

Wellhead Closure Checklist

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

Additional attachments (optional): <u> </u>		Pit Closure <u> </u>		Tank Battery Closure <u> </u>		Flowline Closure <u> </u>		Partially Buried Vault Closure <u> </u>
Site Name & COGCC Facility Number: HSR-Laurice #6-1		Date: 02/07/23					Remediation Project #: 26425	
Associated Wells: 05-123-16774		Age of Site: years					Number of Photos Attached: 1	
Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple)							40.255830 / -104.613600	
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)								
Good condition								
USCS Soil Type: sandy CLAY					Estimated Depth to Groundwater: ~8-12'			
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	05-123-16774							
Age	years							
Condition of surface around wellhead	Good - Per Crew							
PID Readings	N/A - Excavated upon arrival							
Condition of subsurface (staining present)	Good - No odor/no staining							
PID Readings	0.6	0.5	0.3	0.7	1.2			
Sample taken? Location/Sample ID#	WH-SS-01	WH-SS-02	WH-SS-03	WH-SS-04	WH-FS-01			
Photo Number(s)	See photo log							
Other observations regarding wellheads:								
Well casing cut/capped following assessment								
Summary								
Was impacted soil identified?								
☒ 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:				Volume of soil removed:				
Is additional investigation required?								
Was groundwater encountered during the investigation?								
☒ 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:								

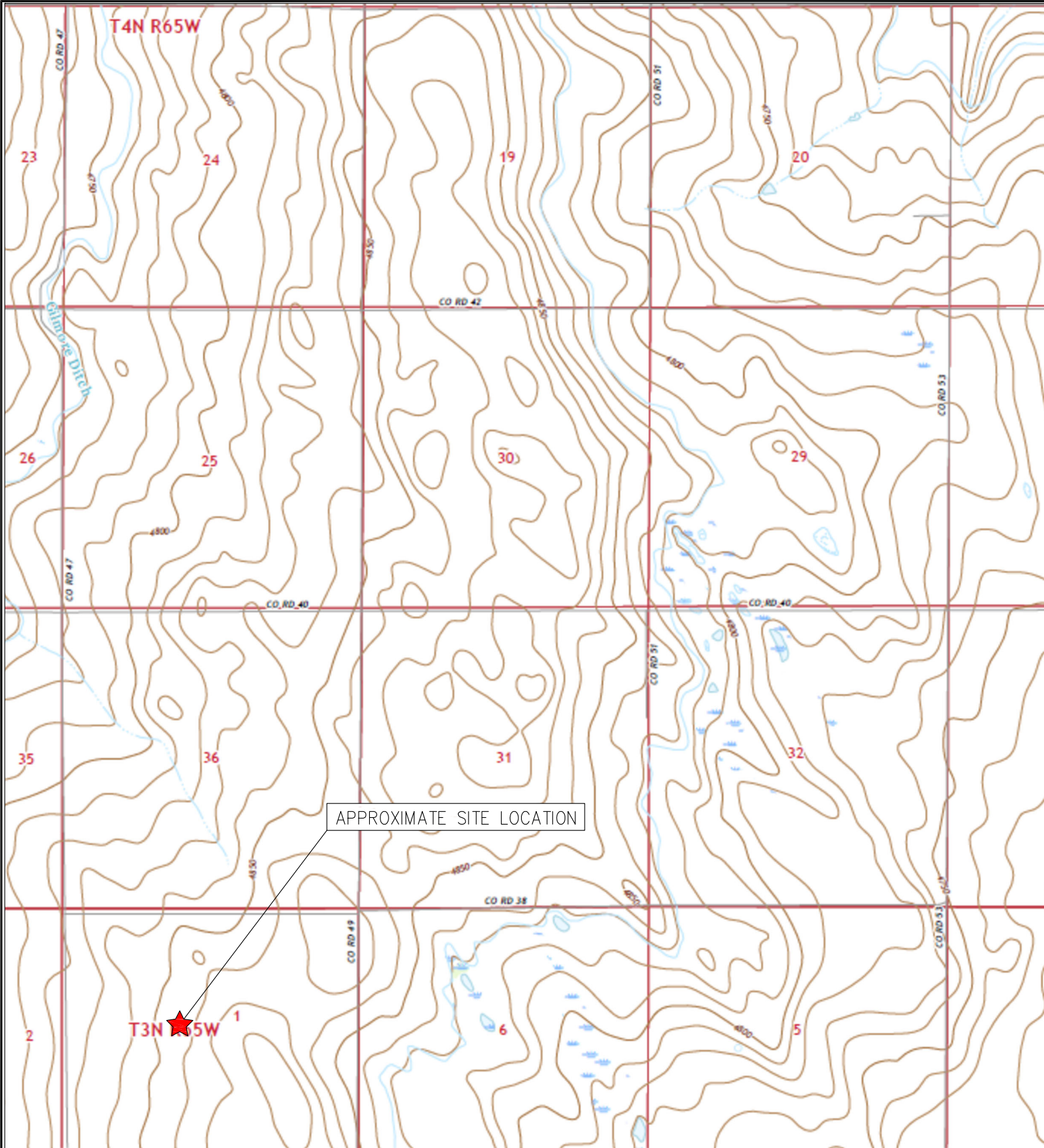


FIGURES

Figure 1: Topographic Site Location Map

Figure 2: Aerial Site Location Map

Figure 3: Soil Analytical Map



APPROXIMATE SITE LOCATION

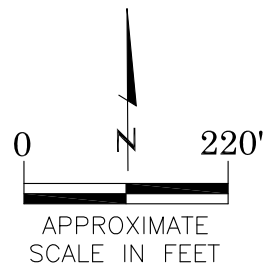
T3N R65W

	TOPOGRAPHIC SITE LOCATION MAP HSR-LAURICE #6-1 CLOSURE ASSESSMENT 40.255830 / -104.613600 SE¼ NW¼ SEC.1 T3N R65W 6PM WELD COUNTY, COLORADO API # 05-123-16774 REMEDIATION # 26425	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 MAP, VALLEY VIEW SCHOOL, CO QUADRANGLE 2022	FIGURE 1	



LEGEND

- FORMER HSR-LAURICE #6-1 WELLHEAD (PLUGGED AND ABANDONED)
- ASSOCIATED SEPARATOR
- APPROXIMATE FLOWLINE LOCATION



AERIAL SITE LOCATION MAP
HSR-LAURICE #6-1
CLOSURE ASSESSMENT
40.255830 / -104.613600
SE ¼ NW ¼ SEC.1 T3N R65W 6PM
WELD COUNTY, COLORADO
API # 05-123-16774
REMEDATION # 26425

FIGURE NO.
2

DRAWN BY:
EL



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

PARAMETERS

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

mg/kg = MILLIGRAMS PER KILOGRAM

mg/L = MILLIGRAMS PER LITER

mmhos/cm = MILLIMHOS PER CENTIMETER

(BRL) - ALL VALUES BELOW REGULATORY LIMITS

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

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

COGCC = COLORADO OIL AND GAS CONSERVATION COMMISSION

SOIL ANALYTICAL MAP
HSR-LAURICE #6-1
CLOSURE ASSESSMENT
40.255830 / -104.613600
SE¼ NW¼ SEC.1 T3N R65W 6PM
WELD COUNTY, COLORADO
API # 05-123-16774
REMEDATION # 26425

FIGURE NO.

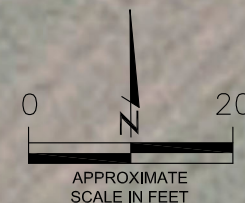
3

DRAWN BY:

CT



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
HSR-LAURICE #6-1
CLOSURE ASSESSMENT
40.255830 / -104.613600
SE¼ NW¼ SEC.1 T3N R65W 6PM
WELD COUNTY, COLORADO
API # 05-123-16774
REMEDATION # 26425

Sample Location (Latitude/Longitude)	Date	Approximate Depth (feet)	PID Reading (ppm-v)	Lab Submission (Y/N)
WH-SS-01 @ 5' (40.255847 / -104.613602)	02/07/23	5	0.6	N
WH-SS-02 @ 5' (40.255832 / -104.613587)	02/07/23	5	0.5	N
WH-SS-03 @ 5' (40.255815 / -104.613606)	02/07/23	5	0.3	N
WH-SS-04 @ 5' (40.255831 / -104.613622)	02/07/23	5	0.7	N
WH-FS-01 @ 6' (40.255831 / -104.613603)	02/07/23	6	1.2	Y
(Y/N) = Yes or No ppm-v = parts per million by volume PID = Photoionization Detector				

TABLE 2
SOIL ANALYTICAL RESULTS SUMMARY
HSR-LAURICE #6-1
CLOSURE ASSESSMENT
40.255830 / -104.613600
SE¼ NW¼ SEC.1 T3N R65W 6PM
WELD COUNTY, COLORADO
API # 05-123-16774
REMEDATION # 26425

Sample Location				WH-FS-01 @ 6'
(Latitude / Longitude)				(40.255831 / -104.613603)
Sample Date				2/7/2023
Sample Depth				6'
PID Reading (ppm-v)				1.2
Regulatory Limits				
Chemical of Concern	Units	COGCC Table 915-1 RSSLs	COGCC Table 915-1 GSSLs	
VOCs				
Benzene	mg/kg	1.2	0.0026	<0.00200
Toluene	mg/kg	490	0.69	<0.00200
Ethylbenzene	mg/kg	5.8	0.78	<0.00200
Total Xylenes	mg/kg	58	9.9	<0.00200
1,2,4-Trimethylbenzene	mg/kg	30	0.0081	<0.00200
1,3,5-Trimethylbenzene	mg/kg	27	0.0087	<0.00200
TOTAL PETROLEUM HYDROCARBONS				
TPH-GRO	mg/kg	500	--	<0.200
TPH-DRO	mg/kg	500	--	<25.0
TPH-RRO	mg/kg	500	--	<100
POLYCYCLIC AROMATIC HYDROCARBONS				
1-Methyl-naphthalene	mg/kg	18	0.006	<0.00201
2-Methyl-naphthalene	mg/kg	24	0.019	<0.00201
Acenaphthene	mg/kg	360	0.55	<0.00067
Anthracene	mg/kg	1800	5.8	<0.00067
Benzo(a)-anthracene	mg/kg	1.1	0.011	<0.00067
Benzo(a)-pyrene	mg/kg	0.11	0.24	<0.00067
Benzo(b)-fluoranthene	mg/kg	1.1	0.3	0.000712
Benzo(k)-fluoranthene	mg/kg	11	2.9	0.000453
Chrysene	mg/kg	110	9	<0.00067
Dibenzo(a,h)-anthracene	mg/kg	0.11	0.096	<0.00067
Fluoranthene	mg/kg	240	8.9	<0.00067
Fluorene	mg/kg	240	0.54	0.000324
Indeno(1,2,3-cd)-pyrene	mg/kg	1.1	0.98	<0.00067
Naphthalene	mg/kg	2	0.0038	<0.00201
Pyrene	mg/kg	180	1.3	<0.00067
SOIL SUITABILITY (Inorganics)				
Boron	mg/L	2	--	0.205
pH	standard unit	6-8.3	--	7.95
Sodium Adsorption Ratio (SAR)	--	<6	--	2.92
Specific Conductance (EC)	mmhos/cm	<4	--	0.770
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 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 COGCC Table 915-1 Regulatory Limits.				
VOCs - Volatile Organic Compounds RSSLs = Residential Soil Screening Levels GSSLs = Protection of Groundwater Soil Screening Levels TPH-GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics TPH-RRO = Total Petroleum Hydrocarbons - Residual Range Organics				



ATTACHMENT A

Photo Log

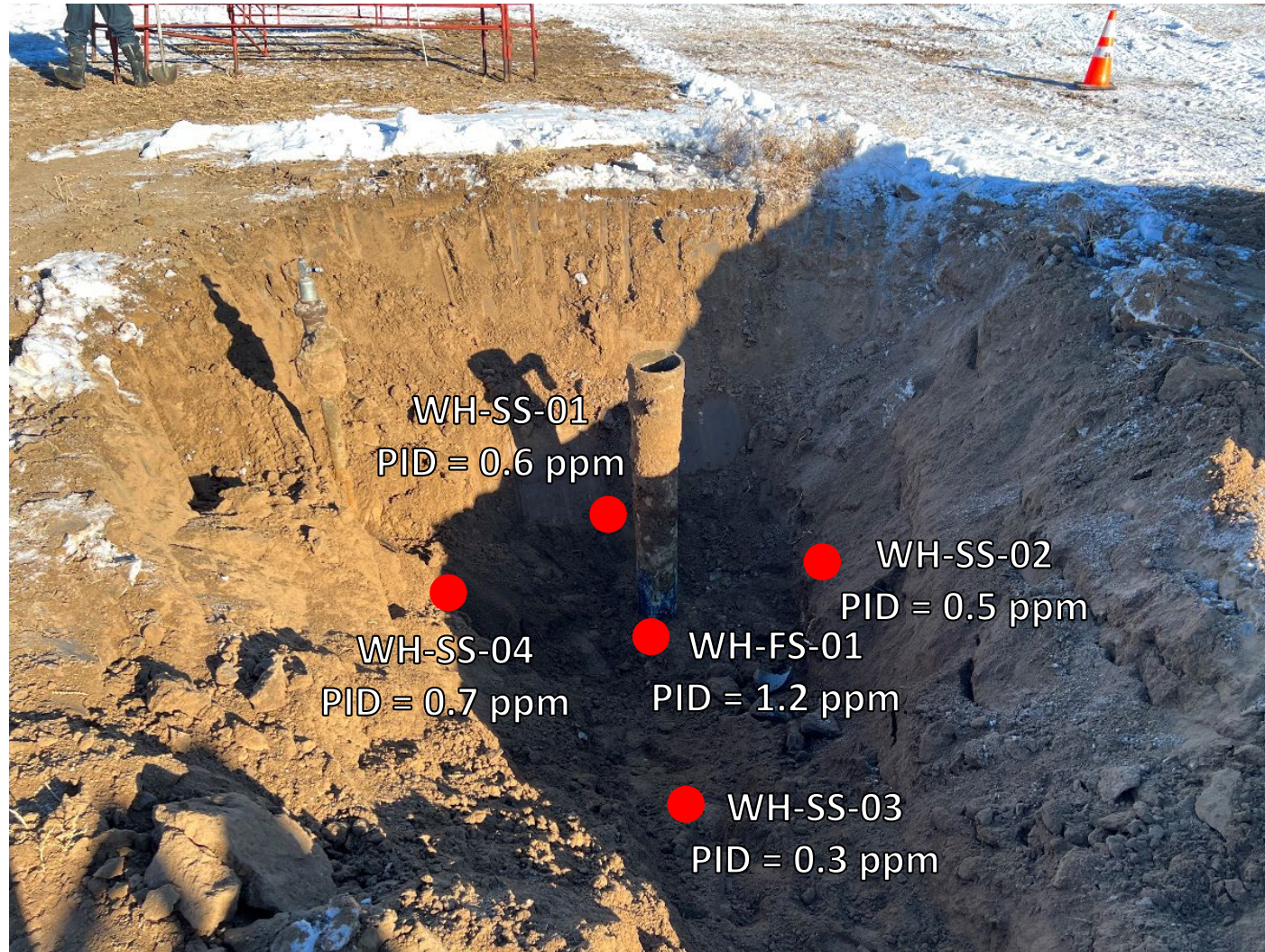
HSR-Laurice #6-1
API # 05-123-16774
Remediation # 26425

Closure Assessment

February 2023



Wellhead Excavation – 02/7/23



Looking north-northeast

No petroleum hydrocarbon staining or odor observed



ATTACHMENT B

Laboratory Analytical Report



February 14, 2023

Eagle Environmental Consulting, Inc.

Martin C Eckert III

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - HSR - Laurice #6-1

Project Number - [none]

Attached are your analytical results for Noble - HSR - Laurice #6-1 received by Origins Laboratory, Inc. February 07, 2023. This project is associated with Origins project number Y302121-01.

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: [none]

Project: Noble - HSR - Laurice #6-1

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-FS-01@6'	Y302121-01	Soil	February 7, 2023 9:12	02/07/2023 14:15

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: [none]
Project: Noble - HSR - Laurice #6-1

www.originslaboratory.com

page 1 of 1
4302121

ORIGINS
LABORATORY, INC

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

Project Manager: Martin Eckert III
Project Name: HSR-Laurice #6-1
Project Number: [blank]
Samples Collected By: Gok

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix		Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil		
141-FS-01 @ 6'	2/7/03	0912	2	X				X		EC, SAR, pH by	1
										Saturated paste prep	2
										Mobs mixed	3
											4
											5
											6
											7
											8
											9
											10

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:
Gareth King	2/7/03	1415	ELS	2/27/03	1415	Same Day ☐ 24 Hr ☐ 48 Hr ☐ 72 Hr ☒ Standard

48 Noble

Date Results Needed

Temp Received- S-2

48 B.11 to Gok

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

Origins Laboratory, Inc.

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: [none]
Project: Noble - HSR - Laurice #6-1

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4302121

Client: Eagle

Client Project ID: Laurice #6-1

Checklist Completed by: EHS/DE

Shipped Via: HD

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

Date/time completed: 2/7/23

Airbill #: NA

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

☐ Water

☐ Other:

Cooler Number/Temperature: 1 15.2 °C 1 °C 1 °C (Describe) °C

Thermometer ID: 7004

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

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

Reviewed by (Project Manager)

Date/Time Reviewed 2/7/23

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: [none]
Project: Noble - HSR - Laurice #6-1

WH-FS-01@6'

2/7/2023 9:12:00AM

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

Origins Laboratory, Inc.
Y302121-01 (Soil)

Boron (DTPA Sorbitol)

Boron	0.205	0.0998	mg/L	1	B3B0803	02/08/2023	02/09/2023	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3B0801	02/08/2023	02/08/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	99.0 %	50-150	"	"	"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3B0814	02/08/2023	02/08/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	112 %	70-130	"	"	"	"	"	
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Origins Laboratory, Inc.



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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Laurice #6-1

WH-FS-01@6'

2/7/2023 9:12:00AM

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

Origins Laboratory, Inc.
Y302121-01 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	96.3 %		70-130			B3B08 14	02/08/2023	02/08/2023	
Surrogate: 4-Bromofluorobenzene	102 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	2.30		0.499	meq/L	10	[CALC]	02/08/2023	02/09/2023	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	3.63		0.435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00109	0.00201	mg/Kg	1	L663152	02/13/2023	02/13/2023	
2-Methylnaphthalene	ND	0.00194	0.00201	"	"	"	"	"	
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"	
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	0.000712	0.000585	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	0.000453	0.000437	0.00067	"	"	"	"	"	J
Chrysene	ND	0.000624	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"	
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Laurice #6-1

WH-FS-01@6'

2/7/2023 9:12:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y302121-01 (Soil)

PAH by 8270D SIM

Fluorene	0.000324	0.000286	0.00067	mg/Kg	1	L663152	02/13/2023	02/13/2023	J
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"	
Naphthalene	ND	0.00145	0.00201	"	"	"	"	"	
Pyrene	ND	0.000643	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	52.9 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	61.7 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	52 %	29-110	"	"	"

pH in Soil by 9045D

pH	7.95	pH Units	1	B3B0809	02/08/2023	02/09/2023
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SAR by 20B Saturated Paste

SAR	2.92	SAR	1	B3B0805	02/08/2023	02/09/2023
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.770	0.00500	mmhos/cm	1	B3B0809	02/08/2023	02/09/2023
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Origins Laboratory, Inc.



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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Laurice #6-1

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 B3B0801 - EPA 3580										
Blank (B3B0801-BLK1)					Prepared: 02/08/2023 Analyzed: 02/08/2023					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	26		"	24.9		104	50-150			

Origins Laboratory, Inc.



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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Laurice #6-1

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 B3B0801 - EPA 3580

LCS (B3B0801-BS1)

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

Diesel (C10-C28)	994	50.0	mg/kg	1000		99.4	70-130			
Residual Range Organics (C28-C40)	1140	200	"	1000		114	70-130			
Surrogate: o-Terphenyl	49		"	49.8		98.4	50-150			

Origins Laboratory, Inc.



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

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Laurice #6-1

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 B3B0801 - EPA 3580

Matrix Spike (B3B0801-MS1)		Source: Y302121-01			Prepared: 02/08/2023 Analyzed: 02/08/2023					
Diesel (C10-C28)	1120	50.0	mg/kg	1000	ND	112	70-130			
Residual Range Organics (C28-C40)	1300	200	"	1000	ND	130	70-130			
Surrogate: o-Terphenyl	59		"	49.8		119	50-150			

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Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Laurice #6-1

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 B3B0801 - EPA 3580

Matrix Spike Dup (B3B0801-MSD1)		Source: Y302121-01			Prepared: 02/08/2023 Analyzed: 02/08/2023					
Diesel (C10-C28)	1050	50.0	mg/kg	1000	ND	105	70-130	6.67	35	
Residual Range Organics (C28-C40)	1180	200	"	1000	ND	118	70-130	9.83	35	
Surrogate: o-Terphenyl	55		"	49.8		111	50-150			

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Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Laurice #6-1

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 B3B0814 - EPA 5030 (soil)										
Blank (B3B0814-BLK1)					Prepared: 02/08/2023 Analyzed: 02/08/2023					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		102	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		103	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

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Eagle Environmental Consulting, Inc.
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Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Laurice #6-1

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 B3B0814 - EPA 5030 (soil)										
LCS (B3B0814-BS1)					Prepared: 02/08/2023 Analyzed: 02/08/2023					
1,2,4-Trimethylbenzene	0.0905	0.00200	mg/kg	0.100		90.5	70-130			
1,3,5-Trimethylbenzene	0.0935	0.00200	"	0.100		93.5	70-130			
Benzene	0.0934	0.00200	"	0.100		93.4	70-130			
Ethylbenzene	0.0927	0.00200	"	0.100		92.7	70-130			
Naphthalene	0.0911	0.00380	"	0.100		91.1	70-130			
Toluene	0.0971	0.00200	"	0.100		97.1	70-130			
o-Xylene	0.0868	0.00200	"	0.100		86.8	70-130			
m,p-Xylene	0.180	0.00400	"	0.200		90.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		95.6	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125		90.4	70-130			

Origins Laboratory, Inc.



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Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Laurice #6-1

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 B3B0814 - EPA 5030 (soil)										
Matrix Spike (B3B0814-MS1)		Source: Y302121-01			Prepared: 02/08/2023 Analyzed: 02/08/2023					
1,2,4-Trimethylbenzene	0.0541	0.00200	mg/kg	0.0500	ND	108	70-130			
1,3,5-Trimethylbenzene	0.0542	0.00200	"	0.0500	ND	108	70-130			
Benzene	0.0636	0.00200	"	0.0500	ND	127	70-130			
Ethylbenzene	0.0560	0.00200	"	0.0500	ND	112	70-130			
Naphthalene	0.0598	0.00380	"	0.0500	ND	120	70-130			
Toluene	0.0581	0.00200	"	0.0500	ND	116	70-130			
o-Xylene	0.0494	0.00200	"	0.0500	ND	98.8	70-130			
m,p-Xylene	0.105	0.00400	"	0.100	ND	105	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		111	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.5	70-130			

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Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Laurice #6-1

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 B3B0814 - EPA 5030 (soil)										
Matrix Spike Dup (B3B0814-MSD1)		Source: Y302121-01			Prepared: 02/08/2023 Analyzed: 02/08/2023					
1,2,4-Trimethylbenzene	0.0656	0.00200	mg/kg	0.0500	ND	131	70-130	19.3	20	QM-07
1,3,5-Trimethylbenzene	0.0649	0.00200	"	0.0500	ND	130	70-130	17.9	20	
Benzene	0.0761	0.00200	"	0.0500	ND	152	70-130	18.0	20	QM-07
Ethylbenzene	0.0677	0.00200	"	0.0500	ND	135	70-130	19.0	20	QM-07
Naphthalene	0.0760	0.00380	"	0.0500	ND	152	70-130	24.0	20	QM-07
Toluene	0.0689	0.00200	"	0.0500	ND	138	70-130	17.0	20	QM-07
o-Xylene	0.0599	0.00200	"	0.0500	ND	120	70-130	19.3	20	
m,p-Xylene	0.128	0.00400	"	0.100	ND	128	70-130	19.6	20	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		110	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		92.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125		90.0	70-130			

Origins Laboratory, Inc.



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8000 W 44th Ave
Wheat Ridge CO 80033

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Laurice #6-1

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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Classical Chemistry Parameters - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3B0803 - DTPA Sorbitol Preparation

Blank (B3B0803-BLK1)

Prepared: 02/08/2023 Analyzed: 02/09/2023

Boron ND 0.100 mg/L

Duplicate (B3B0803-DUP1)

Source: Y302112-01

Prepared: 02/08/2023 Analyzed: 02/09/2023

Boron ND 0.994 mg/L ND 50

Batch B3B0805 - Saturated Paste Metals

Blank (B3B0805-BLK1)

Prepared: 02/08/2023 Analyzed: 02/09/2023

SAR 0.00 SAR

Calcium PPM ND 10.0 mg/L

Magnesium PPM ND 10.0 "

Sodium PPM ND 10.0 "

Duplicate (B3B0805-DUP1)

Source: Y302121-01

Prepared: 02/08/2023 Analyzed: 02/09/2023

Calcium PPM 47.3 10.0 mg/L 46.1 2.54 50

SAR 0.00 SAR 2.92 200 200

Magnesium PPM 10.1 10.0 mg/L 9.65 4.66 50

Sodium PPM 85.5 10.0 " 83.5 2.31 50

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Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Laurice #6-1

Saturated Paste - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3B0809 - Saturated Paste pH/EC										
Blank (B3B0809-BLK1)					Prepared: 02/08/2023 Analyzed: 02/09/2023					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
Duplicate (B3B0809-DUP1)					Source: Y302121-01 Prepared: 02/08/2023 Analyzed: 02/09/2023					
Specific Conductance (EC)	0.813	0.00500	mmhos/cm		0.770			5.45	25	
pH	8.03		pH Units		7.95			1.00	25	

Origins Laboratory, Inc.



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Wheat Ridge CO 80033

Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Laurice #6-1

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L663152 - 3550B

MSD (L 84006-MSD-L663152)		Source: Y302121-01			Prepared: 02/13/2023 Analyzed: 02/13/2023					
2-Methylnaphthalene	0.0965	0.00201	mg/Kg	0.163	<0.00194	59.2	30-130	6	30	
Fluorene	0.109	0.00067	"	0.163	0.000324	66.6	30-130	5.6	30	
Pyrene	0.108	0.00067	"	0.163	<0.000643	66.2	30-130	0.9	30	
Indeno(1,2,3-cd)pyrene	0.0723	0.00067	"	0.163	<0.000627	44.3	30-130	1.6	30	
Fluoranthene	0.117	0.00067	"	0.163	<0.000394	71.7	30-130	2.5	30	
Dibenz(a,h)anthracene	0.0953	0.00067	"	0.163	<0.000614	58.4	30-130	3.5	30	
Chrysene	0.115	0.00067	"	0.163	<0.000624	70.5	30-130	1.7	30	
Naphthalene	0.0933	0.00201	"	0.163	<0.00145	57.2	30-130	4.8	30	
1-Methylnaphthalene	0.0965	0.00201	"	0.163	<0.00109	59.2	30-130	5.7	30	
Benzo(k)fluoranthene	0.0652	0.00067	"	0.163	0.000453	39.7	30-130	1.2	30	
Acenaphthene	0.102	0.00067	"	0.163	<0.000304	62.5	30-130	4.3	30	
Anthracene	0.109	0.00067	"	0.163	<0.000334	66.8	30-130	0	30	
Benzo(a)anthracene	0.115	0.00067	"	0.163	<0.000493	70.5	30-130	0.8	30	
Benzo(a)pyrene	0.112	0.00067	"	0.163	<0.000468	68.7	30-130	1.8	30	
Benzo(b)fluoranthene	0.0874	0.00067	"	0.163	0.000712	53.1	30-130	3.4	30	
Surrogate: 2-Fluorobiphenyl	56.1		"	0.326	174	56.1	33-115			
Surrogate: Nitrobenzene-d5	59.5		"	0.326	171	59.5	29-110			
Surrogate: 4-Terphenyl-d14	63.4		"	0.326	203	63.4	33-122			

MS (L 84006-MS-L663152)		Source: Y302121-01			Prepared: 02/13/2023 Analyzed: 02/13/2023					
Benzo(k)fluoranthene	0.066	0.00067	mg/Kg	0.167	0.000453	39.2	30-130			
Acenaphthene	0.0977	0.00067	"	0.167	<0.000304	58.5	30-130			
Naphthalene	0.0889	0.00201	"	0.167	<0.00145	53.2	30-130			
Indeno(1,2,3-cd)pyrene	0.0711	0.00067	"	0.167	<0.000627	42.5	30-130			
Fluorene	0.103	0.00067	"	0.167	0.000324	61.4	30-130			
Fluoranthene	0.114	0.00067	"	0.167	<0.000394	68.2	30-130			
Dibenz(a,h)anthracene	0.092	0.00067	"	0.167	<0.000614	55	30-130			

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Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Laurice #6-1

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L663152 - 3550B

MS (L 84006-MS-L663152)		Source: Y302121-01			Prepared: 02/13/2023 Analyzed: 02/13/2023					
Chrysene	0.113	0.00067	mg/Kg	0.167	<0.000624	67.6	30-130			
1-Methylnaphthalene	0.0911	0.00201	"	0.167	<0.00109	54.5	30-130			
Benzo(a)pyrene	0.11	0.00067	"	0.167	<0.000468	65.8	30-130			
Anthracene	0.109	0.00067	"	0.167	<0.000334	65.2	30-130			
Pyrene	0.109	0.00067	"	0.167	<0.000643	65.2	30-130			
2-Methylnaphthalene	0.0908	0.00201	"	0.167	<0.00194	54.3	30-130			
Benzo(b)fluoranthene	0.0905	0.00067	"	0.167	0.000712	53.7	30-130			
Benzo(a)anthracene	0.114	0.00067	"	0.167	<0.000493	68.2	30-130			
Surrogate: Nitrobenzene-d5	53.4		"	0.333	171	53.4	29-110			
Surrogate: 4-Terphenyl-d14	59.4		"	0.333	203	59.4	33-122			
Surrogate: 2-Fluorobiphenyl	51.3		"	0.333	174	51.3	33-115			

LCS (LCS-L663152)		Prepared: 02/13/2023 Analyzed: 02/13/2023								
Chrysene	0.122	0.00067	mg/Kg	0.167		73	30-130			
Dibenz(a,h)anthracene	0.103	0.00067	"	0.167		61.6	30-130			
Fluoranthene	0.123	0.00067	"	0.167		73.6	30-130			
Fluorene	0.111	0.00067	"	0.167		66.4	30-130			
Indeno(1,2,3-cd)pyrene	0.0739	0.00067	"	0.167		44.2	30-130			
Naphthalene	0.0952	0.00201	"	0.167		57	30-130			
Benzo(k)fluoranthene	0.0826	0.00067	"	0.167		49.4	30-130			
Pyrene	0.119	0.00067	"	0.167		71.2	30-130			
Benzo(a)pyrene	0.116	0.00067	"	0.167		69.4	30-130			
Benzo(a)anthracene	0.122	0.00067	"	0.167		73	30-130			
Anthracene	0.122	0.00067	"	0.167		73	30-130			
Acenaphthene	0.103	0.00067	"	0.167		61.6	30-130			
2-Methylnaphthalene	0.0973	0.00201	"	0.167		58.2	30-130			
1-Methylnaphthalene	0.0986	0.00201	"	0.167		59	30-130			

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Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Laurice #6-1

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L663152 - 3550B										
LCS (LCS-L663152)					Prepared: 02/13/2023 Analyzed: 02/13/2023					
Benzo(b)fluoranthene	0.0841	0.00067	mg/Kg	0.167		50.3	30-130			
Surrogate: Nitrobenzene-d5	60.3		"	0.333		60.3	29-110			
Surrogate: 4-Terphenyl-d14	68.7		"	0.333		68.7	33-122			
Surrogate: 2-Fluorobiphenyl	57.6		"	0.333		57.6	33-115			
LRB (LRB-L663152)					Prepared: 02/13/2023 Analyzed: 02/13/2023					
Chrysene	ND	0.00067	mg/Kg				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Naphthalene	ND	0.00201	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Acenaphthene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00201	"				-			
1-Methylnaphthalene	ND	0.00201	"				-			
Pyrene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Surrogate: Nitrobenzene-d5	56.4		"	0.333		56.4	29-110			
Surrogate: 4-Terphenyl-d14	69		"	0.333		69	33-122			
Surrogate: 2-Fluorobiphenyl	56.1		"	0.333		56.1	33-115			

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Martin C Eckert III
Project Number: [none]
Project: Noble - HSR - Laurice #6-1

Notes and Definitions

U Sample is Non-Detect.

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

J Estimated Value. Analyte below reported quantitation limit.

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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