

QB Energy

Sample Delivery Group: L1791877
Samples Received: 10/23/2024
Project Number:
Description: DCU2 Tank Removal

Report To: Jake J. / Brett M. / Blair R. / Andy V.
143 Diamond Avenue
Parachute, CO 81635

Entire Report Reviewed By:



Chris Ward
Project Manager

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¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

SAMPLE SUMMARY

20241022-DCU2-(FC-T)@0.5 L1791877-01 Solid

Collected by: Nora Oviatt
 Collected date/time: 10/22/24 11:45
 Received date/time: 10/23/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2391527	1	11/03/24 14:10	11/03/24 14:10	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2389292	1	10/25/24 17:39	10/29/24 01:15	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2394884	1	11/04/24 07:51	11/04/24 09:35	BRT	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2394888	1	11/04/24 07:58	11/04/24 11:43	BJM	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2391532	1	10/30/24 15:16	10/31/24 18:23	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2388942	5	10/31/24 07:53	11/01/24 13:35	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2390591	1	10/25/24 09:13	10/28/24 06:13	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2390767	1	10/25/24 09:13	10/28/24 09:29	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2391995	1	10/30/24 09:40	10/30/24 19:43	KDB	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2391607	1	10/29/24 17:29	10/30/24 15:07	MKM	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

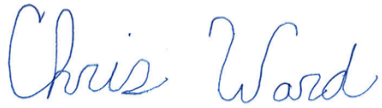
20241022-DCU2-(FC-T02)@0.5 L1791877-02 Solid

Collected by: Nora Oviatt
 Collected date/time: 10/22/24 12:05
 Received date/time: 10/23/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2391527	1	11/03/24 14:13	11/03/24 14:13	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2389292	1	10/25/24 17:39	10/29/24 01:26	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2394884	1	11/04/24 07:51	11/04/24 09:35	BRT	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2394888	1	11/04/24 07:58	11/04/24 11:43	BJM	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2391532	1	10/30/24 15:16	10/31/24 18:26	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2388942	5	10/31/24 07:53	11/01/24 13:39	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2390591	1	10/25/24 09:13	10/28/24 06:36	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2390767	1	10/25/24 09:13	10/28/24 09:48	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2391995	1	10/30/24 09:40	10/30/24 19:14	KDB	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2391607	1	10/29/24 17:29	10/30/24 15:24	MKM	Mt. Juliet, TN

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

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	0.728		1	11/03/2024 14:10	WG2391527

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	10/29/2024 01:15	WG2389292

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.90	<u>T8</u>	1	11/04/2024 09:35	WG2394884

Sample Narrative:

L1791877-01 WG2394884: 7.9 at 20C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	454	umhos/cm		10.0	1	11/04/2024 11:43	WG2394888

Sample Narrative:

L1791877-01 WG2394888: at 25C

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

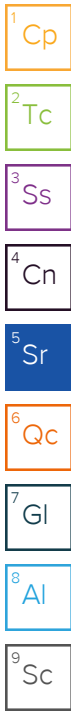
Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.294		0.0167	0.200	1	10/31/2024 18:23	WG2391532

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.45		0.100	1.00	5	11/01/2024 13:35	WG2388942
Barium	158		0.152	2.50	5	11/01/2024 13:35	WG2388942
Cadmium	0.241	<u>J</u>	0.0855	1.00	5	11/01/2024 13:35	WG2388942
Copper	20.8		0.132	5.00	5	11/01/2024 13:35	WG2388942
Lead	21.4		0.0990	2.00	5	11/01/2024 13:35	WG2388942
Nickel	19.3		0.197	2.50	5	11/01/2024 13:35	WG2388942
Selenium	0.456	<u>J</u>	0.180	2.50	5	11/01/2024 13:35	WG2388942
Silver	U		0.0865	0.500	5	11/01/2024 13:35	WG2388942
Zinc	64.1		0.740	25.0	5	11/01/2024 13:35	WG2388942

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0286	<u>J</u>	0.0217	0.100	1	10/28/2024 06:13	WG2390591
(S) a,a,a-Trifluorotoluene(FID)	97.4			77.0-120		10/28/2024 06:13	WG2390591



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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	10/28/2024 09:29	WG2390767
Toluene	U		0.00130	0.00500	1	10/28/2024 09:29	WG2390767
Ethylbenzene	U		0.000737	0.00250	1	10/28/2024 09:29	WG2390767
Xylenes, Total	U		0.000880	0.00650	1	10/28/2024 09:29	WG2390767
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/28/2024 09:29	WG2390767
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/28/2024 09:29	WG2390767
(S) Toluene-d8	101			75.0-131		10/28/2024 09:29	WG2390767
(S) 4-Bromofluorobenzene	98.7			67.0-138		10/28/2024 09:29	WG2390767
(S) 1,2-Dichloroethane-d4	101			70.0-130		10/28/2024 09:29	WG2390767

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	16.2		1.61	4.00	1	10/30/2024 19:43	WG2391995
C28-C36 Motor Oil Range	26.2		0.274	4.00	1	10/30/2024 19:43	WG2391995
(S) o-Terphenyl	82.5			18.0-148		10/30/2024 19:43	WG2391995

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.00209	0.00600	1	10/30/2024 15:07	WG2391607
Anthracene	U		0.00230	0.00600	1	10/30/2024 15:07	WG2391607
Benzo(a)anthracene	U		0.00173	0.00600	1	10/30/2024 15:07	WG2391607
Benzo(b)fluoranthene	U		0.00153	0.00600	1	10/30/2024 15:07	WG2391607
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/30/2024 15:07	WG2391607
Benzo(a)pyrene	U		0.00179	0.00600	1	10/30/2024 15:07	WG2391607
Chrysene	U		0.00232	0.00600	1	10/30/2024 15:07	WG2391607
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	10/30/2024 15:07	WG2391607
Fluoranthene	U		0.00227	0.00600	1	10/30/2024 15:07	WG2391607
Fluorene	U		0.00205	0.00600	1	10/30/2024 15:07	WG2391607
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	10/30/2024 15:07	WG2391607
1-Methylnaphthalene	0.00605	U	0.00449	0.0200	1	10/30/2024 15:07	WG2391607
2-Methylnaphthalene	0.0122	U	0.00427	0.0200	1	10/30/2024 15:07	WG2391607
Naphthalene	0.00558	U	0.00408	0.0200	1	10/30/2024 15:07	WG2391607
Pyrene	U		0.00200	0.00600	1	10/30/2024 15:07	WG2391607
(S) p-Terphenyl-d14	57.2			23.0-120		10/30/2024 15:07	WG2391607
(S) Nitrobenzene-d5	65.9			14.0-149		10/30/2024 15:07	WG2391607
(S) 2-Fluorobiphenyl	58.5			34.0-125		10/30/2024 15:07	WG2391607

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	1.79		1	11/03/2024 14:13	WG2391527

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	10/29/2024 01:26	WG2389292

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.04	<u>T8</u>	1	11/04/2024 09:35	WG2394884

Sample Narrative:

L1791877-02 WG2394884: 8.04 at 20C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	531	umhos/cm		10.0	1	11/04/2024 11:43	WG2394888

Sample Narrative:

L1791877-02 WG2394888: at 25C

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

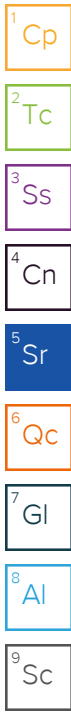
Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.133	<u>J</u>	0.0167	0.200	1	10/31/2024 18:26	WG2391532

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.26		0.100	1.00	5	11/01/2024 13:39	WG2388942
Barium	136		0.152	2.50	5	11/01/2024 13:39	WG2388942
Cadmium	0.0879	<u>J</u>	0.0855	1.00	5	11/01/2024 13:39	WG2388942
Copper	4.61	<u>J</u>	0.132	5.00	5	11/01/2024 13:39	WG2388942
Lead	4.32		0.0990	2.00	5	11/01/2024 13:39	WG2388942
Nickel	5.69		0.197	2.50	5	11/01/2024 13:39	WG2388942
Selenium	0.310	<u>J</u>	0.180	2.50	5	11/01/2024 13:39	WG2388942
Silver	U		0.0865	0.500	5	11/01/2024 13:39	WG2388942
Zinc	22.1	<u>J</u>	0.740	25.0	5	11/01/2024 13:39	WG2388942

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0409	<u>J</u>	0.0217	0.100	1	10/28/2024 06:36	WG2390591
(S) a,a,a-Trifluorotoluene(FID)	97.4			77.0-120		10/28/2024 06:36	WG2390591



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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	10/28/2024 09:48	WG2390767
Toluene	U		0.00130	0.00500	1	10/28/2024 09:48	WG2390767
Ethylbenzene	U		0.000737	0.00250	1	10/28/2024 09:48	WG2390767
Xylenes, Total	U		0.000880	0.00650	1	10/28/2024 09:48	WG2390767
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/28/2024 09:48	WG2390767
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/28/2024 09:48	WG2390767
(S) Toluene-d8	99.7			75.0-131		10/28/2024 09:48	WG2390767
(S) 4-Bromofluorobenzene	102			67.0-138		10/28/2024 09:48	WG2390767
(S) 1,2-Dichloroethane-d4	99.1			70.0-130		10/28/2024 09:48	WG2390767

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		1.61	4.00	1	10/30/2024 19:14	WG2391995
C28-C36 Motor Oil Range	6.14		0.274	4.00	1	10/30/2024 19:14	WG2391995
(S) o-Terphenyl	78.1			18.0-148		10/30/2024 19:14	WG2391995

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.00209	0.00600	1	10/30/2024 15:24	WG2391607
Anthracene	U		0.00230	0.00600	1	10/30/2024 15:24	WG2391607
Benzo(a)anthracene	U		0.00173	0.00600	1	10/30/2024 15:24	WG2391607
Benzo(b)fluoranthene	U		0.00153	0.00600	1	10/30/2024 15:24	WG2391607
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/30/2024 15:24	WG2391607
Benzo(a)pyrene	U		0.00179	0.00600	1	10/30/2024 15:24	WG2391607
Chrysene	U		0.00232	0.00600	1	10/30/2024 15:24	WG2391607
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	10/30/2024 15:24	WG2391607
Fluoranthene	U		0.00227	0.00600	1	10/30/2024 15:24	WG2391607
Fluorene	U		0.00205	0.00600	1	10/30/2024 15:24	WG2391607
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	10/30/2024 15:24	WG2391607
1-Methylnaphthalene	U		0.00449	0.0200	1	10/30/2024 15:24	WG2391607
2-Methylnaphthalene	U		0.00427	0.0200	1	10/30/2024 15:24	WG2391607
Naphthalene	U		0.00408	0.0200	1	10/30/2024 15:24	WG2391607
Pyrene	U		0.00200	0.00600	1	10/30/2024 15:24	WG2391607
(S) p-Terphenyl-d14	82.5			23.0-120		10/30/2024 15:24	WG2391607
(S) Nitrobenzene-d5	68.5			14.0-149		10/30/2024 15:24	WG2391607
(S) 2-Fluorobiphenyl	76.9			34.0-125		10/30/2024 15:24	WG2391607

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4138778-1 10/29/24 00:55

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1791877-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1791877-02 10/29/24 01:26 • (DUP) R4138778-3 10/29/24 01:36

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

L1792271-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1792271-04 10/29/24 05:59 • (DUP) R4138778-8 10/29/24 06:09

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

Laboratory Control Sample (LCS)

(LCS) R4138778-2 10/29/24 01:05

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Hexavalent Chromium	10.0	10.2	102	80.0-120	

L1792271-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1792271-01 10/29/24 04:24 • (MS) R4138778-5 10/29/24 05:06 • (MSD) R4138778-6 10/29/24 05:17

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	U	1.65	1.22	8.23	6.09	1	75.0-125	<u>J6</u>	<u>J3 J6</u>	29.9	20

L1792271-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1792271-01 10/29/24 04:24 • (MS) R4138778-7 10/29/24 05:27

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Hexavalent Chromium	631	U	412	65.3	50	75.0-125	<u>J6</u>

L1791867-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1791867-01 11/04/24 09:35 • (DUP) R4141519-2 11/04/24 09:35

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.85	7.86	1	0.127		1

Sample Narrative:

OS: 7.85 at 20.2C
 DUP: 7.86 at 20.3C

L1792779-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1792779-01 11/04/24 09:35 • (DUP) R4141519-3 11/04/24 09:35

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.75	7.80	1	0.643		1

Sample Narrative:

OS: 7.75 at 19.9C
 DUP: 7.8 at 20.3C

Laboratory Control Sample (LCS)

(LCS) R4141519-1 11/04/24 09:35

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

Sample Narrative:

LCS: 10.01 at 20C



Method Blank (MB)

(MB) R4141583-1 11/04/24 11:43

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

Sample Narrative:

BLANK: at 25C

L1791877-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1791877-01 11/04/24 11:43 • (DUP) R4141583-3 11/04/24 11:43

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Specific Conductance	454	452	1	0.442		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1792284-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1792284-02 11/04/24 11:43 • (DUP) R4141583-4 11/04/24 11:43

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Specific Conductance	265	265	1	0.226		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4141583-2 11/04/24 11:43

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	754	103	85.0-115	

Sample Narrative:

LCS: at 25C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4140537-1 10/31/24 18:12

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

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

(LCS) R4140537-2 10/31/24 18:15 • (LCSD) R4140537-3 10/31/24 18:18

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	1.07	1.07	107	107	80.0-120			0.283	20

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

Method Blank (MB)

(MB) R4140819-1 11/01/24 14:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Barium	U		0.152	2.50
Cadmium	U		0.0855	1.00
Copper	0.161	U	0.133	5.00
Lead	U		0.0990	2.00
Nickel	U		0.197	2.50
Selenium	U		0.180	2.50
Silver	U		0.0865	0.500
Zinc	U		0.740	25.0

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

Laboratory Control Sample (LCS)

(LCS) R4140819-2 11/01/24 14:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	90.3	90.3	80.0-120	
Barium	100	91.7	91.7	80.0-120	
Cadmium	100	86.3	86.3	80.0-120	
Copper	100	86.2	86.2	80.0-120	
Lead	100	87.3	87.3	80.0-120	
Nickel	100	92.5	92.5	80.0-120	
Selenium	100	88.7	88.7	80.0-120	
Silver	20.0	18.2	91.1	80.0-120	
Zinc	100	90.5	90.5	80.0-120	

⁷Gl

⁸Al

⁹Sc

L1791925-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1791925-01 11/01/24 14:09 • (MS) R4140819-5 11/01/24 14:19

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Arsenic	99.8	9.34	115	106	5	75.0-125	
Barium	99.8	51.8	151	99.1	5	75.0-125	
Cadmium	99.8	U	101	101	5	75.0-125	
Copper	99.8	30.1	114	84.2	5	75.0-125	
Lead	99.8	8.44	105	96.2	5	75.0-125	
Nickel	99.8	3.13	112	109	5	75.0-125	
Selenium	99.8	0.573	102	101	5	75.0-125	
Silver	20.0	1.62	22.6	105	5	75.0-125	
Zinc	99.8	29.6	123	93.2	5	75.0-125	

Method Blank (MB)

(MB) R4139602-3 10/27/24 21:39

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
^(S) a,a,a-Trifluorotoluene(FID)	100			77.0-120

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

(LCS) R4139602-1 10/27/24 20:25 • (LCSD) R4139602-2 10/27/24 20:49

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 %
TPH (GC/FID) Low Fraction	5.00	5.65	4.98	113	99.6	72.0-127			12.6	20
^(S) a,a,a-Trifluorotoluene(FID)				104	104	77.0-120				

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4139913-2 10/28/24 08:11

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
Benzene	U		0.000467	0.00100
Toluene	U		0.00130	0.00500
Ethylbenzene	U		0.000737	0.00250
Xylenes, Total	U		0.000880	0.00650
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	99.7			75.0-131
(S) 4-Bromofluorobenzene	99.6			67.0-138
(S) 1,2-Dichloroethane-d4	95.4			70.0-130

Laboratory Control Sample (LCS)

(LCS) R4139913-1 10/28/24 06:54

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/kg	mg/kg	%	%	
Benzene	0.125	0.109	87.2	70.0-123	
Toluene	0.125	0.105	84.0	75.0-121	
Ethylbenzene	0.125	0.104	83.2	74.0-126	
Xylenes, Total	0.375	0.315	84.0	72.0-127	
1,2,4-Trimethylbenzene	0.125	0.103	82.4	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.102	81.6	73.0-127	
(S) Toluene-d8			96.6	75.0-131	
(S) 4-Bromofluorobenzene			97.2	67.0-138	
(S) 1,2-Dichloroethane-d4			106	70.0-130	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4139953-1 10/30/24 16:39

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	75.5			18.0-148

Laboratory Control Sample (LCS)

(LCS) R4139953-2 10/30/24 16:53

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/kg	mg/kg	%	%	
C10-C28 Diesel Range	50.0	40.3	80.6	50.0-150	
(S) o-Terphenyl			79.7	18.0-148	

L1791876-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1791876-02 10/30/24 21:07 • (MS) R4139953-3 10/30/24 21:21 • (MSD) R4139953-4 10/30/24 21:35

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
C10-C28 Diesel Range	49.3	419	250	519	0.000	202	100	50.0-150	<u>JV</u>	<u>J3 V</u>	70.0	20
(S) o-Terphenyl					61.7	92.2		18.0-148	<u>J7</u>	<u>J7</u>		

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4141248-2 10/30/24 09:33

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	U		0.00209	0.00600
Anthracene	U		0.00230	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
Naphthalene	U		0.00408	0.0200
Pyrene	U		0.00200	0.00600
(S) p-Terphenyl-d14	81.4			23.0-120
(S) Nitrobenzene-d5	79.5			14.0-149
(S) 2-Fluorobiphenyl	79.4			34.0-125

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4141248-1 10/30/24 09:16

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0494	61.8	50.0-120	
Anthracene	0.0800	0.0489	61.1	50.0-126	
Benzo(a)anthracene	0.0800	0.0491	61.4	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0503	62.9	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0488	61.0	49.0-125	
Benzo(a)pyrene	0.0800	0.0378	47.3	42.0-120	
Chrysene	0.0800	0.0525	65.6	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0492	61.5	47.0-125	
Fluoranthene	0.0800	0.0535	66.9	49.0-129	
Fluorene	0.0800	0.0531	66.4	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0494	61.8	46.0-125	
1-Methylnaphthalene	0.0800	0.0531	66.4	51.0-121	
2-Methylnaphthalene	0.0800	0.0504	63.0	50.0-120	
Naphthalene	0.0800	0.0503	62.9	50.0-120	
Pyrene	0.0800	0.0557	69.6	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4141248-1 10/30/24 09:16

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			81.8	23.0-120	
(S) Nitrobenzene-d5			85.1	14.0-149	
(S) 2-Fluorobiphenyl			80.5	34.0-125	

L1791860-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1791860-04 10/30/24 11:18 • (MS) R4141248-3 10/30/24 11:36 • (MSD) R4141248-4 10/30/24 11:53

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	0.0772	U	0.0433	0.0461	56.1	59.1	1	14.0-127			6.26	27
Anthracene	0.0772	U	0.0438	0.0441	56.7	56.5	1	10.0-145			0.683	30
Benzo(a)anthracene	0.0772	U	0.0409	0.0440	53.0	56.4	1	10.0-139			7.30	30
Benzo(b)fluoranthene	0.0772	U	0.0470	0.0482	60.9	61.8	1	10.0-140			2.52	36
Benzo(k)fluoranthene	0.0772	U	0.0417	0.0461	54.0	59.1	1	10.0-137			10.0	31
Benzo(a)pyrene	0.0772	U	0.0420	0.0454	54.4	58.2	1	10.0-141			7.78	31
Chrysene	0.0772	U	0.0462	0.0498	59.8	63.8	1	10.0-145			7.50	30
Dibenz(a,h)anthracene	0.0772	U	0.0415	0.0445	53.8	57.1	1	10.0-132			6.98	31
Fluoranthene	0.0772	U	0.0469	0.0491	60.8	62.9	1	10.0-153			4.58	33
Fluorene	0.0772	U	0.0462	0.0486	59.8	62.3	1	11.0-130			5.06	29
Indeno(1,2,3-cd)pyrene	0.0772	U	0.0414	0.0455	53.6	58.3	1	10.0-137			9.44	32
1-Methylnaphthalene	0.0772	U	0.0482	0.0493	62.4	63.2	1	10.0-142			2.26	28
2-Methylnaphthalene	0.0772	U	0.0458	0.0454	59.3	58.2	1	10.0-137			0.877	28
Naphthalene	0.0772	U	0.0455	0.0462	58.9	59.2	1	10.0-135			1.53	27
Pyrene	0.0772	U	0.0500	0.0537	64.8	68.8	1	10.0-148			7.14	35
(S) p-Terphenyl-d14					74.8	73.6		23.0-120				
(S) Nitrobenzene-d5					72.0	69.0		14.0-149				
(S) 2-Fluorobiphenyl					74.4	72.9		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

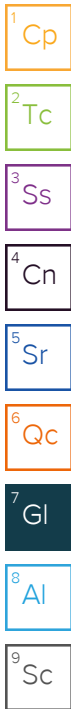
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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.
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.
U	Not detected at the Reporting Limit (or MDL where applicable).
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.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
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

