

Chevron - CO

Sample Delivery Group: L1878596
Samples Received: 07/15/2025
Project Number: 0736294
Description: Chevron RBU/Spike State GWS 30-02
Site: 123-15820
Report To: Justin Onwiler
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Greeley, CO 80631

Entire Report Reviewed By:



Chris Ward
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

26817-WH-01-SO-6-20250714 L1878596-01

Collected by
Collected date/time
Received date/time

07/14/25 10:10 07/15/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2561304	1	07/18/25 14:07	07/18/25 14:07	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2563912	1	07/29/25 10:40	07/31/25 14:26	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D (S-1.10)	WG2562309	1	07/18/25 13:48	07/20/25 14:03	BJM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod (S-1.20)	WG2562314	1	07/18/25 13:54	07/24/25 15:28	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010D (S-7.10)	WG2561314	1	07/17/25 09:58	07/17/25 12:49	RLS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2560721	5	07/17/25 16:15	07/31/25 05:37	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D	WG2560534	1	07/15/25 16:24	07/16/25 14:46	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2560181	1	07/15/25 16:24	07/16/25 00:42	JBE	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2561153	1	07/18/25 10:26	07/19/25 13:52	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2561039	1	07/17/25 16:41	07/18/25 01:02	KB	Mt. Juliet, TN

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

26817-WH-02-SO-2-20250714 L1878596-02

Collected by
Collected date/time
Received date/time

07/14/25 10:00 07/15/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2561304	1	07/18/25 14:10	07/18/25 14:10	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2563912	1	07/29/25 10:40	07/31/25 14:35	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D (S-1.10)	WG2562309	1	07/18/25 13:48	07/20/25 14:03	BJM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod (S-1.20)	WG2562314	1	07/18/25 13:54	07/24/25 15:28	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010D (S-7.10)	WG2561314	1	07/17/25 09:58	07/17/25 12:52	RLS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2560721	5	07/17/25 16:15	07/31/25 05:40	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D	WG2560534	1	07/15/25 16:24	07/16/25 15:05	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2560181	1	07/15/25 16:24	07/16/25 01:02	JBE	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2561153	1	07/18/25 10:26	07/19/25 14:05	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2561039	1	07/17/25 16:41	07/18/25 01:20	KB	Mt. Juliet, TN

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.



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	1.07		1	07/18/2025 14:07	WG2561304

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

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.200	1	07/31/2025 14:26	WG2563912

Wet Chemistry by Method 9045D (S-1.10)

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.05		1	07/20/2025 14:03	WG2562309

Sample Narrative:

L1878596-01 WG2562309: 8.05 at 26.4C

Wet Chemistry by Method 9050AMod (S-1.20)

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	0.318	mmhos/cm		0.0100	1	07/24/2025 15:28	WG2562314

Sample Narrative:

L1878596-01 WG2562314: at 25C

Metals (ICP) by Method 6010D (S-7.10)

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		0.100	1	07/17/2025 12:49	WG2561314

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	1.46		0.100	5	07/31/2025 05:37	WG2560721
Barium	39.0		10.0	5	07/31/2025 05:37	WG2560721
Cadmium	ND		0.100	5	07/31/2025 05:37	WG2560721
Copper	ND		10.0	5	07/31/2025 05:37	WG2560721
Lead	ND		10.0	5	07/31/2025 05:37	WG2560721
Nickel	ND		10.0	5	07/31/2025 05:37	WG2560721
Selenium	0.136		0.100	5	07/31/2025 05:37	WG2560721
Silver	ND		0.500	5	07/31/2025 05:37	WG2560721
Zinc	ND		50.0	5	07/31/2025 05:37	WG2560721

Volatile Organic Compounds (GC) by Method 8015D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	07/16/2025 14:46	WG2560534
(S) a,a,a-Trifluorotoluene(FID)	94.0		77.0-120		07/16/2025 14:46	WG2560534

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	07/16/2025 00:42	WG2560181
Ethylbenzene	ND		0.0100	1	07/16/2025 00:42	WG2560181
Toluene	ND		0.0100	1	07/16/2025 00:42	WG2560181
1,2,4-Trimethylbenzene	ND		0.00500	1	07/16/2025 00:42	WG2560181
1,3,5-Trimethylbenzene	ND		0.00500	1	07/16/2025 00:42	WG2560181
Xylenes, Total	ND		0.100	1	07/16/2025 00:42	WG2560181
(S) Toluene-d8	90.4		75.0-131		07/16/2025 00:42	WG2560181
(S) 4-Bromofluorobenzene	97.3		67.0-138		07/16/2025 00:42	WG2560181
(S) 1,2-Dichloroethane-d4	99.1		70.0-130		07/16/2025 00:42	WG2560181

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	07/19/2025 13:52	WG2561153
C28-C36 Motor Oil Range	ND		4.00	1	07/19/2025 13:52	WG2561153
(S) o-Terphenyl	41.6		18.0-148		07/19/2025 13:52	WG2561153

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0330	1	07/18/2025 01:02	WG2561039
Acenaphthene	ND		0.0330	1	07/18/2025 01:02	WG2561039
Acenaphthylene	ND		0.0330	1	07/18/2025 01:02	WG2561039
Benzo(a)anthracene	ND		0.00600	1	07/18/2025 01:02	WG2561039
Benzo(a)pyrene	ND		0.0330	1	07/18/2025 01:02	WG2561039
Benzo(b)fluoranthene	ND		0.0330	1	07/18/2025 01:02	WG2561039
Benzo(g,h,i)perylene	ND		0.0330	1	07/18/2025 01:02	WG2561039
Benzo(k)fluoranthene	ND		0.0330	1	07/18/2025 01:02	WG2561039
Chrysene	ND		0.0330	1	07/18/2025 01:02	WG2561039
Dibenz(a,h)anthracene	ND		0.0330	1	07/18/2025 01:02	WG2561039
Fluoranthene	ND		0.0330	1	07/18/2025 01:02	WG2561039
Fluorene	ND		0.0330	1	07/18/2025 01:02	WG2561039
Indeno(1,2,3-cd)pyrene	ND		0.0330	1	07/18/2025 01:02	WG2561039
Naphthalene	ND		0.00300	1	07/18/2025 01:02	WG2561039
Phenanthrene	ND		0.0330	1	07/18/2025 01:02	WG2561039
Pyrene	ND		0.0330	1	07/18/2025 01:02	WG2561039
1-Methylnaphthalene	ND		0.00300	1	07/18/2025 01:02	WG2561039
2-Methylnaphthalene	ND		0.0120	1	07/18/2025 01:02	WG2561039
(S) p-Terphenyl-d14	70.2		23.0-120		07/18/2025 01:02	WG2561039
(S) Nitrobenzene-d5	82.4		14.0-149		07/18/2025 01:02	WG2561039
(S) 2-Fluorobiphenyl	79.3		34.0-125		07/18/2025 01:02	WG2561039

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.695		1	07/18/2025 14:10	WG2561304

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.200	1	07/31/2025 14:35	WG2563912

- 5 Sr
- 6 Qc

Wet Chemistry by Method 9045D (S-1.10)

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.29		1	07/20/2025 14:03	WG2562309

- 7 Gl
- 8 Al

Sample Narrative:

L1878596-02 WG2562309: 7.29 at 26.6C

Wet Chemistry by Method 9050AMod (S-1.20)

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	0.717	mmhos/cm		0.0100	1	07/24/2025 15:28	WG2562314

- 9 Sc

Sample Narrative:

L1878596-02 WG2562314: at 25C

Metals (ICP) by Method 6010D (S-7.10)

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		0.100	1	07/17/2025 12:52	WG2561314

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	1.46		0.100	5	07/31/2025 05:40	WG2560721
Barium	45.9		10.0	5	07/31/2025 05:40	WG2560721
Cadmium	0.117		0.100	5	07/31/2025 05:40	WG2560721
Copper	ND		10.0	5	07/31/2025 05:40	WG2560721
Lead	ND		10.0	5	07/31/2025 05:40	WG2560721
Nickel	ND		10.0	5	07/31/2025 05:40	WG2560721
Selenium	0.438		0.100	5	07/31/2025 05:40	WG2560721
Silver	ND		0.500	5	07/31/2025 05:40	WG2560721
Zinc	ND		50.0	5	07/31/2025 05:40	WG2560721

Volatile Organic Compounds (GC) by Method 8015D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	07/16/2025 15:05	WG2560534
(S) a,a,a-Trifluorotoluene(FID)	95.4		77.0-120		07/16/2025 15:05	WG2560534

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	07/16/2025 01:02	WG2560181
Ethylbenzene	ND		0.0100	1	07/16/2025 01:02	WG2560181
Toluene	ND		0.0100	1	07/16/2025 01:02	WG2560181
1,2,4-Trimethylbenzene	ND		0.00500	1	07/16/2025 01:02	WG2560181
1,3,5-Trimethylbenzene	ND		0.00500	1	07/16/2025 01:02	WG2560181
Xylenes, Total	ND		0.100	1	07/16/2025 01:02	WG2560181
(S) Toluene-d8	90.3		75.0-131		07/16/2025 01:02	WG2560181
(S) 4-Bromofluorobenzene	96.3		67.0-138		07/16/2025 01:02	WG2560181
(S) 1,2-Dichloroethane-d4	96.9		70.0-130		07/16/2025 01:02	WG2560181

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	07/19/2025 14:05	WG2561153
C28-C36 Motor Oil Range	ND		4.00	1	07/19/2025 14:05	WG2561153
(S) o-Terphenyl	62.8		18.0-148		07/19/2025 14:05	WG2561153

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0330	1	07/18/2025 01:20	WG2561039
Acenaphthene	ND		0.0330	1	07/18/2025 01:20	WG2561039
Acenaphthylene	ND		0.0330	1	07/18/2025 01:20	WG2561039
Benzo(a)anthracene	ND		0.00600	1	07/18/2025 01:20	WG2561039
Benzo(a)pyrene	ND		0.0330	1	07/18/2025 01:20	WG2561039
Benzo(b)fluoranthene	ND		0.0330	1	07/18/2025 01:20	WG2561039
Benzo(g,h,i)perylene	ND		0.0330	1	07/18/2025 01:20	WG2561039
Benzo(k)fluoranthene	ND		0.0330	1	07/18/2025 01:20	WG2561039
Chrysene	ND		0.0330	1	07/18/2025 01:20	WG2561039
Dibenz(a,h)anthracene	ND		0.0330	1	07/18/2025 01:20	WG2561039
Fluoranthene	ND		0.0330	1	07/18/2025 01:20	WG2561039
Fluorene	ND		0.0330	1	07/18/2025 01:20	WG2561039
Indeno(1,2,3-cd)pyrene	ND		0.0330	1	07/18/2025 01:20	WG2561039
Naphthalene	ND		0.00300	1	07/18/2025 01:20	WG2561039
Phenanthrene	ND		0.0330	1	07/18/2025 01:20	WG2561039
Pyrene	ND		0.0330	1	07/18/2025 01:20	WG2561039
1-Methylnaphthalene	ND		0.00300	1	07/18/2025 01:20	WG2561039
2-Methylnaphthalene	ND		0.0120	1	07/18/2025 01:20	WG2561039
(S) p-Terphenyl-d14	99.0		23.0-120		07/18/2025 01:20	WG2561039
(S) Nitrobenzene-d5	101		14.0-149		07/18/2025 01:20	WG2561039
(S) 2-Fluorobiphenyl	102		34.0-125		07/18/2025 01:20	WG2561039

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4252254-1 07/31/25 10:52

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Hexavalent Chromium	U		0.200	0.200

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1878528-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1878528-05 07/31/25 11:45 • (DUP) R4252254-3 07/31/25 11:54

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Hexavalent Chromium	0.281	0.267	1	0.000		20

L1878586-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1878586-09 07/31/25 13:41 • (DUP) R4252254-4 07/31/25 13:50

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

Laboratory Control Sample (LCS)

(LCS) R4252254-2 07/31/25 11:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Hexavalent Chromium	10.0	9.60	96.0	80.0-120	

L1878600-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1878600-02 07/31/25 14:52 • (MS) R4252254-5 07/31/25 15:01 • (MSD) R4252254-6 07/31/25 15:10

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	ND	16.5	19.5	82.5	97.7	1	75.0-125			16.9	20

L1878600-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1878600-02 07/31/25 14:52 • (MS) R4252254-7 07/31/25 15:19

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Hexavalent Chromium	656	ND	574	87.5	50	75.0-125	

L1878586-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1878586-01 07/20/25 14:03 • (DUP) R4247363-2 07/20/25 14:03

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.96	6.97	1	0.144		1

Sample Narrative:

OS: 6.96 at 27.6C
DUP: 6.97 at 27.8C

L1878993-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1878993-10 07/20/25 14:03 • (DUP) R4247363-3 07/20/25 14:03

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.05	8.05	1	0.000		1

Sample Narrative:

OS: 8.05 at 26.4C
DUP: 8.05 at 26.8C

Laboratory Control Sample (LCS)

(LCS) R4247363-1 07/20/25 14:03

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	9.98	99.8	99.0-101	

Sample Narrative:

LCS: 9.98 at 26.5C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4249170-1 07/24/25 15:28

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Specific Conductance	U		0.0100	0.0100

Sample Narrative:

BLANK: at 25C

L1878586-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1878586-02 07/24/25 15:28 • (DUP) R4249170-3 07/24/25 15:28

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Specific Conductance	0.0583	0.0584	1	0.171		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1878993-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1878993-09 07/24/25 15:28 • (DUP) R4249170-4 07/24/25 15:28

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Specific Conductance	0.260	0.256	1	1.55		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4249170-2 07/24/25 15:28

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Specific Conductance	0.581	0.579	99.7	90.0-110	

Sample Narrative:

LCS: at 25C



Method Blank (MB)

(MB) R4246339-1 07/17/25 12:03

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hot Water Sol. Boron	U		0.0199	0.100

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

(LCS) R4246339-2 07/17/25 12:06 • (LCSD) R4246339-3 07/17/25 12:09

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	0.953	0.950	95.3	95.0	80.0-120			0.218	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4251858-1 07/31/25 04:35

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	0.100
Barium	U		10.0	10.0
Cadmium	U		0.100	0.100
Copper	U		10.0	10.0
Lead	U		10.0	10.0
Nickel	U		10.0	10.0
Selenium	U		0.100	0.100
Silver	U		0.500	0.500
Zinc	U		50.0	50.0

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

Laboratory Control Sample (LCS)

(LCS) R4251858-2 07/31/25 04:39

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	104	104	80.0-120	
Barium	100	106	106	80.0-120	
Cadmium	100	108	108	80.0-120	
Copper	100	108	108	80.0-120	
Lead	100	105	105	80.0-120	
Nickel	100	108	108	80.0-120	
Selenium	100	103	103	80.0-120	
Silver	20.0	21.6	108	80.0-120	
Zinc	100	104	104	80.0-120	

⁷Gl

⁸Al

⁹Sc

L1878600-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1878600-03 07/31/25 04:42 • (MS) R4251858-5 07/31/25 04:52 • (MSD) R4251858-6 07/31/25 04:55

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	1.43	101	99.2	99.3	97.7	5	75.0-125			1.59	20
Barium	100	41.3	148	144	107	103	5	75.0-125			2.70	20
Cadmium	100	ND	102	99.8	102	99.8	5	75.0-125			2.35	20
Copper	100	ND	104	101	104	101	5	75.0-125			3.56	20
Lead	100	ND	104	101	104	101	5	75.0-125			3.00	20
Nickel	100	ND	105	103	105	103	5	75.0-125			2.16	20
Selenium	100	0.179	99.4	98.7	99.2	98.5	5	75.0-125			0.715	20
Silver	20.0	ND	20.6	20.3	103	101	5	75.0-125			1.46	20
Zinc	100	ND	113	111	113	111	5	75.0-125			1.68	20

Method Blank (MB)

(MB) R4246585-2 07/16/25 10:26

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0800	0.100
(S) a,a,a-Trifluorotoluene(FID)	96.3			77.0-120

Laboratory Control Sample (LCS)

(LCS) R4246585-1 07/16/25 09:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	4.43	88.6	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			106	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) R4246274-2 07/15/25 21:23

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
Benzene	U		0.00100	0.00100
Ethylbenzene	U		0.0100	0.0100
Toluene	U		0.0100	0.0100
1,2,4-Trimethylbenzene	U		0.00500	0.00500
1,3,5-Trimethylbenzene	U		0.00500	0.00500
Xylenes, Total	U		0.100	0.100
<i>(S) Toluene-d8</i>	92.4			75.0-131
<i>(S) 4-Bromofluorobenzene</i>	96.4			67.0-138
<i>(S) 1,2-Dichloroethane-d4</i>	106			70.0-130

Laboratory Control Sample (LCS)

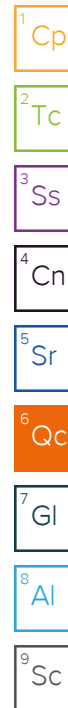
(LCS) R4246274-1 07/15/25 19:19

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/kg	mg/kg	%	%	
Benzene	0.125	0.138	110	70.0-123	
Ethylbenzene	0.125	0.113	90.4	74.0-126	
Toluene	0.125	0.115	92.0	75.0-121	
1,2,4-Trimethylbenzene	0.125	0.118	94.4	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.121	96.8	73.0-127	
Xylenes, Total	0.375	0.326	86.9	72.0-127	
<i>(S) Toluene-d8</i>			89.6	75.0-131	
<i>(S) 4-Bromofluorobenzene</i>			92.3	67.0-138	
<i>(S) 1,2-Dichloroethane-d4</i>			111	70.0-130	

L1878596-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1878596-01 07/16/25 00:42 • (MS) R4246274-3 07/16/25 03:21 • (MSD) R4246274-4 07/16/25 03:41

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Benzene	0.125	ND	0.125	0.124	100	99.2	1	10.0-149			0.803	37
Ethylbenzene	0.125	ND	0.105	0.106	84.0	84.8	1	10.0-160			0.948	38
Toluene	0.125	ND	0.112	0.109	89.6	87.2	1	10.0-156			2.71	38
1,2,4-Trimethylbenzene	0.125	ND	0.111	0.119	88.8	95.2	1	10.0-160			6.96	36
1,3,5-Trimethylbenzene	0.125	ND	0.118	0.118	94.4	94.4	1	10.0-160			0.000	38
Xylenes, Total	0.375	ND	0.335	0.346	89.3	92.3	1	10.0-160			3.23	38
<i>(S) Toluene-d8</i>					89.9	90.3		75.0-131				
<i>(S) 4-Bromofluorobenzene</i>					116	112		67.0-138				
<i>(S) 1,2-Dichloroethane-d4</i>					104	102		70.0-130				



Method Blank (MB)

(MB) R4247397-1 07/19/25 13:25

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	68.6			18.0-148

Laboratory Control Sample (LCS)

(LCS) R4247397-2 07/19/25 13:38

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	39.6	79.2	50.0-150	
(S) o-Terphenyl			89.2	18.0-148	

L1878644-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1878644-03 07/19/25 15:38 • (MS) R4247397-3 07/19/25 15:51 • (MSD) R4247397-4 07/19/25 16:04

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.5	ND	36.1	35.4	72.9	72.4	1	50.0-150			1.96	20
(S) o-Terphenyl					77.9	76.1		18.0-148				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4246634-2 07/17/25 23:01

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.0330	0.0330
Acenaphthene	U		0.0330	0.0330
Acenaphthylene	U		0.0330	0.0330
Benzo(a)anthracene	U		0.00600	0.00600
Benzo(a)pyrene	U		0.0330	0.0330
Benzo(b)fluoranthene	U		0.0330	0.0330
Benzo(g,h,i)perylene	U		0.0330	0.0330
Benzo(k)fluoranthene	U		0.0330	0.0330
Chrysene	U		0.0330	0.0330
Dibenz(a,h)anthracene	U		0.0330	0.0330
Fluoranthene	U		0.0330	0.0330
Fluorene	U		0.0330	0.0330
Indeno(1,2,3-cd)pyrene	U		0.0330	0.0330
Naphthalene	U		0.00300	0.00300
Phenanthrene	U		0.0330	0.0330
Pyrene	U		0.0330	0.0330
1-Methylnaphthalene	U		0.00300	0.00300
2-Methylnaphthalene	U		0.0120	0.0120
<i>(S) p-Terphenyl-d14</i>	104			23.0-120
<i>(S) Nitrobenzene-d5</i>	107			14.0-149
<i>(S) 2-Fluorobiphenyl</i>	104			34.0-125

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS)

(LCS) R4246634-1 07/17/25 22:43

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0769	96.1	50.0-126	
Acenaphthene	0.0800	0.0763	95.4	50.0-120	
Acenaphthylene	0.0800	0.0792	99.0	50.0-120	
Benzo(a)anthracene	0.0800	0.0799	99.9	45.0-120	
Benzo(a)pyrene	0.0800	0.0519	64.9	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0796	99.5	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0766	95.8	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0764	95.5	49.0-125	
Chrysene	0.0800	0.0809	101	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0811	101	47.0-125	
Fluoranthene	0.0800	0.0816	102	49.0-129	
Fluorene	0.0800	0.0825	103	49.0-120	

Laboratory Control Sample (LCS)

(LCS) R4246634-1 07/17/25 22:43

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Indeno(1,2,3-cd)pyrene	0.0800	0.0776	97.0	46.0-125	
Naphthalene	0.0800	0.0874	109	50.0-120	
Phenanthrene	0.0800	0.0823	103	47.0-120	
Pyrene	0.0800	0.0819	102	43.0-123	
1-Methylnaphthalene	0.0800	0.0820	103	51.0-121	
2-Methylnaphthalene	0.0800	0.0808	101	50.0-120	
(S) p-Terphenyl-d14			108	23.0-120	
(S) Nitrobenzene-d5			109	14.0-149	
(S) 2-Fluorobiphenyl			110	34.0-125	

L1878204-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1878204-03 07/17/25 23:35 • (MS) R4246634-3 07/17/25 23:53 • (MSD) R4246634-4 07/18/25 00:10

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	0.0776	ND	0.0772	0.0687	99.5	88.1	1	10.0-145			11.7	30
Acenaphthene	0.0776	ND	0.0758	0.0682	97.7	87.4	1	14.0-127			10.6	27
Acenaphthylene	0.0776	ND	0.0749	0.0701	96.5	89.9	1	21.0-124			6.62	25
Benzo(a)anthracene	0.0776	ND	0.0751	0.0698	96.8	89.5	1	10.0-139			7.32	30
Benzo(a)pyrene	0.0776	ND	0.0690	0.0644	88.9	82.6	1	10.0-141			6.90	31
Benzo(b)fluoranthene	0.0776	ND	0.0706	0.0654	91.0	83.8	1	10.0-140			7.65	36
Benzo(g,h,i)perylene	0.0776	ND	0.0613	0.0578	79.0	74.1	1	10.0-140			5.88	33
Benzo(k)fluoranthene	0.0776	ND	0.0656	0.0619	84.5	79.4	1	10.0-137			5.80	31
Chrysene	0.0776	ND	0.0752	0.0700	96.9	89.7	1	10.0-145			7.16	30
Dibenz(a,h)anthracene	0.0776	ND	0.0648	0.0609	83.5	78.1	1	10.0-132			6.21	31
Fluoranthene	0.0776	ND	0.0797	0.0720	103	92.3	1	10.0-153			10.2	33
Fluorene	0.0776	ND	0.0812	0.0738	105	94.6	1	11.0-130			9.55	29
Indeno(1,2,3-cd)pyrene	0.0776	ND	0.0618	0.0580	79.6	74.4	1	10.0-137			6.34	32
Naphthalene	0.0776	0.00846	0.0901	0.0793	105	90.8	1	10.0-135			12.8	27
Phenanthrene	0.0776	ND	0.0872	0.0738	112	94.6	1	10.0-144			16.6	31
Pyrene	0.0776	ND	0.0787	0.0715	101	91.7	1	10.0-148			9.59	35
1-Methylnaphthalene	0.0776	0.00302	0.0825	0.0768	102	94.6	1	10.0-142			7.16	28
2-Methylnaphthalene	0.0776	ND	0.0832	0.0774	107	99.2	1	10.0-137			7.22	28
(S) p-Terphenyl-d14					101	94.2		23.0-120				
(S) Nitrobenzene-d5					117	110		14.0-149				
(S) 2-Fluorobiphenyl					103	95.1		34.0-125				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

GLOSSARY OF TERMS

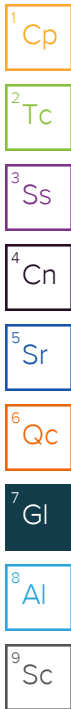
Guide to Reading and Understanding Your Laboratory Report

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.
ND	Not detected at the Reporting Limit (or MDL where applicable).
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.
U (Radiochemistry)	Result + Error < MDA.
J (Radiochemistry)	Result < MDA; Result + Error > MDA.
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

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

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

