

# 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: UPV #5-5H3	Date: 02/07/24	Remediation Project #: 30272
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Associated Wells: 05-123-18860	Age of Site: years	Number of Photos Attached: 2
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Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple) 40.429766 / -104.467816	Estimated Facility Size (acres): <u>      </u>
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General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)

Good condition

USCS Soil Type: Clayey SAND	Estimated Depth to Groundwater: ~20-30'
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Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)

None observed

Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)

None observed

### Wellhead(s)

Well API	05-123-18860				
Age	years				
Condition of surface around wellhead	Good - No odor/no staining				
PID Readings	WH-N: 0.3	WH-E: 0.6	WH-S: 0.5	WH-W: 0.6	
Condition of subsurface (staining present)	Good - No odor/no staining				
PID Readings	9.0	2.8	9.8	2.3	10.2
Sample taken? Location/Sample ID#	WH-SS-01	WH-SS-02	WH-SS-03	WH-SS-04	WH-FS-01
Photo Number(s)	See photo log				

Other observations regarding wellheads:

Well casing cut/capped following assessment

### Summary

Was impacted soil identified?  No Yes - less than 10 cubic yards Yes - more than 10 cubic yards

Total number of samples field screened: 9	Total number of samples collected: 9
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Highest PID Reading: 10.2	Total number of samples submitted to lab for analysis: 1
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If more than 10 cubic yards of impacted soil were observed:

Vertical extent:	Estimated spill volume:
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Lateral extent:	Volume of soil removed:
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Is additional investigation required?

Was groundwater encountered during the investigation?  No 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? <span style="margin-left: 20px;">Yes</span> <span style="margin-left: 20px;">No</span>
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Date Groundwater was encountered:	Commencement date of removal:
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Sheen on groundwater? <span style="margin-left: 20px;">Yes</span> <span style="margin-left: 20px;">No</span>	Volume of groundwater removed prior to sampling:
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Free product observed? <span style="margin-left: 20px;">Yes</span> <span style="margin-left: 20px;">No</span>	Volume of groundwater removed post sampling:
---	--

Total number of samples collected:	Total Volume of groundwater removed:
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Total number of samples submitted to lab for analysis:	
--	--

N/A



## **FIGURES**

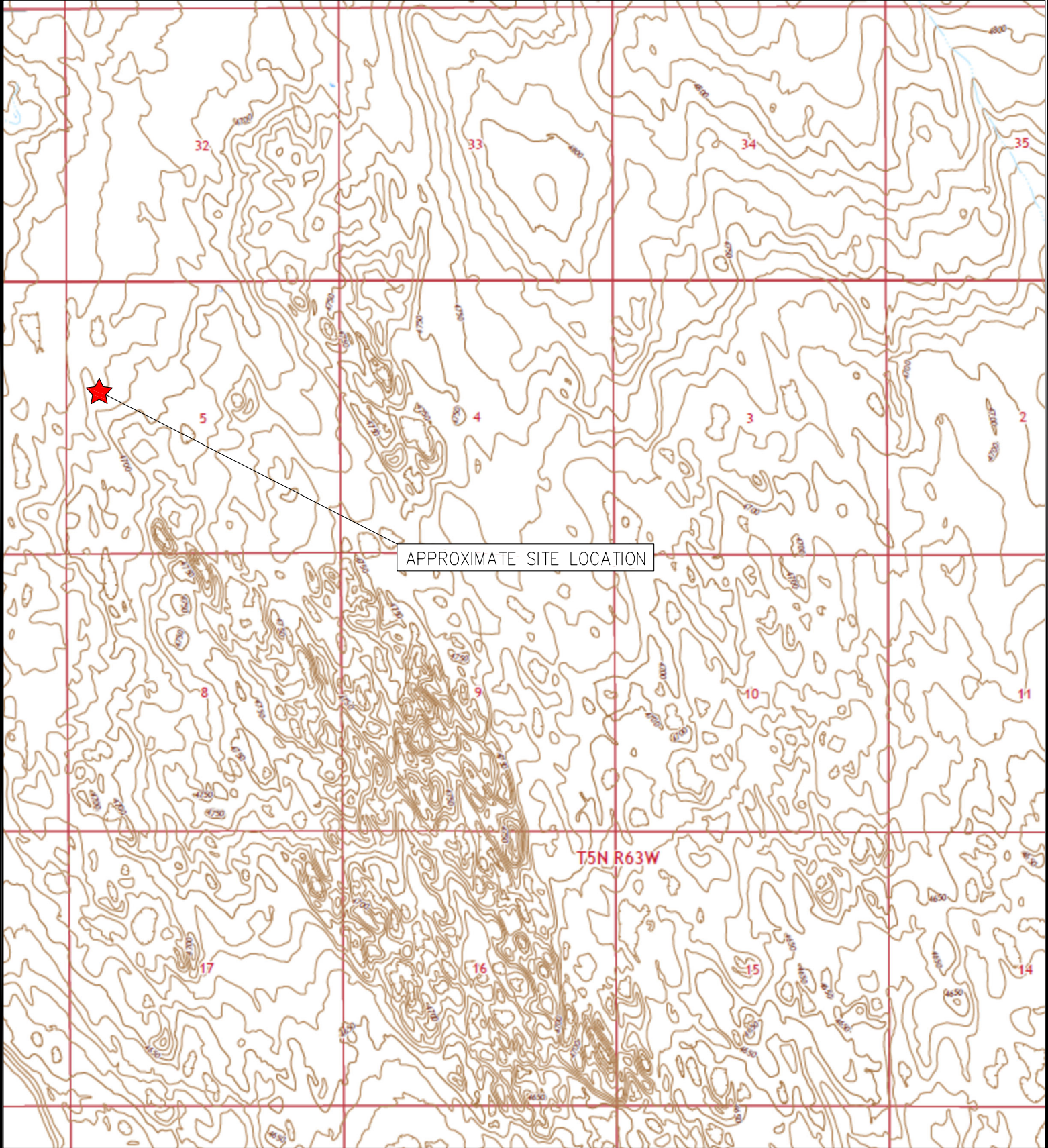
**Figure 1: Topographic Site Location Map**

**Figure 2: Aerial Site Location Map**

**Figure 3: Sample Location Map**

**Figure 4: Soil Analytical Map**

**Figure 5: Metals in Soil Map**



APPROXIMATE SITE LOCATION

T5N R63W

TOPOGRAPHIC SITE LOCATION MAP  
 UPV #5-5H3  
 CLOSURE ASSESSMENT  
 40.429766 / -104.467816  
 SW¼ NW¼ SEC.5 T5N R63W 6PM  
 WELD COUNTY, COLORADO  
 API # 05-123-18860  
 REMEDIATION # 30272



**EAGLE**  
 ENVIRONMENTAL  
 CONSULTING, LLC

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

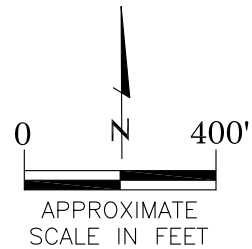
SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP,  
 BARNESVILLE, CO QUADRANGLE 2022

FIGURE NO. 1



LEGEND

- FORMER UPV #5-5H3 WELLHEAD (PLUGGED AND ABANDONED)
- ASSOCIATED SEPARATOR
- APPROXIMATE FLOWLINE LOCATION



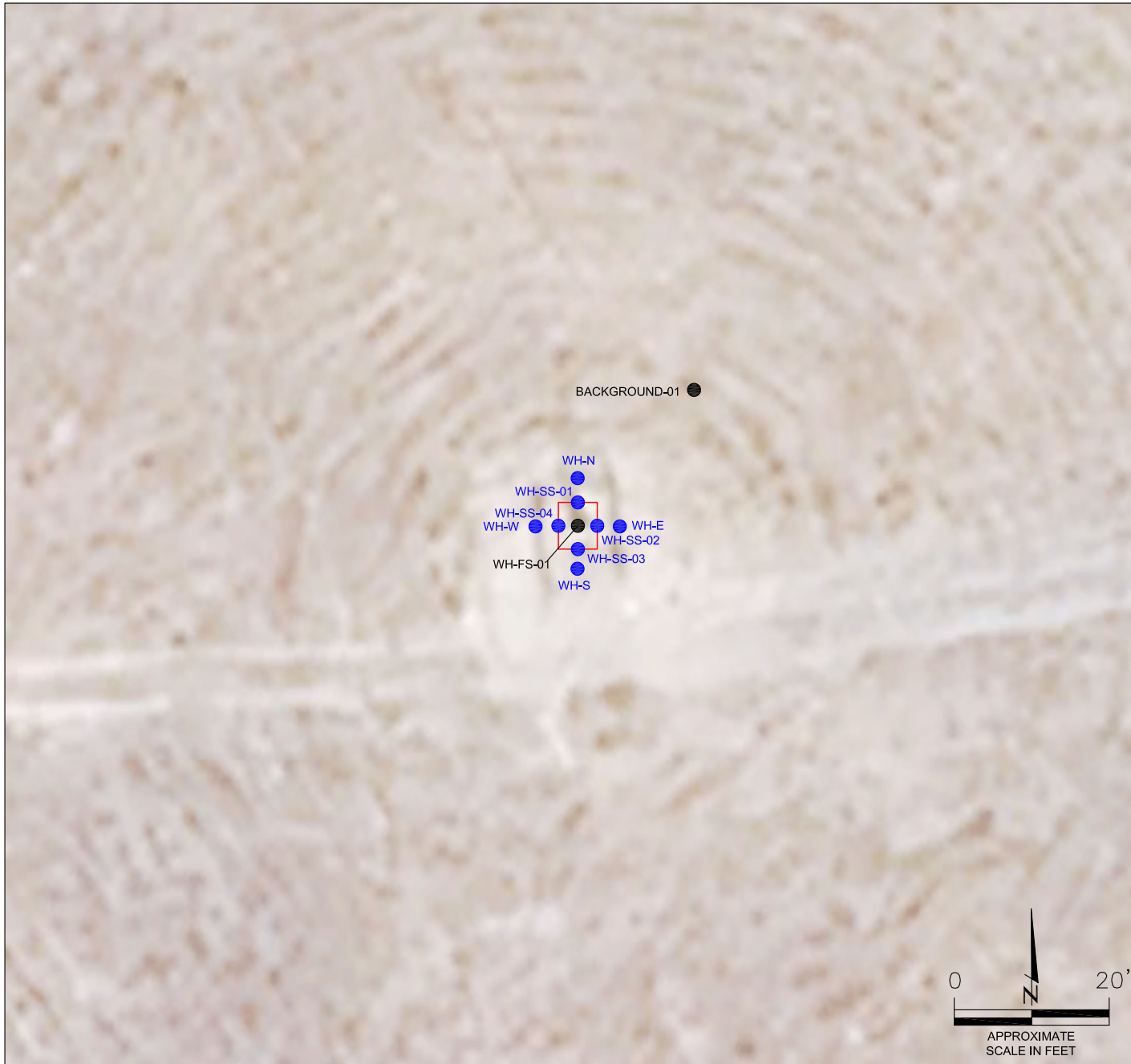
AERIAL SITE LOCATION MAP  
 UPV #5-5H3  
 CLOSURE ASSESSMENT  
 40.429766 / -104.467816  
 SW¼ NW¼ SEC.5 T5N R63W 6PM  
 WELD COUNTY, COLORADO  
 API # 05-123-18860  
 REMEDIATION # 30272

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

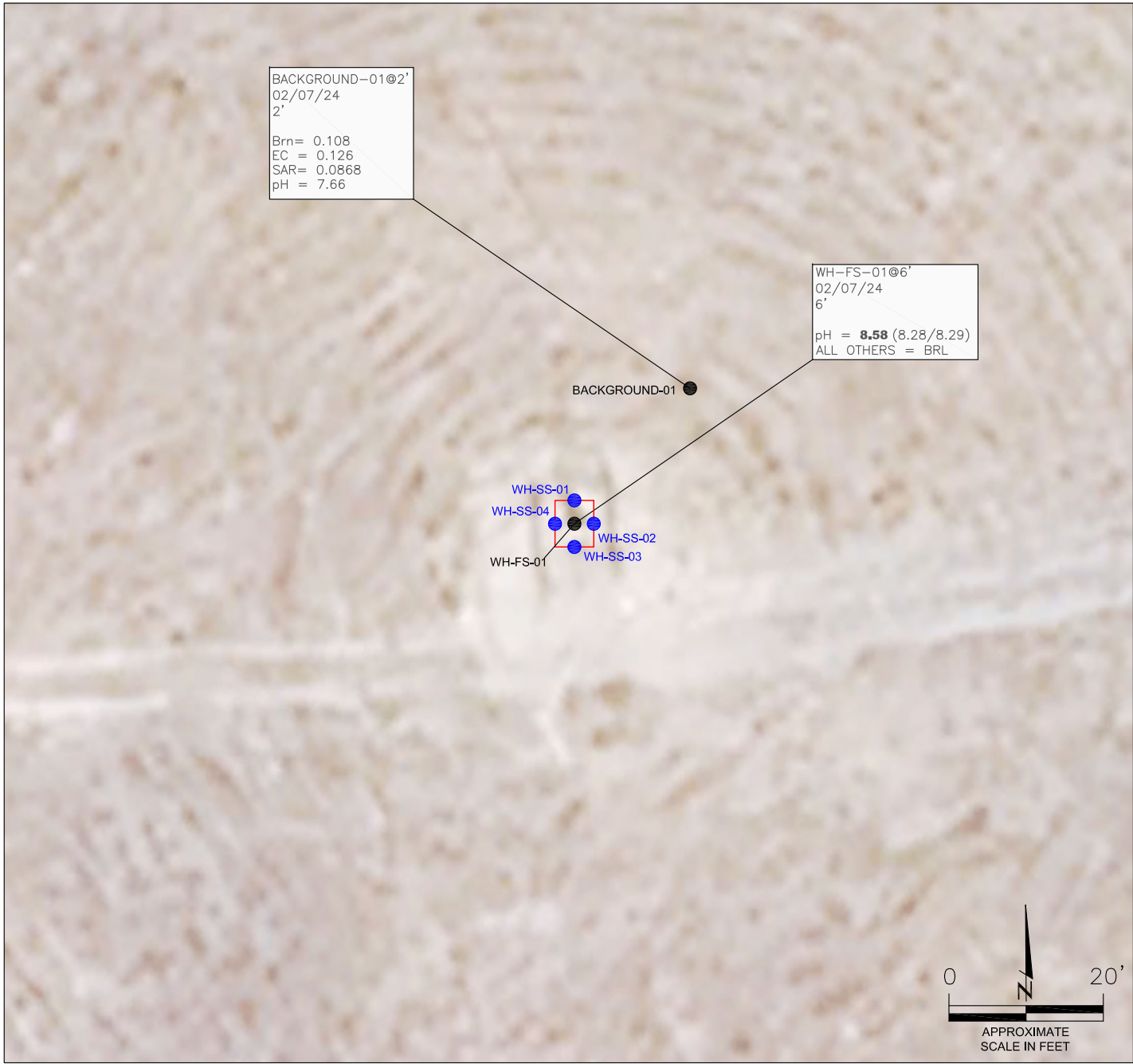
SAMPLE LOCATION MAP  
 UPV #5-5H3  
 CLOSURE ASSESSMENT  
 40.429766 / -104.467816  
 SW¼ NW¼ SEC.5 T5N R63W 6PM  
 WELD COUNTY, COLORADO  
 API # 05-123-18860  
 REMEDIATION # 30272

FIGURE NO.  
3

DRAWN BY:  
RS



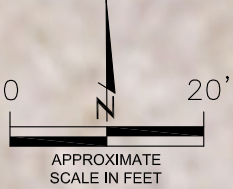
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 Ph: 303-433-0479 • F: 303-325-5449



BACKGROUND-01@2'  
02/07/24  
2'  
Brn = 0.108  
EC = 0.126  
SAR = 0.0868  
pH = 7.66

WH-FS-01@6'  
02/07/24  
6'  
pH = **8.58** (8.28/8.29)  
ALL OTHERS = BRL

WH-SS-01  
WH-SS-04  
WH-SS-02  
WH-SS-03  
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 = 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:  
LABORATORY RERUNS WERE COMPLETED AS APPLICABLE ON SAMPLES WITH pH VALUES OUTSIDE OF ECMC TABLE 915-1 REGULATORY RANGE. RESULTS OF THE RERUNS ARE PRESENTED IN PARENTHESSES.

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

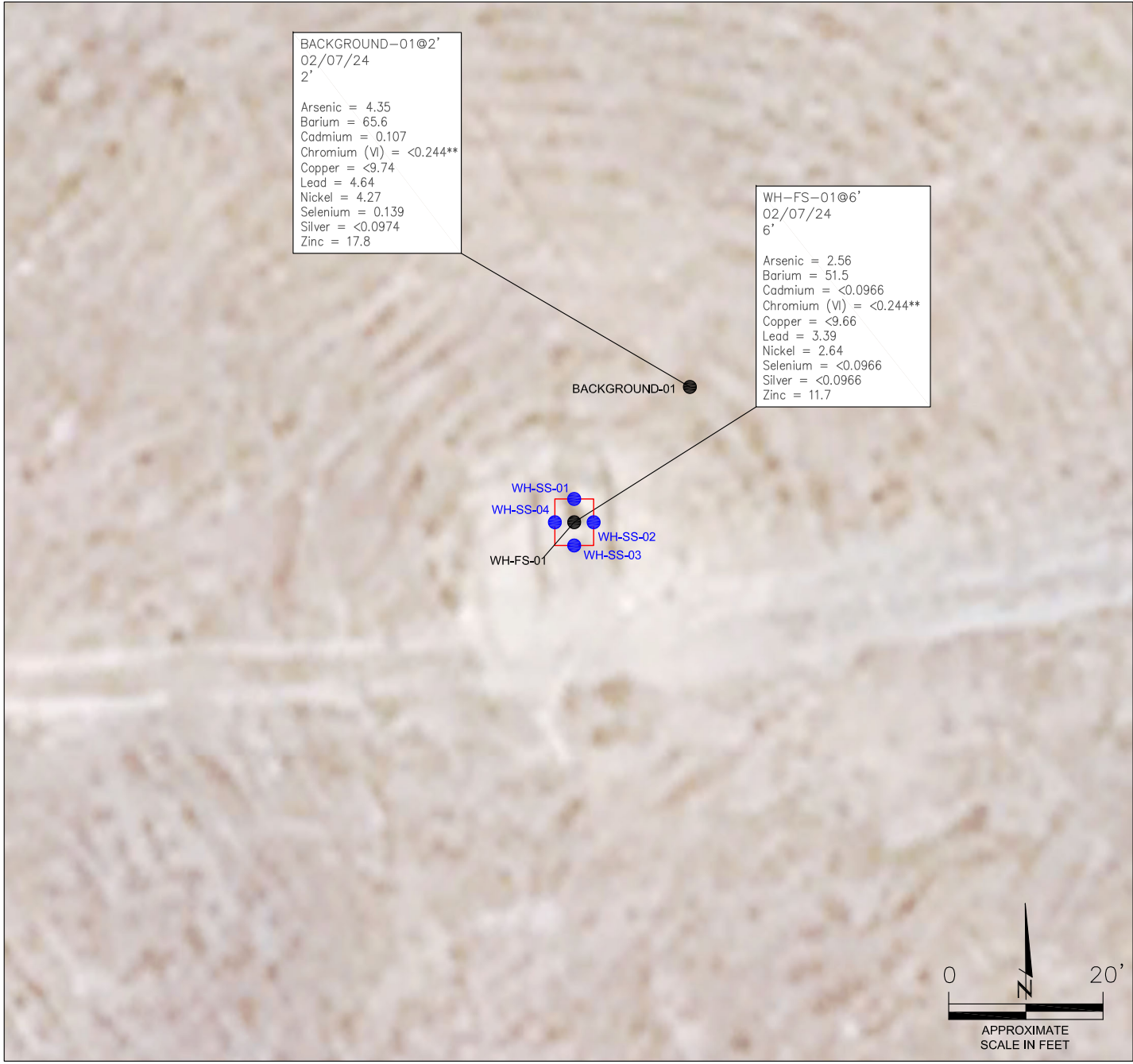
ECMC = ENERGY & CARBON MANAGEMENT COMMISSION

SOIL ANALYTICAL MAP  
UPV #5-5H3  
CLOSURE ASSESSMENT  
40.429766 / -104.467816  
SW¼ NW¼ SEC.5 T5N R63W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-18860  
REMEDATION # 30272

FIGURE NO.  
4

DRAWN BY:  
RS

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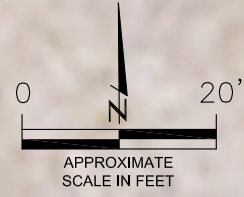
BACKGROUND-01@2'  
02/07/24  
2'

Arsenic = 4.35  
Barium = 65.6  
Cadmium = 0.107  
Chromium (VI) = <0.244\*\*  
Copper = <9.74  
Lead = 4.64  
Nickel = 4.27  
Selenium = 0.139  
Silver = <0.0974  
Zinc = 17.8

WH-FS-01@6'  
02/07/24  
6'

Arsenic = 2.56  
Barium = 51.5  
Cadmium = <0.0966  
Chromium (VI) = <0.244\*\*  
Copper = <9.66  
Lead = 3.39  
Nickel = 2.64  
Selenium = <0.0966  
Silver = <0.0966  
Zinc = 11.7

WH-SS-01  
WH-SS-04  
WH-SS-02  
WH-SS-03  
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 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.

\*\*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**  
UPV #5-5H3  
CLOSURE ASSESSMENT  
40.429766 / -104.467816  
SW¼ NW¼ SEC.5 T5N R63W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-18860  
REMEDATION # 30272

FIGURE NO.  
5  
DRAWN BY:  
RS

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



## **TABLES**

**Table 1: Photoionization Detector Reading Summary**

**Table 2: Soil Analytical Results Summary**

**TABLE 1**  
**PHOTOIONIZATION DETECTOR READING SUMMARY**  
**UPV #5-5H3**  
**CLOSURE ASSESSMENT**  
**40.429766 / -104.467816**  
**SW¼ NW¼ SEC.5 T5N R63W 6PM**  
**WELD COUNTY, COLORADO**  
**API # 05-123-18860**  
**REMEDATION # 30272**

Sample Location (Latitude/Longitude)	Date	Approximate Depth (feet)	PID Reading (ppm-v)	Lab Submission (Y/N)
WH-FS-01 @ 6' (40.429771 / -104.467822)	02/07/24	6	10.2	Y
WH-SS-01 @ 5' (40.429781 / -104.467822)	02/07/24	5	9.0	N
WH-SS-02 @ 5' (40.429771 / -104.467813)	02/07/24	5	2.8	N
WH-SS-03 @ 5' (40.429762 / -104.467822)	02/07/24	5	9.8	N
WH-SS-04 @ 5' (40.429771 / -104.467831)	02/07/24	5	2.3	N
WH-N @ 0.5' (40.429787 / -104.467822)	02/07/24	0.5	0.3	N
WH-E @ 0.5' (40.429771 / -104.467800)	02/07/24	0.5	0.6	N
WH-S @ 0.5' (40.429756 / -104.467822)	02/07/24	0.5	0.5	N
WH-W @ 0.5' (40.429771 / -104.467842)	02/07/24	0.5	0.6	N
Background-01 @ 2' (40.429819 / -104.467769)	02/07/24	2	1.1	Y
(Y/N) = Yes or No ppm-v = parts per million by volume PID = Photoionization Detector				



TABLE 2  
SOIL ANALYTICAL RESULTS SUMMARY  
UPV #5-5H3  
CLOSURE ASSESSMENT  
40.429766 / -104.467816  
SW¼ NW¼ SEC.5 T5N R63W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-18860  
REMEDATION # 30272

Sample Location		WH-FS-01 @ 6'	Background-01 @ 2'	
(Latitude / Longitude)		(40.429771 / -104.467822)	(40.429819 / -104.467769)	
Sample Date		2/7/2024	2/7/2024	
Sample Depth		6'	2'	
PID Reading (ppm-v)		10.2	1.1	
Regulatory Limits				
Chemical of Concern	Units	ECMC Table 915-1 RSSLs	ECMC Table 915-1 GSSLs	Local Clean-Up Level
<b>VOCs</b>				
Benzene	mg/kg	1.2	0.0026	--
Toluene	mg/kg	490	0.69	--
Ethylbenzene	mg/kg	5.8	0.78	--
Total Xylenes	mg/kg	58	9.9	--
Naphthalene	mg/kg	2	0.0038	--
1,2,4-Trimethylbenzene	mg/kg	30	0.0081	--
1,3,5-Trimethylbenzene	mg/kg	27	0.0087	--
<b>TOTAL PETROLEUM HYDROCARBONS</b>				
TPH-GRO	mg/kg	500	--	--
TPH-DRO	mg/kg	500	--	--
TPH-RRO	mg/kg	500	--	--
<b>POLYCYCLIC AROMATIC HYDROCARBONS</b>				
1-Methyl-naphthalene	mg/kg	18	0.006	--
2-Methyl-naphthalene	mg/kg	24	0.019	--
Acenaphthene	mg/kg	360	0.55	--
Anthracene	mg/kg	1800	5.8	--
Benzo(a)-anthracene	mg/kg	1.1	0.011	--
Benzo(a)-pyrene	mg/kg	0.11	0.24	--
Benzo(b)-fluoranthene	mg/kg	1.1	0.3	--
Benzo(k)-fluoranthene	mg/kg	11	2.9	--
Chrysene	mg/kg	110	9	--
Dibenzo(a,h)-anthracene	mg/kg	0.11	0.096	--
Fluoranthene	mg/kg	240	8.9	--
Fluorene	mg/kg	240	0.54	--
Indeno(1,2,3-cd)-pyrene	mg/kg	1.1	0.98	--
Pyrene	mg/kg	180	1.3	--
<b>SOIL SUITABILITY (Inorganics)</b>				
Boron	mg/L	2	--	--
pH	standard unit	6-8.3	--	--
Sodium Adsorption Ratio (SAR)	--	<6	--	--
Specific Conductance (EC)	mmhos/cm	<4	--	--
<b>METALS</b>				
Arsenic	mg/kg	0.68	0.29	5.44
Barium	mg/kg	15000	82	--
Cadmium	mg/kg	71	0.38	--
Copper	mg/kg	3100	46	--
Lead	mg/kg	400	14	--
Nickel	mg/kg	1500	26	--
Selenium	mg/kg	390	0.26	--
Silver	mg/kg	390	0.8	--
Zinc	mg/kg	23000	370	--
Hexavalent Chromium	mg/kg	0.3**	0.00067**	0.1 to 1.0**
ECMC = Energy & Carbon Management Commission		NA - Not Analyzed	VOCs - Volatile Organic Compounds	
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				
Notes:				
Values presented with a less than symbol (<) did not contain concentrations at or above the laboratory reporting limit and/or minimum detection limit.				
Elevated metals are naturally occurring in Colorado. Local Clean-up Levels are 1.25*Background concentrations where applicable.				
Values presented in <b>BOLD</b> exceed ECMC Table 915-1 Regulatory Limits and applicable Local Clean-up Levels.				
Laboratory reruns were completed as applicable on samples with pH values outside ECMC Table 915-1 regulatory range. Results of the reruns are presented in parentheses.				
**Achievable practical quantitative limits for Hexavalent Chromium in soils is in the range of 0.1 to 1 mg/kg.				



## **ATTACHMENT A**

### **Photo Log**

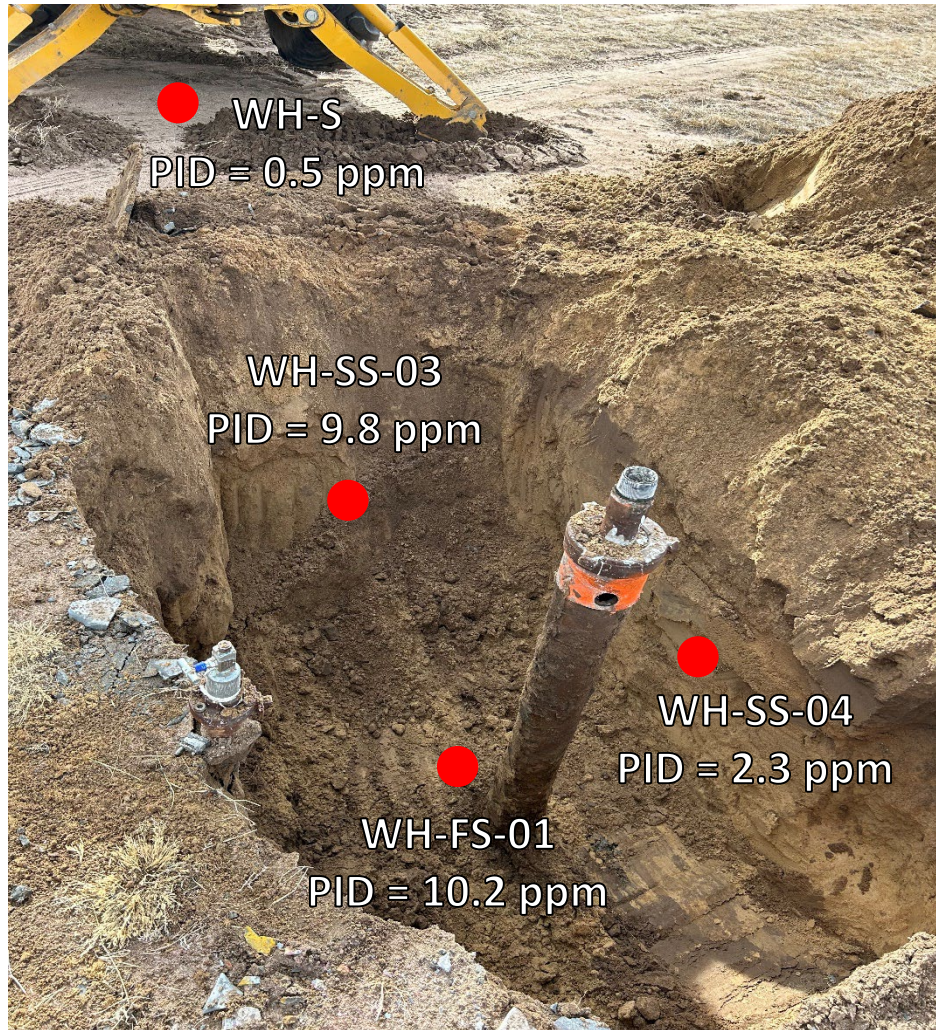
UPV #5-5H3  
API # 05-123-18860  
Remediation # 30272

Closure Assessment

February 2024

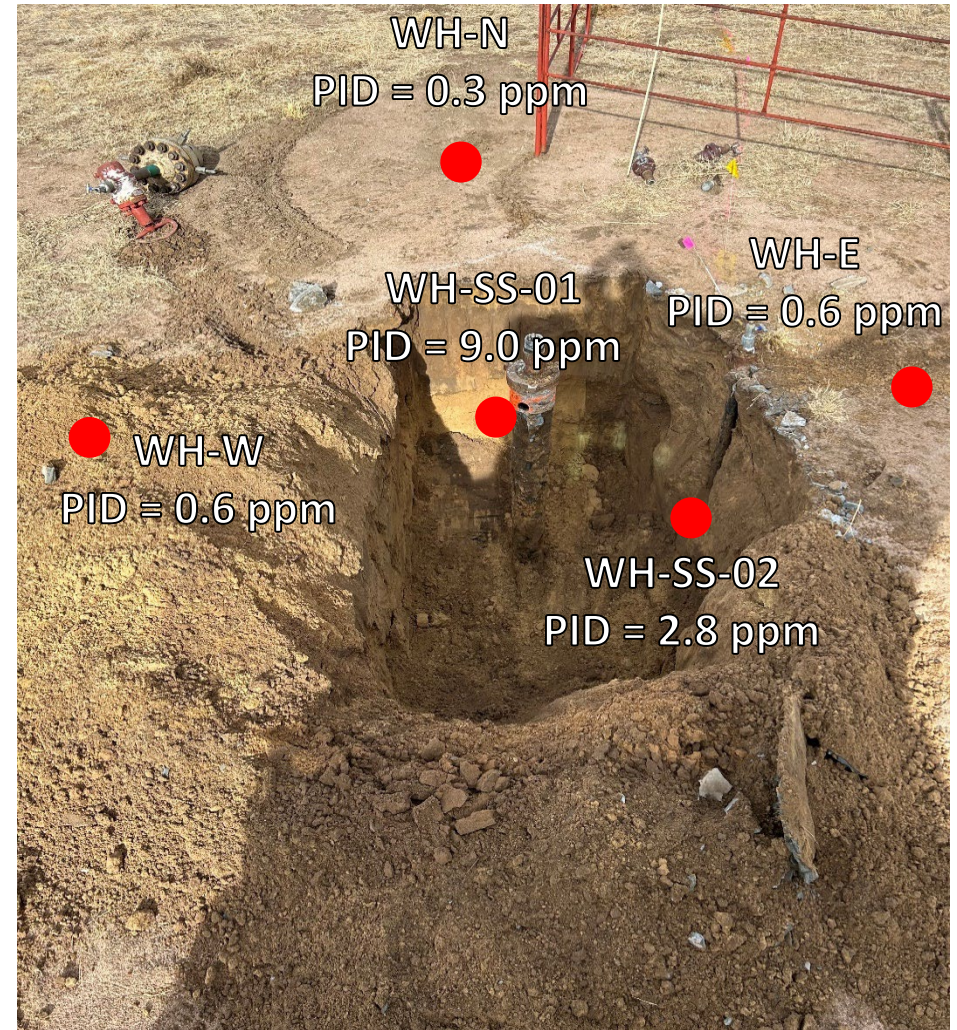


# Wellhead Excavation – 02/07/24



Looking southwest

No petroleum hydrocarbon staining or odor observed



Looking north

No petroleum hydrocarbon staining or odor observed



## **ATTACHMENT B**

### **Laboratory Analytical Report**



March 14, 2024

Eagle Environmental Consulting, LLC

Andrew Newberry

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - UPV #5-5H3

Project Number - [none]

Attached are your analytical results for Noble - UPV #5-5H3 received by Origins Laboratory, Inc. February 07, 2024. This project is associated with Origins project number Y402189-01.

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



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPV #5-5H3

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-FS-01@6'	Y402189-01	Soil	February 7, 2024 14:07	02/07/2024 16:27
Background-01@2'	Y402189-02	Soil	February 7, 2024 13:55	02/07/2024 16:27

A pH rerun was requested per Garrett's email on 02/19/2024. No errors were found in the original data, all results are reported. JAB

Origins Laboratory, Inc.



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



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

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

Origins Laboratory

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

**Sample Receipt Checklist**

Origins Work Order: 440218A Client: Eagle  
 Client Project ID: UPV #5-5H3  
 Checklist Completed by: JM/ELS Shipped Via: HW  
 Date/time completed: 2/8/12 (UPS, FedEx, Hand Delivered, Pick-up, etc.)  
 Airbill #: N/A  
 Matrix(s) Received: (Check all that apply):  Soil/Solid  Water  Other: \_\_\_\_\_  
 Cooler Number/Temperature: 1, 4 °C \_\_\_\_\_ °C \_\_\_\_\_ °C (Describe) \_\_\_\_\_ °C  
 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 checked="" 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 checked="" 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 checked="" 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? <b>If yes, contact client and note in narrative.</b>	<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 HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+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] Date/Time Reviewed 2/9/12

Origins Laboratory, Inc.

[Signature]

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

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

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

**WH-FS-01@6'**

**2/7/2024 2:07:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402189-01 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.168		0.0995	mg/L	1	B4B0905	02/09/2024	02/12/2024	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4B0801	02/08/2024	02/15/2024	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: o-Terphenyl	86.6 %		50-150			"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4B0917	02/09/2024	02/09/2024	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 - UPV #5-5H3

**WH-FS-01@6'**

**2/7/2024 2:07:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402189-01 (Soil)**

**GBTEX+TMBs by 8260D**

Surrogate: 1,2-Dichloroethane-d4	104 %		70-130			B4B09 17	02/09/2024	02/09/2024	
Surrogate: Toluene-d8	98.8 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	104 %		70-130			"	"	"	

**Metals by Saturated Paste by EPA 6010**

Calcium	ND		0.499	meq/L	10	[CALC]	02/08/2024	02/09/2024	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	<b>0.662</b>		0.435	"	"	"	"	"	

**PAH by EPA 8270E**

1-Methylnaphthalene	ND		0.002	mg/kg	1	B4B0925	02/09/2024	02/14/2024	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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 8000 W 44th Ave  
 Wheat Ridge CO 80033

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

**WH-FS-01@6'**

**2/7/2024 2:07:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402189-01 (Soil)**

**PAH by EPA 8270E**

Fluoranthene	ND		0.020	mg/kg	1	B4B0925	02/09/2024	02/14/2024	U
Fluorene	ND		0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND		0.020	"	"	"	"	"	U
Pyrene	ND		0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	99.2 %		60-130			"	"	"	
Surrogate: Anthracene-d10	100 %		60-130			"	"	"	
Surrogate: Pyrene-d10	95.7 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	103 %		60-130			"	"	"	

**pH in Soil by 9045D**

pH	8.58			pH Units	1	B4B0819	02/08/2024	02/09/2024	
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**SAR by 20B Saturated Paste**

SAR	1.36		0.0100	SAR	1	B4B0810	02/08/2024	02/09/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.262		0.00500	mmhos/cm	1	B4B0819	02/08/2024	02/09/2024	
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**Table 915 metals by EPA 6020B**

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

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

**WH-FS-01@6'**

**2/7/2024 2:07:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402189-01 (Soil)**

**Table 915 metals by EPA 6020B**

Arsenic	2.56	0.0966	0.0966	mg/kg	10	B4B0824	02/08/2024	02/12/2024	
Barium	51.5	9.66	9.66	"	"	"	"	"	
Cadmium	ND	0.0966	0.0966	"	"	"	"	"	
Copper	ND	9.66	9.66	"	"	"	"	"	
Lead	3.39	0.966	0.966	"	"	"	"	"	
Nickel	2.64	0.966	0.966	"	"	"	"	"	
Selenium	ND	0.0966	0.0966	"	"	"	"	"	
Silver	ND	0.0966	0.0966	"	"	"	"	"	
Zinc	11.7	9.66	9.66	"	"	"	"	"	

**Total Metals by 7196A**

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L732881	02/07/2024	02/15/2024	
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8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPV #5-5H3

**WH-FS-01@6'**

**2/7/2024 2:07:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402189-01RE1 (Soil)**

**pH in Soil by 9045D**

pH	<b>8.28</b>			pH Units	1	B4B2019	02/08/2024	02/21/2024	
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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 - UPV #5-5H3

**WH-FS-01@6'**

**2/7/2024 2:07:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402189-01RE2 (Soil)**

**pH in Soil by 9045D**

pH	8.29			pH Units	1	B4B2019	02/08/2024	02/21/2024	
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 Wheat Ridge CO 80033

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

**Background-01@2'**  
**2/7/2024 1:55:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402189-02 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.108		0.101	mg/L	1	B4B0905	02/09/2024	02/12/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	ND		0.499	meq/L	10	[CALC]	02/08/2024	02/09/2024	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	7.66			pH Units	1	B4B0819	02/08/2024	02/09/2024	
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**SAR by 20B Saturated Paste**

SAR	0.0868		0.0100	SAR	1	B4B0810	02/08/2024	02/09/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.126		0.00500	mmhos/cm	1	B4B0819	02/08/2024	02/09/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	4.35		0.0974	mg/kg	10	B4B0824	02/08/2024	02/12/2024	
Barium	65.6		9.74	"	"	"	"	"	
Cadmium	0.107		0.0974	"	"	"	"	"	

Origins Laboratory, Inc.



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 Wheat Ridge CO 80033

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

**Background-01@2'**  
**2/7/2024 1:55:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402189-02 (Soil)**

**Table 915 metals by EPA 6020B**

Copper	ND		9.74	mg/kg	10	B4B0824	02/08/2024	02/12/2024	
Lead	4.64		0.974	"	"	"	"	"	
Nickel	4.27		0.974	"	"	"	"	"	
Selenium	0.139		0.0974	"	"	"	"	"	
Silver	ND		0.0974	"	"	"	"	"	
Zinc	17.8		9.74	"	"	"	"	"	

**Total Metals by 7196A**

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L732881	02/07/2024	02/15/2024	
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 Wheat Ridge CO 80033

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B4B0801 - EPA 3550B</b>										
<b>Blank (B4B0801-BLK1)</b>										
					Prepared: 02/08/2024 Analyzed: 02/14/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	22		"	24.9		86.9	50-150			

Origins Laboratory, Inc.



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 Wheat Ridge CO 80033

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

**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 B4B0801 - EPA 3550B**

**LCS (B4B0801-BS1)**

Prepared: 02/08/2024 Analyzed: 02/14/2024

Diesel (C10-C28)	932	50.0	mg/kg	1000		93.2	70-130			
Residual Range Organics (C28-C40)	1040	200	"	1000		104	70-130			
Surrogate: o-Terphenyl	53		"	49.8		106	50-150			

Origins Laboratory, Inc.



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 8000 W 44th Ave  
 Wheat Ridge CO 80033

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

**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 B4B0801 - EPA 3550B**

<b>Matrix Spike (B4B0801-MS1)</b>	<b>Source: Y402152-01</b>			<b>Prepared: 02/08/2024 Analyzed: 02/14/2024</b>						
Diesel (C10-C28)	1010	50.0	mg/kg	1000	ND	101	70-130			
Residual Range Organics (C28-C40)	1130	200	"	1000	ND	113	70-130			
Surrogate: o-Terphenyl	54		"	49.8		109	50-150			

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Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B4B0801 - EPA 3550B</b>										
<b>Matrix Spike Dup (B4B0801-MSD1)</b>		<b>Source: Y402152-01</b>			Prepared: 02/08/2024 Analyzed: 02/14/2024					
Diesel (C10-C28)	898	50.0	mg/kg	1000	ND	89.8	70-130	11.3	35	
Residual Range Organics (C28-C40)	1020	200	"	1000	ND	102	70-130	10.8	35	
Surrogate: o-Terphenyl	48		"	49.8		97.2	50-150			

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 8000 W 44th Ave  
 Wheat Ridge CO 80033

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

**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 B4B0917 - EPA 5030 (soil)**

**Blank (B4B0917-BLK1)**

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

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	0.12		"	0.125		98.6	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		100	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

Origins Laboratory, Inc.



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 8000 W 44th Ave  
 Wheat Ridge CO 80033

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

**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 B4B0917 - EPA 5030 (soil)

**LCS (B4B0917-BS1)**

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

1,2,4-Trimethylbenzene	0.108	0.00200	mg/kg	0.100		108	70-130			
1,3,5-Trimethylbenzene	0.109	0.00200	"	0.100		109	70-130			
Benzene	0.104	0.00200	"	0.100		104	70-130			
Ethylbenzene	0.105	0.00200	"	0.100		105	70-130			
Naphthalene	0.102	0.00380	"	0.100		102	70-130			
Toluene	0.103	0.00200	"	0.100		103	70-130			
o-Xylene	0.105	0.00200	"	0.100		105	70-130			
m,p-Xylene	0.209	0.00400	"	0.200		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		97.5	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		100	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.3	70-130			

Origins Laboratory, Inc.



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 8000 W 44th Ave  
 Wheat Ridge CO 80033

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

**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 B4B0917 - EPA 5030 (soil)

Matrix Spike (B4B0917-MS1)	Source: Y402184-01			Prepared: 02/09/2024 Analyzed: 02/09/2024						
1,2,4-Trimethylbenzene	0.0991	0.00200	mg/kg	0.100	ND	99.1	70-130			
1,3,5-Trimethylbenzene	0.100	0.00200	"	0.100	ND	100	70-130			
Benzene	0.0968	0.00200	"	0.100	ND	96.8	70-130			
Ethylbenzene	0.0958	0.00200	"	0.100	ND	95.8	70-130			
Naphthalene	0.0975	0.00380	"	0.100	ND	97.5	70-130			
Toluene	0.0923	0.00200	"	0.100	ND	92.3	70-130			
o-Xylene	0.0966	0.00200	"	0.100	ND	96.6	70-130			
m,p-Xylene	0.191	0.00400	"	0.200	ND	95.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		103	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

Origins Laboratory, Inc.



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 8000 W 44th Ave  
 Wheat Ridge CO 80033

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

**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 B4B0917 - EPA 5030 (soil)

Matrix Spike Dup (B4B0917-MSD1)	Source: Y402184-01			Prepared: 02/09/2024 Analyzed: 02/09/2024						
1,2,4-Trimethylbenzene	0.109	0.00200	mg/kg	0.100	ND	109	70-130	9.90	20	
1,3,5-Trimethylbenzene	0.110	0.00200	"	0.100	ND	110	70-130	9.72	20	
Benzene	0.107	0.00200	"	0.100	ND	107	70-130	9.98	20	
Ethylbenzene	0.106	0.00200	"	0.100	ND	106	70-130	9.98	20	
Naphthalene	0.112	0.00380	"	0.100	ND	112	70-130	14.0	20	
Toluene	0.104	0.00200	"	0.100	ND	104	70-130	11.9	20	
o-Xylene	0.108	0.00200	"	0.100	ND	108	70-130	10.9	20	
m,p-Xylene	0.212	0.00400	"	0.200	ND	106	70-130	10.6	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		102	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

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 8000 W 44th Ave  
 Wheat Ridge CO 80033

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

**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 B4B0824 - EPA 3050B**

**Blank (B4B0824-BLK1)**

Prepared: 02/08/2024 Analyzed: 02/12/2024

Arsenic	ND	0.0100	mg/kg							
Barium	ND	1.00	"							
Cadmium	ND	0.0100	"							
Copper	ND	1.00	"							
Lead	ND	0.100	"							
Nickel	ND	0.100	"							
Selenium	ND	0.0100	"							
Silver	ND	0.0100	"							
Zinc	ND	1.00	"							

**LCS (B4B0824-BS1)**

Prepared: 02/08/2024 Analyzed: 02/13/2024

Arsenic	4.87	0.0100	mg/kg	5.00		97.4	80-120			
Barium	527	1.00	"	500		105	80-120			
Cadmium	4.90	0.0100	"	5.00		98.1	80-120			
Copper	52.3	1.00	"	50.0		105	80-120			
Lead	5.32	0.100	"	5.00		106	80-120			
Nickel	5.44	0.100	"	5.00		109	80-120			
Selenium	4.58	0.0100	"	5.00		91.5	80-120			
Silver	5.69	0.0100	"	5.00		114	80-120			
Zinc	47.4	1.00	"	50.0		94.7	80-120			

**Matrix Spike (B4B0824-MS1)**

Source: Y402189-01

Prepared: 02/08/2024 Analyzed: 02/12/2024

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 8000 W 44th Ave  
 Wheat Ridge CO 80033

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

**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 B4B0824 - EPA 3050B**

<b>Matrix Spike (B4B0824-MS1)</b>		<b>Source: Y402189-01</b>			Prepared: 02/08/2024 Analyzed: 02/12/2024					
Arsenic	7.88	0.0970	mg/kg	4.85	2.56	110	75-125			
Barium	559	9.70	"	485	51.5	105	75-125			
Cadmium	5.41	0.0970	"	4.85	0.0599	110	75-125			
Copper	53.2	9.70	"	48.5	3.46	102	75-125			
Lead	9.53	0.970	"	4.85	3.39	126	75-125			QM-07
Nickel	7.60	0.970	"	4.85	2.64	102	75-125			
Selenium	4.61	0.0970	"	4.85	ND	95.1	75-125			
Silver	5.88	0.0970	"	4.85	ND	121	75-125			
Zinc	60.7	9.70	"	48.5	11.7	101	75-125			

<b>Matrix Spike Dup (B4B0824-MSD1)</b>		<b>Source: Y402189-01</b>			Prepared: 02/08/2024 Analyzed: 02/12/2024					
Arsenic	8.32	0.0906	mg/kg	4.53	2.56	127	75-125	5.46	20	QM-07
Barium	551	9.06	"	453	51.5	110	75-125	1.56	20	
Cadmium	5.23	0.0906	"	4.53	0.0599	114	75-125	3.40	20	
Copper	52.7	9.06	"	45.3	3.46	109	75-125	0.799	20	
Lead	9.39	0.906	"	4.53	3.39	132	75-125	1.43	20	QM-07
Nickel	8.18	0.906	"	4.53	2.64	122	75-125	7.35	20	
Selenium	5.35	0.0906	"	4.53	ND	118	75-125	14.8	20	
Silver	5.63	0.0906	"	4.53	ND	124	75-125	4.35	20	
Zinc	61.2	9.06	"	45.3	11.7	109	75-125	0.840	20	

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 Wheat Ridge CO 80033

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

**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 B4B0925 - EPA 3580**

**Blank (B4B0925-BLK1)**

Prepared: 02/09/2024 Analyzed: 02/14/2024

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		97.9	60-130			
Surrogate: Anthracene-d10	200		"	200		98.2	60-130			
Surrogate: Pyrene-d10	200		"	200		97.6	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		104	60-130			

**LCS (B4B0925-BS1)**

Prepared: 02/09/2024 Analyzed: 02/14/2024

1-Methylnaphthalene	0.163	0.002	mg/kg	0.200		81.7	70-130			
2-Methylnaphthalene	0.163	0.002	"	0.200		81.6	70-130			
Acenaphthene	0.179	0.020	"	0.200		89.6	70-130			
Anthracene	0.185	0.020	"	0.200		92.5	70-130			

Origins Laboratory, Inc.



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Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

**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 B4B0925 - EPA 3580**

**LCS (B4B0925-BS1)**

Prepared: 02/09/2024 Analyzed: 02/14/2024

Benzo (a) anthracene	0.177	0.005	mg/kg	0.200		88.6	70-130			
Benzo (a) pyrene	0.167	0.020	"	0.200		83.7	70-130			
Benzo (b) fluoranthene	0.183	0.020	"	0.200		91.7	70-130			
Benzo (g,h,i) perylene	0.173	0.020	"	0.200		86.7	70-130			
Benzo (k) fluoranthene	0.180	0.020	"	0.200		90.2	70-130			
Chrysene	0.187	0.020	"	0.200		93.4	70-130			
Dibenz (a,h) anthracene	0.186	0.020	"	0.200		92.9	70-130			
Fluoranthene	0.187	0.020	"	0.200		93.4	70-130			
Fluorene	0.173	0.020	"	0.200		86.6	70-130			
Indeno (1,2,3-cd) pyrene	0.176	0.020	"	0.200		87.8	70-130			
Naphthalene	0.177	0.002	"	0.200		88.5	70-130			
Phenanthrene	0.177	0.020	"	0.200		88.6	70-130			
Pyrene	0.189	0.020	"	0.200		94.4	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		98.9	60-130			
Surrogate: Anthracene-d10	200		"	200		99.0	60-130			
Surrogate: Pyrene-d10	210		"	200		103	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		101	60-130			

**Matrix Spike (B4B0925-MS1)**

Source: Y402185-01

Prepared: 02/09/2024 Analyzed: 02/14/2024

1-Methylnaphthalene	0.168	0.002	mg/kg	0.200	ND	83.9	70-130			
2-Methylnaphthalene	0.169	0.002	"	0.200	ND	84.4	70-130			
Acenaphthene	0.185	0.020	"	0.200	ND	92.7	70-130			
Anthracene	0.192	0.020	"	0.200	ND	95.9	70-130			
Benzo (a) anthracene	0.182	0.005	"	0.200	ND	91.2	70-130			
Benzo (a) pyrene	0.189	0.020	"	0.200	0.002	93.6	70-130			
Benzo (b) fluoranthene	0.205	0.020	"	0.200	ND	102	70-130			
Benzo (g,h,i) perylene	0.188	0.020	"	0.200	ND	94.2	70-130			

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 Wheat Ridge CO 80033

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

**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 B4B0925 - EPA 3580**

<b>Matrix Spike (B4B0925-MS1)</b>		<b>Source: Y402185-01</b>			Prepared: 02/09/2024 Analyzed: 02/14/2024					
Benzo (k) fluoranthene	0.198	0.020	mg/kg	0.200	ND	99.1	70-130			
Chrysene	0.190	0.020	"	0.200	0.0003	94.9	70-130			
Dibenz (a,h) anthracene	0.202	0.020	"	0.200	ND	101	70-130			
Fluoranthene	0.190	0.020	"	0.200	ND	94.9	70-130			
Fluorene	0.177	0.020	"	0.200	ND	88.3	70-130			
Indeno (1,2,3-cd) pyrene	0.191	0.020	"	0.200	ND	95.7	70-130			
Naphthalene	0.184	0.002	"	0.200	ND	92.0	70-130			
Phenanthrene	0.181	0.020	"	0.200	ND	90.6	70-130			
Pyrene	0.191	0.020	"	0.200	ND	95.5	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		98.0	60-130			
Surrogate: Anthracene-d10	200		"	200		98.3	60-130			
Surrogate: Pyrene-d10	200		"	200		100	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		107	60-130			

<b>Matrix Spike Dup (B4B0925-MSD1)</b>		<b>Source: Y402185-01</b>			Prepared: 02/09/2024 Analyzed: 02/14/2024					
1-Methylnaphthalene	0.170	0.002	mg/kg	0.200	ND	84.8	70-130	0.975	20	
2-Methylnaphthalene	0.169	0.002	"	0.200	ND	84.7	70-130	0.417	20	
Acenaphthene	0.186	0.020	"	0.200	ND	92.9	70-130	0.184	20	
Anthracene	0.199	0.020	"	0.200	ND	99.3	70-130	3.42	20	
Benzo (a) anthracene	0.181	0.005	"	0.200	ND	90.6	70-130	0.659	20	
Benzo (a) pyrene	0.189	0.020	"	0.200	0.002	93.7	70-130	0.105	20	
Benzo (b) fluoranthene	0.199	0.020	"	0.200	ND	99.7	70-130	2.67	20	
Benzo (g,h,i) perylene	0.185	0.020	"	0.200	ND	92.6	70-130	1.76	20	
Benzo (k) fluoranthene	0.194	0.020	"	0.200	ND	97.1	70-130	2.04	20	
Chrysene	0.193	0.020	"	0.200	0.0003	96.2	70-130	1.33	20	
Dibenz (a,h) anthracene	0.204	0.020	"	0.200	ND	102	70-130	1.09	20	
Fluoranthene	0.185	0.020	"	0.200	ND	92.4	70-130	2.68	20	

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 Wheat Ridge CO 80033

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

**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 B4B0925 - EPA 3580

Matrix Spike Dup (B4B0925-MSD1)	Source: Y402185-01			Prepared: 02/09/2024 Analyzed: 02/14/2024						
Fluorene	0.182	0.020	mg/kg	0.200	ND	90.9	70-130	2.85	20	
Indeno (1,2,3-cd) pyrene	0.188	0.020	"	0.200	ND	93.8	70-130	2.07	20	
Naphthalene	0.186	0.002	"	0.200	ND	93.0	70-130	0.998	20	
Phenanthrene	0.194	0.020	"	0.200	ND	97.0	70-130	6.86	20	
Pyrene	0.188	0.020	"	0.200	ND	94.2	70-130	1.40	20	
Surrogate: Fluorene-d10	190		ug/kg	200		97.0	60-130			
Surrogate: Anthracene-d10	200		"	200		102	60-130			
Surrogate: Pyrene-d10	190		"	200		97.5	60-130			
Surrogate: Benzo (a) pyrene-d12	220		"	200		108	60-130			

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 Wheat Ridge CO 80033

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

**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 B4B0810 - Saturated Paste Metals**

**Blank (B4B0810-BLK1)**

Prepared: 02/08/2024 Analyzed: 02/09/2024

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 (B4B0810-DUP1)**

**Source: Y402160-01**

Prepared: 02/08/2024 Analyzed: 02/09/2024

SAR	ND	0.0100	SAR		3.50				200	
Calcium PPM	21.7	10.0	mg/L		20.8			4.10	50	
Magnesium PPM	5.77	10.0	"		5.60			2.99	50	
Sodium PPM	74.4	10.0	"		69.7			6.58	50	

**Batch B4B0905 - DTPA Sorbitol Preparation**

**Blank (B4B0905-BLK1)**

Prepared: 02/09/2024 Analyzed: 02/12/2024

Boron	ND	0.100	mg/L							
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**Duplicate (B4B0905-DUP1)**

**Source: Y402184-01**

Prepared: 02/09/2024 Analyzed: 02/12/2024

Boron	1.25	0.0982	mg/L		1.42			12.6	50	
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Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B4B0819 - Saturated Paste pH/EC**

**Blank (B4B0819-BLK1)**

Prepared: 02/08/2024 Analyzed: 02/09/2024

Specific Conductance (EC) ND 0.00500 mmhos/cm

**Duplicate (B4B0819-DUP1)**

**Source: Y402160-01**

Prepared: 02/08/2024 Analyzed: 02/09/2024

pH 8.42 pH Units 8.42 0.00 25

Specific Conductance (EC) 0.532 0.00500 mmhos/cm 0.493 7.63 25

**Batch B4B2019 - Saturated Paste pH/EC**

**Duplicate (B4B2019-DUP1)**

**Source: Y402399-01**

Prepared: 02/20/2024 Analyzed: 02/21/2024

pH 8.08 pH Units 8.08 0.00 25

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 Wheat Ridge CO 80033

Andrew Newberry  
 Project Number: [none]  
 Project: Noble - UPV #5-5H3

**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 L732881 -</b>										
<b>DUP (L 84543-DUP)</b>		<b>Source: 84543</b>			Prepared: Analyzed: 02/15/2024					
Chromium, Hexavalent	ND	0.5	mg/Kg		<0.500		-	0	20	
<b>MS (L 84543-MS)</b>		<b>Source: 84543</b>			Prepared: Analyzed: 02/15/2024					
Chromium, Hexavalent	33.4	2.51	mg/Kg	40.2	< 0.244	83	75-125			
<b>LCS (LCS)</b>		Prepared: Analyzed: 02/15/2024								
Chromium, Hexavalent	6.26	0.5	mg/Kg	8		78	75-125			
<b>LRB (LRB)</b>		Prepared: Analyzed: 02/15/2024								
Chromium, Hexavalent	ND	0.5	mg/Kg				-			

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Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - UPV #5-5H3

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### Notes and Definitions

U Sample is Non-Detect.

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.

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Jordan A. Bynon, Project Manager