

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 09/19/23	Partially Buried Vault Closure <u> </u>
Site Name & COGCC Facility Number: Wilmoth #14-3		Date: 01/10/24				Remediation Project #: 28184	
Associated Wells: 05-123-13615		Age of Site: years				Number of Photos Attached: 2	
Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple) 40.317890 / -104.524680					Estimated Facility Size (acres): <u> </u>		
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.) Good condition							
USCS Soil Type: Sandy CLAY				Estimated Depth to Groundwater: ~10-20'			
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) 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	05-123-13615						
Age	years						
Condition of surface around wellhead	Good - No odor/no staining						
PID Readings	WH-N: 0.5	WH-E: 0.7	WH-S: 0.6	WH-W: 0.8			
Condition of subsurface (staining present)	Good - No odor/no staining						
PID Readings	1.1	1.9	1.3	1.8	1.7		
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? <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: 9			
Highest PID Reading: 1.9				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:			
N/A							
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:							

Flowline Closure Checklist

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

Additional Attachments:		Tank Battery Closure	—	Wellhead Closure	01/10/24	Pit Closure	—	Partially Buried Vault Closure	—
Site Name & COGCC Facility Number: Wilmoth #14-3		Date: 09/19/23				Remediation Project #: 28184			
Associated Wells: 05-123-13615		Age of Site: years				Number of Photos Attached: 5			
Starting point: (GPS coordinates and descriptions) 40.317890 / -104.524680 (@ Wellhead)									
End point: (GPS coordinates and descriptions) 40.319448 / -104.524634 (@ Separator)									
USCS Soil Type: Sandy CLAY					Estimated Depth to Groundwater: ~10-20'				
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) 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									
Flowlines									
Flowline type	O, G, W								
Depth	~4'								
Age	years								
Length	~571'								
Construction Material	Steel								
Were flowlines pulled?	Yes								
Visual Integrity of lines	Good								
Visual impacts if trenched	None observed								
PID Readings if trenched	6.7	5.8	5.2	3.1	12.4				
Sample taken? Location/Sample ID#	FL-SS-01	FL-SS-02	FL-SS-03	FL-SS-04	FL-SS-05				
Photo Number(s)	See photo log								
Other observations regarding on location flowlines: Flowline removed. Flowline Pt A and Pt B assessed + lab analyzed.									
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: 5					Total number of samples collected: 5				
Highest PID Reading: 12.4					Total number of samples submitted to lab for analysis: 2				
If more than 10 cubic yards of impacted soil were observed:									
Vertical extent:					Estimated spill volume:				
Lateral extent: N/A					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

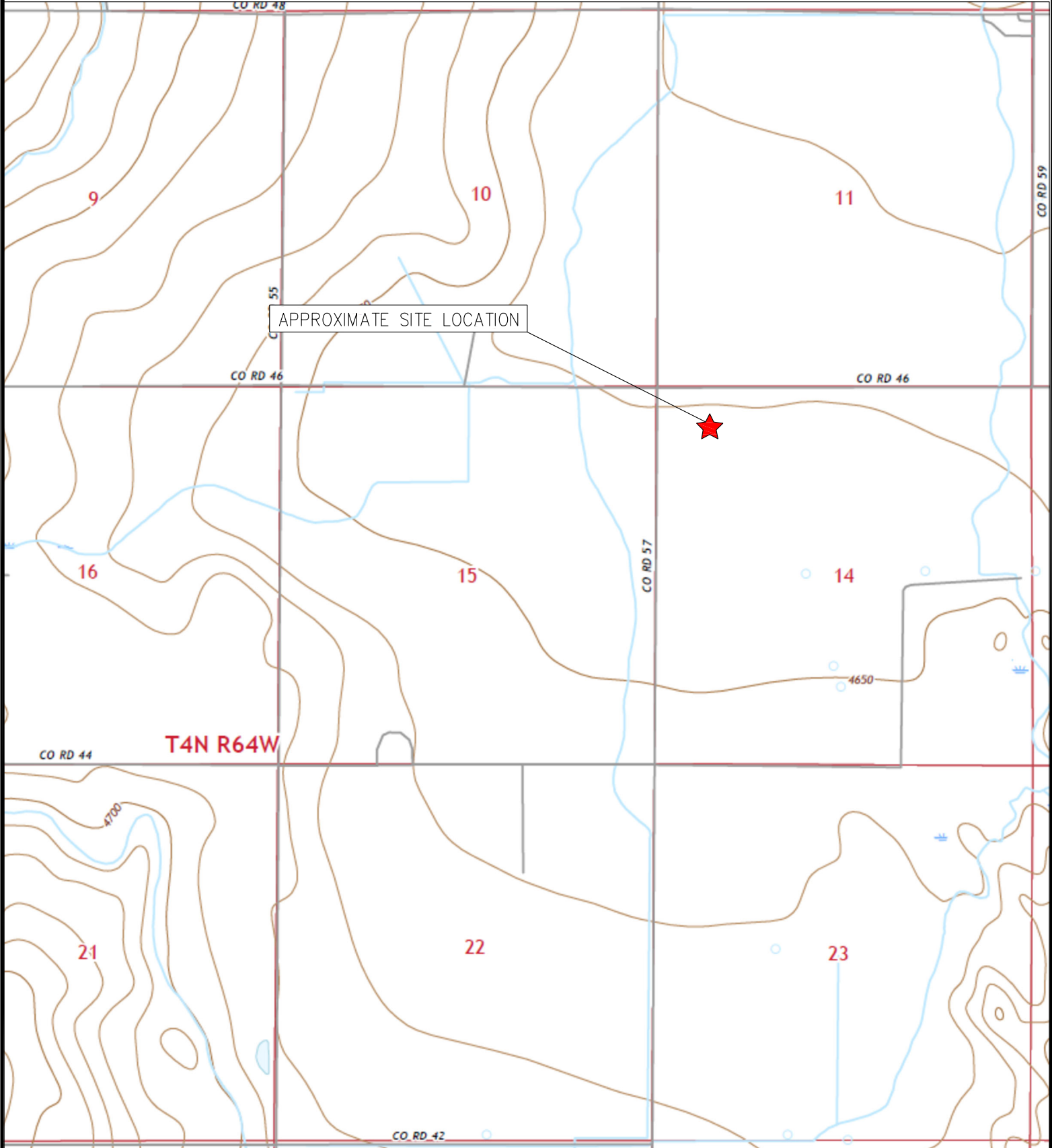
Figure 1: Topographic Site Location Map

Figure 2: Aerial Site Location Map

Figure 3: Sample Location Map

Figure 4: Soil Analytical Map

Figure 5: Metals in Soil Map



APPROXIMATE SITE LOCATION

CO RD 44

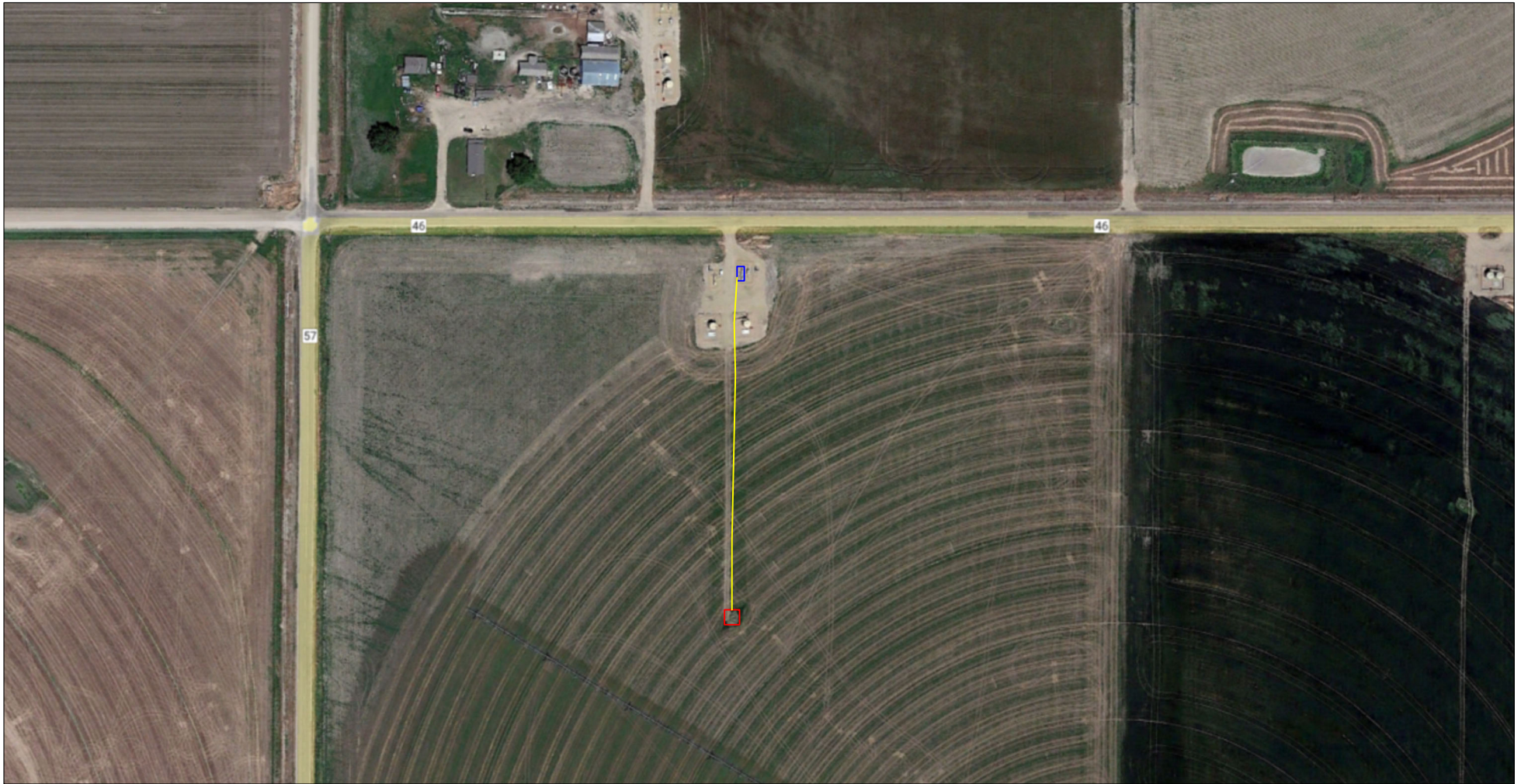
T4N R64W

TOPOGRAPHIC SITE LOCATION MAP
 WILMOTH #14-3
 CLOSURE ASSESSMENT
 40.317890 / -104.524680
 NW¼ NW¼ SEC.14 T4N R64W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-13615
 REMEDIATION # 28184



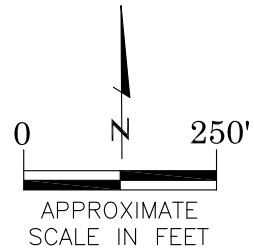
EAGLE
 ENVIRONMENTAL
 CONSULTING, LLC

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



LEGEND

- FORMER WILMOTH #14-3 WELLHEAD (PLUGGED AND ABANDONED)
- ASSOCIATED SEPARATOR
- APPROXIMATE FLOWLINE LOCATION (REMOVED)



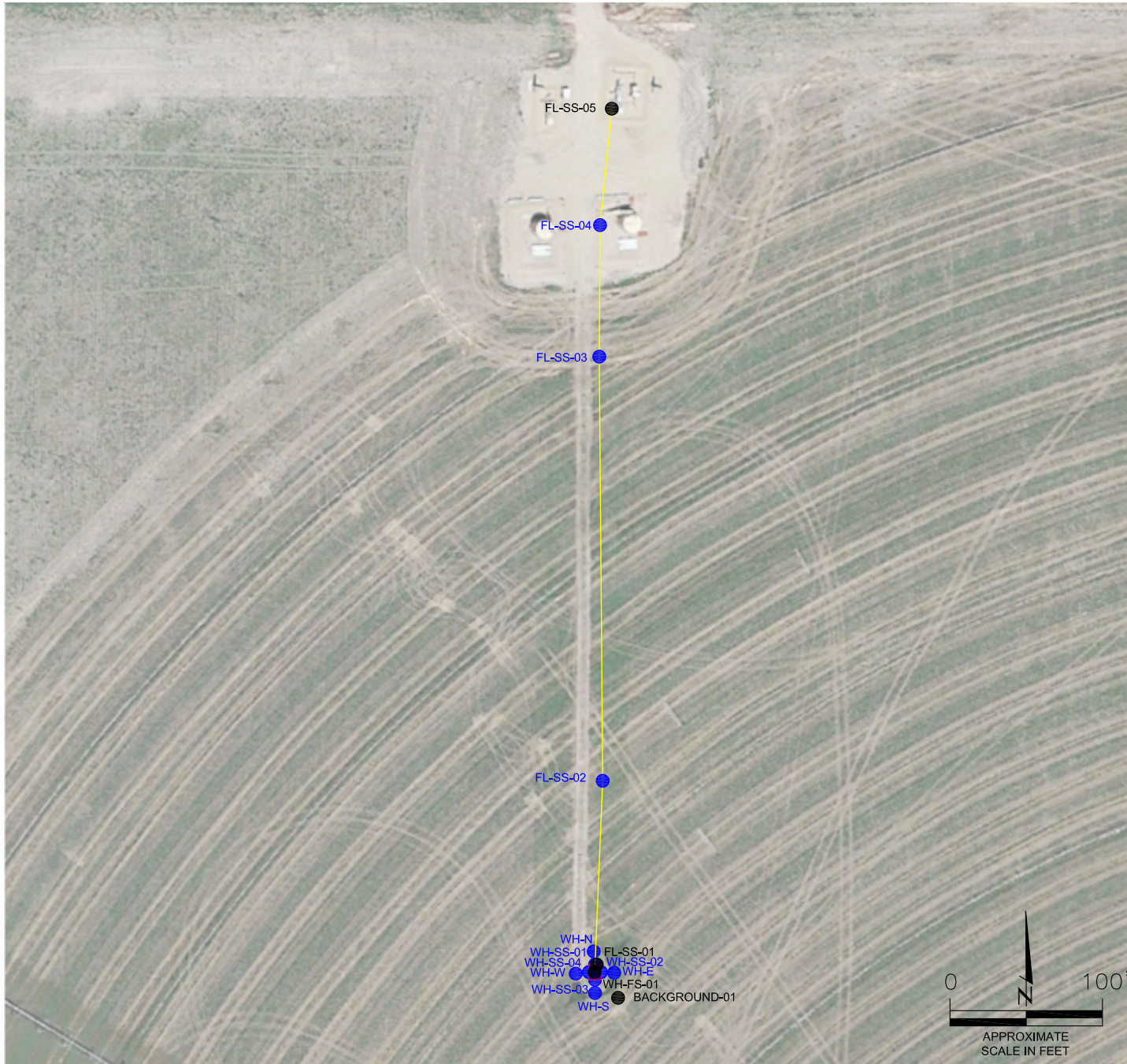
AERIAL SITE LOCATION MAP
 WILMOTH #14-3
 CLOSURE ASSESSMENT
 40.317890 / -104.524680
 NW¼ NW¼ SEC.14 T4N R64W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-13615
 REMEDIATION # 28184

FIGURE NO.
2

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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
- APPROXIMATE FLOWLINE LOCATION (REMOVED)

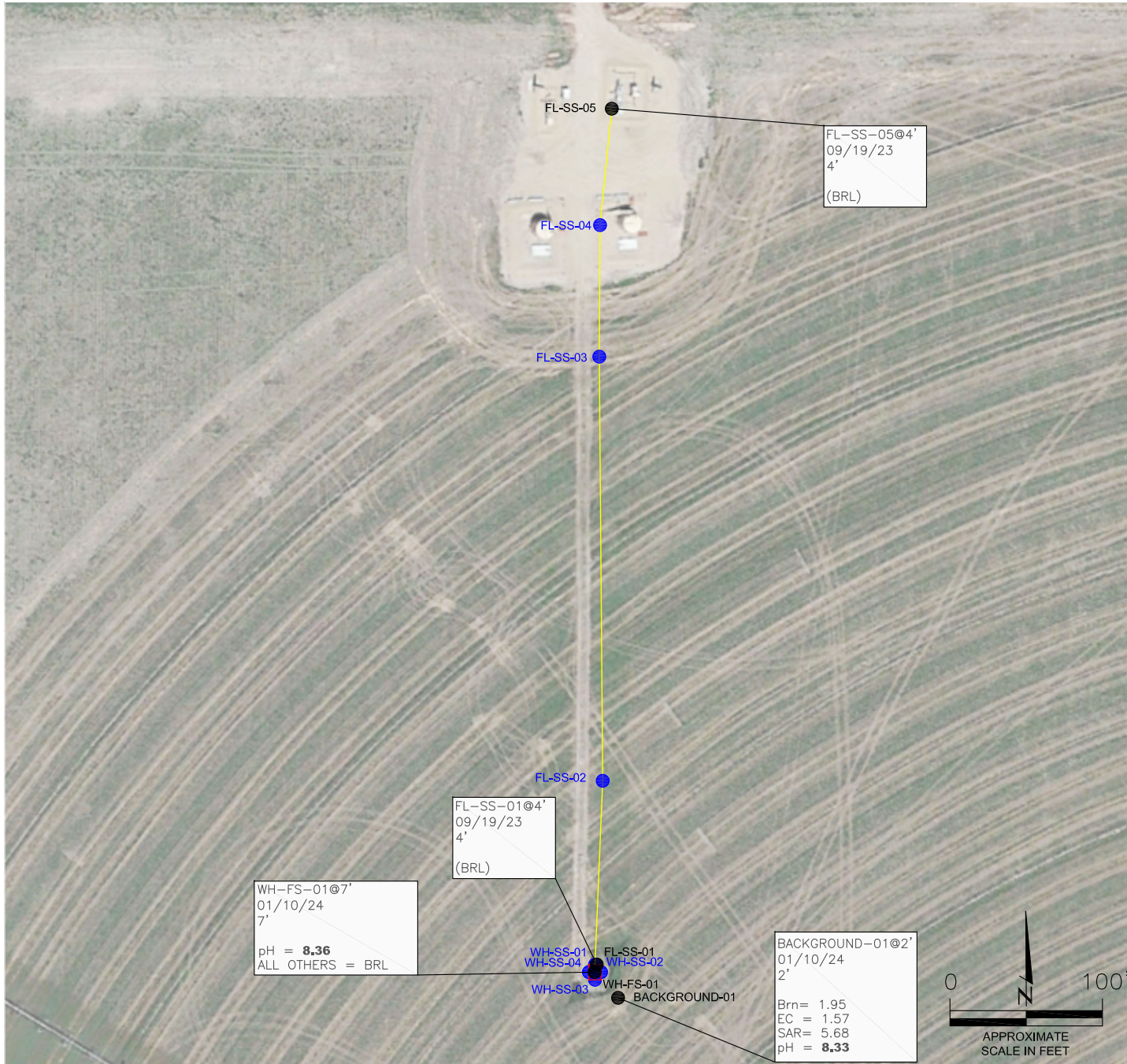
SAMPLE LOCATION MAP
 WILMOTH #14-3
 CLOSURE ASSESSMENT
 40.317890 / -104.524680
 NW¼ NW¼ SEC.14 T4N R64W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-13615
 REMEDIATION # 28184

FIGURE NO.
3

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LEGEND

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

PARAMETERS

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

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

(BRL) = ALL VALUES BELOW REGULATORY LIMITS

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

ECMC = ENERGY & CARBON MANAGEMENT COMMISSION

SOIL ANALYTICAL MAP
 WILMOTH #14-3
 CLOSURE ASSESSMENT
 40.317890 / -104.524680
 NW¼ NW¼ SEC.14 T4N R64W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-13615
 REMEDIATION # 28184

WH-FS-01@7'
 01/10/24
 7'
 pH = **8.36**
 ALL OTHERS = BRL

FL-SS-01@4'
 09/19/23
 4'
 (BRL)

BACKGROUND-01@2'
 01/10/24
 2'
 Brn = 1.95
 EC = 1.57
 SAR = 5.68
 pH = **8.33**

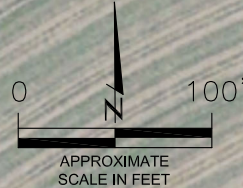
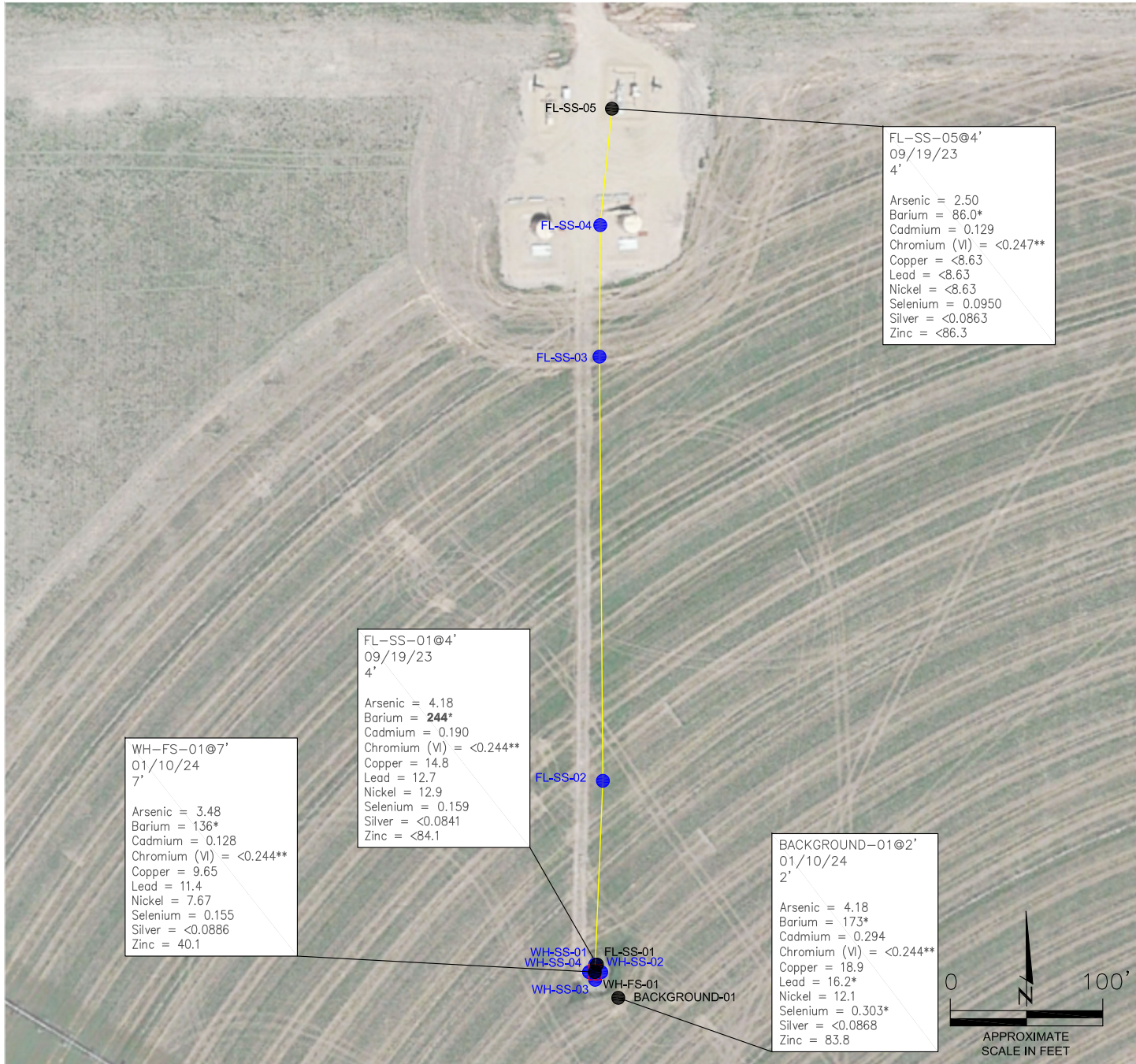


FIGURE NO.
4

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WH-FS-01@7'
01/10/24
7'

Arsenic = 3.48
Barium = 136*
Cadmium = 0.128
Chromium (VI) = <0.244**
Copper = 9.65
Lead = 11.4
Nickel = 7.67
Selenium = 0.155
Silver = <0.0886
Zinc = 40.1

FL-SS-01@4'
09/19/23
4'

Arsenic = 4.18
Barium = **244***
Cadmium = 0.190
Chromium (VI) = <0.244**
Copper = 14.8
Lead = 12.7
Nickel = 12.9
Selenium = 0.159
Silver = <0.0841
Zinc = <84.1

BACKGROUND-01@2'
01/10/24
2'

Arsenic = 4.18
Barium = 173*
Cadmium = 0.294
Chromium (VI) = <0.244**
Copper = 18.9
Lead = 16.2*
Nickel = 12.1
Selenium = 0.303*
Silver = <0.0868
Zinc = 83.8

FL-SS-05@4'
09/19/23
4'

Arsenic = 2.50
Barium = 86.0*
Cadmium = 0.129
Chromium (VI) = <0.247**
Copper = <8.63
Lead = <8.63
Nickel = <8.63
Selenium = 0.0950
Silver = <0.0863
Zinc = <86.3

LEGEND

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

PARAMETERS

SAMPLE LOCATION
DATE SAMPLE COLLECTED
APPROXIMATE DEPTH
Arsenic = (mg/kg)
Barium = (mg/kg)
Cadmium = (mg/kg)
Chromium (VI) = (mg/kg)
Copper = (mg/kg)
Lead = (mg/kg)
Nickel = (mg/kg)
Selenium = (mg/kg)
Silver = (mg/kg)
Zinc = (mg/kg)

mg/kg = MILLIGRAMS PER KILOGRAM

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

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

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

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

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

ECMC = ENERGY & CARBON MANAGEMENT COMMISSION

METALS IN SOIL MAP
WILMOTH #14-3
CLOSURE ASSESSMENT
40.317890 / -104.524680
NW¼ SEC.14 T4N R64W 6PM
WELD COUNTY, COLORADO
API # 05-123-13615
REMEDATION # 28184

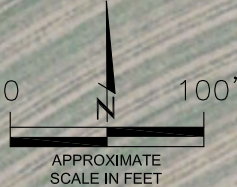


FIGURE NO.
5

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TABLES

Table 1: Photoionization Detector Reading Summary

Table 2: Soil Analytical Results Summary

TABLE 1
PHOTOIONIZATION DETECTOR READING SUMMARY
WILMOTH #14-3
CLOSURE ASSESSMENT
40.317890 / -104.524680
NW¼ NW¼ SEC.14 T4N R64W 6PM
WELD COUNTY, COLORADO
API # 05-123-13615
REMEDIAION # 28184

Sample Location (Latitude/Longitude)	Date	Approximate Depth (feet)	PID Reading (ppm-v)	Lab Submission (Y/N)
FL-SS-01 @ 4' (40.317896 / -104.524676)	09/19/23	4	6.7	Y
FL-SS-02 @ 4' (40.318230 / -104.524658)	09/19/23	4	5.8	N
FL-SS-03 @ 4' (40.318983 / -104.524663)	09/19/23	4	5.2	N
FL-SS-04 @ 4' (40.319221 / -104.524666)	09/19/23	4	3.1	N
FL-SS-05 @ 4' (40.319421 / -104.524654)	09/19/23	4	12.4	Y
WH-N @ 0.5' (40.317904 / -104.524677)	01/10/24	0.5	0.5	N
WH-E @ 0.5' (40.317886 / -104.524658)	01/10/24	0.5	0.7	N
WH-S @ 0.5' (40.317874 / -104.524677)	01/10/24	0.5	0.6	N
WH-W @ 0.5' (40.317886 / -104.524691)	01/10/24	0.5	0.8	N
WH-SS-01 @ 6' (40.317898 / -104.524677)	01/10/24	6	1.1	N
WH-SS-02 @ 6' (40.317886 / -104.524665)	01/10/24	6	1.9	N
WH-SS-03 @ 6' (40.317876 / -104.524677)	01/10/24	6	1.3	N
WH-SS-04 @ 6' (40.317886 / -104.524687)	01/10/24	6	1.8	N
WH-FS-01 @ 7' (40.317886 / -104.524677)	01/10/24	7	1.7	Y
Background-01 @ 2' (40.317833 / -104.524637)	01/10/24	2	0.8	Y
(Y/N) = Yes or No				
ppm-v = parts per million by volume				
PID = Photoionization Detector				

TABLE 2
SOIL ANALYTICAL RESULTS SUMMARY
WILMOTH #14-3
CLOSURE ASSESSMENT
40.317890 / -104.524680
NW¼ NW¼ SEC.14 T4N R64W 6PM
WELD COUNTY, COLORADO
API # 05-123-13615
REMIEDIATION # 28184

Sample Location		FL-SS-01 @ 4'	FL-SS-05 @ 4'	WH-FS-01 @ 7'	Background-01 @ 2'
(Latitude / Longitude)		(40.317896 / -104.524676)	(40.319421 / -104.524654)	(40.317886 / -104.524677)	(40.317833 / -104.524637)
Sample Date		9/19/2023	9/19/2023	1/10/2024	1/10/2024
Sample Depth		4'	4'	7'	2'
PID Reading (ppm-v)		6.7	12.4	1.7	0.8
Regulatory Limits					
Chemical of Concern	Units	ECMC Table 915-1 RSSLs	ECMC Table 915-1 GSSLs	Local Clean- Up Level	
VOCS					
Benzene	mg/kg	1.2	0.0026	--	<0.00200
Toluene	mg/kg	490	0.69	--	<0.00200
Ethylbenzene	mg/kg	5.8	0.78	--	<0.00200
Total Xylenes	mg/kg	58	9.9	--	<0.00200
Naphthalene	mg/kg	2	0.0038	--	<0.00380
1,2,4-Trimethylbenzene	mg/kg	30	0.0081	--	<0.00200
1,3,5-Trimethylbenzene	mg/kg	27	0.0087	--	<0.00200
TOTAL PETROLEUM HYDROCARBONS					
TPH-GRO	mg/kg	500	--	--	<0.200
TPH-DRO	mg/kg	500	--	--	<25.0
TPH-RR0	mg/kg	500	--	--	<100
POLYCYCLIC AROMATIC HYDROCARBONS					
1-Methyl-naphthalene	mg/kg	18	0.006	--	<0.002
2-Methyl-naphthalene	mg/kg	24	0.019	--	<0.002
Acenaphthene	mg/kg	360	0.55	--	<0.020
Anthracene	mg/kg	1800	5.8	--	<0.020
Benzo(a)-anthracene	mg/kg	1.1	0.011	--	<0.005
Benzo(a)-pyrene	mg/kg	0.11	0.24	--	<0.020
Benzo(b)-fluoranthene	mg/kg	1.1	0.3	--	<0.020
Benzo(k)-fluoranthene	mg/kg	11	2.9	--	<0.020
Chrysene	mg/kg	110	9	--	<0.020
Dibenzo(a,h)-anthracene	mg/kg	0.11	0.096	--	<0.020
Fluoranthene	mg/kg	240	8.9	--	<0.020
Fluorene	mg/kg	240	0.54	--	<0.020
Indeno(1,2,3-cd)-pyrene	mg/kg	1.1	0.98	--	<0.020
Pyrene	mg/kg	180	1.3	--	<0.020
SOIL SUITABILITY (Inorganics)					
Boron	mg/L	2	--	--	1.35
pH	standard unit	6-8.3	--	--	8.15
Sodium Adsorption Ratio (SAR)	--	<6	--	--	6.00
Specific Conductance (EC)	mmhos/cm	<4	--	--	1.58
METALS					
Arsenic	mg/kg	0.68	0.29	5.23	4.18
Barium	mg/kg	15000	82	216	244*
Cadmium	mg/kg	71	0.38	--	0.190
Copper	mg/kg	3100	46	--	14.8
Lead	mg/kg	400	14	20.3	12.7
Nickel	mg/kg	1500	26	--	12.9
Selenium	mg/kg	390	0.26	0.379	0.159
Silver	mg/kg	390	0.8	--	<0.0841
Zinc	mg/kg	23000	370	--	<84.1
Hexavalent Chromium	mg/kg	0.3**	0.00067**	0.1 to 1.0**	<0.244**

ECMC = Energy & Carbon Management Commission
mg/kg = milligrams per kilogram
mmhos/cm = millimhos per centimeter
PID = Photoionization Detector
ppm-v = parts per million by volume
mg/L = milligrams per liter
SAR = Sodium Adsorption Ratio

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 **BOLD** exceed ECMC Table 915-1 Regulatory Limits and applicable Local Clean-up Levels.
Values presented with asterisk (*) exceed ECMC Table 915-1 GSSLs, only.
**Achievable practical quantitative limits for Hexavalent Chromium in soils is in the range of 0.1 to 1 mg/kg.



ATTACHMENT A

Photo Log

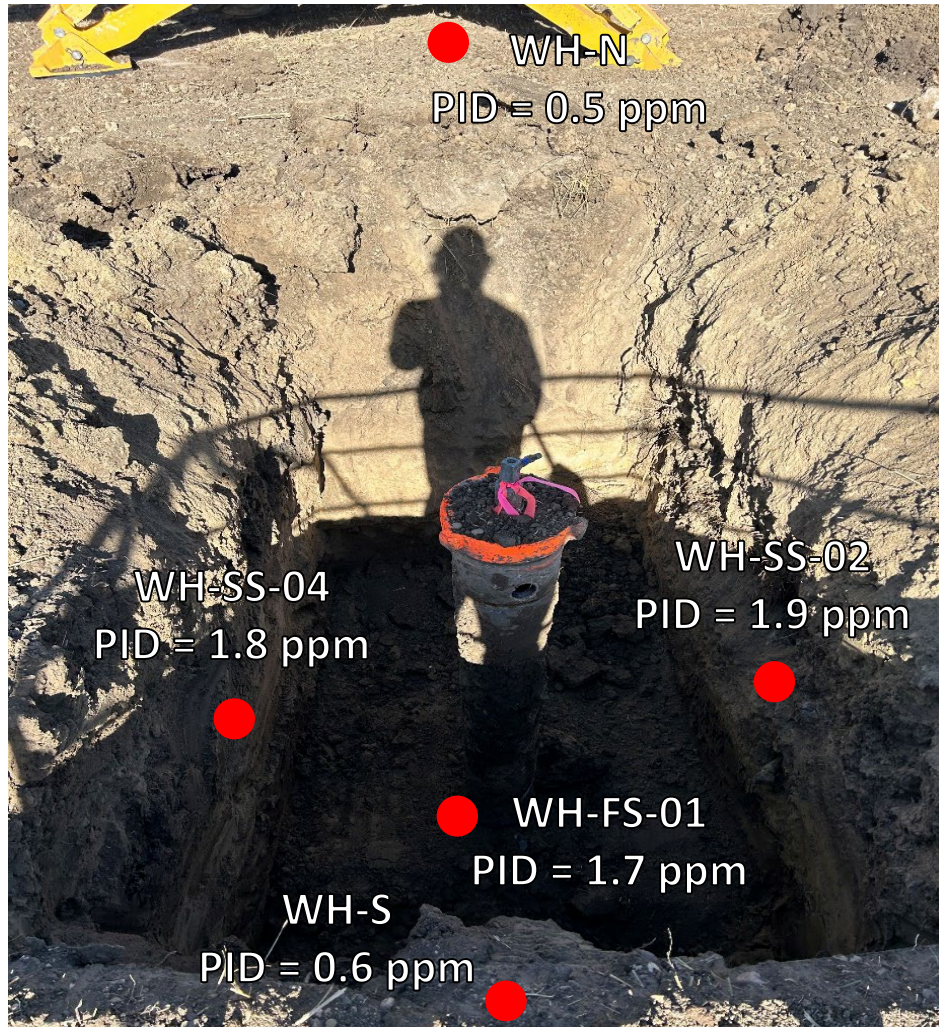
Wilmoth #14-3
API # 05-123-13615
Remediation # 28184

Closure Assessment

September 2023 – January 2024

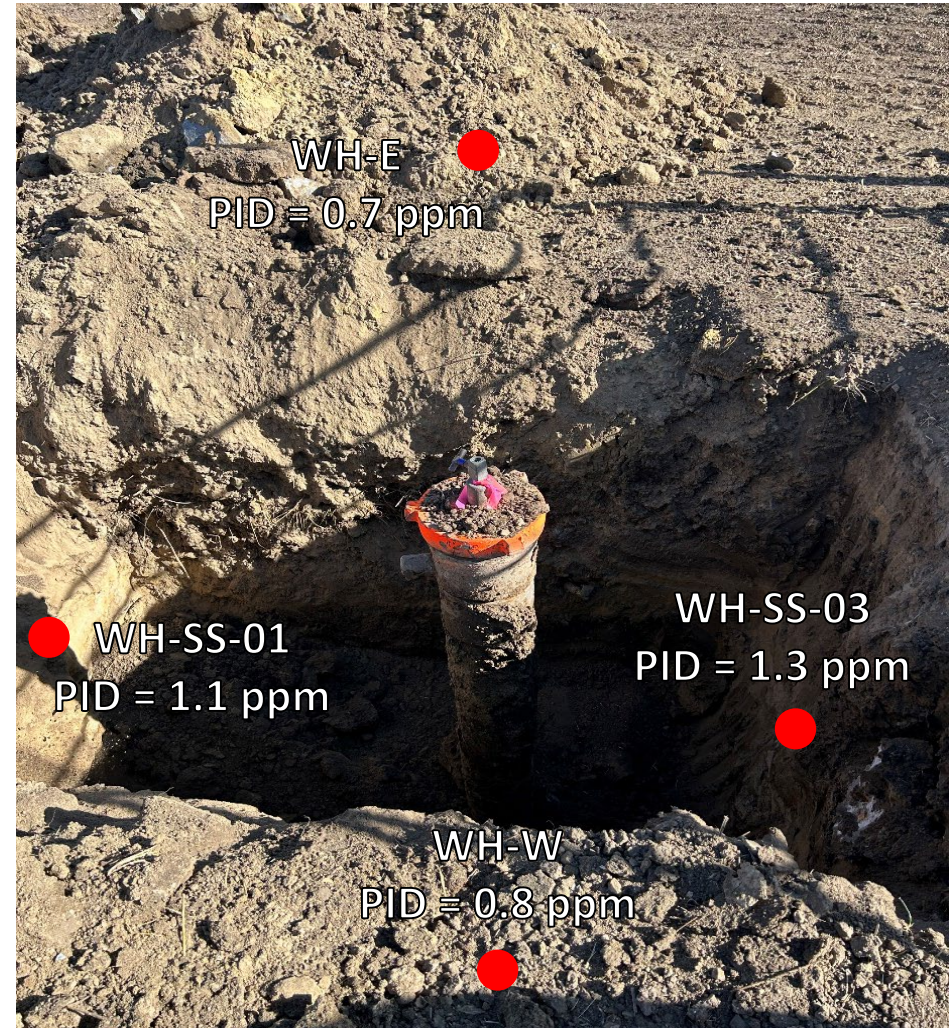


Wellhead Excavation – 01/10/24



Looking north

No petroleum hydrocarbon staining or odor observed



Looking east

No petroleum hydrocarbon staining or odor observed

Flowline Removal/Assessment – 09/19/23



FL-SS-01 ●
PID = 6.7 ppm

Looking southeast at flowline Pt A at wellhead

No petroleum hydrocarbon staining or odor observed

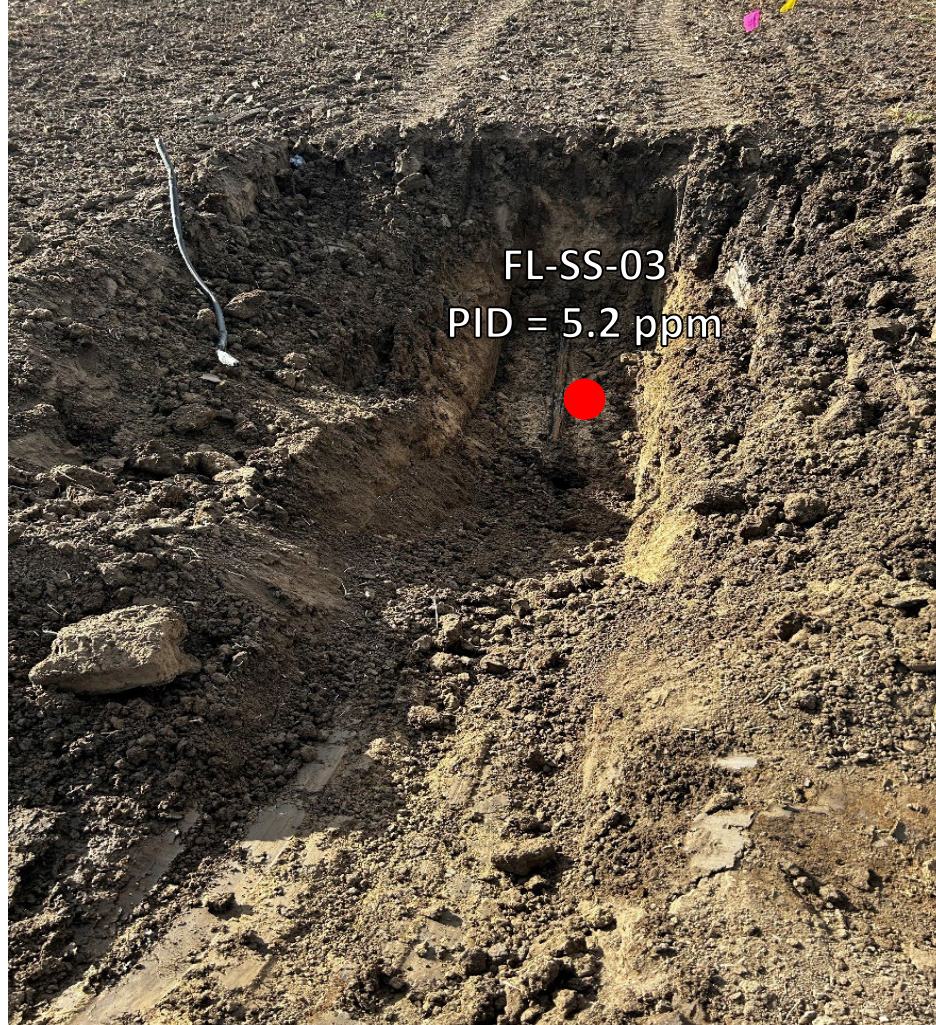


FL-SS-02
PID = 5.8 ppm

Looking north at bellhole/cut point for removal

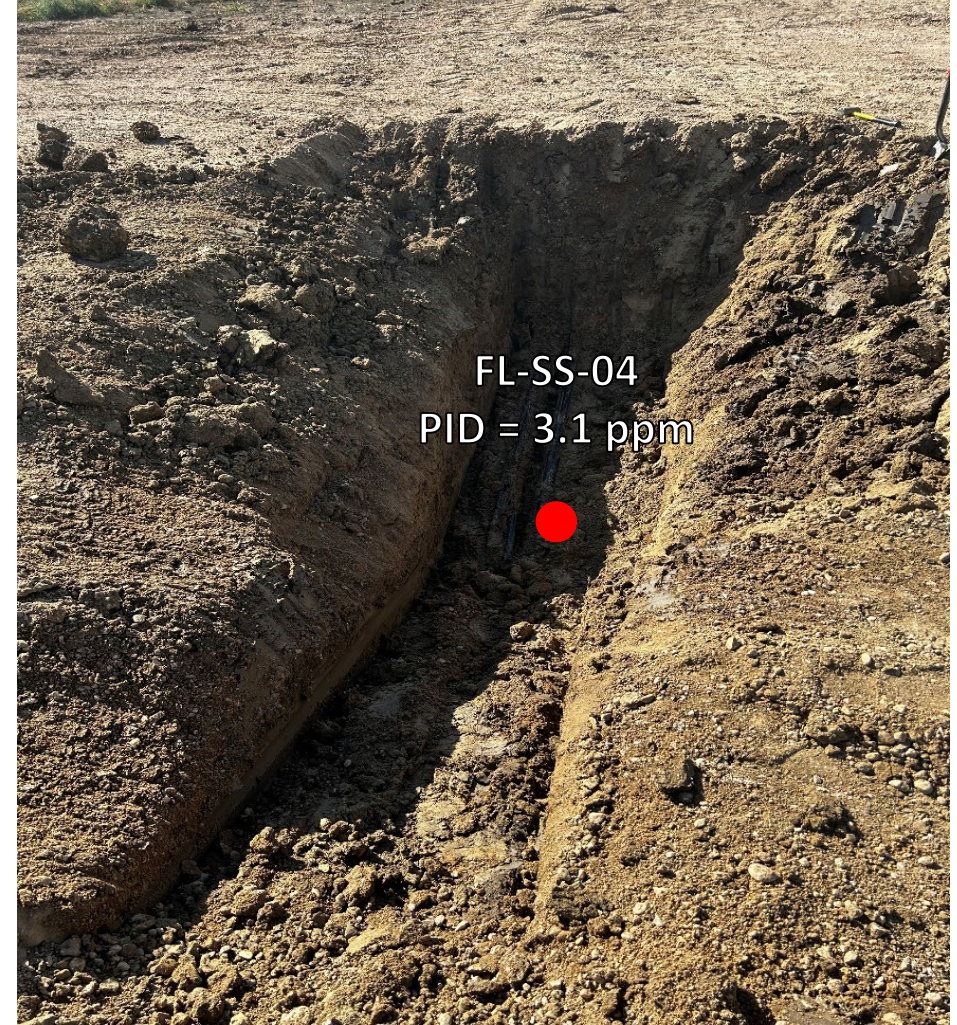
No petroleum hydrocarbon staining or odor observed

Flowline Removal/Assessment – 09/19/23



Looking south at bellhole/cut point for removal

No petroleum hydrocarbon staining or odor observed



Looking south at bellhole/cut point for removal

No petroleum hydrocarbon staining or odor observed

Flowline Removal/Assessment – 09/19/23



Looking north at flowline Pt B/terminus at separator

No petroleum hydrocarbon staining or odor observed



ATTACHMENT B

Laboratory Analytical Reports



October 02, 2023

Eagle Environmental Consulting, LLC

Martin C Eckert III

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - Wilmoth #14-3

Project Number - [none]

Attached are your analytical results for Noble - Wilmoth #14-3 received by Origins Laboratory, Inc. September 19, 2023. This project is associated with Origins project number Y309399-01.

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

Martin C Eckert III
Project Number: [none]
Project: Noble - Wilmoth #14-3

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL-SS-01@4'	Y309399-01	Soil	September 19, 2023 9:10	09/19/2023 14:10
FL-SS-05@4'	Y309399-02	Soil	September 19, 2023 10:15	09/19/2023 14:10

Chain of Custody Modification Request

On 9/22/2023, Grace Congdon from Eagle Environmental contacted Jordan Bynon via email regarding Y309399 requesting that Table 915 Metals be added to the analysis. Requested modifications to the chain of custody were made by Jordan Bynon on 9/22/2023.

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 430939A

Client: Eagle

Client Project ID: Wilmoth #14-3

Checklist Completed by: EHS

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

Date/time completed: 9/19/23

Airbill #: N/A

Matrix(s) Received: (Check all that apply): Soil/Solid

Water

Other:

Cooler Number/Temperature: 1155 °C / °C / °C / °C (Describe)

Thermometer ID: T004

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)			<input checked="" type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)			<input checked="" type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (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 ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾ 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) 

9/20/23
 Date/Time Reviewed

Origins Laboratory, Inc.



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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

FL-SS-01@4'
9/19/2023 9:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y309399-01 (Soil)

Boron (DTPA Sorbitol)

Boron	1.35		0.0990	mg/L	1	B312206	09/22/2023	09/26/2023	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B312001	09/20/2023	09/25/2023	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: o-Terphenyl	84.0 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B312058	09/20/2023	09/22/2023	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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

FL-SS-01@4'
 9/19/2023 9:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y309399-01 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 1,2-Dichloroethane-d4	104 %		70-130			B3I205 8	09/20/2023	09/22/2023	
Surrogate: Toluene-d8	96.1 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	93.7 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	3.56		0.499	meq/L	10	[CALC]	09/25/2023	09/27/2023	
Magnesium	1.52		0.823	"	"	"	"	"	
Sodium	9.57		0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND		0.002	mg/kg	1	B3I2041	09/20/2023	09/28/2023	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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

FL-SS-01@4'
9/19/2023 9:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y309399-01 (Soil)

PAH by EPA 8270E

Fluoranthene	ND		0.020	mg/kg	1	B3I2041	09/20/2023	09/28/2023	U
Fluorene	ND		0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND		0.020	"	"	"	"	"	U
Pyrene	ND		0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	99.3 %		60-130			"	"	"	
Surrogate: Anthracene-d10	104 %		60-130			"	"	"	
Surrogate: Pyrene-d10	91.1 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	101 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.15			pH Units	1	B3I2514	09/25/2023	09/26/2023	
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SAR by 20B Saturated Paste

SAR	6.00		0.0100	SAR	1	B3I2508	09/25/2023	09/27/2023	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.58		0.00500	mmhos/cm	1	B3I2514	09/25/2023	09/26/2023	
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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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

FL-SS-01@4'
9/19/2023 9:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y309399-01 (Soil)

Table 915 metals by EPA 6020B

Arsenic	4.18	0.0841	0.0841	mg/kg	10	B312229	09/22/2023	09/26/2023	
Barium	244	8.41	8.41	"	"	"	"	"	
Cadmium	0.190	0.0841	0.0841	"	"	"	"	"	
Copper	14.8	8.41	8.41	"	"	"	"	"	
Lead	12.7	8.41	8.41	"	"	"	"	"	
Nickel	12.9	8.41	8.41	"	"	"	"	"	
Selenium	0.159	0.0841	0.0841	"	"	"	"	"	
Silver	ND	0.0841	0.0841	"	"	"	"	"	
Zinc	ND	84.1	84.1	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L707179	09/19/2023	09/27/2023	
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Origins Laboratory, Inc.



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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

FL-SS-05@4'
9/19/2023 10:15:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y309399-02 (Soil)

Boron (DTPA Sorbitol)

Boron	0.435		0.0999	mg/L	1	B312206	09/22/2023	09/26/2023	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B312001	09/20/2023	09/25/2023	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

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

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B312058	09/20/2023	09/22/2023	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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

FL-SS-05@4'
 9/19/2023 10:15:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y309399-02 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 1,2-Dichloroethane-d4	106 %		70-130			B3I205 8	09/20/2023	09/22/2023	
Surrogate: Toluene-d8	93.8 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	95.8 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	1.43		0.499	meq/L	10	[CALC]	09/25/2023	09/27/2023	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	1.94		0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND		0.002	mg/kg	1	B3I2041	09/20/2023	09/29/2023	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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

FL-SS-05@4'

9/19/2023 10:15:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y309399-02 (Soil)

PAH by EPA 8270E

Fluoranthene	ND		0.020	mg/kg	1	B312041	09/20/2023	09/29/2023	U
Fluorene	ND		0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND		0.020	"	"	"	"	"	U
Pyrene	ND		0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	99.3 %		60-130			"	"	"	
Surrogate: Anthracene-d10	96.1 %		60-130			"	"	"	
Surrogate: Pyrene-d10	93.6 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	98.6 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.15			pH Units	1	B312514	09/25/2023	09/26/2023	
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SAR by 20B Saturated Paste

SAR	1.95		0.0100	SAR	1	B312508	09/25/2023	09/27/2023	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.430		0.00500	mmhos/cm	1	B312514	09/25/2023	09/26/2023	
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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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

FL-SS-05@4'

9/19/2023 10:15:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y309399-02 (Soil)

Table 915 metals by EPA 6020B

Arsenic	2.50		0.0863	mg/kg	10	B312229	09/22/2023	09/27/2023	
Barium	86.0		8.63	"	"	"	"	"	
Cadmium	0.129		0.0863	"	"	"	"	"	
Copper	ND		8.63	"	"	"	"	"	
Lead	ND		8.63	"	"	"	"	"	
Nickel	ND		8.63	"	"	"	"	"	
Selenium	0.0950		0.0863	"	"	"	"	"	
Silver	ND		0.0863	"	"	"	"	"	
Zinc	ND		86.3	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.247	0.507	mg/Kg	1	L707179	09/19/2023	09/27/2023	
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Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC
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 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B3I2001 - EPA 3550B										
Blank (B3I2001-BLK1)										
					Prepared: 09/20/2023 Analyzed: 09/22/2023					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	26		"	24.9		104	50-150			

Origins Laboratory, Inc.



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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B3I2001 - EPA 3550B

LCS (B3I2001-BS1)

Prepared: 09/20/2023 Analyzed: 09/22/2023

Diesel (C10-C28)	961	50.0	mg/kg	1000		96.1	70-130			
Residual Range Organics (C28-C40)	886	200	"	1000		88.6	70-130			
Surrogate: o-Terphenyl	58		"	49.8		116	50-150			

Origins Laboratory, Inc.



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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B3I2001 - EPA 3550B

Matrix Spike (B3I2001-MS1)	Source: Y309391-02			Prepared: 09/20/2023 Analyzed: 09/22/2023						
Diesel (C10-C28)	925	50.0	mg/kg	1000	ND	92.5	70-130			
Residual Range Organics (C28-C40)	872	200	"	1000	ND	87.2	70-130			
Surrogate: o-Terphenyl	53		"	49.8		106	50-150			

Origins Laboratory, Inc.



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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B3I2001 - EPA 3550B										
Matrix Spike Dup (B3I2001-MSD1)		Source: Y309391-02			Prepared: 09/20/2023 Analyzed: 09/22/2023					
Diesel (C10-C28)	1010	50.0	mg/kg	1000	ND	101	70-130	8.72	35	
Residual Range Organics (C28-C40)	945	200	"	1000	ND	94.5	70-130	8.09	35	
Surrogate: o-Terphenyl	46		"	49.8		92.3	50-150			

Origins Laboratory, Inc.



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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B312058 - EPA 5030 (soil)

Blank (B312058-BLK1)

Prepared: 09/20/2023 Analyzed: 09/21/2023

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		97.2	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.9	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		92.7	70-130			

Origins Laboratory, Inc.



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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B312058 - EPA 5030 (soil)

LCS (B312058-BS1)

Prepared: 09/20/2023 Analyzed: 09/21/2023

1,2,4-Trimethylbenzene	0.0877	0.00200	mg/kg	0.100		87.7	70-130			
1,3,5-Trimethylbenzene	0.0880	0.00200	"	0.100		88.0	70-130			
Benzene	0.0800	0.00200	"	0.100		80.0	70-130			
Ethylbenzene	0.0814	0.00200	"	0.100		81.4	70-130			
Naphthalene	0.0822	0.00380	"	0.100		82.2	70-130			
Toluene	0.0841	0.00200	"	0.100		84.1	70-130			
o-Xylene	0.0813	0.00200	"	0.100		81.3	70-130			
m,p-Xylene	0.166	0.00400	"	0.200		83.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		94.5	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		93.9	70-130			

Origins Laboratory, Inc.



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 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B3I2058 - EPA 5030 (soil)

Matrix Spike (B3I2058-MS1)	Source: Y309397-02			Prepared: 09/20/2023 Analyzed: 09/21/2023						
1,2,4-Trimethylbenzene	0.0859	0.00200	mg/kg	0.100	ND	85.9	70-130			
1,3,5-Trimethylbenzene	0.0857	0.00200	"	0.100	ND	85.7	70-130			
Benzene	0.0816	0.00200	"	0.100	ND	81.6	70-130			
Ethylbenzene	0.0844	0.00200	"	0.100	ND	84.4	70-130			
Naphthalene	0.0834	0.00380	"	0.100	ND	83.4	70-130			
Toluene	0.0841	0.00200	"	0.100	ND	84.1	70-130			
o-Xylene	0.0857	0.00200	"	0.100	ND	85.7	70-130			
m,p-Xylene	0.173	0.00400	"	0.200	ND	86.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		95.4	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.8	70-130			

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Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B3I2058 - EPA 5030 (soil)

Matrix Spike Dup (B3I2058-MSD1)	Source: Y309397-02			Prepared: 09/20/2023 Analyzed: 09/21/2023						
1,2,4-Trimethylbenzene	0.0828	0.00200	mg/kg	0.100	ND	82.8	70-130	3.65	20	
1,3,5-Trimethylbenzene	0.0822	0.00200	"	0.100	ND	82.2	70-130	4.19	20	
Benzene	0.0818	0.00200	"	0.100	ND	81.8	70-130	0.171	20	
Ethylbenzene	0.0811	0.00200	"	0.100	ND	81.1	70-130	3.99	20	
Naphthalene	0.0854	0.00380	"	0.100	ND	85.4	70-130	2.42	20	
Toluene	0.0833	0.00200	"	0.100	ND	83.3	70-130	0.908	20	
o-Xylene	0.0817	0.00200	"	0.100	ND	81.7	70-130	4.78	20	
m,p-Xylene	0.165	0.00400	"	0.200	ND	82.6	70-130	4.67	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		96.4	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.7	70-130			

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Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B312229 - EPA 3050B

Blank (B312229-BLK1)

Prepared: 09/22/2023 Analyzed: 09/26/2023

Arsenic	ND	0.000100	mg/kg							
Barium	ND	0.0100	"							
Cadmium	ND	0.000100	"							
Copper	ND	0.0100	"							
Lead	ND	0.0100	"							
Nickel	ND	0.0100	"							
Selenium	ND	0.000100	"							
Silver	ND	0.000100	"							
Zinc	ND	0.100	"							

LCS (B312229-BS1)

Prepared: 09/22/2023 Analyzed: 09/26/2023

Arsenic	0.0402	0.000100	mg/kg	0.0500		80.4	80-120			
Barium	4.14	0.0100	"	5.00		82.8	80-120			
Cadmium	0.0409	0.000100	"	0.0500		81.8	80-120			
Copper	0.545	0.0100	"	0.500		109	80-120			
Lead	0.0411	0.0100	"	0.0500		82.1	80-120			
Nickel	0.0537	0.0100	"	0.0500		107	80-120			
Selenium	0.0514	0.000100	"	0.0500		103	80-120			
Silver	0.0532	0.000100	"	0.0500		106	80-120			
Zinc	0.524	0.100	"	0.500		105	80-120			

Matrix Spike (B312229-MS1)

Source: Y309497-07

Prepared: 09/22/2023 Analyzed: 09/26/2023

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 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B3I2229 - EPA 3050B

Matrix Spike (B3I2229-MS1)		Source: Y309497-07			Prepared: 09/22/2023 Analyzed: 09/26/2023					
Arsenic	4.55	0.0875	mg/kg	4.37	1.20	76.6	75-125			
Barium	411	8.75	"	437	43.1	84.2	75-125			
Cadmium	3.70	0.0875	"	4.37	0.0392	83.7	75-125			
Copper	37.8	8.75	"	43.7	2.15	81.6	75-125			
Lead	6.81	8.75	"	4.37	3.54	74.8	75-125			QM-07
Nickel	6.28	8.75	"	4.37	3.24	69.5	75-125			QM-07
Selenium	3.33	0.0875	"	4.37	0.0373	75.3	75-125			
Silver	3.28	0.0875	"	4.37	0.0153	74.6	75-125			QM-07
Zinc	47.2	87.5	"	43.7	15.0	73.7	75-125			QM-07

Matrix Spike Dup (B3I2229-MSD1)		Source: Y309497-07			Prepared: 09/22/2023 Analyzed: 09/26/2023					
Arsenic	4.99	0.0947	mg/kg	4.73	1.20	80.2	75-125	9.32	20	
Barium	452	9.47	"	473	43.1	86.4	75-125	9.46	20	
Cadmium	4.03	0.0947	"	4.73	0.0392	84.2	75-125	8.49	20	
Copper	41.5	9.47	"	47.3	2.15	83.1	75-125	9.22	20	
Lead	7.25	9.47	"	4.73	3.54	78.5	75-125	6.32	20	
Nickel	6.65	9.47	"	4.73	3.24	72.1	75-125	5.75	20	QM-07
Selenium	3.55	0.0947	"	4.73	ND	74.9	75-125	6.37	20	QM-07
Silver	3.63	0.0947	"	4.73	0.0153	76.3	75-125	10.2	20	
Zinc	51.1	94.7	"	47.3	15.0	76.2	75-125	7.83	20	

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Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B3I2041 - EPA 3580

Blank (B3I2041-BLK1)

Prepared: 09/20/2023 Analyzed: 09/28/2023

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	210		"	200		107	60-130			
Surrogate: Pyrene-d10	180		"	200		91.9	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		101	60-130			

LCS (B3I2041-BS1)

Prepared: 09/20/2023 Analyzed: 09/28/2023

1-Methylnaphthalene	0.211	0.002	mg/kg	0.200		105	70-130			
2-Methylnaphthalene	0.204	0.002	"	0.200		102	70-130			
Acenaphthene	0.180	0.020	"	0.200		90.1	70-130			
Anthracene	0.177	0.020	"	0.200		88.6	70-130			

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Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B3I2041 - EPA 3580

LCS (B3I2041-BS1)

Prepared: 09/20/2023 Analyzed: 09/28/2023

Benzo (a) anthracene	0.163	0.005	mg/kg	0.200		81.3	70-130			
Benzo (a) pyrene	0.162	0.020	"	0.200		81.2	70-130			
Benzo (b) fluoranthene	0.164	0.020	"	0.200		82.2	70-130			
Benzo (g,h,i) perylene	0.160	0.020	"	0.200		80.0	70-130			
Benzo (k) fluoranthene	0.161	0.020	"	0.200		80.6	70-130			
Chrysene	0.186	0.020	"	0.200		92.8	70-130			
Dibenz (a,h) anthracene	0.172	0.020	"	0.200		86.1	70-130			
Fluoranthene	0.174	0.020	"	0.200		87.2	70-130			
Fluorene	0.182	0.020	"	0.200		91.2	70-130			
Indeno (1,2,3-cd) pyrene	0.170	0.020	"	0.200		85.1	70-130			
Naphthalene	0.203	0.002	"	0.200		102	70-130			
Phenanthrene	0.169	0.020	"	0.200		84.5	70-130			
Pyrene	0.157	0.020	"	0.200		78.6	70-130			
Surrogate: Fluorene-d10	180		ug/kg	200		89.1	60-130			
Surrogate: Anthracene-d10	180		"	200		89.9	60-130			
Surrogate: Pyrene-d10	150		"	200		75.8	60-130			
Surrogate: Benzo (a) pyrene-d12	160		"	200		81.2	60-130			

Matrix Spike (B3I2041-MS1)

Source: Y309391-02

Prepared: 09/20/2023 Analyzed: 09/28/2023

1-Methylnaphthalene	0.213	0.008	mg/kg	0.200	ND	107	70-130			
2-Methylnaphthalene	0.212	0.008	"	0.200	ND	106	70-130			
Acenaphthene	0.202	0.080	"	0.200	ND	101	70-130			
Anthracene	0.209	0.080	"	0.200	0.003	103	70-130			
Benzo (a) anthracene	0.185	0.020	"	0.200	0.005	90.0	70-130			
Benzo (a) pyrene	0.209	0.080	"	0.200	0.014	97.7	70-130			
Benzo (b) fluoranthene	0.200	0.080	"	0.200	0.013	93.2	70-130			
Benzo (g,h,i) perylene	0.209	0.080	"	0.200	0.011	99.0	70-130			

Origins Laboratory, Inc.



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 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B3I2041 - EPA 3580

Matrix Spike (B3I2041-MS1)		Source: Y309391-02			Prepared: 09/20/2023 Analyzed: 09/28/2023					
Benzo (k) fluoranthene	0.208	0.080	mg/kg	0.200	0.007	101	70-130			
Chrysene	0.218	0.080	"	0.200	0.011	104	70-130			
Dibenz (a,h) anthracene	0.206	0.080	"	0.200	ND	103	70-130			
Fluoranthene	0.199	0.080	"	0.200	0.006	96.2	70-130			
Fluorene	0.206	0.080	"	0.200	ND	103	70-130			
Indeno (1,2,3-cd) pyrene	0.195	0.080	"	0.200	0.012	91.8	70-130			
Naphthalene	0.212	0.008	"	0.200	ND	106	70-130			
Phenanthrene	0.202	0.080	"	0.200	0.003	99.7	70-130			
Pyrene	0.207	0.080	"	0.200	0.010	98.6	70-130			
Surrogate: Fluorene-d10	190		ug/kg	200		96.8	60-130			
Surrogate: Anthracene-d10	200		"	200		100	60-130			
Surrogate: Pyrene-d10	180		"	200		90.1	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		98.0	60-130			

Matrix Spike Dup (B3I2041-MSD1)		Source: Y309391-02			Prepared: 09/20/2023 Analyzed: 09/28/2023					
1-Methylnaphthalene	0.210	0.008	mg/kg	0.200	ND	105	70-130	1.40	20	
2-Methylnaphthalene	0.204	0.008	"	0.200	ND	102	70-130	4.10	20	
Acenaphthene	0.195	0.080	"	0.200	ND	97.3	70-130	3.60	20	
Anthracene	0.217	0.080	"	0.200	0.003	107	70-130	3.79	20	
Benzo (a) anthracene	0.183	0.020	"	0.200	0.005	88.7	70-130	1.49	20	
Benzo (a) pyrene	0.199	0.080	"	0.200	0.014	92.6	70-130	5.06	20	
Benzo (b) fluoranthene	0.207	0.080	"	0.200	0.013	96.8	70-130	3.56	20	
Benzo (g,h,i) perylene	0.201	0.080	"	0.200	0.011	95.1	70-130	3.82	20	
Benzo (k) fluoranthene	0.194	0.080	"	0.200	0.007	93.4	70-130	7.26	20	
Chrysene	0.209	0.080	"	0.200	0.011	99.2	70-130	4.35	20	
Dibenz (a,h) anthracene	0.201	0.080	"	0.200	ND	100	70-130	2.68	20	
Fluoranthene	0.195	0.080	"	0.200	0.006	94.5	70-130	1.68	20	

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Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B3I2041 - EPA 3580

Matrix Spike Dup (B3I2041-MSD1)	Source: Y309391-02			Prepared: 09/20/2023 Analyzed: 09/28/2023						
Fluorene	0.198	0.080	mg/kg	0.200	ND	99.1	70-130	3.78	20	
Indeno (1,2,3-cd) pyrene	0.222	0.080	"	0.200	0.012	105	70-130	12.7	20	
Naphthalene	0.210	0.008	"	0.200	ND	105	70-130	1.14	20	
Phenanthrene	0.198	0.080	"	0.200	0.003	97.7	70-130	1.98	20	
Pyrene	0.204	0.080	"	0.200	0.010	97.0	70-130	1.54	20	
Surrogate: Fluorene-d10	190		ug/kg	200		96.0	60-130			
Surrogate: Anthracene-d10	190		"	200		96.5	60-130			
Surrogate: Pyrene-d10	180		"	200		91.5	60-130			
Surrogate: Benzo (a) pyrene-d12	190		"	200		97.2	60-130			

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Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B3I2206 - DTPA Sorbitol Preparation

Blank (B3I2206-BLK1)

Prepared: 09/22/2023 Analyzed: 09/26/2023

Boron ND 0.100 mg/L

Duplicate (B3I2206-DUP1)

Source: Y309398-01

Prepared: 09/22/2023 Analyzed: 09/26/2023

Boron 0.104 0.100 mg/L 0.106 1.69 50

Batch B3I2508 - Saturated Paste Metals

Blank (B3I2508-BLK1)

Prepared: 09/25/2023 Analyzed: 09/27/2023

SAR ND 0.0100 SAR

Calcium PPM ND 10.0 mg/L

Magnesium PPM ND 10.0 "

Sodium PPM ND 10.0 "

Duplicate (B3I2508-DUP1)

Source: Y309398-01

Prepared: 09/25/2023 Analyzed: 09/27/2023

Calcium PPM 16.1 10.0 mg/L 11.8 30.8 50

SAR ND 0.0100 SAR 5.04 200

Magnesium PPM 3.73 10.0 mg/L 2.55 37.6 50

Sodium PPM 123 10.0 " 73.4 50.5 50 QR-DUP

Origins Laboratory, Inc.



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 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B3I2514 - Saturated Paste pH/EC

Blank (B3I2514-BLK1)

Prepared: 09/25/2023 Analyzed: 09/26/2023

Specific Conductance (EC) ND 0.00500 mmhos/cm

Duplicate (B3I2514-DUP1)

Source: Y309398-01

Prepared: 09/25/2023 Analyzed: 09/26/2023

pH	8.48		pH Units		8.52			0.471	25	
Specific Conductance (EC)	0.441	0.00500	mmhos/cm		0.423			4.31	25	

Origins Laboratory, Inc.



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Martin C Eckert III
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 L707179 -										
DUP (L 86619-DUP)		Source: 86619			Prepared: Analyzed: 09/27/2023					
Chromium, Hexavalent	ND	0.5	mg/Kg		<0.500		-	0	20	
MS (L 86619-MS)		Source: 86619			Prepared: Analyzed: 09/27/2023					
Chromium, Hexavalent	37.3	2.56	mg/Kg	41	<1.25	91	75-125			
LCS (LCS)		Prepared: Analyzed: 09/27/2023								
Chromium, Hexavalent	6.71	0.5	mg/Kg	8		84	75-125			
LRB (LRB)		Prepared: Analyzed: 09/27/2023								
Chromium, Hexavalent	ND	0.5	mg/Kg				-			

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

Martin C Eckert III
Project Number: [none]
Project: Noble - Wilmoth #14-3

Notes and Definitions

U Sample is Non-Detect.

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

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

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

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

January 25, 2024

Eagle Environmental Consulting, LLC

Andrew Newberry

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - Wilmoth #14-3

Project Number - [none]

Attached are your analytical results for Noble - Wilmoth #14-3 received by Origins Laboratory, Inc. January 10, 2024. This project is associated with Origins project number Y401239-01.

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 - Wilmoth #14-3

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-FS-01@7'	Y401239-01	Soil	January 10, 2024 12:33	01/10/2024 17:40
Background-01@2'	Y401239-02	Soil	January 10, 2024 12:35	01/10/2024 17:40

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 - Wilmoth #14-3

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 44012391

Client: Eagle
 Client Project ID: WILMOTH #14-3

Checklist Completed by: JAH/EHS
 Date/time completed: 1/10/24

Shipped Via: HL0
 (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 / 0 °C / _____ °C / _____ °C (Describe) _____ °C

Thermometer ID: 1004

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (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 ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾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 1/12/24

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 - Wilmoth #14-3

WH-FS-01@7'

1/10/2024 12:33:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y401239-01 (Soil)

Boron (DTPA Sorbitol)

Boron	0.498		0.100	mg/L	1	B4A1514	01/15/2024	01/17/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4A1201	01/12/2024	01/16/2024	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: o-Terphenyl	77.4 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4A1205	01/12/2024	01/12/2024	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 - Wilmoth #14-3

WH-FS-01@7'

1/10/2024 12:33:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y401239-01 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 1,2-Dichloroethane-d4	123 %		70-130			B4A12 05	01/12/2024	01/12/2024	
Surrogate: Toluene-d8	90.6 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	91.0 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	1.79		0.499	meq/L	10	[CALC]	01/15/2024	01/17/2024	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	2.87		0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND		0.002	mg/kg	1	B4A1126	01/11/2024	01/12/2024	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 - Wilmoth #14-3

WH-FS-01@7'

1/10/2024 12:33:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y401239-01 (Soil)

PAH by EPA 8270E

Fluoranthene	ND		0.020	mg/kg	1	B4A1126	01/11/2024	01/12/2024	U
Fluorene	ND		0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND		0.020	"	"	"	"	"	U
Pyrene	ND		0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	103 %		60-130			"	"	"	
Surrogate: Anthracene-d10	88.7 %		60-130			"	"	"	
Surrogate: Pyrene-d10	103 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	107 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.36			pH Units	1	B4A1605	01/16/2024	01/16/2024	
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SAR by 20B Saturated Paste

SAR	2.68		0.0100	SAR	1	B4A1509	01/15/2024	01/17/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.602		0.00500	mmhos/cm	1	B4A1605	01/16/2024	01/16/2024	
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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 - Wilmoth #14-3

WH-FS-01@7'

1/10/2024 12:33:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y401239-01 (Soil)

Table 915 metals by EPA 6020B

Arsenic	3.48	0.0886	0.0886	mg/kg	10	B4A1134	01/11/2024	01/15/2024	
Barium	136	8.86	8.86	"	"	"	"	"	
Cadmium	0.128	0.0886	0.0886	"	"	"	"	"	
Copper	9.65	8.86	8.86	"	"	"	"	"	
Lead	11.4	0.886	0.886	"	"	"	"	"	
Nickel	7.67	0.886	0.886	"	"	"	"	"	
Selenium	0.155	0.0886	0.0886	"	"	"	"	"	
Silver	ND	0.0886	0.0886	"	"	"	"	"	
Zinc	40.1	8.86	8.86	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L728448	01/10/2024	01/23/2024	
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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 - Wilmoth #14-3

Background-01@2'
1/10/2024 12:35:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y401239-02 (Soil)

Boron (DTPA Sorbitol)

Boron	1.95		0.0985	mg/L	1	B4A1514	01/15/2024	01/17/2024	
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Metals by Saturated Paste by EPA 6010

Calcium	3.84		0.499	meq/L	10	[CALC]	01/15/2024	01/17/2024	
Magnesium	1.85		0.823	"	"	"	"	"	
Sodium	9.58		0.435	"	"	"	"	"	

pH in Soil by 9045D

pH	8.33			pH Units	1	B4A1605	01/16/2024	01/16/2024	
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SAR by 20B Saturated Paste

SAR	5.68		0.0100	SAR	1	B4A1509	01/15/2024	01/17/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.57		0.00500	mmhos/cm	1	B4A1605	01/16/2024	01/16/2024	
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Table 915 metals by EPA 6020B

Arsenic	4.18		0.0868	mg/kg	10	B4A1134	01/11/2024	01/15/2024	
Barium	173		8.68	"	"	"	"	"	
Cadmium	0.294		0.0868	"	"	"	"	"	
Copper	18.9		8.68	"	"	"	"	"	

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 - Wilmoth #14-3

Background-01@2'
1/10/2024 12:35:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y401239-02 (Soil)

Table 915 metals by EPA 6020B

Lead	16.2		0.868	mg/kg	10	B4A1134	01/11/2024	01/15/2024	
Nickel	12.1		0.868	"	"	"	"	"	
Selenium	0.303		0.0868	"	"	"	"	"	
Silver	ND		0.0868	"	"	"	"	"	
Zinc	83.8		8.68	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L728448	01/10/2024	01/23/2024	
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Origins Laboratory, Inc.



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

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

Andrew Newberry
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B4A1201 - EPA 3550B										
Blank (B4A1201-BLK1)										
					Prepared: 01/12/2024 Analyzed: 01/16/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	24		"	24.9		97.1	50-150			

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 - Wilmoth #14-3

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 B4A1201 - EPA 3550B

LCS (B4A1201-BS1)

Prepared: 01/12/2024 Analyzed: 01/16/2024

Diesel (C10-C28)	941	50.0	mg/kg	1000		94.1	70-130			
Residual Range Organics (C28-C40)	1010	200	"	1000		101	70-130			
Surrogate: o-Terphenyl	49		"	49.8		97.9	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 - Wilmoth #14-3

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 B4A1201 - EPA 3550B

Matrix Spike (B4A1201-MS1)	Source: Y401236-01			Prepared: 01/12/2024 Analyzed: 01/16/2024						
Diesel (C10-C28)	1070	50.0	mg/kg	1000	ND	107	70-130			
Residual Range Organics (C28-C40)	1140	200	"	1000	ND	114	70-130			
Surrogate: o-Terphenyl	50		"	49.8		101	50-150			

Origins Laboratory, Inc.



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

Jordan A. Bynon, Project Manager

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

Andrew Newberry
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B4A1201 - EPA 3550B										
Matrix Spike Dup (B4A1201-MSD1)					Source: Y401236-01					Prepared: 01/12/2024 Analyzed: 01/16/2024
Diesel (C10-C28)	911	50.0	mg/kg	1000	ND	91.1	70-130	16.2	35	
Residual Range Organics (C28-C40)	1000	200	"	1000	ND	100	70-130	12.2	35	
Surrogate: o-Terphenyl	58		"	49.8		117	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 - Wilmoth #14-3

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 B4A1205 - EPA 5030 (soil)

Blank (B4A1205-BLK1)

Prepared: 01/12/2024 Analyzed: 01/12/2024

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	0.14		"	0.125	110		70-130			
Surrogate: Toluene-d8	0.12		"	0.125	93.1		70-130			
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125	89.7		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 - Wilmoth #14-3

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 B4A1205 - EPA 5030 (soil)

LCS (B4A1205-BS1)

Prepared: 01/12/2024 Analyzed: 01/12/2024

1,2,4-Trimethylbenzene	0.0954	0.00200	mg/kg	0.100		95.4	70-130			
1,3,5-Trimethylbenzene	0.0967	0.00200	"	0.100		96.7	70-130			
Benzene	0.113	0.00200	"	0.100		113	70-130			
Ethylbenzene	0.101	0.00200	"	0.100		101	70-130			
Naphthalene	0.0909	0.00380	"	0.100		90.9	70-130			
Toluene	0.109	0.00200	"	0.100		109	70-130			
o-Xylene	0.0929	0.00200	"	0.100		92.9	70-130			
m,p-Xylene	0.195	0.00400	"	0.200		97.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		108	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125		89.9	70-130			

Origins Laboratory, Inc.



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

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

Andrew Newberry
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B4A1205 - EPA 5030 (soil)

Matrix Spike (B4A1205-MS1)	Source: Y401228-01			Prepared: 01/12/2024 Analyzed: 01/12/2024						
1,2,4-Trimethylbenzene	0.0824	0.00200	mg/kg	0.100	ND	82.4	70-130			
1,3,5-Trimethylbenzene	0.0811	0.00200	"	0.100	ND	81.1	70-130			
Benzene	0.103	0.00200	"	0.100	ND	103	70-130			
Ethylbenzene	0.0845	0.00200	"	0.100	ND	84.5	70-130			
Naphthalene	0.0952	0.00380	"	0.100	ND	95.2	70-130			
Toluene	0.0941	0.00200	"	0.100	ND	94.1	70-130			
o-Xylene	0.0831	0.00200	"	0.100	ND	83.1	70-130			
m,p-Xylene	0.169	0.00400	"	0.200	ND	84.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.15		"	0.125		118	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		91.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125		90.6	70-130			

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

Andrew Newberry
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B4A1205 - EPA 5030 (soil)

Matrix Spike Dup (B4A1205-MSD1)	Source: Y401228-01			Prepared: 01/12/2024 Analyzed: 01/12/2024						
1,2,4-Trimethylbenzene	0.0504	0.00200	mg/kg	0.100	ND	50.4	70-130	48.2	20	QM-07
1,3,5-Trimethylbenzene	0.0492	0.00200	"	0.100	ND	49.2	70-130	49.0	20	QM-07
Benzene	0.0685	0.00200	"	0.100	ND	68.5	70-130	40.0	20	QM-07
Ethylbenzene	0.0519	0.00200	"	0.100	ND	51.9	70-130	47.9	20	QM-07
Naphthalene	0.0588	0.00380	"	0.100	ND	58.8	70-130	47.3	20	QM-07
Toluene	0.0640	0.00200	"	0.100	ND	64.0	70-130	38.1	20	QM-07
o-Xylene	0.0520	0.00200	"	0.100	ND	52.0	70-130	46.0	20	QM-07
m,p-Xylene	0.107	0.00400	"	0.200	ND	53.4	70-130	45.4	20	QM-07
Surrogate: 1,2-Dichloroethane-d4	0.15		"	0.125		119	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		93.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125		90.0	70-130			

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Eagle Environmental Consulting, LLC
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 Wheat Ridge CO 80033

Andrew Newberry
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B4A1134 - EPA 3050B

Blank (B4A1134-BLK1)

Prepared: 01/11/2024 Analyzed: 01/15/2024

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 (B4A1134-BS1)

Prepared: 01/11/2024 Analyzed: 01/16/2024

Arsenic	4.86	0.0100	mg/kg	5.00		97.1	80-120			
Barium	468	1.00	"	500		93.6	80-120			
Cadmium	5.03	0.0100	"	5.00		101	80-120			
Copper	43.6	1.00	"	50.0		87.2	80-120			
Lead	4.92	0.100	"	5.00		98.4	80-120			
Nickel	4.40	0.100	"	5.00		88.1	80-120			
Selenium	4.48	0.0100	"	5.00		89.5	80-120			
Silver	4.99	0.0100	"	5.00		99.9	80-120			
Zinc	49.6	1.00	"	50.0		99.2	80-120			

Matrix Spike (B4A1134-MS1)

Source: Y401236-01

Prepared: 01/11/2024 Analyzed: 01/16/2024

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Andrew Newberry
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B4A1134 - EPA 3050B

Matrix Spike (B4A1134-MS1)		Source: Y401236-01			Prepared: 01/11/2024 Analyzed: 01/16/2024					
Arsenic	6.97	0.0880	mg/kg	4.40	2.53	101	75-125			
Barium	572	8.80	"	440	84.0	111	75-125			
Cadmium	4.96	0.0880	"	4.40	0.104	110	75-125			
Copper	57.6	8.80	"	44.0	7.66	114	75-125			
Lead	13.7	0.880	"	4.40	7.92	131	75-125			QM-07
Nickel	12.9	0.880	"	4.40	6.65	143	75-125			QM-07
Selenium	4.76	0.0880	"	4.40	0.105	106	75-125			
Silver	4.85	0.0880	"	4.40	0.0254	110	75-125			
Zinc	82.3	8.80	"	44.0	33.3	111	75-125			

Matrix Spike Dup (B4A1134-MSD1)		Source: Y401236-01			Prepared: 01/11/2024 Analyzed: 01/16/2024					
Arsenic	7.84	0.0936	mg/kg	4.68	2.53	114	75-125	11.8	20	
Barium	629	9.36	"	468	84.0	116	75-125	9.46	20	
Cadmium	5.66	0.0936	"	4.68	0.104	119	75-125	13.1	20	
Copper	62.5	9.36	"	46.8	7.66	117	75-125	8.15	20	
Lead	16.1	0.936	"	4.68	7.92	175	75-125	16.5	20	QM-07
Nickel	14.3	0.936	"	4.68	6.65	162	75-125	9.67	20	QM-07
Selenium	5.13	0.0936	"	4.68	0.105	107	75-125	7.47	20	
Silver	5.46	0.0936	"	4.68	0.0254	116	75-125	11.9	20	
Zinc	91.7	9.36	"	46.8	33.3	125	75-125	10.7	20	

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Andrew Newberry
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B4A1126 - EPA 3580

Blank (B4A1126-BLK1)

Prepared: 01/11/2024 Analyzed: 01/12/2024

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	190		ug/kg	200		94.9	60-130			
Surrogate: Anthracene-d10	190		"	200		94.0	60-130			
Surrogate: Pyrene-d10	180		"	200		91.8	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130			

LCS (B4A1126-BS1)

Prepared: 01/11/2024 Analyzed: 01/12/2024

1-Methylnaphthalene	0.204	0.002	mg/kg	0.200		102	70-130			
2-Methylnaphthalene	0.228	0.002	"	0.200		114	70-130			
Acenaphthene	0.195	0.020	"	0.200		97.6	70-130			
Anthracene	0.189	0.020	"	0.200		94.4	70-130			

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Andrew Newberry
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B4A1126 - EPA 3580

LCS (B4A1126-BS1)

Prepared: 01/11/2024 Analyzed: 01/12/2024

Benzo (a) anthracene	0.183	0.005	mg/kg	0.200		91.6	70-130			
Benzo (a) pyrene	0.204	0.020	"	0.200		102	70-130			
Benzo (b) fluoranthene	0.215	0.020	"	0.200		108	70-130			
Benzo (g,h,i) perylene	0.215	0.020	"	0.200		108	70-130			
Benzo (k) fluoranthene	0.206	0.020	"	0.200		103	70-130			
Chrysene	0.201	0.020	"	0.200		100	70-130			
Dibenz (a,h) anthracene	0.219	0.020	"	0.200		110	70-130			
Fluoranthene	0.213	0.020	"	0.200		107	70-130			
Fluorene	0.199	0.020	"	0.200		99.7	70-130			
Indeno (1,2,3-cd) pyrene	0.214	0.020	"	0.200		107	70-130			
Naphthalene	0.197	0.002	"	0.200		98.4	70-130			
Phenanthrene	0.200	0.020	"	0.200		100	70-130			
Pyrene	0.248	0.020	"	0.200		124	70-130			
Surrogate: Fluorene-d10	210		ug/kg	200		104	60-130			
Surrogate: Anthracene-d10	190		"	200		95.6	60-130			
Surrogate: Pyrene-d10	210		"	200		103	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		106	60-130			

Matrix Spike (B4A1126-MS1)

Source: Y401198-01

Prepared: 01/11/2024 Analyzed: 01/12/2024

1-Methylnaphthalene	0.195	0.002	mg/kg	0.200	0.0006	97.0	70-130			
2-Methylnaphthalene	0.197	0.002	"	0.200	ND	98.4	70-130			
Acenaphthene	0.203	0.020	"	0.200	ND	101	70-130			
Anthracene	0.206	0.020	"	0.200	0.001	102	70-130			
Benzo (a) anthracene	0.201	0.005	"	0.200	0.0005	100	70-130			
Benzo (a) pyrene	0.211	0.020	"	0.200	ND	106	70-130			
Benzo (b) fluoranthene	0.201	0.020	"	0.200	0.0005	100	70-130			
Benzo (g,h,i) perylene	0.178	0.020	"	0.200	0.0006	88.8	70-130			

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 Wheat Ridge CO 80033

Andrew Newberry
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B4A1126 - EPA 3580

Matrix Spike (B4A1126-MS1)		Source: Y401198-01			Prepared: 01/11/2024 Analyzed: 01/12/2024					
Benzo (k) fluoranthene	0.196	0.020	mg/kg	0.200	0.0008	97.6	70-130			
Chrysene	0.225	0.020	"	0.200	ND	112	70-130			
Dibenz (a,h) anthracene	0.170	0.020	"	0.200	ND	85.1	70-130			
Fluoranthene	0.231	0.020	"	0.200	ND	116	70-130			
Fluorene	0.197	0.020	"	0.200	0.0003	98.6	70-130			
Indeno (1,2,3-cd) pyrene	0.175	0.020	"	0.200	ND	87.6	70-130			
Naphthalene	0.207	0.002	"	0.200	ND	103	70-130			
Phenanthrene	0.211	0.020	"	0.200	0.0002	105	70-130			
Pyrene	0.222	0.020	"	0.200	ND	111	70-130			
Surrogate: Fluorene-d10	190		ug/kg	200		96.6	60-130			
Surrogate: Anthracene-d10	190		"	200		94.8	60-130			
Surrogate: Pyrene-d10	220		"	200		110	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		105	60-130			

Matrix Spike Dup (B4A1126-MSD1)		Source: Y401198-01			Prepared: 01/11/2024 Analyzed: 01/12/2024					
1-Methylnaphthalene	0.194	0.002	mg/kg	0.200	0.0006	96.8	70-130	0.190	20	
2-Methylnaphthalene	0.198	0.002	"	0.200	ND	99.1	70-130	0.657	20	
Acenaphthene	0.196	0.020	"	0.200	ND	97.9	70-130	3.47	20	
Anthracene	0.209	0.020	"	0.200	0.001	104	70-130	1.46	20	
Benzo (a) anthracene	0.197	0.005	"	0.200	0.0005	98.5	70-130	1.96	20	
Benzo (a) pyrene	0.214	0.020	"	0.200	ND	107	70-130	1.19	20	
Benzo (b) fluoranthene	0.206	0.020	"	0.200	0.0005	103	70-130	2.88	20	
Benzo (g,h,i) perylene	0.193	0.020	"	0.200	0.0006	96.0	70-130	7.74	20	
Benzo (k) fluoranthene	0.191	0.020	"	0.200	0.0008	95.3	70-130	2.34	20	
Chrysene	0.203	0.020	"	0.200	ND	102	70-130	10.0	20	
Dibenz (a,h) anthracene	0.199	0.020	"	0.200	ND	99.7	70-130	15.8	20	
Fluoranthene	0.222	0.020	"	0.200	ND	111	70-130	3.95	20	

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 Wheat Ridge CO 80033

Andrew Newberry
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B4A1126 - EPA 3580

Matrix Spike Dup (B4A1126-MSD1)	Source: Y401198-01			Prepared: 01/11/2024 Analyzed: 01/12/2024						
Fluorene	0.197	0.020	mg/kg	0.200	0.0003	98.3	70-130	0.255	20	
Indeno (1,2,3-cd) pyrene	0.217	0.020	"	0.200	ND	109	70-130	21.4	20	QR-02
Naphthalene	0.203	0.002	"	0.200	ND	101	70-130	1.85	20	
Phenanthrene	0.208	0.020	"	0.200	0.0002	104	70-130	1.44	20	
Pyrene	0.226	0.020	"	0.200	ND	113	70-130	1.75	20	
Surrogate: Fluorene-d10	200		ug/kg	200		99.3	60-130			
Surrogate: Anthracene-d10	200		"	200		100	60-130			
Surrogate: Pyrene-d10	210		"	200		107	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		104	60-130			

Origins Laboratory, Inc.



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Andrew Newberry
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 B4A1509 - Saturated Paste Metals

Blank (B4A1509-BLK1)

Prepared: 01/15/2024 Analyzed: 01/17/2024

SAR	ND	0.0100	SAR							
Calcium PPM	ND	1.00	mg/L							
Magnesium PPM	ND	10.0	"							
Sodium PPM	ND	1.00	"							

Duplicate (B4A1509-DUP1)

Source: Y311683-03

Prepared: 01/15/2024 Analyzed: 01/17/2024

Calcium PPM	24.6	10.0	mg/L		24.5			0.448	50	
SAR	ND	0.0100	SAR		ND				200	
Magnesium PPM	4.15	10.0	mg/L		4.20			1.20	50	
Sodium PPM	6.55	10.0	"		6.57			0.305	50	

Batch B4A1514 - DTPA Sorbitol Preparation

Blank (B4A1514-BLK1)

Prepared: 01/15/2024 Analyzed: 01/17/2024

Boron	ND	0.100	mg/L							
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Duplicate (B4A1514-DUP1)

Source: Y401198-15

Prepared: 01/15/2024 Analyzed: 01/17/2024

Boron	1.20	0.102	mg/L		1.24			3.11	50	
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Andrew Newberry
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

Saturated Paste - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4A1605 - Saturated Paste pH/EC										
Blank (B4A1605-BLK1)					Prepared: 01/16/2024 Analyzed: 01/16/2024					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
Duplicate (B4A1605-DUP1)					Source: Y311683-03 Prepared: 01/16/2024 Analyzed: 01/16/2024					
pH	8.23		pH Units		8.22			0.122	25	
Specific Conductance (EC)	0.189	0.00500	mmhos/cm		0.206			8.55	25	

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Andrew Newberry
 Project Number: [none]
 Project: Noble - Wilmoth #14-3

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 L728448 -										
DUP (L 81239-DUP)		Source: 81239			Prepared: Analyzed: 01/23/2024					
Chromium, Hexavalent	ND	0.5	mg/Kg		<0.500		-	0	20	
MS (L 81239-MS)		Source: 81239			Prepared: Analyzed: 01/23/2024					
Chromium, Hexavalent	33.3	2.5	mg/Kg	39.5	< 0.244	84	75-125			
LCS (LCS)		Prepared: Analyzed: 01/23/2024								
Chromium, Hexavalent	6.22	0.5	mg/Kg	8		78	75-125			
LRB (LRB)		Prepared: Analyzed: 01/23/2024								
Chromium, Hexavalent	ND	0.5	mg/Kg				-			

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

Andrew Newberry
Project Number: [none]
Project: Noble - Wilmoth #14-3

Notes and Definitions

U Sample is Non-Detect.

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.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

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

Origins Laboratory, Inc.



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