

Norris Environmental

Sample Delivery Group: L846903
Samples Received: 07/14/2016
Project Number: FED 2-24-81
Description: National Fuel Corp FED 2-24-81 Pit
Site: FED 2-24-81 PIT
Report To: Sean Norris
778 23rd Road
Grand Junction, CO 81505

Entire Report Reviewed By:



Shane Gambill
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



NFC-FED 2-24-81-N- 6IN L846903-01 Solid

Collected by
Sean T. Norris

Collected date/time
07/12/16 15:37

Received date/time
07/14/16 09:00

¹ Cp

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 8015	WG888881	1	07/14/16 13:11	07/15/16 14:17	ACM
Volatile Organic Compounds (GC) by Method 8015	WG889621	24.25	07/18/16 11:00	07/19/16 00:10	DWR
Volatile Organic Compounds (GC) by Method 8021	WG889621	24.25	07/18/16 11:00	07/19/16 15:22	DWR

² Tc

³ Ss

NFC-FED 2-24-81-E- 6IN L846903-02 Solid

Collected by
Sean T. Norris

Collected date/time
07/12/16 15:41

Received date/time
07/14/16 09:00

⁴ Cn

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 8015	WG888881	20	07/14/16 13:11	07/16/16 01:28	DMG
Volatile Organic Compounds (GC) by Method 8015	WG889621	24	07/18/16 11:00	07/19/16 00:32	DWR
Volatile Organic Compounds (GC) by Method 8021	WG889621	24	07/18/16 11:00	07/19/16 15:45	DWR

⁵ Sr

⁶ Qc

NFC-FED 2-24-81-S- 6IN L846903-03 Solid

Collected by
Sean T. Norris

Collected date/time
07/12/16 15:40

Received date/time
07/14/16 09:00

⁷ Gl

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 8015	WG888881	5	07/14/16 13:11	07/15/16 19:07	DMG
Volatile Organic Compounds (GC) by Method 8015/8021	WG889492	50	07/16/16 23:07	07/18/16 01:27	BMB

⁸ Al

⁹ Sc

NFC-FED 2-24-81-W- 6IN L846903-04 Solid

Collected by
Sean T. Norris

Collected date/time
07/12/16 15:38

Received date/time
07/14/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 8015	WG888881	5	07/14/16 13:11	07/16/16 01:39	DMG
Volatile Organic Compounds (GC) by Method 8015/8021	WG889492	1	07/16/16 23:07	07/19/16 07:59	ACG

NFC-FED 2-24-81-BTM- 6IN L846903-05 Solid

Collected by
Sean T. Norris

Collected date/time
07/12/16 15:43

Received date/time
07/14/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 8015	WG888881	20	07/14/16 13:11	07/15/16 19:18	DMG
Volatile Organic Compounds (GC) by Method 8015/8021	WG889492	122.5	07/16/16 23:07	07/18/16 02:09	BMB

NFC-FED 2-24-81-ETS- 6IN L846903-06 Solid

Collected by
Sean T. Norris

Collected date/time
07/12/16 15:50

Received date/time
07/14/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG888840	1	07/14/16 16:55	07/15/16 16:56	KK
Calculated Results	WG888848	1	07/15/16 10:25	07/16/16 19:11	BRJ
Mercury by Method 7471A	WG888833	1	07/14/16 12:56	07/15/16 08:00	TRB
Metals (ICP) by Method 6010B	WG888840	1	07/14/16 16:55	07/15/16 00:24	LTB
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG889001	20	07/14/16 16:28	07/18/16 08:09	KMP
Semi-Volatile Organic Compounds (GC) by Method 8015	WG888881	20	07/14/16 13:11	07/16/16 02:13	DMG
Volatile Organic Compounds (GC) by Method 8015/8021	WG889492	12	07/16/16 23:07	07/18/16 02:30	BMB
Wet Chemistry by Method 3060A/7196A	WG888129	1	07/14/16 10:13	07/15/16 16:56	KK
Wet Chemistry by Method 9050AMod	WG888870	1	07/14/16 12:45	07/14/16 12:45	AMC



NFC-FED 2-24-81-BG1- 6IN L846903-07 Solid

Collected by
Sean T. NorrisCollected date/time
07/12/16 15:59Received date/time
07/14/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG888840	1	07/14/16 16:55	07/15/16 00:32	LTB

¹Cp²Tc³Ss

NFC-FED 2-24-81-BG2- 6IN L846903-08 Solid

Collected by
Sean T. NorrisCollected date/time
07/12/16 16:04Received date/time
07/14/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG888840	1	07/14/16 16:55	07/15/16 00:35	LTB

⁴Cn⁵Sr⁶Qc

NFC-FED 2-24-81-BG3- 6IN L846903-09 Solid

Collected by
Sean T. NorrisCollected date/time
07/12/16 16:09Received date/time
07/14/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG888840	1	07/14/16 16:55	07/15/16 00:37	LTB

⁷Gl⁸Al⁹Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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.

Shane Gambill
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.0121	24.25	07/19/2016 15:22	WG889621
Toluene	ND		0.121	24.25	07/19/2016 15:22	WG889621
Ethylbenzene	0.0475	<u>B</u>	0.0121	24.25	07/19/2016 15:22	WG889621
Total Xylene	0.465		0.0364	24.25	07/19/2016 15:22	WG889621
TPH (GC/FID) Low Fraction	29.5		2.42	24.25	07/19/2016 00:10	WG889621
(S) a,a,a-Trifluorotoluene(FID)	95.6		59.0-128		07/19/2016 00:10	WG889621
(S) a,a,a-Trifluorotoluene(FID)	96.3		59.0-128		07/19/2016 15:22	WG889621
(S) a,a,a-Trifluorotoluene(PID)	103		54.0-144		07/19/2016 15:22	WG889621
(S) a,a,a-Trifluorotoluene(PID)	102		54.0-144		07/19/2016 00:10	WG889621

Sample Narrative:

8015/8021 L846903-01 WG889621: Non-target compounds too high to run at a lower dilution.

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	122		4.00	1	07/15/2016 14:17	WG888881
(S) o-Terphenyl	55.7		50.0-150		07/15/2016 14:17	WG888881

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.0120	24	07/19/2016 15:45	WG889621
Toluene	ND		0.120	24	07/19/2016 15:45	WG889621
Ethylbenzene	ND		0.0120	24	07/19/2016 15:45	WG889621
Total Xylene	ND	<u>B</u>	0.0360	24	07/19/2016 15:45	WG889621
TPH (GC/FID) Low Fraction	9.39		2.40	24	07/19/2016 00:32	WG889621
(S) a,a,a-Trifluorotoluene(FID)	95.1		59.0-128		07/19/2016 00:32	WG889621
(S) a,a,a-Trifluorotoluene(FID)	96.5		59.0-128		07/19/2016 15:45	WG889621
(S) a,a,a-Trifluorotoluene(PID)	103		54.0-144		07/19/2016 15:45	WG889621
(S) a,a,a-Trifluorotoluene(PID)	101		54.0-144		07/19/2016 00:32	WG889621

Sample Narrative:

8015/8021 L846903-02 WG889621: Non-target compounds too high to run at a lower dilution.

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1430		80.0	20	07/16/2016 01:28	WG888881
(S) o-Terphenyl	0.000	<u>J7</u>	50.0-150		07/16/2016 01:28	WG888881

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.0250	50	07/18/2016 01:27	WG889492
Toluene	ND		0.250	50	07/18/2016 01:27	WG889492
Ethylbenzene	ND		0.0250	50	07/18/2016 01:27	WG889492
Total Xylene	0.447		0.0750	50	07/18/2016 01:27	WG889492
TPH (GC/FID) Low Fraction	26.2		5.00	50	07/18/2016 01:27	WG889492
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	99.0		59.0-128		07/18/2016 01:27	WG889492
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	102		54.0-144		07/18/2016 01:27	WG889492

Sample Narrative:

8015/8021 L846903-03 WG889492: Non-target compounds too high to run at a lower dilution.

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	620		20.0	5	07/15/2016 19:07	WG888881
(S) <i>o</i> -Terphenyl	111		50.0-150		07/15/2016 19:07	WG888881

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	07/19/2016 07:59	WG889492
Toluene	ND		0.00500	1	07/19/2016 07:59	WG889492
Ethylbenzene	ND		0.000500	1	07/19/2016 07:59	WG889492
Total Xylene	ND		0.00150	1	07/19/2016 07:59	WG889492
TPH (GC/FID) Low Fraction	0.271		0.100	1	07/19/2016 07:59	WG889492
(S) a,a,a-Trifluorotoluene(FID)	95.8		59.0-128		07/19/2016 07:59	WG889492
(S) a,a,a-Trifluorotoluene(PID)	102		54.0-144		07/19/2016 07:59	WG889492

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	670		20.0	5	07/16/2016 01:39	WG888881
(S) o-Terphenyl	115		50.0-150		07/16/2016 01:39	WG888881

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.0612	122.5	07/18/2016 02:09	WG889492
Toluene	ND		0.612	122.5	07/18/2016 02:09	WG889492
Ethylbenzene	0.839		0.0612	122.5	07/18/2016 02:09	WG889492
Total Xylene	20.3		0.184	122.5	07/18/2016 02:09	WG889492
TPH (GC/FID) Low Fraction	723		12.2	122.5	07/18/2016 02:09	WG889492
(S) a,a,a-Trifluorotoluene(FID)	99.1		59.0-128		07/18/2016 02:09	WG889492
(S) a,a,a-Trifluorotoluene(PID)	102		54.0-144		07/18/2016 02:09	WG889492

Sample Narrative:

8015/8021 L846903-05 WG889492: Non-target compounds too high to run at a lower dilution.

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	2510		80.0	20	07/15/2016 19:18	WG888881
(S) o-Terphenyl	0.000	J7	50.0-150		07/15/2016 19:18	WG888881

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	2.15		1	07/16/2016 19:11	WG888848

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	20.6		2.00	1	07/15/2016 16:56	WG888840

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	07/15/2016 16:56	WG888129

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	154		1	07/14/2016 12:45	WG888870

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	07/15/2016 08:00	WG888833

Metals (ICP) by Method 6010B

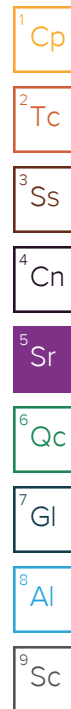
Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.71		2.00	1	07/15/2016 00:24	WG888840
Barium	50.3		0.500	1	07/15/2016 00:24	WG888840
Cadmium	ND		0.500	1	07/15/2016 00:24	WG888840
Chromium	20.6		1.00	1	07/15/2016 00:24	WG888840
Copper	4.00		2.00	1	07/15/2016 00:24	WG888840
Lead	6.43		0.500	1	07/15/2016 00:24	WG888840
Nickel	2.12		2.00	1	07/15/2016 00:24	WG888840
Selenium	ND		2.00	1	07/15/2016 00:24	WG888840
Silver	ND		1.00	1	07/15/2016 00:24	WG888840
Zinc	14.5		5.00	1	07/15/2016 00:24	WG888840

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00879		0.00600	12	07/18/2016 02:30	WG889492
Toluene	ND		0.0600	12	07/18/2016 02:30	WG889492
Ethylbenzene	0.00922		0.00600	12	07/18/2016 02:30	WG889492
Total Xylene	0.646		0.0180	12	07/18/2016 02:30	WG889492
TPH (GC/FID) Low Fraction	38.8		1.20	12	07/18/2016 02:30	WG889492
(S) a,a,a-Trifluorotoluene(FID)	101		59.0-128		07/18/2016 02:30	WG889492
(S) a,a,a-Trifluorotoluene(PID)	103		54.0-144		07/18/2016 02:30	WG889492

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1010		80.0	20	07/16/2016 02:13	WG888881
(S) o-Terphenyl	135	J7	50.0-150		07/16/2016 02:13	WG888881





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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.160		0.120	20	07/18/2016 08:09	WG889001
Acenaphthene	0.149		0.120	20	07/18/2016 08:09	WG889001
Acenaphthylene	ND		0.120	20	07/18/2016 08:09	WG889001
Benzo(a)anthracene	ND		0.120	20	07/18/2016 08:09	WG889001
Benzo(a)pyrene	ND		0.120	20	07/18/2016 08:09	WG889001
Benzo(b)fluoranthene	ND		0.120	20	07/18/2016 08:09	WG889001
Benzo(g,h,i)perylene	ND		0.120	20	07/18/2016 08:09	WG889001
Benzo(k)fluoranthene	ND		0.120	20	07/18/2016 08:09	WG889001
Chrysene	ND		0.120	20	07/18/2016 08:09	WG889001
Dibenz(a,h)anthracene	ND		0.120	20	07/18/2016 08:09	WG889001
Fluoranthene	0.214	<u>J3</u>	0.120	20	07/18/2016 08:09	WG889001
Fluorene	0.272		0.120	20	07/18/2016 08:09	WG889001
Indeno(1,2,3-cd)pyrene	ND		0.120	20	07/18/2016 08:09	WG889001
Naphthalene	0.643		0.400	20	07/18/2016 08:09	WG889001
Phenanthrene	0.574		0.120	20	07/18/2016 08:09	WG889001
Pyrene	0.181	<u>J4</u>	0.120	20	07/18/2016 08:09	WG889001
1-Methylnaphthalene	0.604		0.400	20	07/18/2016 08:09	WG889001
2-Methylnaphthalene	1.15		0.400	20	07/18/2016 08:09	WG889001
2-Chloronaphthalene	ND		0.400	20	07/18/2016 08:09	WG889001
(S) p-Terphenyl-d14	75.5	<u>J7</u>	32.2-131		07/18/2016 08:09	WG889001
(S) Nitrobenzene-d5	181	<u>J7</u>	22.1-146		07/18/2016 08:09	WG889001
(S) 2-Fluorobiphenyl	84.2	<u>J7</u>	40.6-122		07/18/2016 08:09	WG889001

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Sample Narrative:

8270C-SIM L846903-06 WG889001: Dilution due to matrix



Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.98		2.00	1	07/15/2016 00:32	WG888840

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.84		2.00	1	07/15/2016 00:35	WG888840

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.33		2.00	1	07/15/2016 00:37	WG888840

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3150105-1 07/15/16 16:25

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chromium,Hexavalent	U		0.640	2.00

L846437-01 Original Sample (OS) • Duplicate (DUP)

(OS) L846437-01 07/15/16 16:38 • (DUP) R3150105-4 07/15/16 16:38

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

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

(LCS) R3150105-2 07/15/16 16:26 • (LCSD) R3150105-3 07/15/16 16:26

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Chromium,Hexavalent	56.9	49.4	49.4	87.0	87.0	80.0-120			0.000	20

L846437-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L846437-01 07/15/16 16:38 • (MS) R3150105-5 07/15/16 16:38 • (MSD) R3150105-6 07/15/16 16:40

	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	%	%		%			%	%
Chromium,Hexavalent	20.0	ND	13.2	13.7	66.0	68.0	1	75.0-125	J6	J6	4.00	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) WG888870-8 07/14/16 12:45

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	2.00			

L846898-06 Original Sample (OS) • Duplicate (DUP)

(OS) L846898-06 07/14/16 12:45 • (DUP) WG888870-5 07/14/16 12:45

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	318	319	1	0.314		20

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

(LCS) WG888870-6 07/14/16 12:45 • (LCSD) WG888870-7 07/14/16 12:45

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCSD Result umhos/cm	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Specific Conductance	653	666	664	102	102	90.0-110			0.301	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3149951-1 07/15/16 07:39

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Mercury	U		0.0028	0.0200

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

(LCS) R3149951-2 07/15/16 07:42 • (LCSD) R3149951-3 07/15/16 07:45

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Mercury	0.300	0.267	0.262	89	87	80-120			2	20

L846898-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L846898-06 07/15/16 07:48 • (MS) R3149951-4 07/15/16 07:51 • (MSD) R3149951-5 07/15/16 07:54

	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	%	%		%			%	%
Mercury	0.300	ND	0.280	0.266	91	86	1	75-125			5	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3149852-1 07/14/16 23:59

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.65	2.00
Barium	U		0.17	0.500
Cadmium	U		0.07	0.500
Chromium	U		0.14	1.00
Copper	U		0.53	2.00
Lead	0.233	J	0.19	0.500
Nickel	U		0.49	2.00
Selenium	U		0.74	2.00
Silver	U		0.28	1.00
Zinc	0.957	J	0.59	5.00

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R3149852-2 07/15/16 00:02 • (LCSD) R3149852-3 07/15/16 00:04

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 %
Arsenic	100	97.6	99.7	98	100	80-120			2	20
Barium	100	100	102	100	102	80-120			2	20
Cadmium	100	101	103	101	103	80-120			2	20
Chromium	100	100	102	100	102	80-120			2	20
Copper	100	98.7	101	99	101	80-120			2	20
Lead	100	104	106	104	106	80-120			2	20
Nickel	100	99.1	101	99	101	80-120			2	20
Selenium	100	98.4	101	98	101	80-120			3	20
Silver	100	100	102	100	102	80-120			2	20
Zinc	100	102	103	102	103	80-120			1	20

L846919-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L846919-06 07/15/16 00:07 • (MS) R3149852-6 07/15/16 00:16 • (MSD) R3149852-7 07/15/16 00:19

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	129	6.21	144	146	106	108	1	75-125			1	20
Barium	129	136	267	276	101	108	1	75-125			3	20
Cadmium	129	0.309	142	143	110	110	1	75-125			1	20
Chromium	129	9.91	132	134	95	96	1	75-125			2	20
Copper	129	11.6	153	152	109	108	1	75-125			1	20
Lead	129	10.7	150	152	108	109	1	75-125			2	20



L846919-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L846919-06 07/15/16 00:07 • (MS) R3149852-6 07/15/16 00:16 • (MSD) R3149852-7 07/15/16 00:19

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Nickel	129	8.84	143	144	104	105	1	75-125			1	20
Selenium	129	U	140	144	108	111	1	75-125			3	20
Silver	129	U	148	148	114	114	1	75-125			0	20
Zinc	129	43.6	173	173	100	100	1	75-125			0	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3150475-5 07/17/16 23:00

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID) 99.1			59.0-128	
(S) a,a,a-Trifluorotoluene(PID) 102			54.0-144	

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

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

(LCS) R3150475-1 07/17/16 21:16 • (LCSD) R3150475-2 07/17/16 21:37

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	0.0500	0.0457	0.0467	91.4	93.4	70.0-130			2.23	20
Toluene	0.0500	0.0500	0.0508	100	102	70.0-130			1.43	20
Ethylbenzene	0.0500	0.0506	0.0513	101	103	70.0-130			1.43	20
Total Xylene	0.150	0.157	0.159	104	106	70.0-130			1.17	20
(S) a,a,a-Trifluorotoluene(FID)				99.1	99.0	59.0-128				
(S) a,a,a-Trifluorotoluene(PID)				103	103	54.0-144				

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

(LCS) R3150475-3 07/17/16 21:58 • (LCSD) R3150475-4 07/17/16 22:19

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 %
TPH (GC/FID) Low Fraction	5.50	5.82	6.04	106	110	63.5-137			3.76	20
(S) a,a,a-Trifluorotoluene(FID)				101	100	59.0-128				
(S) a,a,a-Trifluorotoluene(PID)				105	105	54.0-144				

L846905-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L846905-01 07/18/16 02:51 • (MS) R3150475-6 07/17/16 23:42 • (MSD) R3150475-7 07/18/16 00:03

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 %
Benzene	0.0500	ND	0.0264	0.0163	52.9	32.7	1	49.7-127		J3 J6	47.1	23.5
Toluene	0.0500	ND	0.0267	0.0153	52.2	29.4	1	49.8-132		J3 J6	54.3	23.5
Ethylbenzene	0.0500	0.00173	0.0243	0.0133	45.1	23.1	1	40.8-141		J3 J6	58.6	23.8
Total Xylene	0.150	0.0122	0.0760	0.0425	42.5	20.2	1	41.2-140	J6	J3 J6	56.6	23.7
(S) a,a,a-Trifluorotoluene(FID)					97.1	97.7		59.0-128				



L846905-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L846905-01 07/18/16 02:51 • (MS) R3150475-6 07/17/16 23:42 • (MSD) R3150475-7 07/18/16 00:03												
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
(S) a,a,a-Trifluorotoluene(PID)					101	101		54.0-144				

L846905-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L846905-01 07/18/16 02:51 • (MS) R3150475-8 07/18/16 00:24 • (MSD) R3150475-9 07/18/16 00:45												
	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	%	%		%			%	%
TPH (GC/FID) Low Fraction	5.50	1.17	1.92	2.93	13.5	31.8	1	28.5-138	J6	J3	41.6	23.6
(S) a,a,a-Trifluorotoluene(FID)					96.8	96.3		59.0-128				
(S) a,a,a-Trifluorotoluene(PID)					103	103		54.0-144				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3150564-3 07/18/16 14:34

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	0.000626	J	0.000150	0.00500
Ethylbenzene	0.000225	J	0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0275	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID) 94.9				59.0-128
(S) a,a,a-Trifluorotoluene(PID) 102				54.0-144

Method Blank (MB)

(MB) R3150703-3 07/19/16 09:15

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	0.000290	J	0.000150	0.00500
Ethylbenzene	0.000212	J	0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0525	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID) 95.1				59.0-128
(S) a,a,a-Trifluorotoluene(PID) 102				54.0-144

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

(LCS) R3150564-1 07/18/16 13:28 • (LCSD) R3150564-2 07/18/16 13:50

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 %
TPH (GC/FID) Low Fraction	5.50	5.97	5.94	109	108	63.5-137			0.480	20
(S) a,a,a-Trifluorotoluene(FID)				105	105	59.0-128				
(S) a,a,a-Trifluorotoluene(PID)				112	112	54.0-144				

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

(LCS) R3150703-1 07/19/16 08:08 • (LCSD) R3150703-2 07/19/16 08:30

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	0.0500	0.0436	0.0464	87.3	92.7	70.0-130			6.03	20
Toluene	0.0500	0.0444	0.0460	88.8	91.9	70.0-130			3.50	20
Ethylbenzene	0.0500	0.0449	0.0472	89.8	94.3	70.0-130			4.90	20
Total Xylene	0.150	0.138	0.144	92.2	95.7	70.0-130			3.78	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



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

(LCS) R3150703-1 07/19/16 08:08 • (LCSD) R3150703-2 07/19/16 08:30

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 %
(S) a,a,a-Trifluorotoluene(FID)				95.2	95.0	59.0-128				
(S) a,a,a-Trifluorotoluene(PID)				101	100	54.0-144				

L847320-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L847320-01 07/18/16 16:13 • (MS) R3150564-4 07/18/16 16:35 • (MSD) R3150564-5 07/18/16 16:57

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 %
Benzene	0.0500	ND	0.0456	0.0468	91.1	93.7	1	49.7-127			2.74	23.5
Toluene	0.0500	ND	0.0439	0.0452	87.1	89.6	1	49.8-132			2.85	23.5
Ethylbenzene	0.0500	0.000513	0.0431	0.0445	85.1	88.0	1	40.8-141			3.27	23.8
Total Xylene	0.150	ND	0.129	0.134	85.6	88.4	1	41.2-140			3.22	23.7
(S) a,a,a-Trifluorotoluene(FID)					94.9	93.6		59.0-128				
(S) a,a,a-Trifluorotoluene(PID)					101	99.4		54.0-144				

L847320-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L847320-01 07/18/16 16:13 • (MS) R3150564-6 07/18/16 17:19 • (MSD) R3150564-7 07/18/16 17:42

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	5.50	ND	4.56	4.22	81.4	75.2	1	28.5-138			7.74	23.6
(S) a,a,a-Trifluorotoluene(FID)					101	100		59.0-128				
(S) a,a,a-Trifluorotoluene(PID)					108	108		54.0-144				

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



Method Blank (MB)

(MB) R3149977-1 07/15/16 03:22

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	69.3			50.0-150

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R3149977-2 07/15/16 03:34 • (LCSD) R3149977-3 07/15/16 08:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	60.0	38.7	42.5	64.5	70.8	50.0-150			9.23	20
(S) o-Terphenyl				65.8	63.8	50.0-150				

L846898-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L846898-02 07/15/16 12:01 • (MS) R3149977-4 07/15/16 12:12 • (MSD) R3149977-5 07/15/16 12:23

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) High Fraction	60.0	ND	40.7	37.9	65.0	60.2	1	50.0-150			7.33	20
(S) o-Terphenyl					68.5	62.6		50.0-150				

Method Blank (MB)

(MB) R3150279-3 07/16/16 01:12

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.000600	0.00600
Acenaphthene	U		0.000600	0.00600
Acenaphthylene	U		0.000600	0.00600
Benzo(a)anthracene	U		0.000600	0.00600
Benzo(a)pyrene	U		0.000600	0.00600
Benzo(b)fluoranthene	U		0.000600	0.00600
Benzo(g,h,i)perylene	U		0.000600	0.00600
Benzo(k)fluoranthene	U		0.000600	0.00600
Chrysene	U		0.000600	0.00600
Dibenz(a,h)anthracene	U		0.000600	0.00600
Fluoranthene	U		0.000600	0.00600
Fluorene	U		0.000600	0.00600
Indeno(1,2,3-cd)pyrene	U		0.000600	0.00600
Naphthalene	U		0.00200	0.0200
Phenanthrene	U		0.000600	0.00600
Pyrene	U		0.000600	0.00600
1-Methylnaphthalene	U		0.00200	0.0200
2-Methylnaphthalene	U		0.00200	0.0200
2-Chloronaphthalene	U		0.00200	0.0200
(S) p-Terphenyl-d14	98.5			32.2-131
(S) Nitrobenzene-d5	98.4			22.1-146
(S) 2-Fluorobiphenyl	95.9			40.6-122

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R3150279-1 07/16/16 00:30 • (LCSD) R3150279-2 07/16/16 00:51

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 %
Anthracene	0.0800	0.0836	0.0887	105	111	50.3-130			5.86	20
Acenaphthene	0.0800	0.0854	0.0856	107	107	52.4-120			0.310	20
Acenaphthylene	0.0800	0.0846	0.0856	106	107	49.6-120			1.13	20
Benzo(a)anthracene	0.0800	0.0902	0.0906	113	113	46.7-125			0.460	20
Benzo(a)pyrene	0.0800	0.0870	0.0902	109	113	42.3-119			3.57	20
Benzo(b)fluoranthene	0.0800	0.0959	0.0929	120	116	43.6-124			3.14	20
Benzo(g,h,i)perylene	0.0800	0.0887	0.0902	111	113	45.1-132			1.69	20
Benzo(k)fluoranthene	0.0800	0.0827	0.0883	103	110	46.1-131			6.47	20
Chrysene	0.0800	0.0860	0.0875	107	109	49.5-131			1.74	20
Dibenz(a,h)anthracene	0.0800	0.0884	0.0893	111	112	44.8-133			1.03	20
Fluoranthene	0.0800	0.0832	0.102	104	128	49.3-128		J3	20.5	20

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

(LCS) R3150279-1 07/16/16 00:30 • (LCSD) R3150279-2 07/16/16 00:51

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Fluorene	0.0800	0.0810	0.0817	101	102	50.6-121			0.850	20
Indeno(1,2,3-cd)pyrene	0.0800	0.0891	0.0905	111	113	46.1-135			1.64	20
Naphthalene	0.0800	0.0782	0.0791	97.7	98.8	49.6-115			1.09	20
Phenanthrene	0.0800	0.0879	0.0898	110	112	48.8-121			2.07	20
Pyrene	0.0800	0.106	0.108	132	135	44.7-130	J4	J4	2.05	20
1-Methylnaphthalene	0.0800	0.0843	0.0859	105	107	50.6-122			1.81	20
2-Methylnaphthalene	0.0800	0.0834	0.0847	104	106	50.4-120			1.44	20
2-Chloronaphthalene	0.0800	0.0840	0.0846	105	106	53.9-121			0.780	20
(S) p-Terphenyl-d14				106	104	32.2-131				
(S) Nitrobenzene-d5				112	111	22.1-146				
(S) 2-Fluorobiphenyl				106	103	40.6-122				

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
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.
(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.
Rec.	Recovery.

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.
J4	The associated batch QC was outside the established quality control range for accuracy.
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.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE**.

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

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

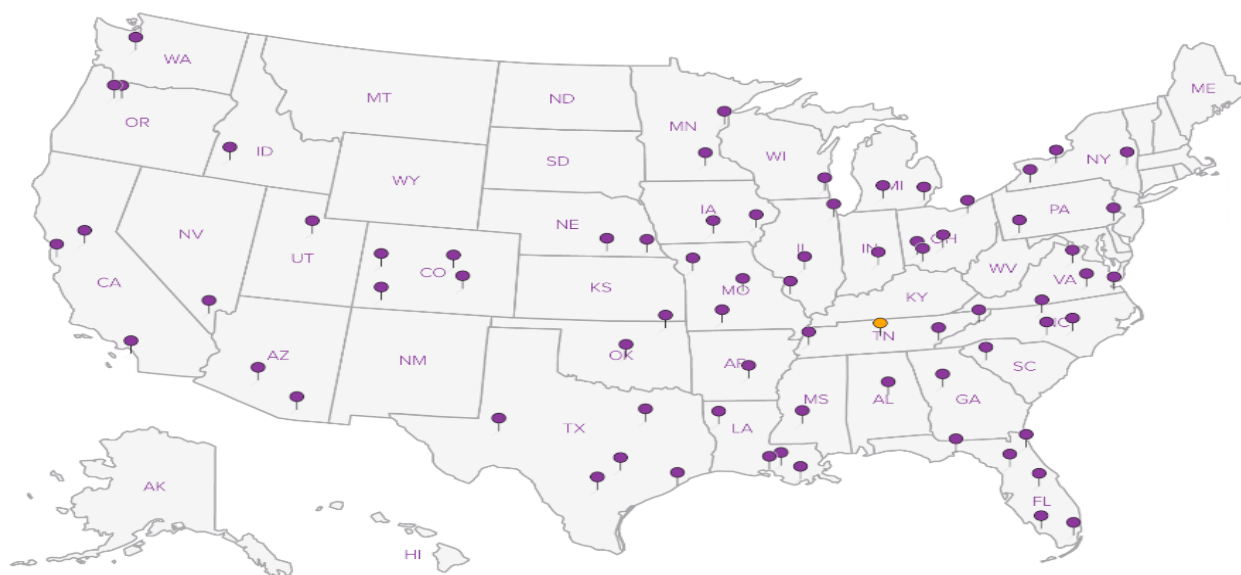
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{n/a} Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



Company Name/Address: Norris Environmental LLC 778 23 Road Grand Junction, CO 81505				Billing Information: Same				Analysis / Container / Preservative										Chain of Custody Page ____ of ____ <div style="text-align: center;"> ESC L.A.B S.C.I.E.N.C.E.S <hr/> YOUR LAB OF CHOICE 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859 </div>			
Report to: Sean T. Norris				Email To: sean@norrisenvironmentalllc.com				<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BTEX GRO/DRO - 8021/8015</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">SV8270PAHSIM - 8270SIM</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">SPCON - 9050AMod</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">SAR - CALC</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">RCRA8 Metals + Cu, Ni and Zn - 6010/7470</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">CR6SS - 3060A/7196</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">CR3 - CALC</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Arsenic</div> </div>													
Project Description: National Fuel Corp Fed 2-24-81 Pit				City/State Collected: Mesa County CO																	
Phone: 970-241-9974 Fax:		Client Project # Fed 2-24-81		Lab Project #																	
Collected by (print): Sean T. Norris		Site/Facility ID # Fed 2-24-81 Pit		P.O. #																	
Collected by (signature): <div style="border: 1px solid black; padding: 2px;"> Immediately Packed on Ice N ____ Y <input checked="" type="checkbox"/> </div>		Rush? (Lab MUST Be Notified) <div style="display: flex; justify-content: space-between;"> <div> ____ Same Day200% ____ Next Day100% ____ Two Day50% <input checked="" type="checkbox"/> Three Day25% </div> <div> Date Results Needed Email? ____ No <input checked="" type="checkbox"/> Yes FAX? ____ No ____ Yes </div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">No. of Cntrs</div> </div>																			

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX GRO/DRO - 8021/8015	SV8270PAHSIM - 8270SIM	SPCON - 9050AMod	SAR - CALC	RCRA8 Metals + Cu, Ni and Zn - 6010/7470	CR6SS - 3060A/7196	CR3 - CALC	Arsenic	Rem./Contaminant	Sample # (lab only)
NFC-Fed 2-24-81-N-	Grab	SS	6"	7/12/2016	3:37	2	X									01
NFC-Fed 2-24-81-E-	Grab	SS	6"	7/12/2016	3:41	2	X									02
NFC-Fed 2-24-81-S-	Grab	SS	6"	7/12/2016	3:40	2	X									03
NFC-Fed 2-24-81-W-	Grab	SS	6"	7/12/2016	3:38	2	X									04
NFC-Fed 2-24-81-BTM-	Grab	SS	6"	7/12/2016	3:43	2	X									05
NFC-Fed 2-24-81-ETS-	Comp	SS	6"	7/12/2016	3:50	3	X	X	X	X	X	X	X			06
NFC-Fed 2-24-81-BG1-	Grab	SS	6"	7/12/2016	3:59	1								X		07
NFC-Fed 2-24-81-BG2-	Grab	SS	6"	7/12/2016	4:04	1								X		08
NFC-Fed 2-24-81-BG3-	Grab	SS	6"	7/12/2016	4:09	1								X		09

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other _____

Remarks: _____

pH _____ Temp _____

Flow _____ Other _____

6645 0391 4262

Relinquished by: (Signature) 		Date: 7/13/16 Time: 5:37		Received by: (Signature) 		Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____		Condition: (lab use only) <div style="text-align: right;">Tall</div>	
Relinquished by: (Signature) 		Date: 7/13/16 Time: 1800		Received by: (Signature) 		Temp: 2.1°C Bottles Received: 16 = 402		COC Seal Intact: ____ Y ____ N <input checked="" type="checkbox"/> NA	
Relinquished by: (Signature) 		Date: _____ Time: _____		Received for lab by: (Signature) 		Date: 7-14-16 Time: 0900		pH Checked: _____ NCF: _____	