

# Flowline Closure Checklist

## COGCC Rule 911.a.(4) Environmental Site Closure Assessment Field Form

Additional Attachments:		Tank Battery Closure		Wellhead Closure		Pit Closure		Partially Buried Vault Closure	
Site Name & COGCC Facility Number: UPRC K #35-19		Date: 05/01/24					Remediation Project #: 33689		
Associated Wells: 05-123-26426		Age of Site: years					Number of Photos Attached: 2		
Starting point: (GPS coordinates and descriptions) 40.271892 / -104.748657 (@ Wellhead)									
End point: (GPS coordinates and descriptions) 40.268622 / -104.748167 (@ Separator)									
USCS Soil Type: Clayey SAND					Estimated Depth to Groundwater: ~10-20'				
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) Petroleum hydrocarbon odor and black staining observed at Pt A									
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) None observed									
Flowlines									
Flowline type	O, G, W								
Depth	~3-4'								
Age	years								
Length	~1,270'								
Construction Material	Steel								
Were flowlines pulled?	No - Abandoned in Place								
Visual Integrity of lines	Good								
Visual impacts if trenched	Petroleum hydrocarbon odor and black staining observed at Pt A								
PID Readings if trenched	11.7	5.0							
Sample taken? Location/Sample ID#	FL-SS-01	FL-SS-02							
Photo Number(s)	See photo log								
Other observations regarding on location flowlines: Flowline abandoned in place. Flowline Pt A and Pt B assessed + lab analyzed									
Summary									
Was impacted soil identified? No <u>Yes - less than 10 cubic yards</u> Yes - more than 10 cubic yards									
Total number of samples field screened: 2					Total number of samples collected: 2				
Highest PID Reading: 11.7					Total number of samples submitted to lab for analysis: 2				
If more than 10 cubic yards of impacted soil were observed:									
Vertical extent:					Estimated spill volume:				
Lateral extent:					Volume of soil removed:				
Is additional investigation required?									
Was groundwater encountered during the investigation? <u>No</u> Yes - not impacted or in contact with impacted soils Yes - groundwater impacted and/or in contact with impacted soils									
Measured depth to groundwater:					Was remedial groundwater removal conducted? Yes No				
Date Groundwater was encountered:					Commencement date of removal:				
Sheen on groundwater? Yes No					Volume of groundwater removed prior to sampling:				
Free product observed? Yes No					Volume of groundwater removed post sampling:				
Total number of samples collected:					Total Volume of groundwater removed:				
Total number of samples submitted to lab for analysis:									



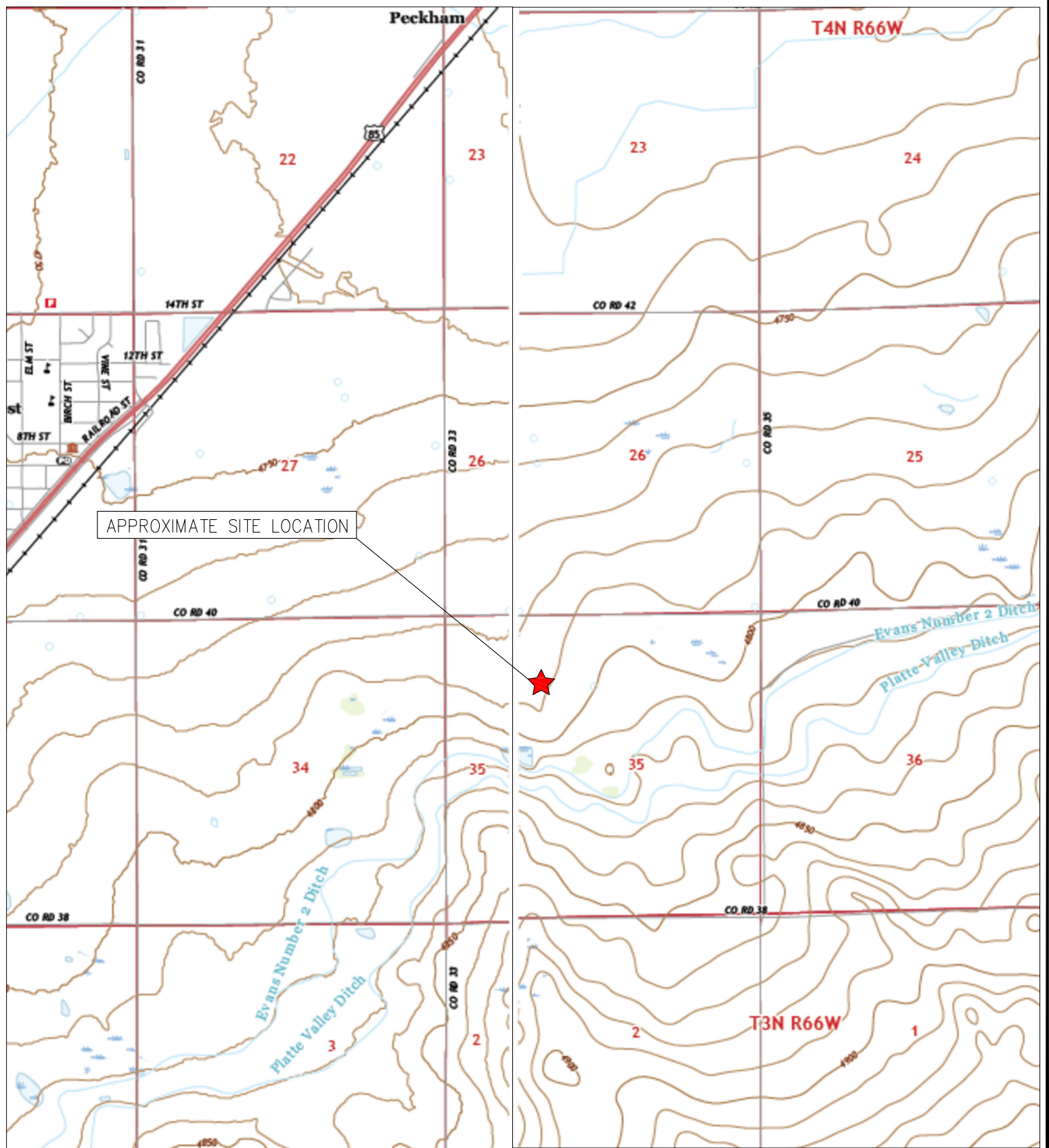
## **FIGURES**

**Figure 1: Topographic Site Location Map**

**Figure 2: Aerial Site Location Map**

**Figure 3: Soil Analytical Map**

**Figure 4: Metals in Soil Map**



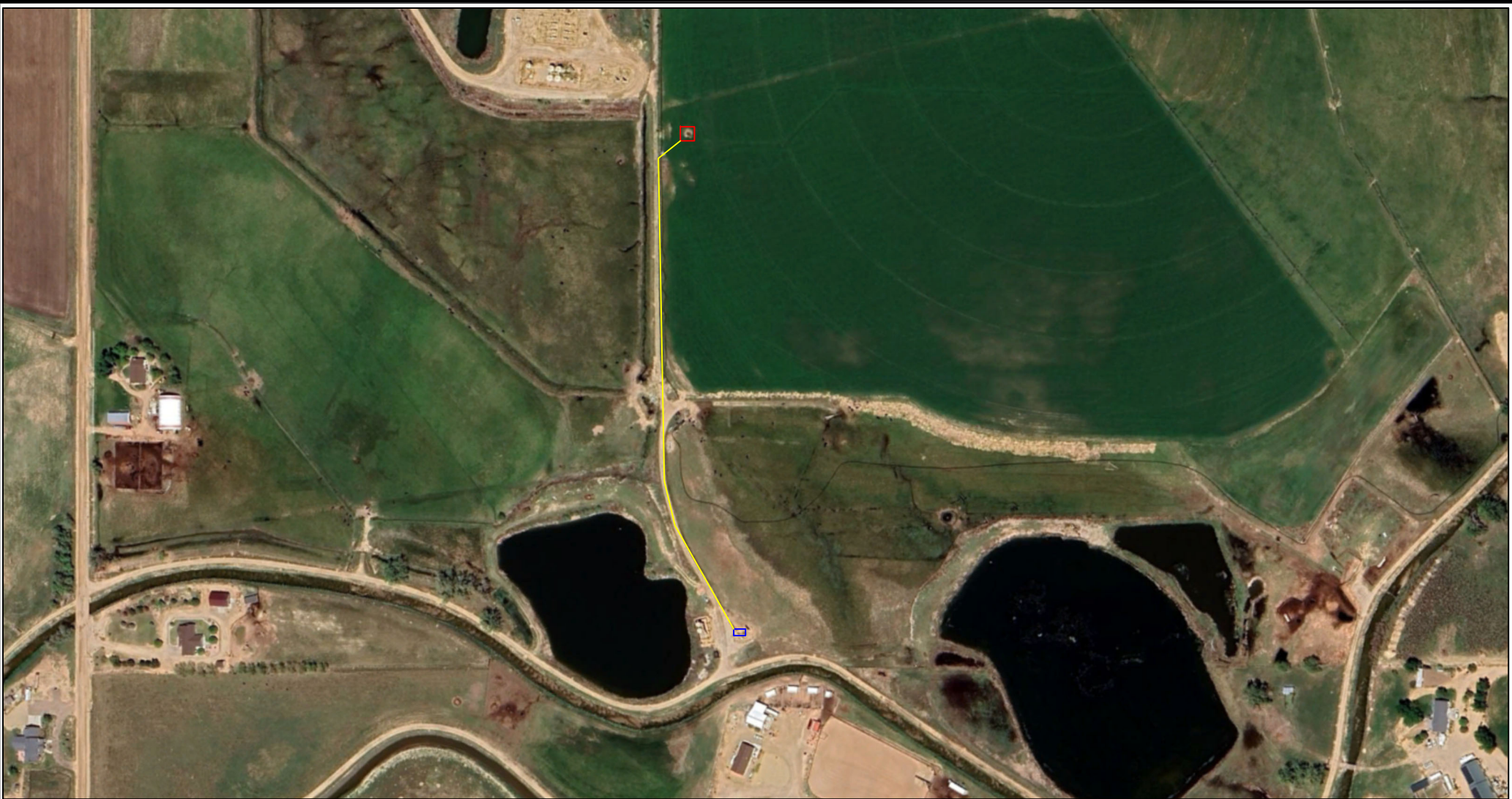
TOPOGRAPHIC SITE LOCATION MAP  
 UPRC K #35-19  
 CLOSURE ASSESSMENT  
 40.271896 / -104.748659  
 SE¼ NW¼ SEC.35 T4N R66W 6PM  
 WELD COUNTY, COLORADO  
 API # 05-123-26426  
 REMEDIATION # 33689






**EAGLE**  
 ENVIRONMENTAL  
 CONSULTING, LLC

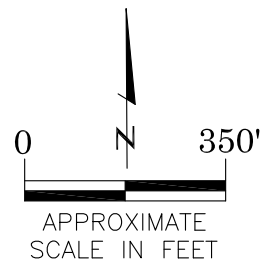
8000 W 44th Ave, Wheat Ridge, CO 80033  
 Ph: 303-433-0479 • F: 303-325-5449





LEGEND

-  FORMER UPRC K #35-19 WELLHEAD (PLUGGED AND ABANDONED)
-  ASSOCIATED SEPARATOR
-  APPROXIMATE FLOWLINE LOCATION (ABANDONED IN PLACE)



AERIAL SITE LOCATION MAP

UPRC K #35-19  
CLOSURE ASSESSMENT  
40.271896 / -104.748659  
SE¼ NW¼ SEC.35 T4N R66W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-26426  
REMEDIAL # 33689

FIGURE NO.  
2

DRAWN BY:  
RS



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BACKGROUND-01@2'  
05/01/24  
2'

Brn = 0.326  
pH = **8.49**  
SAR = **9.41**  
EC = 1.24

BACKGROUND-01

BACKGROUND-02

FL-SS-01

BACKGROUND-02@2'  
05/01/24  
2'

Brn = 0.301  
pH = **8.48**  
SAR = **7.55**  
EC = 1.19

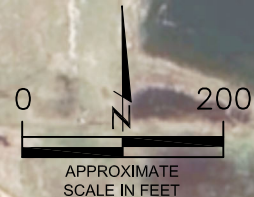
FL-SS-01@4'  
05/01/24  
4'

B = <0.00200  
T = <0.00200  
E = <0.00200  
X = <0.00200  
N = **0.00696\***  
G = <0.200  
O = **2900**  
R = **8750**  
1,2,4-TMB = 0.00248  
1,3,5-TMB = <0.00200  
Brn = 0.641  
pH = 7.54  
SAR = 1.85  
EC = 0.583  
PAHs = BRL

FL-SS-02@3'  
05/01/24  
3'

B = <0.00200  
T = <0.00200  
E = <0.00200  
X = <0.00200  
N = <0.00380  
G = <0.200  
O = <25.0  
R = <100  
1,2,4-TMB = <0.00200  
1,3,5-TMB = <0.00200  
Brn = <0.0985  
pH = 6.98  
SAR = 0.105  
EC = 0.110  
PAHs = BRL

FL-SS-02



#### LEGEND

- SS-02 APPROXIMATE LOCATION OF SOIL SAMPLES SUBMITTED FOR LABORATORY ANALYSIS
- SS-02 APPROXIMATE LOCATION OF SOIL SAMPLES FIELD SCREENED, ONLY, WITH PHOTOIONIZATION DETECTOR
- APPROXIMATE FLOWLINE LOCATION (ABANDONED IN PLACE)

#### PARAMETERS

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

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

BRL = BELOW REGULATORY LIMITS

TPH-GRO = TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE ORGANICS  
TPH-DRO = TOTAL PETROLEUM HYDROCARBONS - DIESEL RANGE ORGANICS  
TPH-ORO = TOTAL PETROLEUM HYDROCARBONS - OIL RANGE ORGANICS

NOTES:  
VALUES PRESENTED IN **BOLD** EXCEED ECMC TABLE 915-1 REGULATORY LIMITS

\*VALUES EXCEED ECMC TABLE 915-1 PROTECTION OF GROUNDWATER SOIL SCREENING LEVELS, ONLY.

ECMC = ENERGY & CARBON MANAGEMENT COMMISSION

SOIL ANALYTICAL MAP  
UPRC K #35-19  
CLOSURE ASSESSMENT  
40.271896 / -104.748659  
SE¼ NW¼ SEC.35 T4N R66W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-26426  
REMEDATION # 33689

FIGURE NO.  
3

DRAWN BY:  
RS



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# LEGEND

- SS-02 APPROXIMATE LOCATION OF SOIL SAMPLES SUBMITTED FOR LABORATORY ANALYSIS
- SS-02 APPROXIMATE LOCATION OF SOIL SAMPLES FIELD SCREENED, ONLY, WITH PHOTOIONIZATION DETECTOR
- APPROXIMATE FLOWLINE LOCATION (ABANDONED IN PLACE)

## PARAMETERS

SAMPLE LOCATION  
DATE SAMPLE COLLECTED  
APPROXIMATE DEPTH  
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)

mg/kg = MILLIGRAMS PER KILOGRAM

## NOTES:

VALUES PRESENTED WITH A LESS THAN SYMBOL (<) DID NOT CONTAIN CONCENTRATIONS AT/OR ABOVE LABORATORY REPORTING LIMITS AND/OR MINIMUM DETECTION LIMITS.

ELEVATED METALS ARE NATURALLY OCCURRING IN COLORADO. LOCAL CLEAN-UP LEVELS ARE 1.25\*BACKGROUND CONCENTRATIONS WHERE APPLICABLE.

VALUES PRESENTED IN **BOLD** EXCEED ECMC TABLE 915-1 REGULATORY LIMITS AND APPLICABLE LOCAL CLEAN-UP LEVELS.

\*VALUES EXCEED ECMC TABLE 915-1 PROTECTION OF GROUNDWATER SOIL SCREENING LEVELS, ONLY.

\*\*ACHIEVABLE PRACTICAL QUANTITATIVE LIMITS FOR HEXAVALENT CHROMIUM (Cr VI) IN SOILS IS IN THE RANGE OF 0.1 TO 1 mg/kg.

ECMC = ENERGY & CARBON MANAGEMENT COMMISSION

METALS IN SOIL MAP  
UPRC K #35-19  
CLOSURE ASSESSMENT  
40.271896 / -104.748659  
SE 1/4 NW 1/4 SEC.35 T4N R66W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-26426  
REMEDATION # 33689

FIGURE NO.  
4

DRAWN BY:  
RS

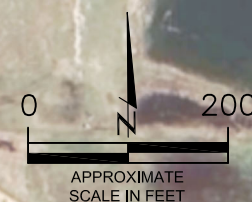


BACKGROUND-01@2'  
05/01/24  
2'  
Arsenic = 1.94  
Barium = 55.2  
Cadmium = 0.122  
Chromium (VI) = <0.0987\*\*  
Copper = <9.73  
Lead = 5.60  
Nickel = 5.01  
Selenium = <0.253  
Silver = <0.0973  
Zinc = <36.0

FL-SS-01@4'  
05/01/24  
4'  
Arsenic = 1.83  
Barium = 41.8  
Cadmium = 0.260  
Chromium (VI) = <0.111\*\*  
Copper = <9.06  
Lead = 9.68  
Nickel = 4.68  
Selenium = 0.236  
Silver = <0.0906  
Zinc = 50.3

BACKGROUND-02@2'  
05/01/24  
2'  
Arsenic = 1.58  
Barium = 69.6  
Cadmium = 0.118  
Chromium (VI) = <0.123\*\*  
Copper = <9.04  
Lead = 5.02  
Nickel = 4.47  
Selenium = <0.235  
Silver = <0.0904  
Zinc = <33.4

FL-SS-02@3'  
05/01/24  
3'  
Arsenic = 1.35  
Barium = 50.7  
Cadmium = 0.141  
Chromium (VI) = <0.0947\*\*  
Copper = <8.67  
Lead = 4.98  
Nickel = 4.54  
Selenium = <0.225  
Silver = <0.0867  
Zinc = <32.1





## **TABLES**

**Table 1: Field Data Summary**

**Table 2: Summary of Volatile Organic Soil Chemistry Data**

**Table 3: Summary of PAH Organic Soil Chemistry Data**

**Table 4: Summary of Soil Suitability for Reclamation**

**Table 5: Summary of Metals in Soil Chemistry Data**

**TABLE 1**  
**FIELD DATA SUMMARY TABLE**  
**NOBLE ENERGY 100322**  
**UPRC K #35-19, WELD COUNTY, COLORADO**  
**REM # 33689**

Sample ID	Sample Date	Depth	GPS Data		VOC Concentration (ppm)
			Latitude/Longitude		
FL-SS-01 @ 4'	5/1/2024	4	40.271907	-104.748653	11.7
FL-SS-02 @ 3'	5/1/2024	3	40.268648	-104.748183	5.0
Background-01 @ 2'	5/1/2024	2	40.271938	-104.748713	9.9
Background-02 @ 2'	5/1/2024	2	40.271950	-104.748596	8.4

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

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

PDOP = Position Dilution of Precision

ppm = Parts per million

in. = Inches

ft. = Feet

bgs = Below ground surface



TABLE 2  
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA  
NOBLE ENERGY 100322  
UPRC K #35-19, WELD COUNTY, COLORADO  
REM # 33689

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**		
FL-SS-01 @ 4'	5/1/2024	4	<0.00200	<0.00200	<0.00200	<0.00200	0.00248	<0.00200	0.00696	11650	<0.200	2900	8750
FL-SS-02 @ 3'	5/1/2024	3	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00380	<500	<0.200	<25.0	<100

1. Bold values are equal to or 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

TABLE 3  
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA  
NOBLE ENERGY 100322  
UPRC K #35-19, WELD COUNTY, COLORADO  
REM # 33689

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
FL-SS-01 @ 4'	5/1/2024	4	<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
FL-SS-02 @ 3'	5/1/2024	3	<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 are equal to or 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

TABLE 4  
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION  
NOBLE ENERGY 100322  
UPRC K #35-19, WELD COUNTY, COLORADO  
REM # 33689

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
FL-SS-01 @ 4'	5/1/2024	4	7.54	0.583	1.85	0.641
FL-SS-02 @ 3'	5/1/2024	3	6.98	0.110	0.105	<0.0985
Background-01 @ 2'	5/1/2024	2	8.49	1.24	9.41	0.326
Background-02 @ 2'	5/1/2024	2	8.48	1.19	7.55	0.301
Maximum Background Concentration			8.49	1.24	9.41	0.326
Average Background Concentration			8.49	1.22	8.48	0.314

1. Bold values are equal to or exceed the ECMC Table 915-1 limit(s)
  2. Blue highlighted soil analytical values indicate a regulatory exceedance
- NA - Not analyzed



TABLE 5  
SUMMARY OF METALS IN SOIL CHEMISTRY DATA  
NOBLE ENERGY 100322  
UPRC K #35-19, WELD COUNTY, COLORADO  
REM # 33689

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
FL-SS-01 @ 4'	5/1/2024	4	<b>1.83</b>	41.8	0.260	<0.111*	<9.06	9.68	4.68	0.236	<0.0906	50.3
FL-SS-02 @ 3'	5/1/2024	3	<b>1.35</b>	50.7	0.141	<0.0947*	<8.67	4.98	4.54	<0.225	<0.0867	<32.1
Background-01 @ 2'	5/1/2024	2	<b>1.94</b>	55.2	0.122	<0.0987*	<9.73	5.60	5.01	<0.253	<0.0973	<36.0
Background-02 @ 2'	5/1/2024	2	<b>1.58</b>	69.6	0.118	<0.123*	<9.04	5.02	4.47	<0.235	<0.0904	<33.4
Maximum Background Concentration			<b>1.94</b>	69.6	0.122			5.02	5.01			
125% Maximum Background Concentration			<b>2.43</b>	<b>87.0</b>	0.153			6.28	6.26			

1. Bold values are equal to or 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



## **ATTACHMENT A**

### **Photo Log**

UPRC K #35-19  
API # 05-123-26426  
Remediation # 33689

Closure Assessment

May 2024





## Flowline Abandonment/Assessment – 05/01/24



Looking east at flowline Pt A/ terminus at wellhead

No petroleum hydrocarbon staining or odor observed



Looking west at flowline Pt B/terminus at separator

No petroleum hydrocarbon staining or odor observed





## **ATTACHMENT B**

### **Laboratory Analytical Report**



May 15, 2024

Eagle Environmental Consulting, LLC

Andrew Newberry

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - UPRC K #35-19

Project Number - [none]

Attached are your analytical results for Noble - UPRC K #35-19 received by Origins Laboratory, Inc. May 01, 2024. This project is associated with Origins project number Y405053-01.

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

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

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

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

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

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



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



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL-SS-01@4'	Y405053-01	Soil	May 1, 2024 11:55	05/01/2024 16:02
FL-SS-02@3'	Y405053-02	Soil	May 1, 2024 13:30	05/01/2024 16:02
Background-01@2'	Y405053-03	Soil	May 1, 2024 12:05	05/01/2024 16:02
Background-02@2'	Y405053-04	Soil	May 1, 2024 12:10	05/01/2024 16:02

Origins Laboratory, Inc.



*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

Origins Laboratory

## Sample Receipt Checklist

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

Origins Work Order: 440553

Client: Eagle

Client Project ID: UPRC K#35-19

Checklist Completed by: JSN

Shipped Via: HD

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

Date/time completed: 5/2/24

Airbill #: N/A

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

Cooler Number/Temperature: 1 / 14 °C \_\_\_\_\_ °C \_\_\_\_\_ °C \_\_\_\_\_ °C (Describe)

Thermometer ID: T004

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> ?				SD
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH >10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Reviewed by (Project Manager)

513124  
Date/Time Reviewed

Origins Laboratory, Inc.

*J. Bynon*

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

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

FL-SS-01@4'  
5/1/2024 11:55:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y405053-01 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.641	0.100	mg/L	1	B4E0311	05/03/2024	05/07/2024
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	2900	250	mg/kg	10	B4E0216	05/02/2024	05/06/2024
Residual Range Organics (C28-C40)	8750	1000	"	"	"	"	"

Surrogate: o-Terphenyl	221 %	50-150	"	"	"	"	S-06, Ua
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	0.00248	0.00200	mg/kg	1	B4E0235	05/02/2024	05/14/2024
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	Ua
Naphthalene	0.00696	0.00380	"	"	"	"	"
Toluene	ND	0.00200	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	05/09/2024 Ua

Origins Laboratory, Inc.



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

FL-SS-01@4'

5/1/2024 11:55:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y405053-01 (Soil)**

**GBTEX+TMBs by 8260D**

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130	B4E02 35	05/02/2024	05/14/2024	
Surrogate: Toluene-d8	107 %	70-130	"	"	"	
Surrogate: 4-Bromofluorobenzene	140 %	70-130	"	"	"	S-GC

**Metals by Saturated Paste by EPA 6010**

Calcium	2.38	0.499	meq/L	10	[CALC]	05/03/2024	05/06/2024
Magnesium	1.48	0.823	"	"	"	"	"
Sodium	2.57	0.435	"	"	"	"	"

**PAH by EPA 8270E**

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4E0630	05/06/2024	05/07/2024	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	"	"	"	"	"	I-01, Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	I-01, Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	I-01, Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	I-01, Ua

Origins Laboratory, Inc.



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

FL-SS-01@4'

5/1/2024 11:55:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y405053-01 (Soil)**

**PAH by EPA 8270E**

Fluoranthene	ND	0.020	mg/kg	1	B4E0630	05/06/2024	05/07/2024	Ua
Fluorene	ND	0.020	"	"	"	"	"	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	I-01, Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	107 %	60-130	"	"	"
Surrogate: Anthracene-d10	94.1 %	60-130	"	"	"
Surrogate: Pyrene-d10	79.3 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	106 %	60-130	"	"	I-01

**pH in Soil by 9045D**

pH	7.54	pH Units	1	B4E0318	05/03/2024	05/05/2024
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**SAR by 20B Saturated Paste**

SAR	1.85	0.0100	SAR	1	B4E0307	05/03/2024	05/06/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.583	0.00500	mmhos/cm	1	B4E0318	05/03/2024	05/05/2024
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**Table 915 metals by EPA 6020B**

Origins Laboratory, Inc.



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

FL-SS-01@4'

5/1/2024 11:55:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y405053-01 (Soil)**

**Table 915 metals by EPA 6020B**

Arsenic	1.83	0.263	mg/kg	10	B4E0221	05/02/2024	05/07/2024
Barium	41.8	9.06	"	"	"	"	"
Cadmium	0.260	0.0906	"	"	"	"	"
Copper	ND	9.06	"	"	"	"	"
Lead	9.68	0.906	"	"	"	"	"
Nickel	4.68	0.906	"	"	"	"	"
Selenium	0.236	0.236	"	"	"	"	"
Silver	ND	0.0906	"	"	"	"	"
Zinc	50.3	33.5	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	ND	0.111	0.278	mg/kg dry	1	2607899	05/08/2024	05/09/2024	U
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Origins Laboratory, Inc.



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

FL-SS-02@3'

5/1/2024 1:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y405053-02 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	ND	0.0985	mg/L	1	B4E0311	05/03/2024	05/07/2024	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4E0216	05/02/2024	05/06/2024	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	B4E0235	05/02/2024	05/09/2024	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

Origins Laboratory, Inc.



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

FL-SS-02@3'

5/1/2024 1:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y405053-02 (Soil)**

**GBTEX+TMBs by 8260D**

Surrogate: 1,2-Dichloroethane-d4	95.5 %	70-130	B4E02 35	05/02/2024	05/09/2024
Surrogate: Toluene-d8	102 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	96.0 %	70-130	"	"	"

**Metals by Saturated Paste by EPA 6010**

Calcium	ND	0.499	meq/L	10	[CALC]	05/03/2024	05/06/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

**PAH by EPA 8270E**

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4E0630	05/06/2024	05/07/2024	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

Origins Laboratory, Inc.



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

FL-SS-02@3'

5/1/2024 1:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y405053-02 (Soil)**

**PAH by EPA 8270E**

Fluoranthene	ND	0.020	mg/kg	1	B4E0630	05/06/2024	05/07/2024	Ua
Fluorene	ND	0.020	"	"	"	"	"	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	103 %	60-130	"	"	"
Surrogate: Anthracene-d10	93.7 %	60-130	"	"	"
Surrogate: Pyrene-d10	95.5 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	99.1 %	60-130	"	"	"

**pH in Soil by 9045D**

pH	6.98	pH Units	1	B4E0318	05/03/2024	05/05/2024
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**SAR by 20B Saturated Paste**

SAR	0.105	0.0100	SAR	1	B4E0307	05/03/2024	05/06/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.110	0.00500	mmhos/cm	1	B4E0318	05/03/2024	05/05/2024
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**Table 915 metals by EPA 6020B**

Origins Laboratory, Inc.



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

FL-SS-02@3'

5/1/2024 1:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y405053-02 (Soil)**

**Table 915 metals by EPA 6020B**

Arsenic	1.35	0.251	mg/kg	10	B4E0221	05/02/2024	05/07/2024
Barium	50.7	8.67	"	"	"	"	"
Cadmium	0.141	0.0867	"	"	"	"	"
Copper	ND	8.67	"	"	"	"	"
Lead	4.98	0.867	"	"	"	"	"
Nickel	4.54	0.867	"	"	"	"	"
Selenium	ND	0.225	"	"	"	"	"
Silver	ND	0.0867	"	"	"	"	"
Zinc	ND	32.1	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	ND	0.0947	0.237	mg/kg dry	1	2607899	05/08/2024	05/09/2024	U
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Origins Laboratory, Inc.



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

**Background-01@2'**  
**5/1/2024 12:05:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y405053-03 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.326	0.0992	mg/L	1	B4E0311	05/03/2024	05/07/2024
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**Metals by Saturated Paste by EPA 6010**

Calcium	1.19	0.499	meq/L	10	[CALC]	05/03/2024	05/06/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	9.18	0.435	"	"	"	"	"

**pH in Soil by 9045D**

pH	8.49		pH Units	1	B4E0318	05/03/2024	05/05/2024
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**SAR by 20B Saturated Paste**

SAR	9.41	0.0100	SAR	1	B4E0307	05/03/2024	05/06/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	1.24	0.00500	mmhos/cm	1	B4E0318	05/03/2024	05/05/2024
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**Table 915 metals by EPA 6020B**

Arsenic	1.94	0.282	mg/kg	10	B4E0221	05/02/2024	05/07/2024
Barium	55.2	9.73	"	"	"	"	"
Cadmium	0.122	0.0973	"	"	"	"	"
Copper	ND	9.73	"	"	"	"	"

Origins Laboratory, Inc.



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

**Background-01@2'**  
**5/1/2024 12:05:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y405053-03 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	5.60	0.973	mg/kg	10	B4E0221	05/02/2024	05/07/2024
Nickel	5.01	0.973	"	"	"	"	"
Selenium	ND	0.253	"	"	"	"	"
Silver	ND	0.0973	"	"	"	"	"
Zinc	ND	36.0	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	ND	0.0987	0.247	mg/kg dry	1	2607899	05/08/2024	05/09/2024	U
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Origins Laboratory, Inc.



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

**Background-02@2'**  
**5/1/2024 12:10:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y405053-04 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.301	0.0996	mg/L	1	B4E0312	05/03/2024	05/07/2024
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**Metals by Saturated Paste by EPA 6010**

Calcium	1.73	0.499	meq/L	10	[CALC]	05/03/2024	05/06/2024
Magnesium	1.24	0.823	"	"	"	"	"
Sodium	9.20	0.435	"	"	"	"	"

**pH in Soil by 9045D**

pH	8.48		pH Units	1	B4E0318	05/03/2024	05/05/2024
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**SAR by 20B Saturated Paste**

SAR	7.55	0.0100	SAR	1	B4E0307	05/03/2024	05/06/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	1.19	0.00500	mmhos/cm	1	B4E0318	05/03/2024	05/05/2024
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**Table 915 metals by EPA 6020B**

Arsenic	1.58	0.262	mg/kg	10	B4E0221	05/02/2024	05/07/2024
Barium	69.6	9.04	"	"	"	"	"
Cadmium	0.118	0.0904	"	"	"	"	"
Copper	ND	9.04	"	"	"	"	"

Origins Laboratory, Inc.



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

**Background-02@2'**  
**5/1/2024 12:10:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y405053-04 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	5.02		0.904	mg/kg	10	B4E0221	05/02/2024	05/07/2024	
Nickel	4.47		0.904	"	"	"	"	"	
Selenium	ND		0.235	"	"	"	"	"	
Silver	ND		0.0904	"	"	"	"	"	
Zinc	ND		33.4	"	"	"	"	"	

**Total Metals by 7196A**

Hexavalent Chromium	ND	0.123	0.308	mg/kg dry	1	2607899	05/08/2024	05/09/2024	U
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Origins Laboratory, Inc.



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

## 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 B4E0216 - EPA 3550B										
Blank (B4E0216-BLK1)					Prepared: 05/02/2024 Analyzed: 05/04/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							Ua
Residual Range Organics (C28-C40)	ND	100	"							Ua
Surrogate: o-Terphenyl	20		"	24.9		79.5	50-150			

Origins Laboratory, Inc.



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

## 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 B4E0216 - EPA 3550B										
LCS (B4E0216-BS1)					Prepared: 05/02/2024 Analyzed: 05/04/2024					
Diesel (C10-C28)	857	50.0	mg/kg	1000		85.7	70-130			
Residual Range Organics (C28-C40)	842	200	"	1000		84.2	70-130			
Surrogate: o-Terphenyl	48		"	49.8		97.2	50-150			

Origins Laboratory, Inc.



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Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

## 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 B4E0216 - EPA 3550B										
<b>Matrix Spike (B4E0216-MS1)</b>		<b>Source: Y405046-01</b>			Prepared: 05/02/2024 Analyzed: 05/04/2024					
Diesel (C10-C28)	861	50.0	mg/kg	1000	ND	86.1	70-130			
Residual Range Organics (C28-C40)	1130	200	"	1000	287	84.4	70-130			
Surrogate: o-Terphenyl	40		"	49.8		80.7	50-150			

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Project: Noble - UPRC K #35-19

## 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 B4E0216 - EPA 3550B										
Matrix Spike Dup (B4E0216-MSD1)		Source: Y405046-01			Prepared: 05/02/2024 Analyzed: 05/04/2024					
Diesel (C10-C28)	856	50.0	mg/kg	1000	ND	85.6	70-130	0.561	35	
Residual Range Organics (C28-C40)	1100	200	"	1000	287	80.9	70-130	3.15	35	
Surrogate: o-Terphenyl	53		"	49.8		106	50-150			

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Project: Noble - UPRC K #35-19

## 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 B4E0235 - EPA 5030 (soil)										
Blank (B4E0235-BLK1)					Prepared: 05/02/2024 Analyzed: 05/09/2024					
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	0.11		"	0.125		88.4	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		95.9	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
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**Batch B4E0235 - EPA 5030 (soil)**

**LCS (B4E0235-BS1)**

Prepared: 05/02/2024 Analyzed: 05/09/2024

1,2,4-Trimethylbenzene	0.101	0.00200	mg/kg	0.100		101	70-130			
1,3,5-Trimethylbenzene	0.103	0.00200	"	0.100		103	70-130			
Benzene	0.0981	0.00200	"	0.100		98.1	70-130			
Ethylbenzene	0.0995	0.00200	"	0.100		99.5	70-130			
Naphthalene	0.100	0.00380	"	0.100		100	70-130			
Toluene	0.102	0.00200	"	0.100		102	70-130			
o-Xylene	0.102	0.00200	"	0.100		102	70-130			
m,p-Xylene	0.199	0.00400	"	0.200		99.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		86.9	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		104	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		95.7	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
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#### Batch B4E0235 - EPA 5030 (soil)

Matrix Spike (B4E0235-MS1)		Source: Y405013-01			Prepared: 05/02/2024 Analyzed: 05/09/2024					
1,2,4-Trimethylbenzene	0.105	0.00200	mg/kg	0.100	ND	105	70-130			
1,3,5-Trimethylbenzene	0.108	0.00200	"	0.100	ND	108	70-130			
Benzene	0.0970	0.00200	"	0.100	ND	97.0	70-130			
Ethylbenzene	0.104	0.00200	"	0.100	ND	104	70-130			
Naphthalene	0.0889	0.00380	"	0.100	ND	88.9	70-130			
Toluene	0.103	0.00200	"	0.100	ND	103	70-130			
o-Xylene	0.106	0.00200	"	0.100	ND	106	70-130			
m,p-Xylene	0.210	0.00400	"	0.200	ND	105	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.10		"	0.125		80.1	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		106	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.3	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 B4E0235 - EPA 5030 (soil)										
Matrix Spike Dup (B4E0235-MSD1)		Source: Y405013-01			Prepared: 05/02/2024 Analyzed: 05/09/2024					
1,2,4-Trimethylbenzene	0.107	0.00200	mg/kg	0.100	ND	107	70-130	2.23	20	
1,3,5-Trimethylbenzene	0.109	0.00200	"	0.100	ND	109	70-130	0.999	20	
Benzene	0.101	0.00200	"	0.100	ND	101	70-130	3.96	20	
Ethylbenzene	0.104	0.00200	"	0.100	ND	104	70-130	0.424	20	
Naphthalene	0.104	0.00380	"	0.100	ND	104	70-130	15.2	20	
Toluene	0.106	0.00200	"	0.100	ND	106	70-130	3.22	20	
o-Xylene	0.108	0.00200	"	0.100	ND	108	70-130	1.57	20	
m,p-Xylene	0.208	0.00400	"	0.200	ND	104	70-130	1.07	20	
Surrogate: 1,2-Dichloroethane-d4	0.10		"	0.125		82.1	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		104	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.2	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
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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 B4E0221 - EPA 3050B

#### Blank (B4E0221-BLK1)

Prepared: 05/02/2024 Analyzed: 05/07/2024

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 (B4E0221-BS1)

Prepared: 05/02/2024 Analyzed: 05/07/2024

Arsenic	5.59	0.290	mg/kg	5.00	112	80-120
Barium	512	10.0	"	500	102	80-120
Cadmium	5.44	0.100	"	5.00	109	80-120
Copper	58.4	10.0	"	50.0	117	80-120
Lead	5.52	1.00	"	5.00	110	80-120
Nickel	5.92	1.00	"	5.00	118	80-120
Selenium	10.7	0.260	"	9.50	112	80-120
Silver	5.88	0.100	"	5.00	118	80-120
Zinc	53.6	37.0	"	50.0	107	80-120

#### Matrix Spike (B4E0221-MS1)

Source: Y405052-01

Prepared: 05/02/2024 Analyzed: 05/08/2024

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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 B4E0221 - EPA 3050B

Matrix Spike (B4E0221-MS1)		Source: Y405052-01			Prepared: 05/02/2024 Analyzed: 05/08/2024					
Arsenic	13.6	0.270	mg/kg	4.65	5.42	175	75-125			QM-07
Barium	674	9.31	"	465	167	109	75-125			
Cadmium	5.50	0.0931	"	4.65	0.399	110	75-125			
Copper	74.5	9.31	"	46.5	18.1	121	75-125			
Lead	36.6	0.931	"	4.65	14.8	468	75-125			QM-07
Nickel	18.2	0.931	"	4.65	12.9	113	75-125			
Selenium	10.1	0.242	"	8.84	0.351	111	75-125			
Silver	5.48	0.0931	"	4.65	0.0716	116	75-125			
Zinc	114	34.4	"	46.5	58.8	119	75-125			
Matrix Spike Dup (B4E0221-MSD1)		Source: Y405052-01			Prepared: 05/02/2024 Analyzed: 05/08/2024					
Arsenic	10.4	0.287	mg/kg	4.94	5.42	100	75-125	26.6	20	QM-07
Barium	685	9.88	"	494	167	105	75-125	1.63	20	
Cadmium	5.51	0.0988	"	4.94	0.399	103	75-125	0.223	20	
Copper	74.8	9.88	"	49.4	18.1	115	75-125	0.388	20	
Lead	24.5	0.988	"	4.94	14.8	195	75-125	39.8	20	QM-07
Nickel	17.5	0.988	"	4.94	12.9	91.3	75-125	4.14	20	
Selenium	10.3	0.257	"	9.39	0.351	106	75-125	1.71	20	
Silver	5.57	0.0988	"	4.94	0.0716	111	75-125	1.65	20	
Zinc	111	36.6	"	49.4	58.8	106	75-125	2.46	20	

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Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

**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 B4E0630 - EPA 3580**

**Blank (B4E0630-BLK1)**

Prepared: 05/06/2024 Analyzed: 05/07/2024

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	190		"	200	93.9	60-130
Surrogate: Pyrene-d10	200		"	200	99.0	60-130
Surrogate: Benzo (a) pyrene-d12	210		"	200	106	60-130

**LCS (B4E0630-BS1)**

Prepared: 05/06/2024 Analyzed: 05/07/2024

1-Methylnaphthalene	0.215	0.002	mg/kg	0.200	108	70-130
2-Methylnaphthalene	0.214	0.002	"	0.200	107	70-130
Acenaphthene	0.222	0.020	"	0.200	111	70-130
Anthracene	0.205	0.020	"	0.200	103	70-130

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Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

**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 B4E0630 - EPA 3580**

**LCS (B4E0630-BS1)**

Prepared: 05/06/2024 Analyzed: 05/07/2024

Benzo (a) anthracene	0.208	0.005	mg/kg	0.200		104	70-130
Benzo (a) pyrene	0.207	0.020	"	0.200		104	70-130
Benzo (b) fluoranthene	0.214	0.020	"	0.200		107	70-130
Benzo (g,h,i) perylene	0.205	0.020	"	0.200		103	70-130
Benzo (k) fluoranthene	0.190	0.020	"	0.200		94.9	70-130
Chrysene	0.216	0.020	"	0.200		108	70-130
Dibenz (a,h) anthracene	0.229	0.020	"	0.200		114	70-130
Fluoranthene	0.203	0.020	"	0.200		101	70-130
Fluorene	0.235	0.020	"	0.200		117	70-130
Indeno (1,2,3-cd) pyrene	0.206	0.020	"	0.200		103	70-130
Naphthalene	0.223	0.002	"	0.200		111	70-130
Phenanthrene	0.213	0.020	"	0.200		107	70-130
Pyrene	0.201	0.020	"	0.200		101	70-130
Surrogate: Fluorene-d10	210		ug/kg	200		105	60-130
Surrogate: Anthracene-d10	190		"	200		94.1	60-130
Surrogate: Pyrene-d10	190		"	200		95.0	60-130
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130

**Matrix Spike (B4E0630-MS1)**

Source: Y405046-01

Prepared: 05/06/2024 Analyzed: 05/07/2024

1-Methylnaphthalene	0.212	0.002	mg/kg	0.200	ND	106	70-130
2-Methylnaphthalene	0.212	0.002	"	0.200	ND	106	70-130
Acenaphthene	0.218	0.020	"	0.200	ND	109	70-130
Anthracene	0.200	0.020	"	0.200	0.001	99.3	70-130
Benzo (a) anthracene	0.215	0.005	"	0.200	ND	107	70-130
Benzo (a) pyrene	0.206	0.020	"	0.200	ND	103	70-130
Benzo (b) fluoranthene	0.189	0.020	"	0.200	ND	94.6	70-130
Benzo (g,h,i) perylene	0.216	0.020	"	0.200	0.0007	108	70-130

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Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

**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 B4E0630 - EPA 3580**

Matrix Spike (B4E0630-MS1)		Source: Y405046-01			Prepared: 05/06/2024 Analyzed: 05/07/2024					
Benzo (k) fluoranthene	0.185	0.020	mg/kg	0.200	0.0006	92.4	70-130			
Chrysene	0.205	0.020	"	0.200	0.0006	102	70-130			
Dibenz (a,h) anthracene	0.223	0.020	"	0.200	ND	111	70-130			
Fluoranthene	0.198	0.020	"	0.200	0.0006	98.8	70-130			
Fluorene	0.231	0.020	"	0.200	ND	116	70-130			
Indeno (1,2,3-cd) pyrene	0.220	0.020	"	0.200	0.002	109	70-130			
Naphthalene	0.221	0.002	"	0.200	ND	110	70-130			
Phenanthrene	0.209	0.020	"	0.200	ND	104	70-130			
Pyrene	0.196	0.020	"	0.200	0.0006	97.9	70-130			
Surrogate: Fluorene-d10	210		ug/kg	200		106	60-130			
Surrogate: Anthracene-d10	190		"	200		92.7	60-130			
Surrogate: Pyrene-d10	190		"	200		93.3	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130			

Matrix Spike Dup (B4E0630-MSD1)		Source: Y405046-01			Prepared: 05/06/2024 Analyzed: 05/07/2024					
1-Methylnaphthalene	0.210	0.002	mg/kg	0.200	ND	105	70-130	0.981	20	
2-Methylnaphthalene	0.210	0.002	"	0.200	ND	105	70-130	1.11	20	
Acenaphthene	0.217	0.020	"	0.200	ND	109	70-130	0.325	20	
Anthracene	0.202	0.020	"	0.200	0.001	100	70-130	1.03	20	
Benzo (a) anthracene	0.213	0.005	"	0.200	ND	107	70-130	0.653	20	
Benzo (a) pyrene	0.202	0.020	"	0.200	ND	101	70-130	1.80	20	
Benzo (b) fluoranthene	0.182	0.020	"	0.200	ND	91.2	70-130	3.63	20	
Benzo (g,h,i) perylene	0.207	0.020	"	0.200	0.0007	103	70-130	3.99	20	
Benzo (k) fluoranthene	0.167	0.020	"	0.200	0.0006	83.3	70-130	10.4	20	
Chrysene	0.214	0.020	"	0.200	0.0006	107	70-130	4.32	20	
Dibenz (a,h) anthracene	0.219	0.020	"	0.200	ND	109	70-130	1.71	20	
Fluoranthene	0.199	0.020	"	0.200	0.0006	99.4	70-130	0.606	20	

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Andrew Newberry  
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Project: Noble - UPRC K #35-19

**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 B4E0630 - EPA 3580**

Matrix Spike Dup (B4E0630-MSD1)		Source: Y405046-01			Prepared: 05/06/2024 Analyzed: 05/07/2024					
Fluorene	0.225	0.020	mg/kg	0.200	ND	112	70-130	2.96	20	
Indeno (1,2,3-cd) pyrene	0.222	0.020	"	0.200	0.002	110	70-130	0.866	20	
Naphthalene	0.217	0.002	"	0.200	ND	109	70-130	1.43	20	
Phenanthrene	0.208	0.020	"	0.200	ND	104	70-130	0.167	20	
Pyrene	0.193	0.020	"	0.200	0.0006	96.1	70-130	1.83	20	
Surrogate: Fluorene-d10	210		ug/kg	200		104	60-130			
Surrogate: Anthracene-d10	190		"	200		93.7	60-130			
Surrogate: Pyrene-d10	190		"	200		92.7	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		97.6	60-130			

Origins Laboratory, Inc.



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Jordan A. Bynon, Project Manager

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

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

## 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 B4E0307 - Saturated Paste Metals

##### Blank (B4E0307-BLK1)

Prepared: 05/03/2024 Analyzed: 05/06/2024

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 (B4E0307-DUP1)

Source: Y405052-03

Prepared: 05/03/2024 Analyzed: 05/06/2024

SAR	ND	0.0100	SAR	1.91		200
Calcium PPM	180	10.0	mg/L	213	16.9	50
Magnesium PPM	66.4	10.0	"	79.6	18.1	50
Sodium PPM	104	10.0	"	128	20.9	50

#### Batch B4E0311 - DTPA Sorbitol Preparation

##### Blank (B4E0311-BLK1)

Prepared: 05/03/2024 Analyzed: 05/07/2024

Boron	ND	0.100	mg/L
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##### Duplicate (B4E0311-DUP1)

Source: Y405041-07

Prepared: 05/03/2024 Analyzed: 05/07/2024

Boron	0.736	0.0983	mg/L	0.801	8.42	50
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#### Batch B4E0312 - DTPA Sorbitol Preparation

##### Blank (B4E0312-BLK1)

Prepared: 05/03/2024 Analyzed: 05/07/2024

Boron	ND	0.100	mg/L
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##### Duplicate (B4E0312-DUP1)

Source: Y405053-04

Prepared: 05/03/2024 Analyzed: 05/07/2024

Boron	0.292	0.100	mg/L	0.301	2.94	50
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Andrew Newberry  
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## Saturated Paste - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E0318 - Saturated Paste pH/EC										
Blank (B4E0318-BLK1)					Prepared: 05/03/2024 Analyzed: 05/05/2024					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
Duplicate (B4E0318-DUP1)					Source: Y405052-03 Prepared: 05/03/2024 Analyzed: 05/05/2024					
pH	8.32		pH Units		8.59			3.19	25	
Specific Conductance (EC)	1.45	0.00500	mmhos/cm		1.61			10.9	25	

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Project: Noble - UPRC K #35-19

## 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 2607899 - SW846 3060A										
BLANK (1205724997-BLK)					Prepared: 05/08/2024 Analyzed: 05/09/2024					
Hexavalent Chromium	ND	0.297	mg/kg				-			U
LCS (1205724998-BKS)					Prepared: 05/08/2024 Analyzed: 05/09/2024					
Hexavalent Chromium	3.83	0.390	mg/kg	3.90		98.1	80-120			
DUP (1205724999 D)					Source: 665947001 Prepared: 05/08/2024 Analyzed: 05/09/2024					
Hexavalent Chromium	ND	0.338	mg/kg dry		<0.135		0-50	N/A	50	U
MS (1205725000 S)					Source: 665947001 Prepared: 05/08/2024 Analyzed: 05/09/2024					
Hexavalent Chromium	1.79	0.338	mg/kg dry	3.38	<0.135	52.8	75-125			
DUP (1205725001 D)					Source: 665964001 Prepared: 05/08/2024 Analyzed: 05/09/2024					
Hexavalent Chromium	ND	0.290	mg/kg dry		0.124		0-50	N/A	50	U
MS (1205725002 S)					Source: 665964001 Prepared: 05/08/2024 Analyzed: 05/09/2024					
Hexavalent Chromium	1.59	0.290	mg/kg dry	2.90	0.124	50.8	75-125			
ILCS (1205725003-ILCS)					Prepared: 05/08/2024 Analyzed: 05/09/2024					
Hexavalent Chromium	7.91	0.386	mg/kg	7.80		101	80-120			

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Andrew Newberry  
Project Number: [none]  
Project: Noble - UPRC K #35-19

## Notes and Definitions

- Ua Sample is Non-Detect.
- U Result not detected above the detection limit
- S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- I-01 Due to matrix interference, the sample cannot be accurately quantified. The reported result is qualitative.
- 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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