

**Scout Energy - Rangely, CO**

Sample Delivery Group: L1529225  
Samples Received: 08/25/2022  
Project Number:  
Description: MB Larson 3-25 Spill

Report To: Chris Patterson  
100 Chevron Road  
Rangely, CO 81648

Entire Report Reviewed By:



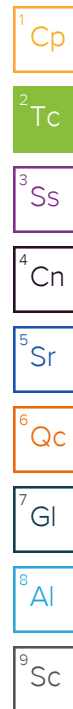
Chris Ward  
Project Manager

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# SAMPLE SUMMARY

MB LARSON 3-25 L1529225-01 Solid

Collected by  
SCT

Collected date/time  
08/10/22 12:00

Received date/time  
08/25/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1916909	1	08/30/22 17:18	08/30/22 17:18	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1921439	1	09/04/22 17:00	09/07/22 13:50	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1920030	1	09/03/22 07:00	09/03/22 09:00	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1920338	1	09/02/22 09:35	09/03/22 10:10	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1918588	1	08/30/22 15:45	08/31/22 14:05	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1919209	1	08/31/22 11:50	09/06/22 18:54	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1918592	5	08/30/22 15:46	08/31/22 01:46	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1919624	1	08/26/22 13:24	09/01/22 05:21	BAM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1917779	1	08/26/22 13:24	08/28/22 23:44	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1917359	1	08/28/22 07:44	08/29/22 14:46	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1917703	1	08/29/22 16:53	08/30/22 13:21	JMB	Mt. Juliet, TN

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

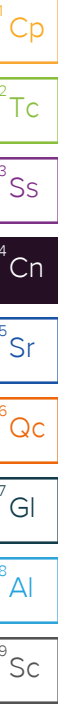
<sup>9</sup>Sc

# 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

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.0445		1	08/30/2022 17:18	WG1916909

## Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	0.300	J	0.255	1.00	1	09/07/2022 13:50	<a href="#">WG1921439</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.79	T8	1	09/03/2022 09:00	<a href="#">WG1920030</a>

## Sample Narrative:

L1529225-01 WG1920030: 7.79 at 21.8C

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1970		10.0	1	09/03/2022 10:10	<a href="#">WG1920338</a>

## Sample Narrative:

L1529225-01 WG1920338: at 25C

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	58.6		0.0852	0.500	1	08/31/2022 14:05	<a href="#">WG1918588</a>
Cadmium	0.233	J	0.0471	0.500	1	08/31/2022 14:05	<a href="#">WG1918588</a>
Copper	11.7		0.400	2.00	1	08/31/2022 14:05	<a href="#">WG1918588</a>
Lead	14.9		0.208	0.500	1	08/31/2022 14:05	<a href="#">WG1918588</a>
Nickel	15.9		0.132	2.00	1	08/31/2022 14:05	<a href="#">WG1918588</a>
Selenium	U		0.764	2.00	1	08/31/2022 14:05	<a href="#">WG1918588</a>
Silver	U		0.127	1.00	1	08/31/2022 14:05	<a href="#">WG1918588</a>
Zinc	61.6		0.832	5.00	1	08/31/2022 14:05	<a href="#">WG1918588</a>

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

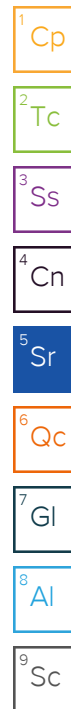
Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.772		0.0167	0.200	1	09/06/2022 18:54	<a href="#">WG1919209</a>

## Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.86		0.100	1.00	5	08/31/2022 01:46	<a href="#">WG1918592</a>

## 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	0.166		0.0217	0.100	1	09/01/2022 05:21	<a href="#">WG1919624</a>
(S) a,a,a-Trifluorotoluene(FID)	90.0			77.0-120		09/01/2022 05:21	<a href="#">WG1919624</a>



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

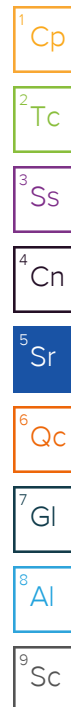
Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	08/28/2022 23:44	<a href="#">WG1917779</a>
Toluene	U		0.00130	0.00500	1	08/28/2022 23:44	<a href="#">WG1917779</a>
Ethylbenzene	U		0.000737	0.00250	1	08/28/2022 23:44	<a href="#">WG1917779</a>
Xylenes, Total	U		0.000880	0.00650	1	08/28/2022 23:44	<a href="#">WG1917779</a>
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	08/28/2022 23:44	<a href="#">WG1917779</a>
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	08/28/2022 23:44	<a href="#">WG1917779</a>
(S) Toluene-d8	106			75.0-131		08/28/2022 23:44	<a href="#">WG1917779</a>
(S) 4-Bromofluorobenzene	103			67.0-138		08/28/2022 23:44	<a href="#">WG1917779</a>
(S) 1,2-Dichloroethane-d4	97.7			70.0-130		08/28/2022 23:44	<a href="#">WG1917779</a>

## 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	08/29/2022 14:46	<a href="#">WG1917359</a>
C28-C36 Motor Oil Range	4.79		0.274	4.00	1	08/29/2022 14:46	<a href="#">WG1917359</a>
(S) o-Terphenyl	68.9			18.0-148		08/29/2022 14:46	<a href="#">WG1917359</a>

## 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	08/30/2022 13:21	<a href="#">WG1917703</a>
Anthracene	U		0.00230	0.00600	1	08/30/2022 13:21	<a href="#">WG1917703</a>
Benzo(a)anthracene	U		0.00173	0.00600	1	08/30/2022 13:21	<a href="#">WG1917703</a>
Benzo(b)fluoranthene	U		0.00153	0.00600	1	08/30/2022 13:21	<a href="#">WG1917703</a>
Benzo(k)fluoranthene	U		0.00215	0.00600	1	08/30/2022 13:21	<a href="#">WG1917703</a>
Benzo(a)pyrene	U		0.00179	0.00600	1	08/30/2022 13:21	<a href="#">WG1917703</a>
Chrysene	U		0.00232	0.00600	1	08/30/2022 13:21	<a href="#">WG1917703</a>
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	08/30/2022 13:21	<a href="#">WG1917703</a>
Fluoranthene	U		0.00227	0.00600	1	08/30/2022 13:21	<a href="#">WG1917703</a>
Fluorene	U		0.00205	0.00600	1	08/30/2022 13:21	<a href="#">WG1917703</a>
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	08/30/2022 13:21	<a href="#">WG1917703</a>
1-Methylnaphthalene	U		0.00449	0.0200	1	08/30/2022 13:21	<a href="#">WG1917703</a>
2-Methylnaphthalene	U		0.00427	0.0200	1	08/30/2022 13:21	<a href="#">WG1917703</a>
Naphthalene	U		0.00408	0.0200	1	08/30/2022 13:21	<a href="#">WG1917703</a>
Pyrene	U		0.00200	0.00600	1	08/30/2022 13:21	<a href="#">WG1917703</a>
(S) p-Terphenyl-d14	78.9			23.0-120		08/30/2022 13:21	<a href="#">WG1917703</a>
(S) Nitrobenzene-d5	67.7			14.0-149		08/30/2022 13:21	<a href="#">WG1917703</a>
(S) 2-Fluorobiphenyl	75.5			34.0-125		08/30/2022 13:21	<a href="#">WG1917703</a>



Method Blank (MB)

(MB) R3835183-1 09/07/22 10:45

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

L1525619-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1525619-01 09/07/22 11:02 • (DUP) R3835183-3 09/07/22 11:10

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Hexavalent Chromium	0.539	0.529	1	1.87	⌵	20

L1525860-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1525860-03 09/07/22 12:27 • (DUP) R3835183-4 09/07/22 12:33

	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) R3835183-2 09/07/22 10:50

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Hexavalent Chromium	10.0	9.79	97.9	80.0-120	

L1529155-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1529155-01 09/07/22 12:38 • (MS) R3835183-5 09/07/22 12:43 • (MSD) R3835183-6 09/07/22 13:17

	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	U	1.67	2.44	8.33	12.2	1	75.0-125	J6	J3 J6	37.7	20

Sample Narrative:

OS: Sample is an Oxidizer.

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1529155-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1529155-01 09/07/22 12:38 • (MS) R3835183-8 09/07/22 13:29

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Hexavalent Chromium	639	U	400	62.6	50	75.0-125	<u>J6</u>

Sample Narrative:

OS: Sample is an Oxidizer.

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



L1529164-35 Original Sample (OS) • Duplicate (DUP)

(OS) L1529164-35 09/03/22 09:00 • (DUP) R3833546-2 09/03/22 09:00

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	8.25	8.24	1	0.121		1

Sample Narrative:

OS: 8.25 at 22C

DUP: 8.24 at 22.1C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1529329-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1529329-04 09/03/22 09:00 • (DUP) R3833546-3 09/03/22 09:00

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	8.13	8.13	1	0.000		1

Sample Narrative:

OS: 8.13 at 21.7C

DUP: 8.13 at 21.7C

Laboratory Control Sample (LCS)

(LCS) R3833546-1 09/03/22 09:00

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	su	su	%	%	
pH	10.0	9.90	99.0	99.0-101	

Sample Narrative:

LCS: 9.9 at 21.9C

Method Blank (MB)

(MB) R3833559-1 09/03/22 10:10

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

L1525581-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1525581-01 09/03/22 10:10 • (DUP) R3833559-3 09/03/22 10:10

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	4000	4270	1	6.53		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1529225-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1529225-01 09/03/22 10:10 • (DUP) R3833559-4 09/03/22 10:10

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	1970	1830	1	7.25		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3833559-2 09/03/22 10:10

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	1120	1120	100	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) R3832626-1 08/31/22 13:29

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Barium	U		0.0852	0.500
Cadmium	U		0.0471	0.500
Copper	U		0.400	2.00
Lead	U		0.208	0.500
Nickel	U		0.132	2.00
Selenium	U		0.764	2.00
Silver	U		0.127	1.00
Zinc	U		0.832	5.00

Laboratory Control Sample (LCS)

(LCS) R3832626-2 08/31/22 13:32

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	102	102	80.0-120	
Cadmium	100	98.5	98.5	80.0-120	
Copper	100	99.4	99.4	80.0-120	
Lead	100	98.1	98.1	80.0-120	
Nickel	100	98.4	98.4	80.0-120	
Selenium	100	98.8	98.8	80.0-120	
Silver	20.0	18.5	92.5	80.0-120	
Zinc	100	97.1	97.1	80.0-120	

L1529737-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1529737-04 08/31/22 13:34 • (MS) R3832626-5 08/31/22 13:43 • (MSD) R3832626-6 08/31/22 13:45

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 %
Barium	100	125	232	214	106	88.2	1	75.0-125			8.06	20
Cadmium	100	0.249	90.9	92.0	90.6	91.7	1	75.0-125			1.20	20
Copper	100	10.6	105	104	94.2	93.3	1	75.0-125			0.874	20
Lead	100	13.2	105	104	91.9	91.0	1	75.0-125			0.843	20
Nickel	100	13.9	107	108	93.0	93.7	1	75.0-125			0.696	20
Selenium	100	U	90.9	92.2	90.9	92.2	1	75.0-125			1.46	20
Silver	20.0	U	17.1	17.4	85.7	86.9	1	75.0-125			1.42	20
Zinc	100	54.5	135	133	80.6	78.7	1	75.0-125			1.36	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3834254-1 09/06/22 18:46

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) R3834254-2 09/06/22 18:49 • (LCSD) R3834254-3 09/06/22 18:51

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	1.01	0.996	101	99.6	80.0-120			0.955	20

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3832320-1 08/31/22 01:03

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Arsenic	U		0.100	1.00

Laboratory Control Sample (LCS)

(LCS) R3832320-2 08/31/22 01:07

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Arsenic	100	92.0	92.0	80.0-120	

L1529737-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1529737-04 08/31/22 01:10 • (MS) R3832320-5 08/31/22 01:20 • (MSD) R3832320-6 08/31/22 01:23

	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	%	%		%			%	%
Arsenic	100	5.05	85.9	87.1	80.9	82.0	5	75.0-125			1.32	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3832971-1 09/01/22 03:59

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)	96.1			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3832971-2 09/01/22 04:40

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.38	97.8	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			103	77.0-120	

1  
Cp

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Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

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Sc

Method Blank (MB)

(MB) R3831765-3 08/28/22 23:24

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL 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	102			75.0-131
(S) 4-Bromofluorobenzene	99.9			67.0-138
(S) 1,2-Dichloroethane-d4	97.9			70.0-130

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

(LCS) R3831765-1 08/28/22 22:05 • (LCSD) R3831765-2 08/28/22 22:25

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	0.134	0.118	107	94.4	70.0-123			12.7	20
Toluene	0.125	0.120	0.114	96.0	91.2	75.0-121			5.13	20
Ethylbenzene	0.125	0.125	0.120	100	96.0	74.0-126			4.08	20
Xylenes, Total	0.375	0.388	0.374	103	99.7	72.0-127			3.67	20
1,2,4-Trimethylbenzene	0.125	0.124	0.125	99.2	100	70.0-126			0.803	20
1,3,5-Trimethylbenzene	0.125	0.117	0.122	93.6	97.6	73.0-127			4.18	20
(S) Toluene-d8				101	100	75.0-131				
(S) 4-Bromofluorobenzene				101	102	67.0-138				
(S) 1,2-Dichloroethane-d4				103	107	70.0-130				

1  
Cp

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Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

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Sc

Method Blank (MB)

(MB) R3831507-1 08/29/22 06:31

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	77.9			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3831507-2 08/29/22 06:47

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	39.8	79.6	50.0-150	
(S) o-Terphenyl			94.7	18.0-148	

L1529737-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1529737-06 08/29/22 17:11 • (MS) R3831507-3 08/29/22 17:25 • (MSD) R3831507-4 08/29/22 17:38

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	48.5	1530	767	863	0.000	0.000	10	50.0-150	V	V	11.8	20
(S) o-Terphenyl					86.2	90.3		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3832313-2 08/30/22 09:05

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	84.4			23.0-120
(S) Nitrobenzene-d5	73.0			14.0-149
(S) 2-Fluorobiphenyl	80.7			34.0-125

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3832313-1 08/30/22 08:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0628	78.5	50.0-120	
Anthracene	0.0800	0.0625	78.1	50.0-126	
Benzo(a)anthracene	0.0800	0.0599	74.9	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0629	78.6	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0623	77.9	49.0-125	
Benzo(a)pyrene	0.0800	0.0538	67.3	42.0-120	
Chrysene	0.0800	0.0644	80.5	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0560	70.0	47.0-125	
Fluoranthene	0.0800	0.0662	82.8	49.0-129	
Fluorene	0.0800	0.0614	76.8	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0584	73.0	46.0-125	
1-Methylnaphthalene	0.0800	0.0602	75.3	51.0-121	
2-Methylnaphthalene	0.0800	0.0606	75.8	50.0-120	
Naphthalene	0.0800	0.0642	80.3	50.0-120	
Pyrene	0.0800	0.0660	82.5	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R3832313-1 08/30/22 08:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
(S) p-Terphenyl-d14			94.2	23.0-120	
(S) Nitrobenzene-d5			87.2	14.0-149	
(S) 2-Fluorobiphenyl			94.0	34.0-125	

L1529164-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1529164-06 08/30/22 09:25 • (MS) R3832313-3 08/30/22 09:44 • (MSD) R3832313-4 08/30/22 10:04

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	0.0800	U	0.0534	0.0533	66.8	66.6	1	14.0-127			0.187	27
Anthracene	0.0800	U	0.0488	0.0492	61.0	61.5	1	10.0-145			0.816	30
Benzo(a)anthracene	0.0800	U	0.0480	0.0490	60.0	61.3	1	10.0-139			2.06	30
Benzo(b)fluoranthene	0.0800	U	0.0486	0.0499	60.8	62.4	1	10.0-140			2.64	36
Benzo(k)fluoranthene	0.0800	U	0.0508	0.0513	63.5	64.1	1	10.0-137			0.979	31
Benzo(a)pyrene	0.0800	U	0.0534	0.0541	66.8	67.6	1	10.0-141			1.30	31
Chrysene	0.0800	U	0.0532	0.0544	66.5	68.0	1	10.0-145			2.23	30
Dibenz(a,h)anthracene	0.0800	U	0.0458	0.0462	57.3	57.8	1	10.0-132			0.870	31
Fluoranthene	0.0800	U	0.0532	0.0529	66.5	66.1	1	10.0-153			0.565	33
Fluorene	0.0800	U	0.0527	0.0528	65.9	66.0	1	11.0-130			0.190	29
Indeno(1,2,3-cd)pyrene	0.0800	U	0.0448	0.0471	56.0	58.9	1	10.0-137			5.01	32
1-Methylnaphthalene	0.0800	U	0.0514	0.0515	64.3	64.4	1	10.0-142			0.194	28
2-Methylnaphthalene	0.0800	U	0.0505	0.0528	63.1	66.0	1	10.0-137			4.45	28
Naphthalene	0.0800	U	0.0531	0.0534	66.4	66.8	1	10.0-135			0.563	27
Pyrene	0.0800	U	0.0574	0.0570	71.8	71.3	1	10.0-148			0.699	35
(S) p-Terphenyl-d14					76.0	76.5		23.0-120				
(S) Nitrobenzene-d5					65.6	70.0		14.0-149				
(S) 2-Fluorobiphenyl					74.7	76.5		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

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.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

# 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 <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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 <sup>1 6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1 4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	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 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

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

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

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



[illegible]

4159 225

<u>Tracking Numbers</u>	<u>Temperature</u>
	NSA7
5755 8085 0341	1.2 + 0 = 1.2
6155 8085 0330	NSA7
	3.4 + 0 = 3.4