

Civitas - CO

Sample Delivery Group: L1772181
Samples Received: 08/28/2024
Project Number: 24348
Description: Kiyota 4I-35H-0367

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

Entire Report Reviewed By:



Chris Ward
Project Manager

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Pace Analytical National

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¹ Cp
² Tc
³ Ss
⁴ Cn
⁵ Sr
⁶ Qc
⁷ Gl
⁸ Al
⁹ Sc

SAMPLE SUMMARY

FL-B01 @ 3' L1772181-01 Solid

Collected by DT/MX Collected date/time 08/26/24 13:28 Received date/time 08/28/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2355774	1	09/06/24 18:54	09/06/24 18:54	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2353862	1	09/06/24 14:30	09/09/24 01:51	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2357697	1	09/06/24 16:15	09/06/24 18:35	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2357699	1	09/06/24 16:14	09/06/24 18:35	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2355780	1	09/05/24 07:04	09/05/24 13:00	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2355151	1	09/01/24 21:08	09/03/24 11:50	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2354700	1	09/01/24 21:08	09/02/24 05:21	KSD	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2356440	1	09/06/24 15:24	09/07/24 16:43	KKS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2355167	1	09/03/24 16:18	09/04/24 04:21	JCH	Mt. Juliet, TN
Subcontracted Analyses	WG2352818	1	09/10/24 00:00	09/10/24 00:00	-	Minneapolis, MN 55414



FL-B02 @ 8' L1772181-02 Solid

Collected by DT/MX Collected date/time 08/26/24 13:30 Received date/time 08/28/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2355774	1	09/06/24 18:56	09/06/24 18:56	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2353862	1	09/06/24 14:30	09/09/24 02:00	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2357697	1	09/06/24 16:15	09/06/24 18:35	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2357699	1	09/06/24 16:14	09/06/24 18:35	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2355780	1	09/05/24 07:04	09/05/24 12:39	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2355151	1	09/01/24 21:08	09/03/24 12:13	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2354700	1	09/01/24 21:08	09/02/24 05:40	KSD	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2356440	2	09/06/24 15:24	09/07/24 16:56	KKS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2355167	1	09/03/24 16:18	09/04/24 07:14	JCH	Mt. Juliet, TN
Subcontracted Analyses	WG2352818	1	09/10/24 00:00	09/10/24 00:00	-	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.

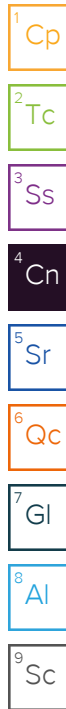


Chris Ward
Project Manager

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.

L1772181 -01, -02 contains subout data that is included after the chain of custody.



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.44		1	09/06/2024 18:54	WG2355774

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/09/2024 01:51	WG2353862

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.90	<u>T8</u>	1	09/06/2024 18:35	WG2357697

Sample Narrative:

L1772181-01 WG2357697: 7.9 at 21.8C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2240		10.0	1	09/06/2024 18:35	WG2357699

Sample Narrative:

L1772181-01 WG2357699: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/05/2024 13:00	WG2355780

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

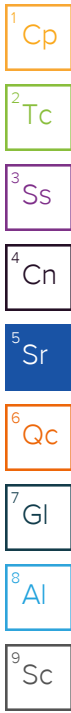
Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/03/2024 11:50	WG2355151
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	99.6			77.0-120	09/03/2024 11:50	WG2355151

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/02/2024 05:21	WG2354700
Toluene	ND		0.00500	1	09/02/2024 05:21	WG2354700
Ethylbenzene	ND		0.00500	1	09/02/2024 05:21	WG2354700
Xylenes, Total	ND		0.0100	1	09/02/2024 05:21	WG2354700
1,2,4-Trimethylbenzene	ND		0.00500	1	09/02/2024 05:21	WG2354700
1,3,5-Trimethylbenzene	ND		0.00500	1	09/02/2024 05:21	WG2354700
(S) Toluene-d8	102			75.0-131	09/02/2024 05:21	WG2354700
(S) 4-Bromofluorobenzene	98.4			67.0-138	09/02/2024 05:21	WG2354700
(S) 1,2-Dichloroethane-d4	95.0			70.0-130	09/02/2024 05:21	WG2354700

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/07/2024 16:43	WG2356440
C28-C36 Motor Oil Range	ND		50.0	1	09/07/2024 16:43	WG2356440



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

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
(S) o-Terphenyl	52.4			18.0-148	09/07/2024 16:43	WG2356440

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

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acenaphthene	ND		0.00500	1	09/04/2024 04:21	WG2355167
Anthracene	ND		0.00500	1	09/04/2024 04:21	WG2355167
Benzo(a)anthracene	ND		0.00500	1	09/04/2024 04:21	WG2355167
Benzo(b)fluoranthene	ND		0.00500	1	09/04/2024 04:21	WG2355167
Benzo(k)fluoranthene	ND		0.00500	1	09/04/2024 04:21	WG2355167
Benzo(a)pyrene	ND		0.00500	1	09/04/2024 04:21	WG2355167
Chrysene	ND		0.00500	1	09/04/2024 04:21	WG2355167
Dibenz(a,h)anthracene	ND		0.00500	1	09/04/2024 04:21	WG2355167
Fluoranthene	ND		0.00500	1	09/04/2024 04:21	WG2355167
Fluorene	ND		0.00500	1	09/04/2024 04:21	WG2355167
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/04/2024 04:21	WG2355167
1-Methylnaphthalene	ND		0.00500	1	09/04/2024 04:21	WG2355167
2-Methylnaphthalene	ND		0.00500	1	09/04/2024 04:21	WG2355167
Naphthalene	ND		0.00408	1	09/04/2024 04:21	WG2355167
Pyrene	ND		0.00500	1	09/04/2024 04:21	WG2355167
(S) p-Terphenyl-d14	90.2			23.0-120	09/04/2024 04:21	WG2355167
(S) Nitrobenzene-d5	105			14.0-149	09/04/2024 04:21	WG2355167
(S) 2-Fluorobiphenyl	86.5			34.0-125	09/04/2024 04:21	WG2355167

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.45		1	09/06/2024 18:56	WG2355774

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/09/2024 02:00	WG2353862

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.17	T8	1	09/06/2024 18:35	WG2357697

Sample Narrative:

L1772181-02 WG2357697: 8.17 at 21.5C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	825		10.0	1	09/06/2024 18:35	WG2357699

Sample Narrative:

L1772181-02 WG2357699: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/05/2024 12:39	WG2355780

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

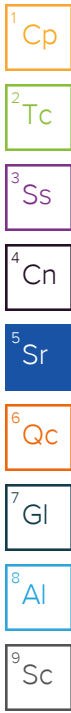
Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/03/2024 12:13	WG2355151
(S) a,a,a-Trifluorotoluene(FID)	98.2			77.0-120	09/03/2024 12:13	WG2355151

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/02/2024 05:40	WG2354700
Toluene	ND		0.00500	1	09/02/2024 05:40	WG2354700
Ethylbenzene	ND		0.00500	1	09/02/2024 05:40	WG2354700
Xylenes, Total	ND		0.0100	1	09/02/2024 05:40	WG2354700
1,2,4-Trimethylbenzene	ND		0.00500	1	09/02/2024 05:40	WG2354700
1,3,5-Trimethylbenzene	ND		0.00500	1	09/02/2024 05:40	WG2354700
(S) Toluene-d8	100			75.0-131	09/02/2024 05:40	WG2354700
(S) 4-Bromofluorobenzene	98.4			67.0-138	09/02/2024 05:40	WG2354700
(S) 1,2-Dichloroethane-d4	100			70.0-130	09/02/2024 05:40	WG2354700

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	2	09/07/2024 16:56	WG2356440
C28-C36 Motor Oil Range	ND		50.0	2	09/07/2024 16:56	WG2356440



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

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
(S) o-Terphenyl	71.8			18.0-148	09/07/2024 16:56	WG2356440

1 Cp

2 Tc

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

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acenaphthene	ND		0.00500	1	09/04/2024 07:14	WG2355167
Anthracene	ND		0.00500	1	09/04/2024 07:14	WG2355167
Benzo(a)anthracene	ND		0.00500	1	09/04/2024 07:14	WG2355167
Benzo(b)fluoranthene	ND		0.00500	1	09/04/2024 07:14	WG2355167
Benzo(k)fluoranthene	ND		0.00500	1	09/04/2024 07:14	WG2355167
Benzo(a)pyrene	ND		0.00500	1	09/04/2024 07:14	WG2355167
Chrysene	ND		0.00500	1	09/04/2024 07:14	WG2355167
Dibenz(a,h)anthracene	ND		0.00500	1	09/04/2024 07:14	WG2355167
Fluoranthene	ND		0.00500	1	09/04/2024 07:14	WG2355167
Fluorene	ND		0.00500	1	09/04/2024 07:14	WG2355167
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/04/2024 07:14	WG2355167
1-Methylnaphthalene	ND		0.00500	1	09/04/2024 07:14	WG2355167
2-Methylnaphthalene	ND		0.00500	1	09/04/2024 07:14	WG2355167
Naphthalene	ND		0.00408	1	09/04/2024 07:14	WG2355167
Pyrene	ND		0.00500	1	09/04/2024 07:14	WG2355167
(S) p-Terphenyl-d14	89.1			23.0-120	09/04/2024 07:14	WG2355167
(S) Nitrobenzene-d5	99.9			14.0-149	09/04/2024 07:14	WG2355167
(S) 2-Fluorobiphenyl	79.8			34.0-125	09/04/2024 07:14	WG2355167

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4117031-1 09/08/24 23:55

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Hexavalent Chromium	ND		0.255	1.00

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1772173-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1772173-08 09/09/24 00:48 • (DUP) R4117031-3 09/09/24 00:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Hexavalent Chromium	ND	ND	1	200	P1	20

L1772186-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1772186-02 09/09/24 02:18 • (DUP) R4117031-4 09/09/24 02:26

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Hexavalent Chromium	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4117031-2 09/09/24 00:03

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Hexavalent Chromium	10.0	10.1	101	80.0-120	

L1772186-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1772186-10 09/09/24 03:56 • (MS) R4117031-6 09/09/24 04:14 • (MSD) R4117031-7 09/09/24 04:23

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Hexavalent Chromium	20.0	ND	18.3	17.8	91.5	88.9	1	75.0-125			2.85	20

L1772186-10 Original Sample (OS) • Matrix Spike (MS)

(OS) L1772186-10 09/09/24 03:56 • (MS) R4117031-8 09/09/24 04:32

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Hexavalent Chromium	631	ND	530	84.0	50	75.0-125	

L1771822-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1771822-02 09/06/24 18:35 • (DUP) R4116685-2 09/06/24 18:35

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
pH	7.80	7.82	1	0.256		1

Sample Narrative:

OS: 7.8 at 21.9C

DUP: 7.82 at 21.9C

Laboratory Control Sample (LCS)

(LCS) R4116685-1 09/06/24 18:35

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

Sample Narrative:

LCS: 10 at 21.9C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4116684-1 09/06/24 18:35

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Specific Conductance	ND		10.0	10.0

Sample Narrative:

BLANK: at 25C

L1771822-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1771822-02 09/06/24 18:35 • (DUP) R4116684-3 09/06/24 18:35

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Specific Conductance	360	364	1	1.10		20

Sample Narrative:

OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4116684-2 09/06/24 18:35

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Specific Conductance	733	728	99.3	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) R4115928-1 09/05/24 12:44

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) R4115928-2 09/05/24 12:46 • (LCSD) R4115928-3 09/05/24 12:48

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	1.03	1.05	103	105	80.0-120			1.74	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4116085-2 09/03/24 10:39

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0503	↓	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	101			77.0-120

Laboratory Control Sample (LCS)

(LCS) R4116085-1 09/03/24 10:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	4.90	98.0	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			109	77.0-120	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4115715-2 09/01/24 22:51

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	99.2			75.0-131
(S) 4-Bromofluorobenzene	99.3			67.0-138
(S) 1,2-Dichloroethane-d4	91.1			70.0-130

Laboratory Control Sample (LCS)

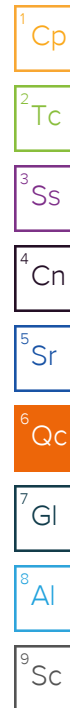
(LCS) R4115715-1 09/01/24 21:34

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.125	100	70.0-123	
Toluene	0.125	0.123	98.4	75.0-121	
Ethylbenzene	0.125	0.136	109	74.0-126	
Xylenes, Total	0.375	0.429	114	72.0-127	
1,2,4-Trimethylbenzene	0.125	0.140	112	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.139	111	73.0-127	
(S) Toluene-d8			93.6	75.0-131	
(S) 4-Bromofluorobenzene			97.1	67.0-138	
(S) 1,2-Dichloroethane-d4			108	70.0-130	

L1771828-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1771828-01 09/02/24 02:09 • (MS) R4115715-3 09/02/24 06:38 • (MSD) R4115715-4 09/02/24 06:57

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 %
Benzene	0.125	ND	0.114	0.126	91.2	101	1	10.0-149			10.0	37
Toluene	0.125	0.0212	0.241	0.250	176	183	1	10.0-156	J5	J5	3.67	38
Ethylbenzene	0.125	ND	0.165	0.170	132	136	1	10.0-160			2.99	38
Xylenes, Total	0.375	0.0984	0.879	0.908	208	216	1	10.0-160	J5	J5	3.25	38
1,2,4-Trimethylbenzene	0.125	0.0209	0.233	0.249	170	182	1	10.0-160	J5	J5	6.64	36
1,3,5-Trimethylbenzene	0.125	0.0293	0.258	0.272	183	194	1	10.0-160	J5	J5	5.28	38
(S) Toluene-d8					100	93.9		75.0-131				
(S) 4-Bromofluorobenzene					103	102		67.0-138				
(S) 1,2-Dichloroethane-d4					94.9	107		70.0-130				



Method Blank (MB)

(MB) R4116878-1 09/07/24 14:28

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
<i>(S) o-Terphenyl</i>	82.1			18.0-148

Laboratory Control Sample (LCS)

(LCS) R4116878-2 09/07/24 14:43

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	36.4	72.8	50.0-150	
<i>(S) o-Terphenyl</i>			77.0	18.0-148	

L1772190-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1772190-03 09/07/24 14:56 • (MS) R4116878-3 09/07/24 15:09 • (MSD) R4116878-4 09/07/24 15:23

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	50.0	ND	ND	ND	52.4	59.4	1	50.0-150			12.5	20
<i>(S) o-Terphenyl</i>					51.1	54.8		18.0-148				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4115390-2 09/04/24 02:20

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	100			23.0-120
(S) Nitrobenzene-d5	102			14.0-149
(S) 2-Fluorobiphenyl	90.2			34.0-125

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4115390-1 09/04/24 02:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0690	86.3	50.0-120	
Anthracene	0.0800	0.0764	95.5	50.0-126	
Benzo(a)anthracene	0.0800	0.0771	96.4	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0821	103	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0792	99.0	49.0-125	
Benzo(a)pyrene	0.0800	0.0704	88.0	42.0-120	
Chrysene	0.0800	0.0791	98.9	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0836	105	47.0-125	
Fluoranthene	0.0800	0.0862	108	49.0-129	
Fluorene	0.0800	0.0801	100	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0808	101	46.0-125	
1-Methylnaphthalene	0.0800	0.0749	93.6	51.0-121	
2-Methylnaphthalene	0.0800	0.0751	93.9	50.0-120	
Naphthalene	0.0800	0.0729	91.1	50.0-120	
Pyrene	0.0800	0.0781	97.6	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4115390-1 09/04/24 02:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			110	23.0-120	
(S) Nitrobenzene-d5			121	14.0-149	
(S) 2-Fluorobiphenyl			109	34.0-125	

L1771109-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1771109-01 09/04/24 07:48 • (MS) R4115390-3 09/04/24 08:06 • (MSD) R4115390-4 09/04/24 08:23

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	0.0776	0.00714	0.0493	0.0563	54.3	62.1	1	14.0-127			13.3	27
Anthracene	0.0776	0.0757	0.106	0.125	39.0	62.2	1	10.0-145			16.5	30
Benzo(a)anthracene	0.0776	0.291	0.256	0.333	0.000	53.0	1	10.0-139	J6		26.1	30
Benzo(b)fluoranthene	0.0776	0.686	0.539	0.833	0.000	186	1	10.0-140	V	J3 V	42.9	36
Benzo(k)fluoranthene	0.0776	0.237	0.205	0.267	0.000	37.9	1	10.0-137	J6		26.3	31
Benzo(a)pyrene	0.0776	0.385	0.309	0.457	0.000	90.9	1	10.0-141	V	J3	38.6	31
Chrysene	0.0776	0.270	0.247	0.309	0.000	49.2	1	10.0-145	J6		22.3	30
Dibenz(a,h)anthracene	0.0776	0.0872	0.103	0.116	20.4	36.4	1	10.0-132			11.9	31
Fluoranthene	0.0776	0.340	0.292	0.333	0.000	0.000	1	10.0-153	V	V	13.1	33
Fluorene	0.0776	ND	0.0620	0.0629	79.9	79.4	1	11.0-130			1.44	29
Indeno(1,2,3-cd)pyrene	0.0776	0.316	0.277	0.315	0.000	0.000	1	10.0-137	V	J6	12.8	32
1-Methylnaphthalene	0.0776	0.0514	0.0892	0.102	48.7	63.9	1	10.0-142			13.4	28
2-Methylnaphthalene	0.0776	0.0600	0.0952	0.100	45.4	50.5	1	10.0-137			4.92	28
Naphthalene	0.0776	0.0419	0.0760	0.0859	43.9	55.6	1	10.0-135			12.2	27
Pyrene	0.0776	0.353	0.285	0.340	0.000	0.000	1	10.0-148	V	V	17.6	35
(S) p-Terphenyl-d14					67.2	56.7		23.0-120				
(S) Nitrobenzene-d5					87.1	97.2		14.0-149				
(S) 2-Fluorobiphenyl					70.2	58.2		34.0-125				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

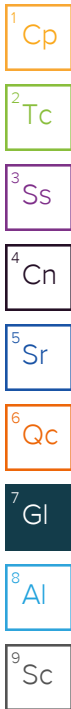
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.



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.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



September 10, 2024

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

RE: Project: L1772181 WG2352818
Pace Project No.: 10706105

Dear Client Services:

Enclosed are the analytical results for sample(s) received by the laboratory on August 30, 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: L1772181 WG2352818

Pace Project No.: 10706105

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: L1772181 WG2352818
Pace Project No.: 10706105

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10706105001	FL-B01 @ 3'	Solid	08/26/24 13:28	08/30/24 08:50
10706105002	FL-B02 @ 8'	Solid	08/26/24 13:30	08/30/24 08:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: L1772181 WG2352818
Pace Project No.: 10706105

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10706105001	FL-B01 @ 3'	EPA 6020B	IMB	9	PASI-M
10706105002	FL-B02 @ 8'	EPA 6020B	IMB	9	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: L1772181 WG2352818

Pace Project No.: 10706105

Sample: FL-B01 @ 3' Lab ID: 10706105001 Collected: 08/26/24 13:28 Received: 08/30/24 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3050B Pace Analytical Services - Minneapolis							
Arsenic	2.9	mg/kg	0.48	0.14	20	09/03/24 14:32	09/09/24 17:27	7440-38-2	
Barium	169	mg/kg	0.29	0.085	20	09/03/24 14:32	09/09/24 17:27	7440-39-3	
Cadmium	0.14	mg/kg	0.078	0.028	20	09/03/24 14:32	09/09/24 17:27	7440-43-9	
Copper	9.9	mg/kg	0.97	0.30	20	09/03/24 14:32	09/09/24 17:27	7440-50-8	
Lead	7.6	mg/kg	0.48	0.17	20	09/03/24 14:32	09/09/24 17:27	7439-92-1	
Nickel	7.8	mg/kg	0.48	0.22	20	09/03/24 14:32	09/09/24 17:27	7440-02-0	
Selenium	0.23J	mg/kg	0.48	0.10	20	09/03/24 14:32	09/09/24 17:27	7782-49-2	
Silver	<0.20	mg/kg	0.48	0.20	20	09/03/24 14:32	09/09/24 17:27	7440-22-4	
Zinc	36.5	mg/kg	4.8	1.4	20	09/03/24 14:32	09/09/24 17:27	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: L1772181 WG2352818

Pace Project No.: 10706105

Sample: **FL-B02 @ 8'** Lab ID: **10706105002** Collected: 08/26/24 13:30 Received: 08/30/24 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3050B Pace Analytical Services - Minneapolis							
Arsenic	6.5	mg/kg	0.46	0.13	20	09/03/24 14:32	09/09/24 17:30	7440-38-2	
Barium	58.0	mg/kg	0.27	0.080	20	09/03/24 14:32	09/09/24 17:30	7440-39-3	
Cadmium	0.14	mg/kg	0.073	0.027	20	09/03/24 14:32	09/09/24 17:30	7440-43-9	
Copper	20.7	mg/kg	0.91	0.28	20	09/03/24 14:32	09/09/24 17:30	7440-50-8	
Lead	14.1	mg/kg	0.46	0.16	20	09/03/24 14:32	09/09/24 17:30	7439-92-1	
Nickel	13.1	mg/kg	0.46	0.21	20	09/03/24 14:32	09/09/24 17:30	7440-02-0	
Selenium	0.31J	mg/kg	0.46	0.096	20	09/03/24 14:32	09/09/24 17:30	7782-49-2	
Silver	<0.19	mg/kg	0.46	0.19	20	09/03/24 14:32	09/09/24 17:30	7440-22-4	
Zinc	61.6	mg/kg	4.6	1.3	20	09/03/24 14:32	09/09/24 17:30	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: L1772181 WG2352818

Pace Project No.: 10706105

QC Batch:	965849	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3050B	Analysis Description:	6020B Solids UPD5
		Laboratory:	Pace Analytical Services - Minneapolis

Associated Lab Samples: 10706105001, 10706105002

METHOD BLANK: 5048203 Matrix: Solid

Associated Lab Samples: 10706105001, 10706105002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/kg	<0.14	0.48	0.14	09/09/24 15:59	
Barium	mg/kg	<0.084	0.29	0.084	09/09/24 15:59	
Cadmium	mg/kg	<0.028	0.076	0.028	09/09/24 15:59	
Copper	mg/kg	<0.29	0.95	0.29	09/09/24 15:59	
Lead	mg/kg	<0.17	0.48	0.17	09/09/24 15:59	
Nickel	mg/kg	<0.22	0.48	0.22	09/09/24 15:59	
Selenium	mg/kg	<0.10	0.48	0.10	09/09/24 15:59	
Silver	mg/kg	<0.19	0.48	0.19	09/09/24 15:59	
Zinc	mg/kg	<1.4	4.8	1.4	09/09/24 15:59	

LABORATORY CONTROL SAMPLE: 5048204

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	46.7	45.3	97	80-120	
Barium	mg/kg	46.7	43.9	94	80-120	
Cadmium	mg/kg	46.7	45.5	97	80-120	
Copper	mg/kg	46.7	47.4	102	80-120	
Lead	mg/kg	46.7	46.4	99	80-120	
Nickel	mg/kg	46.7	47.7	102	80-120	
Selenium	mg/kg	46.7	43.4	93	80-120	
Silver	mg/kg	23.4	23.7	102	80-120	
Zinc	mg/kg	46.7	47.3	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 5048205 5048206

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		10706102001 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
Arsenic	mg/kg	16.2	49	49.9	53.4	67.2	76	102	75-125	23	20	R1
Barium	mg/kg	50.5	49	49.9	148	110	199	120	75-125	29	20	M1, R1
Cadmium	mg/kg	0.37	49	49.9	47.0	49.6	95	99	75-125	5	20	
Copper	mg/kg	22.0	49	49.9	67.2	70.3	92	97	75-125	5	20	
Lead	mg/kg	24.1	49	49.9	68.0	79.2	90	110	75-125	15	20	
Nickel	mg/kg	24.3	49	49.9	70.7	72.5	95	97	75-125	2	20	
Selenium	mg/kg	0.62	49	49.9	44.3	47.0	89	93	75-125	6	20	
Silver	mg/kg	<0.19	24.5	24.9	24.2	25.5	99	102	75-125	5	20	
Zinc	mg/kg	143	49	49.9	166	187	46	87	75-125	12	20	M1

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: L1772181 WG2352818

Pace Project No.: 10706105

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.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: L1772181 WG2352818
Pace Project No.: 10706105

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10706105001	FL-B01 @ 3'	EPA 3050B	965849	EPA 6020B	966124
10706105002	FL-B02 @ 8'	EPA 3050B	965849	EPA 6020B	966124

REPORT OF LABORATORY ANALYSIS

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Sub-Contract Chain of Custody

Batch Date/Time: 08/29/24 10:43
Sub-Contract Lab: PACEMN
Address: 1700 Elm Street Suite 200
 SE
City/State: Minneapolis, MN 55414
Contact: tong.lee@pacelabs.com
Owner Lab: PACEMTJL
Address: 12065 Lebanon Rd.
City/State: Mt. Juliet, TN 37122
Phone: (615) 773-9756
Fax: (615) 758-5859

WO: WG2352818
Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 09/11/24
ESC Purchase Order #: L1772181
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
FL-B01 @ 3'	SS	CO	08/26/24 13:28	Metals	-	1. L1772181-01	6020 Ag,As,Ba,Cd,Cu,Ni,Pb,Se,Zn; MDL/RDL reporting
FL-B02 @ 8'	SS	CO	08/26/24 13:30	Metals	-	2. L1772181-02	6020 Ag,As,Ba,Cd,Cu,Ni,Pb,Se,Zn; MDL/RDL reporting

*= Container used for multiple Samples and/or Analyses

Relinquished by: _____ Date 8-29-24
 Recieved by: Paul/PACE Date 8/30/24 850
 Relinquished by: _____ Date _____
 Recieved by: _____ Date _____

No Ice

19.2°C

WO# : 10706105



10706105

ENV-FRM-MIN4-0150 v17_Sample Condition Upon Receipt

CLIENT NAME: Pace National

PROJECT #:

WO# : 10706105

COURIER: Client Commercial FedEx Pace
 Speedee UPS USPS

PM: Y01 Due Date: 09/16/24
 CLIENT: PASI-TN

TRACKING NUMBER: 4041 0478 9123 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: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Were All Container Temps taken: <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A
Correction Factor: <u>-0.2</u> Cooler Temp Read w/Temp Blank: _____ °C	Average Corrected Temp (no Temp Blank Only): <u>19.2</u> °C
Cooler Temp Corrected w/Temp Blank: _____ °C	<input checked="" type="checkbox"/> See Exceptions Form ENV-FRM-MIN4-0142 <input type="checkbox"/> 1 Container

USDA Regulated Soil: <input type="checkbox"/> N/A - Water Sample/Other (describe): _____	Initials & Date of Person Examining Contents: <u>HB 8/30/24</u>
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: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Did samples originate from a foreign source (international, including Hawaii and Puerto Rico): <input type="checkbox"/> YES <input checked="" type="checkbox"/> 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"/>		1.												
Chain of Custody Relinquished?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		2.												
Sampler Name and/or Signature on COC?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3.												
Samples Arrived within Hold Time?	<input checked="" 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"/>		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"/>		6.												
Sufficient Sample Volume?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		7.												
Correct Containers Used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.												
- Pace Containers Used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>														
Containers Intact?	<input checked="" 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"/>		11. If NO, write ID/Date/Time of container below: <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.				<table border="1"> <thead> <tr> <th colspan="4">pH Paper Lot #</th> </tr> <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	pH Paper Lot #				Residual Chlorine	0-6 Roll	0-6 Strip	0-14 Strip				
pH Paper Lot #																
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? Headspace in VOA Vials (greater than 6mm)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14. <input type="checkbox"/> See Exceptions form ENV-FRM-MIN4-0140												
Trip Blanks Present? Trip Blank Custody Seals Present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15. Pace Trip Blank Lot # (if purchased): _____												

CLIENT NOTIFICATION / RESOLUTION

FIELD DATA REQUIRED: YES NO

Person Contacted: _____ Date & Time: _____

Comments / Resolution: _____

Project Manager Review: Yeng Ozawa Date: 8/30/24

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: HB Line: (3)

Workorder #: _____

No Temp Blank		
Read Temp	Corrected Temp	Average temp
19.3	19.0	19.2
19.5	19.2	
19.9	19.6	
19.3	19.0	

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

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



Tracking Number	Temperature

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:
