Ft	8.32	0.277	0.123	<0.0993
(SEP02) Backfill	6/3/2024	N/A	8.64	0.363	0.997	<0.100
(PWV01) B01@4.5'	6/3/2024	4.5 Ft	8.30	0.266	3.06	<0.0992
(PWV01) N01@3.5'	6/3/2024	3.5 Ft	8.31	0.182	0.142	0.152
(PWV01) S01@3.5'	6/3/2024	3.5 Ft	8.08	0.136	0.203	<0.100
(PWV01) E01@3.5'	6/3/2024	3.5 Ft	8.29	0.223	0.219	0.140
(PWV01) W01@3.5'	6/3/2024	3.5 Ft	7.31	0.105	0.278	0.130

Sample ID	Sample Date	Depth (ft)	pH (Standard Units)	EC (mmhos/cm)	SAR (Standard Units)	Boron (mg/L)
ECMC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
(PWV01) Backfill	6/3/2024	N/A	<b>8.66</b>	0.628	<b>6.83</b>	0.118
BKG01@3.5'	6/3/2024	3.5' Ft	<b>8.53</b>	0.464	0.964	0.138
BKG01@4.5'	6/3/2024	4.5' Ft	<b>8.50</b>	0.375	0.961	0.130
BKG02@3.5'	6/3/2024	3.5' Ft	<b>8.44</b>	0.454	1.00	0.271
BKG02@4.5'	6/3/2024	4.5' Ft	<b>8.39</b>	0.377	0.962	0.279
BKG03@3.5'	6/3/2024	3.5' Ft	<b>8.36</b>	0.321	2.09	0.365
BKG03@4.5'	6/3/2024	4.5' Ft	<b>8.47</b>	0.391	1.91	0.236
BKG04@3.5'	6/3/2024	3.5' Ft	8.22	0.309	1.62	0.163
BKG04@4.5'	6/3/2024	4.5' Ft	<b>8.31</b>	0.349	1.30	0.154
BKG05@3.5'	6/3/2024	3.5' Ft	8.17	0.184	1.34	0.126
BKG05@4.5'	6/3/2024	4.5' Ft	8.05	0.190	1.15	0.139
Maximum Root Background Concentration (0 - 3 ft)			NA	NA	NA	NA
Average Root Background Concentration (0 - 3 ft)			NA	NA	NA	NA
Maximum Background Concentration			<b>8.53</b>	0.464	2.09	0.365
Average Background Concentration			<b>8.34</b>	0.341	1.33	0.200

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

2. Blue highlighted soil analytical values indicate a regulatory exceedance

NA - Not analyzed

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

  = Material excavated and transported off site for disposal.

TABLE 5  
SUMMARY OF METALS IN SOIL CHEMISTRY DATA  
NOBLE 100322  
BERNHARDT 64N67W 13NWN, WELD COUNTY, COLORADO  
REM # 27437

Sample ID	Sample Date	Depth (ft)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			0.68	15000	71	0.3	3100	400	1500	390	390	23000
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
(PWV02) B01@4.5'	5/31/2024	4.5 Ft	2.69	45.3	<0.0972	1.79	<9.72	4.90	8.02	<0.253	<0.0972	<36.0
(PWV02) N01@3.5'	5/31/2024	3.5 Ft	3.51	76.5	0.126	1.90	<9.31	6.31	8.16	<0.242	<0.0931	<34.5
(PWV02) S01@3.5'	5/31/2024	3.5 Ft	3.96	67.8	0.152	0.330	<9.17	5.93	9.75	<0.238	<0.0917	37.5
(PWV02) E01@3.5'	5/31/2024	3.5 Ft	3.67	83.6	0.128	0.138	8.81	6.60	8.68	<0.228	<0.0878	34.1
(PWV02) W01@3.5'	5/31/2024	3.5 Ft	3.57	89.8	0.122	0.306	<8.73	6.77	8.31	<0.227	<0.0873	32.8
(PWV02) Backfill	5/31/2024	N/A	2.15	57.7	<0.0895	0.236	<8.95	4.61	4.93	<0.233	<0.0895	<33.1
(PWV02) S02@3.5'	6/3/2024	3.5 Ft	2.13	56.1	<0.0854	<0.133	<8.54	4.68	7.23	<0.222	<0.0854	<31.6
(PWV02) W02@3.5'	6/3/2024	3.5 Ft	3.78	73.8	0.140	<0.106	<8.98	5.88	7.26	<0.233	<0.0898	<33.2
(SEP02) B01@4.5'	6/3/2024	4.5 Ft	2.09	46.0	<0.0939	<0.396	<9.39	3.92	6.24	<0.244	<0.0939	<34.7
(SEP02) N01@3.5'	6/3/2024	3.5 Ft	3.46	63.0	0.134	<0.409	<8.34	5.73	7.32	<0.217	<0.0834	<30.9
(SEP02) S01@3.5'	6/3/2024	3.5 Ft	3.51	74.1	0.115	<0.381	<8.87	5.87	7.49	<0.231	<0.0887	<32.8
(SEP02) E01@3.5'	6/3/2024	3.5 Ft	4.38	75.1	0.125	<0.277	<9.15	6.86	9.03	<0.238	<0.0915	<33.9
(SEP02) W01@3.5'	6/3/2024	3.5 Ft	3.06	57.4	0.0959	<0.280	<8.88	4.92	7.43	<0.231	<0.0888	<32.8
(SEP02) Backfill	6/3/2024	N/A	2.61	61.7	<0.0974	<0.288	<9.74	5.12	5.37	<0.253	<0.0974	<36.0
(PWV01) B01@4.5'	6/3/2024	4.5 Ft	2.06	41.1	<0.0894	<0.129	<8.94	3.99	6.88	<0.232	<0.0894	<33.1
(PWV01) N01@3.5'	6/3/2024	3.5 Ft	4.49	88.9	0.153	<0.121	9.86	7.04	9.23	<0.254	<0.0978	37.1
(PWV01) S01@3.5'	6/3/2024	3.5 Ft	3.51	70.9	0.116	<0.156	<9.32	6.05	7.25	<0.242	<0.0932	<34.5
(PWV01) E01@3.5'	6/3/2024	3.5 Ft	3.62	81.5	0.116	<0.167	<9.23	5.97	8.42	<0.240	<0.0923	<34.1
(PWV01) W01@3.5'	6/3/2024	3.5 Ft	4.53	91.8	0.153	<0.150	9.87	7.51	9.33	<0.240	<0.0923	39.8
(PWV01) Backfill	6/3/2024	N/A	3.48	77.7	0.0944	<0.122	<8.50	6.49	6.96	<0.221	<0.0850	<31.5
BKG01@3.5'	6/3/2024	3.5' Ft	3.92	84.5	0.126	<0.114	<9.62	6.87	9.46	<0.250	<0.0962	36.1
BKG01@4.5'	6/3/2024	4.5' Ft	2.92	53.6	<0.0864	0.173	<8.64	4.89	7.63	<0.225	<0.0864	<32.0
BKG02@3.5'	6/3/2024	3.5' Ft	3.25	71.0	0.133	<0.128	<8.42	5.99	8.51	<0.219	<0.0842	34.0
BKG02@4.5'	6/3/2024	4.5' Ft	3.41	77.9	0.148	<0.132	<9.73	6.17	8.85	<0.253	<0.0973	36.5
BKG03@3.5'	6/3/2024	3.5' Ft	3.70	73.8	<0.0896	<0.144	<8.96	6.01	9.09	<0.233	<0.0896	<33.2
BKG03@4.5	6/3/2024	4.5 Ft	2.92	63.6	<0.0981	<0.118	<9.81	4.91	8.30	<0.255	<0.0981	<36.3
BKG04@3.5'	6/3/2024	3.5' Ft	3.03	64.0	<0.0933	0.201	<9.33	5.16	7.84	<0.242	<0.0933	<34.5
BKG04@4.5'	6/3/2024	4.5' Ft	2.75	52.9	<0.0880	0.158	<8.80	4.80	7.31	<0.229	<0.0880	<32.6
BKG05@3.5'	6/3/2024	3.5' Ft	3.04	58.1	<0.0902	0.238	<9.02	4.86	7.58	<0.234	<0.0902	<33.4

Sample ID	Sample Date	Depth (ft)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			0.68	15000	71	0.3	3100	400	1500	390	390	23000
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
BKG05@4.5'	6/3/2024	4.5' Ft	2.85	60.9	<0.0885	0.255	<8.85	5.08	8.02	<0.230	<0.0885	<32.8
Maximum Root Zone Background Concentration (0 - 3 ft)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
125% Average Root Zone Background Concentration (0 - 3 ft)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Maximum Background Concentration			3.92	84.5	<0.38	0.255	<46	<14	<26	<26	<0.8	<370
125% Average Background Concentration			3.97	82.5	<0.38	0.208	<46	<14	<26	<26	<0.8	<370

1. Bold values exceed the ECMC Table 915-1 limit(s)
2. Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)

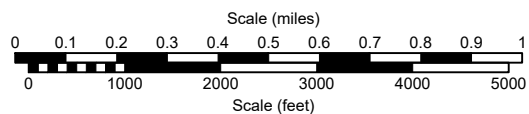
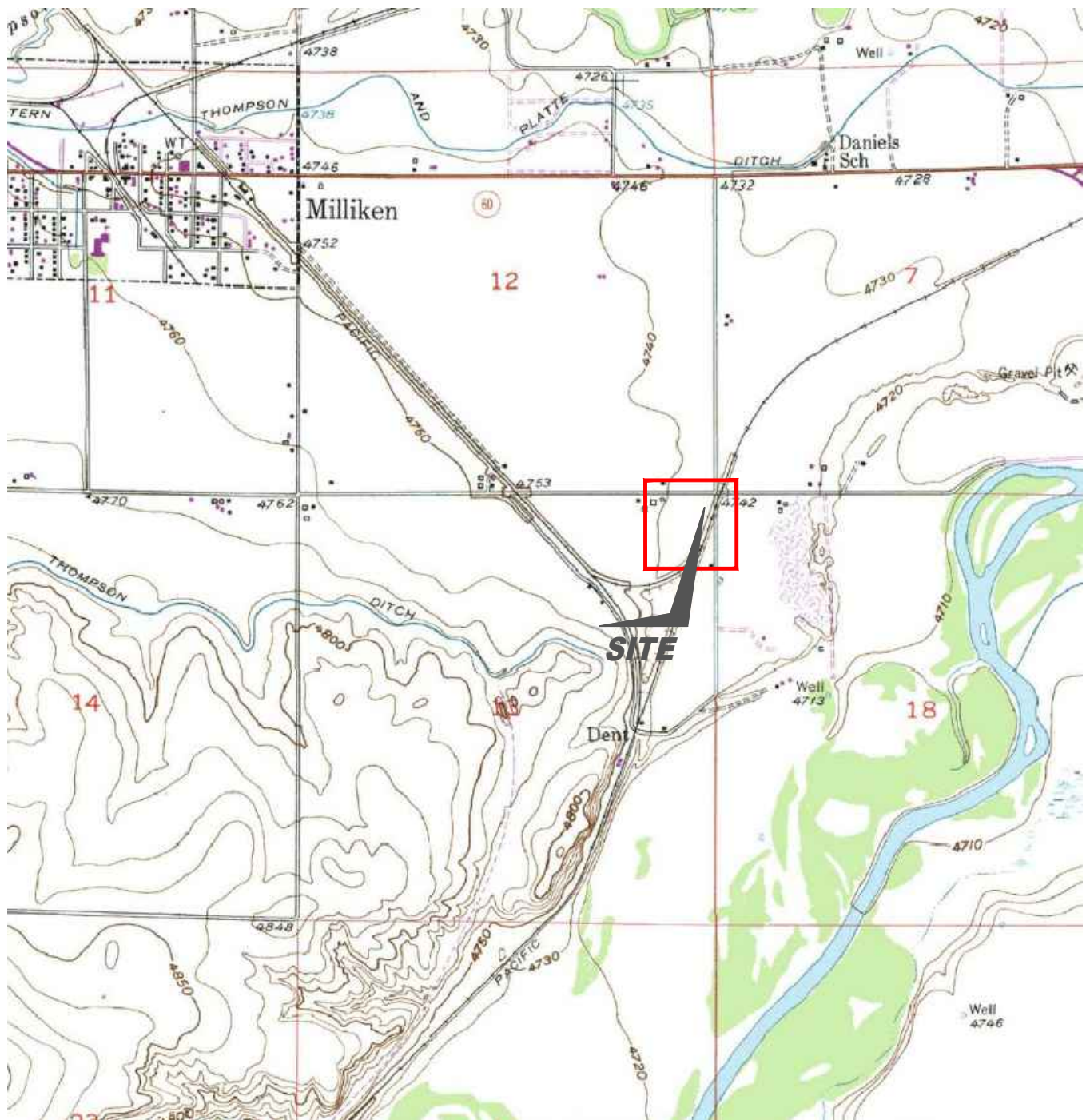
\* Indicates laboratory minimum detection limit in excess of SSL

NA - Not analyzed

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

= Material excavated and transported off site for disposal.

## **FIGURES**



USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1

**SITE LOCATION MAP**


**Noble Energy, Inc.**

**Bernhardt 64N67W 13NWNE**

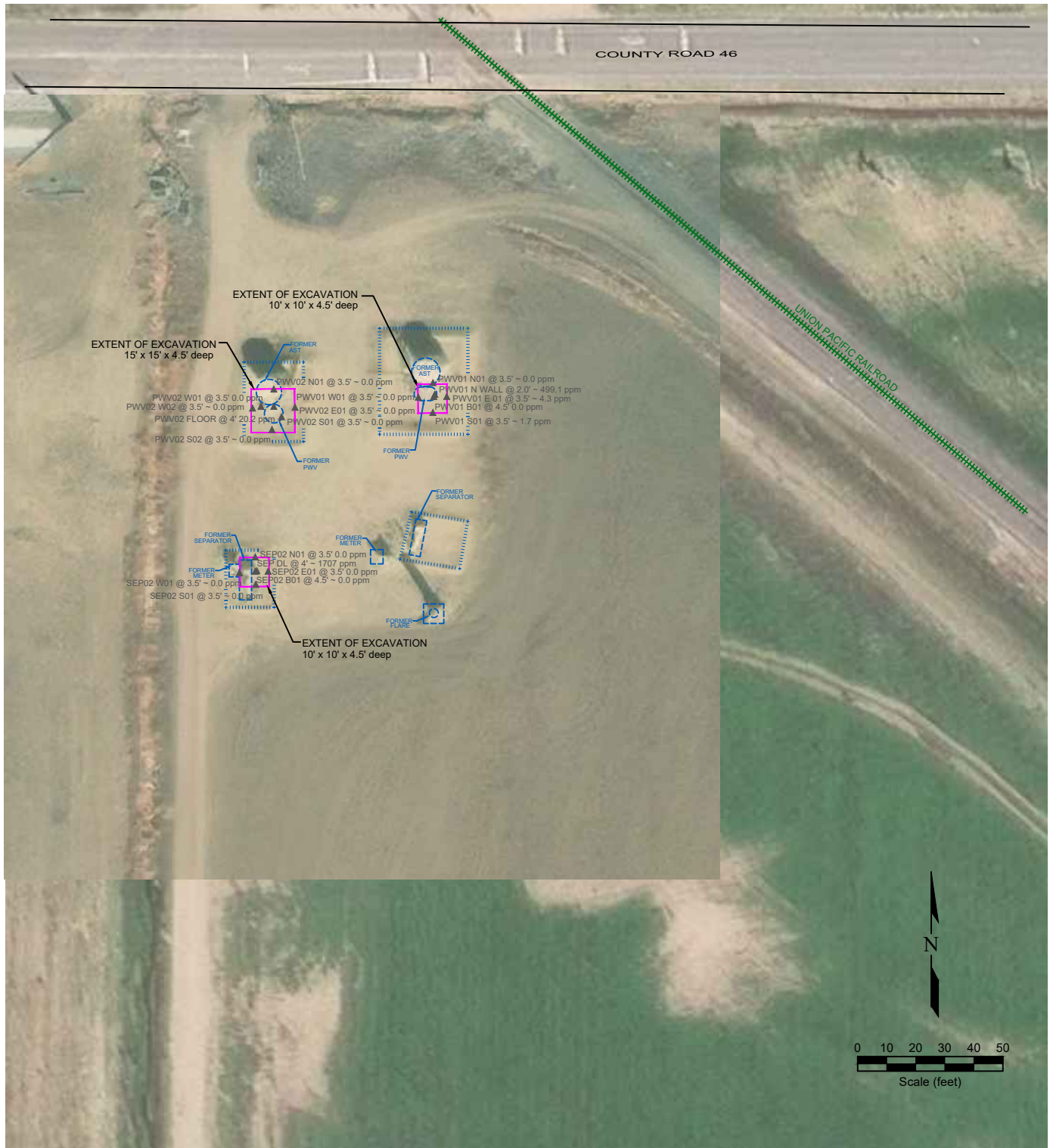
**NWNE Sec. 13, T4N, R67W, 6th PM**

**Weld County, Colorado**

**40.316842°, -104.836827°**

Project # <b>CO23-131</b>	API #	Facility # <b>329441</b>	
Date <b>8/6/24</b>	Remediation # <b>27437</b>	Filename <b>23131T1</b>	





#### LEGEND

- WELL HEAD LOCATION
- ▲ PID READING LOCATION
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- RAIL ROAD TRACKS
- FENCE LINE
- CONTAINMENT BERM
- CONTAINMENT WALL
- EXTENT OF EXCAVATION

Figure 2  
SITE MAP

Noble Energy, Inc.  
Bernhardt 64N67W 13NWN  
NWNE Sec. 13, T4N, R67W, 6th PM  
Weld County, Colorado  
40.316842°, -104.836827°

Project No. <b>CO23-131</b>	API #	Facility # <b>329441</b>
Date <b>8/8/24</b>	Remediation # <b>27437</b>	Filename <b>23131Q1</b>





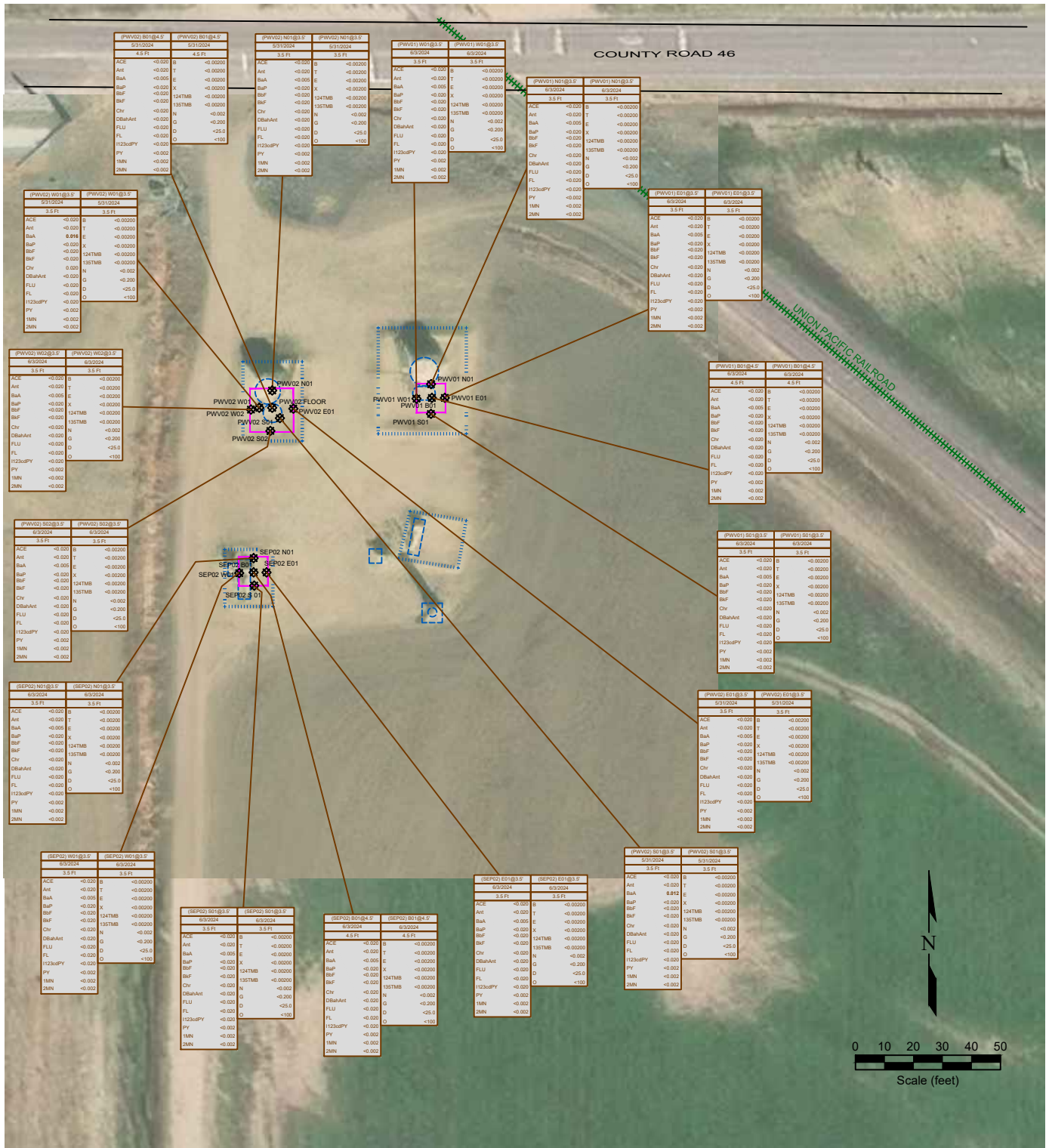


Figure 3  
ORGANIC SOIL CHEMISTRY MAP

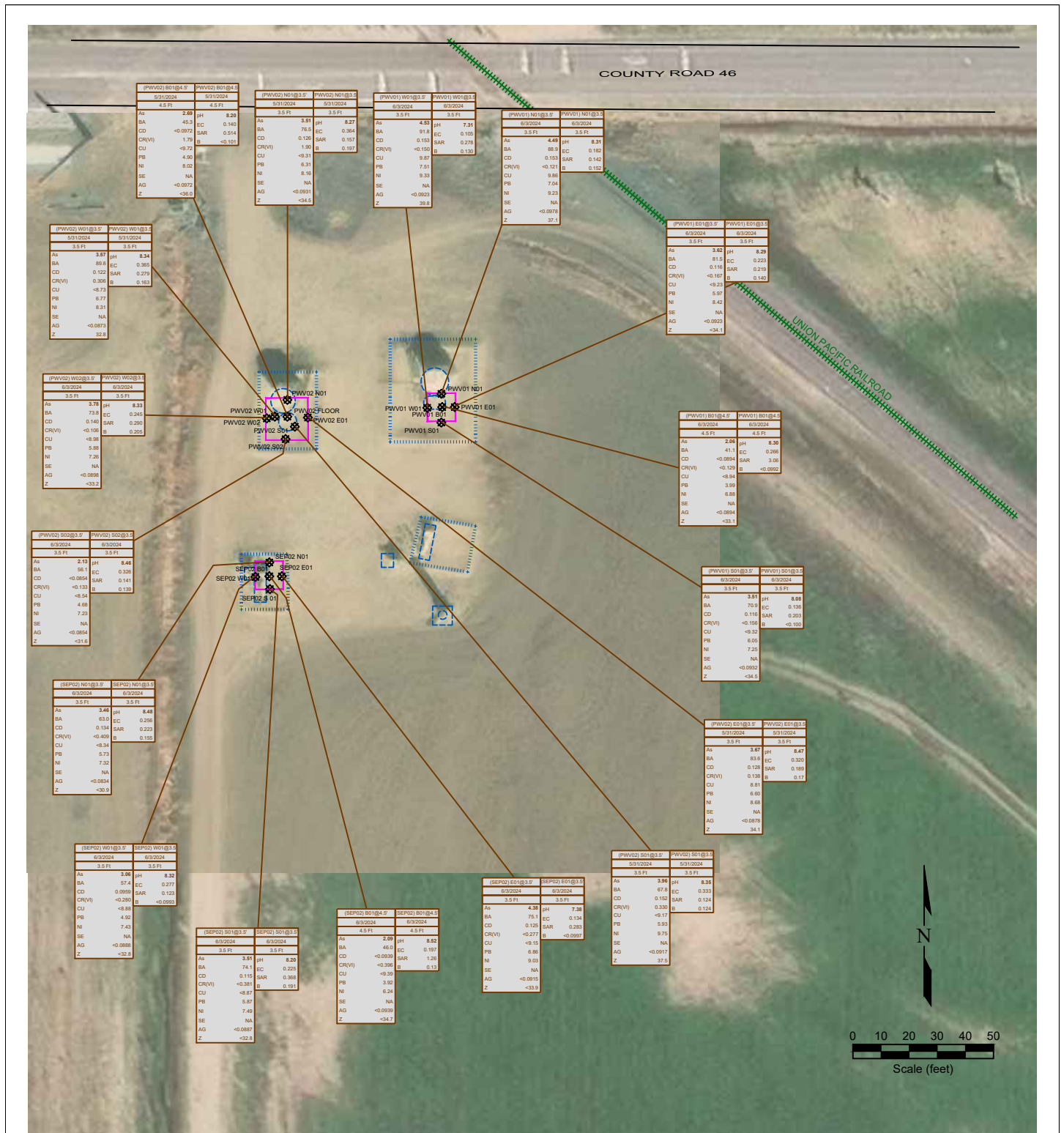
Noble Energy, Inc.  
Bernhardt 64N67W 13NWNE  
NWNE Sec. 13, T4N, R67W, 6th PM  
Weld County, Colorado  
40.316842°, -104.836827°

Project No. <b>CO23-131</b>	API #	Facility # <b>329441</b>	<b>REMONT ENVIRONMENTAL</b>
Date <b>8/8/24</b>	Remediation # <b>27437</b>	Filename <b>23131Q1</b>	

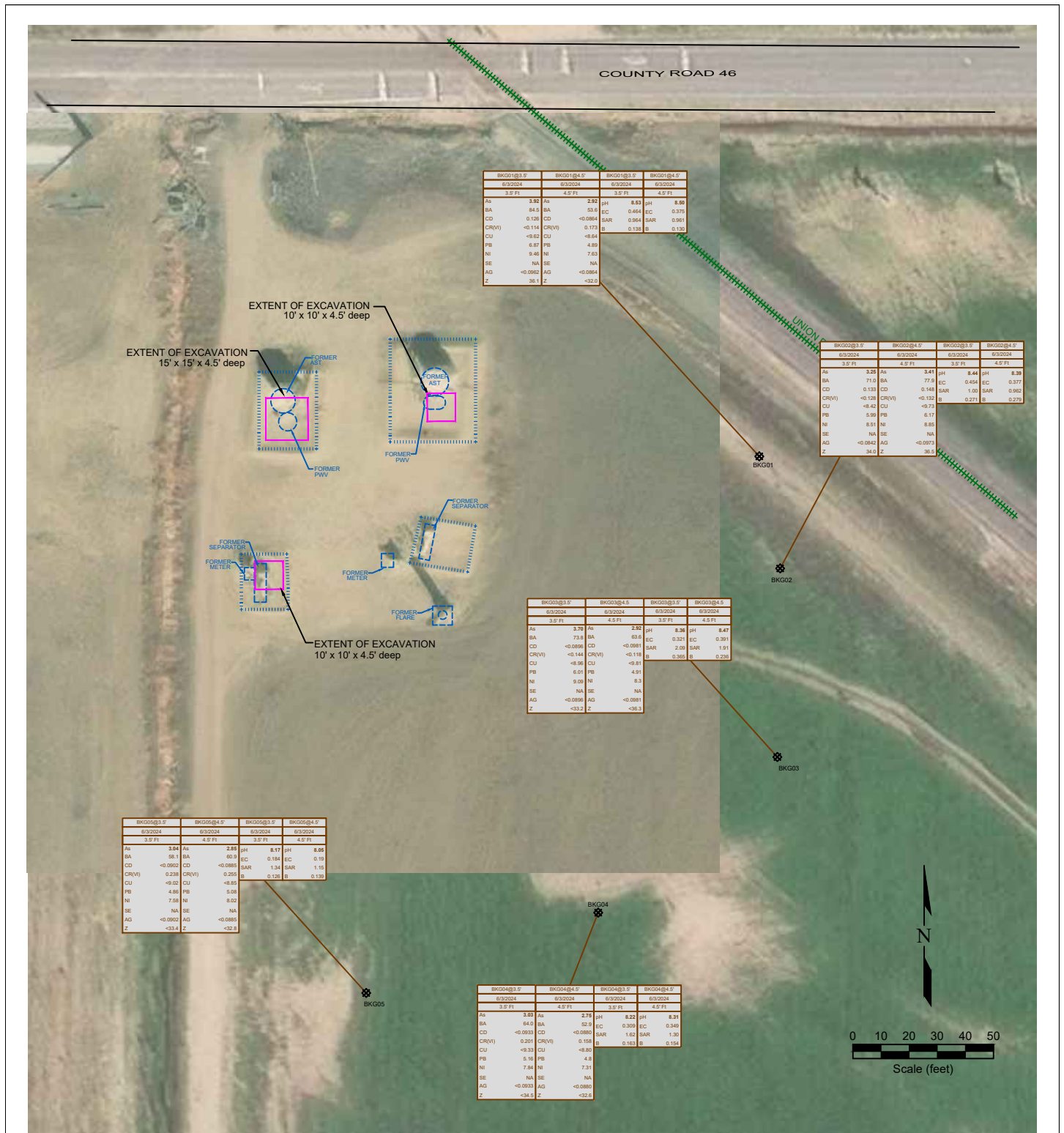
SAMPLE ID	DATE	SAMPLE ID	DATE
DEPTH	DEPTH	DEPTH	DEPTH
ACE	<0.000	ACE	<0.000
Ant	<0.000	Ant	<0.000
BaA	<0.000	BaA	<0.000
BaP	<0.000	BaP	<0.000
BaF	<0.000	BaF	<0.000
Chr	<0.000	Chr	<0.000
DBaAnt	<0.000	DBaAnt	<0.000
FLU	<0.000	FLU	<0.000
FL	<0.000	FL	<0.000
1123uPY	<0.000	1123uPY	<0.000
1MN	<0.000	1MN	<0.000
2MN	<0.000	2MN	<0.000

SAMPLE ID	DATE	SAMPLE ID	DATE
DEPTH	DEPTH	DEPTH	DEPTH
B	<0.000	B	<0.000
T	<0.000	T	<0.000
E	<0.000	E	<0.000
X	<0.010	X	<0.010
124TMB	<0.000	124TMB	<0.000
135TMB	<0.000	135TMB	<0.000
N	<0.000	N	<0.000
G	<0.200	G	<0.200
D	<25.0	D	<25.0
O	<100	O	<100
1123uPY	<0.000	1123uPY	<0.000
1MN	<0.000	1MN	<0.000
2MN	<0.000	2MN	<0.000

SAMPLE ID	DATE	SAMPLE ID	DATE
DEPTH	DEPTH	DEPTH	DEPTH
B	<0.000	B	<0.000
T	<0.000	T	<0.000
E	<0.000	E	<0.000
X	<0.010	X	<0.010
124TMB	<0.000	124TMB	<0.000
135TMB	<0.000	135TMB	<0.000
N	<0.000	N	<0.000
G	<0.200	G	<0.200
D	<25.0	D	<25.0
O	<100	O	<100
1123uPY	<0.000	1123uPY	<0.000
1MN	<0.000	1MN	<0.000
2MN	<0.000	2MN	<0.000







## LEGEND

- WELL HEAD LOCATION
- SOIL SAMPLE LOCATION
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- RAIL ROAD TRACKS
- FENCE LINE
- CONTAINMENT BERM
- CONTAINMENT WALL
- EXTENT OF EXCAVATION

BKG001@3.5'	SAMPLE ID	BKG001@4.5'	SAMPLE ID
6/3/2024	DATE SAMPLED	6/3/2024	DATE SAMPLED
3.5' FI	DEPTH (FI)	4.5' FI	DEPTH (FI)
As	3.92	As	2.92
BA	84.5	BA	53.6
CD	0.196	CD	<0.0864
CR(V)	<0.114	CR(V)	0.173
CU	<0.02	CU	<0.04
PB	6.87	PB	4.89
NI	9.46	NI	7.63
SE	NA	SE	NA
AG	<0.0862	AG	<0.0864
Z	36.1	Z	<32.6

Figure 5  
BACKGROUND SAMPLE SOIL CHEMISTRY MAP

Noble Energy, Inc.  
Bernhardt 64N67W 13NWNE  
NWNE Sec. 13, T4N, R67W, 6th PM  
Weld County, Colorado  
40.316842°, -104.836827°

Project No. CO23-131	API #	Facility # 329441	REMONT ENVIRONMENTAL
Date 8/8/24	Remediation # 27437	Filename 23131QBKG	

**APPENDIX A**

**PHOTO LOG**





***Description:***

#1A - Bernhardt 64N67W 13NWN (Excavation) - Floor of West PWV Excavation - (PWV02) B01@4.5' - No Impacts Noted - PID: 0.0ppm



## Photo Log



### ***Description:***

#1B - Bernhardt 64N67W 13NWN (Excavation) - North Sidewall of West PWV Excavation - (PWV02) N01@3.5' - No Impacts Noted - PID: 0.0ppm



## Photo Log



### ***Description:***

#1C - Bernhardt 64N67W 13NWN (Excavation) - South Sidewall of West PWV Excavation - (PWV02) S01@3.5' - No Impacts Noted - PID: 0.0ppm



## Photo Log



### ***Description:***

#1D - Bernhardt 64N67W 13NWN (Excavation) - East Sidewall of West PWV Excavation - (PWV02) E01@3.5' - No Impacts Noted - PID: 0.0ppm



## Photo Log



### ***Description:***

#1E - Bernhardt 64N67W 13NWNE (Excavation) - West Sidewall of West PWV Excavation - (PWV02) W01@3.5' - No Impacts Noted - PID: 0.0ppm



# Photo Log



May 31, 2024 9:26:57 AM

## Description:

#1F - Bernhardt 64N67W 13NWE (Excavation) - Backfill of West PWV Excavation - (PWV02) Backfill - No Impacts Noted - PID: 0.0ppm



## Photo Log



### ***Description:***

#1G - Bernhardt 64N67W 13NWNE (Excavation) - South Sidewall of West PWV Excavation - (PWV02) S02@3.5' - No Impacts Noted - PID: 0.0ppm



## Photo Log



### ***Description:***

#1H - Bernhardt 64N67W 13NWN (Excavation) - West Sidewall of West PWV Excavation - (PWV02) W02@3.5' - No Impacts Noted - PID: 0.0ppm



## Photo Log



### ***Description:***

#2A - Bernhardt 64N67W 13NWNE (Excavation) - Floor of West SEP Excavation - (SEP02) B01@4.5' - No Impacts Noted - PID: 0.0ppm



## Photo Log



### ***Description:***

#2B - Bernhardt 64N67W 13NWN (Excavation) - North Sidewall of West SEP Excavation - (SEP02) N01@3.5' - No Impacts Noted - PID: 0.0ppm



# Photo Log



## ***Description:***

#2C - Bernhardt 64N67W 13NWN (Excavation) - South Sidewall of West SEP Excavation - (SEP02) S01@3.5' - No Impacts Noted - PID: 0.0ppm



# Photo Log



## Description:

#2D - Bernhardt 64N67W 13NWN (Excavation) - East Sidewall of West SEP Excavation - (SEP02) E01@3.5' - No Impacts Noted - PID: 0.0ppm



## Photo Log



### ***Description:***

#2E - Bernhardt 64N67W 13NWNE (Excavation) - West Sidewall of West SEP Excavation - (SEP02) W01@3.5' - No Impacts Noted - PID: 0.0ppm



## Photo Log



### ***Description:***

#2F - Bernhardt 64N67W 13NWN (Excavation) - Backfill of West SEP Excavation - (SEP02) Backfill - No Impacts Noted - PID: 0.0ppm



## Photo Log



### ***Description:***

#3A - Bernhardt 64N67W 13NWE (Excavation) - Floor of East PWV Excavation - (PWV01) B01@4.5' - No Impacts Noted - PID: 0.0ppm



## Photo Log



### ***Description:***

#3B - Bernhardt 64N67W 13NWNE (Excavation) - North Sidewall of East PWV Excavation - (PWV01) N01@3.5' - No Impacts Noted - PID: 0.0ppm



## Photo Log



### ***Description:***

#3C - Bernhardt 64N67W 13NWN (Excavation) - South Sidewall of East PWV Excavation - (PWV01) S01@3.5' - No Impacts Noted - PID: 1.7ppm



## Photo Log



### ***Description:***

#3D - Bernhardt 64N67W 13NWNE (Excavation) - East Sidewall of East PWV Excavation - (PWV01) E01@3.5' - No Impacts Noted - PID: 4.3ppm



## Photo Log



### ***Description:***

#3E - Bernhardt 64N67W 13NWE (Excavation) - West Sidewall of East PWV Excavation - (PWV01) W01@3.5' - No Impacts Noted - PID: 0.0ppm



# Photo Log



## ***Description:***

#3F - Bernhardt 64N67W 13NWN (Excavation) - Backfill of East PWV Excavation - (PWV01) Backfill - No Impacts Noted - PID: 0.0ppm



# Photo Log



## ***Description:***

#4A - Bernhardt 64N67W 13NWNE (Excavation) - 1st Local Background Sample Bore - BKG01 - Samples Collected at 3.5ft and 4.5ft



## Photo Log

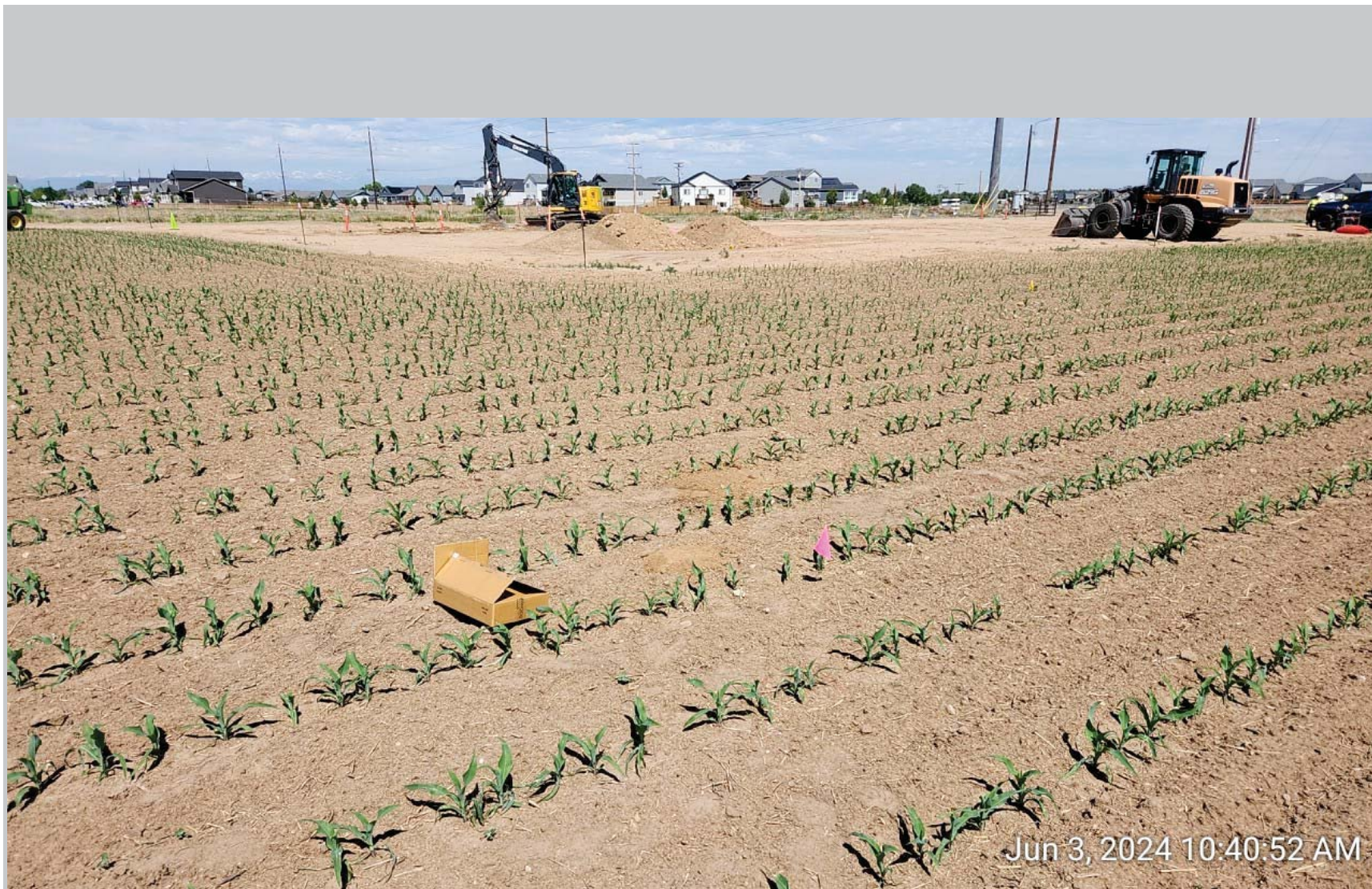


### **Description:**

#4B - Bernhardt 64N67W 13NWNE (Excavation) - 2nd Local Background Sample Bore - BKG02 - Samples Collected at 3.5ft and 4.5ft



## Photo Log

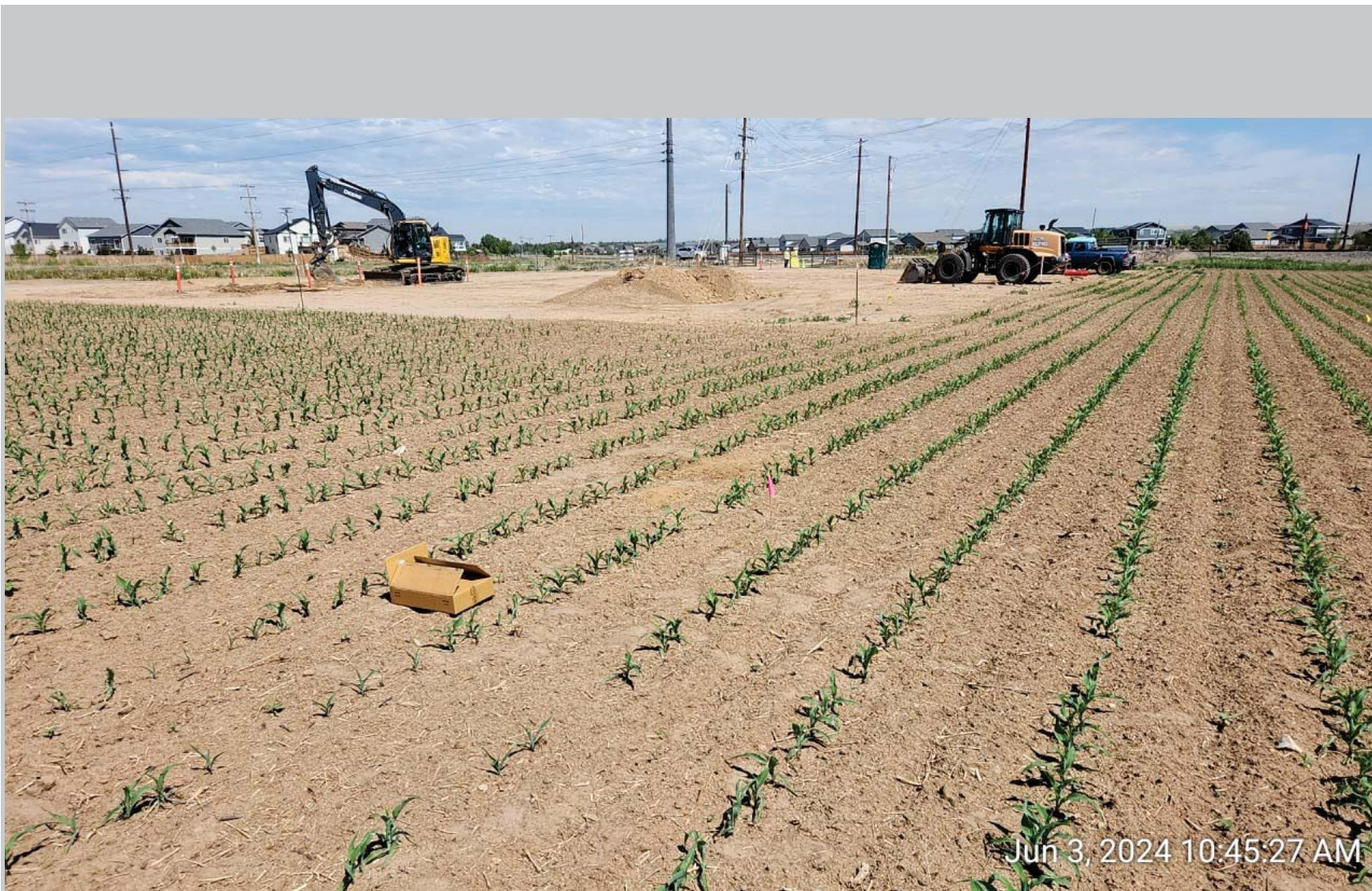


### **Description:**

#4C - Bernhardt 64N67W 13NWNE (Excavation) - 3rd Local Background Sample Bore - BKG03 - Samples Collected at 3.5ft and 4.5ft



## Photo Log



### **Description:**

#4D - Bernhardt 64N67W 13NWE (Excavation) - 4th Local Background Sample Bore - BKG04 - Samples Collected at 3.5ft and 4.5ft



## Photo Log



### **Description:**

#4E - Bernhardt 64N67W 13NWNE (Excavation) - 5th Local Background Sample Bore - BKG05 - Samples Collected at 3.5ft and 4.5ft

## **APPENDIX B**

### **LABORATORY DOCUMENTATION**





June 17, 2024

Fremont Environmental

Paul Henehan

8305 6th St, PO Box 1289

Wellington CO 80549

**Project Name - Noble - Bernhardt 64N67W  
13NWNE**

**Project Number - [none]**

Attached are your analytical results for Noble - Bernhardt 64N67W 13NWNE received by Origins Laboratory, Inc. May 31, 2024. This project is associated with Origins project number Y405871-01.

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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
(PWV02) B01@4.5'	Y405871-01	Soil	May 31, 2024 0:00	05/31/2024 12:50
(PWV02) N01@3.5'	Y405871-02	Soil	May 31, 2024 0:00	05/31/2024 12:50
(PWV02) S01@3.5'	Y405871-03	Soil	May 31, 2024 0:00	05/31/2024 12:50
(PWV02) E01@3.5'	Y405871-04	Soil	May 31, 2024 0:00	05/31/2024 12:50
(PWV02) W01@3.5'	Y405871-05	Soil	May 31, 2024 0:00	05/31/2024 12:50
(PWV02) Backfill	Y405871-06	Soil	May 31, 2024 0:00	05/31/2024 12:50

Benzo(a)anthracene reruns requested for (PWV02)S01@3.5' and (PWV02)W01@3.5' per Paul's email on 06/03/2024. No errors were found in the original data, all results are reported. The sample was found to be non-homogenous. JAB

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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

# ORIGINS

LABORATORY LLC

Client:

Fremont Env

Address:

Project Manager:

Paul Henehan

Key:

W=Water

GW=Groundwater

SW=Surface Water

WW=Waste Water

L=Liquid

Telephone Number:

Paul Henehan

Email Address:

jeff@fremontenv.com

Invoice/Billing Info:

Noble

Collected By:

UG

S=Soil | SO=Solid | O=Oil | A=Air | G=Gas || UNP=Unpres | HCL=Hydrochloric | HNO3=Nitric | H2SO4=Sulfuric | NaOH=Sodium Hydroxide

ORIGINS WORK ORDER #  
4405874

Page 1 of 1

#	Sample ID	Date Sampled	Time Sampled	# of Containers	Matrix	Preservative	Analysis						Comments
							BTEX+N	TMBs (915)	DDO, ORO, GRO	PAHs (915)	EC, PH, SAR, Baran	Metals (915)	
1	(PwVos) Bole 4.5'	05/31/24		2	S	None	X	X	X	X	X		
2	(PwVos) No 0.35'												
3	(PwVos) So 0.35'												
4	(PwVos) Eo 0.35'												
5	(PwVos) Wo 0.35'												
6	(PwVos) Backfill												
7													
8													
9													
10													

Relinquished By: [Signature] Date: 5/31/24 Time: 1250

Received By: [Signature] Date: 5/31/24 Time: 1250

Temp Received: 19 Received On Ice? [X] Yes [ ] No

For Lab Sample Receiving Only:

Standard

48 Hr [ ] 72 Hr [ ]

Turnaround Time [X] SAME DAY [ ] 24 Hr

Origins Laboratory, Inc.

[Signature]

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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

Origins Laboratory

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

### Sample Receipt Checklist

Origins Work Order: 4405871

Client: Fremont

Client Project ID: Bernhardt

Checklist Completed by: JSI / AN

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

Date/time completed: 5/31/24

Airbill #: N/A

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

Cooler Number/Temperature: 1 / 19 °C \_\_\_\_\_ °C \_\_\_\_\_ °C (Describe) \_\_\_\_\_ °C

Thermometer ID: 7005

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"/>		SD
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"/>	
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) JSI

5/31/24  
Date/Time Reviewed

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.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) B01@4.5'  
5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y405871-01 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	ND	0.101	mg/L	1	B4F0306	06/03/2024	06/04/2024	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4E3131	05/31/2024	05/31/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	97.9 %	50-150		"	"	"
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4E3132	05/31/2024	05/31/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	91.1 %	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.

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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) B01@4.5'

5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y405871-01 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	90.7 %	70-130	B4E31 32	05/31/2024	05/31/2024
Surrogate: 4-Bromofluorobenzene	109 %	70-130	"	"	"

## Metals by Saturated Paste by EPA 6010

Calcium	ND	0.499	meq/L	10	[CALC]	06/03/2024	06/04/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

## PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4E3126	05/31/2024	05/31/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) B01@4.5'  
5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y405871-01 (Soil)**

**PAH by EPA 8270E**

Fluorene	ND	0.020	mg/kg	1	B4E3126	05/31/2024	05/31/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	95.3 %	60-130	"	"	"
Surrogate: Anthracene-d10	101 %	60-130	"	"	"
Surrogate: Pyrene-d10	109 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	99.8 %	60-130	"	"	"

**pH in Soil by 9045D**

pH	8.20	pH Units	1	B4F0309	06/03/2024	06/04/2024
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**SAR by 20B Saturated Paste**

SAR	0.514	0.0100	SAR	1	B4F0302	06/03/2024	06/04/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.140	0.00500	mmhos/cm	1	B4F0309	06/03/2024	06/04/2024
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**Table 915 metals by EPA 6020B**

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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) B01@4.5'  
5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y405871-01 (Soil)

## Table 915 metals by EPA 6020B

Arsenic	2.69		0.282	mg/kg	10	B4E3124	05/31/2024	06/01/2024	
Barium	45.3		9.72	"	"	"	"	"	
Cadmium	ND		0.0972	"	"	"	"	"	
Copper	ND		9.72	"	"	"	"	"	
Lead	4.90		0.972	"	"	"	"	"	
Nickel	8.02		0.972	"	"	"	"	"	
Selenium	ND		0.253	"	"	"	"	"	
Silver	ND		0.0972	"	"	"	"	"	
Zinc	ND		36.0	"	"	"	"	"	

## Total Metals 7196A

Hexavalent Chromium	1.79	0.151	0.377	mg/kg dry	1	2623069	06/07/2024	06/10/2024	
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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.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) N01@3.5'  
5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y405871-02 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.197	0.0994	mg/L	1	B4F0306	06/03/2024	06/04/2024	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4E3131	05/31/2024	05/31/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	93.9 %	50-150	"	"	"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4E3132	05/31/2024	05/31/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	97.9 %	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.

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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) N01@3.5'

5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	---------------------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.  
Y405871-02 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	91.2 %	70-130	B4E31 32	05/31/2024	05/31/2024
Surrogate: 4-Bromofluorobenzene	97.8 %	70-130	"	"	"

## Metals by Saturated Paste by EPA 6010

Calcium	1.94	0.499	meq/L	10	[CALC]	06/03/2024	06/04/2024
Magnesium	1.09	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

## PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4E3126	05/31/2024	05/31/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

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: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) N01@3.5'

5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y405871-02 (Soil)

## PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4E3126	05/31/2024	05/31/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	97.3 %	60-130	"	"	"
Surrogate: Anthracene-d10	94.9 %	60-130	"	"	"
Surrogate: Pyrene-d10	111 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	102 %	60-130	"	"	"

## pH in Soil by 9045D

pH	8.27	pH Units	1	B4F0309	06/03/2024	06/04/2024
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## SAR by 20B Saturated Paste

SAR	0.157	0.0100	SAR	1	B4F0302	06/03/2024	06/04/2024
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.364	0.00500	mmhos/cm	1	B4F0309	06/03/2024	06/04/2024
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## Table 915 metals by EPA 6020B

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) N01@3.5'  
5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y405871-02 (Soil)

## Table 915 metals by EPA 6020B

Arsenic	3.51		0.270	mg/kg	10	B4E3124	05/31/2024	06/01/2024
Barium	76.5		9.31	"	"	"	"	"
Cadmium	0.126		0.0931	"	"	"	"	"
Copper	ND		9.31	"	"	"	"	"
Lead	6.31		0.931	"	"	"	"	"
Nickel	8.16		0.931	"	"	"	"	"
Selenium	ND		0.242	"	"	"	"	"
Silver	ND		0.0931	"	"	"	"	"
Zinc	ND		34.5	"	"	"	"	"

## Total Metals 7196A

Hexavalent Chromium	1.90	0.0995	0.249	mg/kg dry	1	2623069	06/07/2024	06/10/2024
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) S01@3.5'  
5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y405871-03 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.124	0.0990	mg/L	1	B4F0306	06/03/2024	06/04/2024	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4E3131	05/31/2024	05/31/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	91.4 %	50-150	"	"	"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4E3132	05/31/2024	05/31/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	96.1 %	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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) S01@3.5'  
5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y405871-03 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	90.6 %	70-130	B4E31 32	05/31/2024	05/31/2024
Surrogate: 4-Bromofluorobenzene	94.6 %	70-130	"	"	"

## Metals by Saturated Paste by EPA 6010

Calcium	1.72	0.499	meq/L	10	[CALC]	06/03/2024	06/04/2024
Magnesium	0.841	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

## PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4E3126	05/31/2024	05/31/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	0.012	0.005	"	"	"	"	"	
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.



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Fremont Environmental

8305 6th St, PO Box 1289

Wellington CO 80549

Paul Henehan

Project Number: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) S01@3.5'

5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y405871-03 (Soil)

## PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4E3126	05/31/2024	05/31/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	111 %	60-130	"	"	"
Surrogate: Anthracene-d10	104 %	60-130	"	"	"
Surrogate: Pyrene-d10	104 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	99.9 %	60-130	"	"	"

## pH in Soil by 9045D

pH	8.35	pH Units	1	B4F0309	06/03/2024	06/04/2024
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## SAR by 20B Saturated Paste

SAR	0.124	0.0100	SAR	1	B4F0302	06/03/2024	06/04/2024
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.333	0.00500	mmhos/cm	1	B4F0309	06/03/2024	06/04/2024
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## Table 915 metals by EPA 6020B

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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) S01@3.5'  
5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y405871-03 (Soil)

## Table 915 metals by EPA 6020B

Arsenic	3.96		0.266	mg/kg	10	B4E3124	05/31/2024	06/01/2024	
Barium	67.8		9.17	"	"	"	"	"	
Cadmium	0.152		0.0917	"	"	"	"	"	
Copper	ND		9.17	"	"	"	"	"	
Lead	5.93		0.917	"	"	"	"	"	
Nickel	9.75		0.917	"	"	"	"	"	
Selenium	ND		0.238	"	"	"	"	"	
Silver	ND		0.0917	"	"	"	"	"	
Zinc	37.5		33.9	"	"	"	"	"	

## Total Metals 7196A

Hexavalent Chromium	0.330	0.122	0.304	mg/kg dry	1	2623069	06/07/2024	06/10/2024	
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) S01@3.5'  
5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y405871-03RE1 (Soil)

## PAH by EPA 8270E

Benzo (a) anthracene	ND	0.005	mg/kg	1	B4E3126	05/31/2024	06/03/2024	Ua
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Surrogate: Fluorene-d10	102 %	60-130	"	"	"
Surrogate: Anthracene-d10	87.4 %	60-130	"	"	"
Surrogate: Pyrene-d10	111 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	95.3 %	60-130	"	"	"

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) S01@3.5'  
5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y405871-03RE2 (Soil)

## PAH by EPA 8270E

Benzo (a) anthracene	0.015	0.005	mg/kg	1	B4E3126	05/31/2024	06/03/2024
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Surrogate: Fluorene-d10	102 %	60-130	"	"	"
Surrogate: Anthracene-d10	89.8 %	60-130	"	"	"
Surrogate: Pyrene-d10	105 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	98.9 %	60-130	"	"	"

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) E01@3.5'  
5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y405871-04 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.170	0.0998	mg/L	1	B4F0306	06/03/2024	06/04/2024	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4E3131	05/31/2024	05/31/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	91.9 %	50-150	"	"	"
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4E3132	05/31/2024	05/31/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	98.7 %	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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) E01@3.5'

5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y405871-04 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	91.7 %	70-130	B4E31 32	05/31/2024	05/31/2024
Surrogate: 4-Bromofluorobenzene	120 %	70-130	"	"	"

## Metals by Saturated Paste by EPA 6010

Calcium	1.61	0.499	meq/L	10	[CALC]	06/03/2024	06/04/2024
Magnesium	1.02	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

## PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4E3126	05/31/2024	05/31/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) E01@3.5'  
5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y405871-04 (Soil)**

**PAH by EPA 8270E**

Fluorene	ND	0.020	mg/kg	1	B4E3126	05/31/2024	05/31/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	95.2 %	60-130	"	"	"
Surrogate: Anthracene-d10	92.5 %	60-130	"	"	"
Surrogate: Pyrene-d10	123 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	104 %	60-130	"	"	"

**pH in Soil by 9045D**

pH	8.47	pH Units	1	B4F0309	06/03/2024	06/04/2024
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**SAR by 20B Saturated Paste**

SAR	0.189	0.0100	SAR	1	B4F0302	06/03/2024	06/04/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.320	0.00500	mmhos/cm	1	B4F0309	06/03/2024	06/04/2024
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**Table 915 metals by EPA 6020B**

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) E01@3.5'  
5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y405871-04 (Soil)

## Table 915 metals by EPA 6020B

Arsenic	3.67	0.254	mg/kg	10	B4E3124	05/31/2024	06/01/2024
Barium	83.6	8.78	"	"	"	"	"
Cadmium	0.128	0.0878	"	"	"	"	"
Copper	8.81	8.78	"	"	"	"	"
Lead	6.60	0.878	"	"	"	"	"
Nickel	8.68	0.878	"	"	"	"	"
Selenium	ND	0.228	"	"	"	"	"
Silver	ND	0.0878	"	"	"	"	"
Zinc	34.1	32.5	"	"	"	"	"

## Total Metals 7196A

Hexavalent Chromium	0.138	0.105	0.261	mg/kg dry	1	2623069	06/07/2024	06/10/2024	J
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) W01@3.5'  
5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y405871-05 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.163	0.0997	mg/L	1	B4F0306	06/03/2024	06/04/2024	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4E3131	05/31/2024	05/31/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	90.4 %	50-150	"	"	"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4E3132	05/31/2024	05/31/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	96.4 %	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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) W01@3.5'  
5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y405871-05 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	84.5 %	70-130	B4E31 32	05/31/2024	05/31/2024
Surrogate: 4-Bromofluorobenzene	106 %	70-130	"	"	"

## Metals by Saturated Paste by EPA 6010

Calcium	1.79	0.499	meq/L	10	[CALC]	06/03/2024	06/04/2024
Magnesium	1.04	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

## PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4E3126	05/31/2024	05/31/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	0.016	0.005	"	"	"	"	"	
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	0.020	0.020	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.



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Fremont Environmental

8305 6th St, PO Box 1289

Wellington CO 80549

Paul Henehan

Project Number: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) W01@3.5'

5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y405871-05 (Soil)

## PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4E3126	05/31/2024	05/31/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	98.0 %	60-130	"	"	"
Surrogate: Anthracene-d10	96.8 %	60-130	"	"	"
Surrogate: Pyrene-d10	115 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	98.5 %	60-130	"	"	"

## pH in Soil by 9045D

pH	8.34	pH Units	1	B4F0309	06/03/2024	06/04/2024
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## SAR by 20B Saturated Paste

SAR	0.279	0.0100	SAR	1	B4F0302	06/03/2024	06/04/2024
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.365	0.00500	mmhos/cm	1	B4F0309	06/03/2024	06/04/2024
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## Table 915 metals by EPA 6020B

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) W01@3.5'  
5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y405871-05 (Soil)

## Table 915 metals by EPA 6020B

Arsenic	3.57		0.253	mg/kg	10	B4E3124	05/31/2024	06/01/2024	
Barium	89.8		8.73	"	"	"	"	"	
Cadmium	0.122		0.0873	"	"	"	"	"	
Copper	ND		8.73	"	"	"	"	"	
Lead	6.77		0.873	"	"	"	"	"	
Nickel	8.31		0.873	"	"	"	"	"	
Selenium	ND		0.227	"	"	"	"	"	
Silver	ND		0.0873	"	"	"	"	"	
Zinc	32.8		32.3	"	"	"	"	"	

## Total Metals 7196A

Hexavalent Chromium	0.306	0.0937	0.234	mg/kg dry	1	2623069	06/07/2024	06/10/2024	
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) W01@3.5'  
5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y405871-05RE1 (Soil)

## PAH by EPA 8270E

Benzo (a) anthracene	0.041		0.005	mg/kg	1	B4E3126	05/31/2024	06/03/2024	
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Surrogate: Fluorene-d10	96.9 %		60-130			"	"	"	
Surrogate: Anthracene-d10	90.4 %		60-130			"	"	"	
Surrogate: Pyrene-d10	102 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	92.4 %		60-130			"	"	"	

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) W01@3.5'  
5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y405871-05RE2 (Soil)

## PAH by EPA 8270E

Benzo (a) anthracene	0.031	0.005	mg/kg	1	B4E3126	05/31/2024	06/03/2024
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Surrogate: Fluorene-d10	103 %	60-130	"	"	"
Surrogate: Anthracene-d10	90.8 %	60-130	"	"	"
Surrogate: Pyrene-d10	104 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	96.7 %	60-130	"	"	"

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) Backfill

5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y405871-06 (Soil)

**Boron (DTPA Sorbitol)**

Boron	ND	0.0985	mg/L	1	B4F0306	06/03/2024	06/04/2024	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4E3131	05/31/2024	05/31/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	105 %	50-150		"	"	"
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4E3132	05/31/2024	06/01/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	98.3 %	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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) Backfill

5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y405871-06 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	84.1 %	70-130	B4E31 32	05/31/2024	06/01/2024
Surrogate: 4-Bromofluorobenzene	117 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	1.61	0.499	meq/L	10	[CALC]	06/03/2024	06/04/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4E3126	05/31/2024	05/31/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.



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Fremont Environmental  
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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) Backfill

5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y405871-06 (Soil)

PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4E3126	05/31/2024	05/31/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	106 %	60-130	"	"	"
Surrogate: Anthracene-d10	93.2 %	60-130	"	"	"
Surrogate: Pyrene-d10	118 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	104 %	60-130	"	"	"

pH in Soil by 9045D

pH	8.47	pH Units	1	B4F0309	06/03/2024	06/04/2024
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SAR by 20B Saturated Paste

SAR	0.228	0.0100	SAR	1	B4F0302	06/03/2024	06/04/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.267	0.00500	mmhos/cm	1	B4F0309	06/03/2024	06/04/2024
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Table 915 metals by EPA 6020B

Origins Laboratory, Inc.



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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) Backfill

5/31/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y405871-06 (Soil)

Table 915 metals by EPA 6020B

Arsenic	2.15	0.260	mg/kg	10	B4E3124	05/31/2024	06/01/2024
Barium	57.7	8.95	"	"	"	"	"
Cadmium	ND	0.0895	"	"	"	"	"
Copper	ND	8.95	"	"	"	"	"
Lead	4.61	0.895	"	"	"	"	"
Nickel	4.93	0.895	"	"	"	"	"
Selenium	ND	0.233	"	"	"	"	"
Silver	ND	0.0895	"	"	"	"	"
Zinc	ND	33.1	"	"	"	"	"

Total Metals 7196A

Hexavalent Chromium	0.236	0.110	0.275	mg/kg dry	1	2623069	06/07/2024	06/10/2024	J
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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 B4E3131 - EPA 3550B										
Blank (B4E3131-BLK1)					Prepared: 05/31/2024 Analyzed: 05/31/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							Ua
Residual Range Organics (C28-C40)	ND	100	"							Ua
Surrogate: o-Terphenyl	26		"	24.9		106	50-150			

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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 B4E3131 - EPA 3550B

### LCS (B4E3131-BS1)

Prepared: 05/31/2024 Analyzed: 05/31/2024

Diesel (C10-C28)	1080	50.0	mg/kg	1000		108	70-130			
Residual Range Organics (C28-C40)	1240	200	"	1000		124	70-130			
Surrogate: o-Terphenyl	74		"	49.8		148	50-150			

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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 B4E3131 - EPA 3550B										
Matrix Spike (B4E3131-MS1)		Source: Y405869-01			Prepared: 05/31/2024 Analyzed: 05/31/2024					
Diesel (C10-C28)	871	50.0	mg/kg	1000	ND	87.1	70-130			
Residual Range Organics (C28-C40)	1020	200	"	1000	ND	102	70-130			
Surrogate: o-Terphenyl	58		"	49.8		117	50-150			

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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 B4E3131 - EPA 3550B

Matrix Spike Dup (B4E3131-MSD1)		Source: Y405869-01			Prepared: 05/31/2024 Analyzed: 05/31/2024					
Diesel (C10-C28)	958	50.0	mg/kg	1000	ND	95.8	70-130	9.58	35	
Residual Range Organics (C28-C40)	1090	200	"	1000	ND	109	70-130	6.12	35	
Surrogate: o-Terphenyl	51		"	49.8		102	50-150			

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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 B4E3132 - EPA 5030 (soil)										
Blank (B4E3132-BLK1)					Prepared: 05/31/2024 Analyzed: 05/31/2024					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							Ua
1,3,5-Trimethylbenzene	ND	0.00200	"							Ua
Benzene	ND	0.00200	"							Ua
Ethylbenzene	ND	0.00200	"							Ua
Naphthalene	ND	0.00380	"							Ua
Toluene	ND	0.00200	"							Ua
Xylenes, total	ND	0.00200	"							Ua
Gasoline Range Hydrocarbons	ND	0.200	"							Ua
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		104	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		86.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.15		"	0.125		119	70-130			

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**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 B4E3132 - EPA 5030 (soil)</b>										
<b>LCS (B4E3132-BS1)</b>					Prepared: 05/31/2024 Analyzed: 05/31/2024					
1,2,4-Trimethylbenzene	0.0989	0.00200	mg/kg	0.100		98.9	70-130			
1,3,5-Trimethylbenzene	0.0946	0.00200	"	0.100		94.6	70-130			
Benzene	0.109	0.00200	"	0.100		109	70-130			
Ethylbenzene	0.0949	0.00200	"	0.100		94.9	70-130			
Naphthalene	0.0906	0.00380	"	0.100		90.6	70-130			
Toluene	0.0927	0.00200	"	0.100		92.7	70-130			
o-Xylene	0.0877	0.00200	"	0.100		87.7	70-130			
m,p-Xylene	0.183	0.00400	"	0.200		91.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		95.7	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		85.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125		87.0	70-130			

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**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 B4E3132 - EPA 5030 (soil)</b>										
<b>Matrix Spike (B4E3132-MS1)</b>		<b>Source: Y405869-01</b>			Prepared: 05/31/2024 Analyzed: 05/31/2024					
1,2,4-Trimethylbenzene	0.0767	0.00200	mg/kg	0.100	ND	76.7	70-130			
1,3,5-Trimethylbenzene	0.0724	0.00200	"	0.100	ND	72.4	70-130			
Benzene	0.0966	0.00200	"	0.100	ND	96.6	70-130			
Ethylbenzene	0.0778	0.00200	"	0.100	ND	77.8	70-130			
Naphthalene	0.0930	0.00380	"	0.100	ND	93.0	70-130			
Toluene	0.0825	0.00200	"	0.100	ND	82.5	70-130			
o-Xylene	0.0743	0.00200	"	0.100	ND	74.3	70-130			
m,p-Xylene	0.156	0.00400	"	0.200	ND	78.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.2	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		91.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125		89.8	70-130			

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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
Batch B4E3132 - EPA 5030 (soil)										
Matrix Spike Dup (B4E3132-MSD1)			Source: Y405869-01		Prepared: 05/31/2024 Analyzed: 05/31/2024					
1,2,4-Trimethylbenzene	0.0744	0.00200	mg/kg	0.100	ND	74.4	70-130	3.10	20	
1,3,5-Trimethylbenzene	0.0747	0.00200	"	0.100	ND	74.7	70-130	3.24	20	
Benzene	0.0971	0.00200	"	0.100	ND	97.1	70-130	0.496	20	
Ethylbenzene	0.0776	0.00200	"	0.100	ND	77.6	70-130	0.309	20	
Naphthalene	0.0856	0.00380	"	0.100	ND	85.6	70-130	8.35	20	
Toluene	0.0816	0.00200	"	0.100	ND	81.6	70-130	1.15	20	
o-Xylene	0.0738	0.00200	"	0.100	ND	73.8	70-130	0.703	20	
m,p-Xylene	0.151	0.00400	"	0.200	ND	75.5	70-130	3.27	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.0	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		90.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125		89.9	70-130			

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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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## Metals by EPA 6000/7000 Series Methods - 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 B4E3124 - EPA 3050B

#### Blank (B4E3124-BLK1)

Prepared: 05/31/2024 Analyzed: 06/01/2024

Arsenic	ND	0.290	mg/kg
Barium	ND	10.0	"
Cadmium	ND	0.100	"
Copper	ND	10.0	"
Lead	ND	1.00	"
Nickel	ND	1.00	"
Selenium	ND	0.260	"
Silver	ND	0.100	"
Zinc	ND	37.0	"

#### LCS (B4E3124-BS1)

Prepared: 05/31/2024 Analyzed: 06/01/2024

Arsenic	5.90	0.290	mg/kg	5.00	118	80-120
Barium	579	10.0	"	500	116	80-120
Cadmium	5.70	0.100	"	5.00	114	80-120
Copper	58.1	10.0	"	50.0	116	80-120
Lead	5.66	1.00	"	5.00	113	80-120
Nickel	5.68	1.00	"	5.00	114	80-120
Selenium	11.0	0.260	"	9.50	116	80-120
Silver	5.41	0.100	"	5.00	108	80-120
Zinc	55.6	37.0	"	50.0	111	80-120

#### Matrix Spike (B4E3124-MS1)

Source: Y405867-01

Prepared: 05/31/2024 Analyzed: 06/01/2024

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Metals by EPA 6000/7000 Series Methods - 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 B4E3124 - EPA 3050B

Matrix Spike (B4E3124-MS1)		Source: Y405867-01			Prepared: 05/31/2024 Analyzed: 06/01/2024					
Arsenic	7.36	0.261	mg/kg	4.50	1.48	131	75-125			QM-07
Barium	568	9.00	"	450	44.6	116	75-125			
Cadmium	5.22	0.0900	"	4.50	0.0990	114	75-125			
Copper	56.9	9.00	"	45.0	4.31	117	75-125			
Lead	15.0	0.900	"	4.50	5.38	214	75-125			QM-07
Nickel	9.48	0.900	"	4.50	3.45	134	75-125			QM-07
Selenium	9.96	0.234	"	8.55	ND	116	75-125			
Silver	4.87	0.0900	"	4.50	0.0139	108	75-125			
Zinc	75.7	33.3	"	45.0	20.5	123	75-125			
Matrix Spike Dup (B4E3124-MSD1)		Source: Y405867-01			Prepared: 05/31/2024 Analyzed: 06/01/2024					
Arsenic	7.54	0.285	mg/kg	4.92	1.48	123	75-125	2.46	20	
Barium	614	9.84	"	492	44.6	116	75-125	7.78	20	
Cadmium	5.69	0.0984	"	4.92	0.0990	113	75-125	8.52	20	
Copper	60.4	9.84	"	49.2	4.31	114	75-125	5.90	20	
Lead	11.8	0.984	"	4.92	5.38	131	75-125	23.6	20	QM-07, QR-DUP
Nickel	9.87	0.984	"	4.92	3.45	131	75-125	4.02	20	QM-07
Selenium	10.7	0.256	"	9.35	ND	115	75-125	7.31	20	
Silver	5.18	0.0984	"	4.92	0.0139	105	75-125	6.05	20	
Zinc	79.6	36.4	"	49.2	20.5	120	75-125	5.03	20	

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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4E3126 - EPA 3580**

**Blank (B4E3126-BLK1)**

Prepared: 05/31/2024 Analyzed: 05/31/2024

1-Methylnaphthalene	ND	0.002	mg/kg							Ua
2-Methylnaphthalene	ND	0.002	"							Ua
Acenaphthene	ND	0.020	"							Ua
Anthracene	ND	0.020	"							Ua
Benzo (a) anthracene	ND	0.005	"							Ua
Benzo (a) pyrene	ND	0.020	"							Ua
Benzo (b) fluoranthene	ND	0.020	"							Ua
Benzo (g,h,i) perylene	ND	0.020	"							Ua
Benzo (k) fluoranthene	ND	0.020	"							Ua
Chrysene	ND	0.020	"							Ua
Dibenz (a,h) anthracene	ND	0.020	"							Ua
Fluoranthene	ND	0.020	"							Ua
Fluorene	ND	0.020	"							Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"							Ua
Naphthalene	ND	0.002	"							Ua
Phenanthrene	ND	0.020	"							Ua
Pyrene	ND	0.020	"							Ua

Surrogate: Fluorene-d10	210		ug/kg	200		104	60-130
Surrogate: Anthracene-d10	200		"	200		97.5	60-130
Surrogate: Pyrene-d10	220		"	200		111	60-130
Surrogate: Benzo (a) pyrene-d12	210		"	200		106	60-130

**LCS (B4E3126-BS1)**

Prepared: 05/31/2024 Analyzed: 05/31/2024

1-Methylnaphthalene	0.173	0.002	mg/kg	0.200		86.7	70-130
2-Methylnaphthalene	0.177	0.002	"	0.200		88.3	70-130
Acenaphthene	0.179	0.020	"	0.200		89.6	70-130
Anthracene	0.173	0.020	"	0.200		86.5	70-130

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4E3126 - EPA 3580**

**LCS (B4E3126-BS1)**

Prepared: 05/31/2024 Analyzed: 05/31/2024

Benzo (a) anthracene	0.194	0.005	mg/kg	0.200		96.8	70-130
Benzo (a) pyrene	0.191	0.020	"	0.200		95.5	70-130
Benzo (b) fluoranthene	0.193	0.020	"	0.200		96.5	70-130
Benzo (g,h,i) perylene	0.171	0.020	"	0.200		85.3	70-130
Benzo (k) fluoranthene	0.178	0.020	"	0.200		88.9	70-130
Chrysene	0.185	0.020	"	0.200		92.4	70-130
Dibenz (a,h) anthracene	0.177	0.020	"	0.200		88.6	70-130
Fluoranthene	0.206	0.020	"	0.200		103	70-130
Fluorene	0.188	0.020	"	0.200		94.1	70-130
Indeno (1,2,3-cd) pyrene	0.175	0.020	"	0.200		87.5	70-130
Naphthalene	0.175	0.002	"	0.200		87.3	70-130
Phenanthrene	0.180	0.020	"	0.200		90.1	70-130
Pyrene	0.187	0.020	"	0.200		93.3	70-130
Surrogate: Fluorene-d10	220		ug/kg	200		109	60-130
Surrogate: Anthracene-d10	200		"	200		97.6	60-130
Surrogate: Pyrene-d10	200		"	200		102	60-130
Surrogate: Benzo (a) pyrene-d12	210		"	200		104	60-130

**Matrix Spike (B4E3126-MS1)**

Source: Y405869-01

Prepared: 05/31/2024 Analyzed: 05/31/2024

1-Methylnaphthalene	0.200	0.002	mg/kg	0.200	0.0006	99.6	70-130
2-Methylnaphthalene	0.198	0.002	"	0.200	ND	99.0	70-130
Acenaphthene	0.194	0.020	"	0.200	0.002	96.2	70-130
Anthracene	0.191	0.020	"	0.200	0.003	94.4	70-130
Benzo (a) anthracene	0.216	0.005	"	0.200	0.0008	107	70-130
Benzo (a) pyrene	0.200	0.020	"	0.200	0.004	97.9	70-130
Benzo (b) fluoranthene	0.200	0.020	"	0.200	0.003	98.6	70-130
Benzo (g,h,i) perylene	0.189	0.020	"	0.200	0.004	92.8	70-130

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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4E3126 - EPA 3580**

Matrix Spike (B4E3126-MS1)		Source: Y405869-01			Prepared: 05/31/2024 Analyzed: 05/31/2024					
Benzo (k) fluoranthene	0.195	0.020	mg/kg	0.200	0.002	96.2	70-130			
Chrysene	0.215	0.020	"	0.200	0.002	106	70-130			
Dibenz (a,h) anthracene	0.196	0.020	"	0.200	0.003	96.4	70-130			
Fluoranthene	0.210	0.020	"	0.200	0.0009	105	70-130			
Fluorene	0.192	0.020	"	0.200	0.0006	95.7	70-130			
Indeno (1,2,3-cd) pyrene	0.203	0.020	"	0.200	0.004	99.7	70-130			
Naphthalene	0.199	0.002	"	0.200	ND	99.3	70-130			
Phenanthrene	0.188	0.020	"	0.200	ND	93.8	70-130			
Pyrene	0.211	0.020	"	0.200	ND	106	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		97.5	60-130			
Surrogate: Anthracene-d10	190		"	200		95.9	60-130			
Surrogate: Pyrene-d10	210		"	200		105	60-130			
Surrogate: Benzo (a) pyrene-d12	190		"	200		96.2	60-130			

Matrix Spike Dup (B4E3126-MSD1)		Source: Y405869-01			Prepared: 05/31/2024 Analyzed: 05/31/2024					
1-Methylnaphthalene	0.186	0.002	mg/kg	0.200	0.0006	92.5	70-130	7.31	20	
2-Methylnaphthalene	0.200	0.002	"	0.200	ND	99.9	70-130	0.918	20	
Acenaphthene	0.194	0.020	"	0.200	0.002	95.8	70-130	0.461	20	
Anthracene	0.187	0.020	"	0.200	0.003	92.4	70-130	2.09	20	
Benzo (a) anthracene	0.219	0.005	"	0.200	0.0008	109	70-130	1.44	20	
Benzo (a) pyrene	0.222	0.020	"	0.200	0.004	109	70-130	10.3	20	
Benzo (b) fluoranthene	0.216	0.020	"	0.200	0.003	106	70-130	7.53	20	
Benzo (g,h,i) perylene	0.208	0.020	"	0.200	0.004	102	70-130	9.26	20	
Benzo (k) fluoranthene	0.207	0.020	"	0.200	0.002	103	70-130	6.28	20	
Chrysene	0.211	0.020	"	0.200	0.002	104	70-130	1.72	20	
Dibenz (a,h) anthracene	0.217	0.020	"	0.200	0.003	107	70-130	10.3	20	
Fluoranthene	0.206	0.020	"	0.200	0.0009	102	70-130	2.06	20	

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4E3126 - EPA 3580**

Matrix Spike Dup (B4E3126-MSD1)		Source: Y405869-01			Prepared: 05/31/2024 Analyzed: 05/31/2024					
Fluorene	0.192	0.020	mg/kg	0.200	0.0006	95.6	70-130	0.103	20	
Indeno (1,2,3-cd) pyrene	0.221	0.020	"	0.200	0.004	109	70-130	8.39	20	
Naphthalene	0.197	0.002	"	0.200	ND	98.6	70-130	0.708	20	
Phenanthrene	0.192	0.020	"	0.200	ND	96.0	70-130	2.31	20	
Pyrene	0.215	0.020	"	0.200	ND	108	70-130	1.97	20	
Surrogate: Fluorene-d10	200		ug/kg	200		102	60-130			
Surrogate: Anthracene-d10	190		"	200		95.6	60-130			
Surrogate: Pyrene-d10	210		"	200		107	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		105	60-130			

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Classical Chemistry Parameters - 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 B4F0302 - Saturated Paste Metals

#### Blank (B4F0302-BLK1)

Prepared: 06/03/2024 Analyzed: 06/04/2024

Calcium PPM	ND	10.0	mg/L
SAR	ND	0.0100	SAR
Magnesium PPM	ND	10.0	mg/L
Sodium PPM	ND	10.0	"

#### Duplicate (B4F0302-DUP1)

Source: Y405867-01

Prepared: 06/03/2024 Analyzed: 06/04/2024

Calcium PPM	79.4	10.0	mg/L	89.4	11.8	50
SAR	ND	0.0100	SAR	1.54	200	
Magnesium PPM	24.0	10.0	mg/L	25.2	4.88	50
Sodium PPM	51.9	10.0	"	64.0	20.9	50

### Batch B4F0306 - DTPA Sorbitol Preparation

#### Blank (B4F0306-BLK1)

Prepared: 06/03/2024 Analyzed: 06/04/2024

Boron	ND	0.100	mg/L
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#### Duplicate (B4F0306-DUP1)

Source: Y405845-01

Prepared: 06/03/2024 Analyzed: 06/04/2024

Boron	0.187	0.100	mg/L	0.176	6.35	50
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Origins Laboratory, Inc.



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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Saturated Paste - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4F0309 - Saturated Paste pH/EC										
Blank (B4F0309-BLK1)					Prepared: 06/03/2024 Analyzed: 06/04/2024					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
Duplicate (B4F0309-DUP1)					Source: Y405867-01 Prepared: 06/03/2024 Analyzed: 06/04/2024					
pH	7.84		pH Units		8.07			2.89	25	
Specific Conductance (EC)	1.07	0.00500	mmhos/cm		1.10			2.24	25	

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8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Total Metals 7196A - Quality Control GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2623069 - SW846 3060A										
BLANK (1205754821-BLK)					Prepared: 06/07/2024 Analyzed: 06/10/2024					
Hexavalent Chromium	ND	0.341	mg/kg				-			U
LCS (1205754822-BKS)					Prepared: 06/07/2024 Analyzed: 06/10/2024					
Hexavalent Chromium	3.17	0.319	mg/kg	3.19		99.6	80-120			
DUP (1205754823 D)					Source: 670055001 Prepared: 06/07/2024 Analyzed: 06/10/2024					
Hexavalent Chromium	0.454	0.348	mg/kg dry		0.414		0-50	9.18	50	
MS (1205754824 S)					Source: 670055001 Prepared: 06/07/2024 Analyzed: 06/10/2024					
Hexavalent Chromium	2.00	0.348	mg/kg dry	3.48	0.414	45.5	75-125			
DUP (1205754825 D)					Source: 670067001 Prepared: 06/07/2024 Analyzed: 06/10/2024					
Hexavalent Chromium	0.176	0.422	mg/kg dry		0.176		0-50	0.00893	50	J
MS (1205754826 S)					Source: 670067001 Prepared: 06/07/2024 Analyzed: 06/10/2024					
Hexavalent Chromium	2.05	0.421	mg/kg dry	4.21	0.176	44.4	75-125			
ILCS (1205754827-ILCS)					Prepared: 06/07/2024 Analyzed: 06/10/2024					
Hexavalent Chromium	6.10	0.303	mg/kg	6.14		99.4	80-120			

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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

### Notes and Definitions

Ua Sample is Non-Detect.

U Result not detected above the detection limit

QR-DUP RPD exceeds QC acceptance criteria, this indicates source sample is not homogenous.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

J Greater than the detection limit but less than the reporting limit

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

Calculated results may use J-flag data (instead of reported "ND") as part of calculation to provide a more accurate result.

Origins Laboratory, Inc.



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June 18, 2024

Fremont Environmental

Paul Henehan

8305 6th St, PO Box 1289

Wellington CO 80549

**Project Name - Noble - Bernhardt 64N67W  
13NWNE**

**Project Number - [none]**

Attached are your analytical results for Noble - Bernhardt 64N67W 13NWNE received by Origins Laboratory, Inc. June 03, 2024. This project is associated with Origins project number Y406039-01.

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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
(PWV02) S02@3.5'	Y406039-01	Soil	June 3, 2024 0:00	06/03/2024 16:50
(PWV02) W02@3.5'	Y406039-02	Soil	June 3, 2024 0:00	06/03/2024 16:50

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

# ORIGINS

LABORATORY LLC

ORIGINS WORK ORDER #

4106034

Page 1 of 1

Client: Fremont Env  
Address: \_\_\_\_\_

Project Manager: Paul Henehan  
Project Name: 64N67W 13NWNE  
Key: \_\_\_\_\_

Project Number: \_\_\_\_\_  
Project Name: 64N67W 13NWNE  
GW=Groundwater

Telephone Number: Paul Henehan  
Email Address: jeff@fremontenv.com

Collected By: JG  
Invoice/Billing Info: Noble  
SW=Surface Water  
WW=Waste Water  
L=Liquid

S=Soil | SO=Solid | O=Oil | A=Air | G=Gas || UNP=Unpres | HCL= Hydrochloric | HNO3=Nitric | H2SO4=Sulfuric | NaOH=Sodium Hydroxide

#	Sample ID	Date Sampled	Time Sampled	# of Containers	Matrix	Preservative	Analysis										Comments	
							BTEX+N	THMs (915)	DRB (915)	PAHs (915)	EC-PH-SAR	Metals (915)						
1	(PwV02) SO202.5'	06/03/21		2	S	None	X	X	X	X	X	X						
2	(PwV02) W0202.5'	06/03/21		2	S	None	X	X	X	X	X	X						
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Relinquished By: \_\_\_\_\_ Date: 06/03/21 Time: 10:50  
Received By: \_\_\_\_\_ Date: 06/03/21 Time: 10:50  
Temp Received- 24 Received On Ice? ☒ Yes ☐ No  
Turnaround Time ☒ SAME DAY ☐ 24 Hr ☐ 48 Hr ☐ 72 Hr  
Standard ☐ ☒ Standard

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.

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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: 4406039

Client: Fremont

Client Project ID: Bernhardt

Checklist Completed by: AD

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

Date/time completed: 6/13/12

Airbill #: N/A

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

Cooler Number/Temperature: 1120 °C 1 °C 1 °C (Describe) \_\_\_\_\_ °C

Thermometer ID: 1005

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"/>		<u>SD</u>
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"/>		<u>no times</u>
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"/>	
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) EAD

Date/Time Reviewed 6/13/12

Origins Laboratory, Inc.

*J. Bynon*

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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) S02@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406039-01 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.139	0.0994	mg/L	1	B4F0411	06/04/2024	06/05/2024	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4F0347	06/03/2024	06/04/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	93.9 %	50-150	"	"	"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4F0344	06/03/2024	06/03/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	99.9 %	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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) S02@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406039-01 (Soil)**

**GBTEX+TMBs by 8260D**

Surrogate: Toluene-d8	95.2 %	70-130				B4F03 44	06/03/2024	06/03/2024	
Surrogate: 4-Bromofluorobenzene	102 %	70-130				"	"	"	

**Metals by Saturated Paste by EPA 6010**

Calcium	1.50	0.499	meq/L	10	[CALC]	06/04/2024	06/05/2024	
Magnesium	1.11	0.823	"	"	"	"	"	
Sodium	ND	0.435	"	"	"	"	"	

**PAH by EPA 8270E**

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4F0345	06/03/2024	06/04/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.



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Fremont Environmental

8305 6th St, PO Box 1289

Wellington CO 80549

Paul Henehan

Project Number: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) S02@3.5'

6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y406039-01 (Soil)

## PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4F0345	06/03/2024	06/04/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	104 %	60-130	"	"	"
Surrogate: Anthracene-d10	96.7 %	60-130	"	"	"
Surrogate: Pyrene-d10	106 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	100 %	60-130	"	"	"

## pH in Soil by 9045D

pH	8.46	pH Units	1	B4F0423	06/04/2024	06/05/2024
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## SAR by 20B Saturated Paste

SAR	0.141	0.0100	SAR	1	B4F0417	06/04/2024	06/05/2024
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.326	0.00500	mmhos/cm	1	B4F0423	06/04/2024	06/05/2024
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## Table 915 metals by EPA 6020B

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) S02@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406039-01 (Soil)**

**Table 915 metals by EPA 6020B**

Arsenic	2.13	0.248	mg/kg	10	B4F0346	06/03/2024	06/04/2024
Barium	56.1	8.54	"	"	"	"	"
Cadmium	ND	0.0854	"	"	"	"	"
Copper	ND	8.54	"	"	"	"	"
Lead	4.68	0.854	"	"	"	"	"
Nickel	7.23	0.854	"	"	"	"	"
Selenium	ND	0.222	"	"	"	"	"
Silver	ND	0.0854	"	"	"	"	"
Zinc	ND	31.6	"	"	"	"	"

**Total Metals 7196A**

Hexavalent Chromium	ND	0.133	0.332	mg/kg dry	1	2624879	06/12/2024	06/12/2024	U
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) W02@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406039-02 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.205	0.0997	mg/L	1	B4F0411	06/04/2024	06/05/2024	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4F0347	06/03/2024	06/04/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	94.7 %	50-150	"	"	"	"	"
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4F0344	06/03/2024	06/03/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	99.5 %	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: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) W02@3.5'

6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y406039-02 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	97.4 %	70-130				B4F03 44	06/03/2024	06/03/2024	
Surrogate: 4-Bromofluorobenzene	105 %	70-130				"	"	"	

## Metals by Saturated Paste by EPA 6010

Calcium	1.27	0.499	meq/L	10	[CALC]	06/04/2024	06/05/2024	
Magnesium	0.934	0.823	"	"	"	"	"	
Sodium	ND	0.435	"	"	"	"	"	

## PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4F0345	06/03/2024	06/04/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.



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Fremont Environmental

8305 6th St, PO Box 1289

Wellington CO 80549

Paul Henehan

Project Number: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) W02@3.5'

6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y406039-02 (Soil)

## PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4F0345	06/03/2024	06/04/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	107 %	60-130	"	"	"
Surrogate: Anthracene-d10	97.2 %	60-130	"	"	"
Surrogate: Pyrene-d10	104 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	99.8 %	60-130	"	"	"

## pH in Soil by 9045D

pH	8.33	pH Units	1	B4F0423	06/04/2024	06/05/2024
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## SAR by 20B Saturated Paste

SAR	0.245	0.0100	SAR	1	B4F0417	06/04/2024	06/05/2024
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.290	0.00500	mmhos/cm	1	B4F0423	06/04/2024	06/05/2024
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## Table 915 metals by EPA 6020B

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV02) W02@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y406039-02 (Soil)

## Table 915 metals by EPA 6020B

Arsenic	3.78	0.260	mg/kg	10	B4F0346	06/03/2024	06/04/2024
Barium	73.8	8.98	"	"	"	"	"
Cadmium	0.140	0.0898	"	"	"	"	"
Copper	ND	8.98	"	"	"	"	"
Lead	5.88	0.898	"	"	"	"	"
Nickel	7.26	0.898	"	"	"	"	"
Selenium	ND	0.233	"	"	"	"	"
Silver	ND	0.0898	"	"	"	"	"
Zinc	ND	33.2	"	"	"	"	"

## Total Metals 7196A

Hexavalent Chromium	ND	0.106	0.266	mg/kg dry	1	2624879	06/12/2024	06/12/2024	U
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**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 B4F0344 - EPA 5030 (soil)</b>										
<b>Blank (B4F0344-BLK1)</b>					Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							Ua
1,3,5-Trimethylbenzene	ND	0.00200	"							Ua
Benzene	ND	0.00200	"							Ua
Ethylbenzene	ND	0.00200	"							Ua
Naphthalene	ND	0.00380	"							Ua
Toluene	ND	0.00200	"							Ua
Xylenes, total	ND	0.00200	"							Ua
Gasoline Range Hydrocarbons	ND	0.200	"							Ua
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		94.8	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**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 B4F0344 - EPA 5030 (soil)</b>										
<b>LCS (B4F0344-BS1)</b>					Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	0.108	0.00200	mg/kg	0.100		108	70-130			
1,3,5-Trimethylbenzene	0.106	0.00200	"	0.100		106	70-130			
Benzene	0.101	0.00200	"	0.100		101	70-130			
Ethylbenzene	0.103	0.00200	"	0.100		103	70-130			
Naphthalene	0.0984	0.00380	"	0.100		98.4	70-130			
Toluene	0.0954	0.00200	"	0.100		95.4	70-130			
o-Xylene	0.106	0.00200	"	0.100		106	70-130			
m,p-Xylene	0.207	0.00400	"	0.200		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		92.2	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**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 B4F0344 - EPA 5030 (soil)</b>										
<b>Matrix Spike (B4F0344-MS1)</b>		<b>Source: Y406038-05</b>			Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	0.0993	0.00200	mg/kg	0.100	ND	99.3	70-130			
1,3,5-Trimethylbenzene	0.0984	0.00200	"	0.100	ND	98.4	70-130			
Benzene	0.0921	0.00200	"	0.100	ND	92.1	70-130			
Ethylbenzene	0.0968	0.00200	"	0.100	ND	96.8	70-130			
Naphthalene	0.0888	0.00380	"	0.100	0.00142	87.4	70-130			
Toluene	0.0876	0.00200	"	0.100	ND	87.6	70-130			
o-Xylene	0.101	0.00200	"	0.100	ND	101	70-130			
m,p-Xylene	0.192	0.00400	"	0.200	ND	96.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		93.0	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.9	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**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 B4F0344 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B4F0344-MSD1)</b>			<b>Source: Y406038-05</b>		Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	0.0967	0.00200	mg/kg	0.100	ND	96.7	70-130	2.67	20	
1,3,5-Trimethylbenzene	0.0971	0.00200	"	0.100	ND	97.1	70-130	1.33	20	
Benzene	0.0893	0.00200	"	0.100	ND	89.3	70-130	3.04	20	
Ethylbenzene	0.0954	0.00200	"	0.100	ND	95.4	70-130	1.46	20	
Naphthalene	0.0878	0.00380	"	0.100	0.00142	86.3	70-130	1.22	20	
Toluene	0.0872	0.00200	"	0.100	ND	87.2	70-130	0.458	20	
o-Xylene	0.0992	0.00200	"	0.100	ND	99.2	70-130	1.58	20	
m,p-Xylene	0.190	0.00400	"	0.200	ND	95.0	70-130	1.05	20	
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		91.3	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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 B4F0347 - EPA 3550B

Blank (B4F0347-BLK1)

Prepared: 06/03/2024 Analyzed: 06/04/2024

Diesel (C10-C28)	ND	25.0	mg/kg							Ua
Residual Range Organics (C28-C40)	ND	100	"							Ua
Surrogate: o-Terphenyl	23		"	24.9		92.1	50-150			

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8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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 B4F0347 - EPA 3550B

### LCS (B4F0347-BS1)

Prepared: 06/03/2024 Analyzed: 06/04/2024

Diesel (C10-C28)	919	50.0	mg/kg	1000		91.9	70-130			
Residual Range Organics (C28-C40)	1060	200	"	1000		106	70-130			
Surrogate: o-Terphenyl	58		"	49.8		117	50-150			

Origins Laboratory, Inc.



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Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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 B4F0347 - EPA 3550B

Matrix Spike (B4F0347-MS1)		Source: Y406038-01			Prepared: 06/03/2024 Analyzed: 06/04/2024					
Diesel (C10-C28)	907	50.0	mg/kg	1000	ND	90.7	70-130			
Residual Range Organics (C28-C40)	1060	200	"	1000	ND	106	70-130			
Surrogate: o-Terphenyl	47		"	49.8		95.4	50-150			

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Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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 B4F0347 - EPA 3550B

Matrix Spike Dup (B4F0347-MSD1)		Source: Y406038-01			Prepared: 06/03/2024 Analyzed: 06/04/2024					
Diesel (C10-C28)	897	50.0	mg/kg	1000	ND	89.7	70-130	1.03	35	
Residual Range Organics (C28-C40)	1050	200	"	1000	ND	105	70-130	1.22	35	
Surrogate: o-Terphenyl	47		"	49.8		94.4	50-150			

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Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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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## Metals by EPA 6000/7000 Series Methods - 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 B4F0346 - EPA 3050B

#### Blank (B4F0346-BLK1)

Prepared: 06/03/2024 Analyzed: 06/04/2024

Arsenic	ND	0.290	mg/kg
Barium	ND	10.0	"
Cadmium	ND	0.100	"
Copper	ND	10.0	"
Lead	ND	1.00	"
Nickel	ND	1.00	"
Selenium	ND	0.260	"
Silver	ND	0.100	"
Zinc	ND	37.0	"

#### LCS (B4F0346-BS1)

Prepared: 06/03/2024 Analyzed: 06/04/2024

Arsenic	5.07	0.290	mg/kg	5.00	101	80-120
Barium	468	10.0	"	500	93.6	80-120
Cadmium	4.94	0.100	"	5.00	98.8	80-120
Copper	49.6	10.0	"	50.0	99.2	80-120
Lead	4.81	1.00	"	5.00	96.1	80-120
Nickel	4.46	1.00	"	5.00	89.3	80-120
Selenium	9.51	0.260	"	9.50	100	80-120
Silver	4.78	0.100	"	5.00	95.5	80-120
Zinc	45.5	37.0	"	50.0	91.0	80-120

#### Matrix Spike (B4F0346-MS1)

Source: Y406039-01

Prepared: 06/03/2024 Analyzed: 06/04/2024

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Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Metals by EPA 6000/7000 Series Methods - 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 B4F0346 - EPA 3050B

Matrix Spike (B4F0346-MS1)		Source: Y406039-01			Prepared: 06/03/2024 Analyzed: 06/04/2024					
Arsenic	6.48	0.247	mg/kg	4.26	2.13	102	75-125			
Barium	494	8.52	"	426	56.1	103	75-125			
Cadmium	4.52	0.0852	"	4.26	0.0786	104	75-125			
Copper	49.2	8.52	"	42.6	5.94	101	75-125			
Lead	8.87	0.852	"	4.26	4.68	98.5	75-125			
Nickel	11.0	0.852	"	4.26	7.23	87.7	75-125			
Selenium	8.41	0.221	"	8.09	0.138	102	75-125			
Silver	4.22	0.0852	"	4.26	0.0102	98.7	75-125			
Zinc	65.8	31.5	"	42.6	27.2	90.5	75-125			
Matrix Spike Dup (B4F0346-MSD1)		Source: Y406039-01			Prepared: 06/03/2024 Analyzed: 06/04/2024					
Arsenic	6.84	0.258	mg/kg	4.45	2.13	106	75-125	5.50	20	
Barium	518	8.91	"	445	56.1	104	75-125	4.74	20	
Cadmium	4.65	0.0891	"	4.45	0.0786	103	75-125	2.73	20	
Copper	51.1	8.91	"	44.5	5.94	101	75-125	3.85	20	
Lead	9.33	0.891	"	4.45	4.68	105	75-125	5.08	20	
Nickel	12.0	0.891	"	4.45	7.23	106	75-125	8.78	20	
Selenium	8.62	0.232	"	8.46	0.138	100	75-125	2.53	20	
Silver	4.39	0.0891	"	4.45	0.0102	98.4	75-125	4.11	20	
Zinc	69.9	33.0	"	44.5	27.2	95.8	75-125	6.06	20	

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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4F0345 - EPA 3580**

**Blank (B4F0345-BLK1)**

Prepared: 06/03/2024 Analyzed: 06/04/2024

1-Methylnaphthalene	ND	0.002	mg/kg							Ua
2-Methylnaphthalene	ND	0.002	"							Ua
Acenaphthene	ND	0.020	"							Ua
Anthracene	ND	0.020	"							Ua
Benzo (a) anthracene	ND	0.005	"							Ua
Benzo (a) pyrene	ND	0.020	"							Ua
Benzo (b) fluoranthene	ND	0.020	"							Ua
Benzo (g,h,i) perylene	ND	0.020	"							Ua
Benzo (k) fluoranthene	ND	0.020	"							Ua
Chrysene	ND	0.020	"							Ua
Dibenz (a,h) anthracene	ND	0.020	"							Ua
Fluoranthene	ND	0.020	"							Ua
Fluorene	ND	0.020	"							Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"							Ua
Naphthalene	ND	0.002	"							Ua
Phenanthrene	ND	0.020	"							Ua
Pyrene	ND	0.020	"							Ua

Surrogate: Fluorene-d10	210		ug/kg	200		103	60-130
Surrogate: Anthracene-d10	190		"	200		95.6	60-130
Surrogate: Pyrene-d10	200		"	200		99.5	60-130
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130

**LCS (B4F0345-BS1)**

Prepared: 06/03/2024 Analyzed: 06/04/2024

1-Methylnaphthalene	0.193	0.002	mg/kg	0.200		96.4	70-130
2-Methylnaphthalene	0.191	0.002	"	0.200		95.6	70-130
Acenaphthene	0.203	0.020	"	0.200		102	70-130
Anthracene	0.201	0.020	"	0.200		101	70-130

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Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4F0345 - EPA 3580**

**LCS (B4F0345-BS1)**

Prepared: 06/03/2024 Analyzed: 06/04/2024

Benzo (a) anthracene	0.221	0.005	mg/kg	0.200		111	70-130
Benzo (a) pyrene	0.203	0.020	"	0.200		101	70-130
Benzo (b) fluoranthene	0.192	0.020	"	0.200		96.0	70-130
Benzo (g,h,i) perylene	0.192	0.020	"	0.200		96.2	70-130
Benzo (k) fluoranthene	0.159	0.020	"	0.200		79.4	70-130
Chrysene	0.207	0.020	"	0.200		103	70-130
Dibenz (a,h) anthracene	0.207	0.020	"	0.200		104	70-130
Fluoranthene	0.204	0.020	"	0.200		102	70-130
Fluorene	0.198	0.020	"	0.200		98.9	70-130
Indeno (1,2,3-cd) pyrene	0.208	0.020	"	0.200		104	70-130
Naphthalene	0.192	0.002	"	0.200		96.1	70-130
Phenanthrene	0.192	0.020	"	0.200		96.0	70-130
Pyrene	0.212	0.020	"	0.200		106	70-130
Surrogate: Fluorene-d10	200		ug/kg	200		101	60-130
Surrogate: Anthracene-d10	200		"	200		97.9	60-130
Surrogate: Pyrene-d10	210		"	200		104	60-130
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130

**Matrix Spike (B4F0345-MS1)**

**Source: Y406038-01**

Prepared: 06/03/2024 Analyzed: 06/04/2024

1-Methylnaphthalene	0.190	0.002	mg/kg	0.200	ND	94.8	70-130
2-Methylnaphthalene	0.192	0.002	"	0.200	ND	95.8	70-130
Acenaphthene	0.199	0.020	"	0.200	ND	99.5	70-130
Anthracene	0.192	0.020	"	0.200	ND	95.8	70-130
Benzo (a) anthracene	0.212	0.005	"	0.200	ND	106	70-130
Benzo (a) pyrene	0.196	0.020	"	0.200	ND	98.0	70-130
Benzo (b) fluoranthene	0.178	0.020	"	0.200	ND	88.8	70-130
Benzo (g,h,i) perylene	0.188	0.020	"	0.200	ND	94.2	70-130

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Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4F0345 - EPA 3580**

Matrix Spike (B4F0345-MS1)		Source: Y406038-01			Prepared: 06/03/2024 Analyzed: 06/04/2024					
Benzo (k) fluoranthene	0.161	0.020	mg/kg	0.200	0.0005	80.1	70-130			
Chrysene	0.202	0.020	"	0.200	ND	101	70-130			
Dibenz (a,h) anthracene	0.197	0.020	"	0.200	ND	98.7	70-130			
Fluoranthene	0.199	0.020	"	0.200	ND	99.4	70-130			
Fluorene	0.202	0.020	"	0.200	0.0004	101	70-130			
Indeno (1,2,3-cd) pyrene	0.195	0.020	"	0.200	ND	97.3	70-130			
Naphthalene	0.189	0.002	"	0.200	ND	94.5	70-130			
Phenanthrene	0.184	0.020	"	0.200	ND	92.1	70-130			
Pyrene	0.219	0.020	"	0.200	ND	109	70-130			
Surrogate: Fluorene-d10	210		ug/kg	200		104	60-130			
Surrogate: Anthracene-d10	190		"	200		96.2	60-130			
Surrogate: Pyrene-d10	220		"	200		108	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		100	60-130			

Matrix Spike Dup (B4F0345-MSD1)		Source: Y406038-01			Prepared: 06/03/2024 Analyzed: 06/04/2024					
1-Methylnaphthalene	0.197	0.002	mg/kg	0.200	ND	98.3	70-130	3.68	20	
2-Methylnaphthalene	0.201	0.002	"	0.200	ND	101	70-130	5.02	20	
Acenaphthene	0.201	0.020	"	0.200	ND	101	70-130	1.21	20	
Anthracene	0.201	0.020	"	0.200	ND	100	70-130	4.59	20	
Benzo (a) anthracene	0.221	0.005	"	0.200	ND	110	70-130	4.15	20	
Benzo (a) pyrene	0.205	0.020	"	0.200	ND	103	70-130	4.63	20	
Benzo (b) fluoranthene	0.201	0.020	"	0.200	ND	100	70-130	12.2	20	
Benzo (g,h,i) perylene	0.203	0.020	"	0.200	ND	102	70-130	7.58	20	
Benzo (k) fluoranthene	0.172	0.020	"	0.200	0.0005	85.6	70-130	6.58	20	
Chrysene	0.215	0.020	"	0.200	ND	107	70-130	6.08	20	
Dibenz (a,h) anthracene	0.205	0.020	"	0.200	ND	103	70-130	3.94	20	
Fluoranthene	0.234	0.020	"	0.200	ND	117	70-130	16.4	20	

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Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4F0345 - EPA 3580**

Matrix Spike Dup (B4F0345-MSD1)		Source: Y406038-01			Prepared: 06/03/2024 Analyzed: 06/04/2024					
Fluorene	0.197	0.020	mg/kg	0.200	0.0004	98.1	70-130	2.56	20	
Indeno (1,2,3-cd) pyrene	0.207	0.020	"	0.200	ND	104	70-130	6.43	20	
Naphthalene	0.200	0.002	"	0.200	ND	100	70-130	5.84	20	
Phenanthrene	0.202	0.020	"	0.200	ND	101	70-130	9.11	20	
Pyrene	0.231	0.020	"	0.200	ND	116	70-130	5.52	20	
Surrogate: Fluorene-d10	200		ug/kg	200		99.4	60-130			
Surrogate: Anthracene-d10	200		"	200		99.1	60-130			
Surrogate: Pyrene-d10	220		"	200		111	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		98.8	60-130			

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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Classical Chemistry Parameters - 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 B4F0411 - DTPA Sorbitol Preparation

#### Blank (B4F0411-BLK1)

Prepared: 06/04/2024 Analyzed: 06/05/2024

Boron ND 0.100 mg/L

#### Duplicate (B4F0411-DUP1)

Source: Y406039-01

Prepared: 06/04/2024 Analyzed: 06/05/2024

Boron 0.139 0.0988 mg/L 0.139 0.120 50

### Batch B4F0417 - Saturated Paste Metals

#### Blank (B4F0417-BLK1)

Prepared: 06/04/2024 Analyzed: 06/05/2024

Calcium PPM ND 10.0 mg/L

SAR ND 0.0100 SAR

Magnesium PPM ND 10.0 mg/L

Sodium PPM ND 10.0 "

#### Duplicate (B4F0417-DUP1)

Source: Y406036-14

Prepared: 06/04/2024 Analyzed: 06/05/2024

SAR ND 0.0100 SAR 13.7 200

Calcium PPM 114 10.0 mg/L 70.0 47.4 50

Magnesium PPM 144 10.0 " 101 35.2 50

Sodium PPM 878 10.0 " 764 13.9 50

Origins Laboratory, Inc.



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Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Saturated Paste - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B4F0423 - Saturated Paste pH/EC</b>										
<b>Blank (B4F0423-BLK1)</b>					Prepared: 06/04/2024 Analyzed: 06/05/2024					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
<b>Duplicate (B4F0423-DUP1)</b>					<b>Source: Y406036-14</b> Prepared: 06/04/2024 Analyzed: 06/05/2024					
pH	8.61		pH Units		8.48			1.52	25	
Specific Conductance (EC)	4.74	0.00500	mmhos/cm		3.96			18.1	25	

Origins Laboratory, Inc.



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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Total Metals 7196A - Quality Control GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2624879 - SW846 3060A										
BLANK (1205758247-BLK)					Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	ND	0.275	mg/kg				-			U
LCS (1205758248-BKS)					Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	3.18	0.324	mg/kg	3.24		98.2	80-120			
DUP (1205758249 D)					Source: Y406039-01 Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	ND	0.332	mg/kg dry		<0.133		0-50	N/A	50	U
MS (1205758250 S)					Source: Y406039-01 Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	2.42	0.332	mg/kg dry	3.32	<0.133	70.5	75-125			
DUP (1205758251 D)					Source: 670237003 Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	ND	0.380	mg/kg dry		<0.152		0-50	N/A	50	U
MS (1205758252 S)					Source: 670237003 Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	3.15	0.380	mg/kg dry	3.80	<0.152	80.4	75-125			
ILCS (1205758253-ILCS)					Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	6.54	0.315	mg/kg	6.46		101	80-120			

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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

### Notes and Definitions

Ua Sample is Non-Detect.

U Result not detected above the detection limit

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

Calculated results may use J-flag data (instead of reported "ND") as part of calculation to provide a more accurate result.

Origins Laboratory, Inc.



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July 02, 2024

Fremont Environmental

Paul Henehan

8305 6th St, PO Box 1289

Wellington CO 80549

**Project Name - Noble - Bernhardt 64N67W  
13NWNE**

**Project Number - [none]**

Attached are your analytical results for Noble - Bernhardt 64N67W 13NWNE received by Origins Laboratory, Inc. June 03, 2024. This project is associated with Origins project number Y406037-01.

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: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
(SEP02) B01@4.5'	Y406037-01	Soil	June 3, 2024 0:00	06/03/2024 16:50
(SEP02) N01@3.5'	Y406037-02	Soil	June 3, 2024 0:00	06/03/2024 16:50
(SEP02) S01@3.5'	Y406037-03	Soil	June 3, 2024 0:00	06/03/2024 16:50
(SEP02) E01@3.5'	Y406037-04	Soil	June 3, 2024 0:00	06/03/2024 16:50
(SEP02) W01@3.5'	Y406037-05	Soil	June 3, 2024 0:00	06/03/2024 16:50
(SEP02) BACKFILL	Y406037-06	Soil	June 3, 2024 0:00	06/03/2024 16:50

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## ORIGINS

ORIGINAL WORK ORDER #

Y406037

Page 1 of 1

LABORATORY LLC

Client: Fremont Env

Address:

Project Manager: Paul Henehan

Key:

Project Name: Bernhardt 64N67W 13NWNE

W=Water

Project Number:

GW=Groundwater

Telephone Number: Paul@fremontenv.com

Collected By: JG

SW=Surface Water

Email Address:

info@fremontenv.com Paul@fremontenv.com

Invoice/Billing Info:

Noble

L=Liquid

S=Soil | SO=Solid | O=Oil | A=Air | G=Gas || UNP=Unpres | HCL=Hydrochloric | HNO3=Nitric | H2SO4=Sulfuric | NaOH=Sodium Hydroxide

#	Sample ID	Date Sampled	Time Sampled	# of Containers	Matrix	Preservative	Analysis										Comments
							BTEX+N	THMs (915)	DBP, OPD, (915)	PAHs (915)	EC-PH (915)	Metals (915)					
1	(SEP02) B01C4.5'	06/02/21		2	S	NONE	X	X	X	X	X	X					
2	(SEP02) N01C3.5'						X	X	X	X	X	X					
3	(SEP02) S01C3.5'						X	X	X	X	X	X					
4	(SEP02) E01C3.5'						X	X	X	X	X	X					
5	(SEP02) W01C3.5'						X	X	X	X	X	X					
6	(SEP02) B04K11						X	X	X	X	X	X					
7																	
8																	
9																	
10																	

Relinquished By: [Signature] Date: 06/03/21 Time: 11:50

Received By: [Signature] Date: 06/24 Time: 10:50

Temp Received- [Signature]

Received On Ice? ☐ Yes ☒ No

For Lab Sample Receiving Only:

Standard

48 Hr ☐ 72 Hr ☐

SAME DAY ☒ 24 Hr ☐

Turnaround Time

Origins Laboratory, Inc.

[Signature]

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: [none]

Project: Noble - Bernhardt 64N67W 13NWN

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: Y406037

Client: Fremont  
Client Project ID: Bernhardt

Checklist Completed by: EH

Shipped Via: HO

Date/time completed: 6/13/12

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

Airbill #: N/A

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

Cooler Number/Temperature: 126 °C 1 °C 1 °C (Describe) \_\_\_\_\_ °C

Thermometer ID: 1005

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"/>		SD
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"/>	
Additional Comments (if any): <u>No TMS</u>				

<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) EH

Date/Time Reviewed 6/13/12

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.

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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) B01@4.5'  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-01 (Soil)  
Origins Laboratory, Inc.

## Boron (DTPA Sorbitol)

Boron	0.130	0.0997	mg/L	1	B4F0410	ACC	06/04/2024	06/05/2024	
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## DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4F0336	ZZZ	06/03/2024	06/04/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	Ua

Surrogate: o-Terphenyl	92.0 %	50-150			"	"	"	
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## GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4F0335	JSM	06/03/2024	06/04/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	JSM	"	"	Ua
Benzene	ND	0.00200	"	"	"	JSM	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	JSM	"	"	Ua
Toluene	ND	0.00200	"	"	"	JSM	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	JSM	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	JSM	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	107 %	70-130			"	"	"	
Surrogate: Toluene-d8	99.0 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.5 %	70-130			"	"	"	

## Metals by Saturated Paste by EPA 6010

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) B01@4.5'  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-01 (Soil)  
Origins Laboratory, Inc.

## Metals by Saturated Paste by EPA 6010

Calcium	0.555	0.499	meq/L	10	[CALC]	ACC	06/04/2024	06/05/2024
Magnesium	ND	0.823	"	"	"	ACC	"	"
Sodium	0.831	0.435	"	"	"	ACC	"	"

## PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4F0334	agilent	06/03/2024	06/04/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	agilent	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	agilent	"	"	Ua
Anthracene	ND	0.020	"	"	"	agilent	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	agilent	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	agilent	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	agilent	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	agilent	"	"	Ua
Chrysene	ND	0.020	"	"	"	agilent	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	agilent	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	agilent	"	"	Ua
Fluorene	ND	0.020	"	"	"	agilent	"	"	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	agilent	"	"	Ua
Naphthalene	ND	0.002	"	"	"	agilent	"	"	Ua
Pyrene	ND	0.020	"	"	"	agilent	"	"	Ua

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) B01@4.5'  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Y406037-01 (Soil)**  
**Origins Laboratory, Inc.**

**PAH by EPA 8270E**

Surrogate: Fluorene-d10	100 %	60-130			B4F0334		06/03/2024	06/04/2024
Surrogate: Anthracene-d10	94.6 %	60-130			"		"	"
Surrogate: Pyrene-d10	112 %	60-130			"		"	"
Surrogate: Benzo (a) pyrene-d12	95.6 %	60-130			"		"	"

**pH in Soil by 9045D**

pH	8.52		pH Units	1	B4F0423	EAL	06/04/2024	06/05/2024
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**SAR by 20B Saturated Paste**

SAR	1.26	0.0100	SAR	1	B4F0417	ACC	06/04/2024	06/05/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.197	0.00500	mmhos/cm	1	B4F0423	EAL	06/04/2024	06/05/2024
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**Table 915 metals by EPA 6020B**

Arsenic	2.09	0.272	mg/kg	10	B4F0343	KMC	06/03/2024	06/04/2024
Barium	46.0	9.39	"	"	"	KMC	"	"
Cadmium	ND	0.0939	"	"	"	KMC	"	"
Copper	ND	9.39	"	"	"	KMC	"	"
Lead	3.92	0.939	"	"	"	KMC	"	"
Nickel	6.24	0.939	"	"	"	KMC	"	"

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) B01@4.5'  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-01 (Soil)  
Origins Laboratory, Inc.

## Table 915 metals by EPA 6020B

Selenium	ND	0.244	mg/kg	10	B4F0343	KMC	06/03/2024	06/04/2024	
Silver	ND	0.0939	"	"	"	KMC	"	"	
Zinc	ND	34.7	"	"	"	KMC	"	"	

## GEL Laboratories, LLC

## Total Metals 7196A

Hexavalent Chromium	ND	0.396	mg/kg dry	1	2624879	HH2	06/12/2024	06/12/2024	U
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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.

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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) N01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-02 (Soil)  
Origins Laboratory, Inc.

### Boron (DTPA Sorbitol)

Boron	0.155	0.0986	mg/L	1	B4F0410	ACC	06/04/2024	06/05/2024	
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### DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4F0336	ZZZ	06/03/2024	06/04/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	Ua

Surrogate: o-Terphenyl	91.5 %	50-150			"	"	"	
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### GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4F0335	JSM	06/03/2024	06/04/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	JSM	"	"	Ua
Benzene	ND	0.00200	"	"	"	JSM	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	JSM	"	"	Ua
Toluene	ND	0.00200	"	"	"	JSM	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	JSM	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	JSM	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	106 %	70-130			"	"	"
Surrogate: Toluene-d8	100 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	97.7 %	70-130			"	"	"

### Metals by Saturated Paste by EPA 6010

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) N01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-02 (Soil)  
Origins Laboratory, Inc.

## Metals by Saturated Paste by EPA 6010

Calcium	1.25	0.499	meq/L	10	[CALC]	ACC	06/04/2024	06/05/2024	
Magnesium	ND	0.823	"	"	"	ACC	"	"	
Sodium	ND	0.435	"	"	"	ACC	"	"	

## PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4F0334	agilent	06/03/2024	06/04/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	agilent	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	agilent	"	"	Ua
Anthracene	ND	0.020	"	"	"	agilent	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	agilent	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	agilent	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	agilent	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	agilent	"	"	Ua
Chrysene	ND	0.020	"	"	"	agilent	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	agilent	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	agilent	"	"	Ua
Fluorene	ND	0.020	"	"	"	agilent	"	"	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	agilent	"	"	Ua
Naphthalene	ND	0.002	"	"	"	agilent	"	"	Ua
Pyrene	ND	0.020	"	"	"	agilent	"	"	Ua

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: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) N01@3.5'

6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-02 (Soil)

Origins Laboratory, Inc.

## PAH by EPA 8270E

Surrogate: Fluorene-d10	100 %	60-130			B4F0334		06/03/2024	06/04/2024	
Surrogate: Anthracene-d10	92.0 %	60-130			"		"	"	
Surrogate: Pyrene-d10	111 %	60-130			"		"	"	
Surrogate: Benzo (a) pyrene-d12	98.8 %	60-130			"		"	"	

## pH in Soil by 9045D

pH	8.48		pH Units	1	B4F0423	EAL	06/04/2024	06/05/2024	
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## SAR by 20B Saturated Paste

SAR	0.223	0.0100	SAR	1	B4F0417	ACC	06/04/2024	06/05/2024	
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.256	0.00500	mmhos/cm	1	B4F0423	EAL	06/04/2024	06/05/2024	
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## Table 915 metals by EPA 6020B

Arsenic	3.46	0.242	mg/kg	10	B4F0343	KMC	06/03/2024	06/04/2024	
Barium	63.0	8.34	"	"	"	KMC	"	"	
Cadmium	0.134	0.0834	"	"	"	KMC	"	"	
Copper	ND	8.34	"	"	"	KMC	"	"	
Lead	5.73	0.834	"	"	"	KMC	"	"	
Nickel	7.32	0.834	"	"	"	KMC	"	"	

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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) N01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-02 (Soil)  
Origins Laboratory, Inc.

## Table 915 metals by EPA 6020B

Selenium	ND	0.217	mg/kg	10	B4F0343	KMC	06/03/2024	06/04/2024	
Silver	ND	0.0834	"	"	"	KMC	"	"	
Zinc	ND	30.9	"	"	"	KMC	"	"	

## GEL Laboratories, LLC

## Total Metals by 7196A

Hexavalent Chromium	ND	0.409	mg/kg dry	1	2632921	HH2	06/27/2024	06/28/2024	U
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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.

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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) S01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-03 (Soil)  
Origins Laboratory, Inc.

## Boron (DTPA Sorbitol)

Boron	0.191	0.0998	mg/L	1	B4F0410	ACC	06/04/2024	06/05/2024	
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## DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4F0336	ZZZ	06/03/2024	06/04/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	Ua

Surrogate: o-Terphenyl	86.7 %	50-150			"	"	"	
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## GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4F0335	JSM	06/03/2024	06/04/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	JSM	"	"	Ua
Benzene	ND	0.00200	"	"	"	JSM	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	JSM	"	"	Ua
Toluene	ND	0.00200	"	"	"	JSM	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	JSM	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	JSM	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	106 %	70-130			"	"	"	
Surrogate: Toluene-d8	99.0 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.2 %	70-130			"	"	"	

## Metals by Saturated Paste by EPA 6010

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) S01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-03 (Soil)  
Origins Laboratory, Inc.

## Metals by Saturated Paste by EPA 6010

Calcium	0.943	0.499	meq/L	10	[CALC]	ACC	06/04/2024	06/05/2024	
Magnesium	ND	0.823	"	"	"	ACC	"	"	
Sodium	ND	0.435	"	"	"	ACC	"	"	

## PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4F0334	agilent	06/03/2024	06/04/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	agilent	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	agilent	"	"	Ua
Anthracene	ND	0.020	"	"	"	agilent	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	agilent	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	agilent	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	agilent	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	agilent	"	"	Ua
Chrysene	ND	0.020	"	"	"	agilent	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	agilent	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	agilent	"	"	Ua
Fluorene	ND	0.020	"	"	"	agilent	"	"	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	agilent	"	"	Ua
Naphthalene	ND	0.002	"	"	"	agilent	"	"	Ua
Pyrene	ND	0.020	"	"	"	agilent	"	"	Ua

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) S01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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## Y406037-03 (Soil) Origins Laboratory, Inc.

### PAH by EPA 8270E

Surrogate: Fluorene-d10	102 %	60-130			B4F03 34		06/03/2024	06/04/2024
Surrogate: Anthracene-d10	95.6 %	60-130			"		"	"
Surrogate: Pyrene-d10	110 %	60-130			"		"	"
Surrogate: Benzo (a) pyrene-d12	96.5 %	60-130			"		"	"

### pH in Soil by 9045D

pH	8.20		pH Units	1	B4F0423	EAL	06/04/2024	06/05/2024
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### SAR by 20B Saturated Paste

SAR	0.368	0.0100	SAR	1	B4F0417	ACC	06/04/2024	06/05/2024
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.225	0.00500	mmhos/cm	1	B4F0423	EAL	06/04/2024	06/05/2024
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### Table 915 metals by EPA 6020B

Arsenic	3.51	0.257	mg/kg	10	B4F0343	KMC	06/03/2024	06/04/2024
Barium	74.1	8.87	"	"	"	KMC	"	"
Cadmium	0.115	0.0887	"	"	"	KMC	"	"
Copper	ND	8.87	"	"	"	KMC	"	"
Lead	5.87	0.887	"	"	"	KMC	"	"
Nickel	7.49	0.887	"	"	"	KMC	"	"

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) S01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-03 (Soil)  
Origins Laboratory, Inc.

## Table 915 metals by EPA 6020B

Selenium	ND	0.231	mg/kg	10	B4F0343	KMC	06/03/2024	06/04/2024	
Silver	ND	0.0887	"	"	"	KMC	"	"	
Zinc	ND	32.8	"	"	"	KMC	"	"	

## GEL Laboratories, LLC

## Total Metals 7196A

Hexavalent Chromium	ND	0.381	mg/kg dry	1	2624879	HH2	06/12/2024	06/12/2024	U
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) E01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-04 (Soil)  
Origins Laboratory, Inc.

## Boron (DTPA Sorbitol)

Boron	ND	0.0997	mg/L	1	B4F0410	ACC	06/04/2024	06/05/2024	
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## DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4F0336	ZZZ	06/03/2024	06/04/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	Ua

Surrogate: o-Terphenyl	87.5 %	50-150			"	"	"	
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## GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4F0335	JSM	06/03/2024	06/04/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	JSM	"	"	Ua
Benzene	ND	0.00200	"	"	"	JSM	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	JSM	"	"	Ua
Toluene	ND	0.00200	"	"	"	JSM	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	JSM	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	JSM	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	106 %	70-130			"	"	"	
Surrogate: Toluene-d8	98.6 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.9 %	70-130			"	"	"	

## Metals by Saturated Paste by EPA 6010

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) E01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-04 (Soil)  
Origins Laboratory, Inc.

## Metals by Saturated Paste by EPA 6010

Calcium	0.602	0.499	meq/L	10	[CALC]	ACC	06/04/2024	06/05/2024	
Magnesium	ND	0.823	"	"	"	ACC	"	"	
Sodium	ND	0.435	"	"	"	ACC	"	"	

## PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4F0334	agilent	06/03/2024	06/04/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	agilent	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	agilent	"	"	Ua
Anthracene	ND	0.020	"	"	"	agilent	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	agilent	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	agilent	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	agilent	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	agilent	"	"	Ua
Chrysene	ND	0.020	"	"	"	agilent	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	agilent	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	agilent	"	"	Ua
Fluorene	ND	0.020	"	"	"	agilent	"	"	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	agilent	"	"	Ua
Naphthalene	ND	0.002	"	"	"	agilent	"	"	Ua
Pyrene	ND	0.020	"	"	"	agilent	"	"	Ua

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) E01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Y406037-04 (Soil)**  
**Origins Laboratory, Inc.**

**PAH by EPA 8270E**

Surrogate: Fluorene-d10	103 %	60-130			B4F0334		06/03/2024	06/04/2024
Surrogate: Anthracene-d10	95.1 %	60-130			"		"	"
Surrogate: Pyrene-d10	111 %	60-130			"		"	"
Surrogate: Benzo (a) pyrene-d12	95.7 %	60-130			"		"	"

**pH in Soil by 9045D**

pH	7.38		pH Units	1	B4F0423	EAL	06/04/2024	06/05/2024
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**SAR by 20B Saturated Paste**

SAR	0.283	0.0100	SAR	1	B4F0417	ACC	06/04/2024	06/05/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.134	0.00500	mmhos/cm	1	B4F0423	EAL	06/04/2024	06/05/2024
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**Table 915 metals by EPA 6020B**

Arsenic	4.38	0.265	mg/kg	10	B4F0343	KMC	06/03/2024	06/04/2024
Barium	75.1	9.15	"	"	"	KMC	"	"
Cadmium	0.125	0.0915	"	"	"	KMC	"	"
Copper	ND	9.15	"	"	"	KMC	"	"
Lead	6.86	0.915	"	"	"	KMC	"	"
Nickel	9.03	0.915	"	"	"	KMC	"	"

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) E01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-04 (Soil)  
Origins Laboratory, Inc.

## Table 915 metals by EPA 6020B

Selenium	ND	0.238	mg/kg	10	B4F0343	KMC	06/03/2024	06/04/2024	
Silver	ND	0.0915	"	"	"	KMC	"	"	
Zinc	ND	33.9	"	"	"	KMC	"	"	

GEL Laboratories, LLC

## Total Metals by 7196A

Hexavalent Chromium	ND	0.277	mg/kg dry	1	2632921	HH2	06/27/2024	06/28/2024	U
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) W01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-05 (Soil)  
Origins Laboratory, Inc.

## Boron (DTPA Sorbitol)

Boron	ND	0.0993	mg/L	1	B4F0410	ACC	06/04/2024	06/05/2024	
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## DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4F0336	ZZZ	06/03/2024	06/04/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	Ua

Surrogate: o-Terphenyl	86.7 %	50-150			"	"	"	
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## GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4F0335	JSM	06/03/2024	06/04/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	JSM	"	"	Ua
Benzene	ND	0.00200	"	"	"	JSM	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	JSM	"	"	Ua
Toluene	ND	0.00200	"	"	"	JSM	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	JSM	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	JSM	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	106 %	70-130			"	"	"	
Surrogate: Toluene-d8	99.7 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.1 %	70-130			"	"	"	

## Metals by Saturated Paste by EPA 6010

Origins Laboratory, Inc.



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8305 6th St, PO Box 1289

Wellington CO 80549

Paul Henehan

Project Number: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) W01@3.5'

6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-05 (Soil)

Origins Laboratory, Inc.

## Metals by Saturated Paste by EPA 6010

Calcium	1.44	0.499	meq/L	10	[CALC]	ACC	06/04/2024	06/05/2024	
Magnesium	ND	0.823	"	"	"	ACC	"	"	
Sodium	ND	0.435	"	"	"	ACC	"	"	

## PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4F0334	agilent	06/03/2024	06/04/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	agilent	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	agilent	"	"	Ua
Anthracene	ND	0.020	"	"	"	agilent	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	agilent	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	agilent	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	agilent	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	agilent	"	"	Ua
Chrysene	ND	0.020	"	"	"	agilent	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	agilent	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	agilent	"	"	Ua
Fluorene	ND	0.020	"	"	"	agilent	"	"	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	agilent	"	"	Ua
Naphthalene	ND	0.002	"	"	"	agilent	"	"	Ua
Pyrene	ND	0.020	"	"	"	agilent	"	"	Ua

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) W01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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## Y406037-05 (Soil) Origins Laboratory, Inc.

### PAH by EPA 8270E

Surrogate: Fluorene-d10	103 %	60-130			B4F03 34		06/03/2024	06/04/2024
Surrogate: Anthracene-d10	98.1 %	60-130			"		"	"
Surrogate: Pyrene-d10	110 %	60-130			"		"	"
Surrogate: Benzo (a) pyrene-d12	98.1 %	60-130			"		"	"

### pH in Soil by 9045D

pH	8.32		pH Units	1	B4F0423	EAL	06/04/2024	06/05/2024
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### SAR by 20B Saturated Paste

SAR	0.123	0.0100	SAR	1	B4F0417	ACC	06/04/2024	06/05/2024
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.277	0.00500	mmhos/cm	1	B4F0423	EAL	06/04/2024	06/05/2024
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### Table 915 metals by EPA 6020B

Arsenic	3.06	0.257	mg/kg	10	B4F0343	KMC	06/03/2024	06/04/2024
Barium	57.4	8.88	"	"	"	KMC	"	"
Cadmium	0.0959	0.0888	"	"	"	KMC	"	"
Copper	ND	8.88	"	"	"	KMC	"	"
Lead	4.92	0.888	"	"	"	KMC	"	"
Nickel	7.43	0.888	"	"	"	KMC	"	"

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) W01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-05 (Soil)  
Origins Laboratory, Inc.

## Table 915 metals by EPA 6020B

Selenium	ND	0.231	mg/kg	10	B4F0343	KMC	06/03/2024	06/04/2024	
Silver	ND	0.0888	"	"	"	KMC	"	"	
Zinc	ND	32.8	"	"	"	KMC	"	"	

## GEL Laboratories, LLC

## Total Metals 7196A

Hexavalent Chromium	ND	0.280	mg/kg dry	1	2624879	HH2	06/12/2024	06/12/2024	U
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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: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) BACKFILL

6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-06 (Soil)

Origins Laboratory, Inc.

**Boron (DTPA Sorbitol)**

Boron	ND	0.100	mg/L	1	B4F0410	ACC	06/04/2024	06/05/2024	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4F0336	ZZZ	06/03/2024	06/04/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	Ua

Surrogate: o-Terphenyl	89.3 %	50-150			"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4F0335	JSM	06/03/2024	06/04/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	JSM	"	"	Ua
Benzene	ND	0.00200	"	"	"	JSM	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	JSM	"	"	Ua
Toluene	ND	0.00200	"	"	"	JSM	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	JSM	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	JSM	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	108 %	70-130			"	"	"	
Surrogate: Toluene-d8	100 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.8 %	70-130			"	"	"	

**Metals by Saturated Paste by EPA 6010**

Origins Laboratory, Inc.



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Fremont Environmental

8305 6th St, PO Box 1289

Wellington CO 80549

Paul Henehan

Project Number: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) BACKFILL

6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-06 (Soil)

Origins Laboratory, Inc.

## Metals by Saturated Paste by EPA 6010

Calcium	1.61	0.499	meq/L	10	[CALC]	ACC	06/04/2024	06/05/2024	
Magnesium	ND	0.823	"	"	"	ACC	"	"	
Sodium	1.09	0.435	"	"	"	ACC	"	"	

## PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4F0334	agilent	06/03/2024	06/04/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	agilent	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	agilent	"	"	Ua
Anthracene	ND	0.020	"	"	"	agilent	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	agilent	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	agilent	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	agilent	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	agilent	"	"	Ua
Chrysene	ND	0.020	"	"	"	agilent	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	agilent	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	agilent	"	"	Ua
Fluorene	ND	0.020	"	"	"	agilent	"	"	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	agilent	"	"	Ua
Naphthalene	ND	0.002	"	"	"	agilent	"	"	Ua
Pyrene	ND	0.020	"	"	"	agilent	"	"	Ua

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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) BACKFILL  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-06 (Soil)  
Origins Laboratory, Inc.

PAH by EPA 8270E

Surrogate: Fluorene-d10	101 %	60-130			B4F0334		06/03/2024	06/04/2024
Surrogate: Anthracene-d10	93.5 %	60-130			"		"	"
Surrogate: Pyrene-d10	112 %	60-130			"		"	"
Surrogate: Benzo (a) pyrene-d12	93.4 %	60-130			"		"	"

pH in Soil by 9045D

pH	8.64		pH Units	1	B4F0423	EAL	06/04/2024	06/05/2024
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SAR by 20B Saturated Paste

SAR	0.997	0.0100	SAR	1	B4F0417	ACC	06/04/2024	06/05/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.363	0.00500	mmhos/cm	1	B4F0423	EAL	06/04/2024	06/05/2024
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Table 915 metals by EPA 6020B

Arsenic	2.61	0.282	mg/kg	10	B4F0343	KMC	06/03/2024	06/04/2024
Barium	61.7	9.74	"	"	"	KMC	"	"
Cadmium	ND	0.0974	"	"	"	KMC	"	"
Copper	ND	9.74	"	"	"	KMC	"	"
Lead	5.12	0.974	"	"	"	KMC	"	"
Nickel	5.37	0.974	"	"	"	KMC	"	"

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Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(SEP02) BACKFILL  
6/3/2024 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y406037-06 (Soil)  
Origins Laboratory, Inc.

Table 915 metals by EPA 6020B

Selenium	ND	0.253	mg/kg	10	B4F0343	KMC	06/03/2024	06/04/2024	
Silver	ND	0.0974	"	"	"	KMC	"	"	
Zinc	ND	36.0	"	"	"	KMC	"	"	

GEL Laboratories, LLC

Total Metals by 7196A

Hexavalent Chromium	ND	0.288	mg/kg dry	1	2632921	HH2	06/27/2024	06/28/2024	U
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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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
Batch B4F0335 - EPA 5030 (soil)										
Blank (B4F0335-BLK1)					Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							Ua
1,3,5-Trimethylbenzene	ND	0.00200	"							Ua
Benzene	ND	0.00200	"							Ua
Ethylbenzene	ND	0.00200	"							Ua
Naphthalene	ND	0.00380	"							Ua
Toluene	ND	0.00200	"							Ua
Xylenes, total	ND	0.00200	"							Ua
Gasoline Range Hydrocarbons	ND	0.200	"							Ua
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		106	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.3	70-130			

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Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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
Batch B4F0335 - EPA 5030 (soil)										
LCS (B4F0335-BS1)					Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	0.0979	0.00200	mg/kg	0.100		97.9	70-130			
1,3,5-Trimethylbenzene	0.0978	0.00200	"	0.100		97.8	70-130			
Benzene	0.0975	0.00200	"	0.100		97.5	70-130			
Ethylbenzene	0.0969	0.00200	"	0.100		96.9	70-130			
Naphthalene	0.100	0.00380	"	0.100		100	70-130			
Toluene	0.0955	0.00200	"	0.100		95.5	70-130			
o-Xylene	0.0948	0.00200	"	0.100		94.8	70-130			
m,p-Xylene	0.191	0.00400	"	0.200		95.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		104	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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 B4F0335 - EPA 5030 (soil)

Matrix Spike (B4F0335-MS1)		Source: Y406028-07			Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	0.0924	0.00200	mg/kg	0.100	ND	92.4	70-130			
1,3,5-Trimethylbenzene	0.0919	0.00200	"	0.100	ND	91.9	70-130			
Benzene	0.0914	0.00200	"	0.100	ND	91.4	70-130			
Ethylbenzene	0.0902	0.00200	"	0.100	ND	90.2	70-130			
Naphthalene	0.0986	0.00380	"	0.100	ND	98.6	70-130			
Toluene	0.0885	0.00200	"	0.100	ND	88.5	70-130			
o-Xylene	0.0890	0.00200	"	0.100	ND	89.0	70-130			
m,p-Xylene	0.179	0.00400	"	0.200	ND	89.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		106	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

Origins Laboratory, Inc.



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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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
Batch B4F0335 - EPA 5030 (soil)										
Matrix Spike Dup (B4F0335-MSD1)		Source: Y406028-07			Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	0.0930	0.00200	mg/kg	0.100	ND	93.0	70-130	0.712	20	
1,3,5-Trimethylbenzene	0.0933	0.00200	"	0.100	ND	93.3	70-130	1.55	20	
Benzene	0.0927	0.00200	"	0.100	ND	92.7	70-130	1.46	20	
Ethylbenzene	0.0910	0.00200	"	0.100	ND	91.0	70-130	0.861	20	
Naphthalene	0.102	0.00380	"	0.100	ND	102	70-130	3.19	20	
Toluene	0.0908	0.00200	"	0.100	ND	90.8	70-130	2.61	20	
o-Xylene	0.0898	0.00200	"	0.100	ND	89.8	70-130	0.940	20	
m,p-Xylene	0.180	0.00400	"	0.200	ND	89.8	70-130	0.435	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		107	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

Origins Laboratory, Inc.



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Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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
Batch B4F0336 - EPA 3550B										
Blank (B4F0336-BLK1)					Prepared: 06/03/2024 Analyzed: 06/03/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							Ua
Residual Range Organics (C28-C40)	ND	100	"							Ua
Surrogate: o-Terphenyl	22		"	24.9		89.7	50-150			

Origins Laboratory, Inc.



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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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 B4F0336 - EPA 3550B

### LCS (B4F0336-BS1)

Prepared: 06/03/2024 Analyzed: 06/03/2024

Diesel (C10-C28)	958	50.0	mg/kg	1000		95.8	70-130			
Residual Range Organics (C28-C40)	1030	200	"	1000		103	70-130			
Surrogate: o-Terphenyl	57		"	49.8		114	50-150			

Origins Laboratory, Inc.



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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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 B4F0336 - EPA 3550B

Matrix Spike (B4F0336-MS1)		Source: Y406028-05			Prepared: 06/03/2024 Analyzed: 06/03/2024					
Diesel (C10-C28)	946	50.0	mg/kg	1000	ND	94.6	70-130			
Residual Range Organics (C28-C40)	1030	200	"	1000	ND	103	70-130			
Surrogate: o-Terphenyl	54		"	49.8		108	50-150			

Origins Laboratory, Inc.



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Fremont Environmental

8305 6th St, PO Box 1289

Wellington CO 80549

Paul Henehan

Project Number: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

## 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 B4F0336 - EPA 3550B

Matrix Spike Dup (B4F0336-MSD1)		Source: Y406028-05			Prepared: 06/03/2024 Analyzed: 06/03/2024					
Diesel (C10-C28)	931	50.0	mg/kg	1000	ND	93.1	70-130	1.66	35	
Residual Range Organics (C28-C40)	1020	200	"	1000	ND	102	70-130	0.431	35	
Surrogate: o-Terphenyl	52		"	49.8		105	50-150			

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8305 6th St, PO Box 1289

Wellington CO 80549

Paul Henehan

Project Number: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

## 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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## Metals by EPA 6000/7000 Series Methods - 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 B4F0343 - EPA 3050B

#### Blank (B4F0343-BLK1)

Prepared: 06/03/2024 Analyzed: 06/04/2024

Arsenic	ND	0.290	mg/kg
Barium	ND	10.0	"
Cadmium	ND	0.100	"
Copper	ND	10.0	"
Lead	ND	1.00	"
Nickel	ND	1.00	"
Selenium	ND	0.260	"
Silver	ND	0.100	"
Zinc	ND	37.0	"

#### LCS (B4F0343-BS1)

Prepared: 06/03/2024 Analyzed: 06/04/2024

Arsenic	5.92	0.290	mg/kg	5.00	118	80-120
Barium	576	10.0	"	500	115	80-120
Cadmium	5.83	0.100	"	5.00	117	80-120
Copper	57.6	10.0	"	50.0	115	80-120
Lead	5.51	1.00	"	5.00	110	80-120
Nickel	5.61	1.00	"	5.00	112	80-120
Selenium	11.3	0.260	"	9.50	118	80-120
Silver	5.65	0.100	"	5.00	113	80-120
Zinc	56.8	37.0	"	50.0	114	80-120

#### Matrix Spike (B4F0343-MS1)

Source: Y406033-01

Prepared: 06/03/2024 Analyzed: 06/04/2024

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8305 6th St, PO Box 1289

Wellington CO 80549

Paul Henehan

Project Number: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

## Metals by EPA 6000/7000 Series Methods - 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 B4F0343 - EPA 3050B

Matrix Spike (B4F0343-MS1)		Source: Y406033-01			Prepared: 06/03/2024 Analyzed: 06/04/2024					
Arsenic	7.17	0.261	mg/kg	4.50	2.12	112	75-125			
Barium	556	8.99	"	450	43.8	114	75-125			
Cadmium	5.35	0.0899	"	4.50	0.0499	118	75-125			
Copper	55.2	8.99	"	45.0	5.01	112	75-125			
Lead	9.24	0.899	"	4.50	4.19	112	75-125			
Nickel	10.4	0.899	"	4.50	5.63	106	75-125			
Selenium	10.1	0.234	"	8.54	0.0668	117	75-125			
Silver	5.03	0.0899	"	4.50	ND	112	75-125			
Zinc	69.7	33.3	"	45.0	19.7	111	75-125			
Matrix Spike Dup (B4F0343-MSD1)		Source: Y406033-01			Prepared: 06/03/2024 Analyzed: 06/04/2024					
Arsenic	7.42	0.271	mg/kg	4.67	2.12	114	75-125	3.56	20	
Barium	575	9.34	"	467	43.8	114	75-125	3.50	20	
Cadmium	5.39	0.0934	"	4.67	0.0499	114	75-125	0.774	20	
Copper	57.4	9.34	"	46.7	5.01	112	75-125	4.02	20	
Lead	9.28	0.934	"	4.67	4.19	109	75-125	0.419	20	
Nickel	10.4	0.934	"	4.67	5.63	102	75-125	0.266	20	
Selenium	10.3	0.243	"	8.87	0.0668	116	75-125	2.39	20	
Silver	5.15	0.0934	"	4.67	ND	110	75-125	2.53	20	
Zinc	71.3	34.5	"	46.7	19.7	111	75-125	2.30	20	

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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4F0334 - EPA 3580**

**Blank (B4F0334-BLK1)**

Prepared: 06/03/2024 Analyzed: 06/04/2024

1-Methylnaphthalene	ND	0.002	mg/kg							Ua
2-Methylnaphthalene	ND	0.002	"							Ua
Acenaphthene	ND	0.020	"							Ua
Anthracene	ND	0.020	"							Ua
Benzo (a) anthracene	ND	0.005	"							Ua
Benzo (a) pyrene	ND	0.020	"							Ua
Benzo (b) fluoranthene	ND	0.020	"							Ua
Benzo (g,h,i) perylene	ND	0.020	"							Ua
Benzo (k) fluoranthene	ND	0.020	"							Ua
Chrysene	ND	0.020	"							Ua
Dibenz (a,h) anthracene	ND	0.020	"							Ua
Fluoranthene	ND	0.020	"							Ua
Fluorene	ND	0.020	"							Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"							Ua
Naphthalene	ND	0.002	"							Ua
Phenanthrene	ND	0.020	"							Ua
Pyrene	ND	0.020	"							Ua

Surrogate: Fluorene-d10	200		ug/kg	200	99.8	60-130
Surrogate: Anthracene-d10	190		"	200	96.2	60-130
Surrogate: Pyrene-d10	220		"	200	110	60-130
Surrogate: Benzo (a) pyrene-d12	180		"	200	92.1	60-130

**LCS (B4F0334-BS1)**

Prepared: 06/03/2024 Analyzed: 06/04/2024

1-Methylnaphthalene	0.190	0.002	mg/kg	0.200	94.9	70-130
2-Methylnaphthalene	0.192	0.002	"	0.200	96.0	70-130
Acenaphthene	0.187	0.020	"	0.200	93.4	70-130
Anthracene	0.189	0.020	"	0.200	94.3	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.

Fremont Environmental

8305 6th St, PO Box 1289

Wellington CO 80549

Paul Henehan

Project Number: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4F0334 - EPA 3580**

**LCS (B4F0334-BS1)**

Prepared: 06/03/2024 Analyzed: 06/04/2024

Benzo (a) anthracene	0.208	0.005	mg/kg	0.200		104	70-130			
Benzo (a) pyrene	0.203	0.020	"	0.200		101	70-130			
Benzo (b) fluoranthene	0.201	0.020	"	0.200		100	70-130			
Benzo (g,h,i) perylene	0.155	0.020	"	0.200		77.3	70-130			
Benzo (k) fluoranthene	0.186	0.020	"	0.200		93.0	70-130			
Chrysene	0.199	0.020	"	0.200		99.3	70-130			
Dibenz (a,h) anthracene	0.141	0.020	"	0.200		70.6	70-130			
Fluoranthene	0.217	0.020	"	0.200		108	70-130			
Fluorene	0.196	0.020	"	0.200		97.9	70-130			
Indeno (1,2,3-cd) pyrene	0.148	0.020	"	0.200		73.8	70-130			
Naphthalene	0.192	0.002	"	0.200		95.9	70-130			
Phenanthrene	0.177	0.020	"	0.200		88.5	70-130			
Pyrene	0.224	0.020	"	0.200		112	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		101	60-130			
Surrogate: Anthracene-d10	180		"	200		91.8	60-130			
Surrogate: Pyrene-d10	220		"	200		109	60-130			
Surrogate: Benzo (a) pyrene-d12	190		"	200		94.9	60-130			

**Matrix Spike (B4F0334-MS1)**

Source: Y406029-01

Prepared: 06/03/2024 Analyzed: 06/04/2024

1-Methylnaphthalene	0.203	0.002	mg/kg	0.200	0.001	101	70-130			
2-Methylnaphthalene	0.196	0.002	"	0.200	0.001	97.6	70-130			
Acenaphthene	0.202	0.020	"	0.200	0.0003	101	70-130			
Anthracene	0.186	0.020	"	0.200	0.003	91.4	70-130			
Benzo (a) anthracene	0.194	0.005	"	0.200	ND	97.2	70-130			
Benzo (a) pyrene	0.204	0.020	"	0.200	0.002	101	70-130			
Benzo (b) fluoranthene	0.210	0.020	"	0.200	0.001	104	70-130			
Benzo (g,h,i) perylene	0.178	0.020	"	0.200	0.019	79.9	70-130			

Origins Laboratory, Inc.



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Fremont Environmental

8305 6th St, PO Box 1289

Wellington CO 80549

Paul Henehan

Project Number: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4F0334 - EPA 3580**

Matrix Spike (B4F0334-MS1)		Source: Y406029-01			Prepared: 06/03/2024 Analyzed: 06/04/2024					
Benzo (k) fluoranthene	0.206	0.020	mg/kg	0.200	0.001	103	70-130			
Chrysene	0.186	0.020	"	0.200	0.0009	92.5	70-130			
Dibenz (a,h) anthracene	0.169	0.020	"	0.200	0.024	72.4	70-130			
Fluoranthene	0.207	0.020	"	0.200	ND	104	70-130			
Fluorene	0.197	0.020	"	0.200	0.001	97.9	70-130			
Indeno (1,2,3-cd) pyrene	0.183	0.020	"	0.200	0.020	81.2	70-130			
Naphthalene	0.199	0.002	"	0.200	ND	99.6	70-130			
Phenanthrene	0.186	0.020	"	0.200	0.001	92.7	70-130			
Pyrene	0.206	0.020	"	0.200	ND	103	70-130			
Surrogate: Fluorene-d10	210		ug/kg	200		104	60-130			
Surrogate: Anthracene-d10	190		"	200		96.1	60-130			
Surrogate: Pyrene-d10	210		"	200		104	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		99.7	60-130			

Matrix Spike Dup (B4F0334-MSD1)		Source: Y406029-01			Prepared: 06/03/2024 Analyzed: 06/04/2024					
1-Methylnaphthalene	0.197	0.002	mg/kg	0.200	0.001	98.1	70-130	2.57	20	
2-Methylnaphthalene	0.203	0.002	"	0.200	0.001	101	70-130	3.10	20	
Acenaphthene	0.195	0.020	"	0.200	0.0003	97.3	70-130	3.67	20	
Anthracene	0.184	0.020	"	0.200	0.003	90.2	70-130	1.29	20	
Benzo (a) anthracene	0.211	0.005	"	0.200	ND	106	70-130	8.36	20	
Benzo (a) pyrene	0.208	0.020	"	0.200	0.002	103	70-130	1.81	20	
Benzo (b) fluoranthene	0.215	0.020	"	0.200	0.001	107	70-130	2.38	20	
Benzo (g,h,i) perylene	0.175	0.020	"	0.200	0.019	78.1	70-130	1.97	20	
Benzo (k) fluoranthene	0.174	0.020	"	0.200	0.001	86.4	70-130	16.9	20	
Chrysene	0.207	0.020	"	0.200	0.0009	103	70-130	10.7	20	
Dibenz (a,h) anthracene	0.166	0.020	"	0.200	0.024	70.6	70-130	2.13	20	
Fluoranthene	0.235	0.020	"	0.200	ND	118	70-130	12.6	20	

Origins Laboratory, Inc.

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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4F0334 - EPA 3580**

Matrix Spike Dup (B4F0334-MSD1)		Source: Y406029-01			Prepared: 06/03/2024 Analyzed: 06/04/2024					
Fluorene	0.203	0.020	mg/kg	0.200	0.001	101	70-130	2.94	20	
Indeno (1,2,3-cd) pyrene	0.170	0.020	"	0.200	0.020	75.1	70-130	6.99	20	
Naphthalene	0.201	0.002	"	0.200	ND	100	70-130	0.635	20	
Phenanthrene	0.198	0.020	"	0.200	0.001	98.3	70-130	5.84	20	
Pyrene	0.233	0.020	"	0.200	ND	116	70-130	12.0	20	
Surrogate: Fluorene-d10	200		ug/kg	200		101	60-130			
Surrogate: Anthracene-d10	200		"	200		98.2	60-130			
Surrogate: Pyrene-d10	230		"	200		113	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		97.9	60-130			

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Classical Chemistry Parameters - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B4F0410 - DTPA Sorbitol Preparation</b>										
<b>Blank (B4F0410-BLK1)</b>					Prepared: 06/04/2024 Analyzed: 06/05/2024					
Boron	ND	0.100	mg/L							
<b>Duplicate (B4F0410-DUP1)</b>					<b>Source: Y406036-12</b> Prepared: 06/04/2024 Analyzed: 06/05/2024					
Boron	3.77	0.0999	mg/L		3.54			6.32	50	
<b>Batch B4F0417 - Saturated Paste Metals</b>										
<b>Blank (B4F0417-BLK1)</b>					Prepared: 06/04/2024 Analyzed: 06/05/2024					
SAR	ND	0.0100	SAR							
Calcium PPM	ND	10.0	mg/L							
Magnesium PPM	ND	10.0	"							
Sodium PPM	ND	10.0	"							
<b>Duplicate (B4F0417-DUP1)</b>					<b>Source: Y406036-14</b> Prepared: 06/04/2024 Analyzed: 06/05/2024					
Calcium PPM	114	10.0	mg/L		70.0			47.4	50	
SAR	ND	0.0100	SAR		13.7				200	
Magnesium PPM	144	10.0	mg/L		101			35.2	50	
Sodium PPM	878	10.0	"		764			13.9	50	

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Saturated Paste - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4F0423 - Saturated Paste pH/EC										
Blank (B4F0423-BLK1)					Prepared: 06/04/2024 Analyzed: 06/05/2024					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
Duplicate (B4F0423-DUP1)					Source: Y406036-14 Prepared: 06/04/2024 Analyzed: 06/05/2024					
Specific Conductance (EC)	4.74	0.00500	mmhos/cm		3.96			18.1	25	
pH	8.61		pH Units		8.48			1.52	25	

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Total Metals by 7196A - Quality Control GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2632921 - SW846 3060A										
BLANK (1205774482-BLK)					Prepared: 06/27/2024 Analyzed: 06/28/2024					
Hexavalent Chromium	ND	0.386	mg/kg				-			U
LCS (1205774483-BKS)					Prepared: 06/27/2024 Analyzed: 06/28/2024					
Hexavalent Chromium	3.83	0.390	mg/kg	3.90		98.1	80-120			
DUP (1205774484 D)					Source: Y406037-02 Prepared: 06/27/2024 Analyzed: 06/28/2024					
Hexavalent Chromium	ND	0.409	mg/kg dry		<0.164		0-50	N/A	50	U
MS (1205774485 S)					Source: Y406037-02 Prepared: 06/27/2024 Analyzed: 06/28/2024					
Hexavalent Chromium	3.06	0.409	mg/kg dry	4.09	<0.164	72.1	75-125			
DUP (1205774486 D)					Source: 672371002 Prepared: 06/27/2024 Analyzed: 06/28/2024					
Hexavalent Chromium	0.131	0.269	mg/kg dry		<0.108		0-50	N/A	50	J
MS (1205774487 S)					Source: 672371002 Prepared: 06/27/2024 Analyzed: 06/28/2024					
Hexavalent Chromium	2.28	0.269	mg/kg dry	2.69	<0.108	81	75-125			
ILCS (1205774488-ILCS)					Prepared: 06/27/2024 Analyzed: 06/28/2024					
Hexavalent Chromium	7.82	0.382	mg/kg	7.78		101	80-120			

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Total Metals 7196A - Quality Control GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2624879 - SW846 3060A										
BLANK (1205758247-BLK)					Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	ND	0.275	mg/kg				-			U
LCS (1205758248-BKS)					Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	3.18	0.324	mg/kg	3.24		98.2	80-120			
DUP (1205758249 D)					Source: 670233001 Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	ND	0.332	mg/kg dry		<0.133		0-50	N/A	50	U
MS (1205758250 S)					Source: 670233001 Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	2.42	0.332	mg/kg dry	3.32	<0.133	70.5	75-125			
DUP (1205758251 D)					Source: Y406037-03 Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	ND	0.380	mg/kg dry		<0.152		0-50	N/A	50	U
MS (1205758252 S)					Source: Y406037-03 Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	3.15	0.380	mg/kg dry	3.80	<0.152	80.4	75-125			
ILCS (1205758253-ILCS)					Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	6.54	0.315	mg/kg	6.46		101	80-120			

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

### Notes and Definitions

Ua Sample is Non-Detect.

U Result not detected above the detection limit

J Greater than the detection limit but less than the reporting limit

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Calculated results may use J-flag data (instead of reported "ND") as part of calculation to provide a more accurate result.

Origins Laboratory, Inc.



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June 25, 2024

Fremont Environmental

Paul Henehan

8305 6th St, PO Box 1289

Wellington CO 80549

**Project Name - Noble - Bernhardt 64N67W  
13NWNE**

**Project Number - [none]**

Attached are your analytical results for Noble - Bernhardt 64N67W 13NWNE received by Origins Laboratory, Inc. June 03, 2024. This project is associated with Origins project number Y406038-01.

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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
(PWV01) B01@4.5'	Y406038-01	Soil	June 3, 2024 0:00	06/03/2024 16:50
(PWV01) N01@3.5'	Y406038-02	Soil	June 3, 2024 0:00	06/03/2024 16:50
(PWV01) S01@3.5'	Y406038-03	Soil	June 3, 2024 0:00	06/03/2024 16:50
(PWV01) E01@3.5'	Y406038-04	Soil	June 3, 2024 0:00	06/03/2024 16:50
(PWV01) W01@3.5'	Y406038-05	Soil	June 3, 2024 0:00	06/03/2024 16:50
(PWV01) Backfill	Y406038-06	Soil	June 3, 2024 0:00	06/03/2024 16:50

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

# ORIGINS

ORIGINS WORK ORDER #

# 1406038

Page 1 of 1

LABORATORY LLC

Client: Fremont Env

Project Manager: Paul Henehan

Key:

W=Water

GW=Groundwater

SW=Surface Water

WW=Waste Water

L=Liquid

Telephone Number:

Email Address:

PaulH@fremontenv.com

Collected By:

JG

Invoice/Billing Info:

N/A

S=Soil | SO=Solid | O=Oil | A=Air | G=Gas || UNP=Unpres | HCL= Hydrochloric | HNO3=Nitric | H2SO4=Sulfuric | NaOH=Sodium Hydroxide

#	Sample ID	Date	Time	Sampled	# of Containers	Matrix	Preservative	Analysis					Comments
1	(Puvol) Boiey, S'	06/02/24			2	S	None	BTEX+N					
2	(Puvol) Noie3, S'							TMBs (915)					
3	(Puvol) Soie3, S'							DRO, ORO, GRO					
4	(Puvol) Eoie3, S'							PAHs (915)					
5	(Puvol) uoie3, S'							EC, PH, SAR, BOD					
6	(Puvol) Boie3, S'							Metal (915)					
7	(Puvol) Boie3, S'												
8													
9													
10													

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
<u>[Signature]</u>	06/03/24	1150	<u>[Signature]</u>	06/24	1150

For Lab Sample Receiving Only:

1725 Elk Place Denver, Co. 80211 | # 303.433.1322 | originslab.com

Temp Received- 22

Received On Ice?

☐ Yes ☒ No

☐ Standard

☐ 48 Hr ☐ 72 Hr

☒ SAME DAY ☐ 24 Hr

Turnaround Time

Origins Laboratory, Inc.

[Signature]

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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWN

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: 4406038

Client: Fremont

Client Project ID: Bernhardt

Checklist Completed by: EH

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

Date/time completed: 6/13/12

Airbill #: N/A

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

Cooler Number/Temperature: 1250 °C 1 °C 1 °C (Describe) \_\_\_\_\_ °C

Thermometer ID: 1005

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"/>		<u>SD</u>
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"/>	
Additional Comments (if any): <u>no sample times</u>				

<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) EH

Date/Time Reviewed 6/13/12

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.

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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWN

(PWV01) B01@4.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y406038-01 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.0992	mg/L	1	B4F0410	06/04/2024	06/05/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4F0347	06/03/2024	06/04/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	101 %	50-150	"	"	"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4F0335	06/03/2024	06/04/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	107 %	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.

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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) B01@4.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406038-01 (Soil)**

**GBTEX+TMBs by 8260D**

Surrogate: Toluene-d8	99.0 %	70-130				B4F03 35	06/03/2024	06/04/2024	
Surrogate: 4-Bromofluorobenzene	97.0 %	70-130				"	"	"	

**Metals by Saturated Paste by EPA 6010**

Calcium	ND	0.499	meq/L	10	[CALC]	06/04/2024	06/05/2024	
Magnesium	ND	0.823	"	"	"	"	"	
Sodium	1.65	0.435	"	"	"	"	"	

**PAH by EPA 8270E**

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4F0345	06/03/2024	06/04/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.



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Fremont Environmental

8305 6th St, PO Box 1289

Wellington CO 80549

Paul Henehan

Project Number: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) B01@4.5'

6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y406038-01 (Soil)

## PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4F0345	06/03/2024	06/04/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	98.0 %	60-130	"	"	"
Surrogate: Anthracene-d10	92.0 %	60-130	"	"	"
Surrogate: Pyrene-d10	106 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	96.5 %	60-130	"	"	"

## pH in Soil by 9045D

pH	8.30	pH Units	1	B4F0423	06/04/2024	06/05/2024
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## SAR by 20B Saturated Paste

SAR	3.06	0.0100	SAR	1	B4F0417	06/04/2024	06/05/2024
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.266	0.00500	mmhos/cm	1	B4F0423	06/04/2024	06/05/2024
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## Table 915 metals by EPA 6020B

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) B01@4.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406038-01 (Soil)**

**Table 915 metals by EPA 6020B**

Arsenic	2.06	0.259	mg/kg	10	B4F0343	06/03/2024	06/04/2024
Barium	41.1	8.94	"	"	"	"	"
Cadmium	ND	0.0894	"	"	"	"	"
Copper	ND	8.94	"	"	"	"	"
Lead	3.99	0.894	"	"	"	"	"
Nickel	6.88	0.894	"	"	"	"	"
Selenium	ND	0.232	"	"	"	"	"
Silver	ND	0.0894	"	"	"	"	"
Zinc	ND	33.1	"	"	"	"	"

**Total Metals 7196A**

Hexavalent Chromium	ND	0.129	0.323	mg/kg dry	1	2624879	06/12/2024	06/12/2024	U
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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.*

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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) N01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406038-02 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.152	0.0988	mg/L	1	B4F0410	06/04/2024	06/05/2024	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4F0347	06/03/2024	06/04/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	102 %	50-150			"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4F0335	06/03/2024	06/04/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	107 %	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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) N01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406038-02 (Soil)**

**GBTEX+TMBs by 8260D**

Surrogate: Toluene-d8	99.6 %	70-130	B4F0335	06/03/2024	06/04/2024
Surrogate: 4-Bromofluorobenzene	97.8 %	70-130	"	"	"

**Metals by Saturated Paste by EPA 6010**

Calcium	0.890	0.499	meq/L	10	[CALC]	06/04/2024	06/05/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

**PAH by EPA 8270E**

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4F0345	06/03/2024	06/04/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) N01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406038-02 (Soil)**

**PAH by EPA 8270E**

Fluorene	ND	0.020	mg/kg	1	B4F0345	06/03/2024	06/04/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	104 %	60-130	"	"	"
Surrogate: Anthracene-d10	94.6 %	60-130	"	"	"
Surrogate: Pyrene-d10	99.0 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	98.8 %	60-130	"	"	"

**pH in Soil by 9045D**

pH	8.31	pH Units	1	B4F0423	06/04/2024	06/05/2024
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**SAR by 20B Saturated Paste**

SAR	0.142	0.0100	SAR	1	B4F0417	06/04/2024	06/05/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.182	0.00500	mmhos/cm	1	B4F0423	06/04/2024	06/05/2024
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**Table 915 metals by EPA 6020B**

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) N01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406038-02 (Soil)**

**Table 915 metals by EPA 6020B**

Arsenic	4.49	0.284	mg/kg	10	B4F0343	06/03/2024	06/04/2024
Barium	88.9	9.78	"	"	"	"	"
Cadmium	0.153	0.0978	"	"	"	"	"
Copper	9.86	9.78	"	"	"	"	"
Lead	7.04	0.978	"	"	"	"	"
Nickel	9.23	0.978	"	"	"	"	"
Selenium	ND	0.254	"	"	"	"	"
Silver	ND	0.0978	"	"	"	"	"
Zinc	37.1	36.2	"	"	"	"	"

**Total Metals 7196A**

Hexavalent Chromium	ND	0.121	0.304	mg/kg dry	1	2624879	06/12/2024	06/12/2024	U
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWN

(PWV01) S01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y406038-03 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.100	mg/L	1	B4F0410	06/04/2024	06/05/2024
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4F0347	06/03/2024	06/04/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	101 %	50-150	"	"	"
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4F0335	06/03/2024	06/04/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	106 %	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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) S01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406038-03 (Soil)**

**GBTEX+TMBs by 8260D**

Surrogate: Toluene-d8	100 %	70-130				B4F0335	06/03/2024	06/04/2024	
Surrogate: 4-Bromofluorobenzene	97.8 %	70-130				"	"	"	

**Metals by Saturated Paste by EPA 6010**

Calcium	0.595	0.499	meq/L	10	[CALC]	06/04/2024	06/05/2024	
Magnesium	ND	0.823	"	"	"	"	"	
Sodium	ND	0.435	"	"	"	"	"	

**PAH by EPA 8270E**

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4F0345	06/03/2024	06/04/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.



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Fremont Environmental

8305 6th St, PO Box 1289

Wellington CO 80549

Paul Henehan

Project Number: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) S01@3.5'

6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y406038-03 (Soil)

## PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4F0345	06/03/2024	06/04/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	103 %	60-130	"	"	"
Surrogate: Anthracene-d10	90.7 %	60-130	"	"	"
Surrogate: Pyrene-d10	107 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	101 %	60-130	"	"	"

## pH in Soil by 9045D

pH	8.08	pH Units	1	B4F0423	06/04/2024	06/05/2024
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## SAR by 20B Saturated Paste

SAR	0.203	0.0100	SAR	1	B4F0417	06/04/2024	06/05/2024
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.136	0.00500	mmhos/cm	1	B4F0423	06/04/2024	06/05/2024
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## Table 915 metals by EPA 6020B

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) S01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406038-03 (Soil)**

**Table 915 metals by EPA 6020B**

Arsenic	3.51	0.270	mg/kg	10	B4F0343	06/03/2024	06/04/2024
Barium	70.9	9.32	"	"	"	"	"
Cadmium	0.116	0.0932	"	"	"	"	"
Copper	ND	9.32	"	"	"	"	"
Lead	6.05	0.932	"	"	"	"	"
Nickel	7.25	0.932	"	"	"	"	"
Selenium	ND	0.242	"	"	"	"	"
Silver	ND	0.0932	"	"	"	"	"
Zinc	ND	34.5	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	ND	0.156	0.390	mg/kg dry	1	2631118	06/24/2024	06/25/2024	U
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) E01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406038-04 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.140	0.0990	mg/L	1	B4F0410	06/04/2024	06/05/2024	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4F0347	06/03/2024	06/04/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	93.5 %	50-150	"	"	"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4F0342	06/03/2024	06/04/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	106 %	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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) E01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406038-04 (Soil)**

**GBTEX+TMBs by 8260D**

Surrogate: Toluene-d8	99.6 %	70-130	B4F03 42	06/03/2024	06/04/2024
Surrogate: 4-Bromofluorobenzene	96.4 %	70-130	"	"	"

**Metals by Saturated Paste by EPA 6010**

Calcium	1.10	0.499	meq/L	10	[CALC]	06/04/2024	06/05/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

**PAH by EPA 8270E**

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4F0345	06/03/2024	06/04/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.



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Fremont Environmental

8305 6th St, PO Box 1289

Wellington CO 80549

Paul Henehan

Project Number: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) E01@3.5'

6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y406038-04 (Soil)

## PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4F0345	06/03/2024	06/04/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	102 %	60-130	"	"	"
Surrogate: Anthracene-d10	94.8 %	60-130	"	"	"
Surrogate: Pyrene-d10	106 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	100 %	60-130	"	"	"

## pH in Soil by 9045D

pH	8.29	pH Units	1	B4F0423	06/04/2024	06/05/2024
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## SAR by 20B Saturated Paste

SAR	0.219	0.0100	SAR	1	B4F0417	06/04/2024	06/05/2024
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.223	0.00500	mmhos/cm	1	B4F0423	06/04/2024	06/05/2024
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## Table 915 metals by EPA 6020B

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) E01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y406038-04 (Soil)

## Table 915 metals by EPA 6020B

Arsenic	3.62	0.268	mg/kg	10	B4F0343	06/03/2024	06/04/2024
Barium	81.5	9.23	"	"	"	"	"
Cadmium	0.116	0.0923	"	"	"	"	"
Copper	ND	9.23	"	"	"	"	"
Lead	5.97	0.923	"	"	"	"	"
Nickel	8.42	0.923	"	"	"	"	"
Selenium	ND	0.240	"	"	"	"	"
Silver	ND	0.0923	"	"	"	"	"
Zinc	ND	34.1	"	"	"	"	"

## Total Metals by 7196A

Hexavalent Chromium	ND	0.167	0.417	mg/kg dry	1	2631118	06/24/2024	06/25/2024	U
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) W01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406038-05 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.130	0.0995	mg/L	1	B4F0410	06/04/2024	06/05/2024	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4F0347	06/03/2024	06/04/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	92.2 %	50-150	"	"	"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4F0344	06/03/2024	06/03/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	98.0 %	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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) W01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406038-05 (Soil)**

**GBTEX+TMBs by 8260D**

Surrogate: Toluene-d8	97.2 %	70-130				B4F03 44	06/03/2024	06/03/2024	
Surrogate: 4-Bromofluorobenzene	103 %	70-130				"	"	"	

**Metals by Saturated Paste by EPA 6010**

Calcium	ND	0.499	meq/L	10	[CALC]	06/04/2024	06/05/2024	
Magnesium	ND	0.823	"	"	"	"	"	
Sodium	ND	0.435	"	"	"	"	"	

**PAH by EPA 8270E**

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4F0345	06/03/2024	06/04/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.



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Fremont Environmental

8305 6th St, PO Box 1289

Wellington CO 80549

Paul Henehan

Project Number: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) W01@3.5'

6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y406038-05 (Soil)

## PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4F0345	06/03/2024	06/04/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	99.2 %	60-130	"	"	"
Surrogate: Anthracene-d10	94.5 %	60-130	"	"	"
Surrogate: Pyrene-d10	101 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	99.2 %	60-130	"	"	"

## pH in Soil by 9045D

pH	7.31	pH Units	1	B4F0423	06/04/2024	06/05/2024
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## SAR by 20B Saturated Paste

SAR	0.278	0.0100	SAR	1	B4F0417	06/04/2024	06/05/2024
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.105	0.00500	mmhos/cm	1	B4F0423	06/04/2024	06/05/2024
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## Table 915 metals by EPA 6020B

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) W01@3.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406038-05 (Soil)**

**Table 915 metals by EPA 6020B**

Arsenic	4.53	0.268	mg/kg	10	B4F0343	06/03/2024	06/04/2024
Barium	91.8	9.23	"	"	"	"	"
Cadmium	0.153	0.0923	"	"	"	"	"
Copper	9.87	9.23	"	"	"	"	"
Lead	7.51	0.923	"	"	"	"	"
Nickel	9.33	0.923	"	"	"	"	"
Selenium	ND	0.240	"	"	"	"	"
Silver	ND	0.0923	"	"	"	"	"
Zinc	39.8	34.1	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	ND	0.150	0.376	mg/kg dry	1	2631118	06/24/2024	06/25/2024	U
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) Backfill

6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y406038-06 (Soil)

**Boron (DTPA Sorbitol)**

Boron	0.118	0.101	mg/L	1	B4F0410	06/04/2024	06/05/2024	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4F0347	06/03/2024	06/04/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	95.7 %	50-150	"	"	"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4F0344	06/03/2024	06/03/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	99.5 %	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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) Backfill

6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y406038-06 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	95.4 %	70-130	B4F0344	06/03/2024	06/03/2024
Surrogate: 4-Bromofluorobenzene	105 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	0.637	0.499	meq/L	10	[CALC]	06/04/2024	06/05/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	5.06	0.435	"	"	"	"	"

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4F0345	06/03/2024	06/04/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.



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Fremont Environmental

8305 6th St, PO Box 1289

Wellington CO 80549

Paul Henehan

Project Number: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) Backfill

6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y406038-06 (Soil)

PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4F0345	06/03/2024	06/04/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	105 %	60-130	"	"	"
Surrogate: Anthracene-d10	95.0 %	60-130	"	"	"
Surrogate: Pyrene-d10	102 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	99.6 %	60-130	"	"	"

pH in Soil by 9045D

pH	8.66	pH Units	1	B4F0423	06/04/2024	06/05/2024
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SAR by 20B Saturated Paste

SAR	6.83	0.0100	SAR	1	B4F0417	06/04/2024	06/05/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.628	0.00500	mmhos/cm	1	B4F0423	06/04/2024	06/05/2024
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Table 915 metals by EPA 6020B

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

(PWV01) Backfill

6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y406038-06 (Soil)

Table 915 metals by EPA 6020B

Arsenic	3.48	0.247	mg/kg	10	B4F0343	06/03/2024	06/04/2024
Barium	77.7	8.50	"	"	"	"	"
Cadmium	0.0944	0.0850	"	"	"	"	"
Copper	ND	8.50	"	"	"	"	"
Lead	6.49	0.850	"	"	"	"	"
Nickel	6.96	0.850	"	"	"	"	"
Selenium	ND	0.221	"	"	"	"	"
Silver	ND	0.0850	"	"	"	"	"
Zinc	ND	31.5	"	"	"	"	"

Total Metals by 7196A

Hexavalent Chromium	ND	0.122	0.306	mg/kg dry	1	2631118	06/24/2024	06/25/2024	U
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**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 B4F0335 - EPA 5030 (soil)</b>										
<b>Blank (B4F0335-BLK1)</b>					Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							Ua
1,3,5-Trimethylbenzene	ND	0.00200	"							Ua
Benzene	ND	0.00200	"							Ua
Ethylbenzene	ND	0.00200	"							Ua
Naphthalene	ND	0.00380	"							Ua
Toluene	ND	0.00200	"							Ua
Xylenes, total	ND	0.00200	"							Ua
Gasoline Range Hydrocarbons	ND	0.200	"							Ua
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125	106		70-130			
Surrogate: Toluene-d8	0.12		"	0.125	99.3		70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125	99.3		70-130			

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**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 B4F0335 - EPA 5030 (soil)</b>										
<b>LCS (B4F0335-BS1)</b>					Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	0.0979	0.00200	mg/kg	0.100		97.9	70-130			
1,3,5-Trimethylbenzene	0.0978	0.00200	"	0.100		97.8	70-130			
Benzene	0.0975	0.00200	"	0.100		97.5	70-130			
Ethylbenzene	0.0969	0.00200	"	0.100		96.9	70-130			
Naphthalene	0.100	0.00380	"	0.100		100	70-130			
Toluene	0.0955	0.00200	"	0.100		95.5	70-130			
o-Xylene	0.0948	0.00200	"	0.100		94.8	70-130			
m,p-Xylene	0.191	0.00400	"	0.200		95.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		104	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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
Batch B4F0335 - EPA 5030 (soil)										
Matrix Spike (B4F0335-MS1)		Source: Y406028-07			Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	0.0924	0.00200	mg/kg	0.100	ND	92.4	70-130			
1,3,5-Trimethylbenzene	0.0919	0.00200	"	0.100	ND	91.9	70-130			
Benzene	0.0914	0.00200	"	0.100	ND	91.4	70-130			
Ethylbenzene	0.0902	0.00200	"	0.100	ND	90.2	70-130			
Naphthalene	0.0986	0.00380	"	0.100	ND	98.6	70-130			
Toluene	0.0885	0.00200	"	0.100	ND	88.5	70-130			
o-Xylene	0.0890	0.00200	"	0.100	ND	89.0	70-130			
m,p-Xylene	0.179	0.00400	"	0.200	ND	89.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		106	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

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Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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
Batch B4F0335 - EPA 5030 (soil)										
Matrix Spike Dup (B4F0335-MSD1)			Source: Y406028-07		Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	0.0930	0.00200	mg/kg	0.100	ND	93.0	70-130	0.712	20	
1,3,5-Trimethylbenzene	0.0933	0.00200	"	0.100	ND	93.3	70-130	1.55	20	
Benzene	0.0927	0.00200	"	0.100	ND	92.7	70-130	1.46	20	
Ethylbenzene	0.0910	0.00200	"	0.100	ND	91.0	70-130	0.861	20	
Naphthalene	0.102	0.00380	"	0.100	ND	102	70-130	3.19	20	
Toluene	0.0908	0.00200	"	0.100	ND	90.8	70-130	2.61	20	
o-Xylene	0.0898	0.00200	"	0.100	ND	89.8	70-130	0.940	20	
m,p-Xylene	0.180	0.00400	"	0.200	ND	89.8	70-130	0.435	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		107	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

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Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**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 B4F0342 - EPA 5030 (soil)</b>										
<b>Blank (B4F0342-BLK1)</b>					Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							Ua
1,3,5-Trimethylbenzene	ND	0.00200	"							Ua
Benzene	ND	0.00200	"							Ua
Ethylbenzene	ND	0.00200	"							Ua
Naphthalene	ND	0.00380	"							Ua
Toluene	ND	0.00200	"							Ua
Xylenes, total	ND	0.00200	"							Ua
Gasoline Range Hydrocarbons	ND	0.200	"							Ua
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125	106		70-130			
Surrogate: Toluene-d8	0.12		"	0.125	99.8		70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125	98.9		70-130			

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Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**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 B4F0342 - EPA 5030 (soil)</b>										
<b>LCS (B4F0342-BS1)</b>					Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	0.0960	0.00200	mg/kg	0.100		96.0	70-130			
1,3,5-Trimethylbenzene	0.0966	0.00200	"	0.100		96.6	70-130			
Benzene	0.0924	0.00200	"	0.100		92.4	70-130			
Ethylbenzene	0.0946	0.00200	"	0.100		94.6	70-130			
Naphthalene	0.101	0.00380	"	0.100		101	70-130			
Toluene	0.0916	0.00200	"	0.100		91.6	70-130			
o-Xylene	0.0932	0.00200	"	0.100		93.2	70-130			
m,p-Xylene	0.187	0.00400	"	0.200		93.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		104	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

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Project Number: [none]  
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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
Batch B4F0342 - EPA 5030 (soil)										
Matrix Spike (B4F0342-MS1)		Source: Y406036-01			Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	0.0897	0.00200	mg/kg	0.100	ND	89.7	70-130			
1,3,5-Trimethylbenzene	0.0885	0.00200	"	0.100	ND	88.5	70-130			
Benzene	0.0898	0.00200	"	0.100	ND	89.8	70-130			
Ethylbenzene	0.0876	0.00200	"	0.100	ND	87.6	70-130			
Naphthalene	0.0952	0.00380	"	0.100	ND	95.2	70-130			
Toluene	0.0854	0.00200	"	0.100	ND	85.4	70-130			
o-Xylene	0.0861	0.00200	"	0.100	ND	86.1	70-130			
m,p-Xylene	0.173	0.00400	"	0.200	ND	86.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		108	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		105	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
Batch B4F0342 - EPA 5030 (soil)										
Matrix Spike Dup (B4F0342-MSD1)			Source: Y406036-01		Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	0.0898	0.00200	mg/kg	0.100	ND	89.8	70-130	0.178	20	
1,3,5-Trimethylbenzene	0.0900	0.00200	"	0.100	ND	90.0	70-130	1.73	20	
Benzene	0.0894	0.00200	"	0.100	ND	89.4	70-130	0.447	20	
Ethylbenzene	0.0882	0.00200	"	0.100	ND	88.2	70-130	0.728	20	
Naphthalene	0.0969	0.00380	"	0.100	ND	96.9	70-130	1.83	20	
Toluene	0.0866	0.00200	"	0.100	ND	86.6	70-130	1.42	20	
o-Xylene	0.0878	0.00200	"	0.100	ND	87.8	70-130	1.95	20	
m,p-Xylene	0.174	0.00400	"	0.200	ND	87.2	70-130	0.841	20	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		109	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

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Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**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 B4F0344 - EPA 5030 (soil)</b>										
<b>Blank (B4F0344-BLK1)</b>					Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							Ua
1,3,5-Trimethylbenzene	ND	0.00200	"							Ua
Benzene	ND	0.00200	"							Ua
Ethylbenzene	ND	0.00200	"							Ua
Naphthalene	ND	0.00380	"							Ua
Toluene	ND	0.00200	"							Ua
Xylenes, total	ND	0.00200	"							Ua
Gasoline Range Hydrocarbons	ND	0.200	"							Ua
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		94.8	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

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Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**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 B4F0344 - EPA 5030 (soil)</b>										
<b>LCS (B4F0344-BS1)</b>					Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	0.108	0.00200	mg/kg	0.100		108	70-130			
1,3,5-Trimethylbenzene	0.106	0.00200	"	0.100		106	70-130			
Benzene	0.101	0.00200	"	0.100		101	70-130			
Ethylbenzene	0.103	0.00200	"	0.100		103	70-130			
Naphthalene	0.0984	0.00380	"	0.100		98.4	70-130			
Toluene	0.0954	0.00200	"	0.100		95.4	70-130			
o-Xylene	0.106	0.00200	"	0.100		106	70-130			
m,p-Xylene	0.207	0.00400	"	0.200		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		92.2	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

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Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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 B4F0344 - EPA 5030 (soil)

Matrix Spike (B4F0344-MS1)		Source: Y406038-05			Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	0.0993	0.00200	mg/kg	0.100	ND	99.3	70-130			
1,3,5-Trimethylbenzene	0.0984	0.00200	"	0.100	ND	98.4	70-130			
Benzene	0.0921	0.00200	"	0.100	ND	92.1	70-130			
Ethylbenzene	0.0968	0.00200	"	0.100	ND	96.8	70-130			
Naphthalene	0.0888	0.00380	"	0.100	0.00142	87.4	70-130			
Toluene	0.0876	0.00200	"	0.100	ND	87.6	70-130			
o-Xylene	0.101	0.00200	"	0.100	ND	101	70-130			
m,p-Xylene	0.192	0.00400	"	0.200	ND	96.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		93.0	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.9	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

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Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**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 B4F0344 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B4F0344-MSD1)</b>			<b>Source: Y406038-05</b>		Prepared: 06/03/2024 Analyzed: 06/03/2024					
1,2,4-Trimethylbenzene	0.0967	0.00200	mg/kg	0.100	ND	96.7	70-130	2.67	20	
1,3,5-Trimethylbenzene	0.0971	0.00200	"	0.100	ND	97.1	70-130	1.33	20	
Benzene	0.0893	0.00200	"	0.100	ND	89.3	70-130	3.04	20	
Ethylbenzene	0.0954	0.00200	"	0.100	ND	95.4	70-130	1.46	20	
Naphthalene	0.0878	0.00380	"	0.100	0.00142	86.3	70-130	1.22	20	
Toluene	0.0872	0.00200	"	0.100	ND	87.2	70-130	0.458	20	
o-Xylene	0.0992	0.00200	"	0.100	ND	99.2	70-130	1.58	20	
m,p-Xylene	0.190	0.00400	"	0.200	ND	95.0	70-130	1.05	20	
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		91.3	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

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Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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 B4F0347 - EPA 3550B

Blank (B4F0347-BLK1)

Prepared: 06/03/2024 Analyzed: 06/04/2024

Diesel (C10-C28)	ND	25.0	mg/kg							Ua
Residual Range Organics (C28-C40)	ND	100	"							Ua
Surrogate: o-Terphenyl	23		"	24.9		92.1	50-150			

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Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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 B4F0347 - EPA 3550B

### LCS (B4F0347-BS1)

Prepared: 06/03/2024 Analyzed: 06/04/2024

Diesel (C10-C28)	919	50.0	mg/kg	1000		91.9	70-130			
Residual Range Organics (C28-C40)	1060	200	"	1000		106	70-130			
Surrogate: o-Terphenyl	58		"	49.8		117	50-150			

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Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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 B4F0347 - EPA 3550B										
<b>Matrix Spike (B4F0347-MS1)</b>		<b>Source: Y406038-01</b>			Prepared: 06/03/2024 Analyzed: 06/04/2024					
Diesel (C10-C28)	907	50.0	mg/kg	1000	ND	90.7	70-130			
Residual Range Organics (C28-C40)	1060	200	"	1000	ND	106	70-130			
Surrogate: o-Terphenyl	47		"	49.8		95.4	50-150			

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Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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 B4F0347 - EPA 3550B

Matrix Spike Dup (B4F0347-MSD1)		Source: Y406038-01			Prepared: 06/03/2024 Analyzed: 06/04/2024					
Diesel (C10-C28)	897	50.0	mg/kg	1000	ND	89.7	70-130	1.03	35	
Residual Range Organics (C28-C40)	1050	200	"	1000	ND	105	70-130	1.22	35	
Surrogate: o-Terphenyl	47		"	49.8		94.4	50-150			

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Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## 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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## Metals by EPA 6000/7000 Series Methods - 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 B4F0343 - EPA 3050B

#### Blank (B4F0343-BLK1)

Prepared: 06/03/2024 Analyzed: 06/04/2024

Arsenic	ND	0.290	mg/kg
Barium	ND	10.0	"
Cadmium	ND	0.100	"
Copper	ND	10.0	"
Lead	ND	1.00	"
Nickel	ND	1.00	"
Selenium	ND	0.260	"
Silver	ND	0.100	"
Zinc	ND	37.0	"

#### LCS (B4F0343-BS1)

Prepared: 06/03/2024 Analyzed: 06/04/2024

Arsenic	5.92	0.290	mg/kg	5.00	118	80-120
Barium	576	10.0	"	500	115	80-120
Cadmium	5.83	0.100	"	5.00	117	80-120
Copper	57.6	10.0	"	50.0	115	80-120
Lead	5.51	1.00	"	5.00	110	80-120
Nickel	5.61	1.00	"	5.00	112	80-120
Selenium	11.3	0.260	"	9.50	118	80-120
Silver	5.65	0.100	"	5.00	113	80-120
Zinc	56.8	37.0	"	50.0	114	80-120

#### Matrix Spike (B4F0343-MS1)

Source: Y406033-01

Prepared: 06/03/2024 Analyzed: 06/04/2024

Origins Laboratory, Inc.



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8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Metals by EPA 6000/7000 Series Methods - 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 B4F0343 - EPA 3050B

Matrix Spike (B4F0343-MS1)		Source: Y406033-01			Prepared: 06/03/2024 Analyzed: 06/04/2024					
Arsenic	7.17	0.261	mg/kg	4.50	2.12	112	75-125			
Barium	556	8.99	"	450	43.8	114	75-125			
Cadmium	5.35	0.0899	"	4.50	0.0499	118	75-125			
Copper	55.2	8.99	"	45.0	5.01	112	75-125			
Lead	9.24	0.899	"	4.50	4.19	112	75-125			
Nickel	10.4	0.899	"	4.50	5.63	106	75-125			
Selenium	10.1	0.234	"	8.54	0.0668	117	75-125			
Silver	5.03	0.0899	"	4.50	ND	112	75-125			
Zinc	69.7	33.3	"	45.0	19.7	111	75-125			
Matrix Spike Dup (B4F0343-MSD1)		Source: Y406033-01			Prepared: 06/03/2024 Analyzed: 06/04/2024					
Arsenic	7.42	0.271	mg/kg	4.67	2.12	114	75-125	3.56	20	
Barium	575	9.34	"	467	43.8	114	75-125	3.50	20	
Cadmium	5.39	0.0934	"	4.67	0.0499	114	75-125	0.774	20	
Copper	57.4	9.34	"	46.7	5.01	112	75-125	4.02	20	
Lead	9.28	0.934	"	4.67	4.19	109	75-125	0.419	20	
Nickel	10.4	0.934	"	4.67	5.63	102	75-125	0.266	20	
Selenium	10.3	0.243	"	8.87	0.0668	116	75-125	2.39	20	
Silver	5.15	0.0934	"	4.67	ND	110	75-125	2.53	20	
Zinc	71.3	34.5	"	46.7	19.7	111	75-125	2.30	20	

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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4F0345 - EPA 3580**

**Blank (B4F0345-BLK1)**

Prepared: 06/03/2024 Analyzed: 06/04/2024

1-Methylnaphthalene	ND	0.002	mg/kg							Ua
2-Methylnaphthalene	ND	0.002	"							Ua
Acenaphthene	ND	0.020	"							Ua
Anthracene	ND	0.020	"							Ua
Benzo (a) anthracene	ND	0.005	"							Ua
Benzo (a) pyrene	ND	0.020	"							Ua
Benzo (b) fluoranthene	ND	0.020	"							Ua
Benzo (g,h,i) perylene	ND	0.020	"							Ua
Benzo (k) fluoranthene	ND	0.020	"							Ua
Chrysene	ND	0.020	"							Ua
Dibenz (a,h) anthracene	ND	0.020	"							Ua
Fluoranthene	ND	0.020	"							Ua
Fluorene	ND	0.020	"							Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"							Ua
Naphthalene	ND	0.002	"							Ua
Phenanthrene	ND	0.020	"							Ua
Pyrene	ND	0.020	"							Ua

Surrogate: Fluorene-d10	210		ug/kg	200		103	60-130
Surrogate: Anthracene-d10	190		"	200		95.6	60-130
Surrogate: Pyrene-d10	200		"	200		99.5	60-130
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130

**LCS (B4F0345-BS1)**

Prepared: 06/03/2024 Analyzed: 06/04/2024

1-Methylnaphthalene	0.193	0.002	mg/kg	0.200		96.4	70-130
2-Methylnaphthalene	0.191	0.002	"	0.200		95.6	70-130
Acenaphthene	0.203	0.020	"	0.200		102	70-130
Anthracene	0.201	0.020	"	0.200		101	70-130

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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4F0345 - EPA 3580**

**LCS (B4F0345-BS1)**

Prepared: 06/03/2024 Analyzed: 06/04/2024

Benzo (a) anthracene	0.221	0.005	mg/kg	0.200		111	70-130
Benzo (a) pyrene	0.203	0.020	"	0.200		101	70-130
Benzo (b) fluoranthene	0.192	0.020	"	0.200		96.0	70-130
Benzo (g,h,i) perylene	0.192	0.020	"	0.200		96.2	70-130
Benzo (k) fluoranthene	0.159	0.020	"	0.200		79.4	70-130
Chrysene	0.207	0.020	"	0.200		103	70-130
Dibenz (a,h) anthracene	0.207	0.020	"	0.200		104	70-130
Fluoranthene	0.204	0.020	"	0.200		102	70-130
Fluorene	0.198	0.020	"	0.200		98.9	70-130
Indeno (1,2,3-cd) pyrene	0.208	0.020	"	0.200		104	70-130
Naphthalene	0.192	0.002	"	0.200		96.1	70-130
Phenanthrene	0.192	0.020	"	0.200		96.0	70-130
Pyrene	0.212	0.020	"	0.200		106	70-130
Surrogate: Fluorene-d10	200		ug/kg	200		101	60-130
Surrogate: Anthracene-d10	200		"	200		97.9	60-130
Surrogate: Pyrene-d10	210		"	200		104	60-130
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130

**Matrix Spike (B4F0345-MS1)**

Source: Y406038-01

Prepared: 06/03/2024 Analyzed: 06/04/2024

1-Methylnaphthalene	0.190	0.002	mg/kg	0.200	ND	94.8	70-130
2-Methylnaphthalene	0.192	0.002	"	0.200	ND	95.8	70-130
Acenaphthene	0.199	0.020	"	0.200	ND	99.5	70-130
Anthracene	0.192	0.020	"	0.200	ND	95.8	70-130
Benzo (a) anthracene	0.212	0.005	"	0.200	ND	106	70-130
Benzo (a) pyrene	0.196	0.020	"	0.200	ND	98.0	70-130
Benzo (b) fluoranthene	0.178	0.020	"	0.200	ND	88.8	70-130
Benzo (g,h,i) perylene	0.188	0.020	"	0.200	ND	94.2	70-130

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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4F0345 - EPA 3580**

Matrix Spike (B4F0345-MS1)		Source: Y406038-01			Prepared: 06/03/2024 Analyzed: 06/04/2024					
Benzo (k) fluoranthene	0.161	0.020	mg/kg	0.200	0.0005	80.1	70-130			
Chrysene	0.202	0.020	"	0.200	ND	101	70-130			
Dibenz (a,h) anthracene	0.197	0.020	"	0.200	ND	98.7	70-130			
Fluoranthene	0.199	0.020	"	0.200	ND	99.4	70-130			
Fluorene	0.202	0.020	"	0.200	0.0004	101	70-130			
Indeno (1,2,3-cd) pyrene	0.195	0.020	"	0.200	ND	97.3	70-130			
Naphthalene	0.189	0.002	"	0.200	ND	94.5	70-130			
Phenanthrene	0.184	0.020	"	0.200	ND	92.1	70-130			
Pyrene	0.219	0.020	"	0.200	ND	109	70-130			
Surrogate: Fluorene-d10	210		ug/kg	200		104	60-130			
Surrogate: Anthracene-d10	190		"	200		96.2	60-130			
Surrogate: Pyrene-d10	220		"	200		108	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		100	60-130			

Matrix Spike Dup (B4F0345-MSD1)		Source: Y406038-01			Prepared: 06/03/2024 Analyzed: 06/04/2024					
1-Methylnaphthalene	0.197	0.002	mg/kg	0.200	ND	98.3	70-130	3.68	20	
2-Methylnaphthalene	0.201	0.002	"	0.200	ND	101	70-130	5.02	20	
Acenaphthene	0.201	0.020	"	0.200	ND	101	70-130	1.21	20	
Anthracene	0.201	0.020	"	0.200	ND	100	70-130	4.59	20	
Benzo (a) anthracene	0.221	0.005	"	0.200	ND	110	70-130	4.15	20	
Benzo (a) pyrene	0.205	0.020	"	0.200	ND	103	70-130	4.63	20	
Benzo (b) fluoranthene	0.201	0.020	"	0.200	ND	100	70-130	12.2	20	
Benzo (g,h,i) perylene	0.203	0.020	"	0.200	ND	102	70-130	7.58	20	
Benzo (k) fluoranthene	0.172	0.020	"	0.200	0.0005	85.6	70-130	6.58	20	
Chrysene	0.215	0.020	"	0.200	ND	107	70-130	6.08	20	
Dibenz (a,h) anthracene	0.205	0.020	"	0.200	ND	103	70-130	3.94	20	
Fluoranthene	0.234	0.020	"	0.200	ND	117	70-130	16.4	20	

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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4F0345 - EPA 3580**

Matrix Spike Dup (B4F0345-MSD1)		Source: Y406038-01			Prepared: 06/03/2024 Analyzed: 06/04/2024					
Fluorene	0.197	0.020	mg/kg	0.200	0.0004	98.1	70-130	2.56	20	
Indeno (1,2,3-cd) pyrene	0.207	0.020	"	0.200	ND	104	70-130	6.43	20	
Naphthalene	0.200	0.002	"	0.200	ND	100	70-130	5.84	20	
Phenanthrene	0.202	0.020	"	0.200	ND	101	70-130	9.11	20	
Pyrene	0.231	0.020	"	0.200	ND	116	70-130	5.52	20	
Surrogate: Fluorene-d10	200		ug/kg	200		99.4	60-130			
Surrogate: Anthracene-d10	200		"	200		99.1	60-130			
Surrogate: Pyrene-d10	220		"	200		111	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		98.8	60-130			

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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Classical Chemistry Parameters - 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 B4F0410 - DTPA Sorbitol Preparation

#### Blank (B4F0410-BLK1)

Prepared: 06/04/2024 Analyzed: 06/05/2024

Boron ND 0.100 mg/L

#### Duplicate (B4F0410-DUP1)

Source: Y406036-12

Prepared: 06/04/2024 Analyzed: 06/05/2024

Boron 3.77 0.0999 mg/L 3.54 6.32 50

### Batch B4F0417 - Saturated Paste Metals

#### Blank (B4F0417-BLK1)

Prepared: 06/04/2024 Analyzed: 06/05/2024

SAR ND 0.0100 SAR

Calcium PPM ND 10.0 mg/L

Magnesium PPM ND 10.0 "

Sodium PPM ND 10.0 "

#### Duplicate (B4F0417-DUP1)

Source: Y406036-14

Prepared: 06/04/2024 Analyzed: 06/05/2024

Calcium PPM 114 10.0 mg/L 70.0 47.4 50

SAR ND 0.0100 SAR ND 200

Magnesium PPM 144 10.0 mg/L 101 35.2 50

Sodium PPM 878 10.0 " 764 13.9 50

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Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Saturated Paste - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B4F0423 - Saturated Paste pH/EC</b>										
<b>Blank (B4F0423-BLK1)</b>					Prepared: 06/04/2024 Analyzed: 06/05/2024					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
<b>Duplicate (B4F0423-DUP1)</b>					<b>Source: Y406036-14</b> Prepared: 06/04/2024 Analyzed: 06/05/2024					
Specific Conductance (EC)	4.74	0.00500	mmhos/cm		3.96			18.1	25	
pH	8.61		pH Units		8.48			1.52	25	

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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Total Metals by 7196A - Quality Control GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2631118 - SW846 3060A										
BLANK (1205770910-BLK)					Prepared: 06/24/2024 Analyzed: 06/25/2024					
Hexavalent Chromium	ND	0.387	mg/kg				-			U
LCS (1205770911-BKS)					Prepared: 06/24/2024 Analyzed: 06/25/2024					
Hexavalent Chromium	3.16	0.316	mg/kg	3.16		99.9	80-120			
DUP (1205770912 D)					Source: 671412001 Prepared: 06/24/2024 Analyzed: 06/25/2024					
Hexavalent Chromium	ND	0.321	mg/kg dry		<0.128		0-50	N/A	50	U
MS (1205770913 S)					Source: 671412001 Prepared: 06/24/2024 Analyzed: 06/25/2024					
Hexavalent Chromium	1.61	0.321	mg/kg dry	3.21	<0.128	47.6	75-125			
DUP (1205770914 D)					Source: 671501003 Prepared: 06/24/2024 Analyzed: 06/25/2024					
Hexavalent Chromium	ND	0.405	mg/kg dry		<0.162		0-50	N/A	50	U
MS (1205770915 S)					Source: 671501003 Prepared: 06/24/2024 Analyzed: 06/25/2024					
Hexavalent Chromium	3.73	0.405	mg/kg dry	4.05	<0.162	89.7	75-125			
ILCS (1205770916-ILCS)					Prepared: 06/24/2024 Analyzed: 06/25/2024					
Hexavalent Chromium	6.51	0.314	mg/kg	6.41		101	80-120			

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Fremont Environmental  
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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Total Metals 7196A - Quality Control GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2624879 - SW846 3060A										
BLANK (1205758247-BLK)					Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	ND	0.275	mg/kg				-			U
LCS (1205758248-BKS)					Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	3.18	0.324	mg/kg	3.24		98.2	80-120			
DUP (1205758249 D)					Source: 670233001 Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	ND	0.332	mg/kg dry		<0.133		0-50	N/A	50	U
MS (1205758250 S)					Source: 670233001 Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	2.42	0.332	mg/kg dry	3.32	<0.133	70.5	75-125			
DUP (1205758251 D)					Source: 670237003 Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	ND	0.380	mg/kg dry		<0.152		0-50	N/A	50	U
MS (1205758252 S)					Source: 670237003 Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	3.15	0.380	mg/kg dry	3.80	<0.152	80.4	75-125			
ILCS (1205758253-ILCS)					Prepared: 06/12/2024 Analyzed: 06/12/2024					
Hexavalent Chromium	6.54	0.315	mg/kg	6.46		101	80-120			

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8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

### Notes and Definitions

Ua Sample is Non-Detect.

U Result not detected above the detection limit

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

Calculated results may use J-flag data (instead of reported "ND") as part of calculation to provide a more accurate result.

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June 27, 2024

Fremont Environmental

Paul Henehan

8305 6th St, PO Box 1289

Wellington CO 80549

**Project Name - Noble - Bernhardt 64N67W  
13NWNE**

**Project Number - [none]**

Attached are your analytical results for Noble - Bernhardt 64N67W 13NWNE received by Origins Laboratory, Inc. June 03, 2024. This project is associated with Origins project number Y406040-01.

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  
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BKG01@3.5'	Y406040-01	Soil	June 3, 2024 0:00	06/03/2024 16:50
BKG01@4.5'	Y406040-02	Soil	June 3, 2024 0:00	06/03/2024 16:50
BKG02@3.5'	Y406040-03	Soil	June 3, 2024 0:00	06/03/2024 16:50
BKG02@4.5'	Y406040-04	Soil	June 3, 2024 0:00	06/03/2024 16:50
BKG03@3.5'	Y406040-05	Soil	June 3, 2024 0:00	06/03/2024 16:50
BKG03@4.5'	Y406040-06	Soil	June 3, 2024 0:00	06/03/2024 16:50
BKG04@3.5'	Y406040-07	Soil	June 3, 2024 0:00	06/03/2024 16:50
BKG04@4.5'	Y406040-08	Soil	June 3, 2024 0:00	06/03/2024 16:50
BKG05@3.5'	Y406040-09	Soil	June 3, 2024 0:00	06/03/2024 16:50
BKG05@4.5'	Y406040-10	Soil	June 3, 2024 0:00	06/03/2024 16:50

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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

# ORIGINS

ORIGINS WORK ORDER #

# 4406040

Page 1 of 1

LABORATORY LLC

Client: Fremont Env  
Address: \_\_\_\_\_

Project Manager: Paul Henehan  
Project Name: Bernhardt 64N67W 13NWNE

Key: \_\_\_\_\_

Telephone Number: Paul@Fremontenv.com

Project Number: \_\_\_\_\_

W=Water  
GW=Groundwater

Email Address: jeff@Fremontenv.com

Collected By: JG

SW=Surface Water  
WW=Waste Water

S=Soil | SO=Solid | O=Oil | A=Air | G=Gas | UNP=Unpres | HCL=Hydrochloric | HNO3=Nitric | H2SO4=Sulfuric | NaOH=Sodium Hydroxide

Invoice/Billing Info: Noble

L=Liquid

#	Sample ID	Date	Time	Sampled	# of Containers	Matrix	Preservative	Analysis												Comments
1	BK601E3.5'	06/02/24	11050		1	5	None	X	X											
2	BK601E4.5'																			
3	BK602E3.5'																			
4	BK602E4.5'																			
5	BK603E3.5'																			
6	BK603E4.5'																			
7	BK604E3.5'																			
8	BK604E4.5'																			
9	BK605E3.5'																			
10	BK605E4.5'																			

Relinquished By: [Signature] Date: 06/02/24 Time: 11050

Received By: [Signature] Date: 06/04 Time: 11050

Temp Received: 24 Received On Ice? ☒ Yes ☐ No

Turnaround Time ☒ SAME DAY ☐ 24 Hr ☐ 48 Hr ☐ 72 Hr

Standard ☐ ☒ Standard

Origins Laboratory, Inc.

[Signature]

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8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

Origins Laboratory

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

### Sample Receipt Checklist

Origins Work Order: Y4 06040

Client: Fremont  
Client Project ID: Bernhardt

Checklist Completed by: EHO

Shipped Via: HO  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)  
Airbill #: N/A

Date/time completed: 6/3/12

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

Cooler Number/Temperature: 1 12.0 °C \_\_\_\_\_ °C \_\_\_\_\_ °C (Describe)

Thermometer ID: T005

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"/>		<u>SD</u>
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"/>		<u>no times</u>
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"/>		<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"/>	
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.

EHO  
Reviewed by (Project Manager)

6/3/12  
Date/Time Reviewed

Origins Laboratory, Inc.

*J. Bynon*

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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**BKG01@3.5'**  
**6/3/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406040-01 (Soil)**

## Boron (DTPA Sorbitol)

Boron	0.138	0.0993	mg/L	1	B4F0411	06/04/2024	06/05/2024
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## Metals by Saturated Paste by EPA 6010

Calcium	1.95	0.499	meq/L	10	[CALC]	06/04/2024	06/05/2024
Magnesium	1.25	0.823	"	"	"	"	"
Sodium	1.22	0.435	"	"	"	"	"

## pH in Soil by 9045D

pH	8.53		pH Units	1	B4F0424	06/04/2024	06/05/2024
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## SAR by 20B Saturated Paste

SAR	0.964	0.0100	SAR	1	B4F0418	06/04/2024	06/05/2024
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.464	0.00500	mmhos/cm	1	B4F0424	06/04/2024	06/05/2024
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## Table 915 metals by EPA 6020B

Arsenic	3.92	0.279	mg/kg	10	B4F0350	06/03/2024	06/04/2024
Barium	84.5	9.62	"	"	"	"	"
Cadmium	0.126	0.0962	"	"	"	"	"
Copper	ND	9.62	"	"	"	"	"

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**BKG01@3.5'**  
**6/3/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406040-01 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	6.87		0.962	mg/kg	10	B4F0350	06/03/2024	06/04/2024	
Nickel	9.46		0.962	"	"	"	"	"	
Selenium	ND		0.250	"	"	"	"	"	
Silver	ND		0.0962	"	"	"	"	"	
Zinc	36.1		35.6	"	"	"	"	"	

**Total Metals 7196A**

Hexavalent Chromium	ND	0.114	0.286	mg/kg dry	1	2632220	06/26/2024	06/27/2024	U
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

BKG01@4.5'  
6/3/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y406040-02 (Soil)

**Boron (DTPA Sorbitol)**

Boron	0.130	0.0990	mg/L	1	B4F0411	06/04/2024	06/05/2024
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**Metals by Saturated Paste by EPA 6010**

Calcium	1.43	0.499	meq/L	10	[CALC]	06/04/2024	06/05/2024
Magnesium	0.920	0.823	"	"	"	"	"
Sodium	1.04	0.435	"	"	"	"	"

**pH in Soil by 9045D**

pH	8.50		pH Units	1	B4F0424	06/04/2024	06/05/2024
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**SAR by 20B Saturated Paste**

SAR	0.961	0.0100	SAR	1	B4F0418	06/04/2024	06/05/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.375	0.00500	mmhos/cm	1	B4F0424	06/04/2024	06/05/2024
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**Table 915 metals by EPA 6020B**

Arsenic	2.92	0.251	mg/kg	10	B4F0350	06/03/2024	06/04/2024
Barium	53.6	8.64	"	"	"	"	"
Cadmium	ND	0.0864	"	"	"	"	"
Copper	ND	8.64	"	"	"	"	"

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**BKG01@4.5'**  
**6/3/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406040-02 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	4.89		0.864	mg/kg	10	B4F0350	06/03/2024	06/04/2024	
Nickel	7.63		0.864	"	"	"	"	"	
Selenium	ND		0.225	"	"	"	"	"	
Silver	ND		0.0864	"	"	"	"	"	
Zinc	ND		32.0	"	"	"	"	"	

**Total Metals 7196A**

Hexavalent Chromium	0.173	0.102	0.255	mg/kg dry	1	2632220	06/26/2024	06/27/2024	J
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**BKG02@3.5'**  
**6/3/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406040-03 (Soil)**

## Boron (DTPA Sorbitol)

Boron	0.271	0.0991	mg/L	1	B4F0411	06/04/2024	06/05/2024
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## Metals by Saturated Paste by EPA 6010

Calcium	1.72	0.499	meq/L	10	[CALC]	06/04/2024	06/05/2024
Magnesium	1.08	0.823	"	"	"	"	"
Sodium	1.18	0.435	"	"	"	"	"

## pH in Soil by 9045D

pH	8.44		pH Units	1	B4F0424	06/04/2024	06/05/2024
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## SAR by 20B Saturated Paste

SAR	1.00	0.0100	SAR	1	B4F0418	06/04/2024	06/05/2024
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.454	0.00500	mmhos/cm	1	B4F0424	06/04/2024	06/05/2024
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## Table 915 metals by EPA 6020B

Arsenic	3.25	0.244	mg/kg	10	B4F0350	06/03/2024	06/04/2024
Barium	71.0	8.42	"	"	"	"	"
Cadmium	0.133	0.0842	"	"	"	"	"
Copper	ND	8.42	"	"	"	"	"

Origins Laboratory, Inc.



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8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**BKG02@3.5'**  
**6/3/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406040-03 (Soil)**

### Table 915 metals by EPA 6020B

Lead	5.99		0.842	mg/kg	10	B4F0350	06/03/2024	06/04/2024	
Nickel	8.51		0.842	"	"	"	"	"	
Selenium	ND		0.219	"	"	"	"	"	
Silver	ND		0.0842	"	"	"	"	"	
Zinc	34.0		31.2	"	"	"	"	"	

### Total Metals 7196A

Hexavalent Chromium	ND	0.128	0.321	mg/kg dry	1	2632220	06/26/2024	06/27/2024	U
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**BKG02@4.5'**  
**6/3/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406040-04 (Soil)**

## Boron (DTPA Sorbitol)

Boron	0.279	0.100	mg/L	1	B4F0411	06/04/2024	06/05/2024
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## Metals by Saturated Paste by EPA 6010

Calcium	1.44	0.499	meq/L	10	[CALC]	06/04/2024	06/05/2024
Magnesium	0.908	0.823	"	"	"	"	"
Sodium	1.04	0.435	"	"	"	"	"

## pH in Soil by 9045D

pH	8.39		pH Units	1	B4F0424	06/04/2024	06/05/2024
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## SAR by 20B Saturated Paste

SAR	0.962	0.0100	SAR	1	B4F0418	06/04/2024	06/05/2024
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.377	0.00500	mmhos/cm	1	B4F0424	06/04/2024	06/05/2024
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## Table 915 metals by EPA 6020B

Arsenic	3.41	0.282	mg/kg	10	B4F0350	06/03/2024	06/04/2024
Barium	77.9	9.73	"	"	"	"	"
Cadmium	0.148	0.0973	"	"	"	"	"
Copper	ND	9.73	"	"	"	"	"

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**BKG02@4.5'**  
**6/3/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406040-04 (Soil)**

### Table 915 metals by EPA 6020B

Lead	6.17		0.973	mg/kg	10	B4F0350	06/03/2024	06/04/2024	
Nickel	8.85		0.973	"	"	"	"	"	
Selenium	ND		0.253	"	"	"	"	"	
Silver	ND		0.0973	"	"	"	"	"	
Zinc	36.5		36.0	"	"	"	"	"	

### Total Metals 7196A

Hexavalent Chromium	ND	0.132	0.330	mg/kg dry	1	2632220	06/26/2024	06/27/2024	U
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**BKG03@3.5'**  
**6/3/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406040-05 (Soil)**

## Boron (DTPA Sorbitol)

Boron	0.365	0.100	mg/L	1	B4F0411	06/04/2024	06/05/2024
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## Metals by Saturated Paste by EPA 6010

Calcium	0.802	0.499	meq/L	10	[CALC]	06/04/2024	06/05/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	1.72	0.435	"	"	"	"	"

## pH in Soil by 9045D

pH	8.36	pH Units	1	B4F0424	06/04/2024	06/05/2024
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## SAR by 20B Saturated Paste

SAR	2.09	0.0100	SAR	1	B4F0418	06/04/2024	06/05/2024
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.321	0.00500	mmhos/cm	1	B4F0424	06/04/2024	06/05/2024
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## Table 915 metals by EPA 6020B

Arsenic	3.70	0.260	mg/kg	10	B4F0350	06/03/2024	06/04/2024
Barium	73.8	8.96	"	"	"	"	"
Cadmium	ND	0.0896	"	"	"	"	"
Copper	ND	8.96	"	"	"	"	"

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**BKG03@3.5'**  
**6/3/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406040-05 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	6.01		0.896	mg/kg	10	B4F0350	06/03/2024	06/04/2024	
Nickel	9.09		0.896	"	"	"	"	"	
Selenium	ND		0.233	"	"	"	"	"	
Silver	ND		0.0896	"	"	"	"	"	
Zinc	ND		33.2	"	"	"	"	"	

**Total Metals 7196A**

Hexavalent Chromium	ND	0.144	0.361	mg/kg dry	1	2632220	06/26/2024	06/27/2024	U
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**BKG03@4.5'**  
**6/3/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406040-06 (Soil)**

## Boron (DTPA Sorbitol)

Boron	0.236	0.0990	mg/L	1	B4F0411	06/04/2024	06/05/2024
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## Metals by Saturated Paste by EPA 6010

Calcium	1.11	0.499	meq/L	10	[CALC]	06/04/2024	06/05/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	1.87	0.435	"	"	"	"	"

## pH in Soil by 9045D

pH	8.47	pH Units	1	B4F0424	06/04/2024	06/05/2024
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## SAR by 20B Saturated Paste

SAR	1.91	0.0100	SAR	1	B4F0418	06/04/2024	06/05/2024
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.391	0.00500	mmhos/cm	1	B4F0424	06/04/2024	06/05/2024
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## Table 915 metals by EPA 6020B

Arsenic	2.92	0.284	mg/kg	10	B4F0350	06/03/2024	06/04/2024
Barium	63.6	9.81	"	"	"	"	"
Cadmium	ND	0.0981	"	"	"	"	"
Copper	ND	9.81	"	"	"	"	"

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**BKG03@4.5'**  
**6/3/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406040-06 (Soil)**

### Table 915 metals by EPA 6020B

Lead	4.91	0.981	mg/kg	10	B4F0350	06/03/2024	06/04/2024
Nickel	8.30	0.981	"	"	"	"	"
Selenium	ND	0.255	"	"	"	"	"
Silver	ND	0.0981	"	"	"	"	"
Zinc	ND	36.3	"	"	"	"	"

### Total Metals 7196A

Hexavalent Chromium	ND	0.118	0.296	mg/kg dry	1	2632220	06/26/2024	06/27/2024	U
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**BKG04@3.5'**  
**6/3/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406040-07 (Soil)**

## Boron (DTPA Sorbitol)

Boron	0.163	0.0993	mg/L	1	B4F0411	06/04/2024	06/05/2024
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## Metals by Saturated Paste by EPA 6010

Calcium	0.670	0.499	meq/L	10	[CALC]	06/04/2024	06/05/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	1.22	0.435	"	"	"	"	"

## pH in Soil by 9045D

pH	8.22		pH Units	1	B4F0424	06/04/2024	06/05/2024
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## SAR by 20B Saturated Paste

SAR	1.62	0.0100	SAR	1	B4F0418	06/04/2024	06/05/2024
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.309	0.00500	mmhos/cm	1	B4F0424	06/04/2024	06/05/2024
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## Table 915 metals by EPA 6020B

Arsenic	3.03	0.270	mg/kg	10	B4F0350	06/03/2024	06/04/2024
Barium	64.0	9.33	"	"	"	"	"
Cadmium	ND	0.0933	"	"	"	"	"
Copper	ND	9.33	"	"	"	"	"

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**BKG04@3.5'**  
**6/3/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406040-07 (Soil)**

### Table 915 metals by EPA 6020B

Lead	5.16		0.933	mg/kg	10	B4F0350	06/03/2024	06/04/2024	
Nickel	7.84		0.933	"	"	"	"	"	
Selenium	ND		0.242	"	"	"	"	"	
Silver	ND		0.0933	"	"	"	"	"	
Zinc	ND		34.5	"	"	"	"	"	

### Total Metals 7196A

Hexavalent Chromium	0.201	0.142	0.355	mg/kg dry	1	2632220	06/26/2024	06/27/2024	J
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**BKG04@4.5'**  
**6/3/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406040-08 (Soil)**

## Boron (DTPA Sorbitol)

Boron	0.154	0.0988	mg/L	1	B4F0411	06/04/2024	06/05/2024
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## Metals by Saturated Paste by EPA 6010

Calcium	0.931	0.499	meq/L	10	[CALC]	06/04/2024	06/05/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	1.17	0.435	"	"	"	"	"

## pH in Soil by 9045D

pH	8.31		pH Units	1	B4F0424	06/04/2024	06/05/2024
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## SAR by 20B Saturated Paste

SAR	1.30	0.0100	SAR	1	B4F0418	06/04/2024	06/05/2024
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.349	0.00500	mmhos/cm	1	B4F0424	06/04/2024	06/05/2024
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## Table 915 metals by EPA 6020B

Arsenic	2.75	0.255	mg/kg	10	B4F0350	06/03/2024	06/04/2024
Barium	52.9	8.80	"	"	"	"	"
Cadmium	ND	0.0880	"	"	"	"	"
Copper	ND	8.80	"	"	"	"	"

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**BKG04@4.5'**  
**6/3/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406040-08 (Soil)**

### Table 915 metals by EPA 6020B

Lead	4.80		0.880	mg/kg	10	B4F0350	06/03/2024	06/04/2024	
Nickel	7.31		0.880	"	"	"	"	"	
Selenium	ND		0.229	"	"	"	"	"	
Silver	ND		0.0880	"	"	"	"	"	
Zinc	ND		32.6	"	"	"	"	"	

### Total Metals 7196A

Hexavalent Chromium	0.158	0.0933	0.233	mg/kg dry	1	2632220	06/26/2024	06/27/2024	J
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**BKG05@3.5'**  
**6/3/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406040-09 (Soil)**

## Boron (DTPA Sorbitol)

Boron	0.126	0.100	mg/L	1	B4F0411	06/04/2024	06/05/2024
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## Metals by Saturated Paste by EPA 6010

Calcium	ND	0.499	meq/L	10	[CALC]	06/04/2024	06/05/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	0.771	0.435	"	"	"	"	"

## pH in Soil by 9045D

pH	8.17		pH Units	1	B4F0424	06/04/2024	06/05/2024
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## SAR by 20B Saturated Paste

SAR	1.34	0.0100	SAR	1	B4F0418	06/04/2024	06/05/2024
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.184	0.00500	mmhos/cm	1	B4F0424	06/04/2024	06/05/2024
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## Table 915 metals by EPA 6020B

Arsenic	3.04	0.261	mg/kg	10	B4F0350	06/03/2024	06/04/2024
Barium	58.1	9.02	"	"	"	"	"
Cadmium	ND	0.0902	"	"	"	"	"

Origins Laboratory, Inc.



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Fremont Environmental

8305 6th St, PO Box 1289

Wellington CO 80549

Paul Henehan

Project Number: [none]

Project: Noble - Bernhardt 64N67W 13NWNE

**BKG05@3.5'**

**6/3/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**

**Y406040-09 (Soil)**

## Table 915 metals by EPA 6020B

Copper	ND	9.02	mg/kg	10	B4F0350	06/03/2024	06/04/2024
Lead	<b>4.86</b>	0.902	"	"	"	"	"
Nickel	<b>7.58</b>	0.902	"	"	"	"	"
Selenium	ND	0.234	"	"	"	"	"
Silver	ND	0.0902	"	"	"	"	"
Zinc	ND	33.4	"	"	"	"	"

## Total Metals 7196A

Hexavalent Chromium	<b>0.238</b>	<b>0.106</b>	0.265	mg/kg dry	1	2632220	06/26/2024	06/27/2024	J
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Origins Laboratory, Inc.



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8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**BKG05@4.5'**  
**6/3/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406040-10 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.139	0.0984	mg/L	1	B4F0411	06/04/2024	06/05/2024
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**Metals by Saturated Paste by EPA 6010**

Calcium	ND	0.499	meq/L	10	[CALC]	06/04/2024	06/05/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	0.737	0.435	"	"	"	"	"

**pH in Soil by 9045D**

pH	8.05		pH Units	1	B4F0424	06/04/2024	06/05/2024
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**SAR by 20B Saturated Paste**

SAR	1.15	0.0100	SAR	1	B4F0418	06/04/2024	06/05/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.190	0.00500	mmhos/cm	1	B4F0424	06/04/2024	06/05/2024
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**Table 915 metals by EPA 6020B**

Arsenic	2.85	0.257	mg/kg	10	B4F0350	06/03/2024	06/04/2024
Barium	60.9	8.85	"	"	"	"	"
Cadmium	ND	0.0885	"	"	"	"	"

Origins Laboratory, Inc.



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8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

**BKG05@4.5'**  
**6/3/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406040-10 (Soil)**

## Table 915 metals by EPA 6020B

Copper	ND		8.85	mg/kg	10	B4F0350	06/03/2024	06/04/2024	
Lead	<b>5.08</b>		0.885	"	"	"	"	"	
Nickel	<b>8.02</b>		0.885	"	"	"	"	"	
Selenium	ND		0.230	"	"	"	"	"	
Silver	ND		0.0885	"	"	"	"	"	
Zinc	ND		32.8	"	"	"	"	"	

## Total Metals 7196A

Hexavalent Chromium	<b>0.255</b>	<b>0.129</b>	0.323	mg/kg dry	1	2632220	06/26/2024	06/27/2024	J
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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: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Metals by EPA 6000/7000 Series Methods - 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 B4F0350 - EPA 3050B

##### Blank (B4F0350-BLK1)

Prepared: 06/03/2024 Analyzed: 06/04/2024

Arsenic	ND	0.290	mg/kg
Barium	ND	10.0	"
Cadmium	ND	0.100	"
Copper	ND	10.0	"
Lead	ND	1.00	"
Nickel	ND	1.00	"
Selenium	ND	0.260	"
Silver	ND	0.100	"
Zinc	ND	37.0	"

##### LCS (B4F0350-BS1)

Prepared: 06/03/2024 Analyzed: 06/04/2024

Arsenic	5.48	0.290	mg/kg	5.00	110	80-120
Barium	526	10.0	"	500	105	80-120
Cadmium	5.33	0.100	"	5.00	107	80-120
Copper	53.0	10.0	"	50.0	106	80-120
Lead	5.17	1.00	"	5.00	103	80-120
Nickel	5.04	1.00	"	5.00	101	80-120
Selenium	9.99	0.260	"	9.50	105	80-120
Silver	5.58	0.100	"	5.00	112	80-120
Zinc	50.9	37.0	"	50.0	102	80-120

##### Matrix Spike (B4F0350-MS1)

Source: Y406043-05

Prepared: 06/03/2024 Analyzed: 06/04/2024

Arsenic	8.36	0.259	mg/kg	4.47	3.92	99.3	75-125
Barium	610	8.94	"	447	145	104	75-125
Cadmium	4.76	0.0894	"	4.47	0.144	103	75-125
Copper	61.6	8.94	"	44.7	16.6	101	75-125
Lead	15.7	0.894	"	4.47	11.6	91.8	75-125

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Metals by EPA 6000/7000 Series Methods - Quality Control

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B4F0350 - EPA 3050B</b>										
<b>Matrix Spike (B4F0350-MS1)</b>			<b>Source: Y406043-05</b>		Prepared: 06/03/2024 Analyzed: 06/04/2024					
Nickel	23.0	0.894	mg/kg	4.47	19.1	89.2	75-125			
Selenium	8.55	0.232	"	8.49	0.177	98.6	75-125			
Silver	4.65	0.0894	"	4.47	0.0450	103	75-125			
Zinc	95.3	33.1	"	44.7	63.2	71.8	75-125			QM-07
<b>Matrix Spike Dup (B4F0350-MSD1)</b>			<b>Source: Y406043-05</b>		Prepared: 06/03/2024 Analyzed: 06/04/2024					
Arsenic	8.23	0.253	mg/kg	4.36	3.92	98.9	75-125	1.50	20	
Barium	575	8.72	"	436	145	98.6	75-125	5.95	20	
Cadmium	4.70	0.0872	"	4.36	0.144	105	75-125	1.20	20	
Copper	60.4	8.72	"	43.6	16.6	100	75-125	1.92	20	
Lead	15.0	0.872	"	4.36	11.6	78.5	75-125	4.44	20	
Nickel	22.6	0.872	"	4.36	19.1	81.0	75-125	1.99	20	
Selenium	8.04	0.227	"	8.28	0.177	94.9	75-125	6.13	20	
Silver	4.56	0.0872	"	4.36	0.0450	104	75-125	1.80	20	
Zinc	91.3	32.3	"	43.6	63.2	64.4	75-125	4.32	20	QM-07

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Classical Chemistry Parameters - 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 B4F0411 - DTPA Sorbitol Preparation

#### Blank (B4F0411-BLK1)

Prepared: 06/04/2024 Analyzed: 06/05/2024

Boron ND 0.100 mg/L

#### Duplicate (B4F0411-DUP1)

Source: Y406039-01

Prepared: 06/04/2024 Analyzed: 06/05/2024

Boron 0.139 0.0988 mg/L 0.139 0.120 50

### Batch B4F0418 - Saturated Paste Metals

#### Blank (B4F0418-BLK1)

Prepared: 06/04/2024 Analyzed: 06/05/2024

Calcium PPM ND 10.0 mg/L

SAR ND 0.0100 SAR

Magnesium PPM ND 10.0 mg/L

Sodium PPM ND 10.0 "

#### Duplicate (B4F0418-DUP1)

Source: Y406040-01

Prepared: 06/04/2024 Analyzed: 06/05/2024

Calcium PPM 35.2 10.0 mg/L 39.2 10.8 50

SAR ND 0.0100 SAR 0.964 200

Magnesium PPM 13.8 10.0 mg/L 15.2 9.45 50

Sodium PPM 26.7 10.0 " 28.0 4.93 50

Origins Laboratory, Inc.



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Wellington CO 80549

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Saturated Paste - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B4F0424 - Saturated Paste pH/EC</b>										
<b>Blank (B4F0424-BLK1)</b>					Prepared: 06/04/2024 Analyzed: 06/05/2024					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
<b>Duplicate (B4F0424-DUP1)</b>					<b>Source: Y406040-01</b> Prepared: 06/04/2024 Analyzed: 06/05/2024					
pH	8.44		pH Units		8.53			1.06	25	
Specific Conductance (EC)	0.429	0.00500	mmhos/cm		0.464			7.66	25	

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Total Metals 7196A - Quality Control GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2632220 - SW846 3060A										
BLANK (1205773027-BLK)					Prepared: 06/26/2024 Analyzed: 06/27/2024					
Hexavalent Chromium	ND	0.375	mg/kg				-			U
LCS (1205773028-BKS)					Prepared: 06/26/2024 Analyzed: 06/27/2024					
Hexavalent Chromium	3.65	0.369	mg/kg	3.69		98.8	80-120			
DUP (1205773029 D)					Source: Y406040-01 Prepared: 06/26/2024 Analyzed: 06/27/2024					
Hexavalent Chromium	ND	0.286	mg/kg dry		<0.114		0-50	N/A	50	U
MS (1205773030 S)					Source: Y406040-01 Prepared: 06/26/2024 Analyzed: 06/27/2024					
Hexavalent Chromium	2.13	0.286	mg/kg dry	2.86	<0.114	72.1	75-125			
DUP (1205773031 D)					Source: 672056015 Prepared: 06/26/2024 Analyzed: 06/27/2024					
Hexavalent Chromium	0.255	0.377	mg/kg dry		0.297		0-50	15	50	J
MS (1205773032 S)					Source: 672056015 Prepared: 06/26/2024 Analyzed: 06/27/2024					
Hexavalent Chromium	3.39	0.377	mg/kg dry	3.77	0.297	82.1	75-125			
ILCS (1205773033-ILCS)					Prepared: 06/26/2024 Analyzed: 06/27/2024					
Hexavalent Chromium	7.81	0.365	mg/kg	7.42		105	80-120			

Origins Laboratory, Inc.



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

Paul Henehan  
Project Number: [none]  
Project: Noble - Bernhardt 64N67W 13NWNE

## Notes and Definitions

U Result not detected above the detection limit

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

J Greater than the detection limit but less than the reporting limit

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

Calculated results may use J-flag data (instead of reported "ND") as part of calculation to provide a more accurate result.

Origins Laboratory, Inc.



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