

Scout Energy - Rangely, CO

Sample Delivery Group: L1812311
Samples Received: 12/21/2024
Project Number:
Description: Emerald 39 Excavation Sample

Report To: Cody Christian
100 Chevron Road
Rangely, CO 81648

Entire Report Reviewed By:



Mark W. Beasley
Project Manager

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Pace Analytical National

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¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

SAMPLE SUMMARY

EMERALD 39 - POR (5') L1812311-01 Solid

Collected by Scout Collected date/time 12/19/24 16:45 Received date/time 12/21/24 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2424700	1	12/26/24 21:14	12/26/24 21:14	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2423760	1	12/26/24 08:26	12/30/24 05:10	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2425202	1	12/26/24 21:32	12/26/24 21:45	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2425206	1	12/26/24 22:18	12/26/24 22:30	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2426318	1	12/31/24 08:35	12/31/24 16:02	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2423498	5	12/26/24 17:39	12/27/24 00:10	UNP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2424637	1.01	12/24/24 00:05	12/24/24 22:13	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2425147	1	12/24/24 00:05	12/27/24 08:28	WHS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2424246	5	12/26/24 07:09	12/26/24 15:53	KDB	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2425250	1	12/27/24 05:28	12/27/24 21:05	AMM	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 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.



Mark W. Beasley
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	5.92		1	12/26/2024 21:14	WG2424700



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	12/30/2024 05:10	WG2423760

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.90	<u>T8</u>	1	12/26/2024 21:45	WG2425202

Sample Narrative:

L1812311-01 WG2425202: 7.9 at 22C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	4530	umhos/cm		10.0	1	12/26/2024 22:30	WG2425206

Sample Narrative:

L1812311-01 WG2425206: 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	1.43		0.0167	0.200	1	12/31/2024 16:02	WG2426318

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.44		0.100	1.00	5	12/27/2024 00:10	WG2423498
Barium	140		0.152	2.50	5	12/27/2024 00:10	WG2423498
Cadmium	0.274	<u>J</u>	0.0855	1.00	5	12/27/2024 00:10	WG2423498
Copper	13.5		0.132	5.00	5	12/27/2024 00:10	WG2423498
Lead	17.6		0.0990	2.00	5	12/27/2024 00:10	WG2423498
Nickel	16.5		0.197	2.50	5	12/27/2024 00:10	WG2423498
Selenium	1.42	<u>J</u>	0.180	2.50	5	12/27/2024 00:10	WG2423498
Silver	U		0.0865	0.500	5	12/27/2024 00:10	WG2423498
Zinc	81.0		0.740	25.0	5	12/27/2024 00:10	WG2423498

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	0.399	<u>B</u>	0.0219	0.101	1.01	12/24/2024 22:13	WG2424637
(S) a,a,a-Trifluorotoluene(FID)	95.8			77.0-120		12/24/2024 22:13	WG2424637



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	12/27/2024 08:28	WG2425147
Toluene	U		0.00130	0.00500	1	12/27/2024 08:28	WG2425147
Ethylbenzene	U		0.000737	0.00250	1	12/27/2024 08:28	WG2425147
Xylenes, Total	U		0.000880	0.00650	1	12/27/2024 08:28	WG2425147
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	12/27/2024 08:28	WG2425147
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	12/27/2024 08:28	WG2425147
(S) Toluene-d8	101			75.0-131		12/27/2024 08:28	WG2425147
(S) 4-Bromofluorobenzene	94.8			67.0-138		12/27/2024 08:28	WG2425147
(S) 1,2-Dichloroethane-d4	113			70.0-130		12/27/2024 08:28	WG2425147

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	37.0		8.05	20.0	5	12/26/2024 15:53	WG2424246
C28-C36 Motor Oil Range	125		1.37	20.0	5	12/26/2024 15:53	WG2424246
(S) o-Terphenyl	68.7			18.0-148		12/26/2024 15:53	WG2424246

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	12/27/2024 21:05	WG2425250
Anthracene	U		0.00230	0.00600	1	12/27/2024 21:05	WG2425250
Benzo(a)anthracene	U		0.00173	0.00600	1	12/27/2024 21:05	WG2425250
Benzo(b)fluoranthene	U		0.00153	0.00600	1	12/27/2024 21:05	WG2425250
Benzo(k)fluoranthene	0.00238	U	0.00215	0.00600	1	12/27/2024 21:05	WG2425250
Benzo(a)pyrene	U		0.00179	0.00600	1	12/27/2024 21:05	WG2425250
Chrysene	U		0.00232	0.00600	1	12/27/2024 21:05	WG2425250
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	12/27/2024 21:05	WG2425250
Fluoranthene	U		0.00227	0.00600	1	12/27/2024 21:05	WG2425250
Fluorene	U		0.00205	0.00600	1	12/27/2024 21:05	WG2425250
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	12/27/2024 21:05	WG2425250
1-Methylnaphthalene	U		0.00449	0.0200	1	12/27/2024 21:05	WG2425250
2-Methylnaphthalene	U		0.00427	0.0200	1	12/27/2024 21:05	WG2425250
Naphthalene	0.00672	U	0.00408	0.0200	1	12/27/2024 21:05	WG2425250
Pyrene	0.00207	U	0.00200	0.00600	1	12/27/2024 21:05	WG2425250
(S) p-Terphenyl-d14	75.5			23.0-120		12/27/2024 21:05	WG2425250
(S) Nitrobenzene-d5	82.9			14.0-149		12/27/2024 21:05	WG2425250
(S) 2-Fluorobiphenyl	82.0			34.0-125		12/27/2024 21:05	WG2425250

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4162784-1 12/30/24 00:37

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

L1812227-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1812227-09 12/30/24 04:17 • (DUP) R4162784-7 12/30/24 04:49

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

L1812311-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1812311-01 12/30/24 05:10 • (DUP) R4162784-8 12/30/24 05:20

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) R4162784-2 12/30/24 00:46

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Hexavalent Chromium	10.0	9.14	91.4	80.0-120	

L1812227-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1812227-05 12/30/24 02:52 • (MS) R4162784-3 12/30/24 03:02 • (MSD) R4162784-4 12/30/24 03:13

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	16.1	16.8	80.7	84.1	1	75.0-125			4.07	20

L1812227-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1812227-05 12/30/24 02:52 • (MS) R4162784-5 12/30/24 03:23

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Hexavalent Chromium	636	U	511	80.3	50	75.0-125	

L1812227-21 Original Sample (OS) • Duplicate (DUP)

(OS) L1812227-21 12/26/24 21:45 • (DUP) R4162122-2 12/26/24 21:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
pH	8.21	8.22	1	0.122		1

Sample Narrative:
 OS: 8.21 at 21.7C
 DUP: 8.22 at 21.6C

L1812334-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1812334-02 12/26/24 21:45 • (DUP) R4162122-3 12/26/24 21:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
pH	9.47	9.46	1	0.106		1

Sample Narrative:
 OS: 9.47 at 21.6C
 DUP: 9.46 at 21.5C

Laboratory Control Sample (LCS)

(LCS) R4162122-1 12/26/24 21:45

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

Sample Narrative:
 LCS: 10 at 20.5C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4162130-1 12/26/24 22:30

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

L1812227-21 Original Sample (OS) • Duplicate (DUP)

(OS) L1812227-21 12/26/24 22:30 • (DUP) R4162130-3 12/26/24 22:30

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Specific Conductance	394	393	1	0.254		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1812334-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1812334-02 12/26/24 22:30 • (DUP) R4162130-4 12/26/24 22:30

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Specific Conductance	779	772	1	0.903		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4162130-2 12/26/24 22:30

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	1130	1170	103	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) R4163515-1 12/31/24 15:55

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) R4163515-2 12/31/24 15:57 • (LCSD) R4163515-3 12/31/24 15:59

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	1.08	106	108	80.0-120			1.39	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4162156-1 12/26/24 23:24

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

Laboratory Control Sample (LCS)

(LCS) R4162156-2 12/26/24 23:27

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	101	101	80.0-120	
Barium	100	99.7	99.7	80.0-120	
Cadmium	100	102	102	80.0-120	
Copper	100	98.9	98.9	80.0-120	
Lead	100	93.5	93.5	80.0-120	
Nickel	100	102	102	80.0-120	
Selenium	100	99.2	99.2	80.0-120	
Silver	20.0	20.3	102	80.0-120	
Zinc	100	99.9	99.9	80.0-120	

⁷Gl

⁸Al

⁹Sc

L1812227-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1812227-12 12/26/24 23:31 • (MS) R4162156-5 12/26/24 23:40 • (MSD) R4162156-6 12/26/24 23:43

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	18.4	104	109	86.1	90.3	5	75.0-125			3.95	20
Barium	100	286	351	311	65.0	24.4	5	75.0-125	J6	J6	12.3	20
Cadmium	100	0.375	86.1	94.9	85.8	94.5	5	75.0-125			9.69	20
Copper	100	20.0	102	110	81.8	90.1	5	75.0-125			7.78	20
Lead	100	14.4	98.1	105	83.7	90.9	5	75.0-125			7.12	20
Nickel	100	14.1	97.2	105	83.1	90.7	5	75.0-125			7.53	20
Selenium	100	0.430	85.0	92.5	84.5	92.1	5	75.0-125			8.50	20
Silver	20.0	U	17.2	18.8	86.2	94.2	5	75.0-125			8.87	20
Zinc	100	55.0	136	127	81.3	71.6	5	75.0-125		J6	7.36	20

Method Blank (MB)

(MB) R4162199-2 12/24/24 21:04

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0823	↓	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	94.3			77.0-120

Laboratory Control Sample (LCS)

(LCS) R4162199-1 12/24/24 18:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	4.98	99.6	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			108	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) R4162396-3 12/27/24 05:18

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	102			75.0-131
(S) 4-Bromofluorobenzene	94.6			67.0-138
(S) 1,2-Dichloroethane-d4	112			70.0-130

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

(LCS) R4162396-1 12/27/24 03:43 • (LCSD) R4162396-2 12/27/24 04:02

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Benzene	0.125	0.119	0.122	95.2	97.6	70.0-123			2.49	20
Toluene	0.125	0.123	0.125	98.4	100	75.0-121			1.61	20
Ethylbenzene	0.125	0.125	0.125	100	100	74.0-126			0.000	20
Xylenes, Total	0.375	0.367	0.370	97.9	98.7	72.0-127			0.814	20
1,2,4-Trimethylbenzene	0.125	0.149	0.158	119	126	70.0-126			5.86	20
1,3,5-Trimethylbenzene	0.125	0.143	0.150	114	120	73.0-127			4.78	20
(S) Toluene-d8				97.9	98.1	75.0-131				
(S) 4-Bromofluorobenzene				95.7	96.6	67.0-138				
(S) 1,2-Dichloroethane-d4				117	120	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) R4162115-1 12/26/24 13:28

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
<i>(S) o-Terphenyl</i>	73.3			18.0-148

Laboratory Control Sample (LCS)

(LCS) R4162115-2 12/26/24 13:41

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	39.4	78.8	50.0-150	
<i>(S) o-Terphenyl</i>			94.9	18.0-148	

L1811532-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1811532-03 12/26/24 18:30 • (MS) R4162115-3 12/26/24 18:43 • (MSD) R4162115-4 12/26/24 18:56

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	49.5	2200	3540	2870	2710	1370	100	50.0-150	<u>V</u>	<u>J3 V</u>	20.9	20
<i>(S) o-Terphenyl</i>					0.000	0.000		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) R4162844-2 12/27/24 19:19

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	93.3			23.0-120
(S) Nitrobenzene-d5	85.9			14.0-149
(S) 2-Fluorobiphenyl	87.1			34.0-125

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4162844-1 12/27/24 19:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0706	88.3	50.0-120	
Anthracene	0.0800	0.0791	98.9	50.0-126	
Benzo(a)anthracene	0.0800	0.0796	99.5	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0639	79.9	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0645	80.6	49.0-125	
Benzo(a)pyrene	0.0800	0.0638	79.8	42.0-120	
Chrysene	0.0800	0.0724	90.5	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0629	78.6	47.0-125	
Fluoranthene	0.0800	0.0725	90.6	49.0-129	
Fluorene	0.0800	0.0706	88.3	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0652	81.5	46.0-125	
1-Methylnaphthalene	0.0800	0.0754	94.3	51.0-121	
2-Methylnaphthalene	0.0800	0.0717	89.6	50.0-120	
Naphthalene	0.0800	0.0718	89.8	50.0-120	
Pyrene	0.0800	0.0733	91.6	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4162844-1 12/27/24 19:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			86.2	23.0-120	
(S) Nitrobenzene-d5			96.9	14.0-149	
(S) 2-Fluorobiphenyl			84.9	34.0-125	

L1812038-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1812038-05 12/27/24 22:16 • (MS) R4162844-3 12/27/24 22:34 • (MSD) R4162844-4 12/27/24 22:52

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	0.0788	U	0.0580	0.0565	73.6	71.3	1	14.0-127			2.62	27
Anthracene	0.0788	U	0.0660	0.0662	83.8	83.6	1	10.0-145			0.303	30
Benzo(a)anthracene	0.0788	U	0.0687	0.0692	87.2	87.4	1	10.0-139			0.725	30
Benzo(b)fluoranthene	0.0788	0.00208	0.0502	0.0512	61.1	62.0	1	10.0-140			1.97	36
Benzo(k)fluoranthene	0.0788	U	0.0489	0.0496	62.1	62.6	1	10.0-137			1.42	31
Benzo(a)pyrene	0.0788	U	0.0540	0.0544	68.5	68.7	1	10.0-141			0.738	31
Chrysene	0.0788	U	0.0601	0.0605	76.3	76.4	1	10.0-145			0.663	30
Dibenz(a,h)anthracene	0.0788	U	0.0530	0.0541	67.3	68.3	1	10.0-132			2.05	31
Fluoranthene	0.0788	U	0.0618	0.0625	78.4	78.9	1	10.0-153			1.13	33
Fluorene	0.0788	U	0.0599	0.0590	76.0	74.5	1	11.0-130			1.51	29
Indeno(1,2,3-cd)pyrene	0.0788	U	0.0555	0.0575	70.4	72.6	1	10.0-137			3.54	32
1-Methylnaphthalene	0.0788	0.00496	0.0625	0.0615	73.0	71.4	1	10.0-142			1.61	28
2-Methylnaphthalene	0.0788	0.00547	0.0596	0.0592	68.7	67.8	1	10.0-137			0.673	28
Naphthalene	0.0788	U	0.0580	0.0577	73.6	72.9	1	10.0-135			0.519	27
Pyrene	0.0788	0.00425	0.0577	0.0584	67.8	68.4	1	10.0-148			1.21	35
(S) p-Terphenyl-d14					69.3	64.2		23.0-120				
(S) Nitrobenzene-d5					86.0	77.4		14.0-149				
(S) 2-Fluorobiphenyl					72.4	66.3		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.

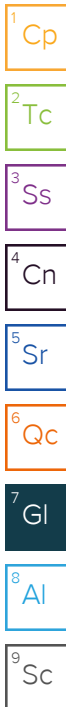
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

B	The same analyte is found in the associated blank.
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

