



Third Party	DCP																
Removal Date	N/A																
Sample taken?	TB-SS-07																
PID Readings	0.2																
Photo Number(s)	See photolog																
<b>Other Facility Equipment</b>																	
Equipment type	VOC Flare	VOC Flare															
Equipment Condition	Good - Per Crew	Good - Per Crew															
Age	Years	Years															
Soil impacts	None observed.	None observed.															
PID Readings	0.2	0.1															
Sample taken?	TB-SS-05	TB-SS-06															
Photo Number(s)	See photolog																
Other observations regarding other facility or third party equipment:																	
<b>Summary</b>																	
Was impacted soil identified?																	
<input checked="" type="checkbox"/> No		Yes - less than 10 cubic yards			Yes - more than 10 cubic yards												
Total number of samples field screened: 7					Total number of samples collected: 7												
Highest PID Reading: 2.1					Total number of samples submitted to lab for analysis: 3												
If more than 10 cubic yards of impacted soil were observed:																	
Vertical extent:					Estimated spill volume:												
Lateral extent:					Volume of soil removed:												
Is additional investigation required?																	
Was groundwater encountered during the investigation?																	
<input checked="" type="checkbox"/> No		Yes - not impacted or in contact with impacted soils			Yes - groundwater impacted and/or in contact with impacted soils												
Measured depth to groundwater:					Was remedial groundwater removal conducted? Yes No												
Date Groundwater was encountered:					Commencement date of removal:												
Sheen on groundwater?		Yes	No														
Free product observed?		Yes	No														
Total number of samples collected:					Total Volume of groundwater removed:												
Total number of samples submitted to lab for analysis:																	

# Buried or Partially Buried Vessel Closure Checklist

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

Additional attachments (optional):		Pit Closure <b>—</b>		Wellhead Closure 01/24/23		Flowline Closure 03/17/23		Tank Battery Closure 03/17/23
Site Name & COGCC Facility Number: Frenzel T5N-R64W-S15 L01 Tank Battery; Location ID: 323371		Date: 03/17/23		Remediation Project #: 24008				
Associated Wells: 05-123-23061		Age of Site: Years		Number of Photos Attached: 1				
Location: (GPS coordinates of vault or southeastern tank berm for multiple)		40.397751 / -104.541337					Estimated Facility Size (acres):	
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)								
Good Condition								
USCS Soil Type: Silty SAND				Estimated Depth to Groundwater: ~10'				
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)								
Slight petroleum hydrocarbon odor observed on excavation floor; 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.								
<b>Buried or Partially Buried Vessels</b>								
Tank Contents	Produced Water (2)							
Size (barrels)	<100							
Age	Years							
Construction Material	Concrete							
Visual Integrity of Tank	Good - Per Crew							
Condition of tank contents	Slight petroleum hydrocarbon odor observed on excavation floor; no staining observed							
PID Readings	N/A							
Condition of Access Lines	Good							
PID Readings	0.4	0.5	0.6	1.5	17.8			
Sample taken? Location/Sample ID#	WV-SS-01	WV-SS-02	WV-SS-03	WV-SS-04	WV-FS-01			
Photo Number(s)	See photolog							
Other observations regarding partially buried vessels:								
<b>Summary</b>								
Was impacted soil identified?								
<input checked="" type="checkbox"/> No		Yes - less than 10 cubic yards			Yes - more than 10 cubic yards			
Total number of samples field screened: 5				Total number of samples collected: 5				
Highest PID Reading: 17.8				Total number of samples submitted to lab for analysis: 5				
If more than 10 cubic yards of impacted soil were observed:								
Vertical extent:				Estimated spill volume:				
Lateral extent:				Volume of soil removed:				
Is additional investigation required?				<b>N/A</b>				
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		<b>N/A</b>				
Free product observed?		Yes No						
Total number of samples collected:				Total Volume of groundwater removed:				
Total number of samples submitted to lab for analysis:								

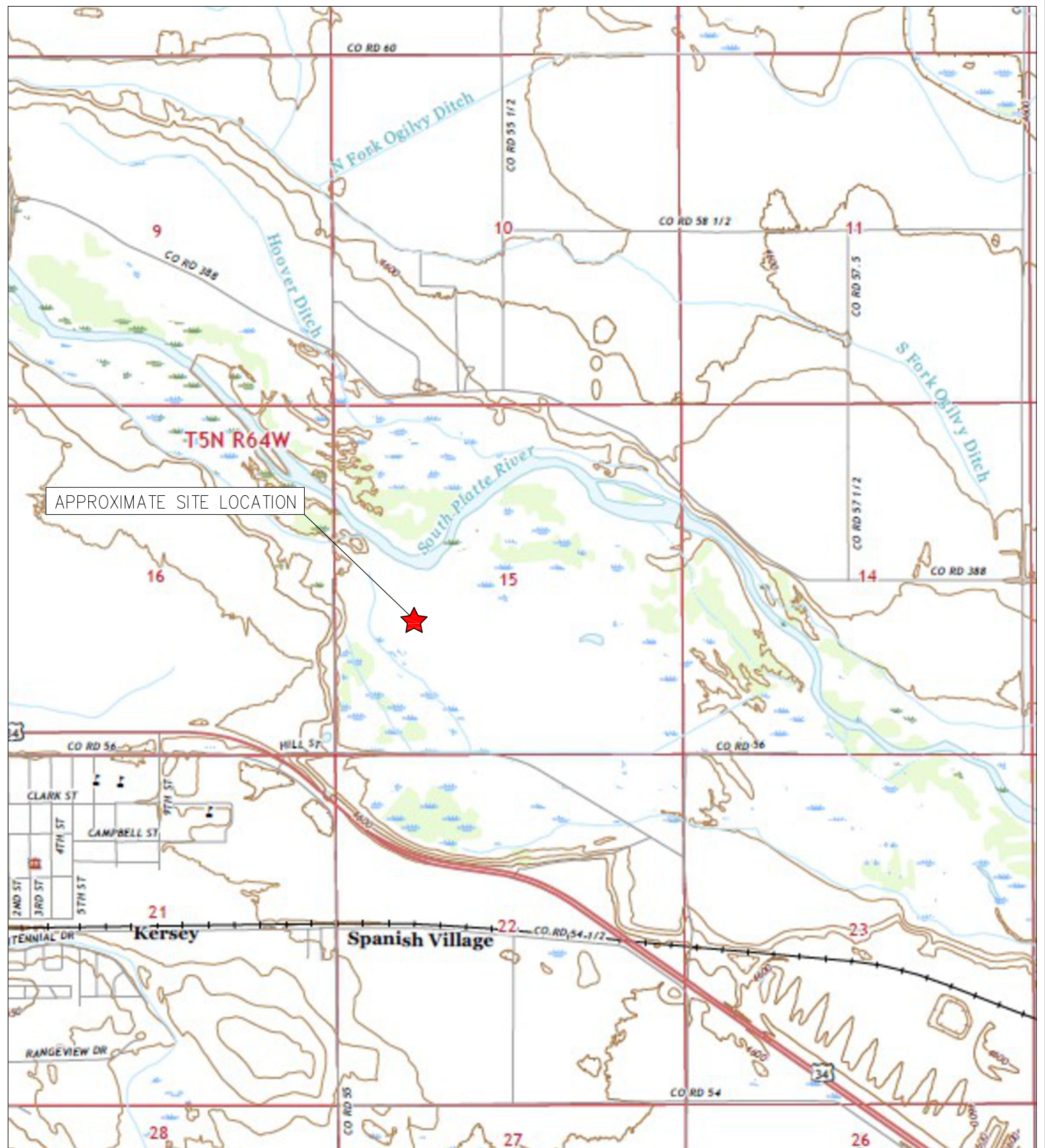


## **FIGURES**

**Figure 1: Topographic Site Location Map**

**Figure 2: Aerial Site Location Map**

**Figure 3: Soil Analytical Map**



TOPOGRAPHIC SITE LOCATION MAP  
 FRENZEL T5N-R64W-S15 L01 TANK BATTERY  
 CLOSURE ASSESSMENT  
 40.397751 / -104.541337  
 NE¼ SW¼ SEC.15 T5N R64W 6PM  
 WELD COUNTY, COLORADO  
 LOCATION ID: 323371  
 REMEDIATION # 24008



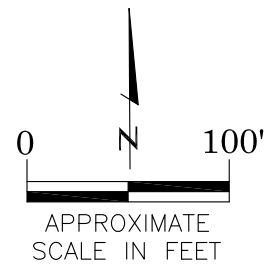
**EAGLE**  
 ENVIRONMENTAL  
 CONSULTING, LLC

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



#### LEGEND

- FORMER FRENZEL T5N-R64W-S15 L01 TANK BATTERY (DECOMMISSIONED)
- SEPARATOR CONTAINMENT AREA (DECOMMISSIONED)
- WATER VAULT LOCATION (REMOVED)



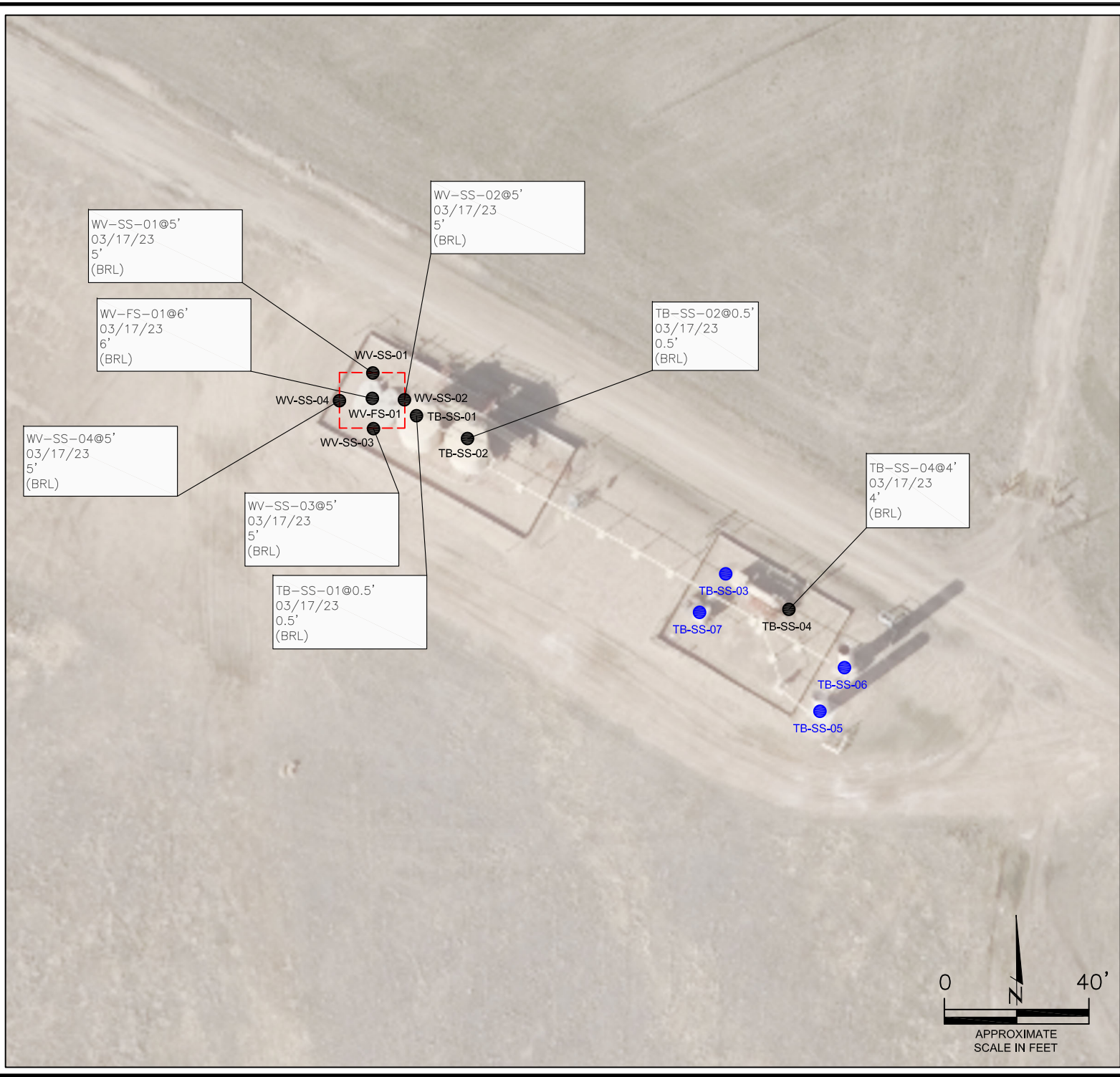
AERIAL SITE LOCATION MAP  
 FRENZEL T5N-R64W-S15 L01 TANK BATTERY  
 CLOSURE ASSESSMENT  
 40.397751 / -104.541337  
 NW¼ SW¼ SEC.15 T5N R64W 6PM  
 WELD COUNTY, COLORADO  
 LOCATION ID: 323371  
 REMEDIATION # 24008

FIGURE NO.  
2

DRAWN BY:  
JF



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



LEGEND

- WATER VAULT 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)  
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (mg/kg)  
Brn= BORON (mg/L)  
EC = SPECIFIC CONDUCTANCE (mmhos/cm)  
SAR= SODIUM ADSORPTION RATIO  
pH = pH (pH UNITS)

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

(BRL) - ALL VALUES/CONCENTRATIONS 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 WITH A LESS THAN SYMBOL (<) DID NOT CONTAIN CONCENTRATIONS AT OR ABOVE LABORATORY DETECTION LIMITS.

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

COGCC = COLORADO OIL AND GAS CONSERVATION COMMISSION

SOIL ANALYTICAL MAP  
FRENZEL T5N-R64W-S15 L01 TANK BATTERY  
CLOSURE ASSESSMENT  
40.397751 / -104.541337  
NW¼ SW¼ SEC.15 T5N R64W 6PM  
WELD COUNTY, COLORADO  
LOCATION ID 323371  
REMEDATION # 24008

FIGURE NO.  
3

DRAWN BY:  
AMN



**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  
 FRENZEL T5N-R64W-S15 L01 TANK BATTERY  
 CLOSURE ASSESSMENT  
 40.397751 / -104.541337  
 NW¼ SW¼ SEC.15 T5N R64W 6PM  
 WELD COUNTY, COLORADO  
 LOCATION ID 323371  
 REMEDIATION # 24008

Sample Location (Latitude/Longitude)	Date	Approximate Depth (feet)	PID Reading (ppm-v)	Lab Submission (Y/N)
WV-SS-01 @ 5' (40.397921 / -104.541770)	03/17/23	5	0.4	Y
WV-SS-02 @ 5' (40.397901 / -104.541742)	03/17/23	5	0.5	Y
WV-SS-03 @ 5' (40.397884 / -104.541767)	03/17/23	5	0.6	Y
WV-SS-04 @ 5' (40.397905 / -104.541795)	03/17/23	5	1.5	Y
WV-FS-01 @ 6' (40.397901 / -104.541768)	03/17/23	6	17.8	Y
TB-SS-01 @ 0.5' (40.397884 / -104.541723)	03/17/23	0.5	0.2	Y
TB-SS-02 @ 0.5' (40.397867 / -104.541675)	03/17/23	0.5	0.2	Y
TB-SS-03 @ 4' (40.397767 / -104.541408)	03/17/23	4.0	0.3	N
TB-SS-04 @ 4' (40.397747 / -104.541359)	03/17/23	4.0	2.1	Y
TB-SS-05 @ 0.5' (40.397663 / -104.541318)	03/17/23	0.5	0.2	N
TB-SS-06 @ 0.5' (40.397699 / -104.541294)	03/17/23	0.5	0.1	N
TB-SS-07 @ 0.5' (40.397741 / -104.541449)	03/17/23	0.5	0.2	N
(Y/N) = Yes or No ppm-v = parts per million by volume PID = Photoionization Detector				

TABLE 2  
SOIL ANALYTICAL RESULTS SUMMARY  
FRENZEL T5N-R64W-S15 L01 TANK BATTERY  
CLOSURE ASSESSMENT  
40.397751 / -104.541337  
NW¼ SW¼ SEC.15 T5N R64W 6PM  
WELD COUNTY, COLORADO  
LOCATION ID 323371  
REMEDIAION # 24008

Sample Location (Latitude / Longitude)				WV-SS-01 @ 5'	WV-SS-02 @ 5'	WV-SS-03 @ 5'	WV-SS-04 @ 5'
				(40.397921 / -104.541770)	(40.397901 / -104.541742)	(40.397884 / -104.541767)	(40.397905 / -104.541795)
Sample Date				3/17/2023	3/17/2023	3/17/2023	3/17/2023
Sample Depth				5'	5'	5'	5'
PID Reading (ppm-v)				0.4	0.5	0.6	1.5
Regulatory Limits							
Chemical of Concern	Units	COGCC Table 915-1 RSSLs	COGCC Table 915-1 GSSLs				
VOLATILE ORGANIC COMPOUNDS							
Benzene	mg/kg	1.2	0.0026	<0.00200	<0.00200	<0.00200	<0.00200
Toluene	mg/kg	490	0.69	<0.00200	<0.00200	<0.00200	<0.00200
Ethylbenzene	mg/kg	5.8	0.78	<0.00200	<0.00200	<0.00200	<0.00200
Total Xylenes	mg/kg	58	9.9	<0.00200	<0.00200	<0.00200	<0.00200
1,2,4-Trimethylbenzene	mg/kg	30	0.0081	<0.00200	<0.00200	<0.00200	<0.00200
1,3,5-Trimethylbenzene	mg/kg	27	0.0087	<0.00200	<0.00200	<0.00200	<0.00200
TOTAL PETROLEUM HYDROCARBONS							
TPH-GRO	mg/kg	500	--	<0.200	<0.200	<0.200	<0.200
TPH-DRO	mg/kg	500	--	<25.0	<25.0	<25.0	<25.0
TPH-RRO	mg/kg	500	--	<100	<100	<100	<100
POLYCYCLIC AROMATIC HYDROCARBONS							
1-Methyl-naphthalene	mg/kg	18	0.006	<0.00201	<0.00201	<0.00201	<0.00201
2-Methyl-naphthalene	mg/kg	24	0.019	<0.00201	<0.00201	<0.00201	<0.00201
Acenaphthene	mg/kg	360	0.55	0.000537	<0.00067	<0.00067	0.000376
Anthracene	mg/kg	1800	5.8	<0.00067	0.000498	<0.00067	<0.00067
Benzo(a)-anthracene	mg/kg	1.1	0.011	<0.00067	<0.00067	<0.00067	<0.00067
Benzo(a)-pyrene	mg/kg	0.11	0.24	0.00119	0.00118	0.00119	0.00108
Benzo(b)-fluoranthene	mg/kg	1.1	0.3	<0.00067	<0.00067	<0.00067	0.000802
Benzo(k)-fluoranthene	mg/kg	11	2.9	<0.00067	<0.00067	<0.00067	0.000592
Chrysene	mg/kg	110	9	0.00118	0.00116	0.00109	0.00236
Dibenzo(a,h)-anthracene	mg/kg	0.11	0.096	<0.00067	<0.00067	<0.00067	<0.00067
Fluoranthene	mg/kg	240	8.9	0.000517	<0.00067	0.000444	0.00686
Fluorene	mg/kg	240	0.54	0.00121	<0.00067	<0.00067	0.000337
Indeno(1,2,3-cd)-pyrene	mg/kg	1.1	0.98	<0.00067	<0.00067	<0.00067	<0.00067
Naphthalene	mg/kg	2	0.0038	<0.00201	<0.00201	<0.00201	<0.00201
Pyrene	mg/kg	180	1.3	0.000873	<0.00067	0.000708	0.00457
SOIL SUITABILITY (Inorganics)							
Boron	mg/L	2	--	0.556	0.422	0.35	0.315
pH	standard unit	6-8.3	--	8.08	8.21	8.10	8.25
Sodium Adsorption Ratio (SAR)	--	<6	--	0.721	0.251	0.617	0.317
Specific Conductance (EC)	mmhos/cm	<4	--	0.950	0.452	1.220	0.503
COGCC = Colorado Oil and Gas Conservation Commission							
mg/kg = milligrams per kilogram		RSSLs = Residential Soil Screening Levels					
mmhos/cm = millimhos per centimeter		GSSLs = Protection of Groundwater Soil Screening Levels					
PID = Photoionization Detector		TPH-GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics					
ppm-v = parts per million by volume		TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics					
mg/L = milligrams per liter		TPH-RRO = Total Petroleum Hydrocarbons - Residual Range Organics					
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 <b>BOLD</b> exceed COGCC Table 915-1 Regulatory Limits.							

TABLE 2  
SOIL ANALYTICAL RESULTS SUMMARY  
FRENZEL T5N-R64W-S15 L01 TANK BATTERY  
CLOSURE ASSESSMENT  
40.397751 / -104.541337  
NW¼ SW¼ SEC.15 T5N R64W 6PM  
WELD COUNTY, COLORADO  
LOCATION ID 323371  
REMEDATION # 24008

Sample Location (Latitude / Longitude)				WV-FS-01 @ 6'	TB-SS-01 @ 0.5'	TB-SS-02 @ 0.5'	TB-SS-04 @ 4'
				(40.397901 / -104.541768)	(40.397884 / -104.541723)	(40.397867 / -104.541675)	(40.397747 / -104.541359)
Sample Date				3/17/2023	3/17/2023	3/17/2023	3/17/2023
Sample Depth				6'	0.5'	0.5'	4'
PID Reading (ppm-v)				17.5	0.2	0.2	2.1
Regulatory Limits							
Chemical of Concern	Units	COGCC Table 915-1 RSSLs	COGCC Table 915-1 GSSLs				
VOLATILE ORGANIC COMPOUNDS							
Benzene	mg/kg	1.2	0.0026	<0.00200	<0.00200	<0.00200	<0.00200
Toluene	mg/kg	490	0.69	<0.00200	<0.00200	<0.00200	<0.00200
Ethylbenzene	mg/kg	5.8	0.78	<0.00200	<0.00200	<0.00200	<0.00200
Total Xylenes	mg/kg	58	9.9	<0.00200	<0.00200	<0.00200	<0.00200
1,2,4-Trimethylbenzene	mg/kg	30	0.0081	<0.00200	<0.00200	<0.00200	<0.00200
1,3,5-Trimethylbenzene	mg/kg	27	0.0087	<0.00200	<0.00200	<0.00200	<0.00200
TOTAL PETROLEUM HYDROCARBONS							
TPH-GRO	mg/kg	500	--	11.3	<0.200	<0.200	<0.200
TPH-DRO	mg/kg	500	--	217	<25.0	<25.0	<25.0
TPH-RRO	mg/kg	500	--	<100	<100	<100	<100
POLYCYCLIC AROMATIC HYDROCARBONS							
1-Methyl-naphthalene	mg/kg	18	0.006	<0.00549	<0.00201	<0.00201	<0.00201
2-Methyl-naphthalene	mg/kg	24	0.019	<0.00972	<0.00201	<0.00201	<0.00201
Acenaphthene	mg/kg	360	0.55	0.00159	<0.00067	<0.00067	0.000328
Anthracene	mg/kg	1800	5.8	0.0129	<0.00067	<0.00067	0.000356
Benzo(a)-anthracene	mg/kg	1.1	0.011	0.00745	<0.00067	<0.00067	<0.00067
Benzo(a)-pyrene	mg/kg	0.11	0.24	0.00676	0.00132	0.00139	0.000642
Benzo(b)-fluoranthene	mg/kg	1.1	0.3	0.00363	0.00118	0.00078	<0.00067
Benzo(k)-fluoranthene	mg/kg	11	2.9	<0.00335	0.0006	<0.00067	<0.00067
Chrysene	mg/kg	110	9	0.024	0.00192	0.00158	0.000678
Dibenzo(a,h)-anthracene	mg/kg	0.11	0.096	0.00603	<0.00067	<0.00067	<0.00067
Fluoranthene	mg/kg	240	8.9	<0.00335	0.00148	0.000994	<0.00067
Fluorene	mg/kg	240	0.54	0.00297	<0.00067	<0.00067	<0.00067
Indeno(1,2,3-cd)-pyrene	mg/kg	1.1	0.98	<0.00335	<0.00067	<0.00067	<0.00067
Naphthalene	mg/kg	2	0.0038	<0.00380	<0.00201	<0.00201	<0.00201
Pyrene	mg/kg	180	1.3	0.0157	0.00111	0.00185	<0.00067
SOIL SUITABILITY (Inorganics)							
Boron	mg/L	2	--	0.202	0.475	0.457	0.511
pH	standard unit	6-8.3	--	8.20	8.26	8.28	8.29
Sodium Adsorption Ratio (SAR)	--	<6	--	0.472	1.74	2.52	0.310
Specific Conductance (EC)	mmhos/cm	<4	--	1.25	1.10	3.21	0.594

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

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.

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**

# Frenzel T5N-R64W S15 L01 Tank Battery

Location ID 323371

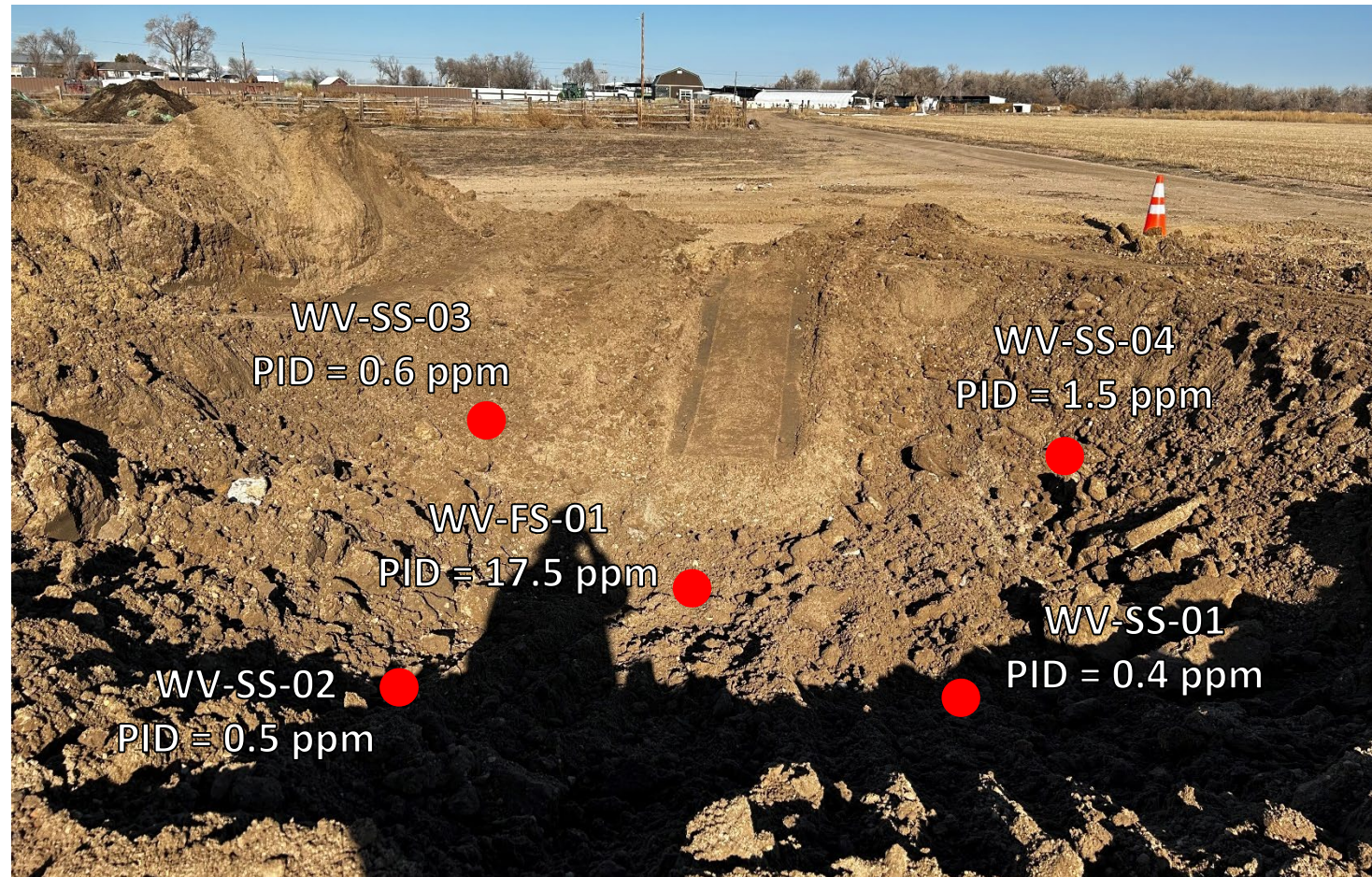
Remediation # 24008

Closure Assessment

March 2023



# Water Vault Excavation – 03/17/23



Looking southwest at water vault excavation

Slight petroleum hydrocarbon odor observed on excavation floor; no staining observed

# Tank Battery Decommissioning – 03/17/23



Looking west at former northern production tank footprint

No petroleum hydrocarbon staining or odor observed



Looking west at former southern production tank footprint

No petroleum hydrocarbon staining or odor observed

# Tank Battery Decommissioning – 03/17/23



Looking west at former separator dumpline connection

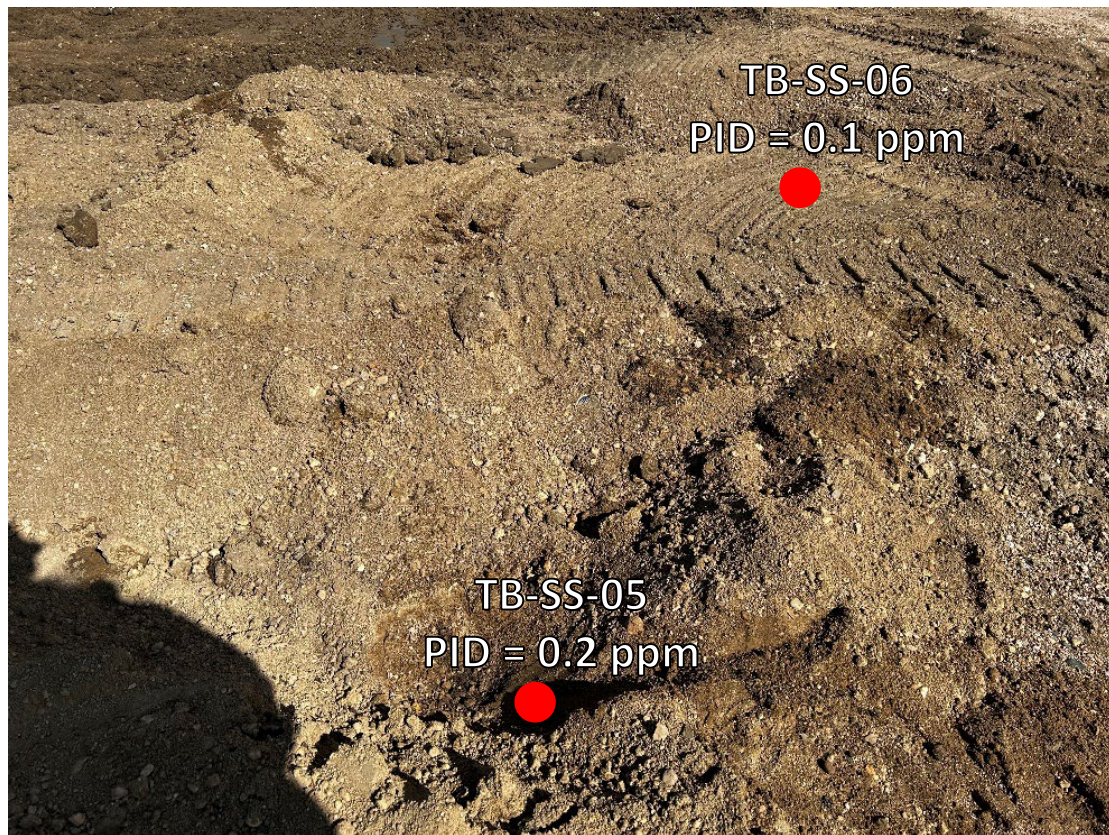
No petroleum hydrocarbon staining or odor observed



Looking west at former separator flowline connection

No petroleum hydrocarbon staining or odor observed

## Tank Battery Decommissioning – 03/17/23



Looking north at former VOC flare footprints

No petroleum hydrocarbon staining or odor observed



Look north at meter house

No petroleum hydrocarbon staining or odor observed



## **ATTACHMENT B**

### **Laboratory Analytical Reports**



April 03, 2023

Eagle Environmental Consulting, LLC

Martin C Eckert III

8000 W 44th Ave

Wheat Ridge CO 80033

**Project Name - Noble - Frenzel T5N-R64W-S15 L01 Project Number - [none]**

Attached are your analytical results for Noble - Frenzel T5N-R64W-S15 L01 received by Origins Laboratory, Inc. March 17, 2023. This project is associated with Origins project number Y303462-01.

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 - Frenzel T5N-R64W-S15 L01

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WV-SS-01@5'	Y303462-01	Soil	March 17, 2023 9:20	03/17/2023 14:50
WV-SS-02@5'	Y303462-02	Soil	March 17, 2023 9:22	03/17/2023 14:50
WV-SS-03@5'	Y303462-03	Soil	March 17, 2023 9:24	03/17/2023 14:50
WV-SS-04@5'	Y303462-04	Soil	March 17, 2023 9:26	03/17/2023 14:50
WV-FS-01@6'	Y303462-05	Soil	March 17, 2023 9:28	03/17/2023 14:50
TB-SS-01@0.5'	Y303462-06	Soil	March 17, 2023 10:58	03/17/2023 14:50
TB-SS-02@0.5	Y303462-07	Soil	March 17, 2023 11:00	03/17/2023 14:50
TB-SS-04@4'	Y303462-08	Soil	March 17, 2023 10:32	03/17/2023 14:50

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.*

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

Date Results Needed

Temp Received-

\$ Bill To Cole

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

**ORIGINS<sup>L</sup>**  
LABORATORY, INC

B003H02

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page      of

Client: Eagle Environmental Consulting  
Address: 1800 W 14 Ave J  
Wheat Ridge Co 80033  
Telephone Number: 303-433-10479  
Email Address: mee@eagle-enviro.com

Project Manager: Martin Eckert III  
Project Name: Frozen TSN-RU4w-SIS LPI  
Project Number:  
Samples Collected By: EL

Sample ID Description	Date Sampled	Time Sampled	# of Containers				Preservative			Matrix		Analysis	Sample Instructions
			HCl	HNO <sub>3</sub>	Other	Unpreserved	Groundwater	Air Summa #	Soil	Other			
LVV-SS-OI@0.5'	3/17/23	0920	X				X				X	Potential - unknown pH=4.15 EC=950µS/cm PAHs = 227 ng/g Dioxin = 84 µg/kg TCDF = 3.8 µg/kg	EL SAR pH = 1
LVV-SS-OZ@0.5'		0922									X	Saturated paste	2
LVV-SS-OB@0.5'		0924									X	pap	3
LVV-SS-OB@0.5'		0920									X	*MDLs needed	4
LVV-FS-OI@0.5'		0928									X		5
TRB-SS-OI@0.5'		1058									X		6
TRB-SS-OZ@0.5'		1100									X		7
TRB-SS-OB@0.4'		1032									X		8
													9
													10
Relinquished By:	Date:	Time:	Received By:				Date:		Time:		Turnaround Time:		
Martin Eckert	3/17/23	1450	JST				3/18/23		1450		Same Day Same Day 24 Hr		
Relinquished By:	Date:	Time:	Received By:				Date:		Time:		Standard 48 Hr 72 Hr		
JST											Standard X		

Origins Laboratory, Inc.

Byron

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: 4303462

Client: Eagle Environment

Client Project ID: Frenzel T5N-R64W-S15 L01

Checklist Completed by: JE

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

Date/time completed: 03/20/23

Airbill #: ND

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

Cooler Number/Temperature: 1 / 3.0 °C 1 / \_\_\_\_\_ °C 1 / \_\_\_\_\_ °C (Describe) \_\_\_\_\_ °C

Thermometer ID: 1804

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 8°C <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (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 <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH >10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

<sup>(1)</sup> 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) JE

Date/Time Reviewed 3/20/23

Origins Laboratory, Inc.

*Bynon*

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

WV-SS-01@5'

3/17/2023 9:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y303462-01 (Soil)

## Boron (DTPA Sorbitol)

Boron	0.556	0.102	mg/L	1	B3C2211	03/22/2023	03/23/2023	
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## DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3C2001	03/20/2023	03/21/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	89.9 %	50-150			"	"	"	
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## GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3C2016	03/20/2023	03/21/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	105 %	70-130			"	"	"	
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Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

WV-SS-01@5'

3/17/2023 9:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y303462-01 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	97.8 %	70-130	B3C20 16	03/20/2023	03/21/2023
Surrogate: 4-Bromofluorobenzene	95.0 %	70-130	"	"	"

## Metals by Saturated Paste by EPA 6010

Calcium	4.00	0.499	meq/L	10	[CALC]	03/22/2023	03/23/2023
Magnesium	2.49	0.823	"	"	"	"	"
Sodium	1.30	0.435	"	"	"	"	"

## PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00109	0.00201	mg/Kg	1	L671519	03/23/2023	03/23/2023	
2-Methylnaphthalene	ND	0.00194	0.00201	"	"	"	"	"	
Acenaphthene	0.000537	0.000304	0.00067	"	"	"	"	"	J
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"	
Benzo(a)pyrene	0.00119	0.000468	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"	
Chrysene	0.00118	0.000624	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"	
Fluoranthene	0.000517	0.000394	0.00067	"	"	"	"	"	J
Fluorene	0.00121	0.000286	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



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

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

WV-SS-01@5'

3/17/2023 9:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.  
Y303462-01 (Soil)

## PAH by 8270D SIM

Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	mg/Kg	1	L671519	03/23/2023	03/23/2023
Naphthalene	ND	0.00145	0.00201	"	"	"	"	"
Pyrene	0.000873	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	54.4 %		33-115			"	"	"
Surrogate: 4-Terphenyl-d14	48 %		33-122			"	"	"
Surrogate: Nitrobenzene-d5	52 %		29-110			"	"	"

## pH in Soil by 9045D

pH	8.08			pH Units	1	B3C2215	03/22/2023	03/23/2023
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## SAR by 20B Saturated Paste

SAR	0.721			SAR	1	B3C2207	03/22/2023	03/23/2023
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.950		0.00500	mmhos/cm	1	B3C2215	03/22/2023	03/23/2023
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Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

WV-SS-02@5'

3/17/2023 9:22:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y303462-02 (Soil)

## Boron (DTPA Sorbitol)

Boron	0.422	0.0994	mg/L	1	B3C2211	03/22/2023	03/23/2023	
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## DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3C2001	03/20/2023	03/21/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	93.4 %	50-150	"	"	"	"	"
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## GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3C2016	03/20/2023	03/21/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	105 %	70-130	"	"	"	"	"
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Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

WV-SS-02@5'

3/17/2023 9:22:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y303462-02 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	97.5 %	70-130	B3C20 16	03/20/2023	03/21/2023
Surrogate: 4-Bromofluorobenzene	96.2 %	70-130	"	"	"

## Metals by Saturated Paste by EPA 6010

Calcium	2.25	0.499	meq/L	10	[CALC]	03/22/2023	03/23/2023
Magnesium	1.06	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

## PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00109	0.00201	mg/Kg	1	L671519	03/23/2023	03/23/2023
2-Methylnaphthalene	ND	0.00194	0.00201	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	0.000498	0.000334	0.00067	"	"	"	"	" J
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	0.00118	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	0.00116	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, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

## WV-SS-02@5'

3/17/2023 9:22:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Waypoint Analytical, LLC. Y303462-02 (Soil)

### PAH by 8270D SIM

Fluorene	ND	0.000286	0.00067	mg/Kg	1	L671519	03/23/2023	03/23/2023
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	60.5 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	50 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	58.1 %	29-110	"	"	"

### pH in Soil by 9045D

pH	8.21	pH Units	1	B3C2216	03/22/2023	03/23/2023
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### SAR by 20B Saturated Paste

SAR	0.251	SAR	1	B3C2208	03/22/2023	03/23/2023
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.452	0.00500	mmhos/cm	1	B3C2216	03/22/2023	03/23/2023
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Origins Laboratory, Inc.



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

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

WV-SS-03@5'

3/17/2023 9:24:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y303462-03 (Soil)

## Boron (DTPA Sorbitol)

Boron	0.350	0.0997	mg/L	1	B3C2211	03/22/2023	03/23/2023	
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## DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3C2001	03/20/2023	03/21/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	96.2 %	50-150	"	"	"	"	"	
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## GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3C2016	03/20/2023	03/21/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	106 %	70-130	"	"	"	"	"	
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Origins Laboratory, Inc.



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

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

WV-SS-03@5'

3/17/2023 9:24:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y303462-03 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	98.0 %	70-130	B3C20 16	03/20/2023	03/21/2023
Surrogate: 4-Bromofluorobenzene	94.9 %	70-130	"	"	"

## Metals by Saturated Paste by EPA 6010

Calcium	6.88	0.499	meq/L	10	[CALC]	03/22/2023	03/23/2023
Magnesium	2.45	0.823	"	"	"	"	"
Sodium	1.33	0.435	"	"	"	"	"

## PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00109	0.00201	mg/Kg	1	L671519	03/23/2023	03/23/2023
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	0.00119	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	0.00109	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	0.000444	0.000394	0.00067	"	"	"	"	"
Fluorene	ND	0.000286	0.00067	"	"	"	"	"

Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

WV-SS-03@5'

3/17/2023 9:24:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.  
Y303462-03 (Soil)

## PAH by 8270D SIM

Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	mg/Kg	1	L671519	03/23/2023	03/23/2023
Naphthalene	ND	0.00145	0.00201	"	"	"	"	"
Pyrene	0.000708	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	56.5 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	60.5 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	55.3 %	29-110	"	"	"

## pH in Soil by 9045D

pH	8.10	pH Units	1	B3C2216	03/22/2023	03/23/2023
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## SAR by 20B Saturated Paste

SAR	0.617	SAR	1	B3C2208	03/22/2023	03/23/2023
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.22	0.00500	mmhos/cm	1	B3C2216	03/22/2023	03/23/2023
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Origins Laboratory, Inc.



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

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

WV-SS-04@5'

3/17/2023 9:26:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y303462-04 (Soil)

## Boron (DTPA Sorbitol)

Boron	0.315	0.100	mg/L	1	B3C2211	03/22/2023	03/23/2023	
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## DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3C2001	03/20/2023	03/21/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	89.6 %	50-150			"	"	"	
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## GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3C2016	03/20/2023	03/23/2023	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	"	"	"	"	03/21/2023	U

Surrogate: 1,2-Dichloroethane-d4	89.3 %	70-130			"	"	03/23/2023	
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Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

WV-SS-04@5'

3/17/2023 9:26:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y303462-04 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	98.7 %	70-130	B3C20 16	03/20/2023	03/23/2023
Surrogate: 4-Bromofluorobenzene	103 %	70-130	"	"	"

## Metals by Saturated Paste by EPA 6010

Calcium	2.80	0.499	meq/L	10	[CALC]	03/22/2023	03/29/2023
Magnesium	1.10	0.823	"	"	"	"	"
Sodium	0.443	0.435	"	"	"	"	"

## PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00109	0.00201	mg/Kg	1	L671519	03/23/2023	03/23/2023
2-Methylnaphthalene	ND	0.00194	0.00201	"	"	"	"	"
Acenaphthene	0.000376	0.000304	0.00067	"	"	"	"	J
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	0.00108	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	0.000802	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	0.000592	0.000437	0.00067	"	"	"	"	J
Chrysene	0.00236	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	0.00686	0.000394	0.00067	"	"	"	"	"
Fluorene	0.000337	0.000286	0.00067	"	"	"	"	J

Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

WV-SS-04@5'

3/17/2023 9:26:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.  
Y303462-04 (Soil)

## PAH by 8270D SIM

Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	mg/Kg	1	L671519	03/23/2023	03/23/2023
Naphthalene	ND	0.00145	0.00201	"	"	"	"	"
Pyrene	0.00457	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	62.6 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	57.1 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	61.4 %	29-110	"	"	"

## pH in Soil by 9045D

pH	8.25	pH Units	1	B3C2216	03/22/2023	03/23/2023
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## SAR by 20B Saturated Paste

SAR	0.317	SAR	1	B3C2208	03/22/2023	03/29/2023
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.503	0.00500	mmhos/cm	1	B3C2216	03/22/2023	03/23/2023
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Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

WV-FS-01@6'

3/17/2023 9:28:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y303462-05 (Soil)

## Boron (DTPA Sorbitol)

Boron	0.202	0.0989	mg/L	1	B3C2211	03/22/2023	03/23/2023
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## DRO/ORO by EPA 8015D

Diesel (C10-C28)	217	25.0	mg/kg	1	B3C2001	03/20/2023	03/21/2023	
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	99.6 %	50-150	"	"	"	"	"
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## GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3C2016	03/20/2023	03/21/2023	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	11.3	0.200	"	"	"	"	"	

Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

WV-FS-01@6'

3/17/2023 9:28:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y303462-05 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: 1,2-Dichloroethane-d4	112 %		70-130			B3C20 16	03/20/2023	03/21/2023	
Surrogate: Toluene-d8	94.6 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	103 %		70-130			"	"	"	

## Metals by Saturated Paste by EPA 6010

Calcium	8.51		0.499	meq/L	10	[CALC]	03/22/2023	03/29/2023	
Magnesium	3.15		0.823	"	"	"	"	"	
Sodium	1.14		0.435	"	"	"	"	"	

## PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00549	0.0101	mg/Kg	5	L671519	03/23/2023	03/23/2023	
2-Methylnaphthalene	ND	0.00972	0.0101	"	"	"	"	"	
Acenaphthene	0.00159	0.00152	0.00335	"	"	"	"	"	J
Anthracene	0.0129	0.00167	0.00335	"	"	"	"	"	
Benzo(a)anthracene	0.00745	0.00247	0.00335	"	"	"	"	"	
Benzo(a)pyrene	0.00676	0.00234	0.00335	"	"	"	"	"	
Benzo(b)fluoranthene	0.00363	0.00293	0.00335	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.00219	0.00335	"	"	"	"	"	
Chrysene	0.024	0.00312	0.00335	"	"	"	"	"	
Dibenz(a,h)anthracene	0.00603	0.00307	0.00335	"	"	"	"	"	
Fluoranthene	ND	0.00197	0.00335	"	"	"	"	"	

Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

WV-FS-01@6'

3/17/2023 9:28:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.  
Y303462-05 (Soil)

## PAH by 8270D SIM

Fluorene	0.00297	0.00143	0.00335	mg/Kg	5	L671519	03/23/2023	03/23/2023	J
Indeno(1,2,3-cd)pyrene	ND	0.00314	0.00335	"	"	"	"	"	
Naphthalene	ND	0.0073	0.0101	"	"	"	"	"	
Pyrene	0.0157	0.00322	0.00335	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	66.4 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	84.4 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	74 %	29-110	"	"	"

## pH in Soil by 9045D

pH	8.20	pH Units	1	B3C2216	03/22/2023	03/23/2023
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## SAR by 20B Saturated Paste

SAR	0.472	SAR	1	B3C2208	03/22/2023	03/29/2023
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.25	0.00500	mmhos/cm	1	B3C2216	03/22/2023	03/23/2023
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Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

TB-SS-01@0.5'

3/17/2023 10:58:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y303462-06 (Soil)

## Boron (DTPA Sorbitol)

Boron	0.475	0.101	mg/L	1	B3C2211	03/22/2023	03/23/2023	
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## DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3C2001	03/20/2023	03/21/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	88.2 %	50-150	"	"	"	"	"	
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## GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3C2016	03/20/2023	03/27/2023	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	109 %	70-130	"	"	"	"	"	
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Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

TB-SS-01@0.5'

3/17/2023 10:58:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y303462-06 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	101 %	70-130	B3C20 16	03/20/2023	03/27/2023
Surrogate: 4-Bromofluorobenzene	95.9 %	70-130	"	"	"

## Metals by Saturated Paste by EPA 6010

Calcium	2.11	0.499	meq/L	10	[CALC]	03/22/2023	03/31/2023
Magnesium	ND	0.823	"	"	"	"	"
Sodium	2.07	0.435	"	"	"	"	"

## PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00109	0.00201	mg/Kg	1	L671519	03/23/2023	03/23/2023
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	0.00132	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	0.00118	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	0.0006	0.000437	0.00067	"	"	"	"	"
Chrysene	0.00192	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	0.00148	0.000394	0.00067	"	"	"	"	"
Fluorene	ND	0.000286	0.00067	"	"	"	"	"

Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

TB-SS-01@0.5'

3/17/2023 10:58:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.  
Y303462-06 (Soil)

## PAH by 8270D SIM

Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	mg/Kg	1	L671519	03/23/2023	03/23/2023
Naphthalene	ND	0.00145	0.00201	"	"	"	"	"
Pyrene	0.00111	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	64.3 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	67.7 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	63.1 %	29-110	"	"	"

## pH in Soil by 9045D

pH	8.26	pH Units	1	B3C2216	03/22/2023	03/23/2023
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## SAR by 20B Saturated Paste

SAR	1.74	SAR	1	B3C2208	03/22/2023	03/31/2023
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.10	0.00500	mmhos/cm	1	B3C2216	03/22/2023	03/23/2023
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Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

TB-SS-02@0.5

3/17/2023 11:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y303462-07 (Soil)

## Boron (DTPA Sorbitol)

Boron	0.457	0.0996	mg/L	1	B3C2211	03/22/2023	03/23/2023	
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## DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3C2001	03/20/2023	03/22/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	88.7 %	50-150	"	"	"	"	"
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## GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3C2016	03/20/2023	03/23/2023	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	90.3 %	70-130	"	"	"	"	"
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Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

TB-SS-02@0.5

3/17/2023 11:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y303462-07 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	99.8 %	70-130	B3C20 16	03/20/2023	03/23/2023
Surrogate: 4-Bromofluorobenzene	98.8 %	70-130	"	"	"

## Metals by Saturated Paste by EPA 6010

Calcium	4.32	0.499	meq/L	10	[CALC]	03/22/2023	03/29/2023
Magnesium	1.49	0.823	"	"	"	"	"
Sodium	4.30	0.435	"	"	"	"	"

## PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00109	0.00201	mg/Kg	1	L671519	03/23/2023	03/23/2023
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	0.00139	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	0.00078	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	0.00158	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	0.000994	0.000394	0.00067	"	"	"	"	"
Fluorene	ND	0.000286	0.00067	"	"	"	"	"

Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

**TB-SS-02@0.5**

**3/17/2023 11:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, LLC.**  
**Y303462-07 (Soil)**

## PAH by 8270D SIM

Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	mg/Kg	1	L671519	03/23/2023	03/23/2023
Naphthalene	ND	0.00145	0.00201	"	"	"	"	"
Pyrene	<b>0.00185</b>	<b>0.000643</b>	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	57.6 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	58.5 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	55.8 %	29-110	"	"	"

## pH in Soil by 9045D

pH	<b>8.28</b>	pH Units	1	B3C2216	03/22/2023	03/23/2023
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## SAR by 20B Saturated Paste

SAR	<b>2.52</b>	SAR	1	B3C2208	03/22/2023	03/29/2023
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	<b>3.21</b>	0.00500	mmhos/cm	1	B3C2216	03/22/2023	03/23/2023
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Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

TB-SS-04@4'

3/17/2023 10:32:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y303462-08 (Soil)

## Boron (DTPA Sorbitol)

Boron	0.511	0.0998	mg/L	1	B3C2211	03/22/2023	03/23/2023	
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## DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3C2001	03/20/2023	03/22/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	87.4 %	50-150			"	"	"	
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## GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3C2016	03/20/2023	03/23/2023	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	90.2 %	70-130			"	"	"	
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Origins Laboratory, Inc.



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8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

TB-SS-04@4'

3/17/2023 10:32:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y303462-08 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	98.8 %	70-130	B3C20 16	03/20/2023	03/23/2023
Surrogate: 4-Bromofluorobenzene	97.5 %	70-130	"	"	"

## Metals by Saturated Paste by EPA 6010

Calcium	2.66	0.499	meq/L	10	[CALC]	03/22/2023	03/29/2023
Magnesium	1.68	0.823	"	"	"	"	"
Sodium	0.456	0.435	"	"	"	"	"

## PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00109	0.00201	mg/Kg	1	L671519	03/23/2023	03/23/2023
2-Methylnaphthalene	ND	0.00194	0.00201	"	"	"	"	"
Acenaphthene	0.000328	0.000304	0.00067	"	"	"	"	J
Anthracene	0.000356	0.000334	0.00067	"	"	"	"	J
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	0.000642	0.000468	0.00067	"	"	"	"	J
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	0.000678	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"
Fluorene	ND	0.000286	0.00067	"	"	"	"	"

Origins Laboratory, Inc.



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8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

TB-SS-04@4'

3/17/2023 10:32:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, LLC.**  
**Y303462-08 (Soil)**

**PAH by 8270D SIM**

Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	mg/Kg	1	L671519	03/23/2023	03/23/2023
Naphthalene	ND	0.00145	0.00201	"	"	"	"	"
Pyrene	ND	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	57.8 %		33-115			"	"	"
Surrogate: 4-Terphenyl-d14	47.1 %		33-122			"	"	"
Surrogate: Nitrobenzene-d5	56.5 %		29-110			"	"	"

**pH in Soil by 9045D**

pH	8.29			pH Units	1	B3C2216	03/22/2023	03/23/2023
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**SAR by 20B Saturated Paste**

SAR	0.310			SAR	1	B3C2208	03/22/2023	03/29/2023
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.594		0.00500	mmhos/cm	1	B3C2216	03/22/2023	03/23/2023
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Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

## 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 B3C2001 - EPA 3580										
Blank (B3C2001-BLK1)					Prepared: 03/20/2023 Analyzed: 03/21/2023					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	25		"	24.9		102	50-150			

Origins Laboratory, Inc.



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8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

## 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 B3C2001 - EPA 3580

### LCS (B3C2001-BS1)

Prepared: 03/20/2023 Analyzed: 03/21/2023

Diesel (C10-C28)	898	50.0	mg/kg	1000		89.8	70-130			
Residual Range Organics (C28-C40)	850	200	"	1000		85.0	70-130			
Surrogate: o-Terphenyl	49		"	49.8		97.6	50-150			

Origins Laboratory, Inc.



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8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

## 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 B3C2001 - EPA 3580										
Matrix Spike (B3C2001-MS1)		Source: Y303402-01			Prepared: 03/20/2023 Analyzed: 03/21/2023					
Diesel (C10-C28)	9440	50.0	mg/kg	1000	7920	152	70-130			QM-07
Residual Range Organics (C28-C40)	1180	200	"	1000	271	91.3	70-130			
Surrogate: o-Terphenyl	110		"	49.8		227	50-150			S-04

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8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

## 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 B3C2001 - EPA 3580										
<b>Matrix Spike Dup (B3C2001-MSD1)</b>			<b>Source: Y303402-01</b>		Prepared: 03/20/2023 Analyzed: 03/21/2023					
Diesel (C10-C28)	11000	50.0	mg/kg	1000	7920	306	70-130	15.1	35	QM-07
Residual Range Organics (C28-C40)	1440	200	"	1000	271	117	70-130	19.8	35	
Surrogate: o-Terphenyl	130		"	49.8		264	50-150			S-04

Origins Laboratory, Inc.



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8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

## 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 B3C2016 - EPA 5030 (soil)										
Blank (B3C2016-BLK1)					Prepared: 03/20/2023 Analyzed: 03/21/2023					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		104	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.7	70-130			

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

**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
<b>Batch B3C2016 - EPA 5030 (soil)</b>										
<b>LCS (B3C2016-BS1)</b>					Prepared: 03/20/2023 Analyzed: 03/21/2023					
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	0.112	0.00200	"	0.100		112	70-130			
Ethylbenzene	0.116	0.00200	"	0.100		116	70-130			
Naphthalene	0.0967	0.00380	"	0.100		96.7	70-130			
Toluene	0.109	0.00200	"	0.100		109	70-130			
o-Xylene	0.111	0.00200	"	0.100		111	70-130			
m,p-Xylene	0.231	0.00400	"	0.200		115	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		100	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

## 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 B3C2016 - EPA 5030 (soil)										
Matrix Spike (B3C2016-MS1)		Source: Y303429-01			Prepared: 03/20/2023 Analyzed: 03/21/2023					
1,2,4-Trimethylbenzene	0.107	0.00200	mg/kg	0.100	ND	107	70-130			
1,3,5-Trimethylbenzene	0.113	0.00200	"	0.100	0.00364	109	70-130			
Benzene	0.114	0.00200	"	0.100	ND	114	70-130			
Ethylbenzene	0.112	0.00200	"	0.100	ND	112	70-130			
Naphthalene	0.0926	0.00380	"	0.100	0.00132	91.3	70-130			
Toluene	0.109	0.00200	"	0.100	ND	109	70-130			
o-Xylene	0.109	0.00200	"	0.100	ND	109	70-130			
m,p-Xylene	0.225	0.00400	"	0.200	ND	113	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		101	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	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 - Frenzel T5N-R64W-S15 L01

## 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 B3C2016 - EPA 5030 (soil)										
Matrix Spike Dup (B3C2016-MSD1)			Source: Y303429-01		Prepared: 03/20/2023 Analyzed: 03/21/2023					
1,2,4-Trimethylbenzene	0.105	0.00200	mg/kg	0.100	ND	105	70-130	1.58	20	
1,3,5-Trimethylbenzene	0.110	0.00200	"	0.100	0.00364	107	70-130	2.42	20	
Benzene	0.112	0.00200	"	0.100	ND	112	70-130	1.56	20	
Ethylbenzene	0.109	0.00200	"	0.100	ND	109	70-130	3.20	20	
Naphthalene	0.0927	0.00380	"	0.100	0.00132	91.4	70-130	0.130	20	
Toluene	0.107	0.00200	"	0.100	ND	107	70-130	1.72	20	
o-Xylene	0.105	0.00200	"	0.100	ND	105	70-130	3.26	20	
m,p-Xylene	0.218	0.00400	"	0.200	ND	109	70-130	3.49	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		99.8	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	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 - Frenzel T5N-R64W-S15 L01

## 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 B3C2207 - Saturated Paste Metals

##### Blank (B3C2207-BLK1)

Prepared: 03/22/2023 Analyzed: 03/23/2023

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

##### Duplicate (B3C2207-DUP1)

Source: Y303456-01

Prepared: 03/22/2023 Analyzed: 03/23/2023

Calcium PPM	6.95	10.0	mg/L	6.92	0.505	50
SAR	0.00		SAR	4.41	200	200
Magnesium PPM	7.94	10.0	mg/L	7.70	3.01	50
Sodium PPM	72.2	10.0	"	70.9	1.80	50

#### Batch B3C2208 - Saturated Paste Metals

##### Blank (B3C2208-BLK1)

Prepared: 03/22/2023 Analyzed: 03/23/2023

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

##### Duplicate (B3C2208-DUP1)

Source: Y303462-02

Prepared: 03/22/2023 Analyzed: 03/23/2023

SAR	0.00		SAR	0.251	200	200
Calcium PPM	41.8	10.0	mg/L	45.1	7.58	50

Origins Laboratory, Inc.



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8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

## Classical Chemistry Parameters - Quality Control

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B3C2208 - Saturated Paste Metals</b>										
<b>Duplicate (B3C2208-DUP1)</b>		<b>Source: Y303462-02</b>			Prepared: 03/22/2023 Analyzed: 03/23/2023					
Magnesium PPM	12.8	10.0	mg/L		12.9			0.568	50	
Sodium PPM	7.34	10.0	"		7.42			1.17	50	
<b>Batch B3C2211 - DTPA Sorbitol Preparation</b>										
<b>Blank (B3C2211-BLK1)</b>		Prepared: 03/22/2023 Analyzed: 03/23/2023								
Boron	ND	0.100	mg/L							
<b>Duplicate (B3C2211-DUP1)</b>		<b>Source: Y303456-01</b>			Prepared: 03/22/2023 Analyzed: 03/23/2023					
Boron	0.179	0.0999	mg/L		0.192			7.13	50	

Origins Laboratory, Inc.



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8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

## Saturated Paste - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch B3C2215 - Saturated Paste pH/EC

#### Blank (B3C2215-BLK1)

Prepared: 03/22/2023 Analyzed: 03/23/2023

Specific Conductance (EC) ND 0.00500 mmhos/cm

#### Duplicate (B3C2215-DUP1)

Source: Y303456-01

Prepared: 03/22/2023 Analyzed: 03/23/2023

Specific Conductance (EC)	0.388	0.00500	mmhos/cm	0.519	29.0	25	QR-DUP
pH	8.52		pH Units	8.56	0.468	25	

### Batch B3C2216 - Saturated Paste pH/EC

#### Blank (B3C2216-BLK1)

Prepared: 03/22/2023 Analyzed: 03/23/2023

Specific Conductance (EC) ND 0.00500 mmhos/cm

#### Duplicate (B3C2216-DUP1)

Source: Y303462-02

Prepared: 03/22/2023 Analyzed: 03/23/2023

pH	8.29		pH Units	8.21	0.970	25	
Specific Conductance (EC)	0.438	0.00500	mmhos/cm	0.452	2.99	25	

Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

**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 L671519 - 3550B**

MSD (L 84165-MSD-L671519)		Source: 84165			Prepared: 03/23/2023 Analyzed: 03/23/2023					
Chrysene	0.117	0.00067	mg/Kg	0.162	<0.000624	72.2	30-130	15	30	
Pyrene	0.123	0.00067	"	0.162	<0.000643	75.9	30-130	12.2	30	
Naphthalene	0.104	0.00201	"	0.162	<0.00145	64.1	30-130	11.7	30	
Indeno(1,2,3-cd)pyrene	0.112	0.00067	"	0.162	<0.000627	69.1	30-130	18.6	30	
Fluorene	0.119	0.00067	"	0.162	<0.000286	73.4	30-130	11.8	30	
Dibenz(a,h)anthracene	0.136	0.00067	"	0.162	<0.000614	83.9	30-130	14.9	30	
Benzo(k)fluoranthene	0.119	0.00067	"	0.162	<0.000437	73.4	30-130	0.8	30	
2-Methylnaphthalene	0.108	0.00201	"	0.162	<0.00194	66.6	30-130	12.9	30	
Fluoranthene	0.124	0.00067	"	0.162	<0.000394	76.5	30-130	12.1	30	
Benzo(b)fluoranthene	0.0825	0.00067	"	0.162	<0.000585	50.9	30-130	22.1	30	
Acenaphthene	0.107	0.00067	"	0.162	<0.000304	66	30-130	12.2	30	
Anthracene	0.125	0.00067	"	0.162	<0.000334	77.1	30-130	13.4	30	
Benzo(a)anthracene	0.117	0.00067	"	0.162	<0.000493	72.2	30-130	11.2	30	
Benzo(a)pyrene	0.118	0.00067	"	0.162	<0.000468	72.8	30-130	11.9	30	
1-Methylnaphthalene	0.108	0.00201	"	0.162	<0.00109	66.6	30-130	12.1	30	
Surrogate: Nitrobenzene-d5	56.9		"	0.325	184	56.9	29-110			
Surrogate: 2-Fluorobiphenyl	56.6		"	0.325	181	56.6	33-115			
Surrogate: 4-Terphenyl-d14	63.6		"	0.325	205	63.6	33-122			

MS (L 84165-MS-L671519)		Source: 84165			Prepared: 03/23/2023 Analyzed: 03/23/2023					
Benzo(k)fluoranthene	0.12	0.00067	mg/Kg	0.165	<0.000437	72.7	30-130			
Naphthalene	0.117	0.00201	"	0.165	<0.00145	70.9	30-130			
Indeno(1,2,3-cd)pyrene	0.135	0.00067	"	0.165	<0.000627	81.8	30-130			
Fluorene	0.134	0.00067	"	0.165	<0.000286	81.2	30-130			
Fluoranthene	0.14	0.00067	"	0.165	<0.000394	84.8	30-130			
Dibenz(a,h)anthracene	0.158	0.00067	"	0.165	<0.000614	95.7	30-130			
Chrysene	0.136	0.00067	"	0.165	<0.000624	82.4	30-130			

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

**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 L671519 - 3550B**

MS (L 84165-MS-L671519)		Source: 84165			Prepared: 03/23/2023 Analyzed: 03/23/2023					
Benzo(b)fluoranthene	0.103	0.00067	mg/Kg	0.165	<0.000585	62.4	30-130			
Pyrene	0.139	0.00067	"	0.165	<0.000643	84.2	30-130			
1-Methylnaphthalene	0.122	0.00201	"	0.165	<0.00109	73.9	30-130			
2-Methylnaphthalene	0.123	0.00201	"	0.165	<0.00194	74.5	30-130			
Acenaphthene	0.121	0.00067	"	0.165	<0.000304	73.3	30-130			
Anthracene	0.143	0.00067	"	0.165	<0.000334	86.6	30-130			
Benzo(a)anthracene	0.131	0.00067	"	0.165	<0.000493	79.3	30-130			
Benzo(a)pyrene	0.133	0.00067	"	0.165	<0.000468	80.6	30-130			
Surrogate: Nitrobenzene-d5	61.8		"	0.33	184	61.8	29-110			
Surrogate: 2-Fluorobiphenyl	61.2		"	0.33	181	61.2	33-115			
Surrogate: 4-Terphenyl-d14	69		"	0.33	205	69	33-122			

**LCS (LCS-L671519)**

Prepared: 03/23/2023 Analyzed: 03/23/2023

Pyrene	0.137	0.00067	mg/Kg	0.167		82	30-130			
Fluoranthene	0.14	0.00067	"	0.167		83.8	30-130			
Benzo(k)fluoranthene	0.139	0.00067	"	0.167		83.2	30-130			
Naphthalene	0.115	0.00201	"	0.167		68.8	30-130			
Fluorene	0.136	0.00067	"	0.167		81.4	30-130			
Dibenz(a,h)anthracene	0.16	0.00067	"	0.167		95.8	30-130			
Chrysene	0.134	0.00067	"	0.167		80.2	30-130			
1-Methylnaphthalene	0.121	0.00201	"	0.167		72.4	30-130			
Benzo(a)pyrene	0.128	0.00067	"	0.167		76.6	30-130			
Benzo(a)anthracene	0.132	0.00067	"	0.167		79	30-130			
Anthracene	0.143	0.00067	"	0.167		85.6	30-130			
Acenaphthene	0.122	0.00067	"	0.167		73	30-130			
2-Methylnaphthalene	0.122	0.00201	"	0.167		73	30-130			
Indeno(1,2,3-cd)pyrene	0.134	0.00067	"	0.167		80.2	30-130			

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Martin C Eckert III  
Project Number: [none]  
Project: Noble - Frenzel T5N-R64W-S15 L01

## 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
<b>Batch L671519 - 3550B</b>										
<b>LCS (LCS-L671519)</b>					Prepared: 03/23/2023 Analyzed: 03/23/2023					
Benzo(b)fluoranthene	0.0804	0.00067	mg/Kg	0.167		48.1	30-130			
Surrogate: Nitrobenzene-d5	65.1		"	0.333		65.1	29-110			
Surrogate: 4-Terphenyl-d14	74.4		"	0.333		74.4	33-122			
Surrogate: 2-Fluorobiphenyl	66.3		"	0.333		66.3	33-115			
<b>LRB (LRB-L671519)</b>					Prepared: 03/23/2023 Analyzed: 03/23/2023					
Chrysene	ND	0.00067	mg/Kg				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Naphthalene	ND	0.00201	"				-			
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	61.8		"	0.333		61.8	29-110			
Surrogate: 4-Terphenyl-d14	77.4		"	0.333		77.4	33-122			
Surrogate: 2-Fluorobiphenyl	64.5		"	0.333		64.5	33-115			

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## 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.

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

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

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.

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

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