

# 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>Howard USX A #09-12D</b>		Date: 1/30/24					Remediation Project #: 32679	
Associated Wells: 05-123-33531		Age of Site: years					Number of Photos Attached: 6	
Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple)							40.504020 / -104.559980	
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)								
Good condition								
USCS Soil Type: Clayey Sand					Estimated Depth to Groundwater: >20'			
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	05-123-33531							
Age	years							
Condition of surface around wellhead	Good - No odor/no staining							
PID Readings	WH-N: 0.9	WH-E: 0.3	WH-S: 0.8	WH-W: 1.4				
Condition of subsurface (staining present)	Good - No odor/no staining							
PID Readings	0.9	1.4	1.7	0.2	3.1			
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 and capped following assessment								
Summary								
Was impacted soil identified?								
<input checked="" type="radio"/> 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: 1				
Highest PID Reading: 3.1				Total number of samples submitted to lab for analysis: 1				
If more than 10 cubic yards of impacted soil were observed:								
Vertical extent:				Estimated spill volume:				
Lateral extent:				Volume of soil removed:				
Is additional investigation required?								
Was groundwater encountered during the investigation?								
<input checked="" type="radio"/> 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?      Yes      No				
Date Groundwater was encountered:				Commencement date of removal:				
Sheen on groundwater?      Yes      No				Volume of groundwater removed prior to sampling:				
Free product observed?      Yes      No				Volume of groundwater removed post sampling:				
Total number of samples collected:				Total Volume of groundwater removed:				
Total number of samples submitted to lab for analysis:								



## **FIGURES**

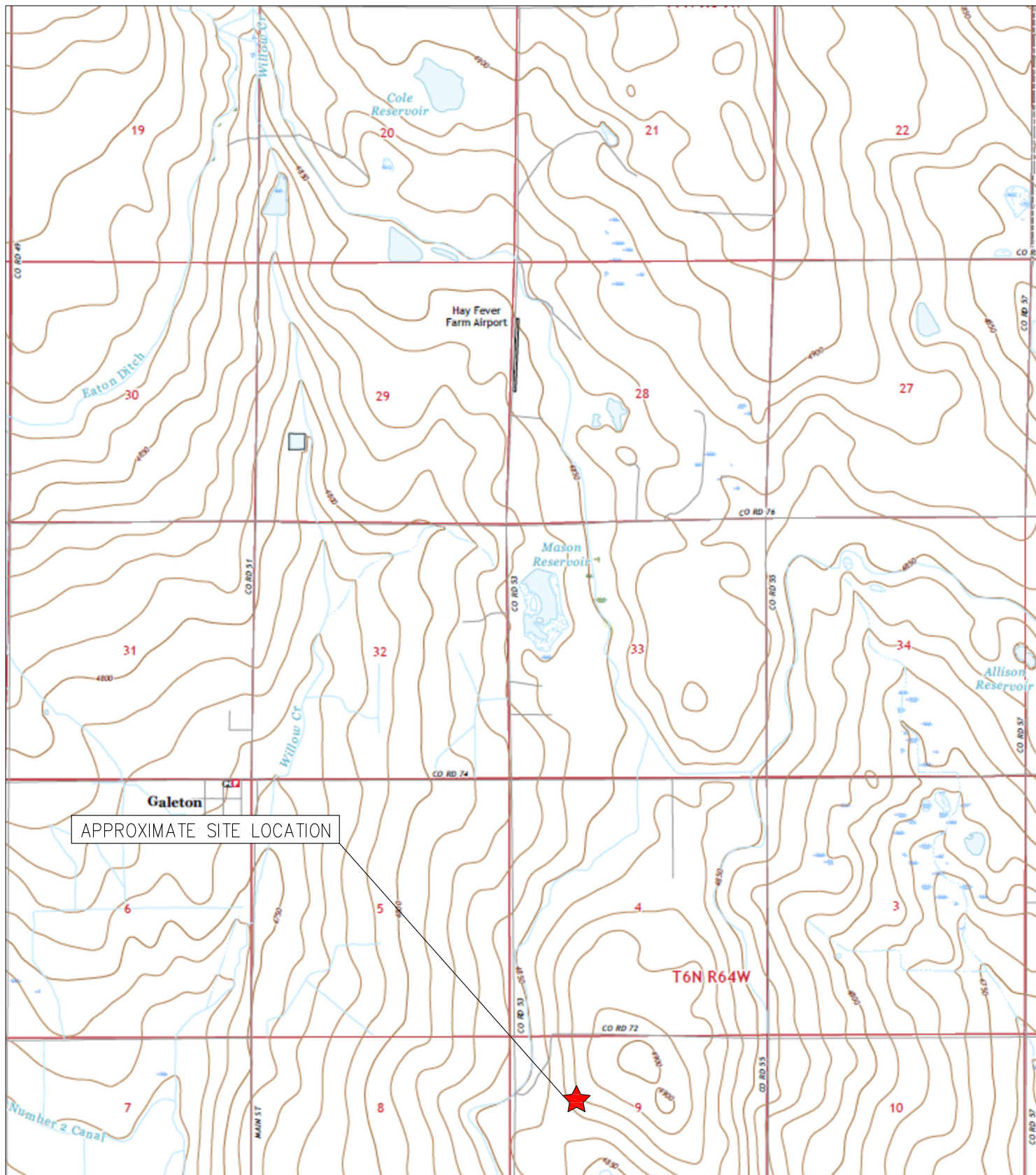
**Figure 1: Topographic Site Location Map**

**Figure 2: Aerial Site Location Map**

**Figure 3: Soil Sampling Location Map**

**Figure 4: Soil Analytical Map**

**Figure 5: Metals in Soil Map**



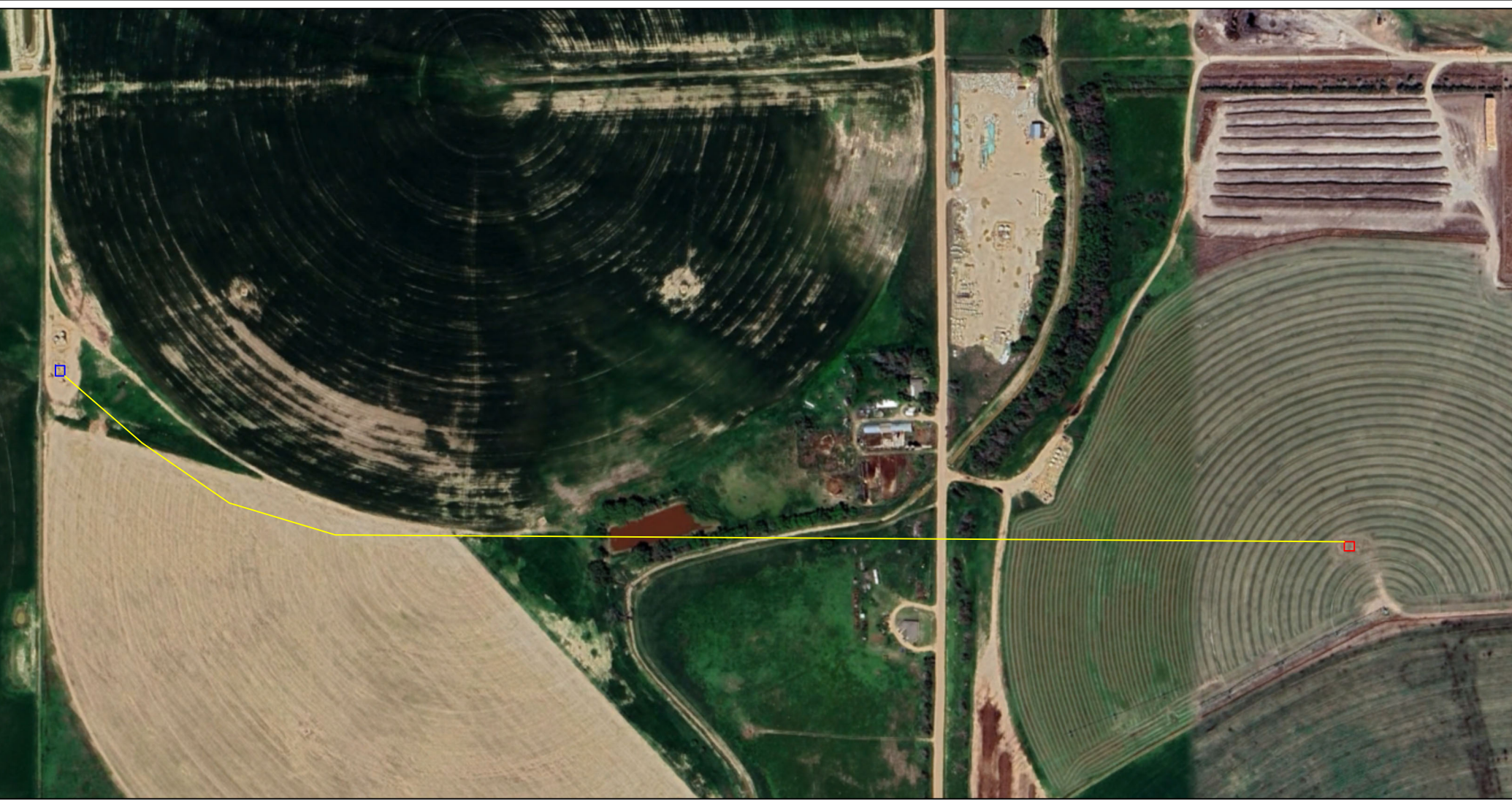
TOPOGRAPHIC SITE LOCATION MAP  
 HOWARD USX A #09-12D  
 CLOSURE ASSESSMENT  
 40.504020 / -104.559980  
 SW¼ NW¼ SEC.9 T6N R64W 6PM  
 WELD COUNTY, COLORADO  
 API # 05-123-33531  
 REMEDIATION # 32679






**EAGLE**  
 ENVIRONMENTAL  
 CONSULTING, LLC

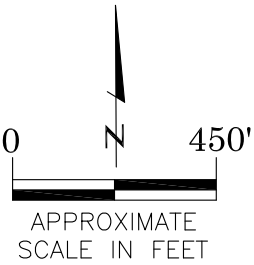
8000 W 44th Ave, Wheat Ridge, CO 80033  
 Ph: 303-433-0479 • F: 303-325-5449





LEGEND

-  FORMER HOWARD USX A #09-12D WELLHEAD (PLUGGED AND ABANDONED)
-  ASSOCIATED SEPARATOR
-  APPROXIMATE FLOWLINE LOCATION (REMOVED)



AERIAL SITE LOCATION MAP  
HOWARD USX A #09-12D  
CLOSURE ASSESSMENT  
40.504020 / -104.559980  
SW¼ NW¼ SEC.9 T6N R64W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-33531  
REMEDATION # 32679

FIGURE NO.  
2

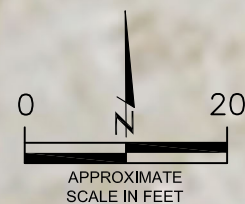
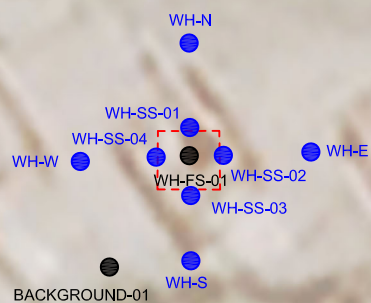
DRAWN BY:  
RS



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

# LEGEND

- INITIAL 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  
HOWARD USX A #09-12D  
CLOSURE ASSESSMENT  
40.504020 / -104.559980  
SW¼ NW¼ SEC.9 T6N R64W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-33531  
REMEDATION # 32679

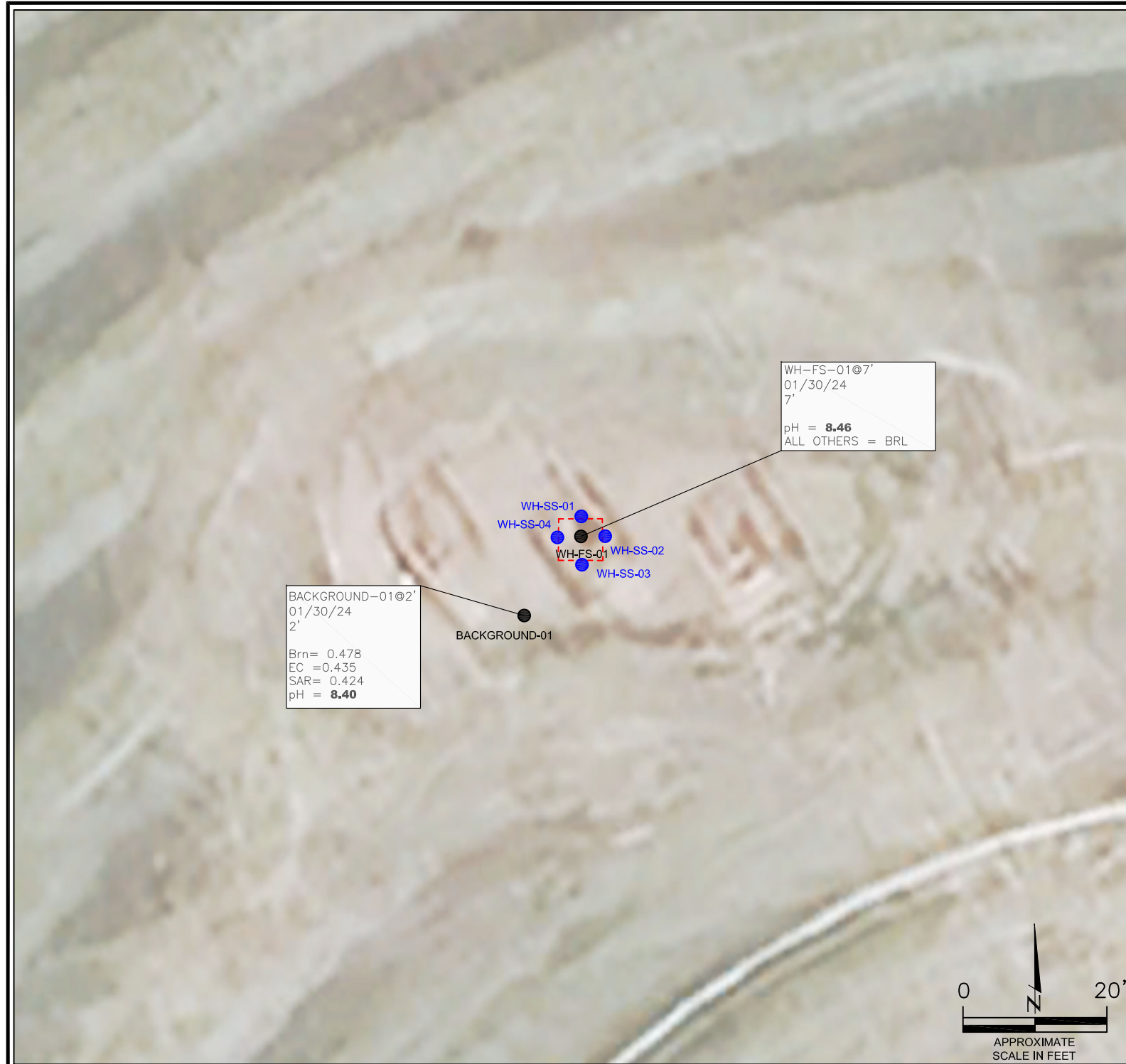
FIGURE NO.  
3

DRAWN BY:  
AG



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LEGEND

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

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

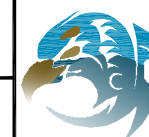
VALUES PRESENTED WITH ASTERISK (\*) EXCEED ECMC TABLE 915-1 PROTECTION OF GROUNDWATER SOIL SCREENING LEVELS, ONLY.

ECMC = ENERGY & CARBON MANAGEMENT COMMISSION

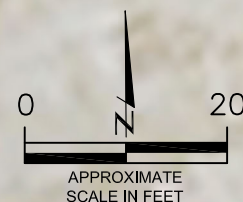
SOIL ANALYTICAL MAP  
HOWARD USX A #09-12D  
CLOSURE ASSESSMENT  
40.504020 / -104.559980  
NW¼ NE¼ SEC.12 T3N R64W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-33531  
REMEDATION # 32679

FIGURE NO.  
4

DRAWN BY:  
AG



**EAGLE**  
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CONSULTING, LLC  
8000 W 44th Ave, Wheat Ridge, CO 80033  
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LEGEND

- INITIAL 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.

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

\*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.

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

ECMC = ENERGY & CARBON MANAGEMENT COMMISSION

METALS IN SOIL MAP  
HOWARD USX A #09-12D  
CLOSURE ASSESSMENT  
40.504020 / -104.559980  
SW¼ NW¼ SEC.9 T6N R64W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-33531  
REMEDIAION # 32679

FIGURE NO.  
5

DRAWN BY:  
AG



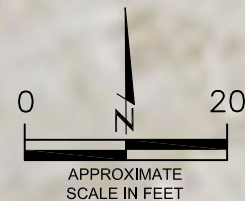
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CONSULTING, LLC  
8000 W 44th Ave, Wheat Ridge, CO 80033  
Ph: 303-433-0479 • F: 303-325-5449

BACKGROUND-01@2'  
01/30/24  
2'  
Arsenic = 4.39  
Barium = 66.3  
Cadmium = 0.228  
Chromium (VI) = <0.244\*\*  
Copper = <9.30  
Lead = 9.68  
Nickel = 7.82  
Selenium = 0.200  
Silver = <0.0930  
Zinc = 42.6

WH-FS-01@7'  
01/30/24  
7'  
Arsenic = 3.23  
Barium = **84.9\***  
Cadmium = 0.262  
Chromium (VI) = <0.244\*\*  
Copper = <9.18  
Lead = 7.09  
Nickel = 9.21  
Selenium = 0.225  
Silver = <0.0918  
Zinc = 46.4

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

BACKGROUND-01





## **TABLES**

**Table 1: Field Data Summary Table**

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

**Table 3: Summary of Polycyclic Aromatic Hydrocarbon Soil Chemistry Data**

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

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



**TABLE 1**  
**FIELD DATA SUMMARY TABLE**  
**NOBLE ENERGY 100322**  
**HOWARD USX A #09-12D, WELD COUNTY, COLORADO**  
**REM # 32679**

Sample ID	Sample Date	Depth	GPS Data Latitude/Longitude		VOC Concentration (ppm)
WH-FS-01@7'	1/30/2024	7	40.504010	-104.559981	3.1
WH-SS-01@6'	1/30/2024	6	40.504028	-104.559983	0.9
WH-SS-02@6'	1/30/2024	6	40.504008	-104.559963	1.4
WH-SS-03@6'	1/30/2024	6	40.503994	-104.559980	1.7
WH-SS-04@6'	1/30/2024	6	40.504012	-104.559998	0.2
WH-N@0.5	1/30/2024	0.5	40.504048	-104.559984	0.9
WH-E@0.5	1/30/2024	0.5	40.504010	-104.559944	0.3
WH-S@0.5	1/30/2024	0.5	40.503975	-104.559980	0.8
WH-W@0.5	1/30/2024	0.5	40.504012	-104.560019	1.4
Background-01@2'	1/30/2024	2	40.503989	-104.560023	0.7

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

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

PDOP = Position Dilution of Precision

ppm = Parts per million

in. = Inches

ft. = Feet

bgs = Below ground surface

TABLE 2  
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA  
NOBLE ENERGY 100322  
HOWARD USX A #09-12D, WELD COUNTY, COLORADO  
REM # 32679

Sample ID	Sample Date	Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	1,2,4-Trimethyl- Benzene (mg/kg)	1,3,5-Trimethyl- Benzene (mg/kg)	Naphthalene (mg/kg)	TPH (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			1.2	490	5.8	58	30	27	2	500	500**		
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500	500**		
WH-FS-01@7'	1/30/2024	7	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00380	<500	<0.200	<25.0	<100

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

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

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

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

NA - Not analyzed

TABLE 3  
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA  
NOBLE ENERGY 100322  
HOWARD USX A #09-12D, WELD COUNTY, COLORADO  
REM # 32679

Sample ID	Sample Date	Depth (ft)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo (a) Anthracene (mg/kg)	Benzo (a) Pyrene (mg/kg)	Benzo (b) Fluoranthene (mg/kg)	Benzo (k) Fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenz (a,h) Anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno (1,2,3-cd) Pyrene (mg/kg)	Pyrene (mg/kg)	1-Methyl - Naphthalene (mg/kg)	2-Methyl- Naphthalene (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			360	1800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
WH-FS-01@7"	1/30/2024	7	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002

1. Bold values exceed the ECMC Table 915-1 limit(s)  
2. Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)  
3. \* Indicates laboratory minimum detection limit in excess of SSL  
NA - Not analyzed



TABLE 4  
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION  
NOBLE ENERGY 100322  
HOWARD USX A #09-12D, WELD COUNTY, COLORADO  
REM # 32679

Sample ID	Sample Date	Depth (ft)	pH (Standard Units)	EC (mmhos/cm)	SAR (Standard Units)	Boron (mg/L)
ECMC Table 915-1 Soil Suitability Limits			6 - 8.3	4	6	2
WH-FS-01@7'	1/30/2024	7	<b>8.46</b>	0.360	0.596	0.193
Background-01@2'	1/30/2024	2	<b>8.40</b>	0.435	0.424	0.478

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

TABLE 5  
SUMMARY OF METALS IN SOIL CHEMISTRY DATA  
NOBLE ENERGY 100322  
HOWARD USX A #09-12D, WELD COUNTY, COLORADO  
REM # 32679

Sample ID	Sample Date	Depth (ft)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg) **	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			0.68	15000	71	0.3	3100	400	1500	390	390	23000
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
WH-FS-01@7'	1/30/2024	7	3.23	84.9	0.262	<0.244*	<9.18	7.09	9.21	0.225	<0.0918	46.4
Background-01@2'	1/30/2024	2	4.39	66.3	0.228	<0.244*	<9.30	9.68	7.82	0.200	<0.0930	42.6
Maximum Background Concentration			4.39	66.3	0.228	--	--	9.68	7.82	0.200	--	42.6
Local Clean-up Level (125% Local Maximum Background)			5.49	82.9	0.285	--	--	12.1	9.78	0.250	--	53.3

1. Bold values exceed the local clean-up levels & ECMC Table 915-1 limit(s)

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

Elevated metals are naturally occurring in Colorado. Local clean-up levels are 1.25\*Maximum Background Concentration, where applicable.

\* Indicates laboratory minimum detection limit in excess of SSL

\*\* Achievable practical quantitative limits for Hexavalent Chromium in soils is in the range of 0.1 to 1.0 mg/kg

NA - Not analyzed

ND - Not Detected



## **ATTACHMENT A**

### **Photo Log**



Howard USX A #09-12D  
API # 05-123-33531  
Remediation # 32679

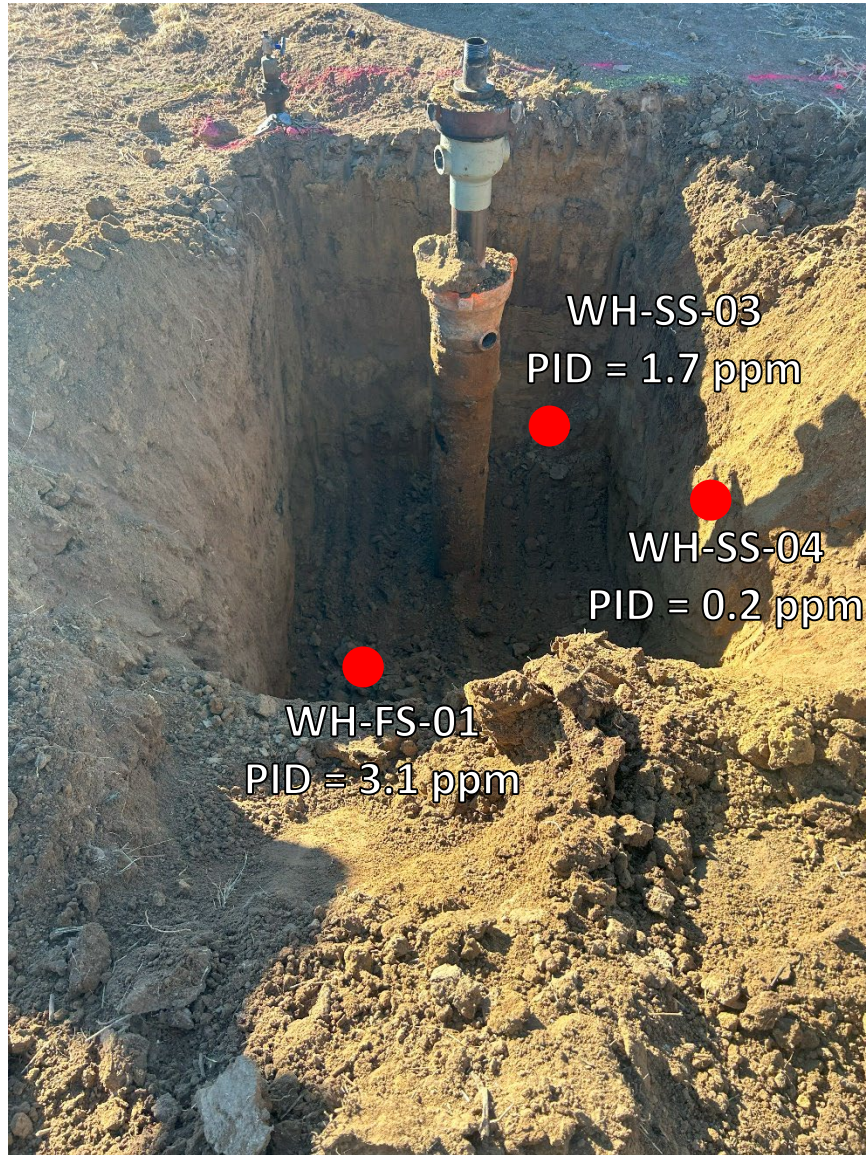
Closure Assessment

January 2024





## Wellhead Excavation – 01/30/24



Looking south

No petroleum hydrocarbon staining or odor observed

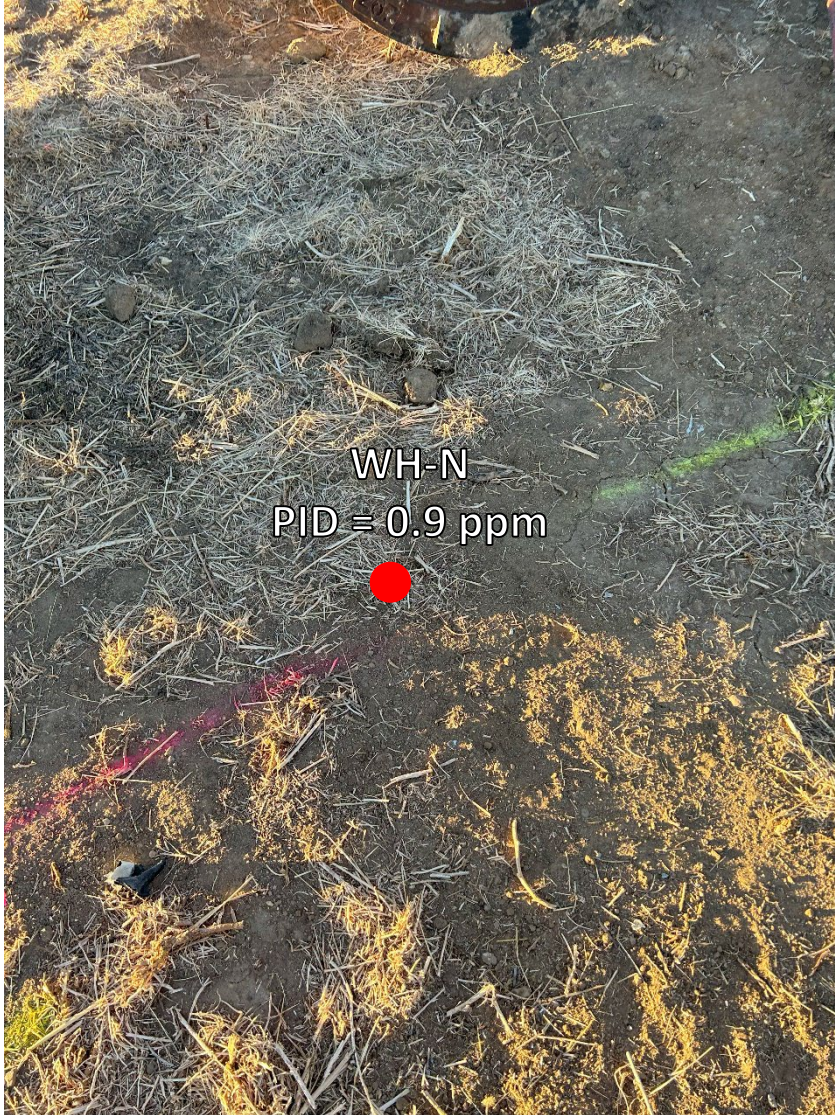


Looking east

No petroleum hydrocarbon staining or odor observed

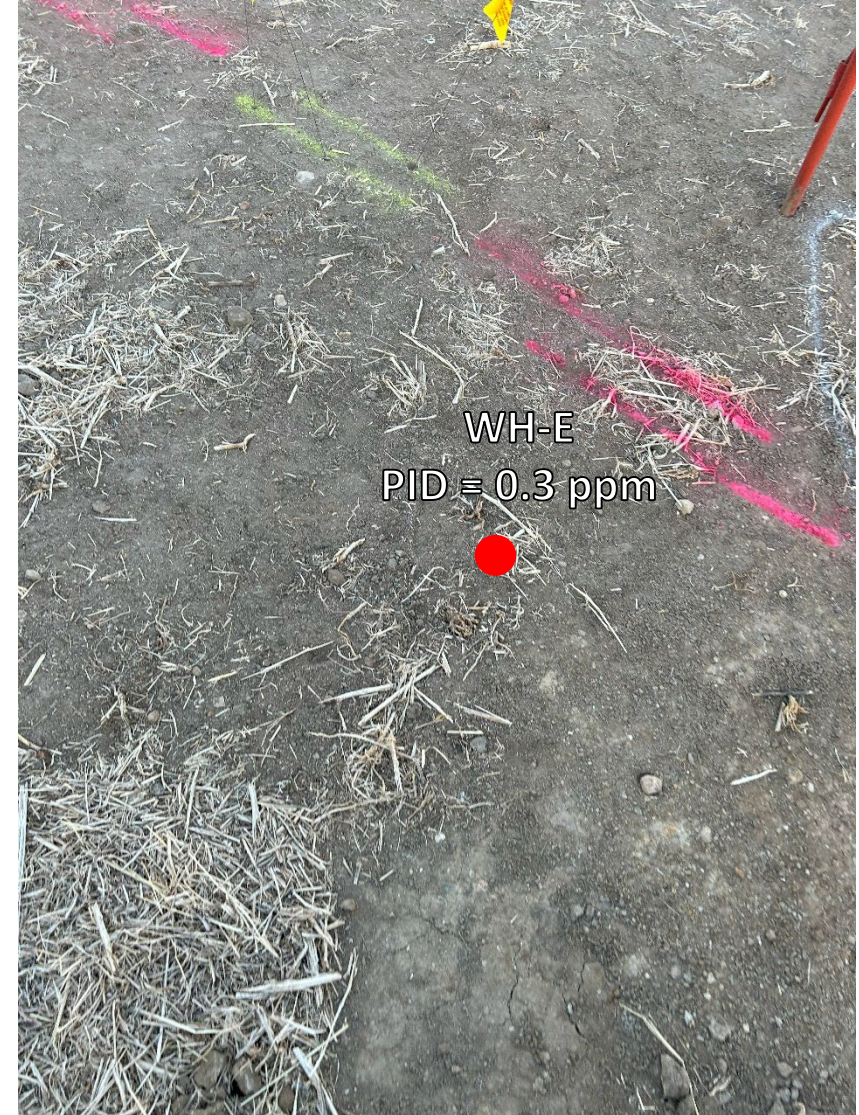


## Wellhead Surface – 01/30/24



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

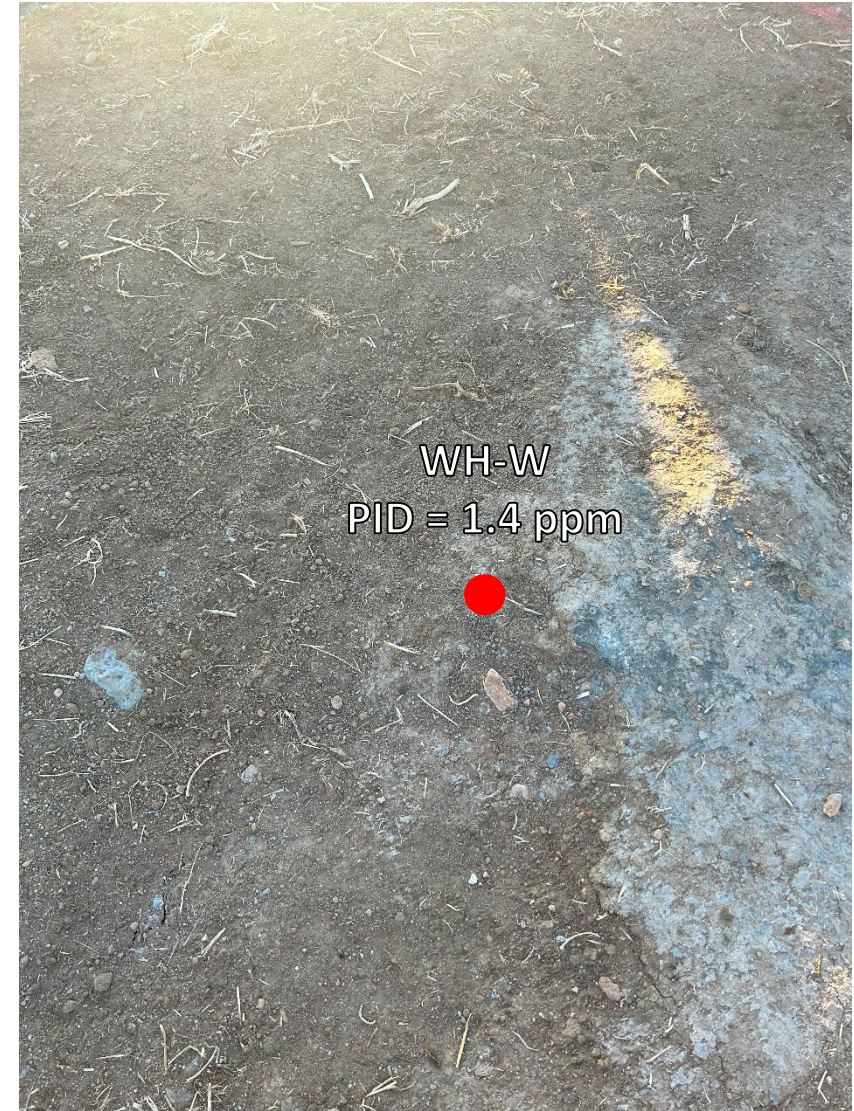


## Wellhead Surface – 01/30/24



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 Report**



February 21, 2024

Eagle Environmental Consulting, LLC

Andrew Newberry

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - Howard USX A #09-12D

Project Number - [none]

Attached are your analytical results for Noble - Howard USX A #09-12D received by Origins Laboratory, Inc. January 30, 2024. This project is associated with Origins project number Y401749-01.

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 - Howard USX A #09-12D

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-FS-01@7'	Y401749-01	Soil	January 30, 2024 9:24	01/30/2024 16:34
Background-01@2'	Y401749-02	Soil	January 30, 2024 9:26	01/30/2024 16:34

A pH rerun was requested for WH-FS-01@7' per Garrett's email on 02/14/2024. 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.*

Jordan A. Bynon, Project Manager

Andrew Newberry  
Project Number: [none]  
Project: Noble - Howard USX A #09-12D

[illegible]

Origins Laboratory, Inc.

Byron

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



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - Howard USX A #09-12D

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: 4401749 Client: Eagle  
Client Project ID: Howard USX A #09-12D  
Checklist Completed by: TSH/ETH Shipped Via: HLV  
Date/time completed: 1/30/24 (UPS, FedEx, Hand Delivered, Pick-up, etc.)  
Airbill #: N/A  
Matrix(s) Received: (Check all that apply): X Soil/Solid      Water      Other:       
Cooler Number/Temperature: 1/10 °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]

Date/Time Reviewed 1/31/24

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 - Howard USX A #09-12D

WH-FS-01@7'  
1/30/2024 9:24:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y401749-01 (Soil)

### Boron (DTPA Sorbitol)

Boron	0.193	0.0981	mg/L	1	B4B0205	02/02/2024	02/06/2024	
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### DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4A3101	01/31/2024	02/02/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	82.2 %	50-150			"	"	"	
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### GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4A3121	01/31/2024	02/01/2024	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 - Howard USX A #09-12D

WH-FS-01@7'

1/30/2024 9:24:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y401749-01 (Soil)**

**GBTEX+TMBs by 8260D**

Surrogate: 1,2-Dichloroethane-d4	106 %	70-130	B4A31 21	01/31/2024	02/01/2024
Surrogate: Toluene-d8	100 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	91.9 %	70-130	"	"	"

**Metals by Saturated Paste by EPA 6010**

Calcium	1.33	0.499	meq/L	10	[CALC]	01/31/2024	02/01/2024
Magnesium	1.39	0.823	"	"	"	"	"
Sodium	0.696	0.435	"	"	"	"	"

**PAH by EPA 8270E**

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4A3106	01/31/2024	02/09/2024	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 - Howard USX A #09-12D

WH-FS-01@7'

1/30/2024 9:24:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y401749-01 (Soil)**

**PAH by EPA 8270E**

Fluoranthene	ND	0.020	mg/kg	1	B4A3106	01/31/2024	02/09/2024	U
Fluorene	ND	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	U
Pyrene	ND	0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	100 %	60-130	"	"	"
Surrogate: Anthracene-d10	93.3 %	60-130	"	"	"
Surrogate: Pyrene-d10	93.6 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	101 %	60-130	"	"	"

**pH in Soil by 9045D**

pH	8.46	pH Units	1	B4A3117	01/31/2024	02/01/2024
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**SAR by 20B Saturated Paste**

SAR	0.596	0.0100	SAR	1	B4A3113	01/31/2024	02/01/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.360	0.00500	mmhos/cm	1	B4A3117	01/31/2024	02/01/2024
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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 - Howard USX A #09-12D

WH-FS-01@7'

1/30/2024 9:24:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y401749-01 (Soil)

## Table 915 metals by EPA 6020B

Arsenic	3.23	0.0918	mg/kg	10	B4A3032	01/30/2024	02/05/2024
Barium	84.9	9.18	"	"	"	"	"
Cadmium	0.262	0.0918	"	"	"	"	"
Copper	ND	9.18	"	"	"	"	"
Lead	7.09	0.918	"	"	"	"	"
Nickel	9.21	0.918	"	"	"	"	"
Selenium	0.225	0.0918	"	"	"	"	"
Silver	ND	0.0918	"	"	"	"	"
Zinc	46.4	9.18	"	"	"	"	"

## Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L731509	01/30/2024	02/07/2024
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Origins Laboratory, Inc.



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - Howard USX A #09-12D

WH-FS-01@7'

1/30/2024 9:24:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y401749-01RE1 (Soil)

**pH in Soil by 9045D**

pH	8.34			pH Units	1	B4B1517	01/31/2024	02/16/2024	
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Origins Laboratory, Inc.



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - Howard USX A #09-12D

WH-FS-01@7'

1/30/2024 9:24:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y401749-01RE2 (Soil)

**pH in Soil by 9045D**

pH	8.31			pH Units	1	B4B1517	01/31/2024	02/16/2024	
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Origins Laboratory, Inc.



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - Howard USX A #09-12D

**Background-01@2'**  
**1/30/2024 9:26:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y401749-02 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.478	0.100	mg/L	1	B4B0205	02/02/2024	02/06/2024
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**Metals by Saturated Paste by EPA 6010**

Calcium	1.24	0.499	meq/L	10	[CALC]	01/31/2024	02/01/2024
Magnesium	0.986	0.823	"	"	"	"	"
Sodium	0.448	0.435	"	"	"	"	"

**pH in Soil by 9045D**

pH	8.40		pH Units	1	B4A3117	01/31/2024	02/01/2024
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**SAR by 20B Saturated Paste**

SAR	0.424	0.0100	SAR	1	B4A3113	01/31/2024	02/01/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.435	0.00500	mmhos/cm	1	B4A3117	01/31/2024	02/01/2024
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**Table 915 metals by EPA 6020B**

Arsenic	4.39	0.0930	mg/kg	10	B4A3032	01/30/2024	02/05/2024
Barium	66.3	9.30	"	"	"	"	"
Cadmium	0.228	0.0930	"	"	"	"	"
Copper	ND	9.30	"	"	"	"	"

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 - Howard USX A #09-12D

**Background-01@2'**  
**1/30/2024 9:26:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y401749-02 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	9.68	0.930	mg/kg	10	B4A3032	01/30/2024	02/05/2024
Nickel	7.82	0.930	"	"	"	"	"
Selenium	0.200	0.0930	"	"	"	"	"
Silver	ND	0.0930	"	"	"	"	"
Zinc	42.6	9.30	"	"	"	"	"

**Total Metals by 7196A**

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L731509	01/30/2024	02/07/2024
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Origins Laboratory, Inc.



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

Andrew Newberry  
Project Number: [none]  
Project: Noble - Howard USX A #09-12D

## 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 B4A3101 - EPA 3550B										
Blank (B4A3101-BLK1)					Prepared: 01/31/2024 Analyzed: 02/02/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	24		"	24.9		98.1	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 - Howard USX A #09-12D

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 B4A3101 - EPA 3550B										
LCS (B4A3101-BS1)					Prepared: 01/31/2024 Analyzed: 02/02/2024					
Diesel (C10-C28)	893	50.0	mg/kg	1000		89.3	70-130			
Residual Range Organics (C28-C40)	966	200	"	1000		96.6	70-130			
Surrogate: o-Terphenyl	61		"	49.8		122	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 - Howard USX A #09-12D

## 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 B4A3101 - EPA 3550B

Matrix Spike (B4A3101-MS1)		Source: Y401738-01			Prepared: 01/31/2024 Analyzed: 02/02/2024					
Diesel (C10-C28)	939	50.0	mg/kg	1000	ND	93.9	70-130			
Residual Range Organics (C28-C40)	1020	200	"	1000	ND	102	70-130			
Surrogate: o-Terphenyl	56		"	49.8		112	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 - Howard USX A #09-12D

## 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 B4A3101 - EPA 3550B										
Matrix Spike Dup (B4A3101-MSD1)		Source: Y401738-01			Prepared: 01/31/2024 Analyzed: 02/02/2024					
Diesel (C10-C28)	923	50.0	mg/kg	1000	ND	92.3	70-130	1.69	35	
Residual Range Organics (C28-C40)	989	200	"	1000	ND	98.9	70-130	2.63	35	
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 - Howard USX A #09-12D

## 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 B4A3121 - EPA 5030 (soil)										
Blank (B4A3121-BLK1)					Prepared: 01/31/2024 Analyzed: 01/31/2024					
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	0.13		"	0.125	103		70-130			
Surrogate: Toluene-d8	0.13		"	0.125	102		70-130			
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125	91.7		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 - Howard USX A #09-12D

## 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 B4A3121 - EPA 5030 (soil)										
LCS (B4A3121-BS1)					Prepared: 01/31/2024 Analyzed: 01/31/2024					
1,2,4-Trimethylbenzene	0.109	0.00200	mg/kg	0.100		109	70-130			
1,3,5-Trimethylbenzene	0.110	0.00200	"	0.100		110	70-130			
Benzene	0.0868	0.00200	"	0.100		86.8	70-130			
Ethylbenzene	0.0882	0.00200	"	0.100		88.2	70-130			
Naphthalene	0.106	0.00380	"	0.100		106	70-130			
Toluene	0.0861	0.00200	"	0.100		86.1	70-130			
o-Xylene	0.0874	0.00200	"	0.100		87.4	70-130			
m,p-Xylene	0.176	0.00400	"	0.200		87.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		96.7	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.8	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 - Howard USX A #09-12D

## 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 B4A3121 - EPA 5030 (soil)										
Matrix Spike (B4A3121-MS1)		Source: Y401658-12			Prepared: 01/31/2024 Analyzed: 01/31/2024					
1,2,4-Trimethylbenzene	0.0989	0.00200	mg/kg	0.100	ND	98.9	70-130			
1,3,5-Trimethylbenzene	0.0979	0.00200	"	0.100	ND	97.9	70-130			
Benzene	0.0855	0.00200	"	0.100	0.00140	84.1	70-130			
Ethylbenzene	0.0868	0.00200	"	0.100	0.00104	85.8	70-130			
Naphthalene	0.101	0.00380	"	0.100	ND	101	70-130			
Toluene	0.0830	0.00200	"	0.100	0.00204	81.0	70-130			
o-Xylene	0.0871	0.00200	"	0.100	0.000520	86.5	70-130			
m,p-Xylene	0.173	0.00400	"	0.200	0.00132	86.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		111	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		106	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 - Howard USX A #09-12D

## 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 B4A3121 - EPA 5030 (soil)										
Matrix Spike Dup (B4A3121-MSD1)		Source: Y401658-12			Prepared: 01/31/2024 Analyzed: 01/31/2024					
1,2,4-Trimethylbenzene	0.0619	0.00200	mg/kg	0.100	ND	61.9	70-130	46.0	20	QM-07, QR-03
1,3,5-Trimethylbenzene	0.0603	0.00200	"	0.100	ND	60.3	70-130	47.5	20	QM-07, QR-03
Benzene	0.0586	0.00200	"	0.100	0.00140	57.2	70-130	37.3	20	QM-07, QR-03
Ethylbenzene	0.0535	0.00200	"	0.100	0.00104	52.4	70-130	47.5	20	QM-07, QR-03
Naphthalene	0.0664	0.00380	"	0.100	ND	66.4	70-130	40.9	20	QM-07, QR-03
Toluene	0.0565	0.00200	"	0.100	0.00204	54.4	70-130	38.1	20	QM-07, QR-03
o-Xylene	0.0541	0.00200	"	0.100	0.000520	53.5	70-130	46.8	20	QM-07, QR-03
m,p-Xylene	0.107	0.00400	"	0.200	0.00132	53.0	70-130	47.2	20	QM-07, QR-03
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		110	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.3	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 - Howard USX A #09-12D

## 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 B4A3032 - EPA 3050B

#### Blank (B4A3032-BLK1)

Prepared: 01/30/2024 Analyzed: 02/05/2024

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 (B4A3032-BS1)

Prepared: 01/30/2024 Analyzed: 02/05/2024

Arsenic	5.15	0.0100	mg/kg	5.00	103	80-120
Barium	529	1.00	"	500	106	80-120
Cadmium	5.31	0.0100	"	5.00	106	80-120
Copper	52.6	1.00	"	50.0	105	80-120
Lead	5.52	0.100	"	5.00	110	80-120
Nickel	5.25	0.100	"	5.00	105	80-120
Selenium	5.05	0.0100	"	5.00	101	80-120
Silver	5.43	0.0100	"	5.00	109	80-120
Zinc	43.6	1.00	"	50.0	87.3	80-120

#### Matrix Spike (B4A3032-MS1)

Source: Y401739-20

Prepared: 01/30/2024 Analyzed: 02/05/2024

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8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Howard USX A #09-12D

**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 B4A3032 - EPA 3050B**

Matrix Spike (B4A3032-MS1)		Source: Y401739-20			Prepared: 01/30/2024 Analyzed: 02/05/2024					
Arsenic	7.08	0.0957	mg/kg	4.79	2.35	98.9	75-125			
Barium	569	9.57	"	479	46.2	109	75-125			
Cadmium	5.32	0.0957	"	4.79	0.0804	110	75-125			
Copper	46.6	9.57	"	47.9	4.16	88.8	75-125			
Lead	9.86	0.957	"	4.79	5.63	88.3	75-125			
Nickel	10.1	0.957	"	4.79	5.19	103	75-125			
Selenium	4.85	0.0957	"	4.79	0.0681	100	75-125			
Silver	5.37	0.0957	"	4.79	0.0309	112	75-125			
Zinc	72.8	9.57	"	47.9	31.5	86.3	75-125			
Matrix Spike Dup (B4A3032-MSD1)		Source: Y401739-20			Prepared: 01/30/2024 Analyzed: 02/05/2024					
Arsenic	7.44	0.0987	mg/kg	4.93	2.35	103	75-125	5.00	20	
Barium	581	9.87	"	493	46.2	108	75-125	2.10	20	
Cadmium	5.59	0.0987	"	4.93	0.0804	112	75-125	4.88	20	
Copper	49.0	9.87	"	49.3	4.16	91.0	75-125	5.03	20	
Lead	10.7	0.987	"	4.93	5.63	102	75-125	7.78	20	
Nickel	10.3	0.987	"	4.93	5.19	103	75-125	1.45	20	
Selenium	5.09	0.0987	"	4.93	0.0681	102	75-125	4.71	20	
Silver	5.57	0.0987	"	4.93	0.0309	112	75-125	3.62	20	
Zinc	73.7	9.87	"	49.3	31.5	85.6	75-125	1.29	20	

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Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Howard USX A #09-12D

**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 B4A3106 - EPA 3580**

**Blank (B4A3106-BLK1)**

Prepared: 01/31/2024 Analyzed: 02/09/2024

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		100	60-130			
Surrogate: Anthracene-d10	190		"	200		95.1	60-130			
Surrogate: Pyrene-d10	190		"	200		96.1	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		101	60-130			

**LCS (B4A3106-BS1)**

Prepared: 01/31/2024 Analyzed: 02/09/2024

1-Methylnaphthalene	0.179	0.002	mg/kg	0.200		89.7	70-130			
2-Methylnaphthalene	0.179	0.002	"	0.200		89.5	70-130			
Acenaphthene	0.178	0.020	"	0.200		89.1	70-130			
Anthracene	0.173	0.020	"	0.200		86.5	70-130			

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**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 B4A3106 - EPA 3580**

**LCS (B4A3106-BS1)**

Prepared: 01/31/2024 Analyzed: 02/09/2024

Benzo (a) anthracene	0.185	0.005	mg/kg	0.200		92.4	70-130
Benzo (a) pyrene	0.179	0.020	"	0.200		89.7	70-130
Benzo (b) fluoranthene	0.189	0.020	"	0.200		94.7	70-130
Benzo (g,h,i) perylene	0.191	0.020	"	0.200		95.5	70-130
Benzo (k) fluoranthene	0.185	0.020	"	0.200		92.4	70-130
Chrysene	0.183	0.020	"	0.200		91.7	70-130
Dibenz (a,h) anthracene	0.200	0.020	"	0.200		100	70-130
Fluoranthene	0.177	0.020	"	0.200		88.3	70-130
Fluorene	0.178	0.020	"	0.200		89.2	70-130
Indeno (1,2,3-cd) pyrene	0.190	0.020	"	0.200		94.8	70-130
Naphthalene	0.183	0.002	"	0.200		91.5	70-130
Phenanthrene	0.170	0.020	"	0.200		85.2	70-130
Pyrene	0.175	0.020	"	0.200		87.7	70-130
Surrogate: Fluorene-d10	200		ug/kg	200		100	60-130
Surrogate: Anthracene-d10	190		"	200		95.4	60-130
Surrogate: Pyrene-d10	200		"	200		98.6	60-130
Surrogate: Benzo (a) pyrene-d12	200		"	200		101	60-130

**Matrix Spike (B4A3106-MS1)**

Source: Y401706-01

Prepared: 01/31/2024 Analyzed: 02/09/2024

1-Methylnaphthalene	0.178	0.002	mg/kg	0.200	ND	89.2	70-130
2-Methylnaphthalene	0.178	0.002	"	0.200	0.0009	88.6	70-130
Acenaphthene	0.177	0.020	"	0.200	ND	88.7	70-130
Anthracene	0.170	0.020	"	0.200	0.026	72.0	70-130
Benzo (a) anthracene	0.193	0.005	"	0.200	0.012	90.4	70-130
Benzo (a) pyrene	0.164	0.020	"	0.200	0.020	72.3	70-130
Benzo (b) fluoranthene	0.190	0.020	"	0.200	0.015	87.7	70-130
Benzo (g,h,i) perylene	0.190	0.020	"	0.200	0.018	86.2	70-130

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Andrew Newberry  
Project Number: [none]  
Project: Noble - Howard USX A #09-12D

**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 B4A3106 - EPA 3580**

Matrix Spike (B4A3106-MS1)		Source: Y401706-01			Prepared: 01/31/2024 Analyzed: 02/09/2024					
Benzo (k) fluoranthene	0.171	0.020	mg/kg	0.200	0.007	82.1	70-130			
Chrysene	0.182	0.020	"	0.200	0.018	81.8	70-130			
Dibenz (a,h) anthracene	0.198	0.020	"	0.200	0.007	95.2	70-130			
Fluoranthene	0.174	0.020	"	0.200	0.020	76.9	70-130			
Fluorene	0.176	0.020	"	0.200	ND	88.2	70-130			
Indeno (1,2,3-cd) pyrene	0.169	0.020	"	0.200	0.014	77.7	70-130			
Naphthalene	0.181	0.002	"	0.200	ND	90.5	70-130			
Phenanthrene	0.173	0.020	"	0.200	0.011	81.0	70-130			
Pyrene	0.178	0.020	"	0.200	0.021	78.3	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		100	60-130			
Surrogate: Anthracene-d10	190		"	200		94.7	60-130			
Surrogate: Pyrene-d10	200		"	200		99.5	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130			

Matrix Spike Dup (B4A3106-MSD1)		Source: Y401706-01			Prepared: 01/31/2024 Analyzed: 02/09/2024					
1-Methylnaphthalene	0.183	0.002	mg/kg	0.200	ND	91.4	70-130	2.44	20	
2-Methylnaphthalene	0.186	0.002	"	0.200	0.0009	92.7	70-130	4.47	20	
Acenaphthene	0.183	0.020	"	0.200	ND	91.4	70-130	2.96	20	
Anthracene	0.176	0.020	"	0.200	0.026	75.3	70-130	3.78	20	
Benzo (a) anthracene	0.223	0.005	"	0.200	0.012	105	70-130	14.4	20	
Benzo (a) pyrene	0.193	0.020	"	0.200	0.020	86.6	70-130	16.0	20	
Benzo (b) fluoranthene	0.216	0.020	"	0.200	0.015	100	70-130	12.5	20	
Benzo (g,h,i) perylene	0.219	0.020	"	0.200	0.018	101	70-130	14.0	20	
Benzo (k) fluoranthene	0.193	0.020	"	0.200	0.007	92.8	70-130	11.7	20	
Chrysene	0.213	0.020	"	0.200	0.018	97.2	70-130	15.5	20	
Dibenz (a,h) anthracene	0.201	0.020	"	0.200	0.007	96.6	70-130	1.37	20	
Fluoranthene	0.243	0.020	"	0.200	0.020	112	70-130	33.4	20	QR-02

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Andrew Newberry  
Project Number: [none]  
Project: Noble - Howard USX A #09-12D

**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 B4A3106 - EPA 3580</b>										
<b>Matrix Spike Dup (B4A3106-MSD1)</b>	<b>Source: Y401706-01</b>				Prepared: 01/31/2024 Analyzed: 02/09/2024					
Fluorene	0.184	0.020	mg/kg	0.200	ND	91.9	70-130	4.09	20	
Indeno (1,2,3-cd) pyrene	0.203	0.020	"	0.200	0.014	94.6	70-130	18.2	20	
Naphthalene	0.205	0.002	"	0.200	ND	103	70-130	12.6	20	
Phenanthrene	0.230	0.020	"	0.200	0.011	109	70-130	28.0	20	QR-02
Pyrene	0.233	0.020	"	0.200	0.021	106	70-130	26.9	20	QR-02
Surrogate: Fluorene-d10	200		ug/kg	200		101	60-130			
Surrogate: Anthracene-d10	190		"	200		94.7	60-130			
Surrogate: Pyrene-d10	190		"	200		95.6	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		100	60-130			

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Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Howard USX A #09-12D

## 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 B4A3113 - Saturated Paste Metals

##### Blank (B4A3113-BLK1)

Prepared: 01/31/2024 Analyzed: 02/01/2024

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

##### Duplicate (B4A3113-DUP1)

Source: Y401688-05

Prepared: 01/31/2024 Analyzed: 02/01/2024

SAR	ND	0.0100	SAR	0.338		200
Calcium PPM	204	10.0	mg/L	302	38.5	50
Magnesium PPM	49.5	10.0	"	61.8	22.2	50
Sodium PPM	26.8	10.0	"	24.6	8.47	50

#### Batch B4B0205 - DTPA Sorbitol Preparation

##### Blank (B4B0205-BLK1)

Prepared: 02/02/2024 Analyzed: 02/06/2024

Boron	ND	0.100	mg/L
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##### Duplicate (B4B0205-DUP1)

Source: Y401749-01

Prepared: 02/02/2024 Analyzed: 02/06/2024

Boron	0.202	0.101	mg/L	0.193	4.40	50
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Jordan A. Bynon, Project Manager

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Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Howard USX A #09-12D

## 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 B4A3117 - Saturated Paste pH/EC</b>										
<b>Blank (B4A3117-BLK1)</b>					Prepared: 01/31/2024 Analyzed: 02/01/2024					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
<b>Duplicate (B4A3117-DUP1)</b>					<b>Source: Y401688-05</b> Prepared: 01/31/2024 Analyzed: 02/01/2024					
pH	8.36		pH Units		8.28			0.962	25	
Specific Conductance (EC)	1.33	0.00500	mmhos/cm		1.67			22.6	25	
<b>Batch B4B1517 - Saturated Paste pH/EC</b>										
<b>Duplicate (B4B1517-DUP1)</b>					<b>Source: Y401773-09</b> Prepared: 02/15/2024 Analyzed: 02/16/2024					
pH	7.15		pH Units		7.04			1.55	25	

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Andrew Newberry  
Project Number: [none]  
Project: Noble - Howard USX A #09-12D

## 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
Batch L731509 -										
<b>DUP (L 99259-DUP)</b>	<b>Source: Y401749-01</b>				Prepared: Analyzed: 02/07/2024					
Chromium, Hexavalent	ND	0.5	mg/Kg		<0.500		-	0	20	
<b>MS (L 99259-MS)</b>	<b>Source: Y401749-01</b>				Prepared: Analyzed: 02/07/2024					
Chromium, Hexavalent	28.3	2.5	mg/Kg	39.5	< 0.244	72	75-125			*
<b>LCS (LCS)</b>					Prepared: Analyzed: 02/07/2024					
Chromium, Hexavalent	6.22	0.5	mg/Kg	8		78	75-125			
<b>LRB (LRB)</b>					Prepared: Analyzed: 02/07/2024					
Chromium, Hexavalent	ND	0.5	mg/Kg				-			

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8000 W 44th Ave  
Wheat Ridge CO 80033

Andrew Newberry  
Project Number: [none]  
Project: Noble - Howard USX A #09-12D

## Notes and Definitions

U Sample is Non-Detect.

QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.

QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

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

\* QC Failure

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

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