

Confluence Compliance Companies - CO

Sample Delivery Group: L1492937

Samples Received: 05/12/2022

Project Number:

Description: P&A

Report To: Chris McKisson
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Entire Report Reviewed By:



Chris Ward
Project Manager

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SAMPLE SUMMARY

20220510-FED_1-30-PIPELINE_BASE@6' L1492937-01 Solid				Collected by Alex Slorby	Collected date/time 05/10/22 13:30	Received date/time 05/12/22 09:00	1 Cp
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location	2 Tc
Calculated Results	WG1865266	1	05/18/22 23:43	05/18/22 23:43	CCE	Mt. Juliet, TN	3 Ss
Wet Chemistry by Method 7199	WG1864659	1	05/17/22 23:57	05/19/22 11:38	SCM	Mt. Juliet, TN	4 Cn
Wet Chemistry by Method 9045D	WG1866246	1	05/19/22 13:50	05/19/22 13:55	EPW	Mt. Juliet, TN	5 Sr
Wet Chemistry by Method 9050AMod	WG1864049	1	05/15/22 13:56	05/15/22 17:41	ARD	Mt. Juliet, TN	6 Qc
Metals (ICP) by Method 6010B	WG1864463	1	05/17/22 07:23	05/18/22 18:06	ZSA	Mt. Juliet, TN	7 Gl
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1865268	2	05/18/22 00:08	05/19/22 02:00	CCE	Mt. Juliet, TN	8 Al
Metals (ICPMS) by Method 6020	WG1864465	5	05/17/22 07:42	05/17/22 17:00	LD	Mt. Juliet, TN	9 Sc
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1863882	1	05/13/22 16:46	05/18/22 12:22	BMB	Mt. Juliet, TN	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1864071	1	05/13/22 16:46	05/15/22 11:41	ACG	Mt. Juliet, TN	
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1867115	1	05/20/22 17:30	05/21/22 15:51	JDG	Mt. Juliet, TN	
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1865823	1	05/18/22 21:12	05/19/22 05:20	AMG	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	1.23		1	05/18/2022 23:43	WG1865266

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	0.404	J	0.255	1.00	1	05/19/2022 11:38	WG1864659

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.35	T8	1	05/19/2022 13:55	WG1866246

Sample Narrative:
L1492937-01 WG1866246: 9.35 at 23C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	542		10.0	1	05/15/2022 17:41	WG1864049

Sample Narrative:
L1492937-01 WG1864049: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	423	J3 V	0.0852	0.500	1	05/18/2022 18:06	WG1864463
Cadmium	0.687		0.0471	0.500	1	05/18/2022 18:06	WG1864463
Copper	23.0		0.400	2.00	1	05/18/2022 18:06	WG1864463
Lead	16.3	O1	0.208	0.500	1	05/18/2022 18:06	WG1864463
Nickel	16.0		0.132	2.00	1	05/18/2022 18:06	WG1864463
Selenium	U		0.764	2.00	1	05/18/2022 18:06	WG1864463
Silver	U		0.127	1.00	1	05/18/2022 18:06	WG1864463
Zinc	58.0		0.832	5.00	1	05/18/2022 18:06	WG1864463

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	0.426		0.0334	0.400	2	05/19/2022 02:00	WG1865268

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.47	O1	0.100	1.00	5	05/17/2022 17:00	WG1864465

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	0.0322	J	0.0217	0.100	1	05/18/2022 12:22	WG1863882
(S) a,a,a-Trifluorotoluene(FID)	94.5			77.0-120		05/18/2022 12:22	WG1863882

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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	05/15/2022 11:41	WG1864071
Toluene	U		0.00130	0.00500	1	05/15/2022 11:41	WG1864071
Ethylbenzene	U		0.000737	0.00250	1	05/15/2022 11:41	WG1864071
Xylenes, Total	U		0.000880	0.00650	1	05/15/2022 11:41	WG1864071
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/15/2022 11:41	WG1864071
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/15/2022 11:41	WG1864071
(S) Toluene-d8	112			75.0-131		05/15/2022 11:41	WG1864071
(S) 4-Bromofluorobenzene	87.1			67.0-138		05/15/2022 11:41	WG1864071
(S) 1,2-Dichloroethane-d4	102			70.0-130		05/15/2022 11:41	WG1864071

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	05/21/2022 15:51	WG1867115
C28-C36 Motor Oil Range	1.59	B J	0.274	4.00	1	05/21/2022 15:51	WG1867115
(S) o-Terphenyl	52.5			18.0-148		05/21/2022 15:51	WG1867115

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
Anthracene	U		0.00230	0.00600	1	05/19/2022 05:20	WG1865823
Acenaphthene	U		0.00209	0.00600	1	05/19/2022 05:20	WG1865823
Acenaphthylene	U		0.00216	0.00600	1	05/19/2022 05:20	WG1865823
Benzo(a)anthracene	U		0.00173	0.00600	1	05/19/2022 05:20	WG1865823
Benzo(a)pyrene	U		0.00179	0.00600	1	05/19/2022 05:20	WG1865823
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/19/2022 05:20	WG1865823
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/19/2022 05:20	WG1865823
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/19/2022 05:20	WG1865823
Chrysene	U		0.00232	0.00600	1	05/19/2022 05:20	WG1865823
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/19/2022 05:20	WG1865823
Fluoranthene	U		0.00227	0.00600	1	05/19/2022 05:20	WG1865823
Fluorene	U		0.00205	0.00600	1	05/19/2022 05:20	WG1865823
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/19/2022 05:20	WG1865823
Naphthalene	U		0.00408	0.0200	1	05/19/2022 05:20	WG1865823
Phenanthrene	U		0.00231	0.00600	1	05/19/2022 05:20	WG1865823
Pyrene	U		0.00200	0.00600	1	05/19/2022 05:20	WG1865823
1-Methylnaphthalene	U		0.00449	0.0200	1	05/19/2022 05:20	WG1865823
2-Methylnaphthalene	U		0.00427	0.0200	1	05/19/2022 05:20	WG1865823
2-Chloronaphthalene	U		0.00466	0.0200	1	05/19/2022 05:20	WG1865823
(S) p-Terphenyl-d14	86.3			23.0-120		05/19/2022 05:20	WG1865823
(S) Nitrobenzene-d5	65.3			14.0-149		05/19/2022 05:20	WG1865823
(S) 2-Fluorobiphenyl	67.9			34.0-125		05/19/2022 05:20	WG1865823

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3793808-1 05/19/22 10:51

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

L1489944-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1489944-01 05/19/22 11:02 • (DUP) R3793808-3 05/19/22 11:07

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Hexavalent Chromium	0.555	0.610	1	9.50	⌵	20

L1492939-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1492939-06 05/19/22 12:19 • (DUP) R3793808-4 05/19/22 12:25

	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) R3793808-2 05/19/22 10:56

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

L1492955-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1492955-04 05/19/22 12:56 • (MS) R3793808-5 05/19/22 13:01 • (MSD) R3793808-6 05/19/22 13:06

	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	16.0	13.1	80.0	65.5	1	75.0-125		J6	19.9	20

L1492955-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1492955-04 05/19/22 12:56 • (MS) R3793808-7 05/19/22 13:11

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Hexavalent Chromium	651	U	656	101	50	75.0-125	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1494981-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1494981-02 05/19/22 13:55 • (DUP) R3793910-2 05/19/22 13:55

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	pH	su		%		%
pH	7.72	7.66	1	0.780		1

Sample Narrative:

OS: 7.72 at 22.8C

DUP: 7.66 at 22.9C



L1494981-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1494981-03 05/19/22 13:55 • (DUP) R3793910-3 05/19/22 13:55

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	pH	su		%		%
pH	7.58	7.57	1	0.132		1

Sample Narrative:

OS: 7.58 at 23C

DUP: 7.57 at 23.2C

Laboratory Control Sample (LCS)

(LCS) R3793910-1 05/19/22 13:55

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	su	su	%	%	
pH	10.0	9.91	99.1	99.0-101	

Sample Narrative:

LCS: 9.91 at 23C

Method Blank (MB)

(MB) R3791987-1 05/15/22 17:41

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

L1492939-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1492939-01 05/15/22 17:41 • (DUP) R3791987-3 05/15/22 17:41

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	1300	1310	1	0.614		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1492957-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1492957-01 05/15/22 17:41 • (DUP) R3791987-4 05/15/22 17:41

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	687	619	1	10.4		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3791987-2 05/15/22 17:41

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	268	280	105	85.0-115	

Sample Narrative:

LCS: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3793447-1 05/18/22 18:01

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3793447-2 05/18/22 18:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	104	104	80.0-120	
Cadmium	100	100	100	80.0-120	
Copper	100	102	102	80.0-120	
Lead	100	100	100	80.0-120	
Nickel	100	102	102	80.0-120	
Selenium	100	104	104	80.0-120	
Silver	20.0	19.9	99.7	80.0-120	
Zinc	100	98.2	98.2	80.0-120	

L1492937-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1492937-01 05/18/22 18:06 • (MS) R3793447-5 05/18/22 18:15 • (MSD) R3793447-6 05/18/22 18:17

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	423	612	500	189	77.2	1	75.0-125	V	J3	20.1	20
Cadmium	100	0.687	109	101	109	100	1	75.0-125			7.75	20
Copper	100	23.0	138	130	115	107	1	75.0-125			6.58	20
Lead	100	16.3	127	118	111	102	1	75.0-125			7.42	20
Nickel	100	16.0	130	121	114	105	1	75.0-125			7.00	20
Selenium	100	U	113	105	113	105	1	75.0-125			7.57	20
Silver	20.0	U	21.8	20.3	109	102	1	75.0-125			6.96	20
Zinc	100	58.0	166	156	108	97.6	1	75.0-125			6.48	20

Method Blank (MB)

(MB) R3793538-1 05/19/22 01:53

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) R3793538-2 05/19/22 01:55 • (LCSD) R3793538-3 05/19/22 01:58

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	1.06	106	106	80.0-120			0.497	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3792911-1 05/17/22 16:53

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

Laboratory Control Sample (LCS)

(LCS) R3792911-2 05/17/22 16:56

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	88.7	88.7	80.0-120	

L1492937-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1492937-01 05/17/22 17:00 • (MS) R3792911-5 05/17/22 17:10 • (MSD) R3792911-6 05/17/22 17:13

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	100	5.47	96.6	86.0	91.2	80.6	5	75.0-125			11.6	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3793487-2 05/18/22 11:35

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)	98.9			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3793487-1 05/18/22 10:42

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.82	106	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			105	77.0-120	

L1492937-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1492937-01 05/18/22 12:22 • (MS) R3793487-3 05/18/22 19:10 • (MSD) R3793487-4 05/18/22 19:30

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 %
TPH (GC/FID) Low Fraction	5.45	0.0322	5.53	6.11	101	111	1	10.0-151			9.97	28
(S) a,a,a-Trifluorotoluene(FID)					109	112		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) R3792603-3 05/15/22 09:45

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	113			75.0-131
(S) 4-Bromofluorobenzene	83.1			67.0-138
(S) 1,2-Dichloroethane-d4	97.2			70.0-130

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

(LCS) R3792603-1 05/15/22 08:28 • (LCSD) R3792603-2 05/15/22 08:47

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	0.115	0.116	92.0	92.8	70.0-123			0.866	20
Toluene	0.125	0.130	0.128	104	102	75.0-121			1.55	20
Ethylbenzene	0.125	0.142	0.143	114	114	74.0-126			0.702	20
Xylenes, Total	0.375	0.416	0.411	111	110	72.0-127			1.21	20
1,2,4-Trimethylbenzene	0.125	0.125	0.122	100	97.6	70.0-126			2.43	20
1,3,5-Trimethylbenzene	0.125	0.119	0.118	95.2	94.4	73.0-127			0.844	20
(S) Toluene-d8				99.4	101	75.0-131				
(S) 4-Bromofluorobenzene				93.8	94.8	67.0-138				
(S) 1,2-Dichloroethane-d4				113	112	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) R3794924-1 05/21/22 10:17

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	0.316	⌵	0.274	4.00
(S) o-Terphenyl	66.5			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3794924-2 05/21/22 10:31

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	33.4	66.8	50.0-150	
(S) o-Terphenyl			55.6	18.0-148	

L1492939-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1492939-07 05/21/22 16:46 • (MS) R3794924-3 05/21/22 16:59 • (MSD) R3794924-4 05/21/22 17:13

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	227	304	461	154	468	1	50.0-150	⌵	E J3 ⌵	41.0	20
(S) o-Terphenyl					43.4	84.5		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3793741-2 05/19/22 05:02

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	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
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) p-Terphenyl-d14	101			23.0-120
(S) Nitrobenzene-d5	67.3			14.0-149
(S) 2-Fluorobiphenyl	77.2			34.0-125

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3793741-1 05/19/22 04:44

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0573	71.6	50.0-126	
Acenaphthene	0.0800	0.0622	77.8	50.0-120	
Acenaphthylene	0.0800	0.0610	76.3	50.0-120	
Benzo(a)anthracene	0.0800	0.0579	72.4	45.0-120	
Benzo(a)pyrene	0.0800	0.0543	67.9	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0767	95.9	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0668	83.5	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0715	89.4	49.0-125	
Chrysene	0.0800	0.0667	83.4	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0645	80.6	47.0-125	
Fluoranthene	0.0800	0.0597	74.6	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3793741-1 05/19/22 04:44

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0624	78.0	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0617	77.1	46.0-125	
Naphthalene	0.0800	0.0609	76.1	50.0-120	
Phenanthrene	0.0800	0.0644	80.5	47.0-120	
Pyrene	0.0800	0.0693	86.6	43.0-123	
1-Methylnaphthalene	0.0800	0.0622	77.8	51.0-121	
2-Methylnaphthalene	0.0800	0.0596	74.5	50.0-120	
2-Chloronaphthalene	0.0800	0.0633	79.1	50.0-120	
(S) p-Terphenyl-d14			98.2	23.0-120	
(S) Nitrobenzene-d5			74.6	14.0-149	
(S) 2-Fluorobiphenyl			78.7	34.0-125	

L1492236-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1492236-16 05/19/22 10:59 • (MS) R3793741-3 05/19/22 11:17 • (MSD) R3793741-4 05/19/22 11:35

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 %
Anthracene	0.0800	U	0.0646	0.0705	80.7	88.1	1	10.0-145			8.73	30
Acenaphthene	0.0800	0.113	0.0993	0.0954	0.000	0.000	1	14.0-127	J6	J6	4.01	27
Acenaphthylene	0.0800	U	0.0694	0.0728	86.8	91.0	1	21.0-124			4.78	25
Benzo(a)anthracene	0.0800	0.0377	0.0736	0.0835	44.9	57.3	1	10.0-139			12.6	30
Benzo(a)pyrene	0.0800	0.0422	0.0675	0.0822	31.6	50.0	1	10.0-141			19.6	31
Benzo(b)fluoranthene	0.0800	0.0510	0.0692	0.0915	22.8	50.6	1	10.0-140			27.8	36
Benzo(g,h,i)perylene	0.0800	0.0428	0.0627	0.0808	24.9	47.5	1	10.0-140			25.2	33
Benzo(k)fluoranthene	0.0800	0.0170	0.0556	0.0696	48.3	65.8	1	10.0-137			22.4	31
Chrysene	0.0800	0.0483	0.0789	0.0907	38.3	53.0	1	10.0-145			13.9	30
Dibenz(a,h)anthracene	0.0800	0.00784	0.0527	0.0612	56.1	66.7	1	10.0-132			14.9	31
Fluoranthene	0.0800	0.112	0.100	0.0991	0.000	0.000	1	10.0-153	J6	J6	0.904	33
Fluorene	0.0800	0.139	0.0896	0.0971	0.000	0.000	1	11.0-130	J6	J6	8.03	29
Indeno(1,2,3-cd)pyrene	0.0800	0.0327	0.0599	0.0801	34.0	59.3	1	10.0-137			28.9	32
Naphthalene	0.0800	0.0814	0.0669	0.0776	0.000	0.000	1	10.0-135	J6	J6	14.8	27
Phenanthrene	0.0800	0.211	0.118	0.129	0.000	0.000	1	10.0-144	J6	J6	8.91	31
Pyrene	0.0800	0.169	0.128	0.114	0.000	0.000	1	10.0-148	J6	J6	11.6	35
1-Methylnaphthalene	0.0800	0.249	0.106	0.177	0.000	0.000	1	10.0-142	J6	J3 J6	50.2	28
2-Methylnaphthalene	0.0800	0.138	0.0807	0.237	0.000	124	1	10.0-137	J6	J3	98.4	28
2-Chloronaphthalene	0.0800	U	0.0532	0.0571	66.5	71.4	1	29.0-120			7.07	24
(S) p-Terphenyl-d14					78.7	88.1		23.0-120				
(S) Nitrobenzene-d5					58.0	68.3		14.0-149				
(S) 2-Fluorobiphenyl					68.3	73.5		34.0-125				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

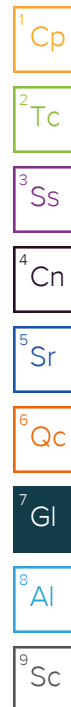
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
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.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
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.

