

Wellhead Closure Checklist						
COGCC Rule 911.a.(4) Environmental Site Closure Assessment Field Form						
Additional attachments (optional):		Pit Closure —		Tank Battery Closure —	Flowline Closure 04/24/23, 10/12-10/13/23	Partially Buried Vault Closure —
Site Name & COGCC Facility Number: HSR - Cutler #14-31		Date: 04/19/23				Remediation Project #: 27651
Associated Wells: 05-123-15168		Age of Site: Years				Number of Photos Attached: 1
Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple)					40.263460 / -104.708560	
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)						
Good Condition						
USCS Soil Type: Clayey SAND				Estimated Depth to Groundwater: Approx. 20-30'		
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)						
Slight hydrocarbon odor observed in excavation, no staining.						
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	05-123-15168					
Age	Years					
Condition of surface around wellhead	Good - Per Crew					
PID Readings	N/A - Excavated Upon Arrival					
Condition of subsurface (staining present)	HC odor observed					
PID Readings	2.2	1.5	450.2	4.4	428.7	
Sample taken? Location/Sample ID#	WH-SS-01	WH-SS-02	WH-SS-03	WH-SS-04	WH-FS-01	
Photo Number(s)	See photolog					
Other observations regarding wellheads:						
Well casing cut/capped following assessment.						
Summary						
Was impacted soil identified? No <input type="checkbox"/> Yes - less than 10 cubic yards <input checked="" type="checkbox"/> Yes - more than 10 cubic yards <input type="checkbox"/>						
Total number of samples field screened: 5				Total number of samples collected: 5		
Highest PID Reading: 450.2				Total number of samples submitted to lab for analysis: 5		
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="checkbox"/> No <input type="checkbox"/> Yes - not impacted or in contact with impacted soils <input type="checkbox"/> Yes - groundwater impacted and/or in contact with impacted soils						
Measured depth to groundwater:				Was remedial groundwater removal conducted? Yes <input type="checkbox"/> No <input type="checkbox"/>		
Date Groundwater was encountered:				Commencement date of removal:		
Sheen on groundwater? Yes <input type="checkbox"/> No <input type="checkbox"/>				Volume of groundwater removed prior to sampling:		
Free product observed? Yes <input type="checkbox"/> No <input type="checkbox"/>				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	04/19/23		Pit Closure		Partially Buried Vault Closure	
Site Name & COGCC Facility Number: HSR - Culter #14-31		Date: 04/24/23, 10/12/23 - 10/13/23						Remediation Project #: 27651		
Associated Wells: 05-123-15168		Age of Site: Years						Number of Photos Attached: 8		
Starting point: (GPS coordinates and descriptions) 40.263469 / -104.708538 at well										
End point: (GPS coordinates and descriptions) 40.265384 / -104.710473 at separator										
USCS Soil Type: Clayey SAND					Estimated Depth to Groundwater: Approx. 20-30'					
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	Approx. 4-5'									
Age	Years									
Length	Approx. 890'									
Construction Material	Steel									
Were flowlines pulled?	Yes - Flowline Removed									
Visual Integrity of lines	Good - Per integrity test.									
Visual impacts if trenched	None observed.									
PID Readings if trenched	3.0	2.6	2.7	2.9	2.6	0.7	0.5	0.1		
Sample taken? Location/Sample ID#	FL-SS-01	FL-SS-02	FL-SS-03	FL-SS-04	FL-SS-05	FL-SS-06	FL-SS-07	FL-SS-08		
Photo Number(s)	See photolog									
Other observations regarding on location flowlines: Flowline removed. Pt. A assessed during wellhead decommissioning, Pt. B assessed during separate flowline assessment. Change of direction assessed.										
Summary										
Was impacted soil identified? <input checked="" type="checkbox"/> No Yes - less than 10 cubic yards Yes - more than 10 cubic yards										
Total number of samples field screened: 8					Total number of samples collected: 8					
Highest PID Reading: 3.0					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="checkbox"/> 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

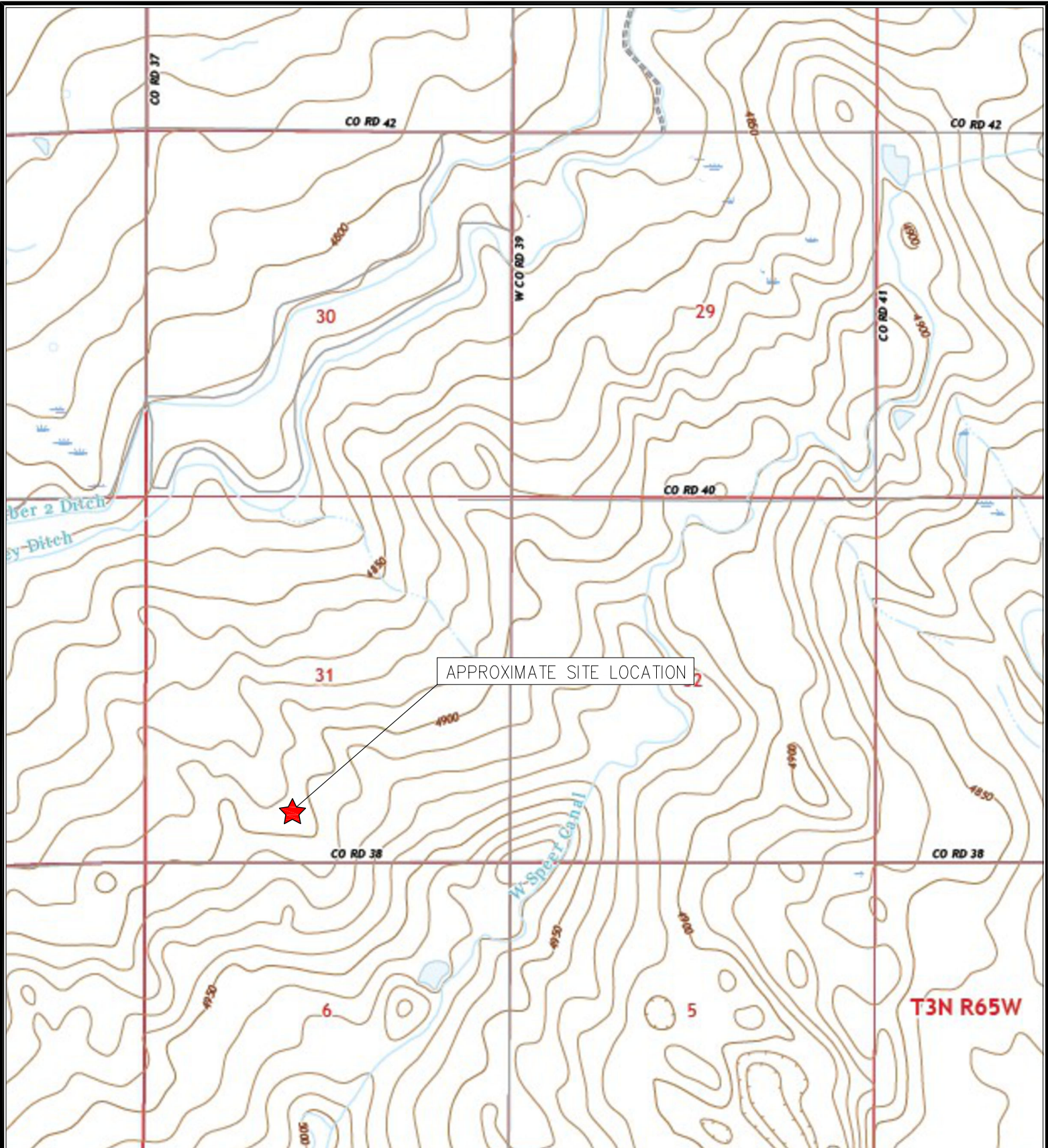
Figure 1: Topographic Site Location Map

Figure 2: Aerial Site Location Map

Figure 3: Soil Analytical Map

Figure 4: Polycyclic Aromatic Hydrocarbons Map

Figure 5: Metals in Soil Map



TOPOGRAPHIC SITE LOCATION MAP
 HSR-CUTLER #14-31
 CLOSURE ASSESSMENT
 40.263460 / -104.708560
 SE¼ SW¼ SEC.31 T4N R65W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-15168
 REMEDIATION # 27651



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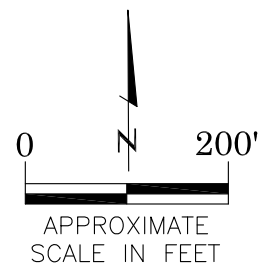
SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP
 LA SALLE, CO QUADRANGLE 2022

FIGURE NO. 1



LEGEND

- FORMER HSR-CUTLER #14-31 WELLHEAD (PLUGGED AND ABANDONED)
- ASSOCIATED SEPARATOR
- APPROXIMATE FLOWLINE LOCATION (REMOVED)
- APPROXIMATE FLOWLINE SAMPLE LOCATIONS - FIELD SCREENED
- APPROXIMATE FLOWLINE SAMPLE LOCATIONS - LAB SUBMITTED



AERIAL SITE LOCATION MAP

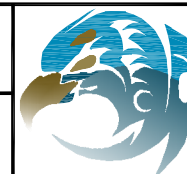
HSR-CUTLER #14-31
CLOSURE ASSESSMENT
40.263460 / -104.708560
SE¼ SW¼ SEC.31 T4N R65W 6PM
WELD COUNTY, COLORADO
API # 05-123-15168
REMEDATION # 27651

FIGURE NO.

2

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LEGEND

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

PARAMETERS

SAMPLE LOCATION
DATE
DEPTH (FEET)
B = BENZENE (mg/kg)
T = TOLUENE (mg/kg)
E = ETHYLBENZENE (mg/kg)
X = TOTAL XYLENES (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)

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

(BRL) = ALL VALUES BELOW REGULATORY LIMITS

TPH-GRO = TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE ORGANICS
TPH-DRO = TOTAL PETROLEUM HYDROCARBONS - DIESEL RANGE ORGANICS
TPH-RRO = TOTAL PETROLEUM HYDROCARBONS - RESIDUAL RANGE ORGANICS

NOTES:
VALUES/CONCENTRATIONS EXCEEDING REGULATORY LIMITS, ONLY, DISPLAYED.

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

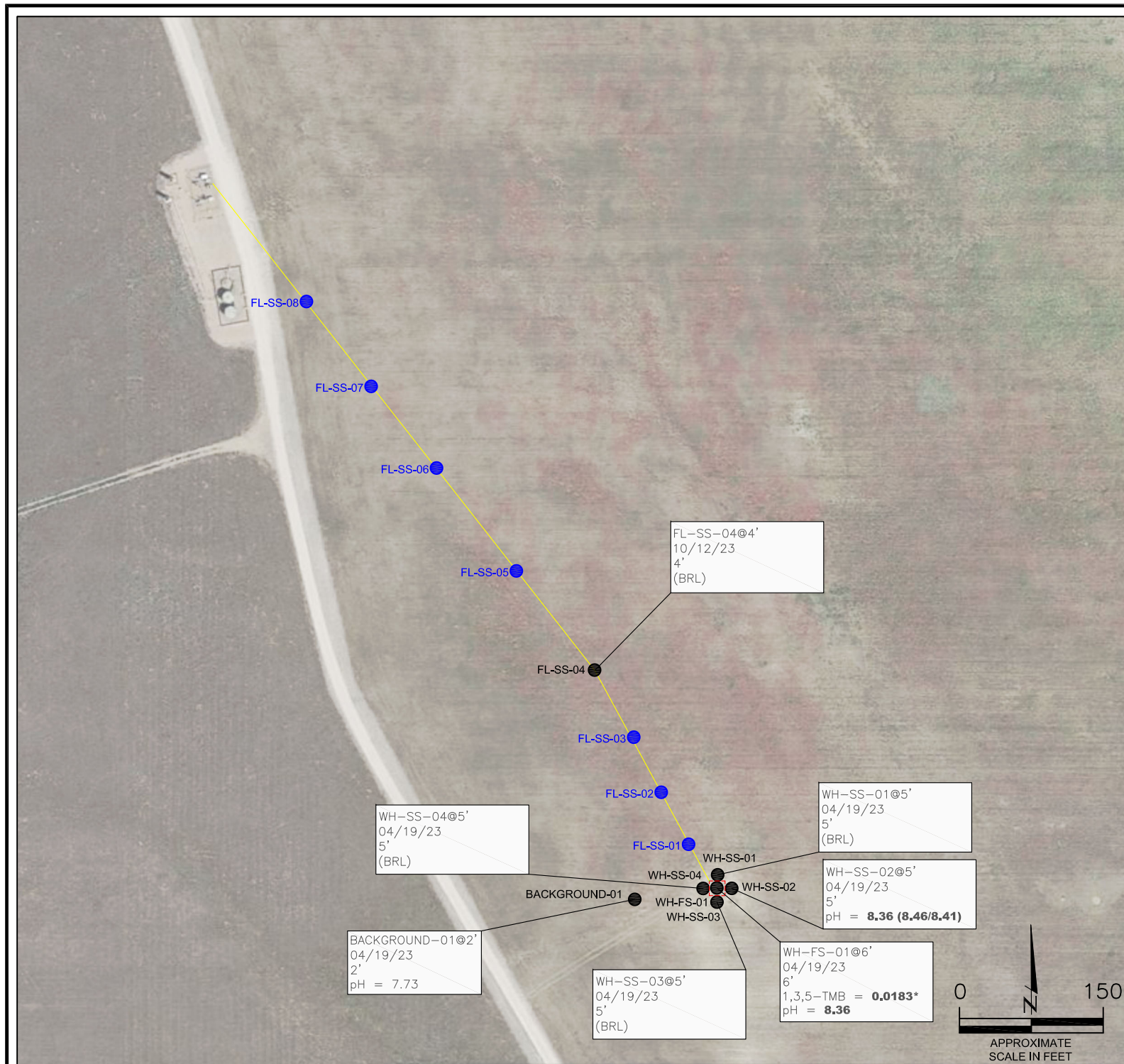
SOIL ANALYTICAL MAP
HSR-CUTLER #14-31
CLOSURE ASSESSMENT
40.263460 / -104.708560
SE¼ SW¼ SEC.31 T4N R65W 6PM
WELD COUNTY, COLORADO
API # 05-123-15168
REMEDIAL # 27651

FIGURE NO.
3

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LEGEND

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

PARAMETERS

SAMPLE LOCATION
DATE SAMPLE COLLECTED
APPROXIMATE DEPTH

POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (mg/kg)

mg/kg = MILLIGRAMS PER KILOGRAM

(BRL) = ALL VALUES BELOW REGULATORY LIMITS

NOTES:
VALUES/CONCENTRATIONS EXCEEDING REGULATORY LIMITS,
ONLY, DISPLAYED.

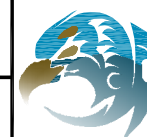
VALUES PRESENTED IN **BOLD** EXCEED ECMC TABLE 915-1
REGULATORY LIMITS.

ECMC = ENERGY & CARBON MANAGEMENT COMMISSION

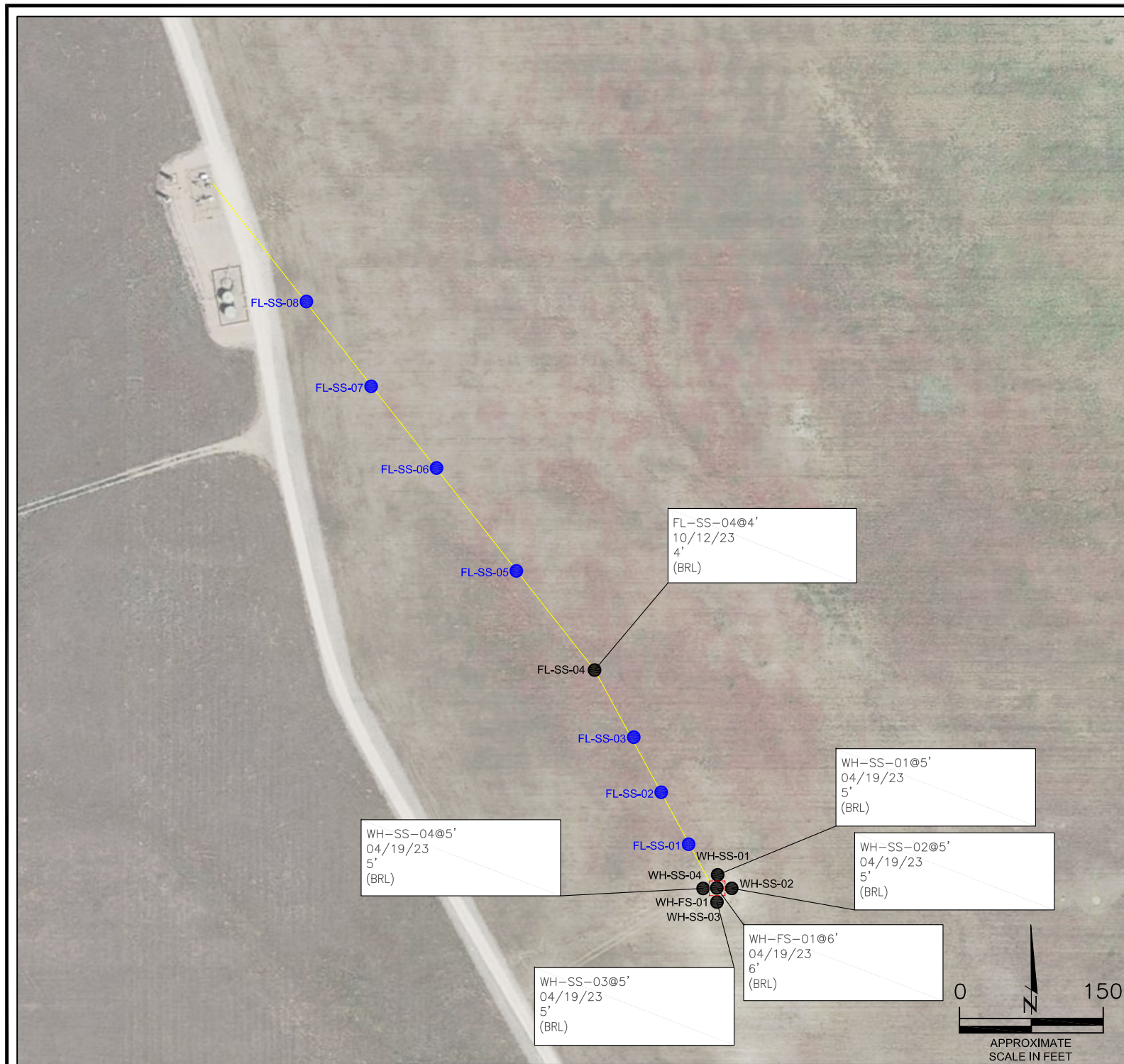
POLYCYCLIC AROMATIC HYDROCARBONS MAP
HSR-CUTLER #14-31
CLOSURE ASSESSMENT
40.263460 / -104.708560
SE¼ SW¼ SEC.31 T4N R65W 6PM
WELD COUNTY, COLORADO
API # 05-123-15168
REMEDIAL # 27651

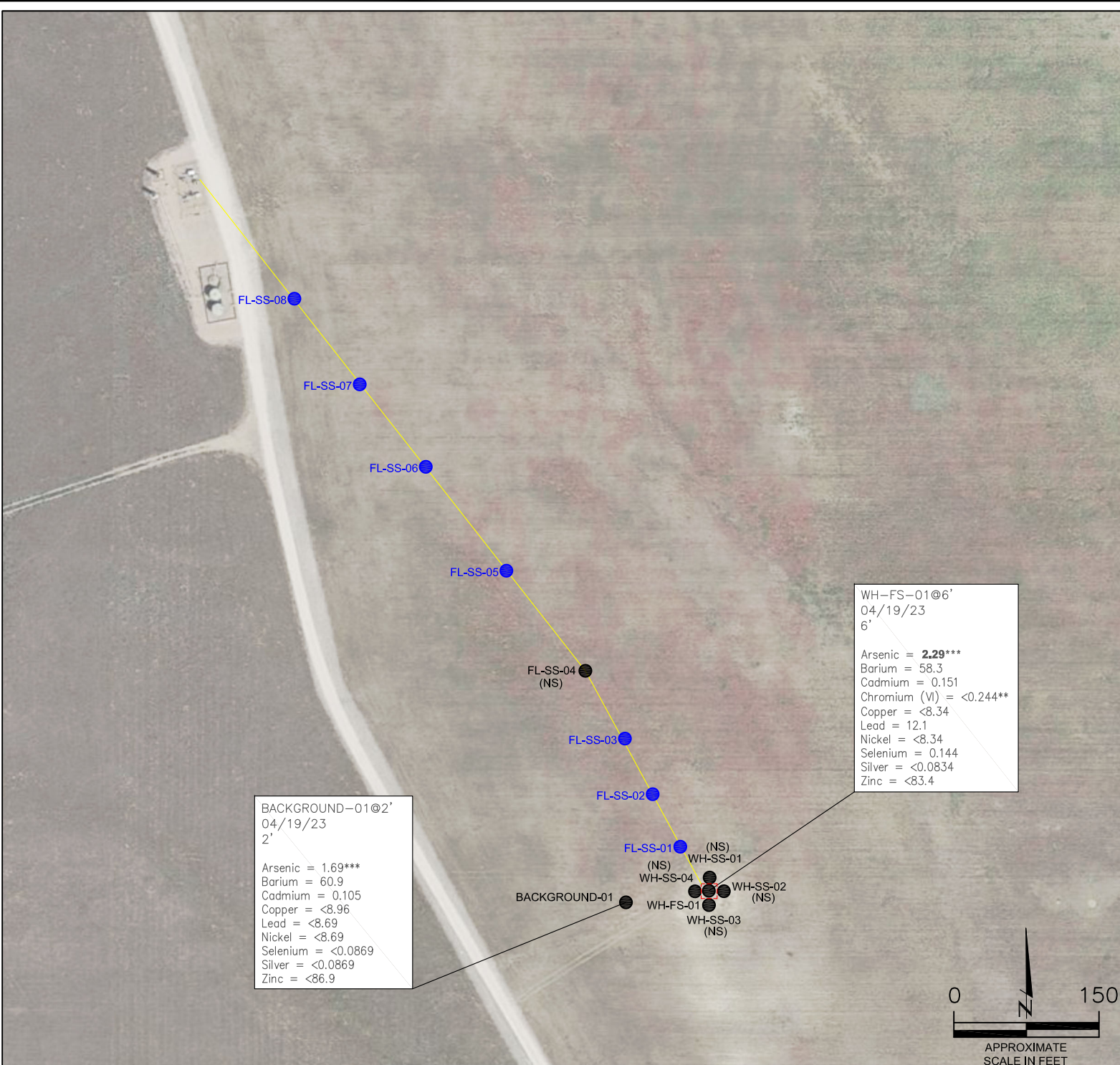
FIGURE NO.
4

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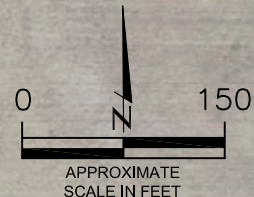


BACKGROUND-01@2'
04/19/23
2'

Arsenic = 1.69***
Barium = 60.9
Cadmium = 0.105
Copper = <8.96
Lead = <8.69
Nickel = <8.69
Selenium = <0.0869
Silver = <0.0869
Zinc = <86.9

WH-FS-01@6'
04/19/23
6'

Arsenic = **2.29*****
Barium = 58.3
Cadmium = 0.151
Chromium (VI) = <0.244**
Copper = <8.34
Lead = 12.1
Nickel = <8.34
Selenium = 0.144
Silver = <0.0834
Zinc = <83.4



LEGEND

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

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

(NS) - NOT SAMPLED

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.

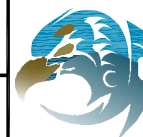
***ARSENIC IS NATURALLY OCCURRING IN COLORADO. LOCAL CLEAN-UP LEVEL (2.11 mg/kg) IS 1.25*BACKGROUND (1.69 mg/kg).

ECMC = ENERGY & CARBON MANAGEMENT COMMISSION

METALS IN SOIL MAP
HSR-CUTLER #14-31
CLOSURE ASSESSMENT
40.263460 / -104.708560
SE¼ SW¼ SEC.31 T4N R65W 6PM
WELD COUNTY, COLORADO
API # 05-123-15168
REMEDIAL # 27651

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
HSR - CUTLER #14-31
CLOSURE ASSESSMENT
40.263460 / -104.708560
SE¼ SW¼ SEC.31 T4N R65W 6PM
WELD COUNTY, COLORADO
API # 05-123-15168
REMEDATION # 27651

Sample Location (Latitude/Longitude)	Date	Approximate Depth (feet)	PID Reading (ppm-v)	Lab Submission (Y/N)
WH-SS-01 @ 5' (40.263490 / -104.708569)	04/19/23	5	2.2	Y
WH-SS-02 @ 5' (40.263471 / -104.708547)	04/19/23	5	1.5	Y
WH-SS-03 @ 5' (40.263459 / -104.708569)	04/19/23	5	450.2	Y
WH-SS-04 @ 5' (40.263476 / -104.708589)	04/19/23	5	4.4	Y
WH-FS-01 @ 6' (40.263474 / -104.708567)	04/19/23	6	428.7	Y
Background-01 @ 2' (40.263462 / -104.708728)	04/19/23	2	3.1	Y
FL-SS-01 @ 4' (40.263613 / -104.708685)	10/12/23	4	3.0	N
FL-SS-02 @ 5' (40.263733 / -104.708779)	10/12/23	5	2.6	N
FL-SS-03 @ 5' (40.263955 / -104.708967)	10/12/23	5	2.7	N
FL-SS-04 @ 4' (40.264090 / -104.709055)	10/12/23	4	2.9	Y
FL-SS-05 @ 5' (40.264378 / -104.709339)	10/12/23	5	2.6	N
FL-SS-06 @ 5' (40.264702 / -104.709667)	10/13/23	5	0.7	N
FL-SS-07 @ 5' (40.264873 / -104.709838)	10/13/23	5	0.5	N
FL-SS-08 @ 5' (40.265132 / -104.710104)	10/13/23	5	0.1	N
(Y/N) = Yes or No ppm-v = parts per million by volume PID = Photoionization Detector				

TABLE 2
SOIL ANALYTICAL RESULTS SUMMARY
HSR - CUTLER #14-31
CLOSURE ASSESSMENT
40.263460 / -104.708560
SE¼ SW¼ SEC.31 T4N R65W 6PM
WELD COUNTY, COLORADO
API # 05-123-15168
REMEDATION # 27651

Sample Location (Latitude / Longitude)		WH-SS-01 @ 5'	WH-SS-02 @ 5'	WH-SS-03 @ 5'	WH-SS-04 @ 5'	WH-FS-01 @ 6'
		(40.263490 / -104.708569)	(40.263471 / -104.708547)	(40.263459 / -104.708569)	(40.263476 / -104.708589)	(40.263474 / -104.708567)
Sample Date		4/19/2023	4/19/2023	4/19/2023	4/19/2023	4/19/2023
Sample Depth		5'	5'	5'	5'	6'
PID Reading (ppm-v)		2.2	1.5	450.2	4.4	428.7
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	<0.00200
Toluene	mg/kg	490	0.69	--	<0.00200	<0.00200
Ethylbenzene	mg/kg	5.8	0.78	--	<0.00200	<0.00200
Total Xylenes	mg/kg	58	9.9	--	<0.00200	<0.00200
1,2,4-Trimethylbenzene	mg/kg	30	0.0081	--	<0.00200	<0.00200
1,3,5-Trimethylbenzene	mg/kg	27	0.0087	--	<0.00200	<0.00200
TOTAL PETROLEUM HYDROCARBONS						
TPH-GRO	mg/kg	500	--	--	<0.200	<0.200
TPH-DRO	mg/kg	500	--	--	25.1	<25.0
TPH-RRO	mg/kg	500	--	--	<100	<100
POLYCYCLIC AROMATIC HYDROCARBONS						
1-Methyl-naphthalene	mg/kg	18	0.006	--	<0.00201	<0.00201
2-Methyl-naphthalene	mg/kg	24	0.019	--	<0.00201	<0.00201
Acenaphthene	mg/kg	360	0.55	--	<0.00067	<0.00067
Anthracene	mg/kg	1800	5.8	--	<0.00067	<0.00067
Benzo(a)-anthracene	mg/kg	1.1	0.011	--	<0.00067	<0.00067
Benzo(a)-pyrene	mg/kg	0.11	0.24	--	<0.00067	<0.00067
Benzo(b)-fluoranthene	mg/kg	1.1	0.3	--	<0.00067	<0.00067
Benzo(k)-fluoranthene	mg/kg	11	2.9	--	<0.00067	<0.00067
Chrysene	mg/kg	110	9	--	<0.00067	<0.00067
Dibenzo(a,h)-anthracene	mg/kg	0.11	0.096	--	<0.00067	<0.00067
Fluoranthene	mg/kg	240	8.9	--	<0.00067	<0.00067
Fluorene	mg/kg	240	0.54	--	<0.00067	0.000536
Indeno(1,2,3-cd)-pyrene	mg/kg	1.1	0.98	--	<0.00067	0.000791
Naphthalene	mg/kg	2	0.0038	--	<0.00201	<0.00201
Pyrene	mg/kg	180	1.3	--	<0.00067	<0.00067
SOIL SUITABILITY (Inorganics)						
Boron	mg/L	2	--	--	0.242	0.214
pH	standard unit	6-8.3	--	--	7.79	8.36 (8.46/8.41)
Sodium Adsorption Ratio (SAR)	--	<6	--	--	2.74	1.95
Specific Conductance (EC)	mmhos/cm	<4	--	--	1.17	0.612
METALS						
Arsenic	mg/kg	0.68***	0.29***	2.11***	NA	NA
Barium	mg/kg	15000	82	--	NA	NA
Cadmium	mg/kg	71	0.38	--	NA	NA
Copper	mg/kg	3100	46	--	NA	NA
Lead	mg/kg	400	14	--	NA	NA
Nickel	mg/kg	1500	26	--	NA	NA
Selenium	mg/kg	390	0.26	--	NA	NA
Silver	mg/kg	390	0.8	--	NA	NA
Zinc	mg/kg	23000	370	--	NA	NA
Hexavalent Chromium	mg/kg	0.3**	0.00067**	0.1 to 1.0**	NA	NA
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. Values presented in BOLD exceed ECMC Table 915-1 Regulatory Limits. Values presented with asterisk (*) exceed ECMC Table 915-1 GSSLs. Laboratory reruns were completed on samples with pH values outside ECMC Table 915-1 Regulatory Range. Results of the reruns are presented in parentheses. **Achievable practical quantitative limits for Hexavalent Chromium in soils is in the range of 0.1 to 1 mg/kg. ***Arsenic is naturally occurring in Colorado.						

TABLE 2
SOIL ANALYTICAL RESULTS SUMMARY
HSR - CUTLER #14-31
CLOSURE ASSESSMENT
40.263460 / -104.708560
SE¼ SW¼ SEC.31 T4N R65W 6PM
WELD COUNTY, COLORADO
API # 05-123-15168
REMEDIAION # 27651

Sample Location (Latitude / Longitude)				Background-01 @ 2'		FL-SS-04 @ 4'	
Sample Date				4/19/2023		10/12/2023	
Sample Depth				2'		4'	
PID Reading (ppm-v)				3.1		2.9	
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	--	NA		<0.00200
Toluene	mg/kg	490	0.69	--	NA		<0.00200
Ethylbenzene	mg/kg	5.8	0.78	--	NA		<0.00200
Total Xylenes	mg/kg	58	9.9	--	NA		<0.00200
1,2,4-Trimethylbenzene	mg/kg	30	0.0081	--	NA		<0.00200
1,3,5-Trimethylbenzene	mg/kg	27	0.0087	--	NA		<0.00200
TOTAL PETROLEUM HYDROCARBONS							
TPH-GRO	mg/kg	500	--	--	NA		<0.200
TPH-DRO	mg/kg	500	--	--	NA		<25.0
TPH-RRO	mg/kg	500	--	--	NA		<100
POLYCYCLIC AROMATIC HYDROCARBONS							
1-Methyl-naphthalene	mg/kg	18	0.006	--	NA		<0.002
2-Methyl-naphthalene	mg/kg	24	0.019	--	NA		<0.002
Acenaphthene	mg/kg	360	0.55	--	NA		<0.020
Anthracene	mg/kg	1800	5.8	--	NA		<0.020
Benzo(a)-anthracene	mg/kg	1.1	0.011	--	NA		<0.005
Benzo(a)-pyrene	mg/kg	0.11	0.24	--	NA		<0.020
Benzo(b)-fluoranthene	mg/kg	1.1	0.3	--	NA		<0.020
Benzo(k)-fluoranthene	mg/kg	11	2.9	--	NA		<0.020
Chrysene	mg/kg	110	9	--	NA		<0.020
Dibenzo(a,h)-anthracene	mg/kg	0.11	0.096	--	NA		<0.020
Fluoranthene	mg/kg	240	8.9	--	NA		<0.020
Fluorene	mg/kg	240	0.54	--	NA		<0.020
Indeno(1,2,3-cd)-pyrene	mg/kg	1.1	0.98	--	NA		<0.020
Naphthalene	mg/kg	2	0.0038	--	NA		<0.020
Pyrene	mg/kg	180	1.3	--	NA		<0.020
SOIL SUITABILITY (Inorganics)							
Boron	mg/L	2	--	--	NA		<0.101
pH	standard unit	6-8.3	--	--	7.73		8.06
Sodium Adsorption Ratio (SAR)	--	<6	--	--	NA		0.0858
Specific Conductance (EC)	mmhos/cm	<4	--	--	NA		0.201
METALS							
Arsenic	mg/kg	0.68***	0.29***	2.11***	1.69***		NA
Barium	mg/kg	15000	82	--	60.9		NA
Cadmium	mg/kg	71	0.38	--	0.105		NA
Copper	mg/kg	3100	46	--	<8.69		NA
Lead	mg/kg	400	14	--	<8.69		NA
Nickel	mg/kg	1500	26	--	<8.69		NA
Selenium	mg/kg	390	0.26	--	<0.0869		NA
Silver	mg/kg	390	0.8	--	<0.0869		NA
Zinc	mg/kg	23000	370	--	<86.9		NA
Hexavalent Chromium	mg/kg	0.3**	0.00067**	0.1 to 1.0**	NA		NA
ECMC = Energy & Carbon Management Commission NA - Not Analyzed VOCs - Volatile Organic Compounds							
mg/kg = milligrams per kilogram		RSSLs = Residential Soil Screening Levels					
mmhos/cm = millimhos per centimeter		GSSLs = Protection of Groundwater Soil Screening Levels					
PID = Photoionization Detector		TPH-GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics					
ppm-v = parts per million by volume		TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics					
mg/L = milligrams per liter		TPH-RRO = Total Petroleum Hydrocarbons - Residual Range Organics					
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.							
Values presented in BOLD exceed ECMC Table 915-1 Regulatory Limits. Values presented with asterisk (*) exceed ECMC Table 915-1 GSSLs.							
Laboratory reruns were completed on samples with pH values outside ECMC Table 915-1 Regulatory Range. Results of the reruns are presented in parentheses.							
**Achievable practical quantitative limits for Hexavalent Chromium in soils is in the range of 0.1 to 1 mg/kg.							
***Arsenic is naturally occurring in Colorado.							



ATTACHMENT A

Photo Log

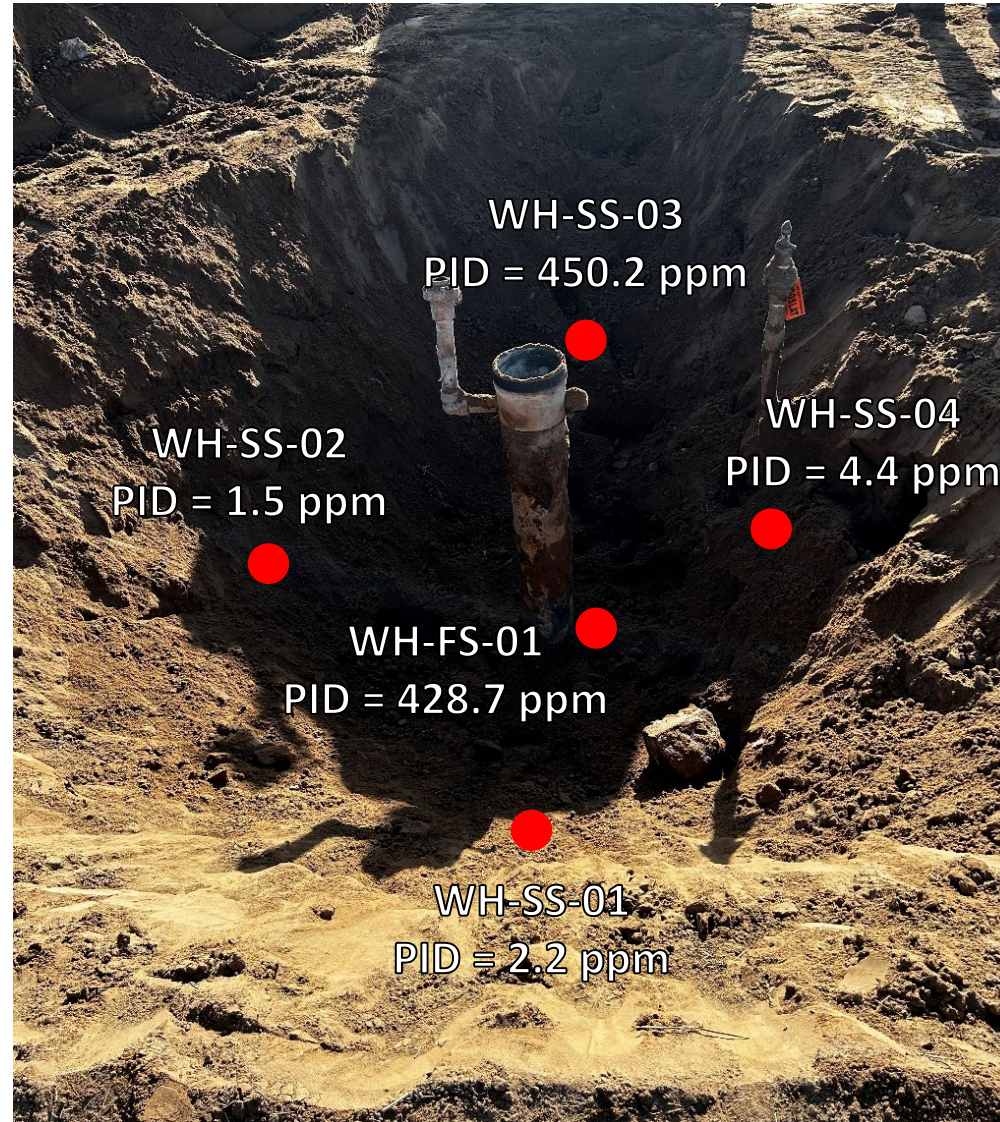
HSR – Cutler #14-31
API # 05-123-15168
Remediation # 27651

Closure Assessment

March 2023



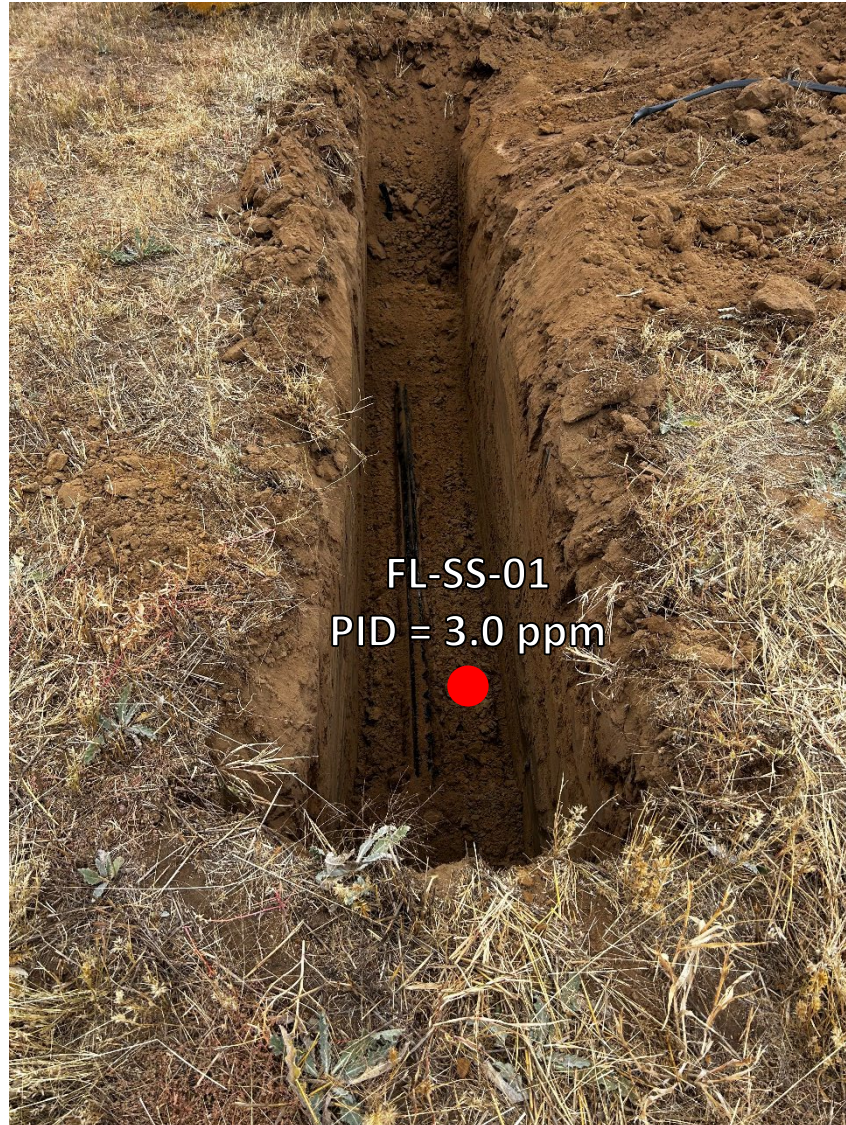
Wellhead Excavation – 04/19/23



Looking south

Slight petroleum hydrocarbon odor observed; no staining observed

Flowline Removal/Assessment – 10/12/23

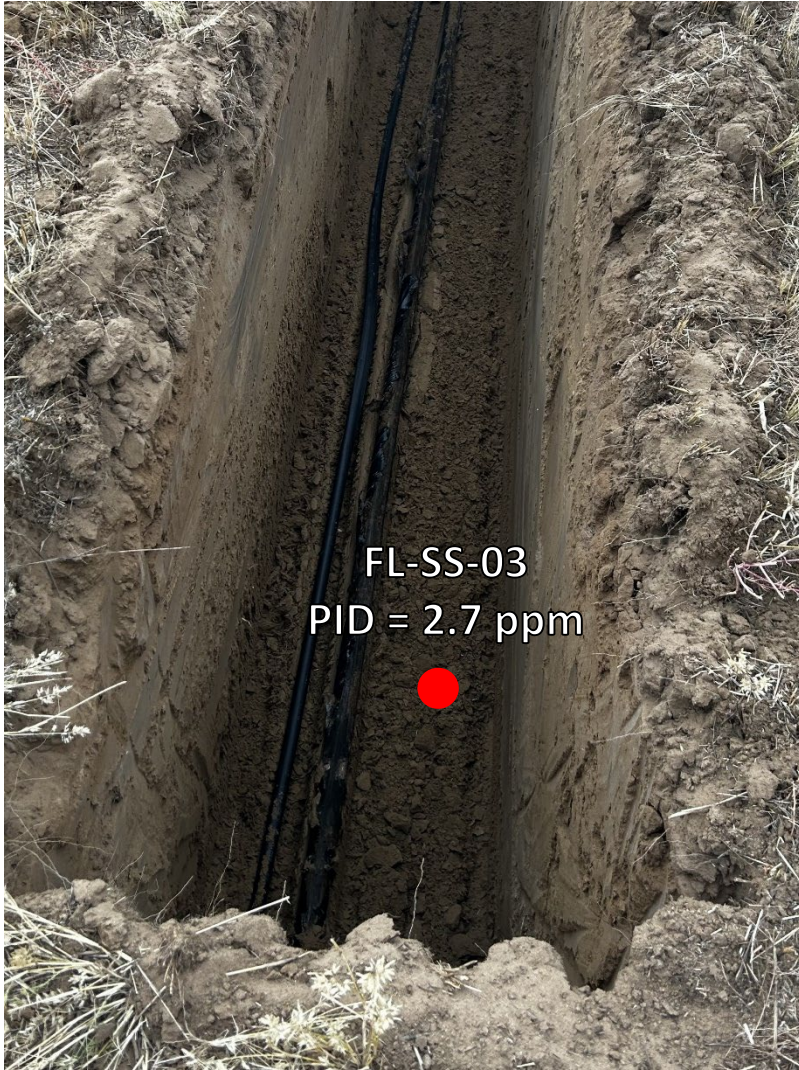


Looking northwest at bellhole/cutpoint
No petroleum hydrocarbon staining or odor observed



Looking northwest at bellhole/cutpoint
No petroleum hydrocarbon staining or odor observed

Flowline Removal/Assessment – 10/12/23



FL-SS-03
PID = 2.7 ppm

Looking northwest at bellhole/cutpoint
No petroleum hydrocarbon staining or odor observed



FL-SS-04
PID = 2.9 ppm

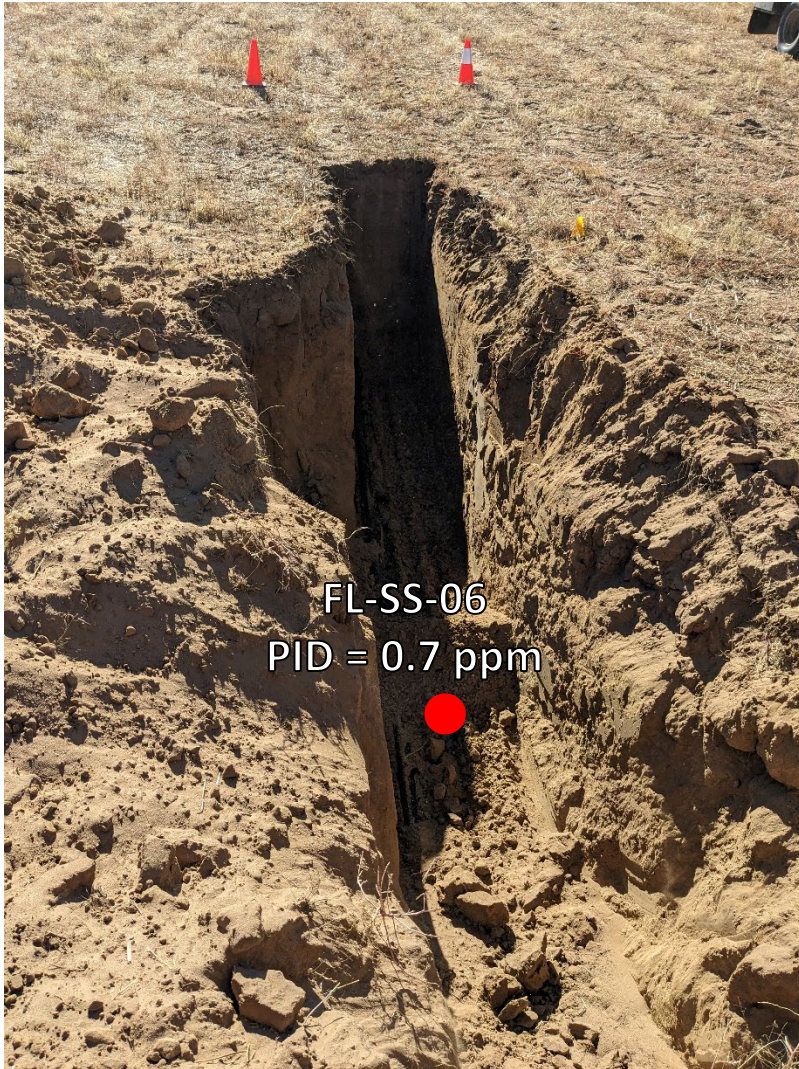
Looking northwest at bellhole/cutpoint
No petroleum hydrocarbon staining or odor observed



FL-SS-05
PID = 2.6 ppm

Looking northwest at bellhole/cutpoint
No petroleum hydrocarbon staining or odor observed

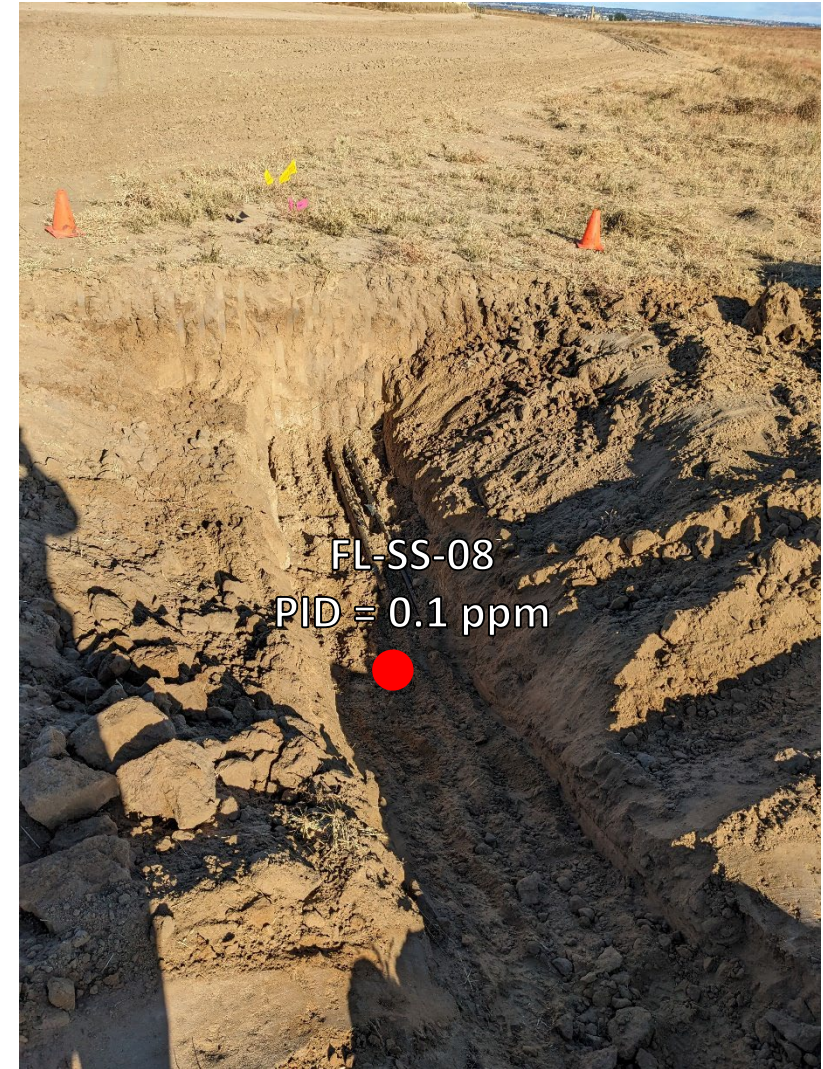
Flowline Removal/Assessment – 10/13/23



Looking southeast at bellhole/cutpoint
No petroleum hydrocarbon staining or odor observed



Looking northwest at bellhole/cutpoint
No petroleum hydrocarbon staining or odor observed



Looking northwest at bellhole/cutpoint
No petroleum hydrocarbon staining or odor observed



ATTACHMENT B

Laboratory Analytical Reports



May 16, 2023

Eagle Environmental Consulting, LLC

Martin C Eckert III

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - HSR - Cutler #14-31

Project Number - [none]

Attached are your analytical results for Noble - HSR - Cutler #14-31 received by Origins Laboratory, Inc. April 19, 2023. This project is associated with Origins project number Y304456-01.

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 - HSR - Cutler #14-31

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-SS-01@5'	Y304456-01	Soil	April 19, 2023 13:48	04/19/2023 15:33
WH-SS-02@5'	Y304456-02	Soil	April 19, 2023 13:50	04/19/2023 15:33
WH-SS-03@5'	Y304456-03	Soil	April 19, 2023 13:52	04/19/2023 15:33
WH-SS-04@5'	Y304456-04	Soil	April 19, 2023 13:54	04/19/2023 15:33
WH-FS-01@6'	Y304456-05	Soil	April 19, 2023 13:56	04/19/2023 15:33

A pH rerun was requested on WH-SS-02@5' per Grace's email on 05/01/2023. No errors were found in the original data, all three results are reported. JAB

Chain of Custody Modification Request

On 5/10/2023, Grace Congdon from Eagle Environmental contacted Jordan Bynon via email regarding Y304456 requesting that Table 915 Metals be added to WH-FS-01@6'.

Requested modifications to the chain of custody were made by Jordan Bynon on 5/10/2023.

Origins Laboratory, Inc.



Jen Pellegrini For Jordan A. Bynon, Project Manager

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 - HSR - Cutler #14-31

www.originslaboratory.com

page 1 of 1

304456

ORIGINS LABORATORY, INC

Client: Eagle Environmental Consulting
Address: 8000 W 44th Ave
Wheat Ridge 80033
Telephone Number: 303-433-0479
Email Address: mce@eagle-enviro.com

Project Manager: Martin Eckert III
Project Name: HSR-Cutler #14-31
Project Number: [blank]
Samples Collected By: JEL

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #		
WH-55-01 @ 5'	4/19/23	1348	3	X				X			EC SAR pH = 1	
WH-55-02 @ 5'	4/19/23	1350	1								Saturated paste prep	
WH-55-03 @ 5'	4/19/23	1352	1									
WH-55-04 @ 5'	4/19/23	1354	1									
WH-FS-01 @ 10'	4/19/23	1350	1								* M/Ls needed	

Relinquished By: [Signature] Date: 4/19/23 Time: 1533
Received By: EHS Date: 4/19/23 Time: 1533

Turnaround Time: Same Day ☐ 24 Hr ☐ 48 Hr ☐ 72 Hr ☒ Standard

Temp Received: 23 Date Results Needed: Noble

* Bill to Cole

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: B04456

Client: Eagle Environ
Client Project ID: HSR-Cutler #14-31

Checklist Completed by: JSN/CAS

Shipped Via: HD
(UPS, FedEx, Hand Delivered, Pick-up, etc.)
Airbill #: N/A

Date/time completed: 4/20/23

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

Cooler Number/Temperature: 1123 °C 1 °C 1 °C (Describe) °C

Thermometer ID: 7004

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<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 ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 4/21/23

Origins Laboratory, Inc.

Jen Pellegrini

Jen Pellegrini For Jordan A. Bynon, Project Manager

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 - HSR - Cutler #14-31

WH-SS-01@5'
4/19/2023 1:48:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y304456-01 (Soil)

Boron (DTPA Sorbitol)

Boron	0.242	0.101	mg/L	1	B3D2512	04/25/2023	04/26/2023	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	25.1	25.0	mg/kg	1	B3D2033	04/20/2023	04/21/2023	
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	98.2 %	50-150			"	"	"	
------------------------	--------	--------	--	--	---	---	---	--

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3D2026	04/20/2023	04/21/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	122 %	70-130			"	"	"	
Surrogate: Toluene-d8	92.7 %	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.

Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

WH-SS-01@5'
4/19/2023 1:48:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y304456-01 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	93.4 %	70-130	B3D20 26	04/20/2023	04/21/2023
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Metals by Saturated Paste by EPA 6010

Calcium	4.05	0.499	meq/L	10	[CALC]	04/25/2023	04/26/2023
Magnesium	1.58	0.823	"	"	"	"	"
Sodium	4.59	0.435	"	"	"	"	"

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00109	0.00201	mg/Kg	1	L678043	04/25/2023	04/25/2023
2-Methylnaphthalene	ND	0.00194	0.00201	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	ND	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"
Fluorene	ND	0.000286	0.00067	"	"	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

WH-SS-01@5'
4/19/2023 1:48:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y304456-01 (Soil)

PAH by 8270D SIM

Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	mg/Kg	1	L678043	04/25/2023	04/25/2023
Naphthalene	ND	0.00145	0.00201	"	"	"	"	"
Pyrene	ND	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	47.5 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	55.2 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	45.7 %	29-110	"	"	"

pH in Soil by 9045D

pH	7.79	pH Units	1	B3D2518	04/25/2023	04/26/2023
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SAR by 20B Saturated Paste

SAR	2.74	SAR	1	B3D2508	04/25/2023	04/26/2023
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.17	0.00500	mmhos/cm	1	B3D2518	04/25/2023	04/26/2023
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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.

Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

WH-SS-02@5'
4/19/2023 1:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y304456-02 (Soil)

Boron (DTPA Sorbitol)

Boron	0.214	0.0991	mg/L	1	B3D2512	04/25/2023	04/26/2023	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3D2033	04/20/2023	04/21/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	99.9 %	50-150	"	"	"	"	"
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3D2026	04/20/2023	04/21/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	122 %	70-130	"	"	"	"	"
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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.

Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

WH-SS-02@5'

4/19/2023 1:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y304456-02 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	90.3 %	70-130	B3D20 26	04/20/2023	04/21/2023
Surrogate: 4-Bromofluorobenzene	93.2 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	1.37	0.499	meq/L	10	[CALC]	04/25/2023	04/26/2023
Magnesium	ND	0.823	"	"	"	"	"
Sodium	1.72	0.435	"	"	"	"	"

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00109	0.00201	mg/Kg	1	L678043	04/25/2023	04/25/2023
2-Methylnaphthalene	ND	0.00194	0.00201	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	ND	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"

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.

Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

WH-SS-02@5'
4/19/2023 1:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y304456-02 (Soil)

PAH by 8270D SIM

Fluorene	ND	0.000286	0.00067	mg/Kg	1	L678043	04/25/2023	04/25/2023
Indeno(1,2,3-cd)pyrene	0.000791	0.000627	0.00067	"	"	"	"	"
Naphthalene	ND	0.00145	0.00201	"	"	"	"	"
Pyrene	ND	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	50.2 %		33-115			"	"	"
Surrogate: 4-Terphenyl-d14	58.2 %		33-122			"	"	"
Surrogate: Nitrobenzene-d5	50.2 %		29-110			"	"	"

pH in Soil by 9045D

pH	8.36			pH Units	1	B3D2518	04/25/2023	04/26/2023
----	------	--	--	----------	---	---------	------------	------------

SAR by 20B Saturated Paste

SAR	1.95			SAR	1	B3D2508	04/25/2023	04/26/2023
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.612		0.00500	mmhos/cm	1	B3D2518	04/25/2023	04/26/2023
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Origins Laboratory, Inc.



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Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

WH-SS-02@5'

4/19/2023 1:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y304456-02RE1 (Soil)

pH in Soil by 9045D

pH	8.46			pH Units	1	B3E0312	04/25/2023	05/04/2023	
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Origins Laboratory, Inc.



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Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

WH-SS-02@5'

4/19/2023 1:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y304456-02RE2 (Soil)

pH in Soil by 9045D

pH	8.41			pH Units	1	B3E0312	04/25/2023	05/04/2023	
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Origins Laboratory, Inc.



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Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

WH-SS-03@5'
4/19/2023 1:52:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y304456-03 (Soil)

Boron (DTPA Sorbitol)

Boron	0.225	0.101	mg/L	1	B3D2512	04/25/2023	04/26/2023	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3D2033	04/20/2023	04/21/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	109 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3D2026	04/20/2023	04/21/2023	U
1,3,5-Trimethylbenzene	0.00268	0.00200	"	"	"	"	"	
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	0.298	0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	122 %	70-130			"	"	"	
Surrogate: Toluene-d8	90.9 %	70-130			"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

WH-SS-03@5'

4/19/2023 1:52:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y304456-03 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	94.1 %	70-130	B3D20 26	04/20/2023	04/21/2023
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Metals by Saturated Paste by EPA 6010

Calcium	2.68	0.499	meq/L	10	[CALC]	04/25/2023	04/26/2023
Magnesium	ND	0.823	"	"	"	"	"
Sodium	3.88	0.435	"	"	"	"	"

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00109	0.00201	mg/Kg	1	L678043	04/25/2023	04/25/2023
2-Methylnaphthalene	ND	0.00194	0.00201	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	ND	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"
Fluorene	0.000536	0.000286	0.00067	"	"	"	"	"

J

Origins Laboratory, Inc.



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Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

WH-SS-03@5'

4/19/2023 1:52:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y304456-03 (Soil)

PAH by 8270D SIM

Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	mg/Kg	1	L678043	04/25/2023	04/25/2023
Naphthalene	ND	0.00145	0.00201	"	"	"	"	"
Pyrene	ND	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	49.8 %		33-115			"	"	"
Surrogate: 4-Terphenyl-d14	61 %		33-122			"	"	"
Surrogate: Nitrobenzene-d5	52.6 %		29-110			"	"	"

pH in Soil by 9045D

pH	8.00			pH Units	1	B3D2519	04/25/2023	04/26/2023
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SAR by 20B Saturated Paste

SAR	2.93			SAR	1	B3D2509	04/25/2023	04/26/2023
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.831		0.00500	mmhos/cm	1	B3D2519	04/25/2023	04/26/2023
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Origins Laboratory, Inc.



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Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

WH-SS-04@5'
4/19/2023 1:54:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y304456-04 (Soil)

Boron (DTPA Sorbitol)

Boron	0.135	0.101	mg/L	1	B3D2613	04/26/2023	04/27/2023	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3D2033	04/20/2023	04/21/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	99.9 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3D2026	04/20/2023	04/21/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	124 %	70-130			"	"	"	
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Origins Laboratory, Inc.



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Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

WH-SS-04@5'

4/19/2023 1:54:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y304456-04 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	91.4 %	70-130	B3D20 26	04/20/2023	04/21/2023
Surrogate: 4-Bromofluorobenzene	93.1 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	1.26	0.499	meq/L	10	[CALC]	04/25/2023	04/26/2023
Magnesium	ND	0.823	"	"	"	"	"
Sodium	1.44	0.435	"	"	"	"	"

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00109	0.00201	mg/Kg	1	L678043	04/25/2023	04/25/2023
2-Methylnaphthalene	ND	0.00194	0.00201	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	ND	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

WH-SS-04@5'

4/19/2023 1:54:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y304456-04 (Soil)

PAH by 8270D SIM

Fluorene	0.000472	0.000286	0.00067	mg/Kg	1	L678043	04/25/2023	04/25/2023	J
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"	
Naphthalene	ND	0.00145	0.00201	"	"	"	"	"	
Pyrene	0.000726	0.000643	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	47.7 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	58.7 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	50.5 %	29-110	"	"	"

pH in Soil by 9045D

pH	7.89	pH Units	1	B3D2519	04/25/2023	04/26/2023
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SAR by 20B Saturated Paste

SAR	1.60	SAR	1	B3D2509	04/25/2023	04/26/2023
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.373	0.00500	mmhos/cm	1	B3D2519	04/25/2023	04/26/2023
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Origins Laboratory, Inc.



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Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

WH-FS-01@6'
4/19/2023 1:56:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y304456-05 (Soil)

Boron (DTPA Sorbitol)

Boron	0.277	0.0989	mg/L	1	B3D2613	04/26/2023	04/27/2023	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3D2033	04/20/2023	04/21/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	98.4 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3D2026	04/20/2023	04/21/2023	U
1,3,5-Trimethylbenzene	0.0183	0.00200	"	"	"	"	"	
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	0.00374	0.00200	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	125 %	70-130			"	"	"	
Surrogate: Toluene-d8	92.6 %	70-130			"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

WH-FS-01@6'

4/19/2023 1:56:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y304456-05 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	94.2 %	70-130	B3D20 26	04/20/2023	04/21/2023
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Metals by Saturated Paste by EPA 6010

Calcium	2.86	0.499	meq/L	10	[CALC]	04/25/2023	04/26/2023
Magnesium	ND	0.823	"	"	"	"	"
Sodium	3.39	0.435	"	"	"	"	"

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00109	0.00201	mg/Kg	1	L678043	04/25/2023	04/25/2023
2-Methylnaphthalene	ND	0.00194	0.00201	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	0.00064	0.000624	0.00067	"	"	"	"	" J
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	0.000556	0.000394	0.00067	"	"	"	"	" J
Fluorene	0.0024	0.000286	0.00067	"	"	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

WH-FS-01@6'

4/19/2023 1:56:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y304456-05 (Soil)

PAH by 8270D SIM

Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	mg/Kg	1	L678043	04/25/2023	04/25/2023
Naphthalene	ND	0.00145	0.00201	"	"	"	"	"
Pyrene	0.0025	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	55.4 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	63.7 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	52 %	29-110	"	"	"

pH in Soil by 9045D

pH	8.36	pH Units	1	B3D2519	04/25/2023	04/26/2023
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SAR by 20B Saturated Paste

SAR	2.60	SAR	1	B3D2509	04/25/2023	04/26/2023
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.884	0.00500	mmhos/cm	1	B3D2519	04/25/2023	04/26/2023
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Table 915 metals by EPA 6020B

Arsenic	2.29	0.0834	mg/kg	10	B3E1104	05/11/2023	05/12/2023
Barium	58.3	8.34	"	"	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

WH-FS-01@6'

4/19/2023 1:56:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y304456-05 (Soil)

Table 915 metals by EPA 6020B

Cadmium	0.151	0.0834	mg/kg	10	B3E1104	05/11/2023	05/12/2023	
Copper	ND	8.34	"	"	"	"	"	U
Lead	12.1	8.34	"	"	"	"	"	
Nickel	ND	8.34	"	"	"	"	"	U
Selenium	0.144	0.0834	"	"	"	"	"	
Silver	ND	0.0834	"	"	"	"	"	U
Zinc	ND	83.4	"	"	"	"	"	U

Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L681381	04/19/2023	05/11/2023
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Origins Laboratory, Inc.



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Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

WH-FS-01@6'

4/19/2023 1:56:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y304456-05RE1 (Soil)

pH in Soil by 9045D

pH	8.34			pH Units	1	B3E0312	04/25/2023	05/04/2023	
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Origins Laboratory, Inc.



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Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

WH-FS-01@6'

4/19/2023 1:56:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y304456-05RE2 (Soil)

pH in Soil by 9045D

pH	8.29			pH Units	1	B3E0312	04/25/2023	05/04/2023	
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Origins Laboratory, Inc.



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Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

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 B3D2026 - EPA 5030 (soil)										
Blank (B3D2026-BLK1)					Prepared: 04/20/2023 Analyzed: 04/21/2023					
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	0.14		"	0.125	113		70-130			
Surrogate: Toluene-d8	0.12		"	0.125	96.4		70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125	93.0		70-130			

Origins Laboratory, Inc.



Jen Pellegrini For Jordan A. Bynon, Project Manager

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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 - HSR - Cutler #14-31

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 B3D2026 - EPA 5030 (soil)										
LCS (B3D2026-BS1)					Prepared: 04/20/2023 Analyzed: 04/21/2023					
1,2,4-Trimethylbenzene	0.104	0.00200	mg/kg	0.100		104	70-130			
1,3,5-Trimethylbenzene	0.0989	0.00200	"	0.100		98.9	70-130			
Benzene	0.0964	0.00200	"	0.100		96.4	70-130			
Ethylbenzene	0.0995	0.00200	"	0.100		99.5	70-130			
Naphthalene	0.0994	0.00380	"	0.100		99.4	70-130			
Toluene	0.0913	0.00200	"	0.100		91.3	70-130			
o-Xylene	0.107	0.00200	"	0.100		107	70-130			
m,p-Xylene	0.203	0.00400	"	0.200		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		107	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

Origins Laboratory, Inc.



Jen Pellegrini For Jordan A. Bynon, Project Manager

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Wheat Ridge CO 80033

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

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 B3D2026 - EPA 5030 (soil)

Matrix Spike (B3D2026-MS1)		Source: Y304456-01			Prepared: 04/20/2023 Analyzed: 04/21/2023					
1,2,4-Trimethylbenzene	0.0841	0.00200	mg/kg	0.100	ND	84.1	70-130			
1,3,5-Trimethylbenzene	0.0789	0.00200	"	0.100	ND	78.9	70-130			
Benzene	0.0862	0.00200	"	0.100	ND	86.2	70-130			
Ethylbenzene	0.0820	0.00200	"	0.100	ND	82.0	70-130			
Naphthalene	0.0821	0.00380	"	0.100	ND	82.1	70-130			
Toluene	0.0797	0.00200	"	0.100	ND	79.7	70-130			
o-Xylene	0.0870	0.00200	"	0.100	ND	87.0	70-130			
m,p-Xylene	0.168	0.00400	"	0.200	ND	83.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		108	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.7	70-130			

Origins Laboratory, Inc.



Jen Pellegrini For Jordan A. Bynon, Project Manager

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Wheat Ridge CO 80033

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

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 B3D2026 - EPA 5030 (soil)										
Matrix Spike Dup (B3D2026-MSD1)			Source: Y304456-01		Prepared: 04/20/2023 Analyzed: 04/21/2023					
1,2,4-Trimethylbenzene	0.0781	0.00200	mg/kg	0.100	ND	78.1	70-130	7.33	20	
1,3,5-Trimethylbenzene	0.0738	0.00200	"	0.100	ND	73.8	70-130	6.60	20	
Benzene	0.0847	0.00200	"	0.100	ND	84.7	70-130	1.78	20	
Ethylbenzene	0.0769	0.00200	"	0.100	ND	76.9	70-130	6.34	20	
Naphthalene	0.0780	0.00380	"	0.100	ND	78.0	70-130	5.22	20	
Toluene	0.0770	0.00200	"	0.100	ND	77.0	70-130	3.50	20	
o-Xylene	0.0823	0.00200	"	0.100	ND	82.3	70-130	5.48	20	
m,p-Xylene	0.157	0.00400	"	0.200	ND	78.6	70-130	6.43	20	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		110	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.9	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.7	70-130			

Origins Laboratory, Inc.



Jen Pellegrini For Jordan A. Bynon, Project Manager

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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 - HSR - Cutler #14-31

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 B3D2033 - EPA 3550B										
Blank (B3D2033-BLK1)					Prepared: 04/20/2023 Analyzed: 04/21/2023					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	28		"	24.9		113	50-150			

Origins Laboratory, Inc.



Jen Pellegrini For Jordan A. Bynon, Project Manager

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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 - HSR - Cutler #14-31

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 B3D2033 - EPA 3550B

LCS (B3D2033-BS1)

Prepared: 04/20/2023 Analyzed: 04/21/2023

Diesel (C10-C28)	1010	50.0	mg/kg	1000		101	70-130			
Residual Range Organics (C28-C40)	1010	200	"	1000		101	70-130			
Surrogate: o-Terphenyl	48		"	49.8		97.0	50-150			

Origins Laboratory, Inc.



Jen Pellegrini For Jordan A. Bynon, Project Manager

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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 - HSR - Cutler #14-31

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 B3D2033 - EPA 3550B

Matrix Spike (B3D2033-MS1)		Source: Y304427-01			Prepared: 04/20/2023 Analyzed: 04/21/2023					
Diesel (C10-C28)	1130	50.0	mg/kg	1000	97.7	103	70-130			
Residual Range Organics (C28-C40)	996	200	"	1000	ND	99.6	70-130			
Surrogate: o-Terphenyl	47		"	49.8		94.7	50-150			

Origins Laboratory, Inc.



Jen Pellegrini For Jordan A. Bynon, Project Manager

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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 - HSR - Cutler #14-31

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 B3D2033 - EPA 3550B

Matrix Spike Dup (B3D2033-MSD1)		Source: Y304427-01			Prepared: 04/20/2023 Analyzed: 04/21/2023					
Diesel (C10-C28)	1160	50.0	mg/kg	1000	97.7	106	70-130	2.63	35	
Residual Range Organics (C28-C40)	976	200	"	1000	ND	97.6	70-130	2.03	35	
Surrogate: o-Terphenyl	47		"	49.8		93.9	50-150			

Origins Laboratory, Inc.



Jen Pellegrini For Jordan A. Bynon, Project Manager

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Wheat Ridge CO 80033

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

Extractable Petroleum Hydrocarbons by 8015D - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Metals by EPA 6000/7000 Series Methods - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3E1104 - EPA 3050B

Blank (B3E1104-BLK1)

Prepared: 05/11/2023 Analyzed: 05/12/2023

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

LCS (B3E1104-BS1)

Prepared: 05/11/2023 Analyzed: 05/12/2023

Arsenic	0.0543	0.000100	mg/kg	0.0500		109	80-120
Barium	5.13	0.0100	"	5.00		103	80-120
Cadmium	0.0543	0.000100	"	0.0500		109	80-120
Copper	0.569	0.0100	"	0.500		114	80-120
Lead	0.0504	0.0100	"	0.0500		101	80-120
Nickel	0.0518	0.0100	"	0.0500		104	80-120
Selenium	0.0532	0.000100	"	0.0500		106	80-120
Silver	0.0541	0.000100	"	0.0500		108	80-120
Zinc	0.516	0.100	"	0.500		103	80-120

Matrix Spike (B3E1104-MS1)

Source: Y305254-01

Prepared: 05/11/2023 Analyzed: 05/12/2023

Origins Laboratory, Inc.



Jen Pellegrini For Jordan A. Bynon, Project Manager

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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 - HSR - Cutler #14-31

Metals by EPA 6000/7000 Series Methods - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3E1104 - EPA 3050B										
Matrix Spike (B3E1104-MS1)		Source: Y305254-01			Prepared: 05/11/2023 Analyzed: 05/12/2023					
Arsenic	8.07	0.0930	mg/kg	4.65	2.40	122	75-125			
Barium	463	9.30	"	465	30.0	93.2	75-125			
Cadmium	5.75	0.0930	"	4.65	0.655	110	75-125			
Copper	54.8	9.30	"	46.5	6.01	105	75-125			
Lead	13.8	9.30	"	4.65	8.20	121	75-125			
Nickel	9.77	9.30	"	4.65	4.01	124	75-125			
Selenium	5.55	0.0930	"	4.65	0.102	117	75-125			
Silver	5.06	0.0930	"	4.65	0.0358	108	75-125			
Zinc	78.4	93.0	"	46.5	29.2	106	75-125			U
Matrix Spike Dup (B3E1104-MSD1)		Source: Y305254-01			Prepared: 05/11/2023 Analyzed: 05/12/2023					
Arsenic	7.55	0.0918	mg/kg	4.59	2.40	112	75-125	6.73	20	
Barium	465	9.18	"	459	30.0	94.9	75-125	0.548	20	
Cadmium	5.63	0.0918	"	4.59	0.655	108	75-125	2.15	20	
Copper	56.0	9.18	"	45.9	6.01	109	75-125	2.12	20	
Lead	13.4	9.18	"	4.59	8.20	114	75-125	2.82	20	
Nickel	9.75	9.18	"	4.59	4.01	125	75-125	0.159	20	
Selenium	5.11	0.0918	"	4.59	0.102	109	75-125	8.22	20	
Silver	5.07	0.0918	"	4.59	0.0358	110	75-125	0.185	20	
Zinc	78.2	91.8	"	45.9	29.2	107	75-125	0.280	20	U

Origins Laboratory, Inc.



Jen Pellegrini For Jordan A. Bynon, Project Manager

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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 - HSR - Cutler #14-31

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 B3D2508 - Saturated Paste Metals

Blank (B3D2508-BLK1)

Prepared: 04/25/2023 Analyzed: 04/26/2023

SAR	0.00		SAR							U
Calcium PPM	ND	10.0	mg/L							U
Magnesium PPM	ND	10.0	"							U
Sodium PPM	ND	10.0	"							U

Duplicate (B3D2508-DUP1)

Source: Y304451-05

Prepared: 04/25/2023 Analyzed: 04/26/2023

Calcium PPM	159	10.0	mg/L		222			32.6	50	
SAR	0.00		SAR		1.41			200	200	U
Magnesium PPM	151	10.0	mg/L		183			19.3	50	
Sodium PPM	104	10.0	"		117			11.9	50	

Batch B3D2509 - Saturated Paste Metals

Blank (B3D2509-BLK1)

Prepared: 04/25/2023 Analyzed: 04/26/2023

SAR	0.00		SAR							U
Calcium PPM	ND	10.0	mg/L							U
Magnesium PPM	ND	10.0	"							U
Sodium PPM	ND	10.0	"							U

Duplicate (B3D2509-DUP1)

Source: Y304456-03

Prepared: 04/25/2023 Analyzed: 04/26/2023

SAR	0.00		SAR		2.93			200	200	U
Calcium PPM	48.6	10.0	mg/L		53.8			10.2	50	
Magnesium PPM	8.98	10.0	"		9.93			10.0	50	U
Sodium PPM	79.4	10.0	"		89.1			11.5	50	

Batch B3D2512 - DTPA Sorbitol Preparation

Blank (B3D2512-BLK1)

Prepared: 04/25/2023 Analyzed: 04/26/2023

Origins Laboratory, Inc.



Jen Pellegrini For Jordan A. Bynon, Project Manager

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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 - HSR - Cutler #14-31

Classical Chemistry Parameters - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3D2512 - DTPA Sorbitol Preparation										
Blank (B3D2512-BLK1)					Prepared: 04/25/2023 Analyzed: 04/26/2023					
Boron	ND	0.100	mg/L							U
Duplicate (B3D2512-DUP1)					Source: Y304451-06 Prepared: 04/25/2023 Analyzed: 04/26/2023					
Boron	0.880	0.100	mg/L		1.02			15.2	50	
Batch B3D2613 - DTPA Sorbitol Preparation										
Blank (B3D2613-BLK1)					Prepared: 04/26/2023 Analyzed: 04/27/2023					
Boron	ND	0.100	mg/L							U
Duplicate (B3D2613-DUP1)					Source: Y304456-04 Prepared: 04/26/2023 Analyzed: 04/27/2023					
Boron	0.126	0.101	mg/L		0.135			7.03	50	

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Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

Saturated Paste - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3D2518 - Saturated Paste pH/EC										
Blank (B3D2518-BLK1)					Prepared: 04/25/2023 Analyzed: 04/26/2023					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							U
Duplicate (B3D2518-DUP1)					Source: Y304451-05 Prepared: 04/25/2023 Analyzed: 04/26/2023					
pH	7.94		pH Units		7.95			0.126	25	
Specific Conductance (EC)	1.98	0.00500	mmhos/cm		2.33			16.6	25	
Batch B3D2519 - Saturated Paste pH/EC										
Blank (B3D2519-BLK1)					Prepared: 04/25/2023 Analyzed: 04/26/2023					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							U
Duplicate (B3D2519-DUP1)					Source: Y304456-03 Prepared: 04/25/2023 Analyzed: 04/26/2023					
pH	7.95		pH Units		8.00			0.627	25	
Specific Conductance (EC)	0.782	0.00500	mmhos/cm		0.831			6.04	25	
Batch B3E0312 - Saturated Paste pH/EC										
Duplicate (B3E0312-DUP1)					Source: Y305056-01 Prepared: 05/03/2023 Analyzed: 05/04/2023					
pH	8.36		pH Units		7.99			4.53	25	

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Jen Pellegrini For Jordan A. Bynon, Project Manager

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8000 W 44th Ave
Wheat Ridge CO 80033

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

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 L681381 -										
DUP (L 91720-DUP)	Source: 91720				Prepared: Analyzed: 05/11/2023					
Chromium, Hexavalent	ND	0.5	mg/Kg		<0.500	-		0	20	
MS (L 91720-MS)	Source: 91720				Prepared: Analyzed: 05/11/2023					
Chromium, Hexavalent	29.2	2.5	mg/Kg	39.5	<1.22	74	75-125			*
LCS (LCS)					Prepared: Analyzed: 05/11/2023					
Chromium, Hexavalent	7.16	0.5	mg/Kg	8		90	75-125			
LRB (LRB)					Prepared: Analyzed: 05/11/2023					
Chromium, Hexavalent	0.255	0.5	mg/Kg				-			J

Origins Laboratory, Inc.



Jen Pellegrini For Jordan A. Bynon, Project Manager

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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 - HSR - Cutler #14-31

PAH by 8270D SIM - Quality Control
Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L678043 - 3550B

MSD (L 81642-MSD-L678043)		Source: Y304456-02			Prepared: 04/25/2023 Analyzed: 04/25/2023					
Acenaphthene	0.0975	0.00067	mg/Kg	0.165	<0.000304	59	30-130	3.5	30	
1-Methylnaphthalene	0.0946	0.00201	"	0.165	<0.00109	57.3	30-130	7.1	30	
2-Methylnaphthalene	0.0931	0.00201	"	0.165	<0.00194	56.4	30-130	4.2	30	
Pyrene	0.107	0.00067	"	0.165	<0.000643	64.8	30-130	2.8	30	
Anthracene	0.101	0.00067	"	0.165	<0.000334	61.2	30-130	1.3	30	
Benzo(a)anthracene	0.114	0.00067	"	0.165	<0.000493	69	30-130	0	30	
Fluoranthene	0.113	0.00067	"	0.165	<0.000394	68.4	30-130	2.6	30	
Naphthalene	0.093	0.00201	"	0.165	<0.00145	56.3	30-130	3.6	30	
Fluorene	0.103	0.00067	"	0.165	<0.000286	62.4	30-130	3.8	30	
Benzo(a)pyrene	0.11	0.00067	"	0.165	<0.000468	66.6	30-130	4.6	30	
Dibenz(a,h)anthracene	0.0994	0.00067	"	0.165	<0.000614	60.2	30-130	11	30	
Chrysene	0.0956	0.00067	"	0.165	<0.000624	57.9	30-130	1.5	30	
Benzo(k)fluoranthene	0.0833	0.00067	"	0.165	<0.000437	50.4	30-130	10.3	30	
Benzo(b)fluoranthene	0.0647	0.00067	"	0.165	<0.000585	39.2	30-130	14	30	
Indeno(1,2,3-cd)pyrene	0.0954	0.00067	"	0.165	0.000791	57.3	30-130	10.1	30	
Surrogate: Nitrobenzene-d5	46.6		"	0.33	163	46.6	29-110			
Surrogate: 2-Fluorobiphenyl	47.5		"	0.33	163	47.5	33-115			
Surrogate: 4-Terphenyl-d14	56		"	0.33	189	56	33-122			

MS (L 81642-MS-L678043)		Source: Y304456-02			Prepared: 04/25/2023 Analyzed: 04/25/2023					
Fluoranthene	0.11	0.00067	mg/Kg	0.164	<0.000394	67	30-130			
Benzo(b)fluoranthene	0.0745	0.00067	"	0.164	<0.000585	45.4	30-130			
Pyrene	0.104	0.00067	"	0.164	<0.000643	63.4	30-130			
Naphthalene	0.0897	0.00201	"	0.164	<0.00145	54.6	30-130			
Indeno(1,2,3-cd)pyrene	0.0862	0.00067	"	0.164	0.000791	52	30-130			
Fluorene	0.0991	0.00067	"	0.164	<0.000286	60.4	30-130			
1-Methylnaphthalene	0.0881	0.00201	"	0.164	<0.00109	53.7	30-130			

Origins Laboratory, Inc.



Jen Pellegrini For Jordan A. Bynon, Project Manager

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 - HSR - Cutler #14-31

PAH by 8270D SIM - Quality Control
Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L678043 - 3550B

MS (L 81642-MS-L678043)		Source: Y304456-02			Prepared: 04/25/2023 Analyzed: 04/25/2023					
Chrysene	0.0941	0.00067	mg/Kg	0.164	<0.000624	57.3	30-130			
2-Methylnaphthalene	0.0892	0.00201	"	0.164	<0.00194	54.3	30-130			
Dibenz(a,h)anthracene	0.089	0.00067	"	0.164	<0.000614	54.2	30-130			
Acenaphthene	0.0941	0.00067	"	0.164	<0.000304	57.3	30-130			
Anthracene	0.0996	0.00067	"	0.164	<0.000334	60.7	30-130			
Benzo(a)anthracene	0.114	0.00067	"	0.164	<0.000493	69.5	30-130			
Benzo(a)pyrene	0.105	0.00067	"	0.164	<0.000468	64	30-130			
Benzo(k)fluoranthene	0.0924	0.00067	"	0.164	<0.000437	56.3	30-130			
Surrogate: Nitrobenzene-d5	45.7		"	0.328	163	45.7	29-110			
Surrogate: 4-Terphenyl-d14	56.7		"	0.328	189	56.7	33-122			
Surrogate: 2-Fluorobiphenyl	46.3		"	0.328	163	46.3	33-115			

LCS (LCS-L678043)		Prepared: 04/25/2023 Analyzed: 04/25/2023								
Acenaphthene	0.121	0.00067	mg/Kg	0.167		72.4	30-130			
Pyrene	0.132	0.00067	"	0.167		79	30-130			
Fluoranthene	0.139	0.00067	"	0.167		83.2	30-130			
Naphthalene	0.119	0.00201	"	0.167		71.2	30-130			
Indeno(1,2,3-cd)pyrene	0.114	0.00067	"	0.167		68.2	30-130			
Fluorene	0.128	0.00067	"	0.167		76.6	30-130			
1-Methylnaphthalene	0.12	0.00201	"	0.167		71.8	30-130			
Benzo(a)anthracene	0.146	0.00067	"	0.167		87.4	30-130			
2-Methylnaphthalene	0.121	0.00201	"	0.167		72.4	30-130			
Dibenz(a,h)anthracene	0.117	0.00067	"	0.167		70	30-130			
Chrysene	0.122	0.00067	"	0.167		73	30-130			
Benzo(a)pyrene	0.134	0.00067	"	0.167		80.2	30-130			
Benzo(b)fluoranthene	0.0912	0.00067	"	0.167		54.6	30-130			
Benzo(k)fluoranthene	0.111	0.00067	"	0.167		66.4	30-130			

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.

Jen Pellegrini For Jordan A. Bynon, Project Manager

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

PAH by 8270D SIM - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L678043 - 3550B

LCS (LCS-L678043)

Prepared: 04/25/2023 Analyzed: 04/25/2023

Anthracene	0.126	0.00067	mg/Kg	0.167		75.4	30-130			
Surrogate: Nitrobenzene-d5	66		"	0.333	66		29-110			
Surrogate: 4-Terphenyl-d14	73.5		"	0.333	73.5		33-122			
Surrogate: 2-Fluorobiphenyl	66		"	0.333	66		33-115			

LRB (LRB-L678043)

Prepared: 04/25/2023 Analyzed: 04/25/2023

Naphthalene	ND	0.00201	mg/Kg				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Chrysene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Pyrene	ND	0.00067	"				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Acenaphthene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00201	"				-			
1-Methylnaphthalene	ND	0.00201	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
Surrogate: Nitrobenzene-d5	59.7		"	0.333	59.7		29-110			
Surrogate: 4-Terphenyl-d14	64.5		"	0.333	64.5		33-122			
Surrogate: 2-Fluorobiphenyl	57.3		"	0.333	57.3		33-115			

Origins Laboratory, Inc.



Jen Pellegrini For Jordan A. Bynon, Project Manager

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 - HSR - Cutler #14-31

Notes and Definitions

U Sample is Non-Detect.

J Estimated Value. Analyte below reported quantitation limit.

* 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.

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.

Jen Pellegrini For Jordan A. Bynon, Project Manager



May 24, 2023

Eagle Environmental Consulting, LLC

Martin C Eckert III

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - HSR - Cutler #14-31

Project Number - [none]

Attached are your analytical results for Noble - HSR - Cutler #14-31 received by Origins Laboratory, Inc. May 16, 2023. This project is associated with Origins project number Y305419-01.

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 - HSR - Cutler #14-31

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Background-01@2'	Y305419-01	Soil	April 19, 2023 13:58	05/16/2023 14:12

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 - HSR - Cutler #14-31

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: UB05419

Client: Eagle

Client Project ID: Noble - HSR - Cutler #14-31

Checklist Completed by: TSH/ENS

Shipped Via: HP

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

Date/time completed: 5/16/23

Airbill #: NA

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

☐ Water

☐ Other:

Cooler Number/Temperature: 1 / 2 °C 1 °C 1 °C (Describe) °C

Thermometer ID: 7003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	/			
Is there ice present (document if blue ice is used)	/			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		/		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		/		
Were all samples received intact ⁽¹⁾ ?	/			
Was adequate sample volume provided ⁽¹⁾ ?	/			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		/		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	/			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	/			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	/			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	/			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			/	
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)			/	
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 5/17/23

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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

Background-01@2'
4/19/2023 1:58:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y305419-01 (Soil)

pH in Soil by 9045D

pH	7.73	pH Units	1	B3E1909	HJD	05/19/2023	05/20/2023
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Table 915 metals by EPA 6020B

Arsenic	1.69	0.0869	mg/kg	10	B3E1625	CIH	05/16/2023	05/17/2023
Barium	60.9	8.69	"	"	"	CIH	"	"
Cadmium	0.105	0.0869	"	"	"	CIH	"	"
Copper	ND	8.69	"	"	"	CIH	"	"
Lead	ND	8.69	"	"	"	CIH	"	"
Nickel	ND	8.69	"	"	"	CIH	"	"
Selenium	ND	0.0869	"	"	"	CIH	"	"
Silver	ND	0.0869	"	"	"	CIH	"	"
Zinc	ND	86.9	"	"	"	CIH	"	"

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 - HSR - Cutler #14-31

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 B3E1625 - EPA 3050B

Blank (B3E1625-BLK1)

Prepared: 05/16/2023 Analyzed: 05/17/2023

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 (B3E1625-BS1)

Prepared: 05/16/2023 Analyzed: 05/17/2023

Arsenic	0.0471	0.000100	mg/kg	0.0500	94.1	80-120
Barium	4.96	0.0100	"	5.00	99.2	80-120
Cadmium	0.0531	0.000100	"	0.0500	106	80-120
Copper	0.467	0.0100	"	0.500	93.4	80-120
Lead	0.0510	0.0100	"	0.0500	102	80-120
Nickel	0.0473	0.0100	"	0.0500	94.5	80-120
Selenium	0.0543	0.000100	"	0.0500	109	80-120
Silver	0.0406	0.000100	"	0.0500	81.3	80-120
Zinc	0.452	0.100	"	0.500	90.4	80-120

Matrix Spike (B3E1625-MS1)

Source: Y305418-01

Prepared: 05/16/2023 Analyzed: 05/17/2023

Arsenic	5.63	0.0901	mg/kg	4.50	1.62	89.0	75-125
Barium	478	9.01	"	450	99.7	84.0	75-125
Cadmium	4.58	0.0901	"	4.50	0.120	99.1	75-125
Copper	45.9	9.01	"	45.0	7.83	84.5	75-125
Lead	7.76	9.01	"	4.50	3.78	88.4	75-125

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 - HSR - Cutler #14-31

Metals by EPA 6000/7000 Series Methods - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3E1625 - EPA 3050B										
Matrix Spike (B3E1625-MS1)		Source: Y305418-01			Prepared: 05/16/2023 Analyzed: 05/17/2023					
Nickel	7.25	9.01	mg/kg	4.50	3.19	90.1	75-125			
Selenium	4.53	0.0901	"	4.50	0.192	96.2	75-125			
Silver	3.38	0.0901	"	4.50	0.0141	74.7	75-125			QM-07
Zinc	74.5	90.1	"	45.0	39.9	76.7	75-125			
Matrix Spike Dup (B3E1625-MSD1)		Source: Y305418-01			Prepared: 05/16/2023 Analyzed: 05/17/2023					
Arsenic	6.14	0.0936	mg/kg	4.68	1.62	96.5	75-125	8.66	20	
Barium	514	9.36	"	468	99.7	88.5	75-125	7.28	20	
Cadmium	4.90	0.0936	"	4.68	0.120	102	75-125	6.72	20	
Copper	47.8	9.36	"	46.8	7.83	85.4	75-125	4.14	20	
Lead	8.36	9.36	"	4.68	3.78	97.9	75-125	7.51	20	
Nickel	8.37	9.36	"	4.68	3.19	111	75-125	14.3	20	
Selenium	4.61	0.0936	"	4.68	0.192	94.3	75-125	1.76	20	
Silver	3.64	0.0936	"	4.68	0.0141	77.4	75-125	7.30	20	
Zinc	70.6	93.6	"	46.8	39.9	65.5	75-125	5.34	20	QM-07

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 - HSR - Cutler #14-31

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 B3E1909 - Saturated Paste pH/EC

Duplicate (B3E1909-DUP1)		Source: Y305417-01			Prepared: 05/19/2023 Analyzed: 05/20/2023					
pH	7.64		pH Units		7.77			1.69	25	

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

Martin C Eckert III

Project Number: [none]

Project: Noble - HSR - Cutler #14-31

Notes and Definitions

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 at 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



October 23, 2023

Eagle Environmental Consulting, LLC

Andrew Newberry

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - HSR - Cutler #14-31

Project Number - [none]

Attached are your analytical results for Noble - HSR - Cutler #14-31 received by Origins Laboratory, Inc. October 12, 2023. This project is associated with Origins project number Y310368-01.

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 - HSR - Cutler #14-31

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL-SS-04@4'	Y310368-01	Soil	October 12, 2023 13:21	10/12/2023 15:10

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.

Andrew Newberry
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

ORIGINS

LABORATORY, INC

www.originslaboratory.com

4303068

page 1 of 1

Client: Engle Environmental Consulting

Project Manager: Andrew Nuxterny

Address: 3000 N 44th Ave

Project Name: 452-CORR #14-21

Walmart Ridge, CO 80033

Project Number:

Telephone Number: 303-433-0429

Samples Collected By: SL

Email Address: anuxterny@engle-environmental.com

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis				Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	At Summa	Other	① BTEX/PAHs ② PCBs/PAHs ③ Pesticides/Herbicides ④ Metals - Trace ⑤ Metals - Bulk ⑥ Path - Microb ⑦ Path - Other ⑧ Path - 1000 ⑨ PAH - Bulk ⑩ PAH - Trace	⑪ 452-CORR #14-21		
FL-SS-0404	10/12/23	1321	3	X					X			X	X	X	EUSAR/PT =
															Saturated Paste Plug
															None Needed

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:	
						Same Day	24 Hr
<u>Sam Tice</u>	10/12/23	1510	<u>CHS</u>	10/12/23	1510	<input type="checkbox"/>	<input type="checkbox"/>
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	<input type="checkbox"/>	<input type="checkbox"/>
						48 Hr	72 Hr
						Standard <input checked="" type="checkbox"/>	

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

Temp Received- 3.8

Date Results Needed- NOBLE

AR 111 to Wade

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 - HSR - Cutler #14-31

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4310368

Client: Eagle

Client Project ID: Cutler #14-31

Checklist Completed by: FHS

Shipped Via: HO

Date/time completed: 10/12/23

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

Airbill #: N/A

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

Cooler Number/Temperature: 1 / 3.8 °C / _____ °C / _____ °C

Thermometer ID: 7004

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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)

Date/Time Reviewed 10/16/23

Origins Laboratory, Inc.

J. Bynon

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

Andrew Newberry
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

FL-SS-04@4'

10/12/2023 1:21:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y310368-01 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.101	mg/L	1	B3J1711	KAP	10/17/2023	10/18/2023	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3J1601	ZZZ	10/16/2023	10/17/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U

Surrogate: o-Terphenyl	95.7 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3J1304	JSM	10/13/2023	10/13/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	JSM	"	"	U
Benzene	ND	0.00200	"	"	"	JSM	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	JSM	"	"	U
Naphthalene	ND	0.00380	"	"	"	JSM	"	"	U
Toluene	ND	0.00200	"	"	"	JSM	"	"	U
Xylenes, total	ND	0.00200	"	"	"	JSM	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	JSM	"	"	U

Surrogate: 1,2-Dichloroethane-d4	105 %	70-130			"	"	"
Surrogate: Toluene-d8	93.1 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	94.1 %	70-130			"	"	"

Origins Laboratory, Inc.



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8000 W 44th Ave
Wheat Ridge CO 80033

Andrew Newberry
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

FL-SS-04@4'

10/12/2023 1:21:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y310368-01 (Soil)

Metals by Saturated Paste by EPA 6010

Calcium	1.09	0.499	meq/L	10	[CALC]	KAP	10/17/2023	10/18/2023	
Magnesium	ND	0.823	"	"	"	KAP	"	"	
Sodium	ND	0.435	"	"	"	KAP	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B3J1626	Windo	10/16/2023	10/18/2023	U
2-Methylnaphthalene	ND	0.002	"	"	"	Windo	"	"	U
Acenaphthene	ND	0.020	"	"	"	Windo	"	"	U
Anthracene	ND	0.020	"	"	"	Windo	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	Windo	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	Windo	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	Windo	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	Windo	"	"	U
Chrysene	ND	0.020	"	"	"	Windo	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	Windo	"	"	U
Fluoranthene	ND	0.020	"	"	"	Windo	"	"	U
Fluorene	ND	0.020	"	"	"	Windo	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	Windo	"	"	U
Pyrene	ND	0.020	"	"	"	Windo	"	"	U

Origins Laboratory, Inc.



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8000 W 44th Ave
Wheat Ridge CO 80033

Andrew Newberry
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

FL-SS-04@4'

10/12/2023 1:21:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y310368-01 (Soil)

PAH by EPA 8270E

Surrogate: Fluorene-d10	104 %	60-130			B3J16 26		10/16/2023	10/18/2023
Surrogate: Anthracene-d10	116 %	60-130			"		"	"
Surrogate: Pyrene-d10	109 %	60-130			"		"	"
Surrogate: Benzo (a) pyrene-d12	73.2 %	60-130			"		"	"

pH in Soil by 9045D

pH	8.06		pH Units	1	B3J1715	HJD	10/17/2023	10/18/2023
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SAR by 20B Saturated Paste

SAR	0.0858	0.0100	SAR	1	B3J1709	KAP	10/17/2023	10/18/2023
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.201	0.00500	mmhos/cm	1	B3J1715	HJD	10/17/2023	10/18/2023
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Eagle Environmental Consulting, LLC
8000 W 44th Ave
Wheat Ridge CO 80033

Andrew Newberry
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

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 B3J1304 - EPA 5030 (soil)										
Blank (B3J1304-BLK1)					Prepared: 10/13/2023 Analyzed: 10/13/2023					
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	0.13		"	0.125		101	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		95.0	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 - HSR - Cutler #14-31

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 B3J1304 - EPA 5030 (soil)										
LCS (B3J1304-BS1)					Prepared: 10/13/2023 Analyzed: 10/13/2023					
1,2,4-Trimethylbenzene	0.0855	0.00200	mg/kg	0.100		85.5	70-130			
1,3,5-Trimethylbenzene	0.0849	0.00200	"	0.100		84.9	70-130			
Benzene	0.0952	0.00200	"	0.100		95.2	70-130			
Ethylbenzene	0.0926	0.00200	"	0.100		92.6	70-130			
Naphthalene	0.0932	0.00380	"	0.100		93.2	70-130			
Toluene	0.0850	0.00200	"	0.100		85.0	70-130			
o-Xylene	0.0924	0.00200	"	0.100		92.4	70-130			
m,p-Xylene	0.189	0.00400	"	0.200		94.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		96.1	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		93.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

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Wheat Ridge CO 80033

Andrew Newberry
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

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 B3J1304 - EPA 5030 (soil)										
Matrix Spike (B3J1304-MS1)		Source: Y310340-01			Prepared: 10/13/2023 Analyzed: 10/13/2023					
1,2,4-Trimethylbenzene	0.0942	0.00200	mg/kg	0.100	ND	94.2	70-130			
1,3,5-Trimethylbenzene	0.0930	0.00200	"	0.100	ND	93.0	70-130			
Benzene	0.107	0.00200	"	0.100	ND	107	70-130			
Ethylbenzene	0.0989	0.00200	"	0.100	ND	98.9	70-130			
Naphthalene	0.104	0.00380	"	0.100	ND	104	70-130			
Toluene	0.0961	0.00200	"	0.100	ND	96.1	70-130			
o-Xylene	0.0997	0.00200	"	0.100	ND	99.7	70-130			
m,p-Xylene	0.202	0.00400	"	0.200	ND	101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		96.1	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

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Andrew Newberry
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

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 B3J1304 - EPA 5030 (soil)										
Matrix Spike Dup (B3J1304-MSD1)		Source: Y310340-01			Prepared: 10/13/2023 Analyzed: 10/13/2023					
1,2,4-Trimethylbenzene	0.0827	0.00200	mg/kg	0.100	ND	82.7	70-130	13.1	20	
1,3,5-Trimethylbenzene	0.0811	0.00200	"	0.100	ND	81.1	70-130	13.7	20	
Benzene	0.0958	0.00200	"	0.100	ND	95.8	70-130	11.0	20	
Ethylbenzene	0.0882	0.00200	"	0.100	ND	88.2	70-130	11.4	20	
Naphthalene	0.0973	0.00380	"	0.100	ND	97.3	70-130	6.87	20	
Toluene	0.0843	0.00200	"	0.100	ND	84.3	70-130	13.1	20	
o-Xylene	0.0894	0.00200	"	0.100	ND	89.4	70-130	10.8	20	
m,p-Xylene	0.180	0.00400	"	0.200	ND	90.2	70-130	11.2	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.1	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		92.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	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 - HSR - Cutler #14-31

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 B3J1601 - EPA 3550B										
Blank (B3J1601-BLK1)					Prepared: 10/16/2023 Analyzed: 10/17/2023					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	24		"	24.9		96.5	50-150			

Origins Laboratory, Inc.



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

Andrew Newberry
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

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 B3J1601 - EPA 3550B										
LCS (B3J1601-BS1)					Prepared: 10/16/2023 Analyzed: 10/17/2023					
Diesel (C10-C28)	930	50.0	mg/kg	1000		93.0	70-130			
Residual Range Organics (C28-C40)	964	200	"	1000		96.4	70-130			
Surrogate: o-Terphenyl	48		"	49.8		96.4	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 - HSR - Cutler #14-31

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 B3J1601 - EPA 3550B										
Matrix Spike (B3J1601-MS1)		Source: Y310360-01			Prepared: 10/16/2023 Analyzed: 10/17/2023					
Diesel (C10-C28)	911	50.0	mg/kg	1000	ND	91.1	70-130			
Residual Range Organics (C28-C40)	931	200	"	1000	ND	93.1	70-130			
Surrogate: o-Terphenyl	47		"	49.8		93.9	50-150			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC
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Andrew Newberry
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

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 B3J1601 - EPA 3550B										
Matrix Spike Dup (B3J1601-MSD1)		Source: Y310360-01			Prepared: 10/16/2023 Analyzed: 10/17/2023					
Diesel (C10-C28)	907	50.0	mg/kg	1000	ND	90.7	70-130	0.384	35	
Residual Range Organics (C28-C40)	924	200	"	1000	ND	92.4	70-130	0.782	35	
Surrogate: o-Terphenyl	47		"	49.8		94.3	50-150			

Origins Laboratory, Inc.



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

Andrew Newberry
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

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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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 B3J1626 - EPA 3580

Blank (B3J1626-BLK1)

Prepared: 10/16/2023 Analyzed: 10/18/2023

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	210		ug/kg	200		104	60-130			
Surrogate: Anthracene-d10	220		"	200		109	60-130			
Surrogate: Pyrene-d10	190		"	200		94.7	60-130			
Surrogate: Benzo (a) pyrene-d12	180		"	200		88.0	60-130			

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 - HSR - Cutler #14-31

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 B3J1626 - EPA 3580

LCS (B3J1626-BS1)

Prepared: 10/16/2023 Analyzed: 10/18/2023

1-Methylnaphthalene	0.237	0.002	mg/kg	0.200		119	70-130
2-Methylnaphthalene	0.218	0.002	"	0.200		109	70-130
Acenaphthene	0.230	0.020	"	0.200		115	70-130
Anthracene	0.220	0.020	"	0.200		110	70-130
Benzo (a) anthracene	0.201	0.005	"	0.200		100	70-130
Benzo (a) pyrene	0.231	0.020	"	0.200		116	70-130
Benzo (b) fluoranthene	0.194	0.020	"	0.200		97.0	70-130
Benzo (g,h,i) perylene	0.227	0.020	"	0.200		113	70-130
Benzo (k) fluoranthene	0.196	0.020	"	0.200		98.0	70-130
Chrysene	0.191	0.020	"	0.200		95.6	70-130
Dibenz (a,h) anthracene	0.197	0.020	"	0.200		98.3	70-130
Fluoranthene	0.233	0.020	"	0.200		116	70-130
Fluorene	0.230	0.020	"	0.200		115	70-130
Indeno (1,2,3-cd) pyrene	0.232	0.020	"	0.200		116	70-130
Naphthalene	0.234	0.002	"	0.200		117	70-130
Phenanthrene	0.232	0.020	"	0.200		116	70-130
Pyrene	0.213	0.020	"	0.200		106	70-130

Surrogate: Fluorene-d10	200		ug/kg	200		102	60-130
Surrogate: Anthracene-d10	200		"	200		102	60-130
Surrogate: Pyrene-d10	190		"	200		93.4	60-130
Surrogate: Benzo (a) pyrene-d12	200		"	200		98.1	60-130

Matrix Spike (B3J1626-MS1)

Source: Y310274-01

Prepared: 10/16/2023 Analyzed: 10/18/2023

1-Methylnaphthalene	0.250	0.002	mg/kg	0.200	ND	125	70-130
2-Methylnaphthalene	0.238	0.002	"	0.200	ND	119	70-130
Acenaphthene	0.232	0.020	"	0.200	ND	116	70-130
Anthracene	0.218	0.020	"	0.200	0.0007	108	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 - HSR - Cutler #14-31

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 B3J1626 - EPA 3580

Matrix Spike (B3J1626-MS1)		Source: Y310274-01			Prepared: 10/16/2023 Analyzed: 10/18/2023					
Benzo (a) anthracene	0.212	0.005	mg/kg	0.200	ND	106	70-130			
Benzo (a) pyrene	0.235	0.020	"	0.200	ND	118	70-130			
Benzo (b) fluoranthene	0.216	0.020	"	0.200	ND	108	70-130			
Benzo (g,h,i) perylene	0.208	0.020	"	0.200	ND	104	70-130			
Benzo (k) fluoranthene	0.230	0.020	"	0.200	ND	115	70-130			
Chrysene	0.214	0.020	"	0.200	ND	107	70-130			
Dibenz (a,h) anthracene	0.241	0.020	"	0.200	ND	120	70-130			
Fluoranthene	0.246	0.020	"	0.200	ND	123	70-130			
Fluorene	0.238	0.020	"	0.200	ND	119	70-130			
Indeno (1,2,3-cd) pyrene	0.224	0.020	"	0.200	ND	112	70-130			
Naphthalene	0.241	0.002	"	0.200	ND	121	70-130			
Phenanthrene	0.239	0.020	"	0.200	ND	120	70-130			
Pyrene	0.227	0.020	"	0.200	ND	114	70-130			
Surrogate: Fluorene-d10	210		ug/kg	200		103	60-130			
Surrogate: Anthracene-d10	180		"	200		92.5	60-130			
Surrogate: Pyrene-d10	190		"	200		97.0	60-130			
Surrogate: Benzo (a) pyrene-d12	220		"	200		109	60-130			

Matrix Spike Dup (B3J1626-MSD1)		Source: Y310274-01			Prepared: 10/16/2023 Analyzed: 10/18/2023					
1-Methylnaphthalene	0.242	0.002	mg/kg	0.200	ND	121	70-130	3.20	20	
2-Methylnaphthalene	0.241	0.002	"	0.200	ND	121	70-130	1.49	20	
Acenaphthene	0.238	0.020	"	0.200	ND	119	70-130	2.50	20	
Anthracene	0.242	0.020	"	0.200	0.0007	121	70-130	10.7	20	
Benzo (a) anthracene	0.242	0.005	"	0.200	ND	121	70-130	13.1	20	
Benzo (a) pyrene	0.237	0.020	"	0.200	ND	119	70-130	0.899	20	
Benzo (b) fluoranthene	0.226	0.020	"	0.200	ND	113	70-130	4.55	20	
Benzo (g,h,i) perylene	0.227	0.020	"	0.200	ND	113	70-130	8.52	20	

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

Andrew Newberry
Project Number: [none]
Project: Noble - HSR - Cutler #14-31

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
Batch B3J1626 - EPA 3580										
Matrix Spike Dup (B3J1626-MSD1)		Source: Y310274-01			Prepared: 10/16/2023 Analyzed: 10/18/2023					
Benzo (k) fluoranthene	0.170	0.020	mg/kg	0.200	ND	84.8	70-130	30.4	20	QR-02
Chrysene	0.225	0.020	"	0.200	ND	113	70-130	5.10	20	
Dibenz (a,h) anthracene	0.250	0.020	"	0.200	ND	125	70-130	3.85	20	
Fluoranthene	0.254	0.020	"	0.200	ND	127	70-130	2.99	20	
Fluorene	0.239	0.020	"	0.200	ND	120	70-130	0.641	20	
Indeno (1,2,3-cd) pyrene	0.241	0.020	"	0.200	ND	121	70-130	7.19	20	
Naphthalene	0.235	0.002	"	0.200	ND	117	70-130	2.61	20	
Phenanthrene	0.240	0.020	"	0.200	ND	120	70-130	0.330	20	
Pyrene	0.241	0.020	"	0.200	ND	120	70-130	5.67	20	
Surrogate: Fluorene-d10	200		ug/kg	200		101	60-130			
Surrogate: Anthracene-d10	180		"	200		87.8	60-130			
Surrogate: Pyrene-d10	200		"	200		98.8	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		106	60-130			

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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 B3J1709 - Saturated Paste Metals

Blank (B3J1709-BLK1)

Prepared: 10/17/2023 Analyzed: 10/18/2023

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

Duplicate (B3J1709-DUP1)

Source: Y310350-04

Prepared: 10/17/2023 Analyzed: 10/18/2023

Calcium PPM	49.5	10.0	mg/L	44.9	9.85	50
SAR	ND	0.0100	SAR	2.71		200
Magnesium PPM	13.5	10.0	mg/L	12.3	9.61	50
Sodium PPM	70.4	10.0	"	79.5	12.1	50

Batch B3J1711 - DTPA Sorbitol Preparation

Blank (B3J1711-BLK1)

Prepared: 10/17/2023 Analyzed: 10/18/2023

Boron	ND	0.100	mg/L
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Duplicate (B3J1711-DUP1)

Source: Y310350-12

Prepared: 10/17/2023 Analyzed: 10/18/2023

Boron	0.218	0.101	mg/L	0.217	0.479	50
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Saturated Paste - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3J1715 - Saturated Paste pH/EC										
Blank (B3J1715-BLK1)					Prepared: 10/17/2023 Analyzed: 10/18/2023					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
Duplicate (B3J1715-DUP1)					Source: Y310350-04 Prepared: 10/17/2023 Analyzed: 10/18/2023					
Specific Conductance (EC)	0.816	0.00500	mmhos/cm		0.859			5.12	25	
pH	8.21		pH Units		8.24			0.365	25	

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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.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

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