

QB Energy

Sample Delivery Group: L1797799
Samples Received: 11/08/2024
Project Number:
Description: OP33 Facility Decommissioning
Site: OP33
Report To: Jake J. / Brett M. / Blair R. / Andy V.
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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

20241107-OP33-(FC-WH-KEINATH 33-9)@10 L1797799-01 Solid				Collected by Trevor Lakin	Collected date/time 11/07/24 11:19	Received date/time 11/08/24 09:00	1 Cp
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location	2 Tc
Calculated Results	WG2402905	1	11/18/24 21:41	11/18/24 21:41	MAP	Mt. Juliet, TN	3 Ss
Wet Chemistry by Method 7199	WG2398011	1	11/10/24 16:23	11/11/24 10:47	EKB	Mt. Juliet, TN	4 Cn
Wet Chemistry by Method 9045D	WG2404159	1	11/19/24 09:42	11/19/24 12:15	BJM	Mt. Juliet, TN	5 Sr
Wet Chemistry by Method 9050AMod	WG2404260	1	11/19/24 09:46	11/19/24 16:00	BRT	Mt. Juliet, TN	6 Qc
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2402909	1	11/17/24 12:22	11/18/24 08:26	DJS	Mt. Juliet, TN	7 Gl
Metals (ICPMS) by Method 6020	WG2400143	25	11/14/24 08:18	11/14/24 16:10	JPD	Mt. Juliet, TN	8 Al
Metals (ICPMS) by Method 6020	WG2400143	5	11/14/24 08:18	11/14/24 14:57	JPD	Mt. Juliet, TN	9 Sc
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2400502	1	11/12/24 14:56	11/13/24 21:16	CDD	Mt. Juliet, TN	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2402560	1	11/12/24 14:56	11/15/24 21:15	JHH	Mt. Juliet, TN	
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2399423	1	11/12/24 06:00	11/12/24 15:28	SGB	Mt. Juliet, TN	
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2398978	1	11/10/24 17:21	11/11/24 18:08	JCH	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



Calculated Results

	Result	Qualifier	Dilution	Analysis date / time	Batch
Analyte	SAR				
Sodium Adsorption Ratio	1.34		1	11/18/2024 21:41	WG2402905

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Wet Chemistry by Method 7199

	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg	mg/kg			
Hexavalent Chromium	U		0.255	1.00	1	11/11/2024 10:47	WG2398011

Wet Chemistry by Method 9045D

	Result	Qualifier	Dilution	Analysis date / time	Batch
Analyte	pH				
pH	8.37	T8	1	11/19/2024 12:15	WG2404159

Sample Narrative:

L1797799-01 WG2404159: 8.37 at 21.1C

Wet Chemistry by Method 9050AMod

	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Analyte							
Specific Conductance	1140	umhos/cm		10.0	1	11/19/2024 16:00	WG2404260

Sample Narrative:

L1797799-01 WG2404260: at 25C

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

	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l			
Hot Water Sol. Boron	0.130	J	0.0167	0.200	1	11/18/2024 08:26	WG2402909

Metals (ICPMS) by Method 6020

	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg	mg/kg			
Arsenic	4.26		0.100	1.00	5	11/14/2024 14:57	WG2400143
Barium	371		0.760	12.5	25	11/14/2024 16:10	WG2400143
Cadmium	0.257	J	0.0855	1.00	5	11/14/2024 14:57	WG2400143
Copper	12.3		0.132	5.00	5	11/14/2024 14:57	WG2400143
Lead	12.6		0.0990	2.00	5	11/14/2024 14:57	WG2400143
Nickel	12.8		0.197	2.50	5	11/14/2024 14:57	WG2400143
Selenium	0.888	J	0.180	2.50	5	11/14/2024 14:57	WG2400143
Silver	U		0.0865	0.500	5	11/14/2024 14:57	WG2400143
Zinc	49.2		0.740	25.0	5	11/14/2024 14:57	WG2400143

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

	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg	mg/kg			
TPH (GC/FID) Low Fraction	0.0793	B J	0.0217	0.100	1	11/13/2024 21:16	WG2400502
(S) a,a,a-Trifluorotoluene(FID)	99.8			77.0-120		11/13/2024 21:16	WG2400502

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	11/15/2024 21:15	WG2402560
Toluene	U		0.00130	0.00500	1	11/15/2024 21:15	WG2402560
Ethylbenzene	U		0.000737	0.00250	1	11/15/2024 21:15	WG2402560
Xylenes, Total	U		0.000880	0.00650	1	11/15/2024 21:15	WG2402560
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	11/15/2024 21:15	WG2402560
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	11/15/2024 21:15	WG2402560
(S) Toluene-d8	107			75.0-131		11/15/2024 21:15	WG2402560
(S) 4-Bromofluorobenzene	84.2			67.0-138		11/15/2024 21:15	WG2402560
(S) 1,2-Dichloroethane-d4	82.5			70.0-130		11/15/2024 21:15	WG2402560

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	8.18		1.61	4.00	1	11/12/2024 15:28	WG2399423
C28-C36 Motor Oil Range	25.5		0.274	4.00	1	11/12/2024 15:28	WG2399423
(S) o-Terphenyl	45.5			18.0-148		11/12/2024 15:28	WG2399423

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	11/11/2024 18:08	WG2398978
Anthracene	U		0.00230	0.00600	1	11/11/2024 18:08	WG2398978
Benzo(a)anthracene	U		0.00173	0.00600	1	11/11/2024 18:08	WG2398978
Benzo(b)fluoranthene	U		0.00153	0.00600	1	11/11/2024 18:08	WG2398978
Benzo(k)fluoranthene	U		0.00215	0.00600	1	11/11/2024 18:08	WG2398978
Benzo(a)pyrene	U		0.00179	0.00600	1	11/11/2024 18:08	WG2398978
Chrysene	U		0.00232	0.00600	1	11/11/2024 18:08	WG2398978
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	11/11/2024 18:08	WG2398978
Fluoranthene	U		0.00227	0.00600	1	11/11/2024 18:08	WG2398978
Fluorene	U		0.00205	0.00600	1	11/11/2024 18:08	WG2398978
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	11/11/2024 18:08	WG2398978
1-Methylnaphthalene	U		0.00449	0.0200	1	11/11/2024 18:08	WG2398978
2-Methylnaphthalene	0.00838	U	0.00427	0.0200	1	11/11/2024 18:08	WG2398978
Naphthalene	U		0.00408	0.0200	1	11/11/2024 18:08	WG2398978
Pyrene	U		0.00200	0.00600	1	11/11/2024 18:08	WG2398978
(S) p-Terphenyl-d14	90.7			23.0-120		11/11/2024 18:08	WG2398978
(S) Nitrobenzene-d5	79.9			14.0-149		11/11/2024 18:08	WG2398978
(S) 2-Fluorobiphenyl	84.0			34.0-125		11/11/2024 18:08	WG2398978

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4144500-1 11/11/24 05:23

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

L1797109-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1797109-02 11/11/24 06:14 • (DUP) R4144500-3 11/11/24 06:25

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Hexavalent Chromium	0.530	0.505	1	4.78	⌵	20

L1797362-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1797362-01 11/11/24 08:20 • (DUP) R4144500-4 11/11/24 08:31

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

Laboratory Control Sample (LCS)

(LCS) R4144500-2 11/11/24 05:32

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Hexavalent Chromium	10.0	10.0	100	80.0-120	

L1797596-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1797596-03 11/11/24 09:44 • (MS) R4144500-6 11/11/24 10:05 • (MSD) R4144500-7 11/11/24 10:16

	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	0.431	19.9	19.4	97.5	94.6	1	75.0-125			2.95	20

L1797596-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1797596-03 11/11/24 09:44 • (MS) R4144500-8 11/11/24 10:26

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Hexavalent Chromium	646	0.431	611	94.6	50	75.0-125	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1797707-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1797707-01 11/19/24 12:15 • (DUP) R4147741-2 11/19/24 12:15

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	8.42	8.39	1	0.357		1

Sample Narrative:

OS: 8.42 at 20.9C

DUP: 8.39 at 21C

L1799617-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1799617-01 11/19/24 12:15 • (DUP) R4147741-3 11/19/24 12:15

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	8.15	8.11	1	0.492		1

Sample Narrative:

OS: 8.15 at 20.9C

DUP: 8.11 at 21.1C

Laboratory Control Sample (LCS)

(LCS) R4147741-1 11/19/24 12:15

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

Sample Narrative:

LCS: 10.01 at 20.3C



Method Blank (MB)

(MB) R4147962-1 11/19/24 16:00

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

L1797708-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1797708-04 11/19/24 16:00 • (DUP) R4147962-3 11/19/24 16:00

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	2260	2240	1	0.890		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1798284-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1798284-04 11/19/24 16:00 • (DUP) R4147962-4 11/19/24 16:00

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	4030	3990	1	0.998		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4147962-2 11/19/24 16:00

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	713	97.3	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) R4147265-1 11/18/24 08:19

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) R4147265-2 11/18/24 08:21 • (LCSD) R4147265-3 11/18/24 08:22

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	1.06	1.04	106	104	80.0-120			1.58	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R4146147-1 11/14/24 14:34

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	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

Laboratory Control Sample (LCS)

(LCS) R4146147-2 11/14/24 14:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	101	101	80.0-120	
Barium	100	102	102	80.0-120	
Cadmium	100	105	105	80.0-120	
Copper	100	103	103	80.0-120	
Lead	100	98.6	98.6	80.0-120	
Nickel	100	105	105	80.0-120	
Selenium	100	98.7	98.7	80.0-120	
Silver	20.0	20.8	104	80.0-120	
Zinc	100	101	101	80.0-120	

L1798188-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1798188-01 11/14/24 14:40 • (MS) R4146147-5 11/14/24 14:50 • (MSD) R4146147-6 11/14/24 14:54

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 %
Arsenic	99.6	1.14	97.1	92.7	96.0	91.6	5	75.0-125			4.61	20
Barium	99.6	34.0	140	136	106	102	5	75.0-125			3.39	20
Cadmium	99.6	U	105	99.3	105	99.3	5	75.0-125			5.17	20
Copper	99.6	8.52	112	108	104	99.9	5	75.0-125			3.52	20
Lead	99.6	9.02	105	100	96.1	91.3	5	75.0-125			4.71	20
Nickel	99.6	8.83	113	108	104	99.0	5	75.0-125			4.87	20
Selenium	99.6	0.485	98.6	96.2	98.1	95.7	5	75.0-125			2.49	20
Silver	20.0	U	20.7	19.5	103	97.6	5	75.0-125			5.61	20
Zinc	99.6	19.5	125	119	105	99.4	5	75.0-125			4.74	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4147191-2 11/13/24 11:22

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0246	⬇	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	101			77.0-120

Laboratory Control Sample (LCS)

(LCS) R4147191-1 11/13/24 10:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	5.67	113	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			111	77.0-120	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4146597-3 11/15/24 12:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Toluene	0.00235	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	107			75.0-131
(S) 4-Bromofluorobenzene	87.0			67.0-138
(S) 1,2-Dichloroethane-d4	84.4			70.0-130

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

(LCS) R4146597-1 11/15/24 10:41 • (LCSD) R4146597-2 11/15/24 11:01

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	0.123	0.126	98.4	101	70.0-123			2.41	20
Toluene	0.125	0.130	0.134	104	107	75.0-121			3.03	20
Ethylbenzene	0.125	0.120	0.124	96.0	99.2	74.0-126			3.28	20
Xylenes, Total	0.375	0.349	0.356	93.1	94.9	72.0-127			1.99	20
1,2,4-Trimethylbenzene	0.125	0.103	0.106	82.4	84.8	70.0-126			2.87	20
1,3,5-Trimethylbenzene	0.125	0.110	0.112	88.0	89.6	73.0-127			1.80	20
(S) Toluene-d8				106	105	75.0-131				
(S) 4-Bromofluorobenzene				89.3	89.1	67.0-138				
(S) 1,2-Dichloroethane-d4				89.9	90.3	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4145122-1 11/12/24 14:31

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	74.9			18.0-148

Laboratory Control Sample (LCS)

(LCS) R4145122-2 11/12/24 14:45

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	41.3	82.6	50.0-150	
(S) o-Terphenyl			90.8	18.0-148	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4144914-2 11/11/24 13:25

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	140	J1		23.0-120
(S) Nitrobenzene-d5	119			14.0-149
(S) 2-Fluorobiphenyl	126	J1		34.0-125

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4144914-1 11/11/24 13:07

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0639	79.9	50.0-120	
Anthracene	0.0800	0.0652	81.5	50.0-126	
Benzo(a)anthracene	0.0800	0.0712	89.0	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0678	84.8	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0627	78.4	49.0-125	
Benzo(a)pyrene	0.0800	0.0636	79.5	42.0-120	
Chrysene	0.0800	0.0691	86.4	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0678	84.8	47.0-125	
Fluoranthene	0.0800	0.0712	89.0	49.0-129	
Fluorene	0.0800	0.0718	89.8	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0661	82.6	46.0-125	
1-Methylnaphthalene	0.0800	0.0735	91.9	51.0-121	
2-Methylnaphthalene	0.0800	0.0721	90.1	50.0-120	
Naphthalene	0.0800	0.0696	87.0	50.0-120	
Pyrene	0.0800	0.0678	84.8	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4144914-1 11/11/24 13:07

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
(S) p-Terphenyl-d14			135	23.0-120	J1
(S) Nitrobenzene-d5			120	14.0-149	
(S) 2-Fluorobiphenyl			121	34.0-125	

L1797883-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1797883-02 11/11/24 15:46 • (MS) R4144914-3 11/11/24 16:04 • (MSD) R4144914-4 11/11/24 16:22

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Acenaphthene	0.0776	U	0.0578	0.0470	74.5	60.3	1	14.0-127			20.6	27
Anthracene	0.0776	U	0.0584	0.0501	75.3	64.2	1	10.0-145			15.3	30
Benzo(a)anthracene	0.0776	U	0.0620	0.0544	79.9	69.7	1	10.0-139			13.1	30
Benzo(b)fluoranthene	0.0776	U	0.0624	0.0534	80.4	68.5	1	10.0-140			15.5	36
Benzo(k)fluoranthene	0.0776	U	0.0576	0.0517	74.2	66.3	1	10.0-137			10.8	31
Benzo(a)pyrene	0.0776	U	0.0602	0.0531	77.6	68.1	1	10.0-141			12.5	31
Chrysene	0.0776	U	0.0646	0.0572	83.2	73.3	1	10.0-145			12.2	30
Dibenz(a,h)anthracene	0.0776	U	0.0624	0.0571	80.4	73.2	1	10.0-132			8.87	31
Fluoranthene	0.0776	U	0.0637	0.0538	82.1	69.0	1	10.0-153			16.9	33
Fluorene	0.0776	U	0.0644	0.0520	83.0	66.7	1	11.0-130			21.3	29
Indeno(1,2,3-cd)pyrene	0.0776	U	0.0601	0.0540	77.4	69.2	1	10.0-137			10.7	32
1-Methylnaphthalene	0.0776	U	0.0662	0.0527	85.3	67.6	1	10.0-142			22.7	28
2-Methylnaphthalene	0.0776	U	0.0636	0.0513	82.0	65.8	1	10.0-137			21.4	28
Naphthalene	0.0776	U	0.0617	0.0497	79.5	63.7	1	10.0-135			21.5	27
Pyrene	0.0776	U	0.0613	0.0511	79.0	65.5	1	10.0-148			18.1	35
(S) p-Terphenyl-d14					116	112		23.0-120				
(S) Nitrobenzene-d5					104	98.4		14.0-149				
(S) 2-Fluorobiphenyl					108	101		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.

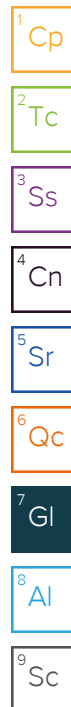
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

Abbreviations and Definitions

MDL	Method Detection Limit.
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

B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
T8	Sample(s) received past/too close to holding time expiration.



ACCREDITATIONS & LOCATIONS

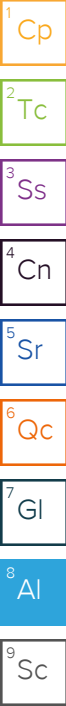
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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.



QB Energy Operating
143 Diamond Avenue
Parachute, CO 81635

Billing Information:
SAMEASLEFT

Analysis / Container / Preservative										Chain of Custody		Page 1 of 1
ECMCTable 915-1										Pace Analytical® National Center for Testing & Innovation		
										12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859		
										SDG # 1797799		
										B123		
										Acctnum:		
										Template:		
										Prelogin:		
										PM:		
										PB:		
										Shipped Via:		
Remarks		Sample # (lab only)										

Report to:
Jake Janicek

Email To:
jjanicek@qb-energy.com

Project Description:
OP33 Facility Decommissioning

City/State
Collected: Piceance Crk, CO

Please Circle:
PT MT CT ET

Phone: (970) 778-2314

Client Project #

Lab Project #

Collected by (print):
Trevor Lakin

Site/Facility ID #
OP33

P.O. #

Collected by (signature):
Trevor Lakin

Rush? (Lab MUST Be Notified)
____ Same Day ____ Five Day
____ Next Day ____ 5 Day (Rad Only)
____ Two Day ____ 10 Day (Rad Only)
____ Three Day

Date Results Needed
Standard TAT

Immediately
Packed on Ice N ____ Y ☒

No. of Cntrs

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs
20241107-OP33-(FC-WH-Keinath 33-9) @ 10	SS	10ft	11/7/24	11:19	4	X
<i>[Large handwritten signature and date 11/7/24]</i>						

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

Samples returned via:
____ UPS ____ FedEx ____ Courier

Tracking # 7315 3202 6225

pH ____ Temp ____

Flow ____ Other ____

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y	N
COC Signed/Accurate:		Y	N
Bottles arrive intact:		Y	N
Correct bottles used:		Y	N
Sufficient volume sent:		Y	N
If Applicable			
VOA Zero Headspace:		Y	N
Preservation Correct/Checked:		Y	N
RAD Screen <0.5 mR/hr:		Y	N

Relinquished by: (Signature) <i>Trevor Lakin</i>	Date: 11/7/24	Time: 13:00	Received by: (Signature) <i>[Signature]</i>	Trip Blank Received: Yes / No HCL / MeOH TBR	Bottles Received: 1.5 + 0 = 1.5 4
Relinquished by: (Signature) <i>[Signature]</i>	Date: 11/7/24	Time: 1500	Received by: (Signature)	Temp: 11.9°C	If preservation required by Login: Date/Time
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>alex n mitshen</i>	Date: 11/9/24	Time: 0900

Hold: Condition: NCF / OK