

# **FREMONT ENVIRONMENTAL INC.**

July 2, 2022

Ms. Erica Zuniga  
Noble Energy Inc.  
2115 117<sup>th</sup> Avenue  
Greeley, CO 80634

Subject:           **Facility Closure Data Submittal**  
                    Miller 16-29 Tank Battery  
                    API # 05-123-12830  
                    SESE Sec 29, T6N, R64W  
                    Weld County, Colorado  
                    Fremont Project No. C022-056  
                    Facility #323297, Remediation #22488

Dear Ms. Zuniga:

As you requested, Fremont Environmental Inc. (Fremont) personnel conducted Facility Closure tasks for the Noble Energy Inc. (Noble) Miller 16-29 tank battery. Impacted soil was encountered during the facility closure process; groundwater was not present. Details of the facility removal activities are documented in the attached Closure Report.

Please contact me at (303) 956-8714 if you require any additional information. Fremont appreciates the opportunity to provide this service.

Sincerely,

**FREMONT ENVIRONMENTAL INC.**

A handwritten signature in blue ink, appearing to read "Paul Henehan", with a stylized flourish at the end.

Paul V. Henehan, P.E.  
Senior Consultant

Attachments:

Facility Closure Checklist  
Tables  
Figures  
Photos  
Laboratory Report

# Tank Battery Closure Checklist

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

Additional attachments (optional):		Pit Closure		Wellhead Closure		Flowline Closure		Partially Buried Vault Closure
Site Name & COGCC Facility Number: Miller 16-29, 481574		Date:						Remediation Project #: 22488
Associated Wells:		Age of Site:						Number of Photos Attached: 8
Location: (GPS coordinates of southeaster berm)								Estimated Facility Size (acres): 1 ac
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)								
USCS Soil Type:					Estimated Depth to Groundwater:			
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)								
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)								
<b>Tanks</b>								
Tank Contents								
Size (barrels)								
Age								
Construction Material								
Tank type (AST/DRU, etc.)								
Visual Integrity of Tank								
Condition of tank footprint								
PID Readings								
Soil impacts present at valves or hatches?								
PID Readings								
Sample taken? Location/ Sample ID#								
Photo Number(s)								
Other observations regarding tanks:								
<b>Separators</b>								
Separator size								
Vertical or Horizontal								
Age								
Soil impacts								
PID Readings								
Sample taken? Location/ Sample ID#								
Photo Number(s)								
Other observations regarding separators								
<b>Third Party Equipment</b>								
Type								
Age								

Third Party <i>Owner</i>														
Removal Date														
Sample taken? <i>Location/ Sample</i>														
PID Readings														
Photo Number(s)														
<b>Other Facility Equipment</b>														
Equipment type														
Equipment <i>Condition</i>														
Age														
Soil impacts <i>Observed during</i>														
PID Readings														
Sample taken? <i>Location/ Sample</i>														
Photo Number(s)														
Other observations regarding other facility or third party equipment:														
<b>Summary</b>														
Was impacted soil identified? No                      X    Yes - less than 10 cubic yards                      Yes - more than 10 cubic yards														
Total number of samples field screened:					Total number of samples collected:									
Highest PID Reading:					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?														
Was groundwater encountered during the investigation? X 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:														

## Buried or Partially Buried Vessel Closure Checklist

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

Additional attachments (optional):		Pit Closure		Wellhead Closure		Flowline Closure		Tank Battery Closure
Site Name & COGCC Facility Number: Miller 16-29, 481574		Date:						Remediation Project #: 22488
Associated Wells:		Age of Site:						Number of Photos Attached: 8
Location: (GPS coordinates of vault or southeastern tank berm for multiple)								Estimated Facility Size (acres): 1 ac
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)								
USCS Soil Type:					Estimated Depth to Groundwater:			
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)								
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)								
<b>Buried or Partially Buried Vessels</b>								
Tank Contents								
Size (barrels)								
Age								
Construction Material								
Visual Integrity of Tank								
Condition of tank Foundation								
PID Readings								
Condition of Access Line								
PID Readings								
Sample taken? Location/Sample ID#								
Photo Number(s)								
Other observations regarding partially buried vessels:								
<b>Summary</b>								
Was impacted soil identified? <div style="display: flex; justify-content: space-around;"> <span>No</span> <span>X Yes - less than 10 cubic yards</span> <span>Yes - more than 10 cubic yards</span> </div>								
Total number of samples field screened:					Total number of samples collected:			
Highest PID Reading:					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?								
Was groundwater encountered during the investigation? <div style="display: flex; justify-content: space-around;"> <span>X No</span> <span>Yes - not impacted or in contact with impacted soils</span> <span>Yes - groundwater impacted and/or in contact with impacted soils</span> </div>								
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:								

**TABLE 1**  
**SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA**  
**NOBLE ENERGY INC.**  
**MILLER 16-29 FACILITY**  
**FREMONT PROJECT NO. C022-056**

Sample	Depth (ft)	Date Sampled	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- Benzene (mg/kg)	Xylenes (mg/kg)	1,2,4-Trimethyl- Benzene (mg/kg)	1,3,5-Trimethyl- Benzene (mg/kg)	Naphth- alene (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)
AST 0.5 Ft	0.5	5/18/2022	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<25.0	<100
Separator 1 Ft	1	5/18/2022	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<25.0	<100
PWV E. Wall 4 Ft	4	5/18/2022	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<25.0	<100
PWV Floor 6 Ft	6	5/18/2022	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<25.0	<100
BG-1 1 Ft	1	5/18/2022	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COGCC Table 915-1 Limits (Residential SSL)			1.2	490	5.8	58	30	27	2	500	500	500
COGCC Table 915-1 Limits (Protection of Groundwater SSL)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500*	500*	500*

Bold faced values exceed the COGCC Table 915-1 concentrations

Blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

\* Summation of GRO+DRO+ORO must be less than 500 mg/kg

NA - Not analyzed

TABLE 2  
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA  
NOBLE ENERGY INC.  
MILLER 16-29  
FREMONT PROJECT NO. C022-056

Sample	Depth (ft)	Date Sampled	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo (a) anthracene (mg/kg)	Benzo (b) fluoranthene (mg/kg)	Benzo (k) fluoranthene (mg/kg)	Benzo (a) pyrene (mg/kg)	Chrysene (mg/kg)	Dibenz (a,h) anthracene (mg/kg)	Fluor-anthene (mg/kg)	Fluorene (mg/kg)	Indeno pyrene (mg/kg)	1-Methyl - naphthalene (mg/kg)	2-Methyl- naphthalene (mg/kg)	Pyrene (mg/kg)
AST 0.5 Ft	0.5	5/18/2022	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	0.000663	0.00254	<0.00067
Separator 1 Ft	1	5/18/2022	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067
PWV E. Wall 4 Ft	4	5/18/2022	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<b>0.00749</b>	0.0127	<0.00067
PWV Floor 6 Ft	6	5/18/2022	<0.00067	<0.00067	0.00183	0.00281	0.00164	0.00352	0.00223	<0.00067	0.00173	0.0014	0.00462	<0.00067	<0.00067	0.00192
BG-1 1 Ft	1	5/18/2022	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COGCC Table 915-1 Limits (Residential SSL)			360	1800	1.1	1.1	11	0.11	110	0.11	240	240	1.1	18	24	180
COGCC Table 915-1 Limits (Protection of Groundwater SSL)			0.55	5.8	0.011	0.3	2.9	0.24	9	0.096	8.9	0.54	0.98	0.006	0.019	1.3

Bold faced values exceed the COGCC Table 915-1 concentrations

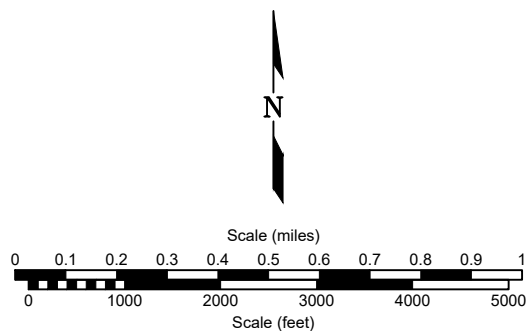
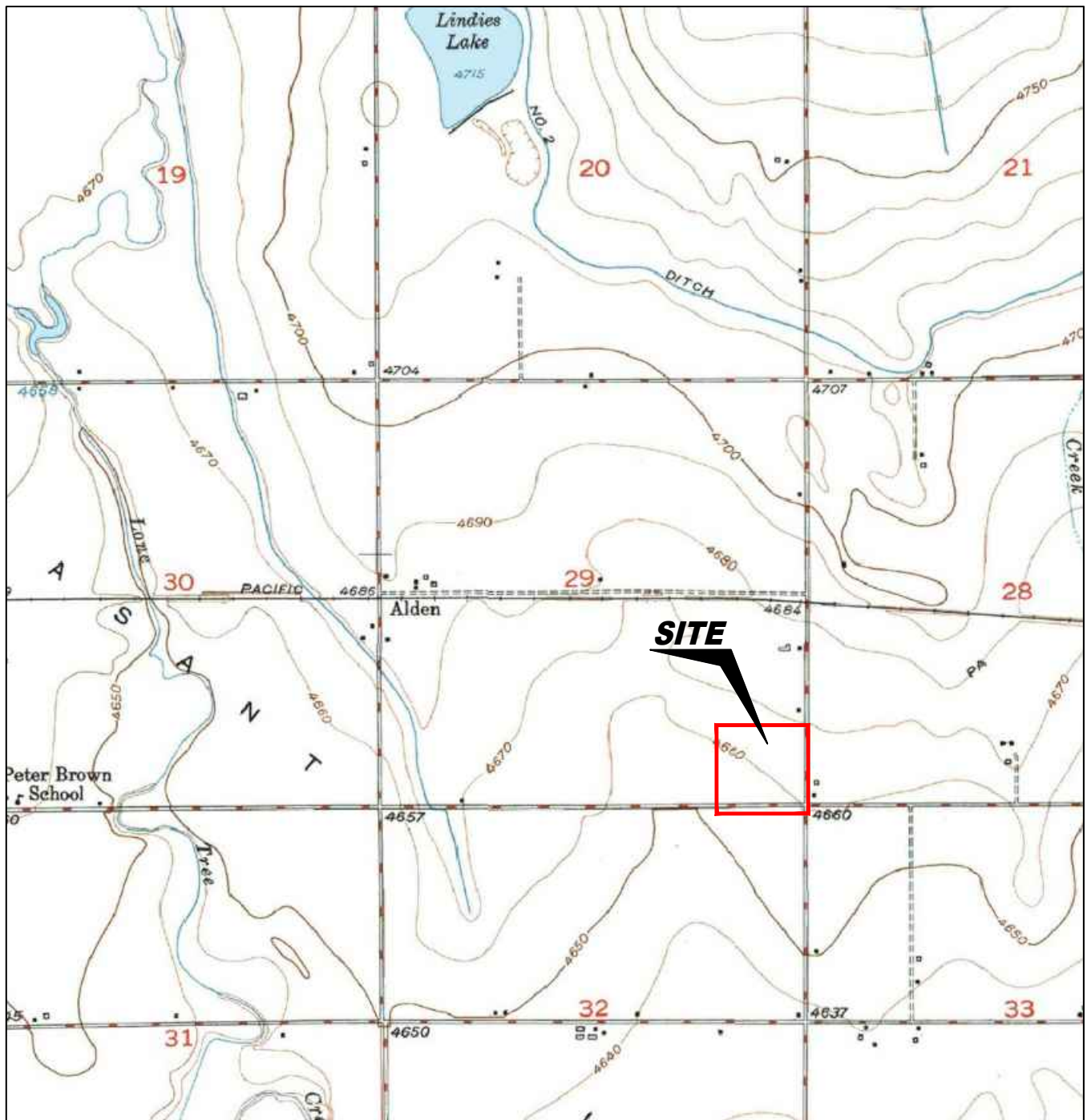
Blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

TABLE 3  
SUMMARY OF INORGANIC SOIL CHEMISTRY DATA  
NOBLE ENERGY INC.  
MILLER 16-29  
FREMONT PROJECT NO. C022-056

SAMPLE LOCATION	DATE SAMPLED	DEPTH ft	EC mmhos/cm	pH pH units	SAR units	BORON mg/L
PWV E.Wall 4 Ft	5/18/2022	4	0.508	8.10	0.349	0.276
BG-1 1 Ft	5/18/2022	1	0.960	8.30	0.421	1.40
Table 915-1 Limits			<4	6-8.3	<6	2

Bold face values exceed the COGCC Limits

NA - Not Analyzed



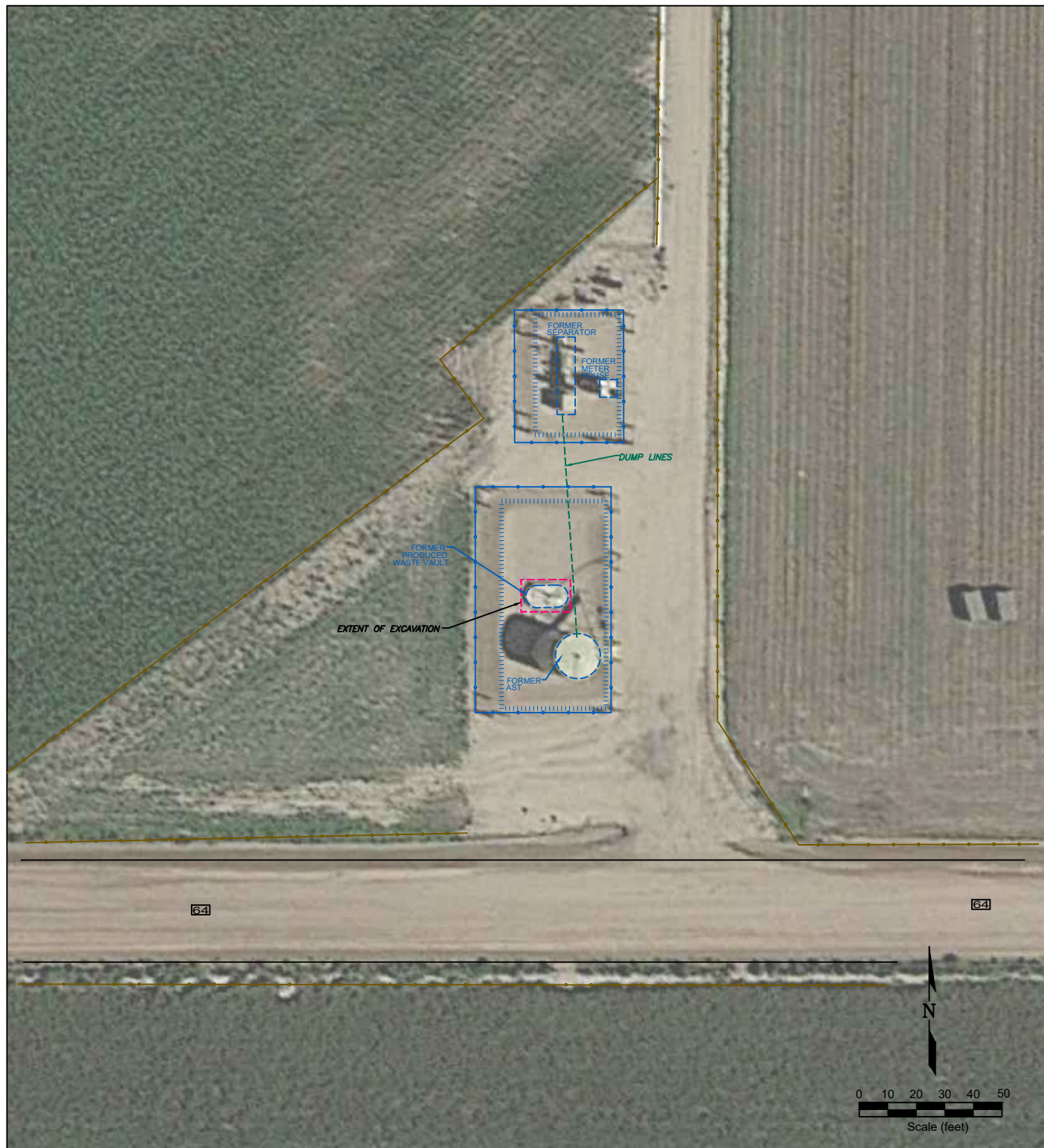
USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1  
SITE LOCATION MAP

**NOBLE ENERGY, INC. ~ MILLER 16-29**  
SESE Sec. 29, T6N, R64W, 6th PM  
Weld County, Colorado  
40.451558°, -104.566222°

Project # <b>C022-056</b>	API # <b>05-123-12830</b>	Facility ID <b>482045</b>
Date <b>6/14/22</b>	Remediation #	Filename <b>22056T</b>





#### LEGEND

	ABOVE GROUND STORAGE TANK		FORMER FACILITY		CONTAINMENT BERM
					EXTENT OF EXCAVATION
					DUMP LINES
					FENCE LINE

Figure 2  
SITE MAP

**NOBLE ENERGY, INC. ~ MILLER 16-29**  
SESE Sec. 29, T6N, R64W, 6th PM  
Weld County, Colorado  
40.451558°, -104.566222°

Project No. <b>C022-056</b>	API # <b>05-123-12830</b>	Facility # <b>482045</b>
Date <b>6/14/22</b>	Reviewed By	Filename <b>22056Q</b>







**#1 – Looking North at Former Tank Battery on April 18, 2022**



**#2 -Looking Northeast at Former Water Vault Location**



**#3 - Looking Southeast at Former Water Vault Location**



**#4 – Looking South at East Wall of Former Water Vault Location**



**#5 - Looking North at Former Separator Location**



**#6 – Looking North at Former Separator Location**



**#7 – Looking South at Former Separator Location**



**#8 – Looking Southwest at Former Water Vault Location**



May 27, 2022

Fremont Environmental

Paul Henehan

8305 6th St, PO Box 1289

Wellington CO 80549

Project Name - Noble - Miller 16-29

Project Number - C022-056

Attached are your analytical results for Noble - Miller 16-29 received by Origins Laboratory, Inc. May 19, 2022. This project is associated with Origins project number Y205509-01.

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

Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST 0.5 ft	Y205509-01	Soil	May 18, 2022 0:00	05/19/2022 14:25
SEP 1 ft	Y205509-02	Soil	May 18, 2022 0:00	05/19/2022 14:25
PWV- E. Wall 4 ft	Y205509-03	Soil	May 18, 2022 0:00	05/19/2022 14:25
PWV - Floor 6 ft	Y205509-04	Soil	May 18, 2022 0:00	05/19/2022 14:25
BG-1 1ft	Y205509-05	Soil	May 18, 2022 0:00	05/19/2022 14:25

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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

Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

**ORIGINS**  
LABORATORY, INC

www.originslaboratory.com

42055508

page 1 of 1

Client: Fremont Environmental Inc.  
Address:  
Telephone Number:  
Email Address:

Project Manager: Henehan  
Project Name: NOBLE - MILLER 16-29  
Project Number: C022-056  
Samples Collected By: HENEHAN

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis				Sample Instructions				
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa	Other	GTENXN+TNBis	PAHs	pH, EC, SAR	Boron	913 metals	Arsenic	RTENXN+TNBis	TDS, Cl, So
AST 0.5 FT	5/18/22		2	✓							✓	✓	✓	✓					1
SEP 1 FT												✓	✓	✓					2
PWV-E. WALL 4 FT												✓	✓	✓					3
PWV-FLOOR 6 FT												✓	✓	✓					4
BG-1 1 FT												✓	✓	✓					5
																			6
																			7
																			8
																			9
																			10
Relinquished By: [Signature]	Date: 5/19/22	Time:		Received By: [Signature]	Date: 5/19/22	Time: 1425		Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input checked="" type="checkbox"/>											
Relinquished By:	Date:	Time:		Received By:	Date:	Time:		Standard <input checked="" type="checkbox"/>											

5.2

Date Results Needed

Origins Laboratory, Inc.

*Jen Pellegrini*

Jen Pellegrini, Project Manager

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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

Origins Laboratory

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

**Sample Receipt Checklist**

Origins Work Order: 4205509 Client: Fremont  
Client Project ID: Miller 16-29

Checklist Completed by: KH Shipped Via: HD  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)  
Date/time completed: 5/19/22 Airbill #: NA

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

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

Thermometer ID: T1004

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	<u>/</u>			
Is there ice present (document if blue ice is used)	<u>/</u>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<u>/</u>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<u>/</u>		
Were all samples received intact <sup>(1)</sup> ?	<u>/</u>			
Was adequate sample volume provided <sup>(1)</sup> ?	<u>/</u>			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		<u>/</u>		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?		<u>/</u>		<u>NO sample time or relinquish time</u>
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<u>/</u>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<u>/</u>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<u>/</u>			
For volatiles in water — is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<u>/</u>			
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)			<u>/</u>	
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) JP Date/Time Reviewed 5/20/22

Origins Laboratory, Inc.

*Jen Pellegrini*

Jen Pellegrini, Project Manager

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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

AST 0.5 ft

5/18/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y205509-01 (Soil)

## DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2E2001	05/20/2022	05/24/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	107 %	50-150	"	"	"
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## GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2E1920	05/19/2022	05/20/2022	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	108 %	70-130	"	"	"
Surrogate: Toluene-d8	103 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	93.5 %	70-130	"	"	"

## PAH by 8270D SIM

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

AST 0.5 ft

5/18/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.  
Y205509-01 (Soil)

## PAH by 8270D SIM

1-Methylnaphthalene	0.000663	0.000364	0.00067	mg/Kg	1	L617723	05/23/2022	05/23/2022	J
2-Methylnaphthalene	0.00254	0.000645	0.00067	"	"	"	"	"	
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"	
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"	
Chrysene	ND	0.000624	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"	
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"	
Fluorene	ND	0.000286	0.00067	"	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"	
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"	
Pyrene	ND	0.000643	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	69.8 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	76.1 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	69.8 %	29-110	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

SEP 1 ft

5/18/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y205509-02 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2E2001	05/20/2022	05/24/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 104 % 50-150 " " "

**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2E1920	05/19/2022	05/20/2022	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 106 % 70-130 " " "  
Surrogate: Toluene-d8 99.6 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 100 % 70-130 " " "

**PAH by 8270D SIM**

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

SEP 1 ft

5/18/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**  
**Y205509-02 (Soil)**

**PAH by 8270D SIM**

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L617723	05/23/2022	05/23/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	ND	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"
Fluorene	ND	0.000286	0.00067	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"
Pyrene	ND	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	62 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	77.5 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	66.3 %	29-110	"	"	"

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

**PWV- E. Wall 4 ft**  
**5/18/2022 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y205509-03 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.276	0.0987	mg/L	1	B2E2002	05/20/2022	05/23/2022	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2E2001	05/20/2022	05/24/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	92.2 %	50-150			"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2E1920	05/19/2022	05/20/2022	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	109 %	70-130			"	"	"	
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

**PWV- E. Wall 4 ft**  
**5/18/2022 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y205509-03 (Soil)**

**GBTEX+TMBs by 8260D**

Surrogate: Toluene-d8	99.1 %		70-130			B2E19 20	05/19/2022	05/20/2022	
Surrogate: 4-Bromofluorobenzene	99.2 %		70-130			"	"	"	

**Metals by Saturated Paste by EPA 6010**

Calcium	3.71		0.499	meq/L	10	[CALC]	05/20/2022	05/23/2022	
Magnesium	1.15		0.823	"	"	"	"	"	
Sodium	0.544		0.435	"	"	"	"	"	

**PAH by 8270D SIM**

1-Methylnaphthalene	0.00749	0.00182	0.00335	mg/Kg	5	L617723	05/23/2022	05/23/2022	
2-Methylnaphthalene	0.0127	0.00323	0.00335	"	"	"	"	"	
Acenaphthene	ND	0.00152	0.00335	"	"	"	"	"	
Anthracene	ND	0.00167	0.00335	"	"	"	"	"	
Benzo(a)anthracene	ND	0.00247	0.00335	"	"	"	"	"	
Benzo(a)pyrene	ND	0.00234	0.00335	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.00293	0.00335	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.00219	0.00335	"	"	"	"	"	
Chrysene	ND	0.00312	0.00335	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.00307	0.00335	"	"	"	"	"	
Fluoranthene	ND	0.00197	0.00335	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

**PWV- E. Wall 4 ft**  
**5/18/2022 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**  
**Y205509-03 (Soil)**

**PAH by 8270D SIM**

Fluorene	ND	0.00143	0.00335	mg/Kg	5	L617723	05/23/2022	05/23/2022
Indeno(1,2,3-cd)pyrene	ND	0.00314	0.00335	"	"	"	"	"
Naphthalene	ND	0.00242	0.00335	"	"	"	"	"
Pyrene	ND	0.00322	0.00335	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	66 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	78.9 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	70.8 %	29-110	"	"	"

**pH in Soil by 9045D**

pH	8.10	pH Units	1	B2E2008	05/20/2022	05/21/2022
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**SAR by 20B Saturated Paste**

SAR	0.349	SAR	1	B2E2005	05/20/2022	05/23/2022
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.508	0.00500	mmhos/cm	1	B2E2008	05/20/2022	05/21/2022
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

## PWV - Floor 6 ft

5/18/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y205509-04 (Soil)

### DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B2E2001	05/20/2022	05/24/2022	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: o-Terphenyl	99.8 %	50-150	"	"	"
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### GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2E1920	05/19/2022	05/20/2022	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	110 %	70-130	"	"	"
Surrogate: Toluene-d8	98.6 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	99.1 %	70-130	"	"	"

### PAH by 8270D SIM

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

**PWV - Floor 6 ft**

**5/18/2022 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**  
**Y205509-04 (Soil)**

**PAH by 8270D SIM**

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L617723	05/23/2022	05/23/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	0.00183	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	0.00352	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	0.00281	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	0.00164	0.000437	0.00067	"	"	"	"	"
Chrysene	0.00223	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	0.00173	0.000394	0.00067	"	"	"	"	"
Fluorene	0.0014	0.000286	0.00067	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	0.00462	0.000627	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"
Pyrene	0.00192	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	63.9 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	76.7 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	63.6 %	29-110	"	"	"

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

## BG-1 1ft

5/18/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y205509-05 (Soil)

### Boron (DTPA Sorbitol)

Boron	1.40	0.0998	mg/L	1	B2E2002	05/20/2022	05/23/2022
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### Metals by Saturated Paste by EPA 6010

Calcium	2.61	0.499	meq/L	10	[CALC]	05/20/2022	05/23/2022
Magnesium	1.76	0.823	"	"	"	"	"
Sodium	0.622	0.435	"	"	"	"	"

### pH in Soil by 9045D

pH	8.30		pH Units	1	B2E2008	05/20/2022	05/21/2022
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### SAR by 20B Saturated Paste

SAR	0.421		SAR	1	B2E2005	05/20/2022	05/23/2022
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.960	0.00500	mmhos/cm	1	B2E2008	05/20/2022	05/21/2022
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

**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 B2E1920 - EPA 5030 (soil)</b>										
<b>Blank (B2E1920-BLK1)</b>					Prepared: 05/19/2022 Analyzed: 05/20/2022					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.0100	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125	106		70-130			
Surrogate: Toluene-d8	0.13		"	0.125	101		70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125	97.8		70-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

**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 B2E1920 - EPA 5030 (soil)</b>										
<b>LCS (B2E1920-BS1)</b>					Prepared: 05/19/2022 Analyzed: 05/20/2022					
1,2,4-Trimethylbenzene	0.0980	0.00200	mg/kg	0.100		98.0	70-130			
1,3,5-Trimethylbenzene	0.0988	0.00200	"	0.100		98.8	70-130			
Benzene	0.0981	0.00200	"	0.100		98.1	70-130			
Ethylbenzene	0.103	0.00200	"	0.100		103	70-130			
Naphthalene	0.102	0.0100	"	0.100		102	70-130			
Toluene	0.104	0.00200	"	0.100		104	70-130			
o-Xylene	0.101	0.00200	"	0.100		101	70-130			
m,p-Xylene	0.204	0.00400	"	0.200		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		105	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		105	70-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B2E1920 - EPA 5030 (soil)**

Matrix Spike (B2E1920-MS1)		Source: Y205500-01			Prepared: 05/19/2022 Analyzed: 05/20/2022					
1,2,4-Trimethylbenzene	0.101	0.00200	mg/kg	0.100	0.000840	99.9	70-130			
1,3,5-Trimethylbenzene	0.0997	0.00200	"	0.100	ND	99.7	70-130			
Benzene	0.100	0.00200	"	0.100	ND	100	70-130			
Ethylbenzene	0.104	0.00200	"	0.100	ND	104	70-130			
Naphthalene	0.104	0.0100	"	0.100	0.000880	103	70-130			
Toluene	0.107	0.00200	"	0.100	ND	107	70-130			
o-Xylene	0.103	0.00200	"	0.100	ND	103	70-130			
m,p-Xylene	0.207	0.00400	"	0.200	0.000780	103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		106	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		106	70-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Fremont Environmental  
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Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

**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 B2E1920 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B2E1920-MSD1)</b>		<b>Source: Y205500-01</b>			Prepared: 05/19/2022 Analyzed: 05/20/2022					
1,2,4-Trimethylbenzene	0.0975	0.00200	mg/kg	0.100	0.000840	96.6	70-130	3.31	20	
1,3,5-Trimethylbenzene	0.0964	0.00200	"	0.100	ND	96.4	70-130	3.43	20	
Benzene	0.0991	0.00200	"	0.100	ND	99.1	70-130	0.984	20	
Ethylbenzene	0.102	0.00200	"	0.100	ND	102	70-130	1.16	20	
Naphthalene	0.101	0.0100	"	0.100	0.000880	100	70-130	2.67	20	
Toluene	0.105	0.00200	"	0.100	ND	105	70-130	1.55	20	
o-Xylene	0.101	0.00200	"	0.100	ND	101	70-130	1.84	20	
m,p-Xylene	0.203	0.00400	"	0.200	0.000780	101	70-130	2.01	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		106	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		107	70-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

**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 B2E2001 - EPA 3580</b>										
<b>Blank (B2E2001-BLK1)</b>					Prepared: 05/20/2022 Analyzed: 05/24/2022					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	20		"	24.9		80.7	50-150			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

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 B2E2001 - EPA 3580

LCS (B2E2001-BS1)

Prepared: 05/20/2022 Analyzed: 05/23/2022

Diesel (C10-C28)	1110	50.0	mg/kg	1000		111	70-130			
Residual Range Organics (C28-C40)	1110	200	"	1000		111	70-130			
Surrogate: o-Terphenyl	63		"	49.8		126	50-150			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Fremont Environmental  
8305 6th St, PO Box 1289  
Wellington CO 80549

Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

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 B2E2001 - EPA 3580

Matrix Spike (B2E2001-MS1)		Source: Y205507-01			Prepared: 05/20/2022 Analyzed: 05/23/2022					
Diesel (C10-C28)	1110	50.0	mg/kg	1000	ND	111	70-130			
Residual Range Organics (C28-C40)	1080	200	"	1000	102	97.5	70-130			
Surrogate: o-Terphenyl	54		"	49.8		108	50-150			

Origins Laboratory, Inc.



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Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

## 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 B2E2001 - EPA 3580

Matrix Spike Dup (B2E2001-MSD1)		Source: Y205507-01			Prepared: 05/20/2022 Analyzed: 05/23/2022					
Diesel (C10-C28)	1360	50.0	mg/kg	1000	ND	136	70-130	20.2	35	QM-07
Residual Range Organics (C28-C40)	1300	200	"	1000	102	120	70-130	18.8	35	QM-07
Surrogate: o-Terphenyl	63		"	49.8		127	50-150			

Origins Laboratory, Inc.



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Paul Henehan  
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Project: Noble - Miller 16-29

## 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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## 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 B2E2002 - Default Prep Metals

##### Blank (B2E2002-BLK1)

Prepared: 05/20/2022 Analyzed: 05/23/2022

Boron	ND	0.100	mg/L							U
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##### Duplicate (B2E2002-DUP1)

Source: Y205482-07

Prepared: 05/20/2022 Analyzed: 05/23/2022

Boron	2.37	0.988	mg/L		2.19			8.10	50	
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Jen Pellegrini, Project Manager

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Project: Noble - Miller 16-29

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B2E2008 - NO PREP</b>										
<b>Blank (B2E2008-BLK1)</b>					Prepared: 05/20/2022 Analyzed: 05/21/2022					
Specific Conductance (EC)	ND	0.0300	mmhos/cm							U
pH	0.00		pH Units							U
<b>Duplicate (B2E2008-DUP1)</b>					Source: Y205504-01 Prepared: 05/20/2022 Analyzed: 05/21/2022					
pH	8.13		pH Units		8.15			0.246	25	
Specific Conductance (EC)	2.22	0.0300	mmhos/cm		1.64			29.7	25	QR-DUP

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Project Number: C022-056  
Project: Noble - Miller 16-29

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L617723 - 3550B**

MSD (L 95797-MSD-L617723)		Source: Y205509-01			Prepared: 05/23/2022 Analyzed: 05/23/2022					
Benzo(b)fluoranthene	0.0793	0.000585	mg/Kg	0.164	<0.000585	48.3	30-130	19.1	30	
1-Methylnaphthalene	0.0973	0.000364	"	0.164	0.000663	58.9	30-130	10.4	30	
2-Methylnaphthalene	0.104	0.000645	"	0.164	0.00254	61.8	30-130	13.4	30	
Acenaphthene	0.102	0.000304	"	0.164	<0.000304	62.1	30-130	13.6	30	
Anthracene	0.102	0.000334	"	0.164	<0.000334	62.1	30-130	10.2	30	
Pyrene	0.0799	0.000643	"	0.164	<0.000643	48.7	30-130	19.9	30	
Naphthalene	0.0919	0.000484	"	0.164	<0.000484	56	30-130	14.2	30	
Indeno(1,2,3-cd)pyrene	0.124	0.000627	"	0.164	<0.000627	75.6	30-130	20.2	30	
Fluorene	0.11	0.000286	"	0.164	<0.000286	67	30-130	13.5	30	
Fluoranthene	0.0881	0.000394	"	0.164	<0.000394	53.7	30-130	17.5	30	
Dibenz(a,h)anthracene	0.142	0.000614	"	0.164	<0.000614	86.5	30-130	21.3	30	
Chrysene	0.104	0.000624	"	0.164	<0.000624	63.4	30-130	12.6	30	
Benzo(k)fluoranthene	0.0839	0.000437	"	0.164	<0.000437	51.1	30-130	26	30	
Benzo(a)anthracene	0.115	0.000493	"	0.164	<0.000493	70.1	30-130	13	30	
Benzo(a)pyrene	0.107	0.000468	"	0.164	<0.000468	65.2	30-130	12.2	30	
Surrogate: 2-Fluorobiphenyl	67.3		"	0.328	231	67.3	33-115			
Surrogate: 4-Terphenyl-d14	64.3		"	0.328	252	64.3	33-122			
Surrogate: Nitrobenzene-d5	65.8		"	0.328	231	65.8	29-110			

MS (L 95797-MS-L617723)		Source: Y205509-01			Prepared: 05/23/2022 Analyzed: 05/23/2022					
Benzo(a)pyrene	0.121	0.000468	mg/Kg	0.164	<0.000468	73.7	30-130			
Chrysene	0.118	0.000624	"	0.164	<0.000624	71.9	30-130			
Pyrene	0.0976	0.000643	"	0.164	<0.000643	59.5	30-130			
Naphthalene	0.106	0.000484	"	0.164	<0.000484	64.6	30-130			
Indeno(1,2,3-cd)pyrene	0.152	0.000627	"	0.164	<0.000627	92.6	30-130			
Fluorene	0.126	0.000286	"	0.164	<0.000286	76.8	30-130			
Fluoranthene	0.105	0.000394	"	0.164	<0.000394	64	30-130			

Origins Laboratory, Inc.



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Paul Henehan  
Project Number: C022-056  
Project: Noble - Miller 16-29

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L617723 - 3550B**

MS (L 95797-MS-L617723)		Source: Y205509-01			Prepared: 05/23/2022 Analyzed: 05/23/2022					
Dibenz(a,h)anthracene	0.176	0.000614	mg/Kg	0.164	<0.000614	107	30-130			
Benzo(b)fluoranthene	0.0961	0.000585	"	0.164	<0.000585	58.5	30-130			
Benzo(a)anthracene	0.131	0.000493	"	0.164	<0.000493	79.8	30-130			
Anthracene	0.113	0.000334	"	0.164	<0.000334	68.9	30-130			
Acenaphthene	0.117	0.000304	"	0.164	<0.000304	71.3	30-130			
2-Methylnaphthalene	0.119	0.000645	"	0.164	0.00254	71	30-130			
Benzo(k)fluoranthene	0.109	0.000437	"	0.164	<0.000437	66.4	30-130			
1-Methylnaphthalene	0.108	0.000364	"	0.164	0.000663	65.4	30-130			
Surrogate: Nitrobenzene-d5	71		"	0.328	231	71	29-110			
Surrogate: 2-Fluorobiphenyl	70.7		"	0.328	231	70.7	33-115			
Surrogate: 4-Terphenyl-d14	71.9		"	0.328	252	71.9	33-122			

LCS (LCS-L617723)		Prepared: 05/23/2022 Analyzed: 05/23/2022								
Dibenz(a,h)anthracene	0.126	0.000614	mg/Kg	0.167		75.4	30-130			
Fluoranthene	0.107	0.000394	"	0.167		64	30-130			
Fluorene	0.112	0.000286	"	0.167		67	30-130			
Pyrene	0.101	0.000643	"	0.167		60.4	30-130			
Indeno(1,2,3-cd)pyrene	0.118	0.000627	"	0.167		70.6	30-130			
Chrysene	0.119	0.000624	"	0.167		71.2	30-130			
2-Methylnaphthalene	0.11	0.000645	"	0.167		65.8	30-130			
Naphthalene	0.0998	0.000484	"	0.167		59.7	30-130			
Benzo(b)fluoranthene	0.0862	0.000585	"	0.167		51.6	30-130			
Benzo(a)pyrene	0.121	0.000468	"	0.167		72.4	30-130			
Benzo(a)anthracene	0.124	0.000493	"	0.167		74.2	30-130			
Anthracene	0.112	0.000334	"	0.167		67	30-130			
1-Methylnaphthalene	0.104	0.000364	"	0.167		62.2	30-130			
Acenaphthene	0.108	0.000304	"	0.167		64.6	30-130			

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L617723 - 3550B**

**LCS (LCS-L617723)**

Prepared: 05/23/2022 Analyzed: 05/23/2022

Benzo(k)fluoranthene	0.0986	0.000437	mg/Kg	0.167		59	30-130			
Surrogate: Nitrobenzene-d5	74.7		"	0.333		74.7	29-110			
Surrogate: 4-Terphenyl-d14	82.5		"	0.333		82.5	33-122			
Surrogate: 2-Fluorobiphenyl	73.5		"	0.333		73.5	33-115			

**LRB (LRB-L617723)**

Prepared: 05/23/2022 Analyzed: 05/23/2022

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	0.00067	"				-			
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	0.00067	"				-			
1-Methylnaphthalene	ND	0.00067	"				-			
Pyrene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Surrogate: Nitrobenzene-d5	75.9		"	0.333		75.9	29-110			
Surrogate: 4-Terphenyl-d14	88.8		"	0.333		88.8	33-122			
Surrogate: 2-Fluorobiphenyl	72.9		"	0.333		72.9	33-115			

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Paul Henehan  
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Project: Noble - Miller 16-29

### Notes and Definitions

U Sample is Non-Detect.

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.

Origins Laboratory, Inc.



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