

Northrup 1-14 (OWP)

SENW Sec. 14-T7N-R57W

API #: 123-14168

Remediation Project #: 27733

Form 19 Data Package

August 2024

Prepared by Tasman, Inc.





On behalf of Smith Energy Corp.

FIELD NOTES AND PHOTO LOG



Civitas Decommissioning Form



SITE NAME: Northrop 1-14 (OWP)								DATE: 8/2/2024	REM. PROJECT #: 27733	WEATHER: 80° F
SITE DIRECTIONS: County Rd. 82 & County Rd. 139, E 1.381 miles, S 0.37 miles, INTO								CLIENT: Smith Energy Corp		
LEGALS AND LAT/LONG: 40.575427, -103.726970								TASMAN PERSONNEL: Dan Tyson, Angela Kirylo		
SOIL TYPES: SM - silty sand								SURFACE GRADIENT: North		
SURROUNDING LAND USE: Cropland								CROP: N/A		
SOIL SAMPLING								FACILITY INFRASTRUCTURE		
Date/Time	Soil Sample ID	PID (ppm)	Visual	Olfactory	Photo? (Y/N)	USCS	Lab (Y/N)	EQUIPMENT	Quantity	
								Above Ground Storage Tank (AST)		
8/2/2024 10:00	WH-B01@7'	4.0	No Staining	No Odor	Y	SM	Y	Produced Water Vessel (PWV)		
8/2/2024 10:02	WH-N01@6'	5.5	No Staining	No Odor	Y	SM	N	Separator (SEP)		
8/2/2024 10:04	WH-S01@6'	3.4	No Staining	No Odor	Y	SM	N	Emission Control Device (ECD)		
8/2/2024 10:06	WH-E01@6'	5.5	No Staining	No Odor	Y	SM	N	Dump Line (DL)		
8/2/2024 10:08	WH-W01@6'	4.7	No Staining	No Odor	Y	SM	N	Wellhead (WH)	1	
8/2/2024 10:10	SP-CS01	6.4	No Staining	No Odor	Y	SM	Y	Flowline (FL)		
								FL Method of Closure		
								FL Footage Removed		
								Footaged Abandoned in Place		
								Other:		
								Soil Loads Removed		
								IMPACTED SOIL IDENTIFIED? Yes		
								ESTIMATED VOLUME OF IMPACTS:		
								Date	Number	CY
								Total Removed	0	0
								Disposal Facility:		
								Groundwater Recovery		
								DATE GW ENCOUNTERED:	DEPTH:	
								GROUNDWATER IN CONTACT WITH IMPACTED SOIL?		
								LNAPL OR SHEEN OBSERVED ON GW?		
GROUNDWATER SAMPLING								Date	BBLs	
Date/Time	Groundwater Sample ID	Depth Collected	Turbid?	Sheen?	Odor?	Photo?				
								Total Removed	0	
								Disposal Facility:		

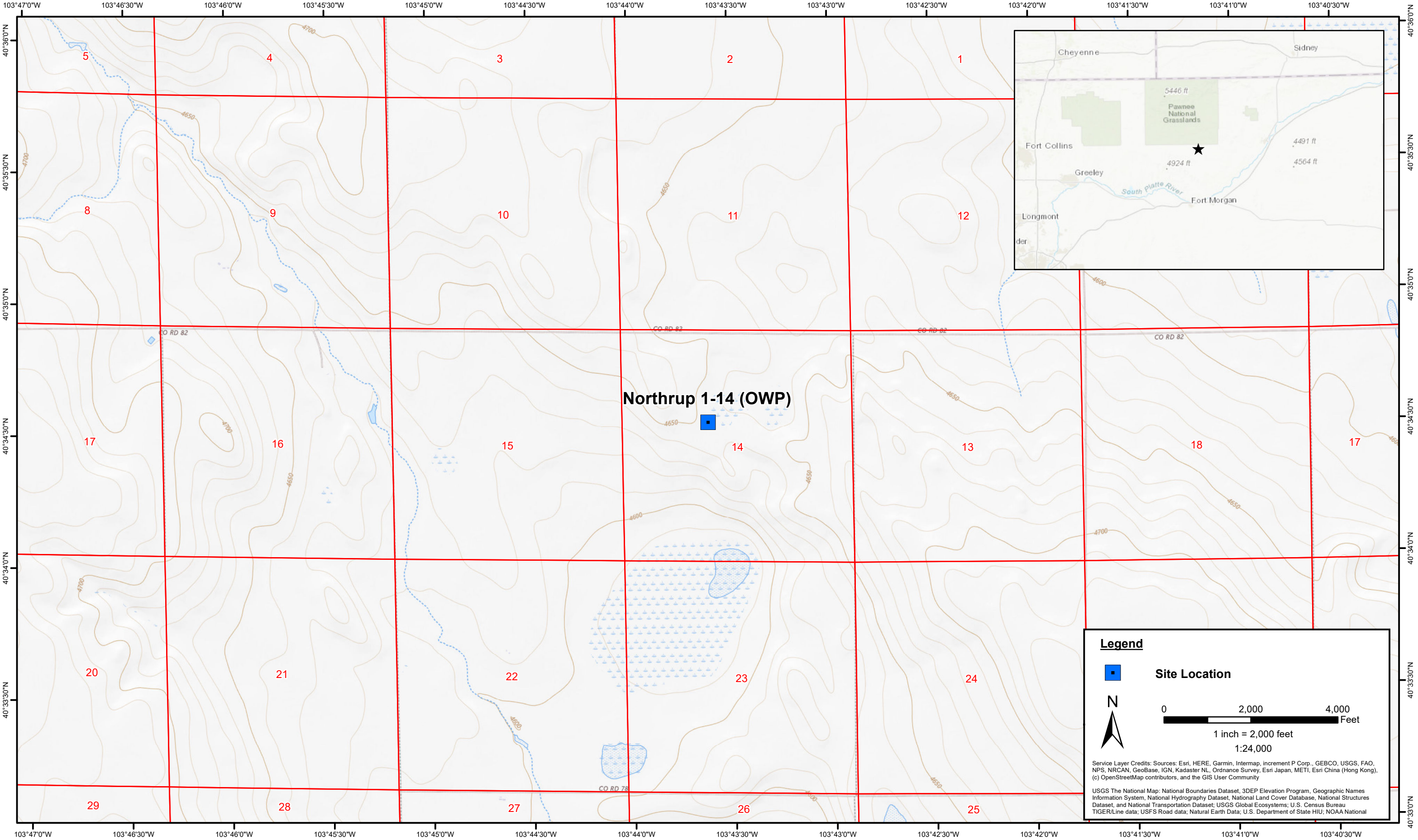
<div> <div>W 270</div> <div>NW 300</div> <div>330</div> <div>30</div> <div>NE 60</div> <div>E 90</div> </div> <div> <div>360°N (T)</div> <div>● 40°34'31"N, 103°43'36"W ±16ft ▲ 4646ft</div> </div>			<div> <div>E 90</div> <div>SE 120</div> <div>150</div> <div>180</div> <div>SW 210</div> <div>240</div> <div>W 270</div> </div> <div> <div>180°S (T)</div> <div>● 40°34'31"N, 103°43'36"W ±16ft ▲ 4646ft</div> </div>		
 <div>02 Aug 2024, 10:06:32</div>			 <div>02 Aug 2024, 10:07:00</div>		
Equipment ID:		Equipment Type:		Equipment ID:	
Material:		Volume:		Equipment Type:	
		Contents:		Material:	
				Volume:	
				Contents:	
Notes/Conditions: Surrounding land use facing North			Notes/Conditions: Surrounding land use facing South		

Photographic Log

<div> <div>N 0 30 60 90 120 150 180 S</div> <div>89°E (T) ● 40°34'31"N, 103°43'36"W ±16ft ▲ 4646ft</div> </div>			<div> <div>S 180 210 240 270 300 330 360 N</div> <div>270°W (T) ● 40°34'31"N, 103°43'37"W ±16ft ▲ 4647ft</div> </div>		
 <div>02 Aug 2024, 10:06:41</div>			 <div>02 Aug 2024, 10:07:13</div>		
Equipment ID:		Equipment Type:		Equipment ID:	
Material:	Volume:	Contents:		Material:	Volume:
Notes/Conditions: Surrounding land use facing East			Notes/Conditions: Surrounding land use facing West		

	
☼ 260°W (T) ● 40°34'31"N, 103°43'37"W ±16ft ▲ 4645ft	☼ 92°E (T) ● 40°34'31"N, 103°43'37"W ±16ft ▲ 4644ft
	
Equipment ID:	Equipment ID:
Equipment Type:	Equipment Type:
Material:	Material:
Volume:	Volume:
Contents:	Contents:
Notes/Conditions: Soil screening locations	Notes/Conditions: Soil sample and soil screening locations

FIGURES



DATE:	August 2024
DESIGNED BY:	S. Vogt
DRAWN BY:	L. Reed



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

Smith Energy Corp
Northrup 1-14 (OWP)
SENW Sec. 14-T7N-R57W
Weld County, Colorado

Site Location Map

Figure
1



DATE:	August 27, 2024
DESIGNED BY:	S. Vogt
DRAWN BY:	B. LeVasseur



Tasman, Inc.
6855 W119th Ave.
Broomfield, CO 80020

Smith Energy Corp.
Northrup 1-14 (OWP)
SENW Sec. 14-T7N-R57W
Weld County, Colorado

Wellhead Soil Sample
Location Map
(08/02/2024)

Figure
2

TABLES

TABLE 1
NORTHRUP 1-14 (OWP)
SOIL SAMPLE LOCATIONS
SMITH ENERGY CORP.



Soil Sample Location	Depth	Date	PID Reading (ppm)	Latitude	Longitude	GPS PDOP Value	Lab (Y/N)
WH-B01@7'	7'	08/02/2024	4.0	40.575472	-103.726971	1	Y
WH-N01@6'	6'	08/02/2024	5.5	40.575483	-103.726968	0.9	N
WH-S01@6'	6'	08/02/2024	3.4	40.575464	-103.726972	0.9	N
WH-E01@6'	6'	08/02/2024	5.5	40.575472	-103.726958	0.9	N
WH-W01@6'	6'	08/02/2024	4.7	40.575473	-103.726986	0.9	N
SP-CS01	-	08/02/2024	6.4	40.575520	-103.726999	1	Y

Notes:

PID = Photoionization Detector

ppm = parts per million

GPS = Global Positioning System

PDOP = Position Dilution of Precision

- = Not Applicable

TABLE 2
NORTHRUP 1-14 (OWP)
SOIL ANALYTICAL DATA - VOCs
SMITH ENERGY CORP.



Soil Sample Location	Depth	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	TVPH-GRO (mg/kg)	TEPH-DRO (mg/kg)	TEPH-ORO (mg/kg)	1,2,4-TMB (mg/kg)	1,3,5-TMB (mg/kg)
ECMC Organic Compounds in Soils - GSSL ⁽¹⁾			0.0026	0.69	0.78	9.9	0.0038	500			0.0081	0.0087
ECMC Organic Compounds in Soils - RSL ⁽²⁾			1.2	490	5.8	58	2	500			30	27
WH-B01@7'	7'	08/02/2024	<0.00200	<0.00500	<0.00500	<0.0100	<0.00408	<0.500	65.3	212	<0.00500	<0.00500
SP-CS01	-	08/02/2024	<0.00200	<0.00500	<0.00500	<0.0100	<0.00408	<0.500	72.2	237	<0.00500	<0.00500

Notes:

VOCs = Volatile Organic Compounds

(1) Standards for soil are taken from ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations (Effective January 15, 2021)

(2) Standards for soil are taken from ECMC Table 915-1: Organic Compounds in Soils - Residential Soil Screening Level Concentrations (Effective January 15, 2021)

ECMC = Colorado Energy & Carbon Management Commission

GSSL = Protection of Groundwater Screening Level

RSL = Residential Soil Screening Level

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

mg/kg = milligrams per kilogram

TVPH - GRO = Total Volatile Petroleum Hydrocarbons - Gasoline Range Organics

TEPH - DRO = Total Extractable Petroleum Hydrocarbons - Diesel Range Organics

TEPH - ORO = Total Extractable Petroleum Hydrocarbons - Oil Range Organics

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

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

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Residential Soil Screening Level Concentrations

- = Not Applicable

TABLE 3
NORTHRUP 1-14 (OWP)
SOIL ANALYTICAL DATA - PAHs
SMITH ENERGY CORP.



Soil Sample Location	Depth	Date	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo(a)A (mg/kg)	Benzo(b)F (mg/kg)	Benzo(k)F (mg/kg)	Benzo(a)P (mg/kg)	Chrysene (mg/kg)	D (a,h) A (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	1-M (mg/kg)	2-M (mg/kg)	Pyrene (mg/kg)
ECMC Organic Compounds in Soils - GSSL ⁽¹⁾			0.55	5.8	0.011	0.3	2.9	0.24	9	0.96	8.9	0.54	0.98	0.006	0.019	1.3
ECMC Organic Compounds in Soils - RSL ⁽²⁾			360	1,800	1.1	1.1	11	0.11	110	0.11	240	240	1.1	18	24	180
WH-B01@7'	7'	08/02/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00213	<0.00500	<0.00500	<0.00500
SP-CS01	-	08/02/2024	<0.00500	<0.00500	0.0147	0.0209	0.00731	0.0169	0.0150	<0.00500	0.0311	<0.00500	0.0155	0.00552	0.00579	0.0272

Notes:

PAHs = Polycyclic Aromatic Hydrocarbons

(1) Standards for soil are taken from ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations (Effective January 15, 2021)

(2) Standards for soil are taken from ECMC Table 915-1: Organic Compounds in Soils - Residential Soil Screening Level Concentrations (Effective January 15, 2021)

ECMC = Colorado Energy & Carbon Management Commission

GSSL = Protection of Groundwater Screening Level

RSL = Residential Soil Screening Level

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

mg/kg = milligrams per kilogram

Benzo(a)A = Benzo(a)Anthracene

Benzo(b)F = Benzo(b)Fluoranthene

Benzo(k)F = Benzo(k)Fluoranthene

Benzo(a)P = Benzo(a)Pyrene

D (a,h) A = Dibenzo(a,h)Anthracene

1,2,3-CD = Indeno(1,2,3-cd)Pyrene

1-M = 1-Methylnaphthalene

2-M = 2-Methylnaphthalene

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Residential Soil Screening Level Concentrations

- = Not Applicable

TABLE 4
NORTHRUP 1-14 (OWP)
SOIL ANALYTICAL DATA - METALS
SMITH ENERGY CORP.

Soil Sample Location	Depth	Date	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)
ECMC Metals in Soils - GSSL ⁽¹⁾			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
ECMC Metals in Soils - RSL ⁽²⁾			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
WH-B01@7'	7'	08/02/2024	4.1	220	0.22	<0.300	11.7	27.9	8.2	<0.47	<0.47	55.6
SP-CS01	-	08/02/2024	4.1	226	0.18	<0.300	9.2	17.3	7.3	<0.49	<0.49	49.3

Notes:

(1) Standards for soil are taken from ECMC Table 915-1: Metals in Soils - Protection of Groundwater Soil Screening Level Concentrations (Effective January 15, 2021)

(2) Standards for soil are taken from ECMC Table 915-1: Metals in Soils - Residential Soil Screening Level Concentrations (Effective January 15, 2021)

ECMC = Colorado Energy & Carbon Management Commission

GSSL = Protection of Groundwater Screening Level

RSL = Residential Soil Screening Level

(<) = Analytical result is less than the indicated laboratory minimum detection limit

mg/kg = milligrams per kilogram

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Metals in Soils - Protection of Groundwater Soil Screening Level Concentrations

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Metals in Soils - Residential Soil Screening Level Concentrations

- = Not Applicable

TABLE 5
NORTHRUP 1-14 (OWP)
SOIL ANALYTICAL DATA - SOIL RECLAMATION
SMITH ENERGY CORP.



Soil Sample Location	Depth	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
ECMC Soil Suitability for Reclamation⁽¹⁾			6 - 8.3	< 6	< 4	2
WH-B01@7'	7'	08/02/2024	7.91	1.71	0.514	<2.00
SP-CS01	-	08/02/2024	8.05	3.50	0.645	<2.00

Notes:

(1) Standards for soil are taken from ECMC Table 915-1: Soil Suitability for Reclamation (Effective January 15, 2021)

ECMC = Colorado Energy & Carbon Management Commission

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

mmhos/cm = millimhos per centimeter

mg/L = milligrams per liter

pH = Potential of Hydrogen

SAR = Sodium Adsorption Ratio

EC = Electrical Conductivity

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Soil Suitability for Reclamation Concentrations

- = Not Applicable

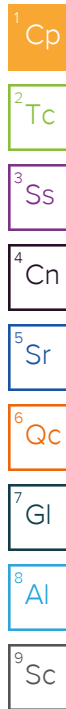
LABORATORY ANALYTICAL DATA



ANALYTICAL REPORT

August 27, 2024

Revised Report



Civitas - CO

Sample Delivery Group: L1763425
Samples Received: 08/03/2024
Project Number: 24154
Description: Northrup 1-14 (OWP)

Report To: Sam Vogt / Jacob Evans
6855 W. 118th Ave
Broomfield, CO 80020

Entire Report Reviewed By:

Chris Ward

Chris Ward
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

ACCOUNT:
Civitas - CO

PROJECT:
24154

SDG:
L1763425

DATE/TIME:
08/27/24 14:51

PAGE:
1 of 38

TABLE OF CONTENTS

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Sr: Sample Results	5
WH-B01 @ 7' L1763425-01	5
SP-CS01 L1763425-02	7
Qc: Quality Control Summary	9
Wet Chemistry by Method 7199	9
Wet Chemistry by Method 9045D	10
Wet Chemistry by Method 9050AMod	12
Metals (ICP) by Method 6010B-NE493 Ch 2	14
Volatile Organic Compounds (GC) by Method 8015D/GRO	16
Volatile Organic Compounds (GC/MS) by Method 8260B	17
Semi-Volatile Organic Compounds (GC) by Method 8015M	19
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	20
Gl: Glossary of Terms	22
Al: Accreditations & Locations	23
Sc: Sample Chain of Custody	24

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

SAMPLE SUMMARY

WH-B01 @ 7' L1763425-01 Solid

Collected by
DY/AK

Collected date/time
08/02/24 10:00

Received date/time
08/03/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2346742	1	08/23/24 19:16	08/23/24 19:16	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2338203	1	08/13/24 12:24	08/14/24 01:31	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2350548	1	08/26/24 12:46	08/26/24 15:07	BJM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2349081	1	08/23/24 10:53	08/23/24 14:03	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2346744	1	08/23/24 14:23	08/25/24 16:28	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2339118	1	08/06/24 19:01	08/08/24 19:46	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2338462	1	08/06/24 19:01	08/07/24 23:01	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2337608	5	08/07/24 08:14	08/07/24 20:42	KKS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2337613	1	08/07/24 08:26	08/08/24 06:54	DSH	Mt. Juliet, TN
Subcontracted Analyses	WG2336454	1	08/27/24 00:00	08/27/24 00:00	ANF	Minneapolis, MN 55414



SP-CS01 L1763425-02 Solid

Collected by
DY/AK

Collected date/time
08/02/24 10:10

Received date/time
08/03/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2346745	1	08/22/24 23:43	08/22/24 23:43	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2338203	1	08/13/24 12:24	08/14/24 02:02	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2348807	1	08/22/24 22:06	08/23/24 15:30	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2348813	1	08/23/24 15:13	08/23/24 23:30	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2346752	1	08/23/24 13:19	08/23/24 20:01	MAP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2339118	1	08/06/24 19:01	08/08/24 20:09	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2338914	1	08/06/24 19:01	08/08/24 15:54	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2337608	5	08/07/24 08:14	08/07/24 20:55	KKS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2337613	1	08/07/24 08:26	08/08/24 07:30	DSH	Mt. Juliet, TN
Subcontracted Analyses	WG2336454	1	08/27/24 00:00	08/27/24 00:00	ANF	Minneapolis, MN 55414

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Chris Ward
Project Manager

Report Revision History

Level II Report - Version 1: 08/27/24 10:52
Level II Report - Version 2: 08/27/24 13:30

Project Narrative

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

Report reissued for updated project name

L1763425 -01, -02 contains subout data that is included after the chain of custody.



Calculated Results

	Result	Qualifier	Dilution	Analysis date / time	Batch
Analyte					
Sodium Adsorption Ratio	1.71		1	08/23/2024 19:16	WG2346742

Wet Chemistry by Method 7199

	Result	Qualifier	RL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg			
Hexavalent Chromium	ND		0.300	1	08/14/2024 01:31	WG2338203

Wet Chemistry by Method 9045D

	Result	Qualifier	Dilution	Analysis date / time	Batch
Analyte	su				
pH	7.91	T8	1	08/26/2024 15:07	WG2350548

Sample Narrative:

L1763425-01 WG2350548: 7.91 at 21.5C

Wet Chemistry by Method 9050AMod

	Result	Qualifier	RL	Dilution	Analysis date / time	Batch
Analyte	umhos/cm		umhos/cm			
Specific Conductance	514		10.0	1	08/23/2024 14:03	WG2349081

Sample Narrative:

L1763425-01 WG2349081: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

	Result	Qualifier	RL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l			
Hot Water Sol. Boron	ND		2.00	1	08/25/2024 16:28	WG2346744

Volatile Organic Compounds (GC) by Method 8015D/GRO

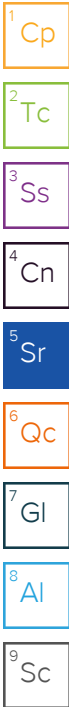
	Result	Qualifier	RL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg			
TPH (GC/FID) Low Fraction	ND		0.500	1	08/08/2024 19:46	WG2339118
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	97.9			77.0-120	08/08/2024 19:46	WG2339118

Volatile Organic Compounds (GC/MS) by Method 8260B

	Result	Qualifier	RL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg			
Benzene	ND		0.00200	1	08/07/2024 23:01	WG2338462
Toluene	ND		0.00500	1	08/07/2024 23:01	WG2338462
Ethylbenzene	ND		0.00500	1	08/07/2024 23:01	WG2338462
Xylenes, Total	ND		0.0100	1	08/07/2024 23:01	WG2338462
1,2,4-Trimethylbenzene	ND		0.00500	1	08/07/2024 23:01	WG2338462
1,3,5-Trimethylbenzene	ND		0.00500	1	08/07/2024 23:01	WG2338462
(S) <i>Toluene-d8</i>	98.1			75.0-131	08/07/2024 23:01	WG2338462
(S) <i>4</i> -Bromofluorobenzene	95.0			67.0-138	08/07/2024 23:01	WG2338462
(S) <i>1,2</i> -Dichloroethane- <i>d4</i>	98.8			70.0-130	08/07/2024 23:01	WG2338462

Semi-Volatile Organic Compounds (GC) by Method 8015M

	Result	Qualifier	RL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg			
C10-C28 Diesel Range	65.3		50.0	5	08/07/2024 20:42	WG2337608
C28-C36 Motor Oil Range	212		50.0	5	08/07/2024 20:42	WG2337608



Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
(S) o-Terphenyl	29.7			18.0-148	08/07/2024 20:42	WG2337608

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	08/08/2024 06:54	WG2337613
Anthracene	ND		0.00500	1	08/08/2024 06:54	WG2337613
Benzo(a)anthracene	ND		0.00500	1	08/08/2024 06:54	WG2337613
Benzo(b)fluoranthene	ND		0.00500	1	08/08/2024 06:54	WG2337613
Benzo(k)fluoranthene	ND		0.00500	1	08/08/2024 06:54	WG2337613
Benzo(a)pyrene	ND		0.00500	1	08/08/2024 06:54	WG2337613
Chrysene	ND		0.00500	1	08/08/2024 06:54	WG2337613
Dibenz(a,h)anthracene	ND		0.00500	1	08/08/2024 06:54	WG2337613
Fluoranthene	ND		0.00500	1	08/08/2024 06:54	WG2337613
Fluorene	ND		0.00500	1	08/08/2024 06:54	WG2337613
Indeno(1,2,3-cd)pyrene	0.00213	J	0.00181	1	08/08/2024 06:54	WG2337613
1-Methylnaphthalene	ND		0.00500	1	08/08/2024 06:54	WG2337613
2-Methylnaphthalene	ND		0.00500	1	08/08/2024 06:54	WG2337613
Naphthalene	ND		0.00408	1	08/08/2024 06:54	WG2337613
Pyrene	ND		0.00500	1	08/08/2024 06:54	WG2337613
(S) p-Terphenyl-d14	65.3			23.0-120	08/08/2024 06:54	WG2337613
(S) Nitrobenzene-d5	58.3			14.0-149	08/08/2024 06:54	WG2337613
(S) 2-Fluorobiphenyl	57.0			34.0-125	08/08/2024 06:54	WG2337613

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

	Result	Qualifier	Dilution	Analysis date / time	Batch
Analyte					
Sodium Adsorption Ratio	3.50		1	08/22/2024 23:43	WG2346745

Wet Chemistry by Method 7199

	Result	Qualifier	RL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg			
Hexavalent Chromium	ND		0.300	1	08/14/2024 02:02	WG2338203

Wet Chemistry by Method 9045D

	Result	Qualifier	Dilution	Analysis date / time	Batch
Analyte	su				
pH	8.05	T8	1	08/23/2024 15:30	WG2348807

Sample Narrative:
L1763425-02 WG2348807: 8.05 at 22.8C

Wet Chemistry by Method 9050AMod

	Result	Qualifier	RL	Dilution	Analysis date / time	Batch
Analyte	umhos/cm		umhos/cm			
Specific Conductance	645		10.0	1	08/23/2024 23:30	WG2348813

Sample Narrative:
L1763425-02 WG2348813: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

	Result	Qualifier	RL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l			
Hot Water Sol. Boron	ND		2.00	1	08/23/2024 20:01	WG2346752

Volatile Organic Compounds (GC) by Method 8015D/GRO

	Result	Qualifier	RL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg			
TPH (GC/FID) Low Fraction	ND		0.500	1	08/08/2024 20:09	WG2339118
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	97.5			77.0-120	08/08/2024 20:09	WG2339118

Volatile Organic Compounds (GC/MS) by Method 8260B

	Result	Qualifier	RL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg			
Benzene	ND		0.00200	1	08/08/2024 15:54	WG2338914
Toluene	ND		0.00500	1	08/08/2024 15:54	WG2338914
Ethylbenzene	ND		0.00500	1	08/08/2024 15:54	WG2338914
Xylenes, Total	ND		0.0100	1	08/08/2024 15:54	WG2338914
1,2,4-Trimethylbenzene	ND		0.00500	1	08/08/2024 15:54	WG2338914
1,3,5-Trimethylbenzene	ND		0.00500	1	08/08/2024 15:54	WG2338914
(S) <i>Toluene-d8</i>	97.1			75.0-131	08/08/2024 15:54	WG2338914
(S) <i>4</i> -Bromofluorobenzene	96.8			67.0-138	08/08/2024 15:54	WG2338914
(S) <i>1,2</i> -Dichloroethane- <i>d4</i>	102			70.0-130	08/08/2024 15:54	WG2338914

Semi-Volatile Organic Compounds (GC) by Method 8015M

	Result	Qualifier	RL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg			
C10-C28 Diesel Range	72.2		50.0	5	08/07/2024 20:55	WG2337608
C28-C36 Motor Oil Range	237		50.0	5	08/07/2024 20:55	WG2337608

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
(S) o-Terphenyl	42.7			18.0-148	08/07/2024 20:55	WG2337608

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	08/08/2024 07:30	WG2337613
Anthracene	ND		0.00500	1	08/08/2024 07:30	WG2337613
Benzo(a)anthracene	0.0147		0.00500	1	08/08/2024 07:30	WG2337613
Benzo(b)fluoranthene	0.0209		0.00500	1	08/08/2024 07:30	WG2337613
Benzo(k)fluoranthene	0.00731		0.00500	1	08/08/2024 07:30	WG2337613
Benzo(a)pyrene	0.0169		0.00500	1	08/08/2024 07:30	WG2337613
Chrysene	0.0150		0.00500	1	08/08/2024 07:30	WG2337613
Dibenz(a,h)anthracene	ND		0.00500	1	08/08/2024 07:30	WG2337613
Fluoranthene	0.0311		0.00500	1	08/08/2024 07:30	WG2337613
Fluorene	ND		0.00500	1	08/08/2024 07:30	WG2337613
Indeno(1,2,3-cd)pyrene	0.0155		0.00181	1	08/08/2024 07:30	WG2337613
1-Methylnaphthalene	0.00552	U	0.00500	1	08/08/2024 07:30	WG2337613
2-Methylnaphthalene	0.00579	U	0.00500	1	08/08/2024 07:30	WG2337613
Naphthalene	ND		0.00408	1	08/08/2024 07:30	WG2337613
Pyrene	0.0272		0.00500	1	08/08/2024 07:30	WG2337613
(S) p-Terphenyl-d14	66.8			23.0-120	08/08/2024 07:30	WG2337613
(S) Nitrobenzene-d5	68.3			14.0-149	08/08/2024 07:30	WG2337613
(S) 2-Fluorobiphenyl	62.7			34.0-125	08/08/2024 07:30	WG2337613

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4106424-1 08/13/24 23:57

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Hexavalent Chromium	ND		0.255	1.00

L1763420-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1763420-05 08/14/24 01:00 • (DUP) R4106424-3 08/14/24 01:10

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Hexavalent Chromium	ND	ND	1	0.000		20

L1763490-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1763490-01 08/14/24 04:50 • (DUP) R4106424-8 08/14/24 05:01

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Hexavalent Chromium	1.05	1.04	1	0.925		20

Laboratory Control Sample (LCS)

(LCS) R4106424-2 08/14/24 00:07

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Hexavalent Chromium	10.0	10.6	106	80.0-120	

L1763426-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1763426-05 08/14/24 02:55 • (MS) R4106424-5 08/14/24 03:16 • (MSD) R4106424-6 08/14/24 03:26

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Hexavalent Chromium	20.0	ND	12.6	12.3	63.0	61.6	1	75.0-125	J6	J6	2.25	20

L1763426-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1763426-05 08/14/24 02:55 • (MS) R4106424-7 08/14/24 03:37

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Hexavalent Chromium	648	ND	554	85.5	50	75.0-125	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1763419-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1763419-05 08/23/24 15:30 • (DUP) R4110941-2 08/23/24 15:30

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.72	7.70	1	0.259		1

Sample Narrative:

OS: 7.72 at 22.8C

DUP: 7.7 at 23C



L1763511-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1763511-13 08/23/24 15:30 • (DUP) R4110941-3 08/23/24 15:30

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.73	7.74	1	0.129		1

Sample Narrative:

OS: 7.73 at 22.8C

DUP: 7.74 at 22.8C

Laboratory Control Sample (LCS)

(LCS) R4110941-1 08/23/24 15:30

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	su	su	%	%	
pH	10.0	9.99	99.9	99.0-101	

Sample Narrative:

LCS: 9.99 at 22.7C

L1763420-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1763420-04 08/26/24 15:07 • (DUP) R4111776-2 08/26/24 15:07

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.87	7.87	1	0.000		1

Sample Narrative:

OS: 7.87 at 21.4C

DUP: 7.87 at 20.6C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1763511-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1763511-12 08/26/24 15:07 • (DUP) R4111776-3 08/26/24 15:07

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.48	7.47	1	0.134		1

Sample Narrative:

OS: 7.48 at 20.6C

DUP: 7.47 at 20.9C

Laboratory Control Sample (LCS)

(LCS) R4111776-1 08/26/24 15:07

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	su	su	%	%	
pH	10.0	10.0	100	99.0-101	

Sample Narrative:

LCS: 10 at 21.8C

Method Blank (MB)

(MB) R4111073-1 08/23/24 23:30

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	ND		10.0	10.0

Sample Narrative:

BLANK: at 25C

L1763419-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1763419-05 08/23/24 23:30 • (DUP) R4111073-3 08/23/24 23:30

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	1920	1910	1	0.209		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1763511-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1763511-13 08/23/24 23:30 • (DUP) R4111073-4 08/23/24 23:30

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	492	491	1	0.203		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4111073-2 08/23/24 23:30

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	756	103	85.0-115	

Sample Narrative:

LCS: at 25C

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R4110927-1 08/23/24 14:03

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	ND		10.0	10.0

Sample Narrative:

BLANK: at 25C

L1763419-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1763419-06 08/23/24 14:03 • (DUP) R4110927-3 08/23/24 14:03

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	574	568	1	1.05		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1768142-30 Original Sample (OS) • Duplicate (DUP)

(OS) L1768142-30 08/23/24 14:03 • (DUP) R4110927-4 08/23/24 14:03

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	2800	2800	1	0.0714		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4110927-2 08/23/24 14:03

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	752	103	85.0-115	

Sample Narrative:

LCS: at 25C

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R4111359-1 08/25/24 16:18

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hot Water Sol. Boron	ND		0.0167	0.200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4111359-2 08/25/24 16:19 • (LCSD) R4111359-3 08/25/24 16:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	0.993	0.994	99.3	99.4	80.0-120			0.0339	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4111045-1 08/23/24 19:48

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Hot Water Sol. Boron	ND		0.0167	0.200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4111045-2 08/23/24 19:50 • (LCSD) R4111045-3 08/23/24 19:52

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Hot Water Sol. Boron	1.00	1.01	1.02	101	102	80.0-120			1.38	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4106148-2 08/08/24 15:02

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0241	⬇	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	98.4			77.0-120

Laboratory Control Sample (LCS)

(LCS) R4106148-1 08/08/24 14:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	4.83	96.6	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			106	77.0-120	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4104284-3 08/07/24 18:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	ND		0.000467	0.00100
Toluene	ND		0.00130	0.00500
Ethylbenzene	ND		0.000737	0.00250
Xylenes, Total	ND		0.000880	0.00650
1,2,4-Trimethylbenzene	ND		0.00158	0.00500
1,3,5-Trimethylbenzene	ND		0.00200	0.00500
(S) Toluene-d8	98.2			75.0-131
(S) 4-Bromofluorobenzene	92.9			67.0-138
(S) 1,2-Dichloroethane-d4	105			70.0-130

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4104284-1 08/07/24 17:19 • (LCSD) R4104284-2 08/07/24 17:39

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.128	0.124	102	99.2	70.0-123			3.17	20
Toluene	0.125	0.139	0.121	111	96.8	75.0-121			13.8	20
Ethylbenzene	0.125	0.138	0.122	110	97.6	74.0-126			12.3	20
Xylenes, Total	0.375	0.437	0.378	117	101	72.0-127			14.5	20
1,2,4-Trimethylbenzene	0.125	0.121	0.111	96.8	88.8	70.0-126			8.62	20
1,3,5-Trimethylbenzene	0.125	0.120	0.118	96.0	94.4	73.0-127			1.68	20
(S) Toluene-d8				100	96.0	75.0-131				
(S) 4-Bromofluorobenzene				96.9	96.1	67.0-138				
(S) 1,2-Dichloroethane-d4				107	118	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4104918-2 08/08/24 15:13

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	ND		0.000467	0.00100
Toluene	ND		0.00130	0.00500
Ethylbenzene	ND		0.000737	0.00250
Xylenes, Total	ND		0.000880	0.00650
1,2,4-Trimethylbenzene	ND		0.00158	0.00500
1,3,5-Trimethylbenzene	ND		0.00200	0.00500
(S) Toluene-d8	99.5			75.0-131
(S) 4-Bromofluorobenzene	94.3			67.0-138
(S) 1,2-Dichloroethane-d4	114			70.0-130

Laboratory Control Sample (LCS)

(LCS) R4104918-1 08/08/24 13:10

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.123	98.4	70.0-123	
Toluene	0.125	0.117	93.6	75.0-121	
Ethylbenzene	0.125	0.127	102	74.0-126	
Xylenes, Total	0.375	0.386	103	72.0-127	
1,2,4-Trimethylbenzene	0.125	0.117	93.6	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.118	94.4	73.0-127	
(S) Toluene-d8			92.4	75.0-131	
(S) 4-Bromofluorobenzene			91.7	67.0-138	
(S) 1,2-Dichloroethane-d4			115	70.0-130	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4104219-1 08/07/24 16:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	ND		1.61	4.00
C28-C36 Motor Oil Range	ND		0.274	4.00
(S) o-Terphenyl	56.6			18.0-148

Laboratory Control Sample (LCS)

(LCS) R4104219-2 08/07/24 16:58

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	37.7	75.4	50.0-150	
(S) o-Terphenyl			54.5	18.0-148	

L1763420-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1763420-04 08/07/24 17:36 • (MS) R4104219-3 08/07/24 17:49 • (MSD) R4104219-4 08/07/24 18:01

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.4	ND	ND	ND	70.9	70.6	1	50.0-150			2.69	20
(S) o-Terphenyl					44.1	43.8		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4104207-2 08/07/24 22:33

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	ND		0.00209	0.00600
Anthracene	ND		0.00230	0.00600
Benzo(a)anthracene	ND		0.00173	0.00600
Benzo(b)fluoranthene	ND		0.00153	0.00600
Benzo(k)fluoranthene	ND		0.00215	0.00600
Benzo(a)pyrene	ND		0.00179	0.00600
Chrysene	ND		0.00232	0.00600
Dibenz(a,h)anthracene	ND		0.00172	0.00600
Fluoranthene	ND		0.00227	0.00600
Fluorene	ND		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	ND		0.00181	0.00600
1-Methylnaphthalene	ND		0.00449	0.0200
2-Methylnaphthalene	ND		0.00427	0.0200
Naphthalene	ND		0.00408	0.0200
Pyrene	ND		0.00200	0.00600
(S) p-Terphenyl-d14	85.4			23.0-120
(S) Nitrobenzene-d5	73.4			14.0-149
(S) 2-Fluorobiphenyl	81.4			34.0-125

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4104207-1 08/07/24 22:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0666	83.3	50.0-120	
Anthracene	0.0800	0.0679	84.9	50.0-126	
Benzo(a)anthracene	0.0800	0.0684	85.5	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0672	84.0	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0642	80.3	49.0-125	
Benzo(a)pyrene	0.0800	0.0615	76.9	42.0-120	
Chrysene	0.0800	0.0685	85.6	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0748	93.5	47.0-125	
Fluoranthene	0.0800	0.0718	89.8	49.0-129	
Fluorene	0.0800	0.0721	90.1	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0724	90.5	46.0-125	
1-Methylnaphthalene	0.0800	0.0739	92.4	51.0-121	
2-Methylnaphthalene	0.0800	0.0709	88.6	50.0-120	
Naphthalene	0.0800	0.0685	85.6	50.0-120	
Pyrene	0.0800	0.0643	80.4	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4104207-1 08/07/24 22:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			90.8	23.0-120	
(S) Nitrobenzene-d5			82.3	14.0-149	
(S) 2-Fluorobiphenyl			86.7	34.0-125	

L1763486-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1763486-05 08/08/24 07:40 • (MS) R4104207-3 08/08/24 07:58 • (MSD) R4104207-4 08/08/24 08:16

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0780	0.00803	0.0485	0.0453	51.9	47.5	1	14.0-127			6.82	27
Anthracene	0.0780	ND	0.0453	0.0385	58.1	49.1	1	10.0-145			16.2	30
Benzo(a)anthracene	0.0780	ND	0.0522	0.0432	66.9	55.1	1	10.0-139			18.9	30
Benzo(b)fluoranthene	0.0780	ND	0.0478	0.0391	61.3	49.9	1	10.0-140			20.0	36
Benzo(k)fluoranthene	0.0780	ND	0.0484	0.0406	62.1	51.8	1	10.0-137			17.5	31
Benzo(a)pyrene	0.0780	ND	0.0500	0.0411	64.1	52.4	1	10.0-141			19.5	31
Chrysene	0.0780	ND	0.0514	0.0438	65.9	55.9	1	10.0-145			16.0	30
Dibenz(a,h)anthracene	0.0780	ND	0.0445	0.0383	57.1	48.9	1	10.0-132			15.0	31
Fluoranthene	0.0780	ND	0.0495	0.0402	63.5	51.3	1	10.0-153			20.7	33
Fluorene	0.0780	ND	0.0506	0.0440	64.9	56.1	1	11.0-130			14.0	29
Indeno(1,2,3-cd)pyrene	0.0780	ND	0.0411	0.0347	52.7	44.3	1	10.0-137			16.9	32
1-Methylnaphthalene	0.0780	0.0686	0.120	0.148	65.9	101	1	10.0-142			20.9	28
2-Methylnaphthalene	0.0780	0.0875	0.135	0.175	60.9	112	1	10.0-137			25.8	28
Naphthalene	0.0780	0.00663	0.0590	0.0579	67.1	65.4	1	10.0-135			1.88	27
Pyrene	0.0780	0.00979	0.0495	0.0439	50.9	43.5	1	10.0-148			12.0	35
(S) p-Terphenyl-d14					56.3	55.7		23.0-120				
(S) Nitrobenzene-d5					72.8	87.8		14.0-149				
(S) 2-Fluorobiphenyl					35.3	38.1		34.0-125				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

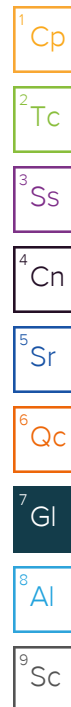
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.



ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



[illegible]



August 26, 2024

Client Services
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122

RE: Project: L1763425 WG2336454
Pace Project No.: 10702887

Dear Client Services:

Enclosed are the analytical results for sample(s) received by the laboratory on August 06, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Yeng Ozawa
yeng.ozawa@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: Jimmy Huckaba, Pace Analytical National Center for
Testing & Innovation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: L1763425 WG2336454

Pace Project No.: 10702887

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014

Arkansas DW Certification #: MN00064

Arkansas WW Certification #: 88-0680

California Certification #: 2929

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

DoD Certification via A2LA #: 2926.01

EPA Region 8 Tribal Water Systems+Wyoming DW
Certification #: via MN 027-053-137

Florida Certification #: E87605

Georgia Certification #: 959

GMP+ Certification #: GMP050884

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

ISO/IEC 17025 Certification via A2LA #: 2926.01

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: AI-03086

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064

Maryland Certification #: 322

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Approval: via MN 027-053-137

Minnesota Petrofund Registration #: 1240

Mississippi Certification #: MN00064

Missouri Certification #: 10100

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081

New Jersey Certification #: MN002

New York Certification #: 11647

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification (A2LA) #: R-036

North Dakota Certification (MN) #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification (1700) #: CL101

Oklahoma Certification #: 9507

Oregon Primary Certification #: MN300001

Oregon Secondary Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification #: MN00064

South Carolina Certification #: 74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Vermont Certification #: VT-027053137

Virginia Certification #: 460163

Washington Certification #: C486

West Virginia DEP Certification #: 382

West Virginia DW Certification #: 9952 C

Wisconsin Certification #: 999407970

Wyoming UST Certification via A2LA #: 2926.01

USDA Permit #: P330-19-00208

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SAMPLE SUMMARY

Project: L1763425 WG2336454

Pace Project No.: 10702887

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10702887001	SP-CS01	Solid	08/02/24 10:10	08/06/24 08:50
10702887002	WH-B01 @ 7'	Solid	08/02/24 10:00	08/06/24 08:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: L1763425 WG2336454

Pace Project No.: 10702887

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10702887001	SP-CS01	EPA 6020B	DJM	9	PASI-M
10702887002	WH-B01 @ 7'	EPA 6020B	GAS1	9	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: L1763425 WG2336454

Pace Project No.: 10702887

Sample: SP-CS01 Lab ID: 10702887001 Collected: 08/02/24 10:10 Received: 08/06/24 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3050B Pace Analytical Services - Minneapolis						
Arsenic	4.1	mg/kg	0.49	20	08/14/24 09:09	08/16/24 22:21	7440-38-2	
Barium	226	mg/kg	0.29	20	08/14/24 09:09	08/16/24 22:21	7440-39-3	
Cadmium	0.18	mg/kg	0.079	20	08/14/24 09:09	08/16/24 22:21	7440-43-9	
Copper	9.2	mg/kg	0.98	20	08/14/24 09:09	08/16/24 22:21	7440-50-8	
Lead	17.3	mg/kg	0.49	20	08/14/24 09:09	08/16/24 22:21	7439-92-1	
Nickel	7.3	mg/kg	0.49	20	08/14/24 09:09	08/16/24 22:21	7440-02-0	
Selenium	ND	mg/kg	0.49	20	08/14/24 09:09	08/16/24 22:21	7782-49-2	
Silver	ND	mg/kg	0.49	20	08/14/24 09:09	08/16/24 22:21	7440-22-4	
Zinc	49.3	mg/kg	4.9	20	08/14/24 09:09	08/16/24 22:21	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: L1763425 WG2336454

Pace Project No.: 10702887

Sample: WH-B01 @ 7' Lab ID: 10702887002 Collected: 08/02/24 10:00 Received: 08/06/24 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3050B Pace Analytical Services - Minneapolis						
Arsenic	4.1	mg/kg	0.47	20	08/12/24 16:38	08/15/24 23:25	7440-38-2	
Barium	220	mg/kg	0.28	20	08/12/24 16:38	08/15/24 23:25	7440-39-3	
Cadmium	0.22	mg/kg	0.076	20	08/12/24 16:38	08/15/24 23:25	7440-43-9	
Copper	11.7	mg/kg	0.95	20	08/12/24 16:38	08/15/24 23:25	7440-50-8	
Lead	27.9	mg/kg	0.47	20	08/12/24 16:38	08/15/24 23:25	7439-92-1	
Nickel	8.2	mg/kg	0.47	20	08/12/24 16:38	08/15/24 23:25	7440-02-0	
Selenium	ND	mg/kg	0.47	20	08/12/24 16:38	08/15/24 23:25	7782-49-2	
Silver	ND	mg/kg	0.47	20	08/12/24 16:38	08/15/24 23:25	7440-22-4	
Zinc	55.6	mg/kg	4.7	20	08/12/24 16:38	08/15/24 23:25	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: L1763425 WG2336454

Pace Project No.: 10702887

QC Batch: 961503

Analysis Method: EPA 6020B

QC Batch Method: EPA 3050B

Analysis Description: 6020B Solids UPD5

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10702887001

METHOD BLANK: 5025508

Matrix: Solid

Associated Lab Samples: 10702887001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.50	08/16/24 21:13	
Barium	mg/kg	ND	0.30	08/16/24 21:13	
Cadmium	mg/kg	ND	0.079	08/16/24 21:13	
Copper	mg/kg	ND	0.99	08/16/24 21:13	
Lead	mg/kg	ND	0.50	08/16/24 21:13	
Nickel	mg/kg	ND	0.50	08/16/24 21:13	
Selenium	mg/kg	ND	0.50	08/16/24 21:13	
Silver	mg/kg	ND	0.50	08/16/24 21:13	
Zinc	mg/kg	ND	5.0	08/16/24 21:13	

LABORATORY CONTROL SAMPLE: 5025509

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	48.9	53.0	108	80-120	
Barium	mg/kg	48.9	51.3	105	80-120	
Cadmium	mg/kg	48.9	51.2	105	80-120	
Copper	mg/kg	48.9	55.8	114	80-120	
Lead	mg/kg	48.9	53.2	109	80-120	
Nickel	mg/kg	48.9	55.6	114	80-120	
Selenium	mg/kg	48.9	54.2	111	80-120	
Silver	mg/kg	24.5	27.5	112	80-120	
Zinc	mg/kg	48.9	54.7	112	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 5025510 5025511

Parameter	Units	10702872001	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Spike	Spike								
Arsenic	mg/kg	1.4	49.7	49.8	55.1	54.8	108	107	75-125	1	20	
Barium	mg/kg	38.2	49.7	49.8	99.7	98.6	124	121	75-125	1	20	
Cadmium	mg/kg	0.094	49.7	49.8	52.8	52.7	106	106	75-125	0	20	
Copper	mg/kg	3.2	49.7	49.8	60.0	60.0	114	114	75-125	0	20	
Lead	mg/kg	4.8	49.7	49.8	59.6	59.4	110	110	75-125	0	20	
Nickel	mg/kg	2.7	49.7	49.8	59.5	59.3	114	114	75-125	0	20	
Selenium	mg/kg	ND	49.7	49.8	54.6	54.8	110	110	75-125	0	20	
Silver	mg/kg	ND	24.8	24.9	26.9	27.1	108	109	75-125	1	20	
Zinc	mg/kg	14.0	49.7	49.8	71.2	70.6	115	114	75-125	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: L1763425 WG2336454

Pace Project No.: 10702887

QC Batch: 961509

Analysis Method: EPA 6020B

QC Batch Method: EPA 3050B

Analysis Description: 6020B Solids UPD5

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10702887002

METHOD BLANK: 5025585

Matrix: Solid

Associated Lab Samples: 10702887002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.46	08/15/24 22:37	
Barium	mg/kg	ND	0.28	08/15/24 22:37	
Cadmium	mg/kg	ND	0.074	08/15/24 22:37	
Copper	mg/kg	ND	0.92	08/15/24 22:37	
Lead	mg/kg	ND	0.46	08/15/24 22:37	
Nickel	mg/kg	ND	0.46	08/15/24 22:37	
Selenium	mg/kg	ND	0.46	08/15/24 22:37	
Silver	mg/kg	ND	0.46	08/15/24 22:37	
Zinc	mg/kg	ND	4.6	08/15/24 22:37	

LABORATORY CONTROL SAMPLE: 5025586

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	49.1	53.8	110	80-120	
Barium	mg/kg	49.1	52.3	106	80-120	
Cadmium	mg/kg	49.1	52.6	107	80-120	
Copper	mg/kg	49.1	54.0	110	80-120	
Lead	mg/kg	49.1	51.9	106	80-120	
Nickel	mg/kg	49.1	54.5	111	80-120	
Selenium	mg/kg	49.1	53.2	108	80-120	
Silver	mg/kg	24.6	26.6	108	80-120	
Zinc	mg/kg	49.1	55.6	113	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 5025587 5025588

Parameter	Units	10703099021	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.								
Arsenic	mg/kg	2.3	46.6	46.5	51.6	53.9	106	111	75-125	4	20	
Barium	mg/kg	25.9	46.6	46.5	85.9	90.1	129	138	75-125	5	20	M1
Cadmium	mg/kg	ND	46.6	46.5	49.2	50.8	105	109	75-125	3	20	
Copper	mg/kg	1.8	46.6	46.5	51.2	53.6	106	111	75-125	5	20	
Lead	mg/kg	2.6	46.6	46.5	51.5	53.1	105	109	75-125	3	20	
Nickel	mg/kg	1.9	46.6	46.5	51.3	53.7	106	112	75-125	5	20	
Selenium	mg/kg	ND	46.6	46.5	49.6	52.2	106	112	75-125	5	20	
Silver	mg/kg	ND	23.3	23.3	25.1	25.6	108	110	75-125	2	20	
Zinc	mg/kg	8.7	46.6	46.5	60.9	63.2	112	117	75-125	4	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: L1763425 WG2336454

Pace Project No.: 10702887

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: L1763425 WG2336454
Pace Project No.: 10702887

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10702887001	SP-CS01	EPA 3050B	961503	EPA 6020B	962828
10702887002	WH-B01 @ 7'	EPA 3050B	961509	EPA 6020B	962213

REPORT OF LABORATORY ANALYSIS

Sub-Contract Chain of Custody

Batch Date/Time: 08/05/24 10:53
Sub-Contract Lab: PACEMN
Address: 1700 Elm Street Suite 200
 SE

City/State: Minneapolis, MN 55414

Contact:

Kirsten.Hogberg@pacelabs.com

Owner Lab: PACEMTJL

Address: 12065 Lebanon Rd.

City/State: Mt. Juliet, TN 37122

Phone: (615) 773-9756

Fax: (615) 758-5859

WO: WG2336454

Email: MTJLSuboutTeam@pacelabs.com

Results Due Date: 08/16/24

ESC Purchase Order #: L1763425

Send Reports to: James C Huckaba



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 Phone: (615) 773-9756
 Fax: (615) 758-5859

Sample ID Container ID	Matrix	State	Collect Date	Description	Method	Sample Number Lab Use Only	Sample Comments Lab Use Only
WH-B01 @ 7'	SS	CO	08/02/24 10:00	SUB TABLE 915 INORGANICS	-	1. L1763425-01	Hot Water Soluble Boron, SAR including pH and EC, 6020 Ag, As, Ba, Cd, Cu, Ni, Pb, Se, Zn
SP-CS01	SS	CO	08/02/24 10:10	SUB TABLE 915 INORGANICS	-	2. L1763425-02	Hot Water Soluble Boron, SAR including pH and EC, 6020 Ag, As, Ba, Cd, Cu, Ni, Pb, Se, Zn

*= Container used for multiple Samples and/or Analyses

Relinquished by: [Signature] Date: 8-5-24
 Recieved by: [Signature] Date: 8/16/24 850
 Relinquished by: _____ Date: _____
 Recieved by: _____ Date: _____

WO# : 10702887



ENV-FRM-MIN4-0150 v17 Sample Condition Upon Receipt

CLIENT NAME: Fluor National

PROJECT #:

WO#: 10702887

COURIER: ☐ Client ☐ Commercial ☒ FedEx ☐ Pace
☐ Speedee ☐ UPS ☐ USPS

PM: Y01

Due Date: 08/20/24

CLIENT: PASI-TN

TRACKING NUMBER: 404104735259 ☒ See Exceptions form ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present: ☒ YES ☐ NO Seals Intact: ☒ YES ☐ NO Biological Tissue Frozen: ☐ YES ☐ NO ☒ N/A

Packing Material: ☐ Bubble Bags ☒ Bubble Wrap ☐ None ☐ Other Temp Blank: ☒ YES ☐ NO Type of Ice: ☐ Blue ☐ Dry ☒ Wet

Thermometer: ☐ T1 (0461) ☐ T2 (0436) ☐ T3 (0459) ☐ T4 (0402) ☐ T5 (0178) ☐ T6 (0235) ☐ T7 (0042) ☐ T8 (0775) ☒ T9 (0727) ☐ 01339252 (1710) ☐ Melted ☐ None

Did Samples Originate in West Virginia: ☐ YES ☒ NO

Were All Container Temps taken: ☐ YES ☐ NO ☒ N/A

Correction Factor: None Cooler Temp Read w/Temp Blank: 2.6 °C

Average Corrected Temp (no Temp Blank Only): _____ °C

Cooler Temp Corrected w/Temp Blank: 2.6 °C

NOTE: Temp should be above freezing to 6°C.

☐ See Exceptions Form ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: ☐ N/A - Water Sample/Other (describe):

Initials & Date of Person Examining Contents: MMW 8/7/24

Did Samples originate from one of the following states (check maps) - AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA: ☐ YES ☒ NO

Did samples originate from a foreign source (international, including Hawaii and Puerto Rico): ☐ YES ☒ NO

NOTE: If YES to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

LOCATION (check one): <input type="checkbox"/> DULUTH <input checked="" type="checkbox"/> MINNEAPOLIS <input type="checkbox"/> VIRGINIA	YES	NO	N/A	COMMENT(S)								
Chain of Custody Present and Filled Out?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.								
Chain of Custody Relinquished?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.								
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.								
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4. If Fecal: <input type="checkbox"/> <8 hrs <input type="checkbox"/> >8 hr, <24 hr <input type="checkbox"/> No								
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. <input type="checkbox"/> BOD / cBOD <input type="checkbox"/> Fecal coliform <input type="checkbox"/> Hex Chrom <input type="checkbox"/> HPC <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Ortho Phos <input type="checkbox"/> Total coliform/E. coli <input type="checkbox"/> Other: _____								
Rush Turn Around Time Requested?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6.								
Sufficient Sample Volume?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7. <u>Two containers for sample</u>								
Correct Containers Used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.								
- Pace Containers Used?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>									
Containers Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.								
Field Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10. Is sediment visible in the dissolved container: <input type="checkbox"/> YES <input type="checkbox"/> NO								
Is sufficient information available to reconcile the samples to the COC? NOTE: If ID/Date/Time don't match fill out section 11. Matrix: <input type="checkbox"/> Oil <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Water <input type="checkbox"/> Other	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11. If NO, write ID/Date/Time of container below: <u>Did not receive sample SP-C501</u> <input type="checkbox"/> See Exceptions form ENV-FRM-MIN4-0142								
All containers needing acid/base preservation have been checked? All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , < 2 pH, NaOH > 9 Sulfide, NaOH > 10 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil & Grease, DRO/8015 (water) and Dioxins/PFAS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12. Sample #: <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> Zinc Acetate Positive for Residual Chlorine: <input type="checkbox"/> YES <input type="checkbox"/> NO								
NOTE: If adding preservation to the container, verify with the PM first. Clients may require adding preservative to the field and equipment blanks when this occurs.				pH Paper Lot # <table border="1"> <thead> <tr> <th>Residual Chlorine</th> <th>0-6 Roll</th> <th>0-6 Strip</th> <th>0-14 Strip</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <input type="checkbox"/> See Exceptions form ENV-FRM-MIN4-0142	Residual Chlorine	0-6 Roll	0-6 Strip	0-14 Strip				
Residual Chlorine	0-6 Roll	0-6 Strip	0-14 Strip									
Headspace in Methyl Mercury Container?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.								
Extra labels present on soil VOA or WIDRO containers?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.								
Headspace in VOA Vials (greater than 6mm)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> See Exceptions form ENV-FRM-MIN4-0140								
Trip Blanks Present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.								
Trip Blank Custody Seals Present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Pace Trip Blank Lot # (if purchased): _____								

CLIENT NOTIFICATION / RESOLUTION

FIELD DATA REQUIRED: ☐ YES ☐ NO

Person Contacted:

Date & Time:

Comments / Resolution: Both samples are located and logged in.

Project Manager Review: Yung Ozawa

Date: 8/7/24

NOTE: When there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEQ Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: JMW

Line: 5

Workorder #: _____

No Temp Blank		
Read Temp	Corrected Temp	Average temp

PM Notified of Out of Temp Cooler? <input type="checkbox"/> YES <input type="checkbox"/> NO If yes, indicate who was contacted, date and time. If no, indicate reason why. _____
Multiple Cooler Project? <input type="checkbox"/> YES <input type="checkbox"/> NO

If anything is OVER 6.0°C, you **MUST** document containers in this section HERE



Tracking Number	Temperature
404104735260	4.9
404104735270	1.5
404104735281	3.1

Out of Temp Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples										
Sample ID	Type Of Preserve	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance After Addition?		Initials
								YES	NO	
								<input type="checkbox"/>	<input type="checkbox"/>	
								<input type="checkbox"/>	<input type="checkbox"/>	
								<input type="checkbox"/>	<input type="checkbox"/>	
								<input type="checkbox"/>	<input type="checkbox"/>	
								<input type="checkbox"/>	<input type="checkbox"/>	
								<input type="checkbox"/>	<input type="checkbox"/>	
								<input type="checkbox"/>	<input type="checkbox"/>	
								<input type="checkbox"/>	<input type="checkbox"/>	

Comments:

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

4 of 14