

Wellhead Closure Checklist

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

Additional attachments (optional):		Pit Closure		Tank Battery Closure		Flowline Closure		Partially Buried Vault Closure
Site Name & COGCC Facility Number: Ava State C *30-22		Date: 7-28-22						Remediation Project #: 23682
Associated Wells: 2 05-123-25677		Age of Site: years						Number of Photos Attached: 1
Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple)							Estimated Facility Size (acres):	
40.268790 / -104.494921								
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)								
Overall good condition								
USCS Soil Type:				Estimated Depth to Groundwater: ~15-20'				
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)								
None observed								
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)								
None observed								
Wellhead(s)								
Well API	05-123-25677							
Age	years							
Condition of surface around wellhead	Good - Per Crew							
PID Readings	N/A - Excavated upon arrival							
Condition of subsurface (staining, no odor)	Good - no staining, no odor							
PID Readings	0.4	0.9	0.7	0.8	1.2			
Sample taken? Location/Sample ID#	WK-SS-01	WK-SS-02	WK-SS-03	WK-SS-04	WK-FS-01			
Photo Number(s)	See photolog							
Other observations regarding wellheads:								
Well casing cut/capped after assessment								
Summary								
Was impacted soil identified?								
<input checked="" type="radio"/> No Yes - less than 10 cubic yards Yes - more than 10 cubic yards								
Total number of samples field screened: 5				Total number of samples collected: 5				
Highest PID Reading: 1.2				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: N/A				Volume of soil removed:				
Is additional investigation required?								
Was groundwater encountered during the investigation?								
<input checked="" type="radio"/> No Yes - not impacted or in contact with impacted soils Yes - groundwater impacted and/or in contact with impacted soils								
Measured depth to groundwater:				Was remedial groundwater removal conducted? Yes No				
Date Groundwater was encountered:				Commencement date of removal:				
Sheen on groundwater? Yes No				Volume of groundwater removed prior to sampling:				
Free product observed? Yes No				Volume of groundwater removed post sampling:				
Total number of samples collected:				Total Volume of groundwater removed:				
Total number of samples submitted to lab for analysis:								



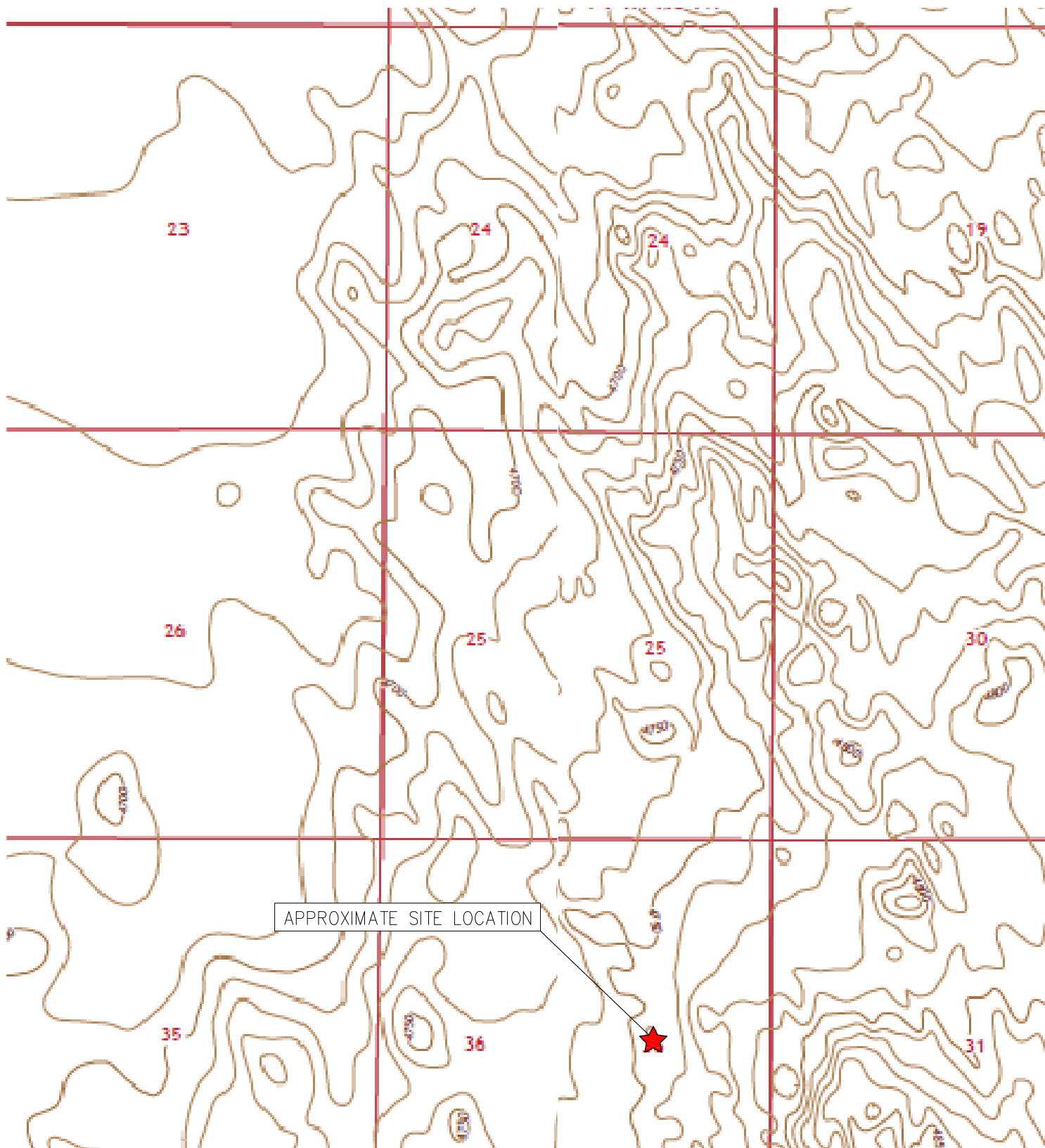
FIGURES



Figure 1: Topographic Site Location Map

Figure 2: Aerial Site Location Map

Figure 3: Soil Analytical Map

Figure 4: Polycyclic Aromatic Hydrocarbons Map

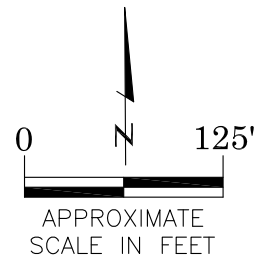


	<p> <u>TOPOGRAPHIC SITE LOCATION MAP</u> AVA STATE C #36-22 CLOSURE ASSESSMENT 40.268790 / -104.494921 NW¼ SE¼ SEC.36 T4N R64W 6PM WELD COUNTY, COLORADO API # 05-123-25677 REMEDIATION # 23682 </p>	 <p> EAGLE ENVIRONMENTAL CONSULTING, INC. 8000 W 44th Ave, Wheat Ridge, CO 80033 Ph: 303-433-0479 • F: 303-325-5449 </p>
<p> SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAPS HARDIN & VALLEY VIEW SCHOOL, CO QUADRANGLES 2022 </p>	<p>FIGURE 1</p>	



LEGEND

- FORMER AVA STATE C #36-22 WELLHEAD (PLUGGED AND ABANDONED)
- ASSOCIATED SEPARATOR
- APPROXIMATE FLOWLINE LOCATION



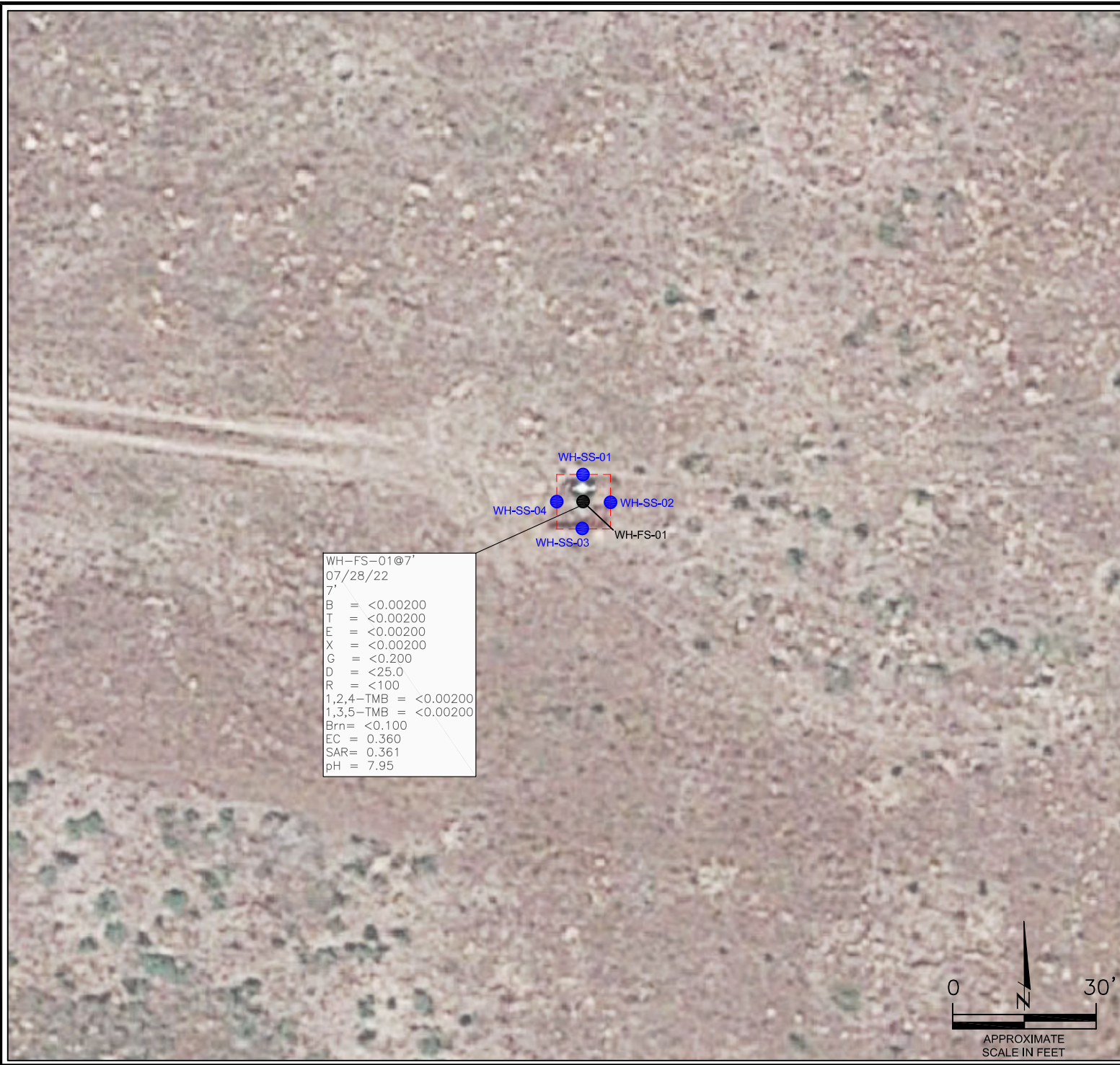
AERIAL SITE LOCATION MAP
 AVA STATE C #36-22
 CLOSURE ASSESSMENT
 40.268790 / -104.494921
 NW¼ SE¼ SEC.36 T4N R64W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-25677
 REMEDIATION # 23682

FIG. NO.
2

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WH-FS-01@7'
07/28/22
7'
B = <0.00200
T = <0.00200
E = <0.00200
X = <0.00200
G = <0.200
D = <25.0
R = <100
1,2,4-TMB = <0.00200
1,3,5-TMB = <0.00200
Brn = <0.100
EC = 0.360
SAR = 0.361
pH = 7.95

LEGEND

- INITIAL ASSESSMENT BOUNDARIES
- SS-02 APPROXIMATE LOCATION OF SOIL SAMPLES FIELD SCREENED, ONLY, WITH PHOTOIONIZATION DETECTOR
- SS-01 APPROXIMATE LOCATION OF SOIL SAMPLES SUBMITTED FOR LABORATORY ANALYSIS

PARAMETERS

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

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

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

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

COGCC = COLORADO OIL AND GAS CONSERVATION COMMISSION

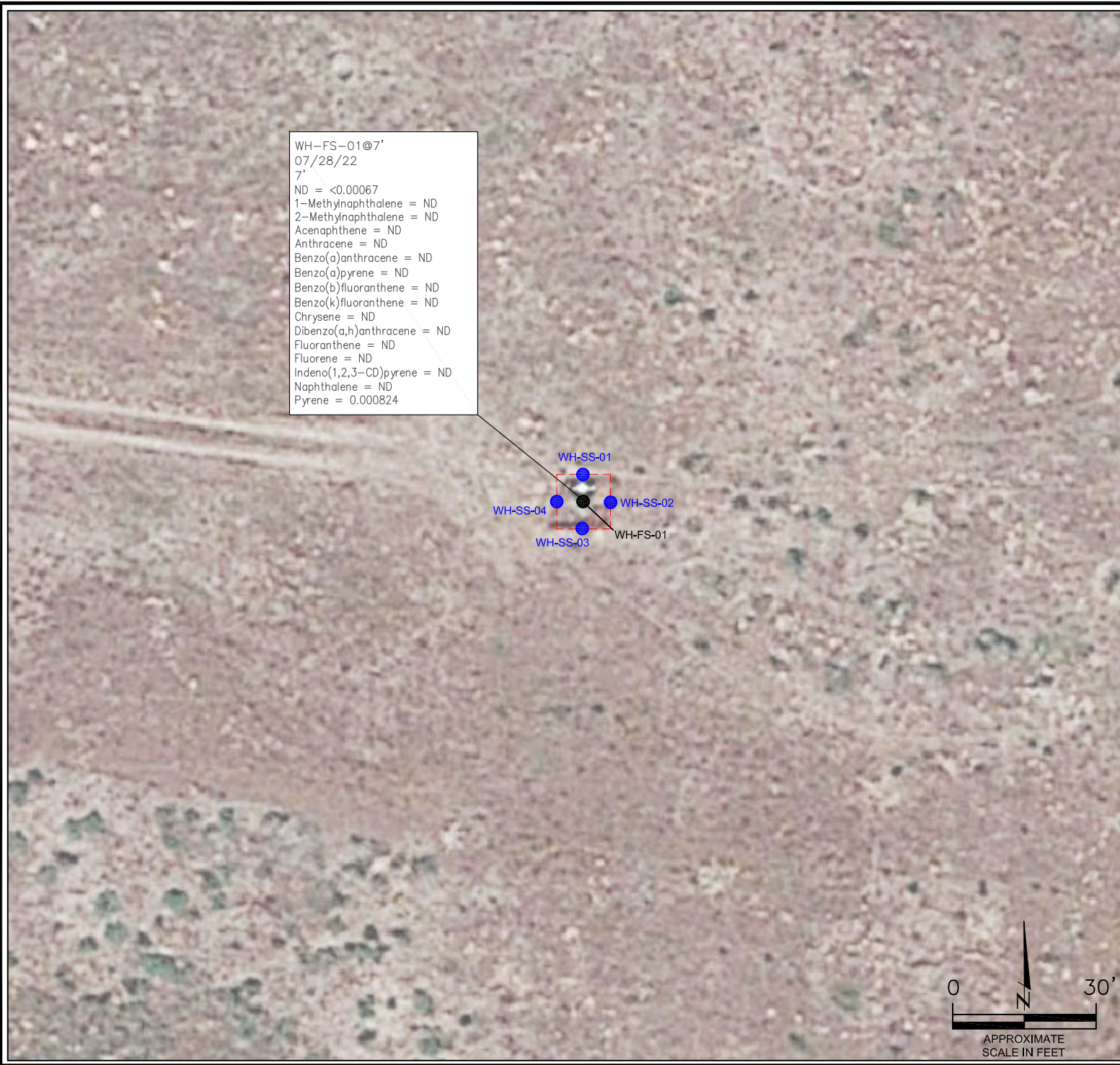
SOIL ANALYTICAL MAP
AVA STATE C #36-22
CLOSURE ASSESSMENT
40.268790 / -104.494921
NW 1/4 SE 1/4 SEC.36 T4N R64W 6PM
WELD COUNTY, COLORADO
API # 05-123-25677
REMEDATION # 23682

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FIG.
NO.
3



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



WH-FS-01@7'
07/28/22
7'
ND = <0.00067
1-Methylnaphthalene = ND
2-Methylnaphthalene = ND
Acenaphthene = ND
Anthracene = ND
Benzo(a)anthracene = ND
Benzo(a)pyrene = ND
Benzo(b)fluoranthene = ND
Benzo(k)fluoranthene = ND
Chrysene = ND
Dibenzo(a,h)anthracene = ND
Fluoranthene = ND
Fluorene = ND
Indeno(1,2,3-CD)pyrene = ND
Naphthalene = ND
Pyrene = 0.000824

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

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

PARAMETERS

SAMPLE LOCATION
DATE SAMPLE COLLECTED
APPROXIMATE DEPTH

POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (mg/kg)

mg/kg = MILLIGRAMS PER KILOGRAM
ND = NON-DETECT

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

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

COGCC = COLORADO OIL AND GAS CONSERVATION COMMISSION

POLYCYCLIC AROMATIC HYDROCARBONS MAP
AVA STATE C #36-22
CLOSURE ASSESSMENT
40.268790 / -104.494921
NW 1/4 SE 1/4 SEC.36 T4N R64W 6PM
WELD COUNTY, COLORADO
API # 05-123-25677
REMEDIAL # 23682

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FIG.
NO.
4



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



TABLES

Table 1: Photoionization Detector Reading Summary

Table 2: Soil Analytical Results Summary

Table 3: Polycyclic Aromatic Hydrocarbons Analytical Results Summary

TABLE 1
PHOTOIONIZATION DETECTOR READING SUMMARY
AVA STATE C #36-22
CLOSURE ASSESSMENT
40.268790 / -104.494921
NW1/4 SE1/4 SEC.36 T4N R64W 6PM
WELD COUNTY, COLORADO
API # 05-123-25677
REMEDATION # 23682

Sample Location (Latitude/Longitude)	Date	Approximate Depth (feet)	PID Reading (ppm-v)	Lab Submission (Y/N)
WH-SS-01 @ 6' (40.268816 / -104.494930)	07/28/22	6	0.4	N
WH-SS-02 @ 6' (40.268801 / -104.494912)	07/28/22	6	0.9	N
WH-SS-03 @ 6' (40.268786 / -104.494930)	07/28/22	6	0.7	N
WH-SS-04 @ 6' (40.268804 / -104.494948)	07/28/22	6	0.8	N
WH-FS-01 @ 7' (40.268802 / -104.494927)	07/28/22	7	1.2	Y
(Y/N) = Yes or No ppm-v = parts per million by volume PID = Photoionization Detector				

TABLE 2
SOIL ANALYTICAL RESULTS SUMMARY
AVA STATE C #36-22
CLOSURE ASSESSMENT
40.268790 / -104.494921
NW1/4 SE1/4 SEC.36 T4N R64W 6PM
WELD COUNTY, COLORADO
API # 05-123-25677
REMEDATION # 23682

Sample Location (Latitude/Longitude)	Date	Approximate Depth (feet)	PID Reading (ppm-v)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-RRO (mg/kg)	1,2,4-TMB (mg/kg)	1,3,5-TMB (mg/kg)	Boron (mg/L)	Specific Conductance (mmhos/cm)	pH (pH units)	SAR
COGCC Table 915-1 Residential Screening Levels (mg/kg)				1.20	490	5.8	58	500			30	27	2	<4	6-8.3	<6
COGCC Table 915-1 Protection of Groundwater Soil Screening Levels				0.0026	0.69	0.78	9.9	--			0.0081	0.0087	--	--	--	--
WH-FS-01 @ 7" (40.268802 / -104.494927)	07/28/22	7	1.2	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00200	<0.00200	<0.100	0.360	7.95	0.361
COGCC = Colorado Oil and Gas Conservation 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 Note: Values presented with a less than symbol (<) did not contain concentrations at or above the laboratory reporting limit. Note: Values presented in BOLD contained concentrations exceeding COGCC Table 915-1 Regulatory Limits.																

TABLE 3
PAH ANALYTICAL RESULTS SUMMARY
AVA STATE C #36-22
CLOSURE ASSESSMENT
40.268790 / -104.494921
NW1/4 SE1/4 SEC.36 T4N R64W 6PM
WELD COUNTY, COLORADO
API # 05-123-25677
REMEDIATION # 23682

Sample Location (Latitude/Longitude)	Date	Approximate Depth (feet)	PID Reading (ppm- v)	1-Methyl- naphthalene (mg/kg)	2-Methyl-naphthalene (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo(a)-anthracene (mg/kg)	Benzo(a)- pyrene (mg/kg)	Benzo(b)- fluoranthene (mg/kg)	Benzo(k)- fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo(a,h)- anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno(1,2,3- cd)-pyrene (mg/kg)	Naphthalene (mg/kg)	Pyrene (mg/kg)
COGCC Table 915-1 Residential Screening Levels				18	24	360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	2	180
COGCC Table 915-1 Protection of Groundwater Soil Screening Levels				0.006	0.019	0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	0.0038	1.3
WH-FS-01 @ 7" (40.268802 / -104.494927)	07/28/22	7	1.2	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	0.000824

COGCC = Colorado Oil and Gas Conservation Commission
mg/kg = milligrams per kilogram
Note: Values presented with a less than symbol (<) did not contain concentrations at or above the laboratory reporting limit.
Note: Values presented in **BOLD** contained concentrations exceeding COGCC Table 915-1 Regulatory Limits



ATTACHMENT A

Photo Log

Ava State C #36-22

API # 05-123-25677

Remediation # 23682

Closure Assessment

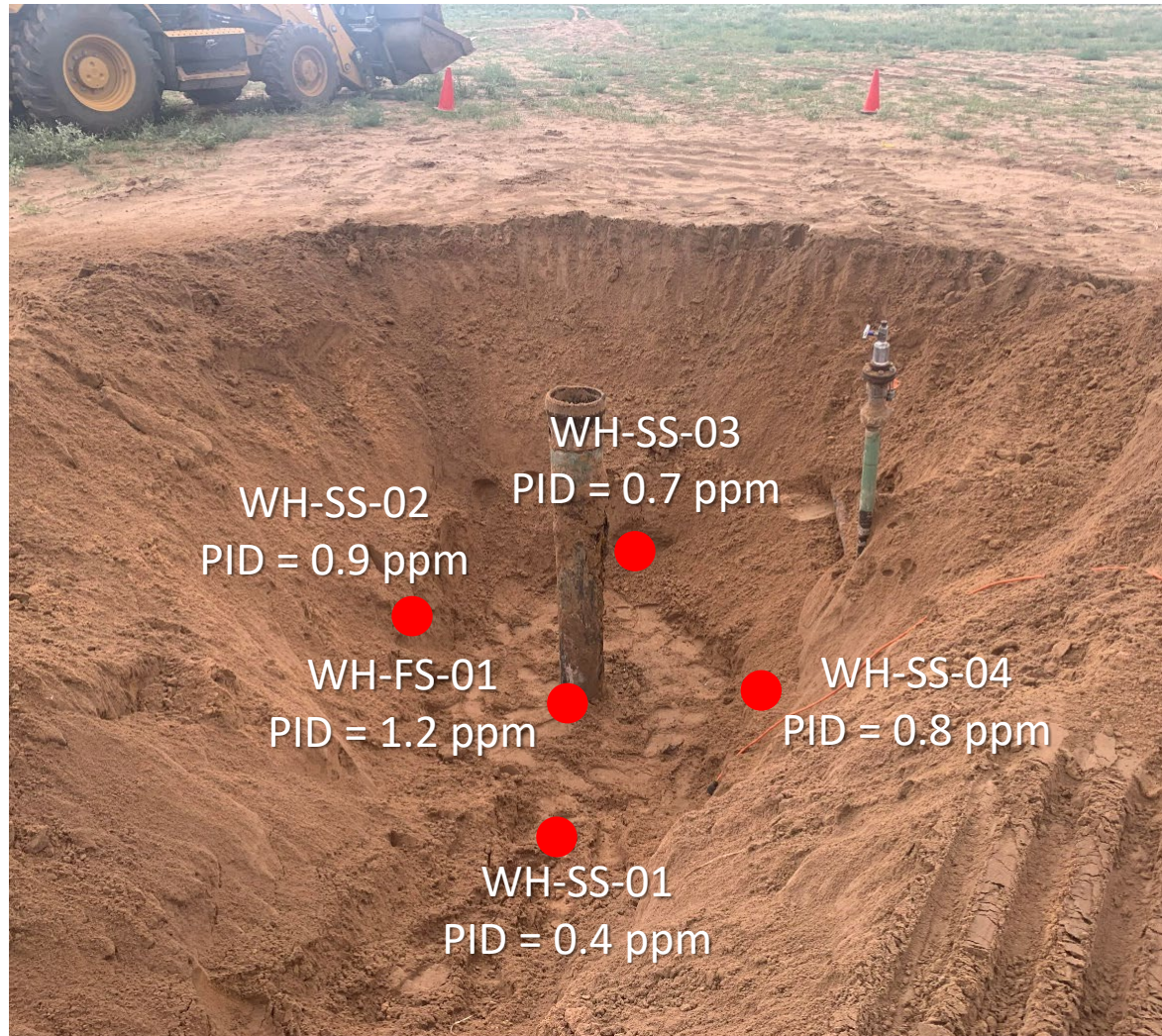
July 2022



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



Wellhead Excavation – 07/28/22



Looking south

No petroleum hydrocarbon staining or odor observed



ATTACHMENT B

Laboratory Analytical Report



August 10, 2022

Eagle Environmental Consulting, Inc.

Martin C Eckert III

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - Ava State C #36-24

Project Number - -

Attached are your analytical results for Noble - Ava State C #36-24 received by Origins Laboratory, Inc. July 28, 2022. This project is associated with Origins project number Y207629-01.

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, Inc.

8000 W 44th Ave

Wheat Ridge CO 80033

Martin C Eckert III

Project Number: -

Project: Noble - Ava State C #36-24

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-FS-01@7'	Y207629-01	Soil	July 28, 2022 8:04	07/28/2022 14:46

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, Inc.
8000 W 44th Ave
Wheat Ridge CO 80033

Martin C Eckert III
Project Number: -
Project: Noble - Ava State C #36-24

Origins Laboratory

Sample Receipt Checklist

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

Origins Work Order: Y207629

Client: **EAGLE ENVIRONMENTAL**
Client Project ID: **AVA STATE C36-22**

Checklist Completed by: MS
Date/time completed: 7/29/22

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

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

☐ Water ☐ Other:

Cooler Number/Temperature: 1 / 4.6 °C

(Describe) °C

Thermometer ID: TOOK

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

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

Reviewed by (Project Manager)

7/29/22
Date/Time Reviewed

Origins Laboratory, Inc.

J. Bynon

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, Inc.
8000 W 44th Ave
Wheat Ridge CO 80033

Martin C Eckert III
Project Number: -
Project: Noble - Ava State C #36-24

WH-FS-01@7'

7/28/2022 8:04:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	---------------------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
Y207629-01 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.100	mg/L	1	B2H0103	08/01/2022	08/02/2022	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2H0111	08/02/2022	08/02/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	85.7 %	50-150			"	"	"
------------------------	--------	--------	--	--	---	---	---

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2H0201	08/02/2022	08/02/2022	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	118 %	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.

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

Martin C Eckert III
Project Number: -
Project: Noble - Ava State C #36-24

WH-FS-01@7'

7/28/2022 8:04:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	---------------------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
Y207629-01 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	104 %	70-130	B2H02 01	08/02/2022	08/02/2022
Surrogate: 4-Bromofluorobenzene	99.8 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	1.90	0.499	meq/L	10	[CALC]	08/01/2022	08/02/2022
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L629870	08/02/2022	08/04/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
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.

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

Martin C Eckert III
Project Number: -
Project: Noble - Ava State C #36-24

WH-FS-01@7'

7/28/2022 8:04:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	---------------------	-----------------	-------	----------	-------	----------	----------	-------

Waypoint Analytical, Inc.
Y207629-01 (Soil)

PAH by 8270D SIM

Fluorene	ND	0.000286	0.00067	mg/Kg	1	L629870	08/02/2022	08/04/2022
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"
Pyrene	0.000824	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	52.6 %		33-115			"	"	"
Surrogate: 4-Terphenyl-d14	62.9 %		33-122			"	"	"
Surrogate: Nitrobenzene-d5	49.5 %		29-110			"	"	"

pH in Soil by 9045D

pH	7.95			pH Units	1	B2H0105	08/01/2022	08/02/2022
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SAR by 20B Saturated Paste

SAR	0.361			SAR	1	B2H0104	08/01/2022	08/02/2022
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.360		0.00500	mmhos/cm	1	B2H0105	08/01/2022	08/02/2022
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Eagle Environmental Consulting, Inc.
8000 W 44th Ave
Wheat Ridge CO 80033

Martin C Eckert III
Project Number: -
Project: Noble - Ava State C #36-24

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 B2H0111 - EPA 3580										
Blank (B2H0111-BLK1)					Prepared: 08/01/2022 Analyzed: 08/02/2022					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	23		"	24.9		91.4	50-150			

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Martin C Eckert III
Project Number: -
Project: Noble - Ava State C #36-24

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 B2H0111 - EPA 3580										
LCS (B2H0111-BS1)					Prepared: 08/01/2022 Analyzed: 08/02/2022					
Diesel (C10-C28)	838	50.0	mg/kg	1000		83.8	70-130			
Residual Range Organics (C28-C40)	838	200	"	1000		83.8	70-130			
Surrogate: o-Terphenyl	39		"	49.8		79.3	50-150			

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Martin C Eckert III
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Project: Noble - Ava State C #36-24

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 B2H0111 - EPA 3580

Matrix Spike (B2H0111-MS1)		Source: Y207624-01			Prepared: 08/01/2022 Analyzed: 08/02/2022					
Diesel (C10-C28)	938	50.0	mg/kg	1000	ND	93.8	70-130			
Residual Range Organics (C28-C40)	963	200	"	1000	ND	96.3	70-130			
Surrogate: o-Terphenyl	44		"	49.8		88.5	50-150			

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Martin C Eckert III
Project Number: -
Project: Noble - Ava State C #36-24

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 B2H0111 - EPA 3580										
Matrix Spike Dup (B2H0111-MSD1)		Source: Y207624-01			Prepared: 08/01/2022 Analyzed: 08/02/2022					
Diesel (C10-C28)	929	50.0	mg/kg	1000	ND	92.9	70-130	0.994	35	
Residual Range Organics (C28-C40)	965	200	"	1000	ND	96.5	70-130	0.249	35	
Surrogate: o-Terphenyl	49		"	49.8		98.6	50-150			

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Martin C Eckert III
Project Number: -
Project: Noble - Ava State C #36-24

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 B2H0201 - EPA 5030 (soil)										
Blank (B2H0201-BLK1)					Prepared: 08/02/2022 Analyzed: 08/02/2022					
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	0.0100	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125	110		70-130			
Surrogate: Toluene-d8	0.13		"	0.125	105		70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125	99.9		70-130			

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Martin C Eckert III
Project Number: -
Project: Noble - Ava State C #36-24

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 B2H0201 - EPA 5030 (soil)

LCS (B2H0201-BS1)

Prepared: 08/02/2022 Analyzed: 08/02/2022

1,2,4-Trimethylbenzene	0.109	0.00200	mg/kg	0.100		109	70-130			
1,3,5-Trimethylbenzene	0.111	0.00200	"	0.100		111	70-130			
Benzene	0.103	0.00200	"	0.100		103	70-130			
Ethylbenzene	0.115	0.00200	"	0.100		115	70-130			
Naphthalene	0.120	0.0100	"	0.100		120	70-130			
Toluene	0.109	0.00200	"	0.100		109	70-130			
o-Xylene	0.119	0.00200	"	0.100		119	70-130			
m,p-Xylene	0.229	0.00400	"	0.200		114	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		110	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		106	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		107	70-130			

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Martin C Eckert III
Project Number: -
Project: Noble - Ava State C #36-24

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 B2H0201 - EPA 5030 (soil)

Matrix Spike (B2H0201-MS1)		Source: Y207628-01			Prepared: 08/02/2022 Analyzed: 08/02/2022					
1,2,4-Trimethylbenzene	0.0997	0.00200	mg/kg	0.100	ND	99.7	70-130			
1,3,5-Trimethylbenzene	0.100	0.00200	"	0.100	ND	100	70-130			
Benzene	0.106	0.00200	"	0.100	ND	106	70-130			
Ethylbenzene	0.119	0.00200	"	0.100	ND	119	70-130			
Naphthalene	0.0987	0.0100	"	0.100	0.000580	98.1	70-130			
Toluene	0.111	0.00200	"	0.100	ND	111	70-130			
o-Xylene	0.122	0.00200	"	0.100	ND	122	70-130			
m,p-Xylene	0.236	0.00400	"	0.200	ND	118	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		114	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		107	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		110	70-130			

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Wheat Ridge CO 80033

Martin C Eckert III
Project Number: -
Project: Noble - Ava State C #36-24

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 B2H0201 - EPA 5030 (soil)										
Matrix Spike Dup (B2H0201-MSD1)			Source: Y207628-01		Prepared: 08/02/2022 Analyzed: 08/02/2022					
1,2,4-Trimethylbenzene	0.0813	0.00200	mg/kg	0.100	ND	81.3	70-130	20.3	20	QR-02
1,3,5-Trimethylbenzene	0.0814	0.00200	"	0.100	ND	81.4	70-130	20.9	20	QR-02
Benzene	0.0959	0.00200	"	0.100	ND	95.9	70-130	9.97	20	
Ethylbenzene	0.0979	0.00200	"	0.100	ND	97.9	70-130	19.3	20	
Naphthalene	0.0846	0.0100	"	0.100	0.000580	84.0	70-130	15.4	20	
Toluene	0.101	0.00200	"	0.100	ND	101	70-130	9.48	20	
o-Xylene	0.103	0.00200	"	0.100	ND	103	70-130	17.2	20	
m,p-Xylene	0.194	0.00400	"	0.200	ND	97.1	70-130	19.4	20	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		110	70-130			
Surrogate: Toluene-d8	0.14		"	0.125		109	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		108	70-130			

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Martin C Eckert III
Project Number: -
Project: Noble - Ava State C #36-24

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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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 B2H0105 - NO PREP

Blank (B2H0105-BLK1)

Prepared: 08/01/2022 Analyzed: 08/02/2022

Specific Conductance (EC)	0.00160	0.00500	mmhos/cm
pH	0.00		pH Units

Duplicate (B2H0105-DUP1)

Source: Y207614-07

Prepared: 08/01/2022 Analyzed: 08/02/2022

Specific Conductance (EC)	7.95	0.00500	mmhos/cm	7.34	8.04	25
pH	8.13		pH Units	8.15	0.246	25

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Martin C Eckert III
Project Number: -
Project: Noble - Ava State C #36-24

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L629870 - 3550B

MSD (L 93383-MSD-L629870)		Source: 93383			Prepared: 08/02/2022 Analyzed: 08/04/2022					
Naphthalene	0.0947	0.00242	mg/Kg	0.164	<0.00242	57.7	30-130	4.9	30	
Pyrene	0.119	0.00322	"	0.164	<0.00322	72.5	30-130	6.5	30	
Indeno(1,2,3-cd)pyrene	0.0903	0.00314	"	0.164	<0.00314	55	30-130	1.2	30	
Fluorene	0.111	0.00143	"	0.164	<0.00143	67.6	30-130	6.9	30	
Fluoranthene	0.119	0.00197	"	0.164	<0.00197	72.5	30-130	5.7	30	
Dibenz(a,h)anthracene	0.105	0.00307	"	0.164	<0.00307	64	30-130	0.9	30	
Chrysene	0.116	0.00312	"	0.164	<0.00312	70.7	30-130	5.8	30	
Benzo(k)fluoranthene	0.0868	0.00219	"	0.164	<0.00219	52.9	30-130	3.8	30	
Benzo(a)pyrene	0.11	0.00234	"	0.164	<0.00234	67	30-130	6.1	30	
1-Methylnaphthalene	0.0989	0.00182	"	0.164	<0.00182	60.3	30-130	5	30	
Benzo(a)anthracene	0.107	0.00247	"	0.164	<0.00247	65.2	30-130	8	30	
2-Methylnaphthalene	0.1	0.00323	"	0.164	<0.00323	60.9	30-130	3.9	30	
Anthracene	0.112	0.00167	"	0.164	<0.00167	68.2	30-130	6.8	30	
Acenaphthene	0.107	0.00152	"	0.164	<0.00152	65.2	30-130	6.3	30	
Benzo(b)fluoranthene	0.0919	0.00293	"	0.164	<0.00293	56	30-130	8	30	
Surrogate: Nitrobenzene-d5	52.2		"	0.329	163	52.2	29-110			
Surrogate: 4-Terphenyl-d14	73.8		"	0.329	257	73.8	33-122			
Surrogate: 2-Fluorobiphenyl	62.9		"	0.329	203	62.9	33-115			

MS (L 93383-MS-L629870)		Source: 93383			Prepared: 08/02/2022 Analyzed: 08/04/2022					
Benzo(k)fluoranthene	0.0902	0.00219	mg/Kg	0.165	<0.00219	54.6	30-130			
Chrysene	0.123	0.00312	"	0.165	<0.00312	74.5	30-130			
Dibenz(a,h)anthracene	0.106	0.00307	"	0.165	<0.00307	64.2	30-130			
Fluoranthene	0.126	0.00197	"	0.165	<0.00197	76.3	30-130			
Indeno(1,2,3-cd)pyrene	0.0914	0.00314	"	0.165	<0.00314	55.3	30-130			
Anthracene	0.12	0.00167	"	0.165	<0.00167	72.7	30-130			
Naphthalene	0.0995	0.00242	"	0.165	<0.00242	60.3	30-130			

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Martin C Eckert III
Project Number: -
Project: Noble - Ava State C #36-24

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L629870 - 3550B

MS (L 93383-MS-L629870)		Source: 93383			Prepared: 08/02/2022 Analyzed: 08/04/2022					
Fluorene	0.119	0.00143	mg/Kg	0.165	<0.00143	72.1	30-130			
Benzo(b)fluoranthene	0.0996	0.00293	"	0.165	<0.00293	60.3	30-130			
Benzo(a)anthracene	0.116	0.00247	"	0.165	<0.00247	70.3	30-130			
Acenaphthene	0.114	0.00152	"	0.165	<0.00152	69	30-130			
2-Methylnaphthalene	0.104	0.00323	"	0.165	<0.00323	63	30-130			
Pyrene	0.127	0.00322	"	0.165	<0.00322	76.9	30-130			
1-Methylnaphthalene	0.104	0.00182	"	0.165	<0.00182	63	30-130			
Benzo(a)pyrene	0.117	0.00234	"	0.165	<0.00234	70.9	30-130			
Surrogate: Nitrobenzene-d5	54.8		"	0.33	163	54.8	29-110			
Surrogate: 2-Fluorobiphenyl	65.7		"	0.33	203	65.7	33-115			
Surrogate: 4-Terphenyl-d14	78.7		"	0.33	257	78.7	33-122			

LCS (LCS-L629870)		Prepared: 08/02/2022 Analyzed: 08/04/2022								
Chrysene	0.114	0.000624	mg/Kg	0.167		68.2	30-130			
Benzo(k)fluoranthene	0.0979	0.000437	"	0.167		58.6	30-130			
Pyrene	0.119	0.000643	"	0.167		71.2	30-130			
Naphthalene	0.0998	0.000484	"	0.167		59.7	30-130			
Indeno(1,2,3-cd)pyrene	0.104	0.000627	"	0.167		62.2	30-130			
Fluorene	0.113	0.000286	"	0.167		67.6	30-130			
Benzo(b)fluoranthene	0.101	0.000585	"	0.167		60.4	30-130			
Dibenz(a,h)anthracene	0.112	0.000614	"	0.167		67	30-130			
1-Methylnaphthalene	0.102	0.000364	"	0.167		61	30-130			
Benzo(a)pyrene	0.119	0.000468	"	0.167		71.2	30-130			
Benzo(a)anthracene	0.117	0.000493	"	0.167		70	30-130			
Anthracene	0.117	0.000334	"	0.167		70	30-130			
Acenaphthene	0.109	0.000304	"	0.167		65.2	30-130			
2-Methylnaphthalene	0.103	0.000645	"	0.167		61.6	30-130			

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Project: Noble - Ava State C #36-24

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L629870 - 3550B

LCS (LCS-L629870)

Prepared: 08/02/2022 Analyzed: 08/04/2022

Fluoranthene	0.118	0.000394	mg/Kg	0.167		70.6	30-130			
Surrogate: Nitrobenzene-d5	60.3		"	0.333		60.3	29-110			
Surrogate: 4-Terphenyl-d14	75.6		"	0.333		75.6	33-122			
Surrogate: 2-Fluorobiphenyl	69.3		"	0.333		69.3	33-115			

LRB (LRB-L629870)

Prepared: 08/02/2022 Analyzed: 08/04/2022

Fluoranthene	ND	0.00067	mg/Kg				-			
Benzo(a)pyrene	ND	0.00067	"				-			
Pyrene	ND	0.00067	"				-			
Naphthalene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Chrysene	ND	0.00067	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
1-Methylnaphthalene	ND	0.00067	"				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Acenaphthene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Surrogate: Nitrobenzene-d5	57.3		"	0.333		57.3	29-110			
Surrogate: 4-Terphenyl-d14	69.6		"	0.333		69.6	33-122			
Surrogate: 2-Fluorobiphenyl	60.6		"	0.333		60.6	33-115			

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Project: Noble - Ava State C #36-24

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 on a wet weight basis.

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