

# Wellhead Closure Checklist

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

Additional attachments (optional): <u>      </u>		Pit Closure <u>      </u>		Tank Battery Closure <u>      </u>		Flowline Closure <u>      </u>		Partially Buried Vault Closure <u>      </u>
Site Name & COGCC Facility Number: <b>Rouse USX A #5-19</b>		Date: <b>2/28/24</b>					Remediation Project #: <b>32929</b>	
Associated Wells: <b>05-123-24697</b>		Age of Site: <b>years</b>					Number of Photos Attached: <b>6</b>	
Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple) <b>40.518700 / -104.579130</b>							Estimated Facility Size (acres):	
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.) <b>Good condition</b>								
USCS Soil Type: <b>Clayey SAND</b>					Estimated Depth to Groundwater: <b>~10-20'</b>			
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) <b>None observed</b>								
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) <b>None observed</b>								
Wellhead(s)								
Well API	<b>05-123-24697</b>							
Age	<b>years</b>							
Condition of surface around wellhead	<b>Good - No odor/no staining</b>							
PID Readings	<b>WH-N: 1.1</b>	<b>WH-E: 0.5</b>	<b>WH-S: 0.9</b>	<b>WH-W: 0.3</b>				
Condition of subsurface (staining present)	<b>Good - No odor/no staining</b>							
PID Readings	<b>2.6</b>	<b>3.1</b>	<b>4.0</b>	<b>3.8</b>	<b>4.3</b>			
Sample taken? Location/Sample ID#	<b>WH-SS-01</b>	<b>WH-SS-02</b>	<b>WH-SS-03</b>	<b>WH-SS-04</b>	<b>WH-FS-01</b>			
Photo Number(s)	<b>See photo log</b>							
Other observations regarding wellheads: <b>Well casing cut/capped following assessment</b>								
Summary								
Was impacted soil identified? <b>(No)</b> Yes - less than 10 cubic yards Yes - more than 10 cubic yards								
Total number of samples field screened: <b>9</b>				Total number of samples collected: <b>9</b>				
Highest PID Reading: <b>4.3</b>				Total number of samples submitted to lab for analysis: <b>1</b>				
If more than 10 cubic yards of impacted soil were observed:								
Vertical extent:				Estimated spill volume:				
Lateral extent:				Volume of soil removed:				
<b>N/A</b>								
Is additional investigation required?								
Was groundwater encountered during the investigation? <b>(No)</b> 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**

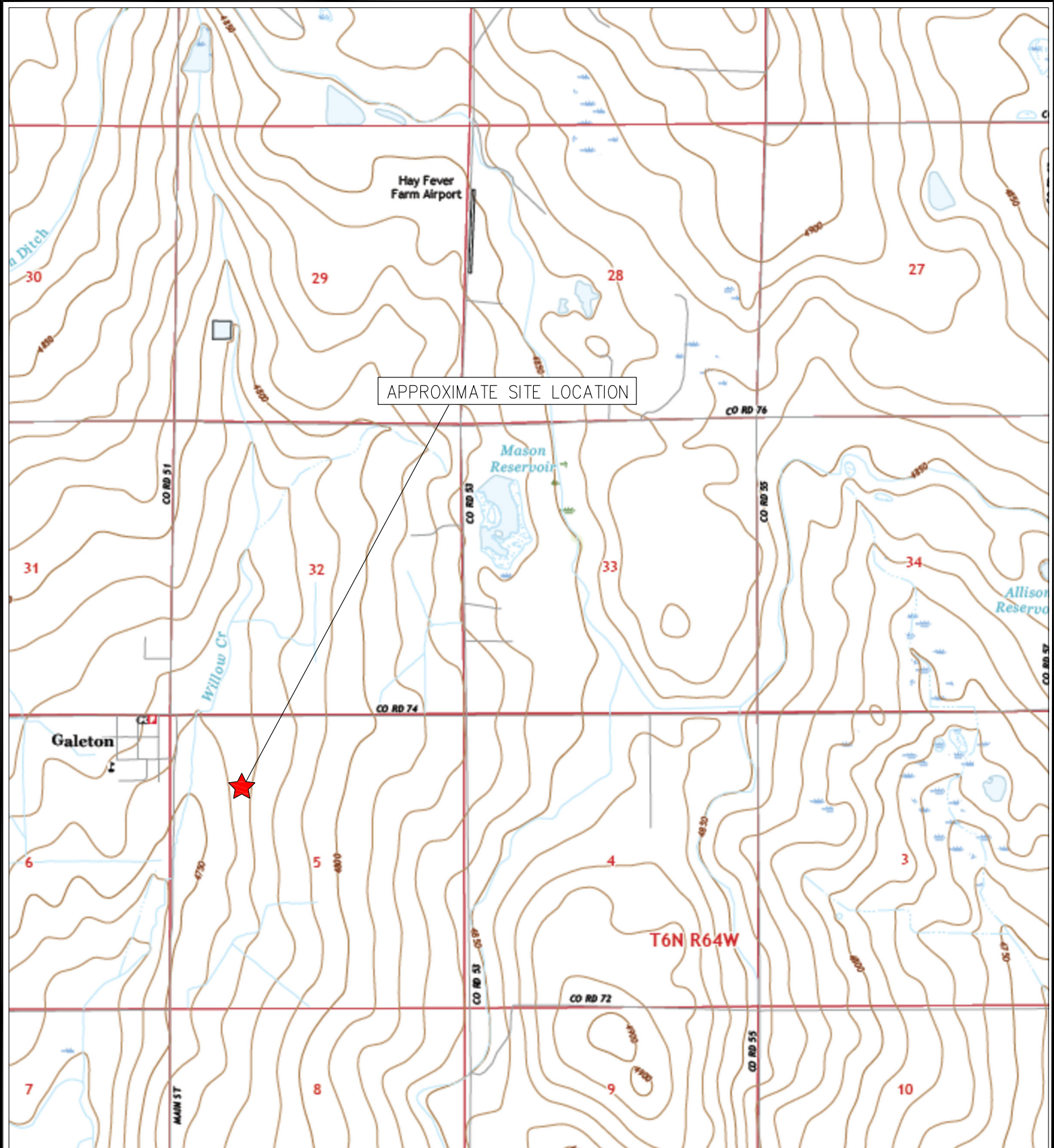
**Figure 1: Topographic Site Location Map**

**Figure 2: Aerial Site Location Map**

**Figure 3: Sample Location Map**

**Figure 4: Soil Analytical Map**

**Figure 5: Metals in Soil Map**



TOPOGRAPHIC SITE LOCATION MAP  
 ROUSE-USX A #5-19  
 CLOSURE ASSESSMENT  
 40.518700 / -104.579130  
 NW¼ NW¼ SEC.5 T6N R64W 6PM  
 WELD COUNTY, COLORADO  
 API # 05-123-24697  
 REMEDIATION # 32929



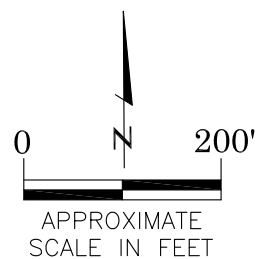
**EAGLE**  
 ENVIRONMENTAL  
 CONSULTING, LLC

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



# LEGEND

- FORMER ROUSE-USX A #5-19 WELLHEAD (PLUGGED AND ABANDONED)
- ASSOCIATED SEPARATOR
- APPROXIMATE FLOWLINE LOCATION



AERIAL SITE LOCATION MAP  
 ROUSE-USX A #5-19  
 CLOSURE ASSESSMENT  
 40.518700 / -104.579130  
 NW¼ NW¼ SEC.5 T6N R64W 6PM  
 WELD COUNTY, COLORADO  
 API # 05-123-24697  
 REMEDIATION # 32929

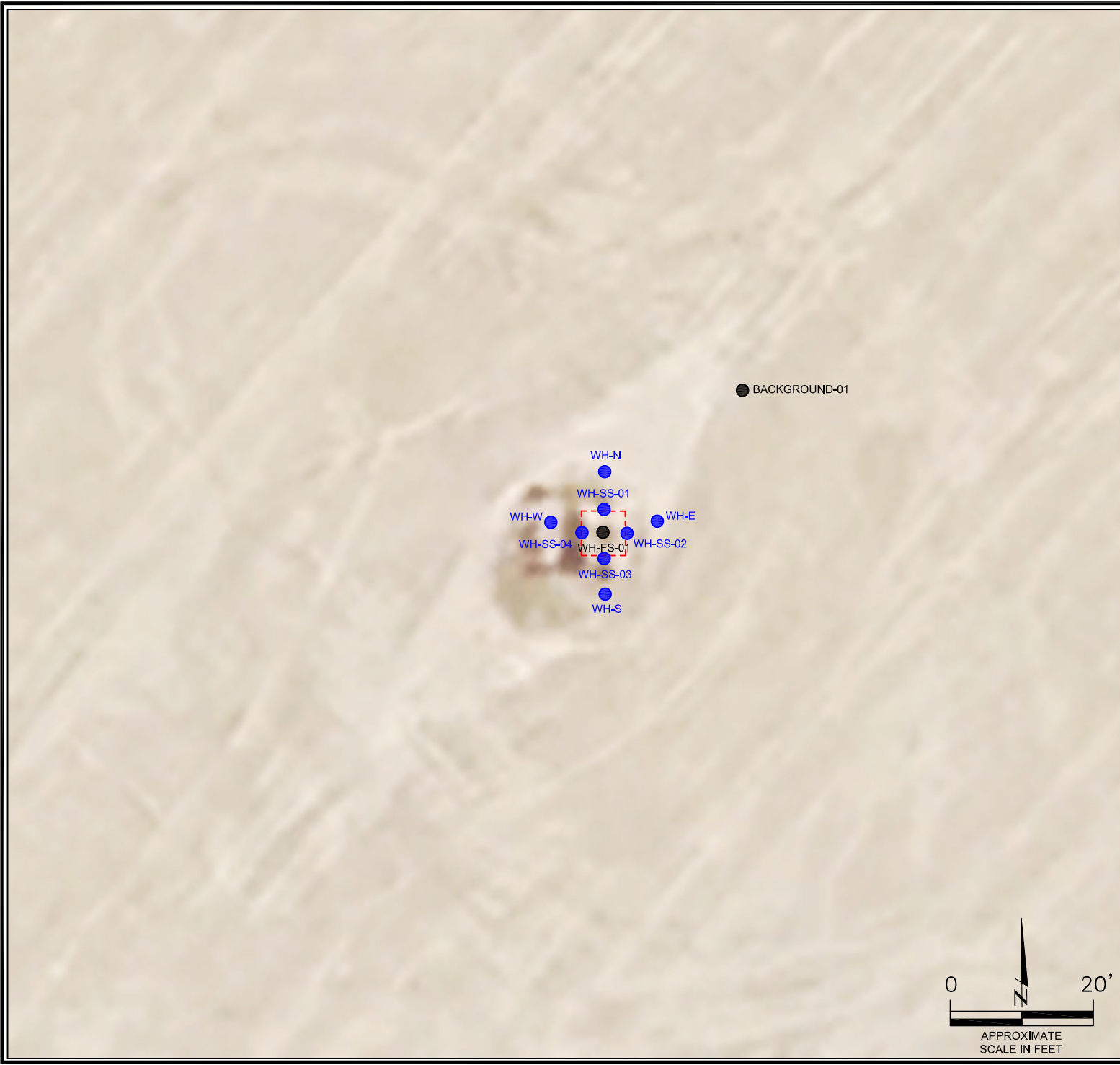
FIGURE NO.  
2

DRAWN BY:  
RS



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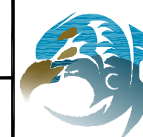
# LEGEND

- WELLHEAD ASSESSMENT BOUNDARIES
- SS-02 APPROXIMATE LOCATION OF SOIL SAMPLES FIELD SCREENED, ONLY, WITH PHOTOIONIZATION DETECTOR
- SS-02 APPROXIMATE LOCATION OF SOIL SAMPLES SUBMITTED FOR LABORATORY ANALYSIS

SAMPLE LOCATION MAP  
 ROUSE-USX A #5-19  
 CLOSURE ASSESSMENT  
 40.518700 / -104.579130  
 NW¼ NW¼ SEC.5 T6N R64W 6PM  
 WELD COUNTY, COLORADO  
 API # 05-123-24697  
 REMEDIATION # 32929

FIGURE NO.  
 3

DRAWN BY:  
 RS



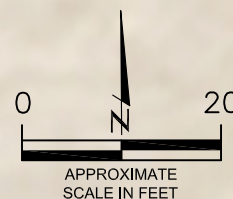
**EAGLE**  
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 8000 W 44th Ave, Wheat Ridge, CO 80033  
 Ph: 303-433-0479 • F: 303-325-5449

WH-FS-01@7'  
2/28/24  
7'  
pH = **8.32**  
ALL OTHERS = (BRL)

BACKGROUND-01@2'  
2/28/24  
2'  
Brn = 0.471  
EC = 0.624  
SAR = 0.853  
pH = 8.14

BACKGROUND-01

WH-SS-01  
WH-SS-02  
WH-SS-03  
WH-SS-04  
WH-FS-01



#### LEGEND

- WELLHEAD ASSESSMENT BOUNDARIES
- APPROXIMATE LOCATION OF SOIL SAMPLES FIELD SCREENED, ONLY, WITH PHOTOIONIZATION DETECTOR
- APPROXIMATE LOCATION OF SOIL SAMPLES SUBMITTED FOR LABORATORY ANALYSIS

#### PARAMETERS

##### SAMPLE LOCATION

##### DATE

##### DEPTH (FEET)

B = BENZENE (mg/kg)

T = TOLUENE (mg/kg)

E = ETHYLBENZENE (mg/kg)

X = TOTAL XYLENES (mg/kg)

N = NAPHTHALENE (mg/kg)

G = TPH-GRO (mg/kg)

D = TPH-DRO (mg/kg)

R = TPH-RRO (mg/kg)

1,2,4-TMB = 1,2,4 TRIMETHYLBENZENE (mg/kg)

1,3,5-TMB = 1,3,5 TRIMETHYLBENZENE (mg/kg)

Brn = BORON (mg/L)

EC = SPECIFIC CONDUCTANCE (mmhos/cm)

SAR = SODIUM ADSORPTION RATIO

pH = pH (pH UNITS)

POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (mg/kg)

mg/kg = MILLIGRAMS PER KILOGRAM

mg/L = MILLIGRAMS PER LITER

mmhos/cm = MILLIMHOS PER CENTIMETER

(BRL) = ALL VALUES BELOW REGULATORY LIMITS

TPH-GRO = TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE ORGANICS

TPH-DRO = TOTAL PETROLEUM HYDROCARBONS - DIESEL RANGE ORGANICS

TPH-RRO = TOTAL PETROLEUM HYDROCARBONS - RESIDUAL RANGE ORGANICS

#### NOTES:

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

ECMC = ENERGY & CARBON MANAGEMENT COMMISSION

SOIL ANALYTICAL MAP  
ROUSE-USX A #5-19  
CLOSURE ASSESSMENT  
40.518700 / -104.579130  
NW¼ NW¼ SEC.5 T6N R64W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-24697  
REMEDIATION # 32929

FIGURE NO.

4

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WH-FS-01@7'  
2/28/24  
7'

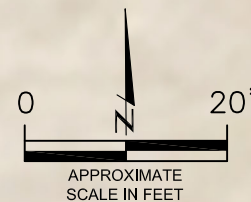
Arsenic = **5.54**  
Barium = 61.3  
Cadmium = 0.183  
Chromium (VI) = <0.251\*\*  
Copper = 9.54  
Lead = 9.22  
Nickel = 7.63  
Selenium = 0.285\*  
Silver = <0.0839  
Zinc = 40.7

BACKGROUND-01@2'  
2/28/24  
2'

Arsenic = 3.86  
Barium = 62.5  
Cadmium = 0.171  
Chromium (VI) = <0.244\*\*  
Copper = 10.8  
Lead = 6.83  
Nickel = 6.48  
Selenium = 0.282\*  
Silver = <0.0857  
Zinc = 42.1

WH-SS-01  
WH-SS-02  
WH-SS-03  
WH-SS-04  
WH-FS-01

BACKGROUND-01



#### LEGEND

- WELLHEAD ASSESSMENT BOUNDARIES
- SS-02 APPROXIMATE LOCATION OF SOIL SAMPLES FIELD SCREENED, ONLY, WITH PHOTOIONIZATION DETECTOR
- SS-02 APPROXIMATE LOCATION OF SOIL SAMPLES SUBMITTED FOR LABORATORY ANALYSIS

#### 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 WHERE APPLICABLE.

VALUES PRESENTED IN **BOLD** EXCEED ECMC TABLE 915-1 REGULATORY LIMITS AND 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  
ROUSE-USX A #5-19  
CLOSURE ASSESSMENT  
40.518700 / -104.579130  
NW¼ NW¼ SEC.5 T6N R64W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-24697  
REMEDATION # 32929

FIGURE NO.  
5

DRAWN BY:  
RS



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## **TABLES**

**Table 1: Photoionization Detector Reading Summary**

**Table 2: Soil Analytical Results Summary**

**TABLE 1**  
**PHOTOIONIZATION DETECTOR READING SUMMARY**  
**ROUSE-USX A #5-19**  
**CLOSURE ASSESSMENT**  
**40.518700 / -104.579130**  
**NW¼ NW¼ SEC.5 T6N R64W 6PM**  
**WELD COUNTY, COLORADO**  
**API # 05-123-24697**  
**REMEDIALATION # 32929**

Sample Location (Latitude/Longitude)	Date	Approximate Depth (feet)	PID Reading (ppm-v)	Lab Submission (Y/N)
WH-FS-01 @ 7' (40.518695 / -104.579110)	02/28/24	7	4.3	Y
WH-SS-01 @ 6' (40.518703 / -104.579110)	02/28/24	6	2.6	N
WH-SS-02 @ 6' (40.518695 / -104.579099)	02/28/24	6	3.1	N
WH-SS-03 @ 6' (40.518686 / -104.579111)	02/28/24	6	4.0	N
WH-SS-04 @ 6' (40.518695, -104.579120)	02/28/24	6	3.8	N
WH-N @ 0.5' (40.518712 / -104.579109)	02/28/24	0.5	1.1	N
WH-E @ 0.5' ( 40.518695 / -104.579086)	02/28/24	0.5	0.5	N
WH-S @ 0.5' (40.518673 / -104.579111)	02/28/24	0.5	0.9	N
WH-W @ 0.5' (40.518694 / -104.579156)	02/28/24	0.5	0.3	N
Background-01 @ 2' (40.518725 / -104.579063)	02/28/24	2	1.0	Y
(Y/N) = Yes or No ppm-v = parts per million by volume PID = Photoionization Detector				

TABLE 2  
SOIL ANALYTICAL RESULTS SUMMARY  
ROUSE-USX A #5-19  
CLOSURE ASSESSMENT  
40.518700 / -104.579130  
NW¼ NW¼ SEC.5 T6N R64W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-24697  
REMEDIATION # 32929

Sample Location (Latitude / Longitude)				WH-FS-01 @ 7'	Background-01 @ 2'
Sample Date				(40.518695 / -104.579110)	(40.518707 / -104.579091)
Sample Depth				2/28/2024	2/28/2024
PID Reading (ppm-v)				7	2
				4.3	1.0
Regulatory Limits					
Chemical of Concern	Units	ECMC Table 915-1 RSSLs	ECMC Table 915-1 GSSLs	Local Clean-Up Level	
VOCs					
Benzene	mg/kg	1.2	0.0026	--	<0.00200
Toluene	mg/kg	490	0.69	--	<0.00200
Ethylbenzene	mg/kg	5.8	0.78	--	<0.00200
Total Xylenes	mg/kg	58	9.9	--	<0.00200
Naphthalene	mg/kg	2	0.0038	--	<0.00380
1,2,4-Trimethylbenzene	mg/kg	30	0.0081	--	<0.00200
1,3,5-Trimethylbenzene	mg/kg	27	0.0087	--	<0.00200
TOTAL PETROLEUM HYDROCARBONS					
TPH-GRO	mg/kg	500	--	--	<0.200
TPH-DRO	mg/kg	500	--	--	<25.0
TPH-RRO	mg/kg	500	--	--	<100
POLYCYCLIC AROMATIC HYDROCARBONS					
1-Methyl-naphthalene	mg/kg	18	0.006	--	<0.002
2-Methyl-naphthalene	mg/kg	24	0.019	--	<0.002
Acenaphthene	mg/kg	360	0.55	--	<0.020
Anthracene	mg/kg	1800	5.8	--	<0.020
Benzo(a)-anthracene	mg/kg	1.1	0.011	--	<0.005
Benzo(a)-pyrene	mg/kg	0.11	0.24	--	<0.020
Benzo(b)-fluoranthene	mg/kg	1.1	0.3	--	<0.020
Benzo(k)-fluoranthene	mg/kg	11	2.9	--	<0.020
Chrysene	mg/kg	110	9	--	<0.020
Dibenzo(a,h)-anthracene	mg/kg	0.11	0.096	--	<0.020
Fluoranthene	mg/kg	240	8.9	--	<0.020
Fluorene	mg/kg	240	0.54	--	<0.020
Indeno(1,2,3-cd)-pyrene	mg/kg	1.1	0.98	--	<0.020
Pyrene	mg/kg	180	1.3	--	<0.020
SOIL SUITABILITY (Inorganics)					
Boron	mg/L	2	--	--	0.266
pH	standard unit	6-8.3	--	--	<b>8.32</b>
Sodium Adsorption Ratio (SAR)		<6	--	--	0.847
Specific Conductance (EC)	mmhos/cm	<4	--	--	0.452
METALS					
Arsenic	mg/kg	0.68	0.29	4.83	<b>5.54</b>
Barium	mg/kg	15000	82	--	61.3
Cadmium	mg/kg	71	0.38	--	0.183
Copper	mg/kg	3100	46	--	9.54
Lead	mg/kg	400	14	--	9.22
Nickel	mg/kg	1500	26	--	7.63
Selenium	mg/kg	390	0.26	0.353	0.285*
Silver	mg/kg	390	0.8	--	<0.0839
Zinc	mg/kg	23000	370	--	40.7
Hexavalent Chromium	mg/kg	0.3**	0.00067**	0.1 to 1.0**	<0.244**
ECMC = Energy & Carbon Management Commission mg/kg = milligrams per kilogram mmhos/cm = millimhos per centimeter PID = Photoionization Detector ppm-v = parts per million by volume mg/L = milligrams per liter SAR = Sodium Adsorption Ratio					
NA - Not Analyzed		VOCs - Volatile Organic Compounds			
RSSLs = Residential Soil Screening Levels		GSSLs = Protection of Groundwater Soil Screening Levels			
TPH-GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics		TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics			
TPH-RRO = Total Petroleum Hydrocarbons - Residual Range Organics					
Notes:Values presented with a less than symbol (<) did not contain concentrations at or above the laboratory reporting limit and/or minimum detection limit					
Values presented in <b>BOLD</b> exceed ECMC Table 915-1 Regulatory Limits. Values presented with asterisk (*) exceed ECMC Table 915-1 GSSLs, only.					
**Achievable practical quantitative limits for Hexavalent Chromium in soils is in the range of 0.1 to 1 mg/kg.					
Elevated metals are naturally occurring in Colorado. The Local Clean-up Level is 1.25*Background where applicable.					



## **ATTACHMENT A**

### **Photo Log**

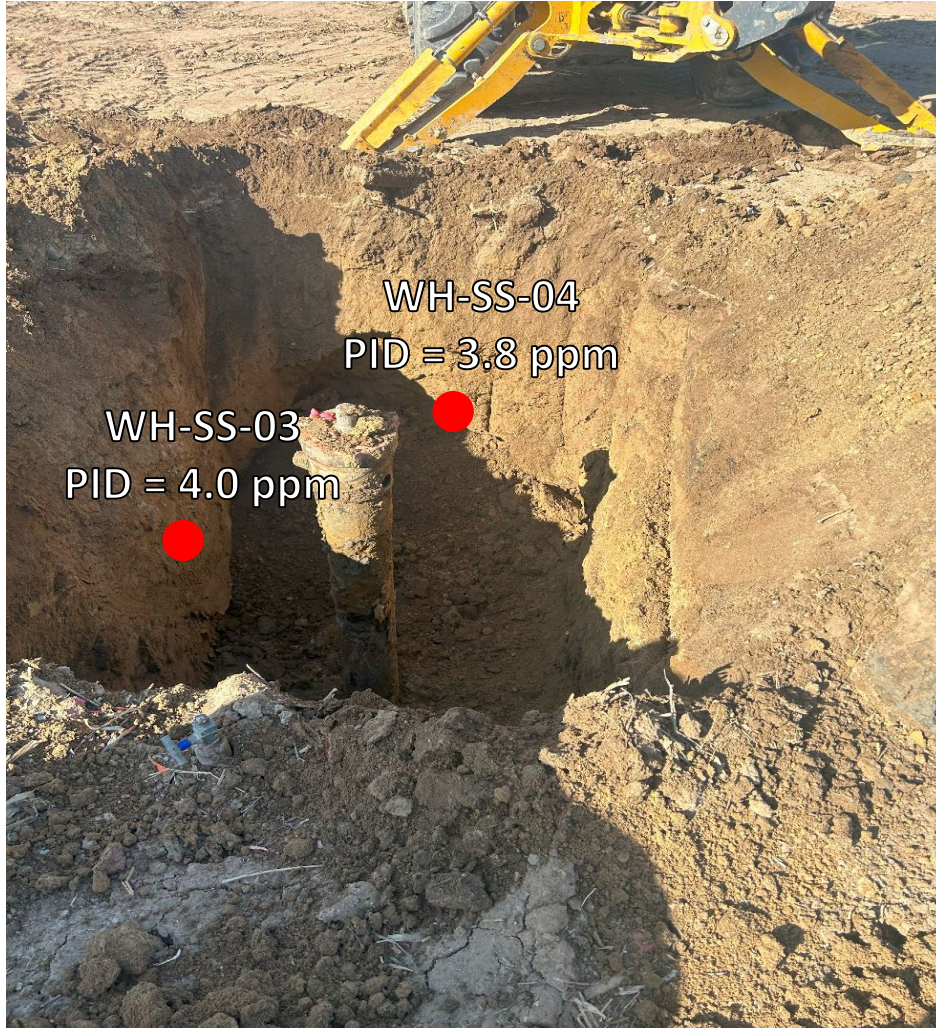
Rouse-USX A #05-19  
API # 05-123-24697  
Remediation # 32929

Closure Assessment

February 2024

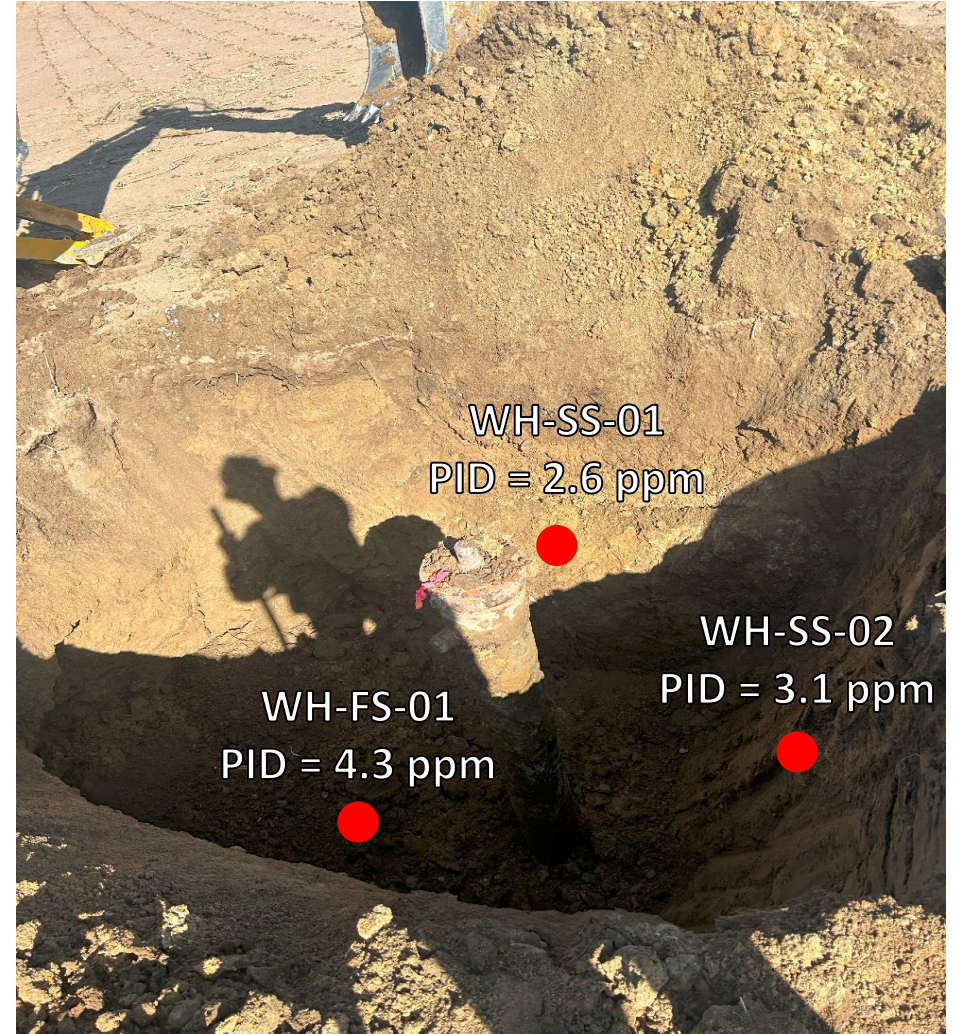


## Wellhead Excavation – 02/28/24



Looking west

No petroleum hydrocarbon staining or odor observed



Looking north

No petroleum hydrocarbon staining or odor observed

## Wellhead Surface – 02/28/24



Looking north

Site in good condition – no petroleum hydrocarbon staining or odor  
Observed on surface around wellhead



Looking east

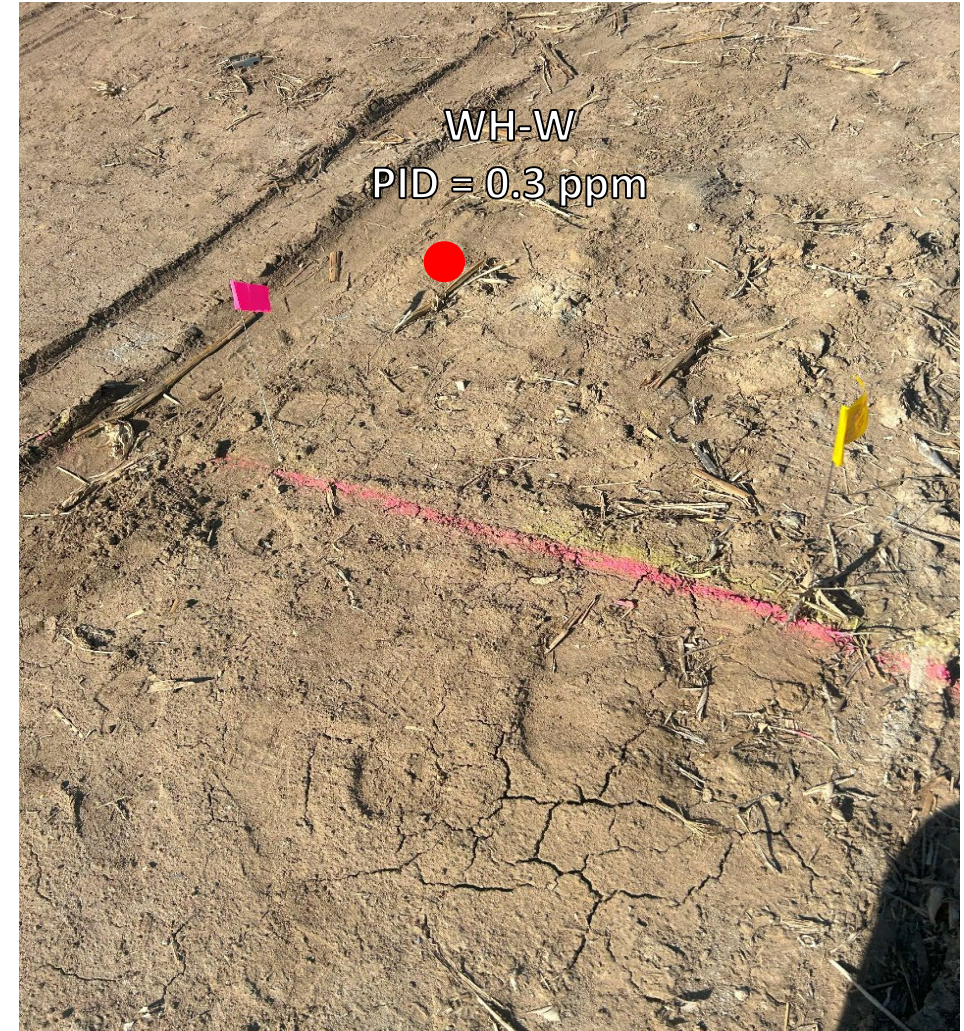
Site in good condition – no petroleum hydrocarbon staining or odor  
Observed on surface around wellhead

## Wellhead Surface – 02/28/24



Looking south

Site in good condition – no petroleum hydrocarbon staining or odor  
Observed on surface around wellhead



Looking west

Site in good condition – no petroleum hydrocarbon staining or odor  
Observed on surface around wellhead



## **ATTACHMENT B**

### **Laboratory Analytical Reports**



March 21, 2024

Eagle Environmental Consulting, LLC

Andrew Newberry

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - Rouse USX A #05-19

Project Number - [none]

Attached are your analytical results for Noble - Rouse USX A #05-19 received by Origins Laboratory, Inc. February 28, 2024. This project is associated with Origins project number Y402736-01.

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 - Rouse USX A #05-19

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-FS-01@7'	Y402736-01	Soil	February 28, 2024 14:36	02/28/2024 16:42
Background-01@2'	Y402736-02	Soil	February 28, 2024 14:38	02/28/2024 16:42

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.*

Jordan A. Bynon, Project Manager



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - Rouse USX A #05-19

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: 4402736

Client: Eagle

Client Project ID: Rouse USX A #05-19

Checklist Completed by: JMN/CAS

Shipped Via: TD

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

Date/time completed: 2/29/24

Airbill #: N/A

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

Cooler Number/Temperature: 110 °C / \_\_\_\_\_ °C / \_\_\_\_\_ °C (Describe)

Thermometer ID: 7004

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

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

Reviewed by (Project Manager) [Signature]

3/1/24  
Date/Time Reviewed

Origins Laboratory, Inc.

[Signature]

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

Andrew Newberry  
Project Number: [none]  
Project: Noble - Rouse USX A #05-19

WH-FS-01@7'  
2/28/2024 2:36:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402736-01 (Soil)

### Boron (DTPA Sorbitol)

Boron	0.266	0.101	mg/L	1	B4C0617	03/06/2024	03/07/2024	
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### DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4B2937	02/29/2024	03/09/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	94.3 %	50-150			"	"	"	
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### GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4B2931	02/29/2024	03/01/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Naphthalene	ND	0.00380	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

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 - Rouse USX A #05-19

WH-FS-01@7'

2/28/2024 2:36:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402736-01 (Soil)**

**GBTEX+TMBs by 8260D**

Surrogate: 1,2-Dichloroethane-d4	96.5 %	70-130	B4B29 31	02/29/2024	03/01/2024
Surrogate: Toluene-d8	95.4 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	70-130	"	"	"

**Metals by Saturated Paste by EPA 6010**

Calcium	1.71	0.499	meq/L	10	[CALC]	03/06/2024	03/07/2024
Magnesium	1.38	0.823	"	"	"	"	"
Sodium	1.05	0.435	"	"	"	"	"

**PAH by EPA 8270E**

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4C0128	03/01/2024	03/02/2024	U
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	U
Acenaphthene	ND	0.020	"	"	"	"	"	U
Anthracene	ND	0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	U
Chrysene	ND	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	U

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 - Rouse USX A #05-19

WH-FS-01@7'  
2/28/2024 2:36:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402736-01 (Soil)

## PAH by EPA 8270E

Fluoranthene	ND	0.020	mg/kg	1	B4C0128	03/01/2024	03/02/2024	U
Fluorene	ND	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	U
Pyrene	ND	0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	99.9 %	60-130	"	"	"
Surrogate: Anthracene-d10	94.7 %	60-130	"	"	"
Surrogate: Pyrene-d10	95.2 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	102 %	60-130	"	"	"

## pH in Soil by 9045D

pH	8.32	pH Units	1	B4C0624	03/06/2024	03/07/2024
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## SAR by 20B Saturated Paste

SAR	0.847	0.0100	SAR	1	B4C0608	03/06/2024	03/07/2024
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.452	0.00500	mmhos/cm	1	B4C0624	03/06/2024	03/07/2024
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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 - Rouse USX A #05-19

WH-FS-01@7'

2/28/2024 2:36:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402736-01 (Soil)

## Table 915 metals by EPA 6020B

Arsenic	5.54	0.243	mg/kg	10	B4B2929	02/29/2024	03/13/2024
Barium	61.3	8.39	"	"	"	"	"
Cadmium	0.183	0.0839	"	"	"	"	"
Copper	9.54	8.39	"	"	"	"	"
Lead	9.22	0.839	"	"	"	"	"
Nickel	7.63	0.839	"	"	"	"	"
Selenium	0.285	0.218	"	"	"	"	"
Silver	ND	0.0839	"	"	"	"	"
Zinc	40.7	31.0	"	"	"	"	"

## Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L738411	02/28/2024	03/15/2024
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Origins Laboratory, Inc.



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8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Rouse USX A #05-19

**Background-01@2'**  
**2/28/2024 2:38:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402736-02 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.471	0.100	mg/L	1	B4C0617	03/06/2024	03/07/2024
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**Metals by Saturated Paste by EPA 6010**

Calcium	2.01	0.499	meq/L	10	[CALC]	03/06/2024	03/07/2024
Magnesium	1.52	0.823	"	"	"	"	"
Sodium	1.13	0.435	"	"	"	"	"

**pH in Soil by 9045D**

pH	8.14		pH Units	1	B4C0624	03/06/2024	03/07/2024
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**SAR by 20B Saturated Paste**

SAR	0.853	0.0100	SAR	1	B4C0608	03/06/2024	03/07/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.624	0.00500	mmhos/cm	1	B4C0624	03/06/2024	03/07/2024
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**Table 915 metals by EPA 6020B**

Arsenic	3.86	0.249	mg/kg	10	B4B2929	02/29/2024	03/13/2024
Barium	62.5	8.57	"	"	"	"	"
Cadmium	0.171	0.0857	"	"	"	"	"
Copper	10.8	8.57	"	"	"	"	"

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 - Rouse USX A #05-19

**Background-01@2'**  
**2/28/2024 2:38:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402736-02 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	6.83	0.857	mg/kg	10	B4B2929	02/29/2024	03/13/2024
Nickel	6.48	0.857	"	"	"	"	"
Selenium	0.282	0.223	"	"	"	"	"
Silver	ND	0.0857	"	"	"	"	"
Zinc	42.1	31.7	"	"	"	"	"

**Total Metals by 7196A**

Chromium, Hexavalent	ND	0.251	0.516	mg/Kg	1	L738413	02/28/2024	03/15/2024
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8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Rouse USX A #05-19

**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 B4B2931 - EPA 5030 (soil)</b>										
<b>Blank (B4B2931-BLK1)</b>					Prepared: 02/29/2024 Analyzed: 02/29/2024					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.10		"	0.125		80.5	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.2	70-130			

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 - Rouse USX A #05-19

**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 B4B2931 - EPA 5030 (soil)**

**LCS (B4B2931-BS1)**

Prepared: 02/29/2024 Analyzed: 02/29/2024

1,2,4-Trimethylbenzene	0.110	0.00200	mg/kg	0.100		110	70-130			
1,3,5-Trimethylbenzene	0.112	0.00200	"	0.100		112	70-130			
Benzene	0.0986	0.00200	"	0.100		98.6	70-130			
Ethylbenzene	0.108	0.00200	"	0.100		108	70-130			
Naphthalene	0.110	0.00380	"	0.100		110	70-130			
Toluene	0.101	0.00200	"	0.100		101	70-130			
o-Xylene	0.112	0.00200	"	0.100		112	70-130			
m,p-Xylene	0.220	0.00400	"	0.200		110	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.098		"	0.125		78.5	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.7	70-130			

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 - Rouse USX A #05-19

## 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 B4B2931 - EPA 5030 (soil)										
Matrix Spike (B4B2931-MS1)		Source: Y402695-01			Prepared: 02/29/2024 Analyzed: 02/29/2024					
1,2,4-Trimethylbenzene	0.0765	0.00200	mg/kg	0.100	ND	76.5	70-130			
1,3,5-Trimethylbenzene	0.112	0.00200	"	0.100	0.0355	76.5	70-130			
Benzene	0.0827	0.00200	"	0.100	ND	82.7	70-130			
Ethylbenzene	0.109	0.00200	"	0.100	ND	109	70-130			
Naphthalene	0.0598	0.00380	"	0.100	0.000680	59.2	70-130			QM-07
Toluene	0.0846	0.00200	"	0.100	ND	84.6	70-130			
o-Xylene	0.112	0.00200	"	0.100	0.00228	110	70-130			
m,p-Xylene	0.215	0.00400	"	0.200	ND	107	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.10		"	0.125		82.0	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		105	70-130			
Surrogate: 4-Bromofluorobenzene	0.16		"	0.125		128	70-130			

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 - Rouse USX A #05-19

## 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 B4B2931 - EPA 5030 (soil)										
Matrix Spike Dup (B4B2931-MSD1)		Source: Y402695-01			Prepared: 02/29/2024 Analyzed: 02/29/2024					
1,2,4-Trimethylbenzene	0.0622	0.00200	mg/kg	0.100	ND	62.2	70-130	20.6	20	QM-07
1,3,5-Trimethylbenzene	0.112	0.00200	"	0.100	0.0355	76.8	70-130	0.267	20	
Benzene	0.0777	0.00200	"	0.100	ND	77.7	70-130	6.26	20	
Ethylbenzene	0.0975	0.00200	"	0.100	ND	97.5	70-130	10.9	20	
Naphthalene	0.0496	0.00380	"	0.100	0.000680	49.0	70-130	18.6	20	QM-07
Toluene	0.0765	0.00200	"	0.100	ND	76.5	70-130	10.0	20	
o-Xylene	0.102	0.00200	"	0.100	0.00228	99.2	70-130	9.94	20	
m,p-Xylene	0.190	0.00400	"	0.200	ND	95.0	70-130	12.3	20	
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		88.3	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		104	70-130			
Surrogate: 4-Bromofluorobenzene	0.17		"	0.125		133	70-130			S-GC

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 - Rouse USX A #05-19

## 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 B4B2937 - EPA 3550B										
Blank (B4B2937-BLK1)					Prepared: 02/29/2024 Analyzed: 03/09/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	23		"	24.9		94.3	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 - Rouse USX A #05-19

## 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 B4B2937 - EPA 3550B										
LCS (B4B2937-BS1)					Prepared: 02/29/2024 Analyzed: 03/09/2024					
Diesel (C10-C28)	790	50.0	mg/kg	1000		79.0	70-130			
Residual Range Organics (C28-C40)	839	200	"	1000		83.9	70-130			
Surrogate: o-Terphenyl	47		"	49.8		94.0	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 - Rouse USX A #05-19

## 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
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Batch B4B2937 - EPA 3550B

Matrix Spike (B4B2937-MS1)		Source: Y402696-01			Prepared: 02/29/2024 Analyzed: 03/09/2024					
Diesel (C10-C28)	835	50.0	mg/kg	1000	ND	83.5	70-130			
Residual Range Organics (C28-C40)	905	200	"	1000	ND	90.5	70-130			
Surrogate: o-Terphenyl	47		"	49.8		93.8	50-150			

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 - Rouse USX A #05-19

## 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 B4B2937 - EPA 3550B										
Matrix Spike Dup (B4B2937-MSD1)		Source: Y402696-01			Prepared: 02/29/2024 Analyzed: 03/09/2024					
Diesel (C10-C28)	801	50.0	mg/kg	1000	ND	80.1	70-130	4.22	35	
Residual Range Organics (C28-C40)	849	200	"	1000	ND	84.9	70-130	6.36	35	
Surrogate: o-Terphenyl	46		"	49.8		93.3	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 - Rouse USX A #05-19

## 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
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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 B4B2929 - EPA 3050B

#### Blank (B4B2929-BLK1)

Prepared: 02/29/2024 Analyzed: 03/13/2024

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 (B4B2929-BS1)

Prepared: 02/29/2024 Analyzed: 03/13/2024

Arsenic	5.09	0.290	mg/kg	5.00	102	80-120
Barium	507	10.0	"	500	101	80-120
Cadmium	5.52	0.100	"	5.00	110	80-120
Copper	54.9	10.0	"	50.0	110	80-120
Lead	4.49	1.00	"	5.00	89.8	80-120
Nickel	5.25	1.00	"	5.00	105	80-120
Selenium	10.7	0.260	"	9.50	113	80-120
Silver	4.92	0.100	"	5.00	98.5	80-120
Zinc	56.5	37.0	"	50.0	113	80-120

#### Matrix Spike (B4B2929-MS1)

Source: Y402732-01

Prepared: 02/29/2024 Analyzed: 03/13/2024

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 - Rouse USX A #05-19

## 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
Batch B4B2929 - EPA 3050B										
<b>Matrix Spike (B4B2929-MS1)</b>			<b>Source: Y402732-01</b>		Prepared: 02/29/2024 Analyzed: 03/13/2024					
Arsenic	9.73	0.280	mg/kg	4.83	4.94	99.1	75-125			
Barium	635	9.66	"	483	159	98.7	75-125			
Cadmium	5.65	0.0966	"	4.83	0.199	113	75-125			
Copper	61.2	9.66	"	48.3	12.7	100	75-125			
Lead	15.6	0.966	"	4.83	13.9	35.6	75-125			QM-07
Nickel	23.4	0.966	"	4.83	12.0	237	75-125			QM-07
Selenium	10.8	0.251	"	9.18	0.286	114	75-125			
Silver	4.80	0.0966	"	4.83	0.0353	98.7	75-125			
Zinc	105	35.7	"	48.3	55.9	102	75-125			
<b>Matrix Spike Dup (B4B2929-MSD1)</b>			<b>Source: Y402732-01</b>		Prepared: 02/29/2024 Analyzed: 03/13/2024					
Arsenic	9.26	0.259	mg/kg	4.46	4.94	96.8	75-125	4.97	20	
Barium	596	8.92	"	446	159	98.0	75-125	6.46	20	
Cadmium	5.16	0.0892	"	4.46	0.199	111	75-125	9.01	20	
Copper	57.3	8.92	"	44.6	12.7	100	75-125	6.57	20	
Lead	18.8	0.892	"	4.46	13.9	109	75-125	18.3	20	
Nickel	19.2	0.892	"	4.46	12.0	162	75-125	19.9	20	QM-07
Selenium	10.4	0.232	"	8.47	0.286	119	75-125	3.60	20	
Silver	4.35	0.0892	"	4.46	0.0353	96.8	75-125	9.84	20	
Zinc	99.5	33.0	"	44.6	55.9	97.8	75-125	5.36	20	

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

Andrew Newberry  
Project Number: [none]  
Project: Noble - Rouse USX A #05-19

**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 B4C0128 - EPA 3580**

**Blank (B4C0128-BLK1)**

Prepared: 03/01/2024 Analyzed: 03/02/2024

1-Methylnaphthalene	ND	0.002	mg/kg							U
2-Methylnaphthalene	ND	0.002	"							U
Acenaphthene	ND	0.020	"							U
Anthracene	ND	0.020	"							U
Benzo (a) anthracene	ND	0.005	"							U
Benzo (a) pyrene	ND	0.020	"							U
Benzo (b) fluoranthene	ND	0.020	"							U
Benzo (g,h,i) perylene	ND	0.020	"							U
Benzo (k) fluoranthene	ND	0.020	"							U
Chrysene	ND	0.020	"							U
Dibenz (a,h) anthracene	ND	0.020	"							U
Fluoranthene	ND	0.020	"							U
Fluorene	ND	0.020	"							U
Indeno (1,2,3-cd) pyrene	ND	0.020	"							U
Naphthalene	ND	0.002	"							U
Phenanthrene	ND	0.020	"							U
Pyrene	ND	0.020	"							U
Surrogate: Fluorene-d10	200		ug/kg	200		101	60-130			
Surrogate: Anthracene-d10	190		"	200		94.1	60-130			
Surrogate: Pyrene-d10	210		"	200		104	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		107	60-130			

**LCS (B4C0128-BS1)**

Prepared: 03/01/2024 Analyzed: 03/02/2024

1-Methylnaphthalene	0.198	0.002	mg/kg	0.200		99.1	70-130			
2-Methylnaphthalene	0.196	0.002	"	0.200		98.0	70-130			
Acenaphthene	0.197	0.020	"	0.200		98.5	70-130			
Anthracene	0.183	0.020	"	0.200		91.4	70-130			

Origins Laboratory, Inc.



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Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Rouse USX A #05-19

**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 B4C0128 - EPA 3580**

**LCS (B4C0128-BS1)**

Prepared: 03/01/2024 Analyzed: 03/02/2024

Benzo (a) anthracene	0.209	0.005	mg/kg	0.200		105	70-130
Benzo (a) pyrene	0.206	0.020	"	0.200		103	70-130
Benzo (b) fluoranthene	0.205	0.020	"	0.200		102	70-130
Benzo (g,h,i) perylene	0.205	0.020	"	0.200		103	70-130
Benzo (k) fluoranthene	0.185	0.020	"	0.200		92.7	70-130
Chrysene	0.215	0.020	"	0.200		108	70-130
Dibenz (a,h) anthracene	0.204	0.020	"	0.200		102	70-130
Fluoranthene	0.186	0.020	"	0.200		93.2	70-130
Fluorene	0.202	0.020	"	0.200		101	70-130
Indeno (1,2,3-cd) pyrene	0.206	0.020	"	0.200		103	70-130
Naphthalene	0.201	0.002	"	0.200		101	70-130
Phenanthrene	0.180	0.020	"	0.200		90.0	70-130
Pyrene	0.186	0.020	"	0.200		92.9	70-130
Surrogate: Fluorene-d10	200		ug/kg	200		101	60-130
Surrogate: Anthracene-d10	190		"	200		93.5	60-130
Surrogate: Pyrene-d10	190		"	200		95.2	60-130
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130

**Matrix Spike (B4C0128-MS1)**

**Source: Y402729-01**

Prepared: 03/01/2024 Analyzed: 03/04/2024

1-Methylnaphthalene	0.192	0.002	mg/kg	0.200	0.0006	95.8	70-130
2-Methylnaphthalene	0.192	0.002	"	0.200	0.001	95.4	70-130
Acenaphthene	0.191	0.020	"	0.200	ND	95.5	70-130
Anthracene	0.187	0.020	"	0.200	ND	93.6	70-130
Benzo (a) anthracene	0.208	0.005	"	0.200	ND	104	70-130
Benzo (a) pyrene	0.203	0.020	"	0.200	ND	102	70-130
Benzo (b) fluoranthene	0.202	0.020	"	0.200	0.0009	101	70-130
Benzo (g,h,i) perylene	0.188	0.020	"	0.200	0.002	93.2	70-130

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

Andrew Newberry  
Project Number: [none]  
Project: Noble - Rouse USX A #05-19

**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 B4C0128 - EPA 3580**

Matrix Spike (B4C0128-MS1)		Source: Y402729-01			Prepared: 03/01/2024 Analyzed: 03/04/2024					
Benzo (k) fluoranthene	0.193	0.020	mg/kg	0.200	0.0009	96.0	70-130			
Chrysene	0.201	0.020	"	0.200	0.0005	100	70-130			
Dibenz (a,h) anthracene	0.190	0.020	"	0.200	ND	95.1	70-130			
Fluoranthene	0.199	0.020	"	0.200	0.0007	99.2	70-130			
Fluorene	0.192	0.020	"	0.200	ND	96.2	70-130			
Indeno (1,2,3-cd) pyrene	0.188	0.020	"	0.200	0.001	93.4	70-130			
Naphthalene	0.200	0.002	"	0.200	0.001	99.6	70-130			
Phenanthrene	0.179	0.020	"	0.200	0.002	88.7	70-130			
Pyrene	0.164	0.020	"	0.200	0.001	81.3	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		99.6	60-130			
Surrogate: Anthracene-d10	190		"	200		94.6	60-130			
Surrogate: Pyrene-d10	170		"	200		86.1	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		104	60-130			

Matrix Spike Dup (B4C0128-MSD1)		Source: Y402729-01			Prepared: 03/01/2024 Analyzed: 03/02/2024					
1-Methylnaphthalene	0.190	0.002	mg/kg	0.200	0.0006	94.7	70-130	1.12	20	
2-Methylnaphthalene	0.189	0.002	"	0.200	0.001	93.8	70-130	1.72	20	
Acenaphthene	0.190	0.020	"	0.200	ND	95.0	70-130	0.514	20	
Anthracene	0.189	0.020	"	0.200	ND	94.4	70-130	0.779	20	
Benzo (a) anthracene	0.200	0.005	"	0.200	ND	100	70-130	3.93	20	
Benzo (a) pyrene	0.197	0.020	"	0.200	ND	98.4	70-130	3.28	20	
Benzo (b) fluoranthene	0.199	0.020	"	0.200	0.0009	98.9	70-130	1.86	20	
Benzo (g,h,i) perylene	0.194	0.020	"	0.200	0.002	96.4	70-130	3.33	20	
Benzo (k) fluoranthene	0.190	0.020	"	0.200	0.0009	94.4	70-130	1.65	20	
Chrysene	0.208	0.020	"	0.200	0.0005	104	70-130	3.43	20	
Dibenz (a,h) anthracene	0.197	0.020	"	0.200	ND	98.6	70-130	3.61	20	
Fluoranthene	0.195	0.020	"	0.200	0.0007	97.0	70-130	2.22	20	

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Andrew Newberry  
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Project: Noble - Rouse USX A #05-19

**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
<b>Batch B4C0128 - EPA 3580</b>										
<b>Matrix Spike Dup (B4C0128-MSD1)</b>			<b>Source: Y402729-01</b>		Prepared: 03/01/2024 Analyzed: 03/02/2024					
Fluorene	0.190	0.020	mg/kg	0.200	ND	95.1	70-130	1.09	20	
Indeno (1,2,3-cd) pyrene	0.198	0.020	"	0.200	0.001	98.5	70-130	5.24	20	
Naphthalene	0.198	0.002	"	0.200	0.001	98.5	70-130	1.09	20	
Phenanthrene	0.179	0.020	"	0.200	0.002	88.8	70-130	0.136	20	
Pyrene	0.166	0.020	"	0.200	0.001	82.5	70-130	1.50	20	
Surrogate: Fluorene-d10	200		ug/kg	200		99.7	60-130			
Surrogate: Anthracene-d10	190		"	200		96.0	60-130			
Surrogate: Pyrene-d10	180		"	200		88.6	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130			

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Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Rouse USX A #05-19

## 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 B4C0608 - Saturated Paste Metals

##### Blank (B4C0608-BLK1)

Prepared: 03/06/2024 Analyzed: 03/07/2024

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

##### Duplicate (B4C0608-DUP1)

Source: Y402734-02

Prepared: 03/06/2024 Analyzed: 03/07/2024

SAR	ND	0.0100	SAR	2.96		200
Calcium PPM	36.0	10.0	mg/L	29.8	19.1	50
Magnesium PPM	7.43	10.0	"	6.20	18.0	50
Sodium PPM	72.1	10.0	"	68.0	5.97	50

#### Batch B4C0617 - DTPA Sorbitol Preparation

##### Blank (B4C0617-BLK1)

Prepared: 03/06/2024 Analyzed: 03/07/2024

Boron	ND	0.100	mg/L
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##### Duplicate (B4C0617-DUP1)

Source: Y402732-02

Prepared: 03/06/2024 Analyzed: 03/07/2024

Boron	2.44	0.100	mg/L	2.45	0.350	50
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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 - Rouse USX A #05-19

## 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 B4C0624 - Saturated Paste pH/EC</b>										
<b>Blank (B4C0624-BLK1)</b>					Prepared: 03/06/2024 Analyzed: 03/07/2024					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
<b>Duplicate (B4C0624-DUP1)</b>					<b>Source: Y402734-02</b> Prepared: 03/06/2024 Analyzed: 03/07/2024					
Specific Conductance (EC)	0.609	0.00500	mmhos/cm		0.532			13.5	25	
pH	8.40		pH Units		8.41			0.119	25	

Origins Laboratory, Inc.



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Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Rouse USX A #05-19

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L738413 -</b>										
<b>DUP (L 83870-DUP)</b>		<b>Source: 83870</b>			Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	ND	0.5	mg/Kg		<0.500	-		1.3	20	
<b>MS (L 83870-MS)</b>		<b>Source: 83870</b>			Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	30.2	2.5	mg/Kg	39.2	< 0.247	77	75-125			
<b>LCS (LCS)</b>					Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	6.47	0.5	mg/Kg	8		81	75-125			
<b>LRB (LRB)</b>					Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	ND	0.5	mg/Kg				-			

Origins Laboratory, Inc.



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Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Rouse USX A #05-19

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L738411 -</b>										
<b>DUP (L 83866-DUP)</b>		<b>Source: 83866</b>			Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	ND	0.511	mg/Kg		<0.511	-		2.1	20	
<b>MS (L 83866-MS)</b>		<b>Source: 83866</b>			Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	32.5	2.59	mg/Kg	41.4	< 0.244	79	75-125			
<b>LCS (LCS)</b>					Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	6.36	0.5	mg/Kg	8		80	75-125			
<b>LRB (LRB)</b>					Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	ND	0.5	mg/Kg				-			

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Andrew Newberry  
Project Number: [none]  
Project: Noble - Rouse USX A #05-19

### Notes and Definitions

U Sample is Non-Detect.

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

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

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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Jordan A. Bynon, Project Manager