

**TABLE 1**  
**SOIL SAMPLE LOCATIONS**  
**NOBLE ENERGY, INC. - WASTE MANAGEMENT USX Y03-14**

Soil Sample ID	Date	PID (ppm)	Visual	Olfactory	Sample Type (Grab/Lab)	Latitude <sup>1</sup>	Longitude	PDOP
FL01-A@2'	12/12/23	0.0	No Staining	No Odor	Lab	40.16179088	-104.54042034	NC
FL01-B@3'	12/12/23	0.0	No Staining	No Odor	Lab	40.16392399	-104.54312814	NC
FL01-C@3'	12/12/23	0.0	No Staining	No Odor	Grab	40.16263590	-104.54123006	NC
FL01-D@3'	12/12/23	0.0	No Staining	No Odor	Grab	40.16326558	-104.54182041	NC
FL01-E@3'	12/12/23	0.0	No Staining	No Odor	Grab	40.16375654	-104.54227989	NC

Notes:

PID = Photoionization detector

NC = Not Collected

ppm = parts per million

PDOP = Position dilution of precision

HC = Hydrocarbon

1.) Latitude and longitude coordinates will be provided in decimal degrees with an accuracy and precision of 5 decimals of a degree using the North American Datum ("NAD") of 1983

TABLE 2  
SOIL ANALYTICAL DATA  
NOBLE ENERGY, INC. - WASTE MANAGEMENT USX Y03-14

Soil Sample ID	Date	<sup>1</sup> Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4 - TMB (mg/kg)	1,3,5 - TMB (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL <sup>2</sup>		1.2	490	5.8	58	30	27	2	500			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL <sup>2,3</sup>		0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500			0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
FL01-A@2'	12/12/23	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	81	<50	0.0577	0.131	0.492	0.284	0.410	0.118	0.329	0.0465	0.815	0.0595	0.233	0.763	0.00907	0.0115
FL01-B@3'	12/12/23	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
Residential SSL <sup>2</sup>		6 - 8.3	<6	<4mmhos/cm	2
FL01-A@2'	12/12/23	8.66	0.169	0.150	<2.00
FL01-B@3'	12/12/23	8.46	0.0707	0.0831	<2.00

Sample ID	Date Sampled	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
Residential SSL <sup>2</sup>		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL <sup>2,3</sup>		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
FL01-A@2'	12/12/23	0.665	37.4	<0.200	<0.30	1.34	10.1	1.33	<0.260	<0.0200	5.34
FL01-B@3'	12/12/23	0.475	24.7	<0.200	<0.30	1.12	2.96	0.969	<0.260	<0.0200	4.22

Notes:

- Compounds referenced from 2 CCR 404-1, Table 915-1, effective January 15, 2021.
- Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
- SSLs are applicable if a pathway for communication with groundwater is present.

Definitions:

ECMC = Energy and Carbon Management Commission

TPH-GRO = Total petroleum hydrocarbons - gasoline range organics

TPH-DRO = Total petroleum hydrocarbons - diesel range organics

TPH-ORO = Total petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram

SAR = Sodium Adsorption Ratio

EC = Electrical Conductivity

mmhos/cm = Millmhos per centimeter

mg/L = Milligrams per liter

< = Analytical result is less than the indicated laboratory reporting limit

Highlighted results are equal to or exceed the ECMC Table 915-1 standard

1,2,4 - TMB = 1,2,4 Trimethylbenzene

1,3,5 - TMB = 1,3,5 Trimethylbenzene

Benzo(a) = Benzo(a)anthracene

Benzo(b) = Benzo(b)fluoranthene

Benzo(k) = Benzo(k)fluoranthene

Benzo(a) = Benzo(a)pyrene

A,H = Dibenzo(a,h)anthracene

1,2,3-CD = indeno(1,2,3-cd)pyrene

1-M = 1-methylnaphthalene

2-M = 2-methylnaphthalene

**Photographic Log**



<b>Equipment ID:</b> FL01-A@2'	<b>Equipment Type:</b> <small>.Flowline</small>	
<b>Material:</b> Steel	<b>Volume:</b>	<b>Contents:</b> <small>Oil/Gas/Water</small>
<b>Notes/Conditions:</b>		

<b>Equipment ID:</b> FL01-C@3'	<b>Equipment Type:</b> <small>.Flowline</small>	
<b>Material:</b> Steel	<b>Volume:</b>	<b>Contents:</b> <small>Oil/Gas/Water</small>
<b>Notes/Conditions:</b>		

**Photographic Log**

**Equipment ID:** FL01-D@3'

**Equipment Type:** Flowline

**Material:** Steel

**Volume:**
**Contents:** Oil/Gas/Water

**Notes/Conditions:**
**Equipment ID:** FL01-E@3'

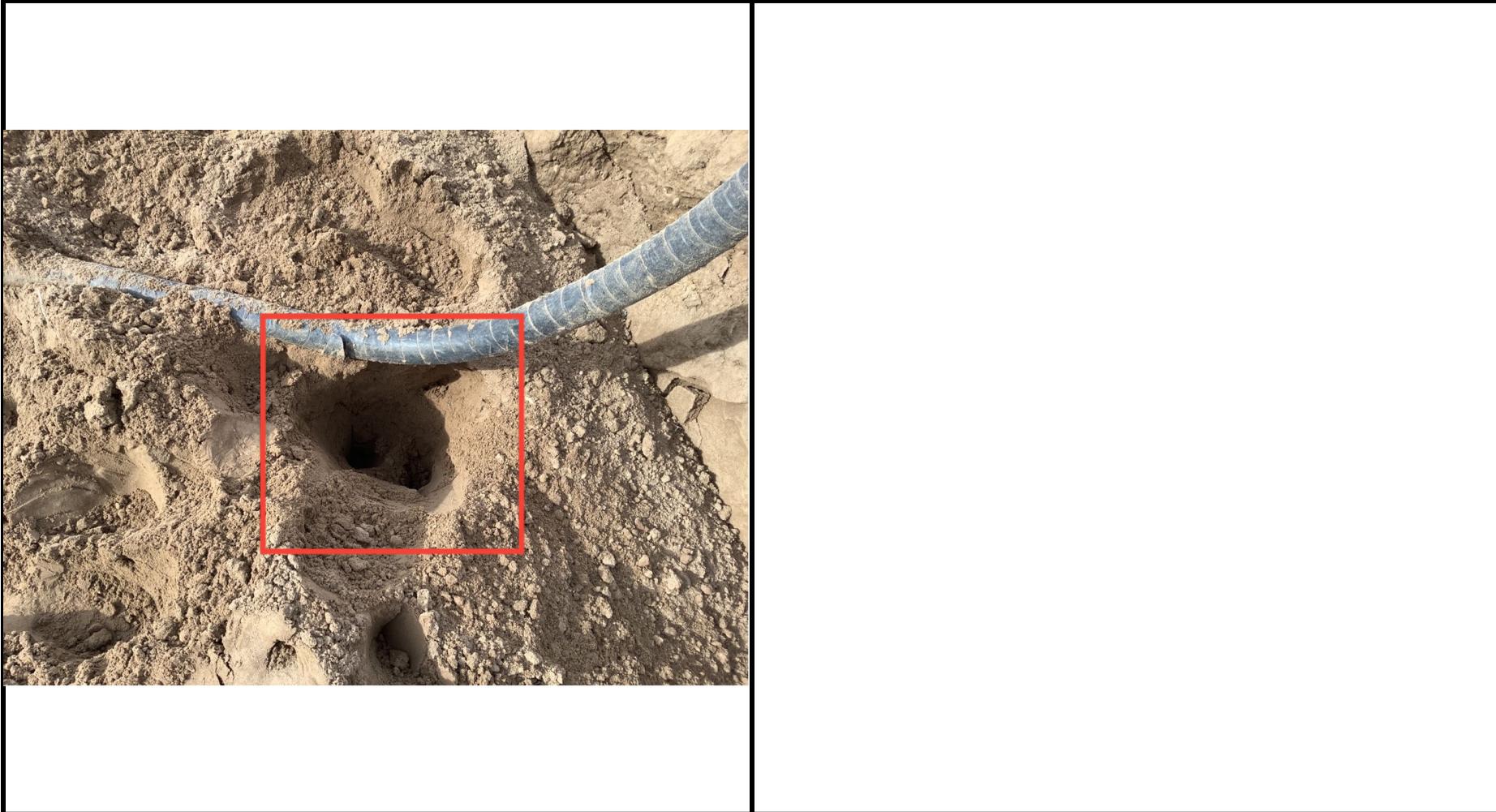
**Equipment Type:** Flowline

**Material:** Steel

**Volume:**
**Contents:** Oil/Gas/Water

**Notes/Conditions:**

**Photographic Log**



<b>Equipment ID:</b> FL01B@3'		<b>Equipment Type:</b> Flowline		<b>Equipment ID:</b>		<b>Equipment Type:</b>	
<b>Material:</b> Steel	<b>Volume:</b>	<b>Contents:</b> Oil/Gas/Water		<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>	
<b>Notes/Conditions:</b>				<b>Notes/Conditions:</b>			

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Residential SSL <sup>2</sup>		1.2	490	5.8	58	30	27	2	500			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
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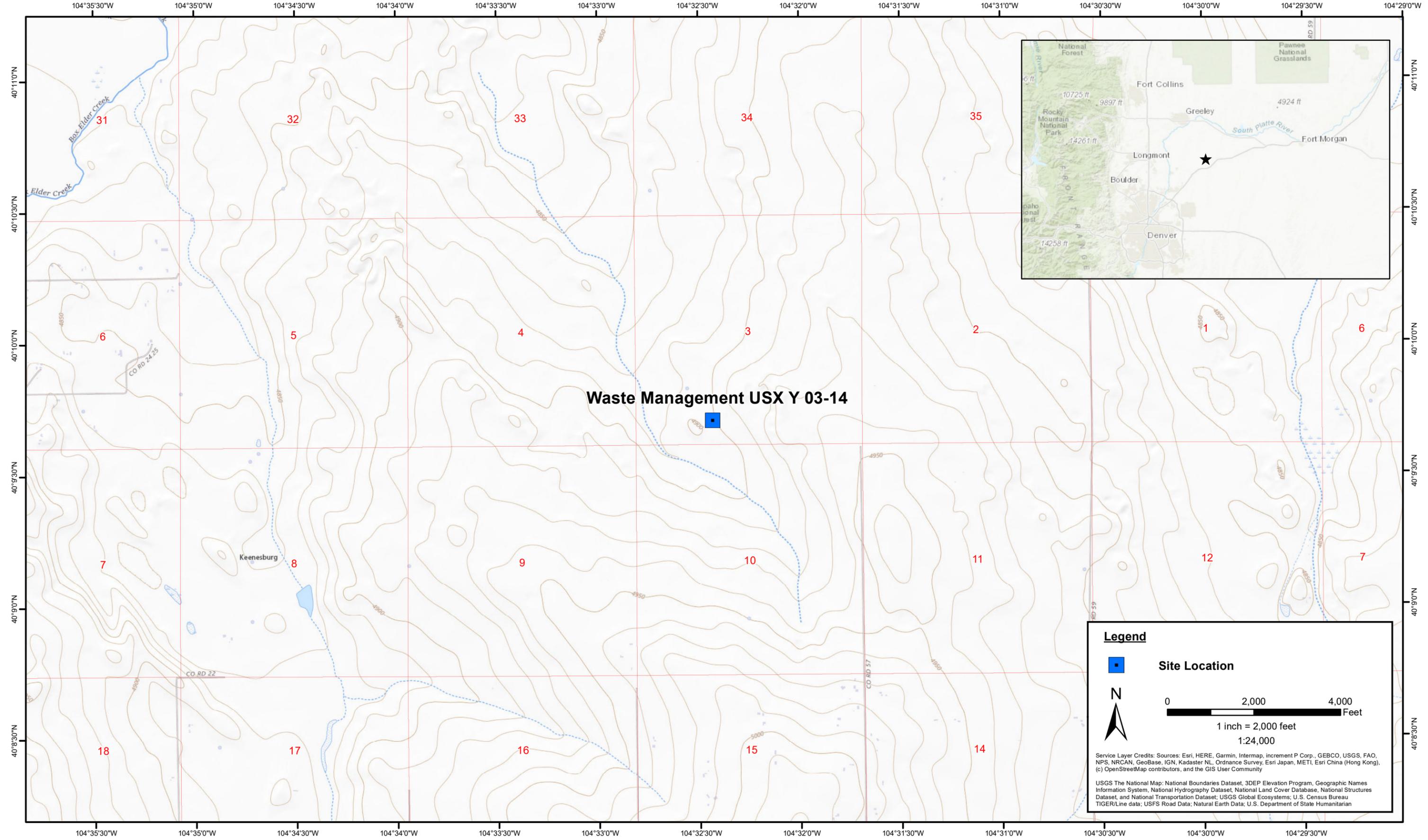
Benzo(a) = Benzo(a)pyrene

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1,2,3-CD = indeno(1,2,3-cd)pyrene

1-M = 1-methylnaphthalene

2-M = 2-methylnaphthalene



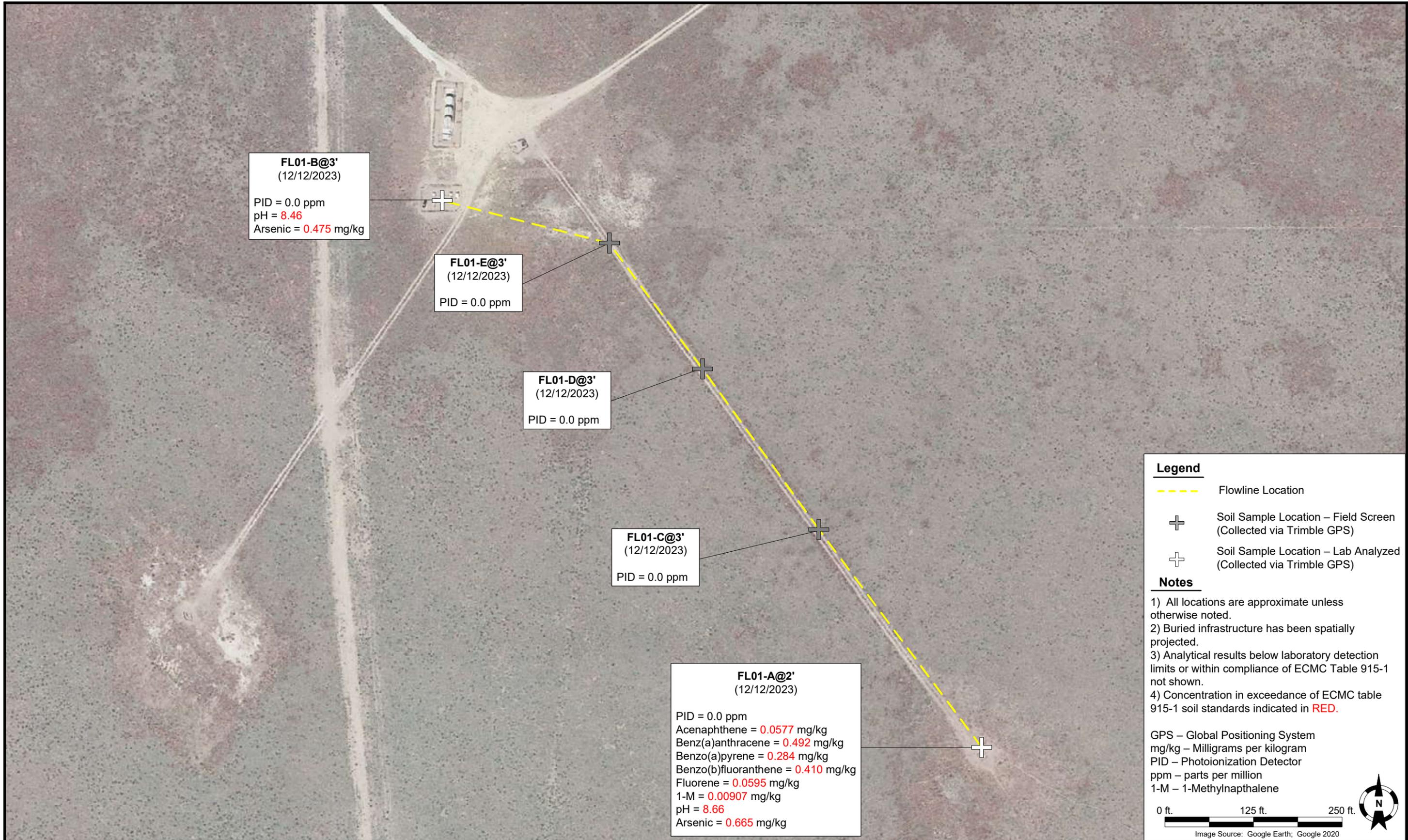
DATE:	January 2024
DESIGNED BY:	J. Whritenour
DRAWN BY:	L. Reed


**Tasman, Inc.**  
 6855 W. 119th Ave  
 Broomfield, CO 80020

**Noble Energy, Inc - DJ Basin**  
**Waste Management USX Y 03-14**  
 SESW, Section 3, Township 2 North, Range 64 West  
 Weld County, Colorado

Site Location Map

**Figure**  
**1**



**Legend**

--- Flowline Location

+ Soil Sample Location – Field Screen (Collected via Trimble GPS)

+ Soil Sample Location – Lab Analyzed (Collected via Trimble GPS)

**Notes**

1) All locations are approximate unless otherwise noted.  
 2) Buried infrastructure has been spatially projected.  
 3) Analytical results below laboratory detection limits or within compliance of ECMC Table 915-1 not shown.  
 4) Concentration in exceedance of ECMC table 915-1 soil standards indicated in RED.

GPS – Global Positioning System  
 mg/kg – Milligrams per kilogram  
 PID – Photoionization Detector  
 ppm – parts per million  
 1-M – 1-Methylnaphthalene

0 ft. 125 ft. 250 ft.

Image Source: Google Earth; Google 2020

DATE: 01/12/2024

DESIGNED BY: JW

DRAWN BY: EH

**TASMAN**  
GEOSCIENCES

Tasman Geosciences, Inc.  
6855 W 119<sup>th</sup> Avenue  
Broomfield, CO 80020

**Noble Energy, Inc. – DJ Basin  
 Waste Management USX Y03-14**  
 SESW, Section 3, Township 2 North, Range 64 West  
 Weld County, Colorado

Flowline Closure & Soil  
 Analytical Results Map  
 (12/12/2023)

FIGURE  
2

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

January 12, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

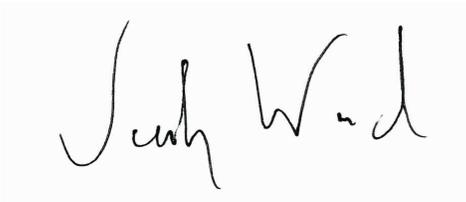
Broomfield, CO 80020

RE: Noble - Waste Management USX Y03-14

Work Order #2312229

Enclosed are the results of analyses for samples received by Summit Scientific on 12/12/23 17:31. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial 'J' and a distinct 'W'.

Jacob Wood For Paul Shrewsbury  
President



Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Waste Management USX Y03-14

Project Number: UWRWE-A3445-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
01/12/24 14:55

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01-A@2'	2312229-01	Soil	12/12/23 10:43	12/12/23 17:31
FL01-B@3'	2312229-02	Soil	12/12/23 11:25	12/12/23 17:31

Summit Scientific

*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.*



4653 Table Mountain Drive  
Golden, CO 80403  
303-277-9310

Lab ID	Page 1 of 1
2312229	

<b>Send Data To:</b>		<b>Send Invoice To:</b>
Client: Noble/Tasman	Project Manager: Jake Whritenour	Company: Chevron
Address: 6855 W. 119th Ave.	E-Mail: Jwhritenour@tasman-geo.com	Project Name/Location: Waste Management + USX Y 3-14
City/State/Zip: Broomfield/CO/ 80020		AFE#: UW RWE-A3445-ABN
Phone: 978-857-4408	Project Name: Waste Management USX Y 03-14	PO/Billing Codes:
Sampler Name: Matthew Wentzel	Project Number:	Contact: Misvel Burran

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS		HOLD	
1	FL01-A@2'	12.12.23	1043	2			X			X			X	X	X	X	X	X	X		SAR, EC, pH by saturated paste
2	FL01-B@3'	12.12.23	1125	3			X			X			X	X	X	X	X	X	X		
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by:	Date/Time: 12.12.23 1430	Received by: Tasman Lock Box	Date/Time: 17.12.23 1430	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: Tasman Lock Box	Date/Time: 12.12.23 1731	Received by:	Date/Time: 12.12.23 1731	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: 84	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:			

S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order: 2312229

Client: Noble Krasman Client Project ID: Waste management USX403-14

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other  Airbill #:

Matrix (Check all that apply) Air  Soil/Solid  Water  Other

Temp (°C) 8.4 Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ICE</u>
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input 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"/>	
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"/>	
For volatiles in water - is there headspace 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 (excluding cooling)? <sup>(1)</sup> Note the type of preservative in the comments column - HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<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 in case narrative.

AS  
Custodian Printed Name

12/12/23  
Date/Time

11/11/23



Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Waste Management USX Y03-14

Project Number: UWRWE-A3445-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
01/12/24 14:55

**FL01-A@2'**  
**2312229-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **12/12/23 10:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGL0623	12/15/23	12/16/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **12/12/23 10:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0395	98.8 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0412	103 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0408	102 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/12/23 10:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	81	50		mg/kg	1	BGL0624	12/15/23	12/18/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/12/23 10:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	15.1	121 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Broomfield CO, 80020

Project: Noble - Waste Management USX Y03-14

Project Number: UWRWE-A3445-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
01/12/24 14:55

**FL01-A@2'**  
**2312229-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/12/23 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.0577	0.00500	mg/kg	1	BGL0643	12/18/23	12/20/23	EPA 8270D SIM	
Anthracene	0.131	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.492	0.00500	"	"	"	"	"	"	E
Benzo (a) pyrene	0.284	0.00500	"	"	"	"	"	"	E
Benzo (b) fluoranthene	0.410	0.00500	"	"	"	"	"	"	E
Benzo (k) fluoranthene	0.118	0.00500	"	"	"	"	"	"	
Chrysene	0.329	0.00500	"	"	"	"	"	"	E
Dibenz (a,h) anthracene	0.0465	0.00500	"	"	"	"	"	"	
Fluoranthene	0.815	0.00500	"	"	"	"	"	"	E
Fluorene	0.0595	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.233	0.00500	"	"	"	"	"	"	E
Pyrene	0.763	0.00500	"	"	"	"	"	"	E
2-Methylnaphthalene	0.0115	0.00500	"	"	"	"	"	"	

Date Sampled: **12/12/23 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0202	60.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0196	58.7 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **12/12/23 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGL0749	12/20/23	12/27/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/12/23 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.665	0.200	mg/kg dry	1	BGL0711	12/19/23	12/27/23	EPA 6020B	
Barium	37.4	0.400	"	"	"	"	"	"	

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6855 W. 119th Ave.  
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Project: Noble - Waste Management USX Y03-14

Project Number: UWRWE-A3445-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
01/12/24 14:55

**FL01-A@2'**  
**2312229-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	ND	0.200	mg/kg dry	1	BGL0711	12/19/23	12/27/23	EPA 6020B	
<b>Copper</b>	<b>1.34</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>10.1</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>1.33</b>	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>5.34</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/12/23 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGL0719	12/19/23	12/20/23	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **12/12/23 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>89.9</b>	0.0500	mg/L dry	1	BGL1035	12/29/23	01/03/24	EPA 6020B	
<b>Magnesium</b>	<b>14.4</b>	0.0500	"	"	"	"	"	"	
<b>Sodium</b>	<b>6.56</b>	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **12/12/23 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Sodium Adsorption Ratio</b>	<b>0.169</b>	0.00100	units	1	BHA0096	01/03/24	01/03/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **12/12/23 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>% Solids</b>	<b>94.2</b>		%	1	BGL0807	12/21/23	12/21/23	Calculation	

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Project: Noble - Waste Management USX Y03-14

Project Number: UWRWE-A3445-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
01/12/24 14:55

**FL01-A@2'**  
**2312229-01 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **12/12/23 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.150</b>	0.0100	mmhos/cm	1	BGL1087	12/29/23	01/02/24	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **12/12/23 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>8.66</b>		pH Units	1	BGL1086	12/29/23	01/02/24	EPA 9045D	

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**Reported:**  
01/12/24 14:55

**FL01-A@2'**  
**2312229-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/12/23 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>1-Methylnaphthalene</b>	<b>0.00784</b>	0.00500	mg/kg	1	BHA0288	12/18/23	01/10/24	EPA 8270D SIM	I-04

Date Sampled: **12/12/23 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0241	72.3 %	40-150		"	"	"	"	I-04
Surrogate: Fluoranthene-d10	0.0257	77.1 %	40-150		"	"	"	"	I-04

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Project: Noble - Waste Management USX Y03-14

Project Number: UWRWE-A3445-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
01/12/24 14:55

**FL01-B@3'**  
**2312229-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **12/12/23 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGL0623	12/15/23	12/16/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **12/12/23 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0399	99.8 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0413	103 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/12/23 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGL0624	12/15/23	12/16/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/12/23 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.55	68.4 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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**Reported:**  
01/12/24 14:55

**FL01-B@3'**  
**2312229-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/12/23 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGL0643	12/18/23	12/20/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/12/23 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0208	62.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0180	54.0 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **12/12/23 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGL0749	12/20/23	12/27/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/12/23 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Reported:**  
01/12/24 14:55

**FL01-B@3'**  
**2312229-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.475	0.200	mg/kg dry	1	BGL0711	12/19/23	12/27/23	EPA 6020B	
Barium	24.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.12	0.400	"	"	"	"	"	"	
Lead	2.96	0.200	"	"	"	"	"	"	
Nickel	0.969	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.22	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/12/23 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGL0719	12/19/23	12/20/23	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: 12/12/23 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	72.4	0.0500	mg/L dry	1	BGL1035	12/29/23	01/03/24	EPA 6020B	
Magnesium	13.1	0.0500	"	"	"	"	"	"	
Sodium	2.49	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/12/23 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0707	0.00100	units	1	BHA0096	01/03/24	01/03/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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**Reported:**  
01/12/24 14:55

**FL01-B@3'**  
**2312229-02 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **12/12/23 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	94.5			%	1	BGL0807	12/21/23	12/21/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **12/12/23 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0831	0.0100		mmhos/cm	1	BGL1087	12/29/23	01/02/24	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **12/12/23 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.46			pH Units	1	BGL1086	12/29/23	01/02/24	EPA 9045D	

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**Reported:**  
01/12/24 14:55

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

#### Batch BGL0623 - EPA 5030 Soil MS

##### Blank (BGL0623-BLK1)

Prepared: 12/15/23 Analyzed: 12/16/23

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0392		"	0.0400		97.9	50-150			
<i>Surrogate: Toluene-d8</i>	0.0407		"	0.0400		102	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0404		"	0.0400		101	50-150			

##### LCS (BGL0623-BS1)

Prepared: 12/15/23 Analyzed: 12/16/23

Benzene	0.110	0.0020	mg/kg	0.100		110	70-130			
Toluene	0.102	0.0050	"	0.100		102	70-130			
Ethylbenzene	0.0980	0.0050	"	0.100		98.0	70-130			
m,p-Xylene	0.190	0.010	"	0.200		94.9	70-130			
o-Xylene	0.0913	0.0050	"	0.100		91.3	70-130			
1,2,4-Trimethylbenzene	0.0856	0.0050	"	0.100		85.6	70-130			
1,3,5-Trimethylbenzene	0.0901	0.0050	"	0.100		90.1	70-130			
Naphthalene	0.0934	0.0038	"	0.100		93.4	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0380		"	0.0400		94.9	50-150			
<i>Surrogate: Toluene-d8</i>	0.0411		"	0.0400		103	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0394		"	0.0400		98.6	50-150			

##### Matrix Spike (BGL0623-MS1)

Source: 2312213-01

Prepared: 12/15/23 Analyzed: 12/16/23

Benzene	0.0924	0.0020	mg/kg	0.100	ND	92.4	70-130			
Toluene	0.0828	0.0050	"	0.100	ND	82.8	70-130			
Ethylbenzene	0.0776	0.0050	"	0.100	ND	77.6	70-130			
m,p-Xylene	0.150	0.010	"	0.200	ND	74.8	70-130			
o-Xylene	0.0703	0.0050	"	0.100	ND	70.3	70-130			
1,2,4-Trimethylbenzene	0.117	0.0050	"	0.100	ND	117	70-130			
1,3,5-Trimethylbenzene	0.0966	0.0050	"	0.100	ND	96.6	70-130			
Naphthalene	0.0981	0.0038	"	0.100	ND	98.1	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0381		"	0.0400		95.2	50-150			
<i>Surrogate: Toluene-d8</i>	0.0407		"	0.0400		102	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0399		"	0.0400		99.8	50-150			

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**Reported:**  
01/12/24 14:55

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BGL0623 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BGL0623-MSD1)</b>	<b>Source: 2312213-01</b>			Prepared: 12/15/23		Analyzed: 12/16/23				
Benzene	0.101	0.0020	mg/kg	0.100	ND	101	70-130	8.90	30	
Toluene	0.0899	0.0050	"	0.100	ND	89.9	70-130	8.20	30	
Ethylbenzene	0.0823	0.0050	"	0.100	ND	82.3	70-130	5.89	30	
m,p-Xylene	0.160	0.010	"	0.200	ND	80.0	70-130	6.76	30	
o-Xylene	0.0755	0.0050	"	0.100	ND	75.5	70-130	7.20	30	
1,2,4-Trimethylbenzene	0.0915	0.0050	"	0.100	ND	91.5	70-130	24.6	30	
1,3,5-Trimethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130	4.97	30	
Naphthalene	0.0972	0.0038	"	0.100	ND	97.2	70-130	0.952	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0403</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0417</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0398</i>		<i>"</i>	<i>0.0400</i>		<i>99.4</i>	<i>50-150</i>			

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Project Manager: Jacob Whritenour

**Reported:**  
01/12/24 14:55

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BGL0624 - EPA 3550A**

**Blank (BGL0624-BLK1)**

Prepared: 12/15/23 Analyzed: 12/16/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	12.5		"	12.5	100	30-150					

**LCS (BGL0624-BS1)**

Prepared: 12/15/23 Analyzed: 12/16/23

C10-C28 (DRO)	442	50	mg/kg	500	88.4	70-130					
Surrogate: <i>o</i> -Terphenyl	10.4		"	12.5	83.5	30-150					

**Matrix Spike (BGL0624-MS1)**

Source: 2312213-01

Prepared: 12/15/23 Analyzed: 12/16/23

C10-C28 (DRO)	472	50	mg/kg	500	11.4	92.1	70-130				
Surrogate: <i>o</i> -Terphenyl	9.62		"	12.5	76.9	30-150					

**Matrix Spike Dup (BGL0624-MSD1)**

Source: 2312213-01

Prepared: 12/15/23 Analyzed: 12/16/23

C10-C28 (DRO)	478	50	mg/kg	500	11.4	93.4	70-130	1.37	20		
Surrogate: <i>o</i> -Terphenyl	9.51		"	12.5	76.1	30-150					

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Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Waste Management USX Y03-14  
Project Number: UWRWE-A3445-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
01/12/24 14:55

**PAH by EPA Method 8270D SIM - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BGL0643 - EPA 5030 Soil MS**

**Blank (BGL0643-BLK1)**

Prepared: 12/18/23 Analyzed: 12/19/23

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0159</i>		"	<i>0.0333</i>		<i>47.6</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0343</i>		"	<i>0.0333</i>		<i>103</i>	<i>40-150</i>			

**LCS (BGL0643-BS1)**

Prepared: 12/18/23 Analyzed: 12/19/23

Acenaphthene	0.0267	0.00500	mg/kg	0.0333	80.0	31-137
Anthracene	0.0272	0.00500	"	0.0333	81.6	30-120
Benzo (a) anthracene	0.0291	0.00500	"	0.0333	87.3	30-120
Benzo (a) pyrene	0.0262	0.00500	"	0.0333	78.5	30-120
Benzo (b) fluoranthene	0.0290	0.00500	"	0.0333	87.1	30-120
Benzo (k) fluoranthene	0.0297	0.00500	"	0.0333	89.1	30-120
Chrysene	0.0286	0.00500	"	0.0333	85.8	30-120
Dibenz (a,h) anthracene	0.0265	0.00500	"	0.0333	79.4	30-120
Fluoranthene	0.0273	0.00500	"	0.0333	81.9	30-120
Fluorene	0.0262	0.00500	"	0.0333	78.7	30-120
Indeno (1,2,3-cd) pyrene	0.0200	0.00500	"	0.0333	60.1	30-120
Pyrene	0.0293	0.00500	"	0.0333	88.0	35-142
1-Methylnaphthalene	0.0268	0.00500	"	0.0333	80.5	35-142
2-Methylnaphthalene	0.0177	0.00500	"	0.0333	53.1	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0178</i>		"	<i>0.0333</i>	<i>53.5</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0286</i>		"	<i>0.0333</i>	<i>85.7</i>	<i>40-150</i>

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Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Waste Management USX Y03-14  
Project Number: UWRWE-A3445-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
01/12/24 14:55

**PAH by EPA Method 8270D SIM - Quality Control**

**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BGL0643 - EPA 5030 Soil MS**

**Matrix Spike (BGL0643-MS1)**

Source: 2312211-21

Prepared: 12/18/23 Analyzed: 12/19/23

Acenaphthene	0.0199	0.00500	mg/kg	0.0333	ND	59.7	31-137			
Anthracene	0.0155	0.00500	"	0.0333	ND	46.4	30-120			
Benzo (a) anthracene	0.0173	0.00500	"	0.0333	ND	51.8	30-120			
Benzo (a) pyrene	0.0147	0.00500	"	0.0333	ND	44.2	30-120			
Benzo (b) fluoranthene	0.0172	0.00500	"	0.0333	ND	51.6	30-120			
Benzo (k) fluoranthene	0.0184	0.00500	"	0.0333	ND	55.3	30-120			
Chrysene	0.0177	0.00500	"	0.0333	ND	53.0	30-120			
Dibenz (a,h) anthracene	0.0165	0.00500	"	0.0333	ND	49.6	30-120			
Fluoranthene	0.0163	0.00500	"	0.0333	ND	48.8	30-120			
Fluorene	0.0192	0.00500	"	0.0333	ND	57.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0159	0.00500	"	0.0333	ND	47.6	30-120			
Pyrene	0.0178	0.00500	"	0.0333	ND	53.5	35-142			
1-Methylnaphthalene	0.0165	0.00500	"	0.0333	ND	49.4	15-130			
2-Methylnaphthalene	0.0193	0.00500	"	0.0333	ND	58.0	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0143</i>		<i>"</i>	<i>0.0333</i>		<i>42.8</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0162</i>		<i>"</i>	<i>0.0333</i>		<i>48.5</i>	<i>40-150</i>			

**Matrix Spike Dup (BGL0643-MSD1)**

Source: 2312211-21

Prepared: 12/18/23 Analyzed: 12/19/23

Acenaphthene	0.0195	0.00500	mg/kg	0.0333	ND	58.6	31-137	1.77	30
Anthracene	0.0146	0.00500	"	0.0333	ND	43.7	30-120	5.87	30
Benzo (a) anthracene	0.0146	0.00500	"	0.0333	ND	43.8	30-120	16.6	30
Benzo (a) pyrene	0.0163	0.00500	"	0.0333	ND	48.9	30-120	10.2	30
Benzo (b) fluoranthene	0.0187	0.00500	"	0.0333	ND	56.2	30-120	8.56	30
Benzo (k) fluoranthene	0.0200	0.00500	"	0.0333	ND	60.0	30-120	8.07	30
Chrysene	0.0150	0.00500	"	0.0333	ND	45.1	30-120	16.2	30
Dibenz (a,h) anthracene	0.0161	0.00500	"	0.0333	ND	48.4	30-120	2.50	30
Fluoranthene	0.0165	0.00500	"	0.0333	ND	49.4	30-120	1.10	30
Fluorene	0.0195	0.00500	"	0.0333	ND	58.6	30-120	1.42	30
Indeno (1,2,3-cd) pyrene	0.0173	0.00500	"	0.0333	ND	51.9	30-120	8.74	30
Pyrene	0.0166	0.00500	"	0.0333	ND	49.9	35-142	6.97	30
1-Methylnaphthalene	0.0147	0.00500	"	0.0333	ND	44.0	15-130	11.6	50
2-Methylnaphthalene	0.0162	0.00500	"	0.0333	ND	48.6	15-130	17.8	50
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0143</i>		<i>"</i>	<i>0.0333</i>		<i>42.9</i>	<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0158</i>		<i>"</i>	<i>0.0333</i>		<i>47.5</i>	<i>40-150</i>		

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Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Waste Management USX Y03-14  
Project Number: UWRWE-A3445-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
01/12/24 14:55

**PAH by EPA Method 8270D SIM - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BHA0288 - EPA 5030 Soil MS**

**Blank (BHA0288-BLK1)**

Prepared & Analyzed: 01/09/24

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0276</i>		"	<i>0.0333</i>		<i>82.8</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0284</i>		"	<i>0.0333</i>		<i>85.1</i>	<i>40-150</i>			

**LCS (BHA0288-BS1)**

Prepared & Analyzed: 01/09/24

Acenaphthene	0.0291	0.00500	mg/kg	0.0333		87.4	31-137			
Anthracene	0.0311	0.00500	"	0.0333		93.2	30-120			
Benzo (a) anthracene	0.0194	0.00500	"	0.0333		58.1	30-120			
Benzo (a) pyrene	0.0269	0.00500	"	0.0333		80.8	30-120			
Benzo (b) fluoranthene	0.0282	0.00500	"	0.0333		84.5	30-120			
Benzo (k) fluoranthene	0.0301	0.00500	"	0.0333		90.4	30-120			
Chrysene	0.0293	0.00500	"	0.0333		88.0	30-120			
Dibenz (a,h) anthracene	0.0226	0.00500	"	0.0333		67.7	30-120			
Fluoranthene	0.0293	0.00500	"	0.0333		87.8	30-120			
Fluorene	0.0290	0.00500	"	0.0333		87.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0264	0.00500	"	0.0333		79.3	30-120			
Pyrene	0.0338	0.00500	"	0.0333		101	35-142			
1-Methylnaphthalene	0.0311	0.00500	"	0.0333		93.3	35-142			
2-Methylnaphthalene	0.0250	0.00500	"	0.0333		74.9	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0290</i>		"	<i>0.0333</i>		<i>87.1</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0308</i>		"	<i>0.0333</i>		<i>92.5</i>	<i>40-150</i>			

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Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Waste Management USX Y03-14  
Project Number: UWRWE-A3445-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
01/12/24 14:55

**PAH by EPA Method 8270D SIM - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BHA0288 - EPA 5030 Soil MS**

<b>Matrix Spike (BHA0288-MS1)</b>	<b>Source: 2401101-01</b>			<b>Prepared &amp; Analyzed: 01/09/24</b>						
Acenaphthene	0.0200	0.00500	mg/kg	0.0333	ND	60.1	31-137			
Anthracene	0.0206	0.00500	"	0.0333	ND	61.7	30-120			
Benzo (a) anthracene	0.0171	0.00500	"	0.0333	ND	51.3	30-120			
Benzo (a) pyrene	0.0190	0.00500	"	0.0333	ND	57.1	30-120			
Benzo (b) fluoranthene	0.0193	0.00500	"	0.0333	ND	58.0	30-120			
Benzo (k) fluoranthene	0.0212	0.00500	"	0.0333	ND	63.5	30-120			
Chrysene	0.0207	0.00500	"	0.0333	ND	62.0	30-120			
Dibenz (a,h) anthracene	0.0137	0.00500	"	0.0333	ND	41.0	30-120			
Fluoranthene	0.0223	0.00500	"	0.0333	ND	67.0	30-120			
Fluorene	0.0215	0.00500	"	0.0333	ND	64.4	30-120			
Indeno (1,2,3-cd) pyrene	0.0164	0.00500	"	0.0333	ND	49.2	30-120			
Pyrene	0.0235	0.00500	"	0.0333	ND	70.6	35-142			
1-Methylnaphthalene	0.0226	0.00500	"	0.0333	ND	67.8	15-130			
2-Methylnaphthalene	0.0175	0.00500	"	0.0333	ND	52.5	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0229</i>		<i>"</i>	<i>0.0333</i>		<i>68.8</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0235</i>		<i>"</i>	<i>0.0333</i>		<i>70.4</i>	<i>40-150</i>			

<b>Matrix Spike Dup (BHA0288-MSD1)</b>	<b>Source: 2401101-01</b>			<b>Prepared &amp; Analyzed: 01/09/24</b>						
Acenaphthene	0.0206	0.00500	mg/kg	0.0333	ND	61.9	31-137	3.05	30	
Anthracene	0.0222	0.00500	"	0.0333	ND	66.5	30-120	7.57	30	
Benzo (a) anthracene	0.0183	0.00500	"	0.0333	ND	54.9	30-120	6.77	30	
Benzo (a) pyrene	0.0198	0.00500	"	0.0333	ND	59.3	30-120	3.81	30	
Benzo (b) fluoranthene	0.0198	0.00500	"	0.0333	ND	59.5	30-120	2.56	30	
Benzo (k) fluoranthene	0.0216	0.00500	"	0.0333	ND	64.7	30-120	1.80	30	
Chrysene	0.0212	0.00500	"	0.0333	ND	63.6	30-120	2.56	30	
Dibenz (a,h) anthracene	0.0149	0.00500	"	0.0333	ND	44.8	30-120	8.78	30	
Fluoranthene	0.0229	0.00500	"	0.0333	ND	68.6	30-120	2.35	30	
Fluorene	0.0216	0.00500	"	0.0333	ND	64.7	30-120	0.449	30	
Indeno (1,2,3-cd) pyrene	0.0165	0.00500	"	0.0333	ND	49.4	30-120	0.426	30	
Pyrene	0.0249	0.00500	"	0.0333	ND	74.8	35-142	5.87	30	
1-Methylnaphthalene	0.0221	0.00500	"	0.0333	ND	66.3	15-130	2.15	50	
2-Methylnaphthalene	0.0173	0.00500	"	0.0333	ND	52.0	15-130	0.977	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0222</i>		<i>"</i>	<i>0.0333</i>		<i>66.7</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0240</i>		<i>"</i>	<i>0.0333</i>		<i>72.0</i>	<i>40-150</i>			

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Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Waste Management USX Y03-14  
Project Number: UWRWE-A3445-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
01/12/24 14:55

**Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD	Limit	Notes
		Limit	Units			%REC	Limits			

**Batch BGL0749 - EPA 3050B**

**Blank (BGL0749-BLK1)**

Prepared: 12/20/23 Analyzed: 12/27/23

Boron ND 2.00 mg/L

**LCS (BGL0749-BS1)**

Prepared: 12/20/23 Analyzed: 12/27/23

Boron 4.45 2.00 mg/L 5.00 89.1 80-120

**Duplicate (BGL0749-DUP1)**

Source: 2312229-01

Prepared: 12/20/23 Analyzed: 12/27/23

Boron 0.0504 2.00 mg/L 0.0581 14.2 20

**Matrix Spike (BGL0749-MS1)**

Source: 2312229-01

Prepared: 12/20/23 Analyzed: 12/27/23

Boron 4.45 2.00 mg/L 5.00 0.0581 87.8 75-125

**Matrix Spike Dup (BGL0749-MSD1)**

Source: 2312229-01

Prepared: 12/20/23 Analyzed: 12/27/23

Boron 4.58 2.00 mg/L 5.00 0.0581 90.5 75-125 2.97 25

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6855 W. 119th Ave.  
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Project: Noble - Waste Management USX Y03-14

Project Number: UWRWE-A3445-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
01/12/24 14:55

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD		

**Batch BGL0711 - EPA 3050B**

**Blank (BGL0711-BLK1)**

Prepared: 12/19/23 Analyzed: 12/27/23

Arsenic	ND	0.200	mg/kg wet						
Barium	ND	0.400	"						
Cadmium	ND	0.200	"						
Copper	ND	0.400	"						
Lead	ND	0.200	"						
Nickel	ND	0.400	"						
Silver	ND	0.0200	"						
Zinc	ND	0.400	"						
Selenium	ND	0.260	"						

**LCS (BGL0711-BS1)**

Prepared: 12/19/23 Analyzed: 12/27/23

Arsenic	37.0	0.200	mg/kg wet	40.0	92.6	80-120
Barium	38.0	0.400	"	40.0	95.1	80-120
Cadmium	1.90	0.200	"	2.00	94.9	80-120
Copper	37.6	0.400	"	40.0	93.9	80-120
Lead	18.9	0.200	"	20.0	94.5	80-120
Nickel	36.8	0.400	"	40.0	92.0	80-120
Silver	1.92	0.0200	"	2.00	96.0	80-120
Zinc	37.6	0.400	"	40.0	93.9	80-120
Selenium	3.86	0.260	"	4.00	96.6	80-120

**Duplicate (BGL0711-DUP1)**

Source: 2312221-02

Prepared: 12/19/23 Analyzed: 12/27/23

Arsenic	ND	0.200	mg/kg dry	ND		20	
Barium	61.4	0.400	"	73.5		17.9	20
Cadmium	0.159	0.200	"	0.200		22.8	20 QR-01
Copper	1.75	0.400	"	1.14		42.0	20 QR-04
Lead	8.20	0.200	"	12.3		40.3	20 QR-04
Nickel	1.56	0.400	"	1.73		10.3	20
Silver	0.0467	0.0200	"	0.0497		6.12	20
Zinc	5.06	0.400	"	4.22		18.1	20
Selenium	ND	0.260	"	ND			20

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Broomfield CO, 80020

Project: Noble - Waste Management USX Y03-14

Project Number: UWRWE-A3445-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
01/12/24 14:55

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit		

**Batch BGL0711 - EPA 3050B**

**Matrix Spike (BGL0711-MS1)**

Source: 2312221-02

Prepared: 12/19/23 Analyzed: 12/27/23

Arsenic	6.96	0.200	mg/kg dry	49.2	ND	14.1	75-125				QM-07
Barium	112	0.400	"	49.2	73.5	77.4	75-125				
Cadmium	2.40	0.200	"	2.46	0.200	89.2	75-125				
Copper	8.89	0.400	"	49.2	1.14	15.7	75-125				QM-07
Lead	29.2	0.200	"	24.6	12.3	68.4	75-125				QM-07
Nickel	9.24	0.400	"	49.2	1.73	15.3	75-125				QM-07
Silver	2.31	0.0200	"	2.46	0.0497	92.0	75-125				
Zinc	12.8	0.400	"	49.2	4.22	17.4	75-125				QM-07
Selenium	4.00	0.260	"	4.92	ND	81.3	75-125				

**Matrix Spike Dup (BGL0711-MSD1)**

Source: 2312221-02

Prepared: 12/19/23 Analyzed: 12/27/23

Arsenic	7.10	0.200	mg/kg dry	49.2	ND	14.4	75-125	2.05	25		QM-07
Barium	116	0.400	"	49.2	73.5	86.0	75-125	3.73	25		
Cadmium	2.50	0.200	"	2.46	0.200	93.6	75-125	4.34	25		
Copper	8.97	0.400	"	49.2	1.14	15.9	75-125	0.931	25		QM-07
Lead	30.4	0.200	"	24.6	12.3	73.5	75-125	4.15	25		QM-07
Nickel	9.34	0.400	"	49.2	1.73	15.5	75-125	1.05	25		QM-07
Silver	2.40	0.0200	"	2.46	0.0497	95.5	75-125	3.66	25		
Zinc	12.9	0.400	"	49.2	4.22	17.7	75-125	1.27	25		QM-07
Selenium	4.08	0.260	"	4.92	ND	83.0	75-125	2.06	25		

Summit Scientific

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Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Waste Management USX Y03-14  
Project Number: UWRWE-A3445-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
01/12/24 14:55

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BGL0719 - 3060A Mod**

**Blank (BGL0719-BLK1)**

Prepared: 12/19/23 Analyzed: 12/20/23

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BGL0719-BS1)**

Prepared: 12/19/23 Analyzed: 12/20/23

Chromium, Hexavalent 25.0 0.30 mg/kg wet 25.0 99.8 80-120

**Duplicate (BGL0719-DUP1)**

**Source: 2311428-01**

Prepared: 12/19/23 Analyzed: 12/20/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BGL0719-MS1)**

**Source: 2311428-01**

Prepared: 12/19/23 Analyzed: 12/20/23

Chromium, Hexavalent 26.3 0.30 mg/kg dry 28.2 ND 93.4 75-125

**Matrix Spike Dup (BGL0719-MSD1)**

**Source: 2311428-01**

Prepared: 12/19/23 Analyzed: 12/20/23

Chromium, Hexavalent 27.1 0.30 mg/kg dry 28.2 ND 96.2 75-125 2.95 20

Summit Scientific

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Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Waste Management USX Y03-14

Project Number: UWRWE-A3445-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
01/12/24 14:55

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control**

**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

**Batch BGL1035 - General Preparation**

**Blank (BGL1035-BLK1)**

Prepared: 12/29/23 Analyzed: 01/03/24

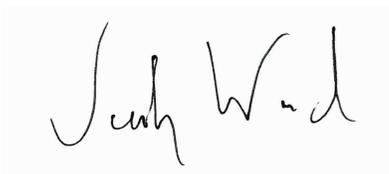
Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							

**LCS (BGL1035-BS1)**

Prepared: 12/29/23 Analyzed: 01/03/24

Calcium	5.42	0.0500	mg/L wet	5.00	108	70-130				
Magnesium	5.16	0.0500	"	5.00	103	70-130				
Sodium	5.38	0.0500	"	5.00	108	70-130				

Summit Scientific



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Tasman Geosciences  
 6855 W. 119th Ave.  
 Broomfield CO, 80020

Project: Noble - Waste Management USX Y03-14  
 Project Number: UWRWE-A3445-ABN  
 Project Manager: Jacob Whritenour

**Reported:**  
 01/12/24 14:55

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**

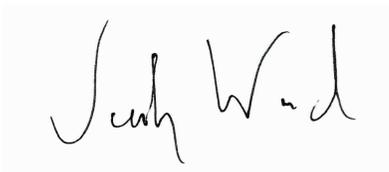
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

**Batch BGL0807 - General Preparation**

Duplicate (BGL0807-DUP1)	Source: 2312229-01			Prepared & Analyzed: 12/21/23		
% Solids	93.8	%		94.2		0.419 20

Summit Scientific



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Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Waste Management USX Y03-14

Project Number: UWRWE-A3445-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
01/12/24 14:55

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BGL1087 - General Preparation**

**Blank (BGL1087-BLK1)**

Prepared: 12/29/23 Analyzed: 01/02/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGL1087-BS1)**

Prepared: 12/29/23 Analyzed: 01/02/24

Specific Conductance (EC) 0.148 0.0100 mmhos/cm 0.150 98.9 95-105

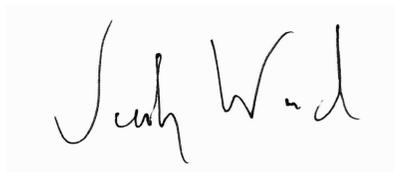
**Duplicate (BGL1087-DUP1)**

**Source: 2311428-01**

Prepared: 12/29/23 Analyzed: 01/02/24

Specific Conductance (EC) 0.257 0.0100 mmhos/cm 0.260 0.928 20

Summit Scientific



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Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Waste Management USX Y03-14

Project Number: UWRWE-A3445-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
01/12/24 14:55

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control**

**Summit Scientific**

Analyte	Result	Reporting		Spike	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BGL1086 - General Preparation**

**LCS (BGL1086-BS1)**

Prepared: 12/29/23 Analyzed: 01/02/24

pH	9.04	pH Units	9.18	98.5	95-105
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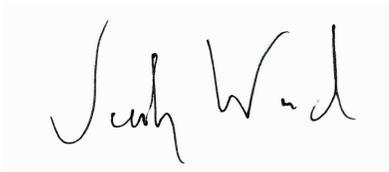
**Duplicate (BGL1086-DUP1)**

Source: 2311428-01

Prepared: 12/29/23 Analyzed: 01/02/24

pH	8.22	pH Units	8.31	1.09	20
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Summit Scientific



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Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Waste Management USX Y03-14

Project Number: UWRWE-A3445-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
01/12/24 14:55

### Notes and Definitions

- QR-04 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QR-01 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- I-04 Sample was analyzed out of recommended holding time per clients request.
- E The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference