

Wellhead Closure Checklist

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

Additional attachments (optional):		Pit Closure <u> </u>		Tank Battery Closure <u> </u>		Flowline Closure <u> </u>		Partially Buried Vault Closure <u> </u>	
Site Name & COGCC Facility Number: Bethyl GW #29-12		Date: 08/01/23					Remediation Project #: 30216		
Associated Wells: 05-123-36782		Age of Site: Years					Number of Photos Attached: 2		
Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple)						40.629892 / -104.465929			
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.) Good Condition									
USCS Soil Type: SC				Estimated Depth to Groundwater: ~30-50'					
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) Strong petroleum hydrocarbon odor observed within excavation; no staining 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	05-123-36782								
Age	Years								
Condition of surface around wellhead	Good - No Odor/Staining								
PID Readings	WH-N: 0.1	WH-E: 0.7	WH-S: 0.5	WH-W: 0.3					
Condition of subsurface (staining present)	Strong petroleum hydrocarbon odor observed								
PID Readings	431.5	57.2	303.2	257.3	309.4				
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: 9				Total number of samples collected: 9					
Highest PID Reading: 431.5				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:					
N/A									
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 N/A				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

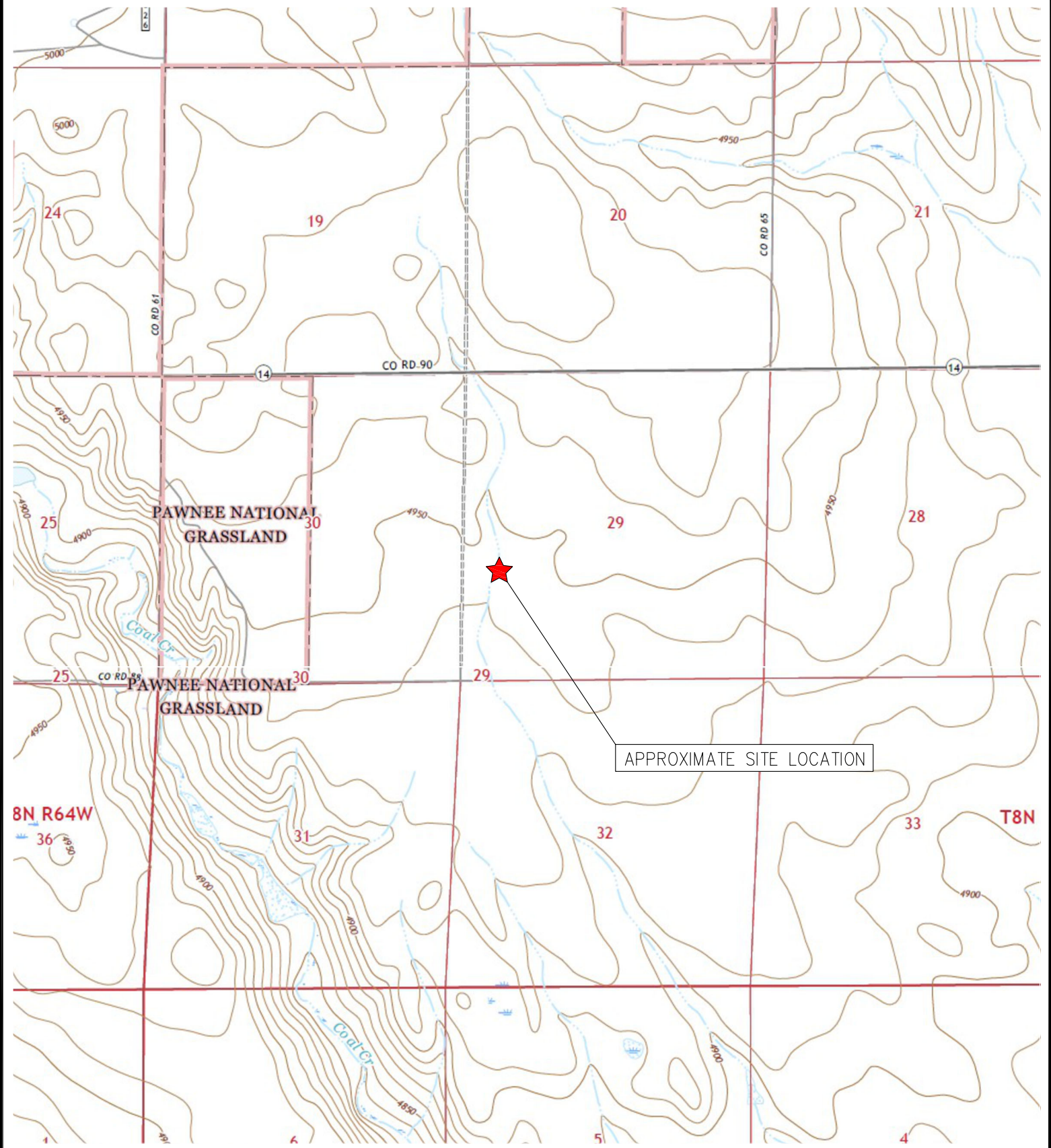
Figure 1: Topographic Site Location Map

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
 BETHYL GW #29-12
 CLOSURE ASSESSMENT
 40.629892 / -104.465929
 NW¼ SW¼ SEC.29 T8N R63W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-36782
 REMEDIATION # 30216



EAGLE
 ENVIRONMENTAL
 CONSULTING, LLC

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



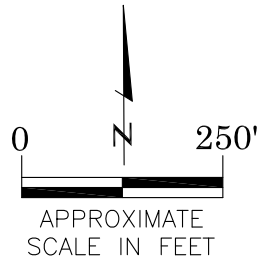
SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAPS,
 BAKER DRAW AND CORNISH, CO
 QUADRANGLES 2022

FIGURE NO. 1



LEGEND

- FORMER BETHYL GW #29-12 WELLHEAD (PLUGGED AND ABANDONED)
- ASSOCIATED SEPARATOR
- APPROXIMATE FLOWLINE LOCATION



AERIAL SITE LOCATION MAP
 BETHYL GW #29-12
 CLOSURE ASSESSMENT
 40.629892 / -104.465929
 NW¼ SW¼ SEC.29 T8N R63W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-36782
 REMEDIATION # 30216

FIGURE NO.
2

DRAWN BY:
GEC



EAGLE
 ENVIRONMENTAL
 CONSULTING, LLC

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

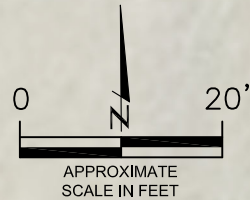
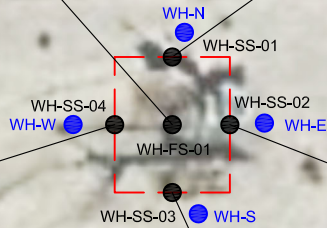
WH-FS-01@8'
08/01/23
8'
B = <0.00200
T = <0.00200
E = <0.00200
X = <0.00200
N = <0.00380
G = <0.200
D = <25.0
R = <100
1,2,4-TMB = <0.00200
1,3,5-TMB = <0.00200
Brn = 0.237
EC = 0.279
SAR = 0.361
pH = 7.96

WH-SS-01@7'
08/01/23
7'
B = <0.00200
T = 0.00452
E = 0.00290
X = 0.103
N = **0.233***
G = **24.6**
D = **1520**
R = **684**
1,2,4-TMB = **0.0314***
1,3,5-TMB = **0.0506***
Brn = <0.982
EC = 0.316
SAR = 0.0996
pH = 7.80

WH-SS-04@7'
08/01/23
7'
B = <0.00200
T = <0.00200
E = <0.00200
X = <0.00200
N = <0.00380
G = <0.200
D = 66.8
R = <100
1,2,4-TMB = <0.00200
1,3,5-TMB = 0.00254
Brn = 0.771
EC = 0.460
SAR = 0.526
pH = 7.97

WH-SS-03@7'
08/01/23
7'
B = <0.00200
T = <0.00200
E = <0.00200
X = 0.00328
N = **0.00860***
G = **148**
D = **847**
R = **433**
1,2,4-TMB = 0.00238
1,3,5-TMB = **0.0153***
Brn = 0.160
EC = 0.760
SAR = 0.0435
pH = 7.41

WH-SS-02@7'
08/01/23
7'
B = <0.00200
T = <0.00200
E = <0.00200
X = <0.00200
N = <0.00380
G = <0.200
D = <25.0
R = <100
1,2,4-TMB = <0.00200
1,3,5-TMB = <0.00200
Brn = 0.105
EC = 0.316
SAR = 0.175
pH = 7.98



LEGEND

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

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 ECMC TABLE 915-1 REGULATORY LIMITS

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

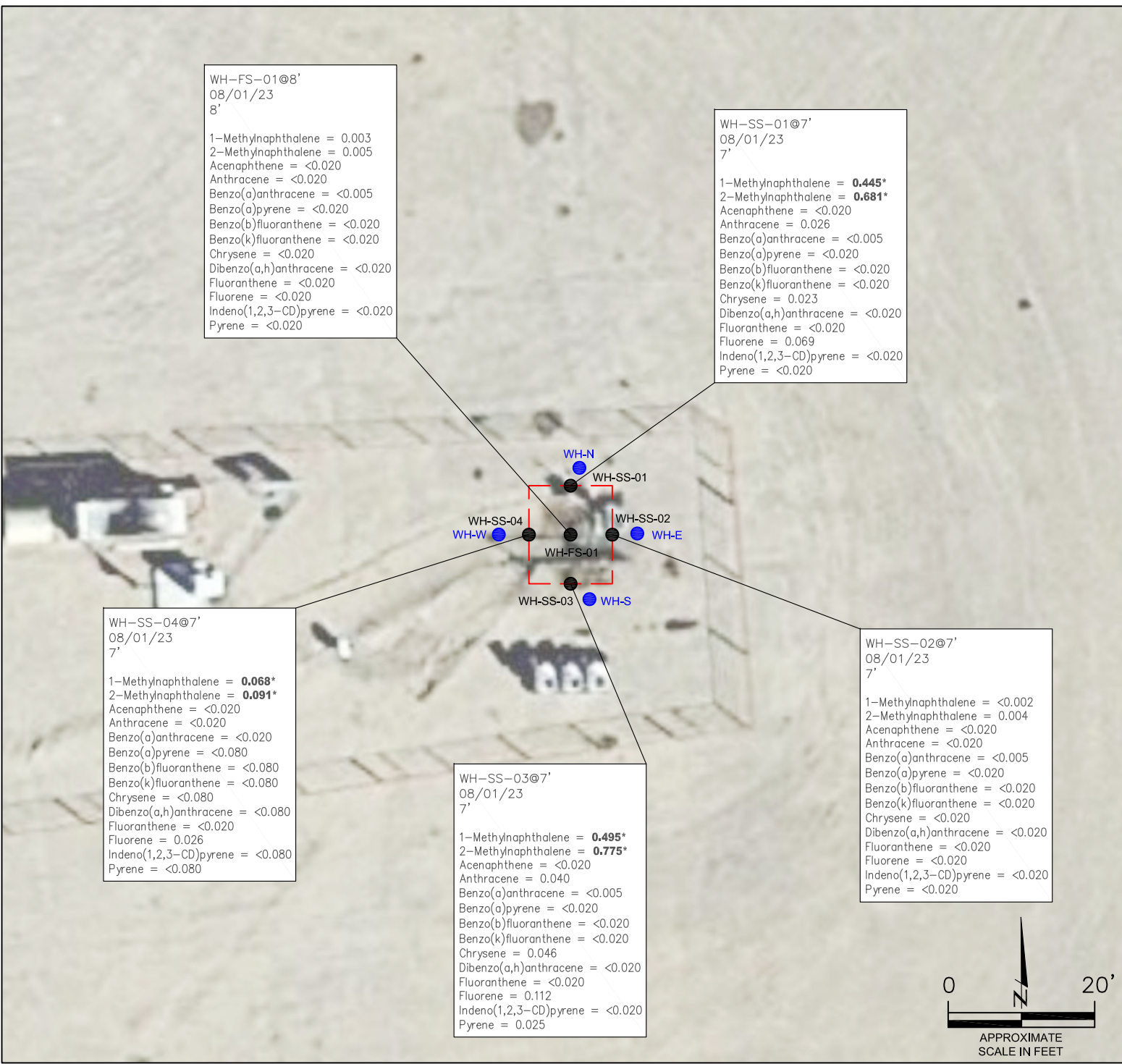
ECMC = ENERGY & CARBON MANAGEMENT COMMISSION

SOIL ANALYTICAL MAP
BETHYL GW #29-12
CLOSURE ASSESSMENT
40.629892 / -104.465929
NW¼ SW¼ SEC.29 T8N R63W 6PM
WELD COUNTY, COLORADO
API # 05-123-36782
REMEDIAION # 30216

FIGURE NO.
3

DRAWN BY:
GEC

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



WH-FS-01@8'
08/01/23
8'

1-Methylnaphthalene = 0.003
2-Methylnaphthalene = 0.005
Acenaphthene = <0.020
Anthracene = <0.020
Benzo(a)anthracene = <0.005
Benzo(a)pyrene = <0.020
Benzo(b)fluoranthene = <0.020
Benzo(k)fluoranthene = <0.020
Chrysene = <0.020
Dibenzo(a,h)anthracene = <0.020
Fluoranthene = <0.020
Fluorene = <0.020
Indeno(1,2,3-CD)pyrene = <0.020
Pyrene = <0.020

WH-SS-01@7'
08/01/23
7'

1-Methylnaphthalene = **0.445***
2-Methylnaphthalene = **0.681***
Acenaphthene = <0.020
Anthracene = 0.026
Benzo(a)anthracene = <0.005
Benzo(a)pyrene = <0.020
Benzo(b)fluoranthene = <0.020
Benzo(k)fluoranthene = <0.020
Chrysene = 0.023
Dibenzo(a,h)anthracene = <0.020
Fluoranthene = <0.020
Fluorene = 0.069
Indeno(1,2,3-CD)pyrene = <0.020
Pyrene = <0.020

WH-SS-04@7'
08/01/23
7'

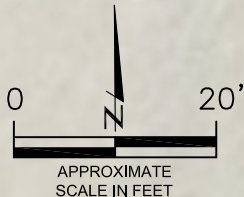
1-Methylnaphthalene = **0.068***
2-Methylnaphthalene = **0.091***
Acenaphthene = <0.020
Anthracene = <0.020
Benzo(a)anthracene = <0.020
Benzo(a)pyrene = <0.080
Benzo(b)fluoranthene = <0.080
Benzo(k)fluoranthene = <0.080
Chrysene = <0.080
Dibenzo(a,h)anthracene = <0.080
Fluoranthene = <0.020
Fluorene = 0.026
Indeno(1,2,3-CD)pyrene = <0.080
Pyrene = <0.080

WH-SS-03@7'
08/01/23
7'

1-Methylnaphthalene = **0.495***
2-Methylnaphthalene = **0.775***
Acenaphthene = <0.020
Anthracene = 0.040
Benzo(a)anthracene = <0.005
Benzo(a)pyrene = <0.020
Benzo(b)fluoranthene = <0.020
Benzo(k)fluoranthene = <0.020
Chrysene = 0.046
Dibenzo(a,h)anthracene = <0.020
Fluoranthene = <0.020
Fluorene = 0.112
Indeno(1,2,3-CD)pyrene = <0.020
Pyrene = 0.025

WH-SS-02@7'
08/01/23
7'

1-Methylnaphthalene = <0.002
2-Methylnaphthalene = 0.004
Acenaphthene = <0.020
Anthracene = <0.020
Benzo(a)anthracene = <0.005
Benzo(a)pyrene = <0.020
Benzo(b)fluoranthene = <0.020
Benzo(k)fluoranthene = <0.020
Chrysene = <0.020
Dibenzo(a,h)anthracene = <0.020
Fluoranthene = <0.020
Fluorene = <0.020
Indeno(1,2,3-CD)pyrene = <0.020
Pyrene = <0.020



LEGEND

- INITIAL ASSESSMENT BOUNDARIES
- 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

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

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

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

ECMC = ENERGY & CARBON MANAGEMENT COMMISSION

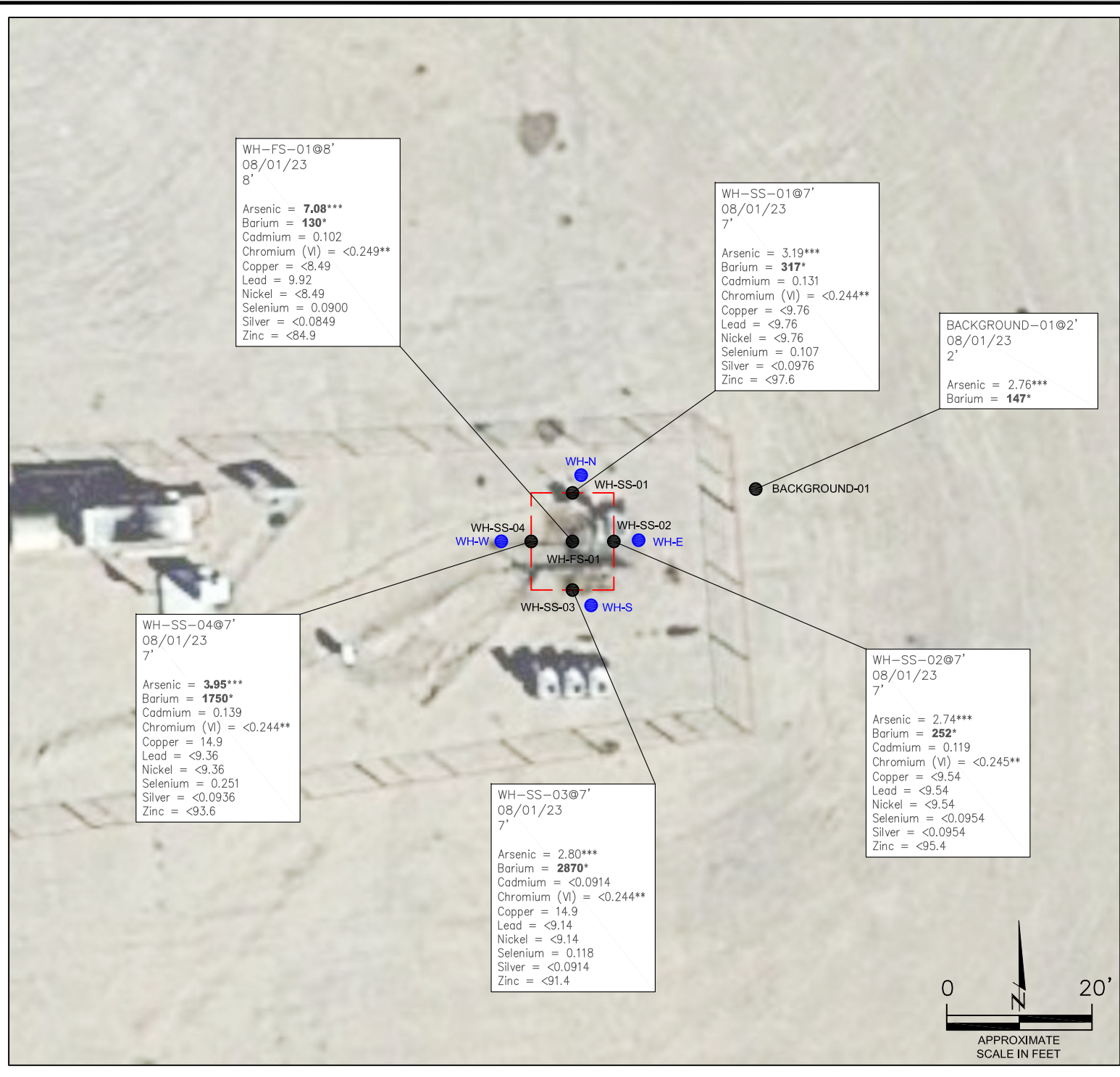
POLYCYCLIC AROMATIC HYDROCARBONS MAP
BETHYL GW #29-12
CLOSURE ASSESSMENT
40.629892 / -104.465929
NW¼ SW¼ SEC.29 T8N R63W 6PM
WELD COUNTY, COLORADO
API # 05-123-36782
REMEDATION # 30216

FIGURE NO.
4

DRAWN BY:
GEC



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



LEGEND

- WELLHEAD ASSESSMENT BOUNDARIES
- 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

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 (3.45 mg/kg) IS 1.25*BACKGROUND (2.76 mg/kg).

ECMC = ENERGY & CARBON MANAGEMENT COMMISSION

METALS IN SOIL MAP
BETHYL GW #29-12
CLOSURE ASSESSMENT
40.629892 / -104.465929
NW¼ SW¼ SEC.29 T8N R63W 6PM
WELD COUNTY, COLORADO
API # 05-123-36782
REMEDIAION # 30216

FIGURE NO.
5

DRAWN BY:
GEC



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



TABLES

Table 1: Photoionization Detector Reading Summary

Table 2: Soil Analytical Results Summary

TABLE 1
PHOTOIONIZATION DETECTOR READING SUMMARY
BETHYL GW #29-12
CLOSURE ASSESSMENT
40.629892 / -104.465929
NW¼ SW¼ SEC.29 T8N R63W 6PM
WELD COUNTY, COLORADO
API # 05-123-36782
REMEDIATION # 30216

Sample Location (Latitude/Longitude)	Date	Approximate Depth (feet)	PID Reading (ppm-v)	Lab Submission (Y/N)
WH-FS-01 @ 8' (40.629899 / -104.465942)	08/01/23	8	309.4	Y
WH-SS-01 @ 7' (40.629918 / -104.465941)	08/01/23	7	431.5	Y
WH-SS-02 @ 7' (40.629903 / -104.465920)	08/01/23	7	57.2	Y
WH-SS-03 @ 7' (40.629884 / -104.465943)	08/01/23	7	303.2	Y
WH-SS-04 @ 7' (40.629901 / -104.465959)	08/01/23	7	257.3	Y
WH-N @ 0.5' (40.629926 / -104.465939)	08/01/23	0.5	0.1	N
WH-E @ 0.5' (40.629904 / -104.465910)	08/01/23	0.5	0.7	N
WH-S @ 0.5' (40.629879 / -104.465932)	08/01/23	0.5	0.5	N
WH-W @ 0.5' (40.629902 / -104.465977)	08/01/23	0.5	0.3	N
Background-01 @ 2' (40.629921 / -104.465853)	08/01/23	2	2.5	Y
(Y/N) = Yes or No ppm-v = parts per million by volume PID = Photoionization Detector				



TABLE 2
SOIL ANALYTICAL RESULTS SUMMARY
BETHYL GW #29-12
CLOSURE ASSESSMENT
40.629892 / -104.465929
NW¼ SW¼ SEC.29 T8N R63W 6PM
WELD COUNTY, COLORADO
API # 05-123-36782
REMEDATION # 30216

Sample Location	WH-FS-01 @ 8'	WH-SS-01 @ 7'	WH-SS-02 @ 7'	WH-SS-03 @ 7'	WH-SS-04 @ 7'	Background-01 @ 2'
(Latitude / Longitude)	(40.629899 / -104.465942)	(40.629918 / -104.465941)	(40.629903 / -104.465920)	(40.629884 / -104.465943)	(40.629901 / -104.465959)	(40.629921 / -104.465853)
Sample Date	8/1/2023	8/1/2023	8/1/2023	8/1/2023	8/1/2023	8/1/2023
Sample Depth	8'	7'	7'	7'	7'	2'
PID Reading (ppm-v)	309.4	431.5	57.2	303.2	257.3	2.5
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
Naphthalene	mg/kg	2	0.0038	--	<0.00380	0.233*
1,2,4-Trimethylbenzene	mg/kg	30	0.0081	--	<0.00200	0.0314*
1,3,5-Trimethylbenzene	mg/kg	27	0.0087	--	<0.00200	0.0506*
TOTAL PETROLEUM HYDROCARBONS						
TPH-GRO	mg/kg		--	--	<0.200	24.6
TPH-DRO	mg/kg	500	--	--	<25.0	847
TPH-RRO	mg/kg		--	--	<100	684
POLYCYCLIC AROMATIC HYDROCARBONS						
1-Methyl-naphthalene	mg/kg	18	0.006	--	0.003	0.445*
2-Methyl-naphthalene	mg/kg	24	0.019	--	0.005	0.681*
Acenaphthene	mg/kg	360	0.55	--	<0.020	<0.020
Anthracene	mg/kg	1800	5.8	--	<0.020	0.026
Benzo(a)-anthracene	mg/kg	1.1	0.011	--	<0.005	<0.005
Benzo(a)-pyrene	mg/kg	0.11	0.24	--	<0.020	<0.020
Benzo(b)-fluoranthene	mg/kg	1.1	0.3	--	<0.020	<0.020
Benzo(k)-fluoranthene	mg/kg	11	2.9	--	<0.020	<0.020
Chrysene	mg/kg	110	9	--	<0.020	0.023
Dibenzo(a,h)-anthracene	mg/kg	0.11	0.096	--	<0.020	<0.020
Fluoranthene	mg/kg	240	8.9	--	<0.020	<0.020
Fluorene	mg/kg	240	0.54	--	<0.020	0.069
Indeno(1,2,3-cd)-pyrene	mg/kg	1.1	0.98	--	<0.020	<0.020
Pyrene	mg/kg	180	1.3	--	<0.020	<0.020
SOIL SUITABILITY (Inorganics)						
Boron	mg/L	2	--	--	0.237	<0.982
pH	standard unit	6-8.3	--	--	7.96	7.98
Sodium Adsorption Ratio (SAR)	--	<6	--	--	0.361	0.175
Specific Conductance (EC)	mmhos/cm	<4	--	--	0.279	0.316
METALS						
Arsenic	mg/kg	0.68***	0.29***	3.45***	7.08***	3.19***
Barium	mg/kg	15000	82	--	130*	317*
Cadmium	mg/kg	71	0.38	--	0.102	0.131
Copper	mg/kg	3100	46	--	<8.49	<9.76
Lead	mg/kg	400	14	--	9.92	<9.76
Nickel	mg/kg	1500	26	--	<8.49	<9.76
Selenium	mg/kg	390	0.26	--	0.0900	0.107
Silver	mg/kg	390	0.8	--	<0.0849	<0.0976
Zinc	mg/kg	23000	370	--	<84.9	<97.6
Hexavalent Chromium	mg/kg	0.3**	0.00067**	0.1 to 1.0**	<0.249**	<0.244**

ECMC = Energy & Carbon Management Commission

NA - Not Analyzed

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

VOCs - Volatile Organic Compounds

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, only.

**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. The Local Clean-up Level (3.45 mg/kg) is 1.25*Background (2.76 mg/kg).



ATTACHMENT A

Photo Log

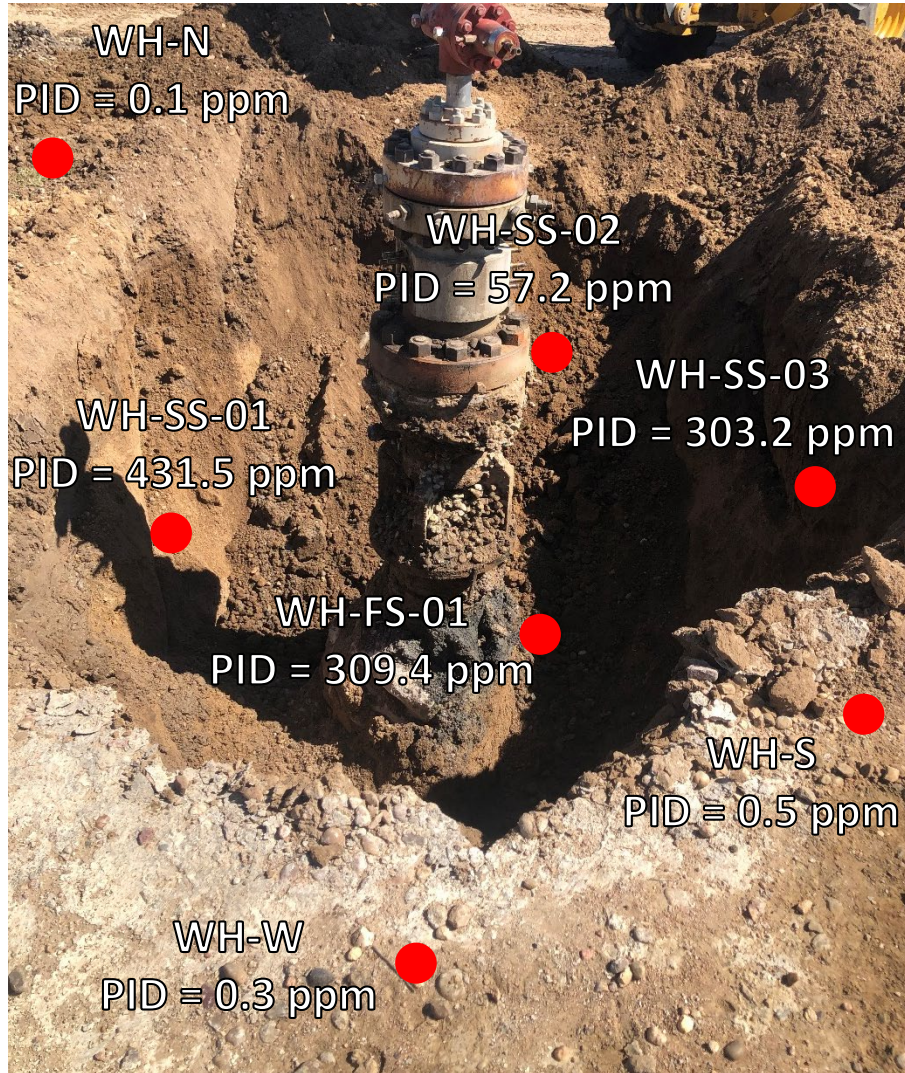
Bethyl GW #29-12
API # 05-123-36782
Remediation # 30216

Closure Assessment

August 2023

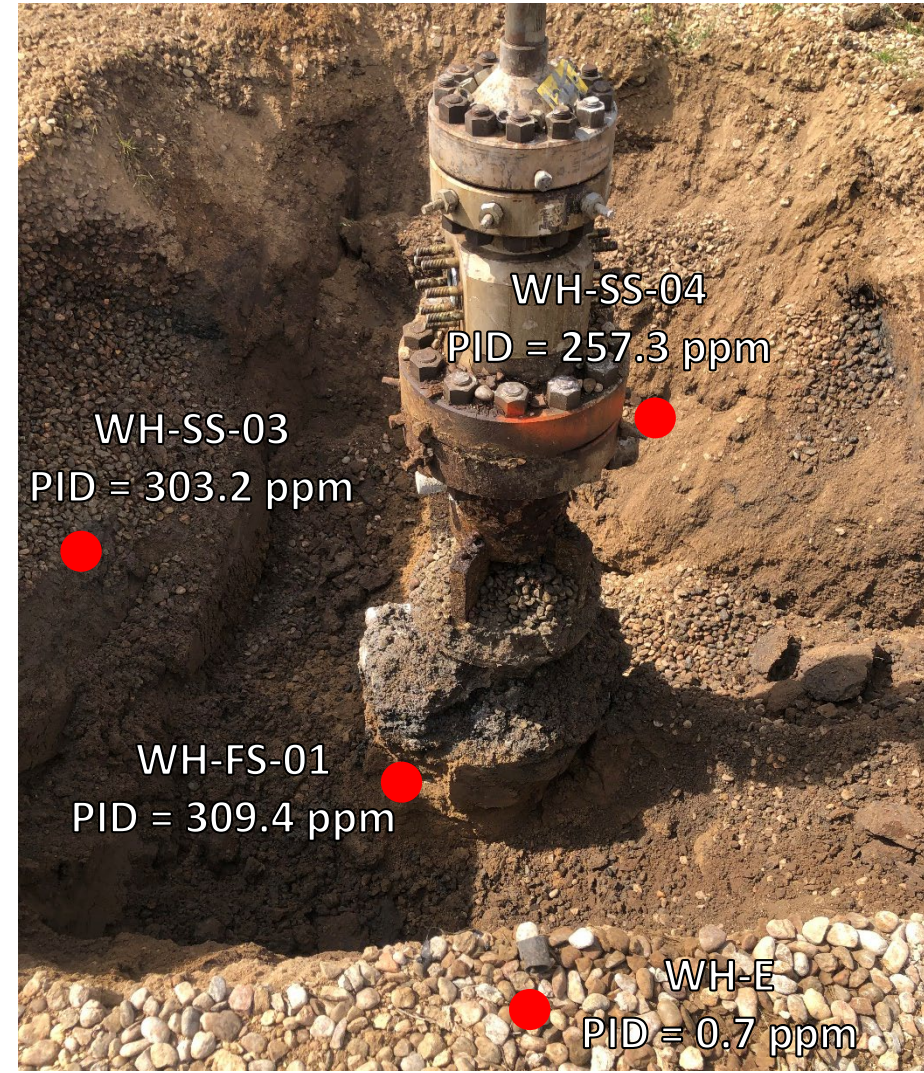


Wellhead Excavation – 08/01/23



Looking east

Strong petroleum hydrocarbon odor observed; no staining observed



Looking west

Strong petroleum hydrocarbon odor observed; no staining observed



ATTACHMENT B

Laboratory Analytical Reports

August 15, 2023

Eagle Environmental Consulting, LLC

Martin C Eckert III

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - Bethyl GW 29-12

Project Number - [none]

Attached are your analytical results for Noble - Bethyl GW 29-12 received by Origins Laboratory, Inc. August 02, 2023. This project is associated with Origins project number Y308043-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



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

Martin C Eckert III
Project Number: [none]
Project: Noble - Bethyl GW 29-12

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-SS-01@7'	Y308043-01	Soil	August 1, 2023 15:35	08/02/2023 09:25
WH-SS-02@7'	Y308043-02	Soil	August 1, 2023 15:37	08/02/2023 09:25
WH-SS-03@7'	Y308043-03	Soil	August 1, 2023 15:39	08/02/2023 09:25
WH-SS-04@7'	Y308043-04	Soil	August 1, 2023 15:41	08/02/2023 09:25
WH-FS-01@8'	Y308043-05	Soil	August 1, 2023 15:43	08/02/2023 09:25

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.

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4308043

Client: Eagle
 Client Project ID: Bethyl GW 24-12

Checklist Completed by: TSH/ETK
 Date/time completed: 8/2/23

Shipped Via: HD
 (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 / 6 °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"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Reviewed by (Project Manager) [Signature]

Date/Time Reviewed 8/2/23

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 - Bethyl GW 29-12

WH-SS-01@7'
8/1/2023 3:35:00PM

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

Origins Laboratory, Inc.
Y308043-01 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.982	mg/L	10	B3H0707	08/07/2023	08/09/2023	
-------	----	--	-------	------	----	---------	------------	------------	--

DRO/ORO by EPA 8015D

Diesel (C10-C28)	1520		25.0	mg/kg	1	B3H0302	08/03/2023	08/05/2023	
Residual Range Organics (C28-C40)	684		100	"	"	"	"	"	

Surrogate: <i>o</i> -Terphenyl	108 %		50-150			"	"	"	
--------------------------------	-------	--	--------	--	--	---	---	---	--

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	0.0314		0.00200	mg/kg	1	B3H0332	08/03/2023	08/07/2023	
1,3,5-Trimethylbenzene	0.0506		0.00200	"	"	"	"	"	
Benzene	ND		0.00200	"	"	"	"	"	U
Ethylbenzene	0.00290		0.00200	"	"	"	"	"	
Naphthalene	0.233		0.00380	"	"	"	"	"	
Toluene	0.00452		0.00200	"	"	"	"	"	
Xylenes, total	0.103		0.00200	"	"	"	"	"	
Gasoline Range Hydrocarbons	24.6		5.00	"	25	"	"	08/06/2023	

Surrogate: 1,2-Dichloroethane-d4	99.7 %		70-130			"	"	08/07/2023	
Surrogate: Toluene-d8	120 %		70-130			"	"	"	

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

WH-SS-01@7'
8/1/2023 3:35:00PM

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

Origins Laboratory, Inc.
Y308043-01 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	92.1 %	70-130				B3H03 32	08/03/2023	08/07/2023	
---------------------------------	--------	--------	--	--	--	-------------	------------	------------	--

Metals by Saturated Paste by EPA 6010

Calcium	2.52	0.499	meq/L	10	[CALC]		08/07/2023	08/08/2023	
Magnesium	ND	0.823	"	"	"	"	"	"	
Sodium	ND	0.435	"	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	0.445	0.002	mg/kg	1	B3H0320		08/03/2023	08/04/2023	
2-Methylnaphthalene	0.681	0.002	"	"	"	"	"	"	
Acenaphthene	ND	0.020	"	"	"	"	"	"	U
Anthracene	0.026	0.020	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	"	U
Chrysene	0.023	0.020	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	"	U
Fluoranthene	ND	0.020	"	"	"	"	"	"	U
Fluorene	0.069	0.020	"	"	"	"	"	"	

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 - Bethyl GW 29-12

WH-SS-01@7'
8/1/2023 3:35:00PM

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

Origins Laboratory, Inc.
Y308043-01 (Soil)

PAH by EPA 8270E

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B3H0320	08/03/2023	08/04/2023	U
Pyrene	ND		0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	95.4 %		60-130			"	"	"	
Surrogate: Anthracene-d10	103 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	97.9 %		60-130			"	"	"	
Surrogate: Pyrene-d10	86.5 %		60-130			"	"	"	

pH in Soil by 9045D

pH	7.80			pH Units	1	B3H0711	08/07/2023	08/08/2023	
----	------	--	--	----------	---	---------	------------	------------	--

SAR by 20B Saturated Paste

SAR	0.0996			SAR	1	B3H0705	08/07/2023	08/08/2023	
-----	--------	--	--	-----	---	---------	------------	------------	--

Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.316		0.00500	mmhos/cm	1	B3H0711	08/07/2023	08/08/2023	
---------------------------	-------	--	---------	----------	---	---------	------------	------------	--

Table 915 metals by EPA 6020B

Arsenic	3.19		0.0976	mg/kg	10	B3H0229	08/02/2023	08/03/2023	
Barium	317		9.76	"	"	"	"	"	

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 - Bethyl GW 29-12

WH-SS-01@7'

8/1/2023 3:35:00PM

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

Origins Laboratory, Inc.
Y308043-01 (Soil)

Table 915 metals by EPA 6020B

Cadmium	0.131		0.0976	mg/kg	10	B3H0229	08/02/2023	08/03/2023	
Copper	ND		9.76	"	"	"	"	08/04/2023	
Lead	ND		9.76	"	"	"	"	08/03/2023	
Nickel	ND		9.76	"	"	"	"	"	
Selenium	0.107		0.0976	"	"	"	"	"	
Silver	ND		0.0976	"	"	"	"	"	
Zinc	ND		97.6	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L697015	08/01/2023	08/08/2023	
----------------------	----	-------	-----	-------	---	---------	------------	------------	--

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

WH-SS-02@7'
8/1/2023 3:37:00PM

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

Origins Laboratory, Inc.
Y308043-02 (Soil)

Boron (DTPA Sorbitol)

Boron	0.105		0.0994	mg/L	1	B3H0708	08/07/2023	08/08/2023	
-------	-------	--	--------	------	---	---------	------------	------------	--

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B3H0302	08/03/2023	08/05/2023	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: o-Terphenyl	95.9 %		50-150			"	"	"	
------------------------	--------	--	--------	--	--	---	---	---	--

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B3H0332	08/03/2023	08/06/2023	U
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	U
Benzene	ND		0.00200	"	"	"	"	"	U
Ethylbenzene	ND		0.00200	"	"	"	"	"	U
Naphthalene	ND		0.00380	"	"	"	"	"	U
Toluene	ND		0.00200	"	"	"	"	"	U
Xylenes, total	ND		0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	U

Origins Laboratory, Inc.



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 - Bethyl GW 29-12

WH-SS-02@7'

8/1/2023 3:37:00PM

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

Origins Laboratory, Inc.
Y308043-02 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 1,2-Dichloroethane-d4	99.4 %		70-130			B3H03 32	08/03/2023	08/06/2023	
Surrogate: Toluene-d8	98.2 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.4 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	ND	0.499	meq/L	10	[CALC]		08/07/2023	08/08/2023	
Magnesium	ND	8.23	"	100	"		"	"	
Sodium	ND	4.35	"	"	"		"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B3H0320		08/03/2023	08/03/2023	U
2-Methylnaphthalene	0.004	0.002	"	"	"		"	"	
Acenaphthene	ND	0.020	"	"	"		"	"	U
Anthracene	ND	0.020	"	"	"		"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"		"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"		"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"		"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"		"	"	U
Chrysene	ND	0.020	"	"	"		"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"		"	"	U

Origins Laboratory, Inc.



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 - Bethyl GW 29-12

WH-SS-02@7'

8/1/2023 3:37:00PM

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

Origins Laboratory, Inc.
Y308043-02 (Soil)

PAH by EPA 8270E

Fluoranthene	ND		0.020	mg/kg	1	B3H0320	08/03/2023	08/03/2023	U
Fluorene	ND		0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND		0.020	"	"	"	"	"	U
Pyrene	ND		0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	100 %		60-130			"	"	"	
Surrogate: Anthracene-d10	96.3 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	99.8 %		60-130			"	"	"	
Surrogate: Pyrene-d10	119 %		60-130			"	"	"	

pH in Soil by 9045D

pH	7.98			pH Units	1	B3H0711	08/07/2023	08/08/2023	
----	------	--	--	----------	---	---------	------------	------------	--

SAR by 20B Saturated Paste

SAR	0.175			SAR	1	B3H0705	08/07/2023	08/08/2023	
-----	-------	--	--	-----	---	---------	------------	------------	--

Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.316		0.00500	mmhos/cm	1	B3H0711	08/07/2023	08/08/2023	
---------------------------	-------	--	---------	----------	---	---------	------------	------------	--

Table 915 metals by EPA 6020B

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 - Bethyl GW 29-12

WH-SS-02@7'

8/1/2023 3:37:00PM

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

Origins Laboratory, Inc.
Y308043-02 (Soil)

Table 915 metals by EPA 6020B

Arsenic	2.74	0.0954	0.0954	mg/kg	10	B3H0229	08/02/2023	08/03/2023	
Barium	252	9.54	9.54	"	"	"	"	"	
Cadmium	0.119	0.0954	0.0954	"	"	"	"	"	
Copper	ND	9.54	9.54	"	"	"	"	08/04/2023	
Lead	ND	9.54	9.54	"	"	"	"	08/03/2023	
Nickel	ND	9.54	9.54	"	"	"	"	"	
Selenium	ND	0.0954	0.0954	"	"	"	"	"	
Silver	ND	0.0954	0.0954	"	"	"	"	"	
Zinc	ND	95.4	95.4	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.245	0.503	mg/Kg	1	L697015	08/01/2023	08/08/2023	
----------------------	----	-------	-------	-------	---	---------	------------	------------	--

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

WH-SS-03@7'
8/1/2023 3:39:00PM

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

Origins Laboratory, Inc.
Y308043-03 (Soil)

Boron (DTPA Sorbitol)

Boron	0.160		0.100	mg/L	1	B3H0708	08/07/2023	08/08/2023	
-------	-------	--	-------	------	---	---------	------------	------------	--

DRO/ORO by EPA 8015D

Diesel (C10-C28)	847		25.0	mg/kg	1	B3H0302	08/03/2023	08/05/2023	
Residual Range Organics (C28-C40)	433		100	"	"	"	"	"	

Surrogate: o-Terphenyl	96.8 %		50-150			"	"	"	
------------------------	--------	--	--------	--	--	---	---	---	--

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	0.00238		0.00200	mg/kg	1	B3H0332	08/03/2023	08/06/2023	
1,3,5-Trimethylbenzene	0.0153		0.00200	"	"	"	"	"	
Benzene	ND		0.00200	"	"	"	"	"	U
Ethylbenzene	ND		0.00200	"	"	"	"	"	U
Naphthalene	0.00860		0.00380	"	"	"	"	"	
Toluene	ND		0.00200	"	"	"	"	"	U
Xylenes, total	0.00328		0.00200	"	"	"	"	"	
Gasoline Range Hydrocarbons	148		5.00	"	25	"	"	08/09/2023	

Surrogate: 1,2-Dichloroethane-d4	101 %		70-130			"	"	08/06/2023	
----------------------------------	-------	--	--------	--	--	---	---	------------	--

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

WH-SS-03@7'

8/1/2023 3:39:00PM

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

Origins Laboratory, Inc.
Y308043-03 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	109 %		70-130			B3H03 32	08/03/2023	08/06/2023	
Surrogate: 4-Bromofluorobenzene	99.6 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	71.1		4.99	meq/L	100	[CALC]	08/07/2023	08/08/2023	
Magnesium	1.54		0.823	"	10	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	0.495		0.002	mg/kg	1	B3H0320	08/03/2023	08/04/2023	
2-Methylnaphthalene	0.775		0.002	"	"	"	"	"	
Acenaphthene	ND		0.020	"	"	"	"	"	U
Anthracene	0.040		0.020	"	"	"	"	"	
Benzo (a) anthracene	ND		0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND		0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND		0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND		0.020	"	"	"	"	"	U
Chrysene	0.046		0.020	"	"	"	"	"	
Dibenz (a,h) anthracene	ND		0.020	"	"	"	"	"	U
Fluoranthene	ND		0.020	"	"	"	"	"	U
Fluorene	0.112		0.020	"	"	"	"	"	

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 - Bethyl GW 29-12

WH-SS-03@7'

8/1/2023 3:39:00PM

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

Origins Laboratory, Inc.
Y308043-03 (Soil)

PAH by EPA 8270E

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B3H0320	08/03/2023	08/04/2023	U
Pyrene	0.025		0.020	"	"	"	"	"	

Surrogate: Fluorene-d10	94.0 %		60-130			"	"	"	
Surrogate: Anthracene-d10	109 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	93.4 %		60-130			"	"	"	
Surrogate: Pyrene-d10	88.7 %		60-130			"	"	"	

pH in Soil by 9045D

pH	7.41			pH Units	1	B3H0711	08/07/2023	08/08/2023	
----	-------------	--	--	----------	---	---------	------------	------------	--

SAR by 20B Saturated Paste

SAR	0.0435			SAR	1	B3H0705	08/07/2023	08/08/2023	
-----	---------------	--	--	-----	---	---------	------------	------------	--

Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.760		0.00500	mmhos/cm	1	B3H0711	08/07/2023	08/08/2023	
---------------------------	--------------	--	---------	----------	---	---------	------------	------------	--

Table 915 metals by EPA 6020B

Arsenic	2.80		0.0914	mg/kg	10	B3H0229	08/02/2023	08/03/2023	
Barium	2870		9.14	"	"	"	"	"	

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 - Bethyl GW 29-12

WH-SS-03@7'

8/1/2023 3:39:00PM

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

Origins Laboratory, Inc.
Y308043-03 (Soil)

Table 915 metals by EPA 6020B

Cadmium	ND		0.0914	mg/kg	10	B3H0229	08/02/2023	08/03/2023	
Copper	14.9		9.14	"	"	"	"	08/04/2023	
Lead	ND		9.14	"	"	"	"	08/03/2023	
Nickel	ND		9.14	"	"	"	"	"	
Selenium	0.118		0.0914	"	"	"	"	"	
Silver	ND		0.0914	"	"	"	"	"	
Zinc	ND		91.4	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L697015	08/01/2023	08/08/2023	
----------------------	----	-------	-----	-------	---	---------	------------	------------	--

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

WH-SS-04@7'
8/1/2023 3:41:00PM

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

Origins Laboratory, Inc.
Y308043-04 (Soil)

Boron (DTPA Sorbitol)

Boron	0.771		0.0993	mg/L	1	B3H0708	08/07/2023	08/08/2023	
-------	-------	--	--------	------	---	---------	------------	------------	--

DRO/ORO by EPA 8015D

Diesel (C10-C28)	66.8		25.0	mg/kg	1	B3H0302	08/03/2023	08/05/2023	
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: <i>o</i> -Terphenyl	96.8 %		50-150			"	"	"	
--------------------------------	--------	--	--------	--	--	---	---	---	--

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B3H0332	08/03/2023	08/06/2023	U
1,3,5-Trimethylbenzene	0.00254		0.00200	"	"	"	"	"	
Benzene	ND		0.00200	"	"	"	"	"	U
Ethylbenzene	ND		0.00200	"	"	"	"	"	U
Naphthalene	ND		0.00380	"	"	"	"	"	U
Toluene	ND		0.00200	"	"	"	"	"	U
Xylenes, total	ND		0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	U

Origins Laboratory, Inc.



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 - Bethyl GW 29-12

WH-SS-04@7'
8/1/2023 3:41:00PM

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

Origins Laboratory, Inc.
Y308043-04 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 1,2-Dichloroethane-d4	99.2 %		70-130			B3H03 32	08/03/2023	08/06/2023	
Surrogate: Toluene-d8	98.6 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.6 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	2.98	0.499	meq/L	10	[CALC]		08/07/2023	08/08/2023	
Magnesium	0.986	0.823	"	"	"	"	"	"	
Sodium	0.740	0.435	"	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	0.068	0.002	mg/kg	1	B3H0320		08/03/2023	08/08/2023	
2-Methylnaphthalene	0.091	0.002	"	"	"	"	"	"	
Acenaphthene	ND	0.020	"	"	"	"	"	"	U
Anthracene	ND	0.020	"	"	"	"	"	"	U
Benzo (a) anthracene	ND	0.020	"	4	"	"	"	08/08/2023	R-01, U
Benzo (a) pyrene	ND	0.080	"	"	"	"	"	"	R-01, U
Benzo (b) fluoranthene	ND	0.080	"	"	"	"	"	"	R-01, U
Benzo (k) fluoranthene	ND	0.080	"	"	"	"	"	"	R-01, U
Chrysene	ND	0.080	"	"	"	"	"	"	R-01, U
Dibenz (a,h) anthracene	ND	0.080	"	"	"	"	"	"	R-01, U
Fluoranthene	ND	0.020	"	1	"	"	"	08/08/2023	U

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 - Bethyl GW 29-12

WH-SS-04@7'

8/1/2023 3:41:00PM

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

Origins Laboratory, Inc.
Y308043-04 (Soil)

PAH by EPA 8270E

Fluorene	0.026		0.020	mg/kg	1	B3H0320	08/03/2023	08/08/2023	
Indeno (1,2,3-cd) pyrene	ND		0.080	"	4	"	"	08/08/2023	R-01, U
Pyrene	ND		0.080	"	"	"	"	"	R-01, U

Surrogate: Fluorene-d10	94.1 %		60-130			"	"	08/08/2023	
Surrogate: Anthracene-d10	89.8 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	99.5 %		60-130			"	"	08/08/2023	
Surrogate: Pyrene-d10	138 %		60-130			"	"	"	S-04

pH in Soil by 9045D

pH	7.97			pH Units	1	B3H0711	08/07/2023	08/08/2023	
----	------	--	--	----------	---	---------	------------	------------	--

SAR by 20B Saturated Paste

SAR	0.526			SAR	1	B3H0705	08/07/2023	08/08/2023	
-----	-------	--	--	-----	---	---------	------------	------------	--

Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.460		0.00500	mmhos/cm	1	B3H0711	08/07/2023	08/08/2023	
---------------------------	-------	--	---------	----------	---	---------	------------	------------	--

Table 915 metals by EPA 6020B

Arsenic	3.95		0.0936	mg/kg	10	B3H0229	08/02/2023	08/03/2023	
---------	------	--	--------	-------	----	---------	------------	------------	--

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

WH-SS-04@7'

8/1/2023 3:41:00PM

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

Origins Laboratory, Inc.
Y308043-04 (Soil)

Table 915 metals by EPA 6020B

Barium	1750		9.36	mg/kg	10	B3H0229	08/02/2023	08/03/2023	
Cadmium	0.139		0.0936	"	"	"	"	"	
Copper	14.9		9.36	"	"	"	"	08/04/2023	
Lead	ND		9.36	"	"	"	"	08/03/2023	
Nickel	ND		9.36	"	"	"	"	"	
Selenium	0.251		0.0936	"	"	"	"	"	
Silver	ND		0.0936	"	"	"	"	"	
Zinc	ND		93.6	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L697015	08/01/2023	08/08/2023	
----------------------	----	-------	-----	-------	---	---------	------------	------------	--

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

WH-FS-01@8'

8/1/2023 3:43:00PM

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

Origins Laboratory, Inc.
Y308043-05 (Soil)

Boron (DTPA Sorbitol)

Boron	0.237		0.100	mg/L	1	B3H0708	08/07/2023	08/08/2023	
-------	-------	--	-------	------	---	---------	------------	------------	--

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B3H0302	08/03/2023	08/05/2023	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: o-Terphenyl	94.3 %		50-150			"	"	"	
------------------------	--------	--	--------	--	--	---	---	---	--

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B3H0332	08/03/2023	08/07/2023	U
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	U
Benzene	ND		0.00200	"	"	"	"	"	U
Ethylbenzene	ND		0.00200	"	"	"	"	"	U
Naphthalene	ND		0.00380	"	"	"	"	"	U
Toluene	ND		0.00200	"	"	"	"	"	U
Xylenes, total	ND		0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	U

Origins Laboratory, Inc.



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 - Bethyl GW 29-12

WH-FS-01@8'
8/1/2023 3:43:00PM

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

Origins Laboratory, Inc.
Y308043-05 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 1,2-Dichloroethane-d4	98.0 %		70-130			B3H03 32	08/03/2023	08/07/2023	
Surrogate: Toluene-d8	99.8 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	1.50		0.499	meq/L	10	[CALC]	08/07/2023	08/08/2023	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	0.003		0.002	mg/kg	1	B3H0320	08/03/2023	08/04/2023	
2-Methylnaphthalene	0.005		0.002	"	"	"	"	"	
Acenaphthene	ND		0.020	"	"	"	"	"	U
Anthracene	ND		0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND		0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND		0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND		0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND		0.020	"	"	"	"	"	U
Chrysene	ND		0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND		0.020	"	"	"	"	"	U

Origins Laboratory, Inc.



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 - Bethyl GW 29-12

WH-FS-01@8'

8/1/2023 3:43:00PM

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

Origins Laboratory, Inc.
Y308043-05 (Soil)

PAH by EPA 8270E

Fluoranthene	ND		0.020	mg/kg	1	B3H0320	08/03/2023	08/04/2023	U
Fluorene	ND		0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND		0.020	"	"	"	"	"	U
Pyrene	ND		0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	99.5 %		60-130			"	"	"	
Surrogate: Anthracene-d10	95.7 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	101 %		60-130			"	"	"	
Surrogate: Pyrene-d10	118 %		60-130			"	"	"	

pH in Soil by 9045D

pH	7.96			pH Units	1	B3H0711	08/07/2023	08/08/2023	
----	------	--	--	----------	---	---------	------------	------------	--

SAR by 20B Saturated Paste

SAR	0.361			SAR	1	B3H0705	08/07/2023	08/08/2023	
-----	-------	--	--	-----	---	---------	------------	------------	--

Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.279		0.00500	mmhos/cm	1	B3H0711	08/07/2023	08/08/2023	
---------------------------	-------	--	---------	----------	---	---------	------------	------------	--

Table 915 metals by EPA 6020B

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 - Bethyl GW 29-12

WH-FS-01@8'

8/1/2023 3:43:00PM

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

Origins Laboratory, Inc.
Y308043-05 (Soil)

Table 915 metals by EPA 6020B

Arsenic	7.08		0.0849	mg/kg	10	B3H0229	08/02/2023	08/03/2023	
Barium	130		8.49	"	"	"	"	"	
Cadmium	0.102		0.0849	"	"	"	"	"	
Copper	ND		8.49	"	"	"	"	08/04/2023	
Lead	9.92		8.49	"	"	"	"	08/03/2023	
Nickel	ND		8.49	"	"	"	"	"	
Selenium	0.0900		0.0849	"	"	"	"	"	
Silver	ND		0.0849	"	"	"	"	"	
Zinc	ND		84.9	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.249	0.512	mg/Kg	1	L697044	08/01/2023	08/07/2023	
----------------------	----	-------	-------	-------	---	---------	------------	------------	--

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

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 B3H0302 - EPA 3550B										
Blank (B3H0302-BLK1)										
					Prepared: 08/03/2023 Analyzed: 08/04/2023					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	23		"	24.9		93.1	50-150			

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

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 B3H0302 - EPA 3550B

LCS (B3H0302-BS1)

Prepared: 08/03/2023 Analyzed: 08/04/2023

Diesel (C10-C28)	887	50.0	mg/kg	1000		88.7	70-130			
Residual Range Organics (C28-C40)	894	200	"	1000		89.4	70-130			
Surrogate: o-Terphenyl	54		"	49.8		108	50-150			

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

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 B3H0302 - EPA 3550B

Matrix Spike (B3H0302-MS1)	Source: Y308011-01			Prepared: 08/03/2023 Analyzed: 08/04/2023						
Diesel (C10-C28)	881	50.0	mg/kg	1000	ND	88.1	70-130			
Residual Range Organics (C28-C40)	871	200	"	1000	ND	87.1	70-130			
Surrogate: o-Terphenyl	52		"	49.8		104	50-150			

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

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 B3H0302 - EPA 3550B

Matrix Spike Dup (B3H0302-MSD1)	Source: Y308011-01			Prepared: 08/03/2023 Analyzed: 08/04/2023						
Diesel (C10-C28)	871	50.0	mg/kg	1000	ND	87.1	70-130	1.04	35	
Residual Range Organics (C28-C40)	868	200	"	1000	ND	86.8	70-130	0.346	35	
Surrogate: o-Terphenyl	50		"	49.8		100	50-150			

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

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 B3H0332 - EPA 5030 (soil)

Blank (B3H0332-BLK1)

Prepared: 08/03/2023 Analyzed: 08/06/2023

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125	98.4		70-130			
Surrogate: Toluene-d8	0.13		"	0.125	102		70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125	100		70-130			

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

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 B3H0332 - EPA 5030 (soil)

LCS (B3H0332-BS1)

Prepared: 08/03/2023 Analyzed: 08/06/2023

1,2,4-Trimethylbenzene	0.111	0.00200	mg/kg	0.100		111	70-130			
1,3,5-Trimethylbenzene	0.114	0.00200	"	0.100		114	70-130			
Benzene	0.115	0.00200	"	0.100		115	70-130			
Ethylbenzene	0.112	0.00200	"	0.100		112	70-130			
Naphthalene	0.100	0.00380	"	0.100		100	70-130			
Toluene	0.112	0.00200	"	0.100		112	70-130			
o-Xylene	0.110	0.00200	"	0.100		110	70-130			
m,p-Xylene	0.222	0.00400	"	0.200		111	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		89.8	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		105	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

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 B3H0332 - EPA 5030 (soil)

Matrix Spike (B3H0332-MS1)	Source: Y308029-01			Prepared: 08/03/2023 Analyzed: 08/06/2023						
1,2,4-Trimethylbenzene	0.118	0.00200	mg/kg	0.100	0.000880	117	70-130			
1,3,5-Trimethylbenzene	0.123	0.00200	"	0.100	0.000940	122	70-130			
Benzene	0.125	0.00200	"	0.100	ND	125	70-130			
Ethylbenzene	0.119	0.00200	"	0.100	0.00120	118	70-130			
Naphthalene	0.106	0.00380	"	0.100	0.000760	106	70-130			
Toluene	0.118	0.00200	"	0.100	0.00134	117	70-130			
o-Xylene	0.117	0.00200	"	0.100	0.00110	116	70-130			
m,p-Xylene	0.236	0.00400	"	0.200	0.00230	117	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		93.0	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.9	70-130			

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

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 B3H0332 - EPA 5030 (soil)

Matrix Spike Dup (B3H0332-MSD1)	Source: Y308029-01			Prepared: 08/03/2023 Analyzed: 08/06/2023						
1,2,4-Trimethylbenzene	0.0999	0.00200	mg/kg	0.100	0.000880	99.0	70-130	16.6	20	
1,3,5-Trimethylbenzene	0.102	0.00200	"	0.100	0.000940	101	70-130	18.9	20	
Benzene	0.112	0.00200	"	0.100	ND	112	70-130	11.3	20	
Ethylbenzene	0.0973	0.00200	"	0.100	0.00120	96.1	70-130	20.3	20	QR-02
Naphthalene	0.104	0.00380	"	0.100	0.000760	104	70-130	2.01	20	
Toluene	0.105	0.00200	"	0.100	0.00134	103	70-130	12.0	20	
o-Xylene	0.0971	0.00200	"	0.100	0.00110	96.0	70-130	18.6	20	
m,p-Xylene	0.192	0.00400	"	0.200	0.00230	94.8	70-130	20.7	20	QR-02
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		93.6	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.1	70-130			

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

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 B3H0229 - EPA 3050B

Blank (B3H0229-BLK1)

Prepared: 08/02/2023 Analyzed: 08/03/2023

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 (B3H0229-BS1)

Prepared: 08/02/2023 Analyzed: 08/03/2023

Arsenic	0.0582	0.000100	mg/kg	0.0500		116	80-120			
Barium	5.47	0.0100	"	5.00		109	80-120			
Cadmium	0.0554	0.000100	"	0.0500		111	80-120			
Copper	0.574	0.0100	"	0.500		115	80-120			
Lead	0.0530	0.0100	"	0.0500		106	80-120			
Nickel	0.0567	0.0100	"	0.0500		113	80-120			
Selenium	0.0534	0.000100	"	0.0500		107	80-120			
Silver	0.0568	0.000100	"	0.0500		114	80-120			
Zinc	0.567	0.100	"	0.500		113	80-120			

Matrix Spike (B3H0229-MS1)

Source: Y308001-05

Prepared: 08/02/2023 Analyzed: 08/03/2023

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

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 B3H0229 - EPA 3050B

Matrix Spike (B3H0229-MS1)		Source: Y308001-05			Prepared: 08/02/2023 Analyzed: 08/03/2023					
Arsenic	7.65	0.0866	mg/kg	4.33	2.34	123	75-125			
Barium	461	8.66	"	433	39.5	97.4	75-125			
Cadmium	4.57	0.0866	"	4.33	0.0557	104	75-125			
Copper	49.4	8.66	"	43.3	4.87	103	75-125			
Lead	8.77	8.66	"	4.33	4.50	98.7	75-125			
Nickel	10.5	8.66	"	4.33	5.68	110	75-125			
Selenium	4.31	0.0866	"	4.33	0.180	95.4	75-125			
Silver	4.52	0.0866	"	4.33	0.0156	104	75-125			
Zinc	63.9	86.6	"	43.3	19.7	102	75-125			

Matrix Spike Dup (B3H0229-MSD1)		Source: Y308001-05			Prepared: 08/02/2023 Analyzed: 08/03/2023					
Arsenic	8.42	0.0953	mg/kg	4.76	2.34	128	75-125	9.55	20	QM-07
Barium	517	9.53	"	476	39.5	100	75-125	11.4	20	
Cadmium	4.99	0.0953	"	4.76	0.0557	104	75-125	8.95	20	
Copper	54.6	9.53	"	47.6	4.87	104	75-125	9.92	20	
Lead	11.9	9.53	"	4.76	4.50	154	75-125	29.9	20	QM-07
Nickel	11.4	9.53	"	4.76	5.68	120	75-125	8.47	20	
Selenium	4.72	0.0953	"	4.76	0.180	95.3	75-125	9.10	20	
Silver	4.96	0.0953	"	4.76	0.0156	104	75-125	9.31	20	
Zinc	70.1	95.3	"	47.6	19.7	106	75-125	9.35	20	

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 - Bethyl GW 29-12

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 B3H0320 - EPA 3580

Blank (B3H0320-BLK1)

Prepared: 08/03/2023 Analyzed: 08/03/2023

1-Methylnaphthalene	ND	0.002	mg/kg							U
2-Methylnaphthalene	ND	0.002	"							U
Acenaphthene	ND	0.020	"							U
Anthracene	ND	0.020	"							U
Benzo (a) anthracene	ND	0.005	"							U
Benzo (a) pyrene	ND	0.020	"							U
Benzo (b) fluoranthene	ND	0.020	"							U
Benzo (g,h,i) perylene	ND	0.020	"							U
Benzo (k) fluoranthene	ND	0.020	"							U
Chrysene	ND	0.020	"							U
Dibenz (a,h) anthracene	ND	0.020	"							U
Fluoranthene	ND	0.020	"							U
Fluorene	ND	0.020	"							U
Indeno (1,2,3-cd) pyrene	ND	0.020	"							U
Naphthalene	ND	0.002	"							U
Phenanthrene	ND	0.020	"							U
Pyrene	ND	0.020	"							U
Surrogate: Fluorene-d10	200		ug/kg	200		99.5	60-130			
Surrogate: Anthracene-d10	190		"	200		96.4	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		101	60-130			
Surrogate: Pyrene-d10	230		"	200		117	60-130			

LCS (B3H0320-BS1)

Prepared: 08/03/2023 Analyzed: 08/04/2023

1-Methylnaphthalene	0.212	0.002	mg/kg	0.200		106	70-130			
2-Methylnaphthalene	0.211	0.002	"	0.200		106	70-130			
Acenaphthene	0.201	0.020	"	0.200		101	70-130			
Anthracene	0.193	0.020	"	0.200		96.6	70-130			

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

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 B3H0320 - EPA 3580

LCS (B3H0320-BS1)

Prepared: 08/03/2023 Analyzed: 08/04/2023

Benzo (a) anthracene	0.201	0.005	mg/kg	0.200		100	70-130			
Benzo (a) pyrene	0.199	0.020	"	0.200		99.6	70-130			
Benzo (b) fluoranthene	0.223	0.020	"	0.200		112	70-130			
Benzo (g,h,i) perylene	0.193	0.020	"	0.200		96.7	70-130			
Benzo (k) fluoranthene	0.209	0.020	"	0.200		104	70-130			
Chrysene	0.198	0.020	"	0.200		98.9	70-130			
Dibenz (a,h) anthracene	0.205	0.020	"	0.200		102	70-130			
Fluoranthene	0.185	0.020	"	0.200		92.3	70-130			
Fluorene	0.201	0.020	"	0.200		101	70-130			
Indeno (1,2,3-cd) pyrene	0.196	0.020	"	0.200		98.1	70-130			
Naphthalene	0.212	0.002	"	0.200		106	70-130			
Phenanthrene	0.204	0.020	"	0.200		102	70-130			
Pyrene	0.256	0.020	"	0.200		128	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		99.3	60-130			
Surrogate: Anthracene-d10	190		"	200		94.3	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130			
Surrogate: Pyrene-d10	250		"	200		124	60-130			

Matrix Spike (B3H0320-MS1)

Source: Y308023-03

Prepared: 08/03/2023 Analyzed: 08/04/2023

1-Methylnaphthalene	0.265	0.002	mg/kg	0.200	0.064	101	70-130			
2-Methylnaphthalene	0.397	0.002	"	0.200	0.185	106	70-130			
Acenaphthene	0.202	0.020	"	0.200	0.001	100	70-130			
Anthracene	0.178	0.020	"	0.200	0.002	88.1	70-130			
Benzo (a) anthracene	0.172	0.005	"	0.200	0.001	85.3	70-130			
Benzo (a) pyrene	0.170	0.020	"	0.200	ND	85.0	70-130			
Benzo (b) fluoranthene	0.199	0.020	"	0.200	ND	99.3	70-130			
Benzo (g,h,i) perylene	0.176	0.020	"	0.200	ND	87.8	70-130			

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

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 B3H0320 - EPA 3580

Matrix Spike (B3H0320-MS1)		Source: Y308023-03			Prepared: 08/03/2023 Analyzed: 08/04/2023					
Benzo (k) fluoranthene	0.200	0.020	mg/kg	0.200	ND	100	70-130			
Chrysene	0.194	0.020	"	0.200	0.001	96.5	70-130			
Dibenz (a,h) anthracene	0.201	0.020	"	0.200	ND	101	70-130			
Fluoranthene	0.182	0.020	"	0.200	0.001	90.6	70-130			
Fluorene	0.199	0.020	"	0.200	0.009	95.0	70-130			
Indeno (1,2,3-cd) pyrene	0.180	0.020	"	0.200	ND	89.8	70-130			
Naphthalene	0.236	0.002	"	0.200	0.044	96.0	70-130			
Phenanthrene	0.205	0.020	"	0.200	0.016	94.3	70-130			
Pyrene	0.217	0.020	"	0.200	0.0004	108	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		98.9	60-130			
Surrogate: Anthracene-d10	190		"	200		94.3	60-130			
Surrogate: Benzo (a) pyrene-d12	190		"	200		95.7	60-130			
Surrogate: Pyrene-d10	230		"	200		113	60-130			

Matrix Spike Dup (B3H0320-MSD1)		Source: Y308023-03			Prepared: 08/03/2023 Analyzed: 08/04/2023					
1-Methylnaphthalene	0.289	0.002	mg/kg	0.200	0.064	113	70-130	8.75	20	
2-Methylnaphthalene	0.431	0.002	"	0.200	0.185	123	70-130	8.27	20	
Acenaphthene	0.209	0.020	"	0.200	0.001	104	70-130	3.63	20	
Anthracene	0.188	0.020	"	0.200	0.002	93.2	70-130	5.60	20	
Benzo (a) anthracene	0.178	0.005	"	0.200	0.001	88.5	70-130	3.69	20	
Benzo (a) pyrene	0.199	0.020	"	0.200	ND	99.6	70-130	15.8	20	
Benzo (b) fluoranthene	0.210	0.020	"	0.200	ND	105	70-130	5.43	20	
Benzo (g,h,i) perylene	0.200	0.020	"	0.200	ND	99.8	70-130	12.8	20	
Benzo (k) fluoranthene	0.219	0.020	"	0.200	ND	109	70-130	8.89	20	
Chrysene	0.211	0.020	"	0.200	0.001	105	70-130	8.39	20	
Dibenz (a,h) anthracene	0.216	0.020	"	0.200	ND	108	70-130	6.96	20	
Fluoranthene	0.187	0.020	"	0.200	0.001	93.0	70-130	2.62	20	

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 - Bethyl GW 29-12

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 B3H0320 - EPA 3580

Matrix Spike Dup (B3H0320-MSD1)	Source: Y308023-03			Prepared: 08/03/2023 Analyzed: 08/04/2023						
Fluorene	0.210	0.020	mg/kg	0.200	0.009	100	70-130	5.30	20	
Indeno (1,2,3-cd) pyrene	0.207	0.020	"	0.200	ND	103	70-130	14.0	20	
Naphthalene	0.249	0.002	"	0.200	0.044	102	70-130	5.16	20	
Phenanthrene	0.212	0.020	"	0.200	0.016	97.8	70-130	3.37	20	
Pyrene	0.242	0.020	"	0.200	0.0004	121	70-130	11.0	20	
Surrogate: Fluorene-d10	200		ug/kg	200		98.9	60-130			
Surrogate: Anthracene-d10	190		"	200		94.2	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		98.4	60-130			
Surrogate: Pyrene-d10	230		"	200		117	60-130			

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

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 B3H0705 - Saturated Paste Metals

Blank (B3H0705-BLK1)

Prepared: 08/07/2023 Analyzed: 08/08/2023

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

Duplicate (B3H0705-DUP1)

Source: Y308029-01

Prepared: 08/07/2023 Analyzed: 08/08/2023

Calcium PPM	34.4	10.0	mg/L		35.8			4.05	50	
SAR	0.00		SAR		4.92			200	200	
Magnesium PPM	11.6	10.0	mg/L		11.9			2.21	50	
Sodium PPM	117	10.0	"		133			13.0	50	

Batch B3H0707 - DTPA Sorbitol Preparation

Blank (B3H0707-BLK1)

Prepared: 08/07/2023 Analyzed: 08/08/2023

Boron	ND	0.100	mg/L							
-------	----	-------	------	--	--	--	--	--	--	--

Duplicate (B3H0707-DUP1)

Source: Y308029-01

Prepared: 08/07/2023 Analyzed: 08/08/2023

Boron	0.314	0.0996	mg/L		0.324			3.39	50	
-------	-------	--------	------	--	-------	--	--	------	----	--

Batch B3H0708 - DTPA Sorbitol Preparation

Blank (B3H0708-BLK1)

Prepared: 08/07/2023 Analyzed: 08/08/2023

Boron	ND	0.100	mg/L							
-------	----	-------	------	--	--	--	--	--	--	--

Duplicate (B3H0708-DUP1)

Source: Y308043-02

Prepared: 08/07/2023 Analyzed: 08/08/2023

Boron	0.134	0.0994	mg/L		0.105			25.0	50	
-------	-------	--------	------	--	-------	--	--	------	----	--

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 - Bethyl GW 29-12

Saturated Paste - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3H0711 - Saturated Paste pH/EC										
Blank (B3H0711-BLK1)					Prepared: 08/07/2023 Analyzed: 08/08/2023					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
Duplicate (B3H0711-DUP1)					Source: Y308029-01 Prepared: 08/07/2023 Analyzed: 08/08/2023					
pH	8.17		pH Units		8.19			0.244	25	
Specific Conductance (EC)	0.764	0.00500	mmhos/cm		0.837			9.10	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.

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

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 L697044 -										
DUP (L 89777-DUP)		Source: 89777			Prepared: Analyzed: 08/07/2023					
Chromium, Hexavalent	ND	0.509	mg/Kg		<0.509		-	0	20	
MS (L 89777-MS)		Source: 89777			Prepared: Analyzed: 08/07/2023					
Chromium, Hexavalent	34.8	2.54	mg/Kg	40.6	<1.24	86	75-125			
LCS (LCS)		Prepared: Analyzed: 08/07/2023								
Chromium, Hexavalent	7.02	0.5	mg/Kg	8		88	75-125			
LRB (LRB)		Prepared: Analyzed: 08/07/2023								
Chromium, Hexavalent	ND	0.5	mg/Kg				-			

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

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 L697015 -										
DUP (L 89798-DUP)		Source: 89798			Prepared: Analyzed: 08/08/2023					
Chromium, Hexavalent	ND	0.508	mg/Kg		<0.508		-	0	20	
MS (L 89798-MS)		Source: 89798			Prepared: Analyzed: 08/08/2023					
Chromium, Hexavalent	29.2	2.5	mg/Kg	39.4	<1.22	74	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 - Bethyl GW 29-12

Notes and Definitions

- U Sample is Non-Detect.
- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- R-01 The Reporting Limit for this analyte has been raised to account for matrix interference.
- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- * QC Failure

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

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

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.



August 28, 2023

Eagle Environmental Consulting, LLC

Martin C Eckert III

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - Bethyl GW 29-12

Project Number - [none]

Attached are your analytical results for Noble - Bethyl GW 29-12 received by Origins Laboratory, Inc. August 18, 2023. This project is associated with Origins project number Y308503-01.

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 - Bethyl GW 29-12

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Background-01@2'	Y308503-01	Soil	August 1, 2023 15:45	08/18/2023 12:25

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.

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bethyl GW 29-12

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y308503

Client: Eagle
 Client Project ID: Bethyl GW # 29-12

Checklist Completed by: TSH

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

Date/time completed: 8/18/23

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

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

Thermometer ID: T004

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Reviewed by (Project Manager) [Signature]

Date/Time Reviewed 8/18/23

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 - Bethyl GW 29-12

Background-01@2'
8/1/2023 3:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	---------	----------	----------	-------

Origins Laboratory, Inc.
Y308503-01 (Soil)

Table 915 metals by EPA 6020B

Arsenic	2.76	0.0918	mg/kg	10	B3H2128	CIH	08/21/2023	08/24/2023	
Barium	147	9.18	"	"	"	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 - Bethyl GW 29-12

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 B3H2128 - EPA 3050B

Blank (B3H2128-BLK1)

Prepared: 08/21/2023 Analyzed: 08/24/2023

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 (B3H2128-BS1)

Prepared: 08/21/2023 Analyzed: 08/24/2023

Arsenic	0.0485	0.000100	mg/kg	0.0500		97.1	80-120			
Barium	4.93	0.0100	"	5.00		98.6	80-120			
Cadmium	0.0503	0.000100	"	0.0500		101	80-120			
Copper	0.518	0.0100	"	0.500		104	80-120			
Lead	0.0500	0.0100	"	0.0500		100	80-120			
Nickel	0.0485	0.0100	"	0.0500		97.1	80-120			
Selenium	0.0493	0.000100	"	0.0500		98.6	80-120			
Silver	0.0521	0.000100	"	0.0500		104	80-120			
Zinc	0.500	0.100	"	0.500		100	80-120			

Matrix Spike (B3H2128-MS1)

Source: Y308485-01

Prepared: 08/21/2023 Analyzed: 08/24/2023

Arsenic	7.15	0.0937	mg/kg	4.68	1.72	116	75-125			
Barium	572	9.37	"	468	46.8	112	75-125			
Cadmium	5.43	0.0937	"	4.68	0.131	113	75-125			
Copper	59.3	9.37	"	46.8	5.11	116	75-125			
Lead	17.6	9.37	"	4.68	8.76	188	75-125			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 - Bethyl GW 29-12

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 B3H2128 - EPA 3050B										
Matrix Spike (B3H2128-MS1)			Source: Y308485-01			Prepared: 08/21/2023 Analyzed: 08/24/2023				
Nickel	9.40	9.37	mg/kg	4.68	3.44	127	75-125			QM-07
Selenium	4.87	0.0937	"	4.68	0.0663	103	75-125			
Silver	5.48	0.0937	"	4.68	0.0170	117	75-125			
Zinc	74.3	93.7	"	46.8	17.5	121	75-125			
Matrix Spike Dup (B3H2128-MSD1)			Source: Y308485-01			Prepared: 08/21/2023 Analyzed: 08/24/2023				
Arsenic	6.49	0.0928	mg/kg	4.64	1.72	103	75-125	9.57	20	
Barium	526	9.28	"	464	46.8	103	75-125	8.36	20	
Cadmium	4.98	0.0928	"	4.64	0.131	105	75-125	8.58	20	
Copper	55.7	9.28	"	46.4	5.11	109	75-125	6.34	20	
Lead	16.2	9.28	"	4.64	8.76	161	75-125	7.99	20	QM-07
Nickel	8.48	9.28	"	4.64	3.44	109	75-125	10.3	20	
Selenium	4.38	0.0928	"	4.64	0.0663	92.9	75-125	10.7	20	
Silver	5.08	0.0928	"	4.64	0.0170	109	75-125	7.60	20	
Zinc	69.3	92.8	"	46.4	17.5	112	75-125	6.85	20	

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 - Bethyl GW 29-12

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