

October 26, 2018

HRL Compliance Solutions- CO

Sample Delivery Group: L1036765
Samples Received: 10/20/2018
Project Number: CPX - TPR 25A LANDFA
Description: CPX Holdings - TPR 25A Landfarm
Site: LANDFARM
Report To: Kris Rowe
2385 F ½ Road
Grand Junction, CO 81505

Entire Report Reviewed By:



Pam Langford
Project Manager

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 Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



SP 2 L1036765-01 Solid

Collected by
Casey Richardson

Collected date/time
10/19/18 07:55

Received date/time
10/20/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1185482	1	10/23/18 11:13	10/24/18 10:54	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1185804	1	10/25/18 10:25	10/25/18 21:37	DMW
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1185430	1	10/25/18 08:57	10/25/18 14:15	DMG

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

SP 3 L1036765-02 Solid

Collected by
Casey Richardson

Collected date/time
10/19/18 08:00

Received date/time
10/20/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1185482	1	10/23/18 11:13	10/24/18 11:15	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1185804	1	10/25/18 10:25	10/25/18 21:49	DMW
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1185430	1	10/25/18 08:57	10/25/18 14:37	DMG

SP 4 L1036765-03 Solid

Collected by
Casey Richardson

Collected date/time
10/19/18 08:06

Received date/time
10/20/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1185482	1	10/23/18 11:13	10/24/18 11:36	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1185804	1	10/25/18 10:25	10/25/18 22:01	DMW
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1185430	1	10/25/18 08:57	10/25/18 14:59	DMG

SP 5 L1036765-04 Solid

Collected by
Casey Richardson

Collected date/time
10/19/18 08:11

Received date/time
10/20/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1185482	1	10/23/18 11:13	10/24/18 11:58	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1185804	1	10/25/18 10:25	10/25/18 22:12	DMW
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1185430	1	10/25/18 08:57	10/25/18 15:21	DMG

SP 6 L1036765-05 Solid

Collected by
Casey Richardson

Collected date/time
10/19/18 08:20

Received date/time
10/20/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1185482	1	10/23/18 11:13	10/24/18 12:19	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1185804	1	10/25/18 10:25	10/25/18 22:43	DMW
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1185430	1	10/25/18 08:57	10/25/18 15:43	DMG

SP 7 L1036765-06 Solid

Collected by
Casey Richardson

Collected date/time
10/19/18 08:25

Received date/time
10/20/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1185482	1	10/23/18 11:13	10/24/18 14:26	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1185804	1	10/25/18 10:25	10/25/18 22:55	DMW
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1185430	1	10/25/18 08:57	10/25/18 16:05	DMG

ACCOUNT:

HRL Compliance Solutions- CO

PROJECT:

CPX - TPR 25A LANDFA

SDG:

L1036765

DATE/TIME:

10/26/18 14:55

PAGE:

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SP 8 L1036765-07 Solid

Collected by
Casey Richardson

Collected date/time
10/19/18 08:31

Received date/time
10/20/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1185482	1	10/23/18 11:13	10/24/18 14:47	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1185804	2	10/25/18 10:25	10/25/18 20:12	DMW
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1185430	1	10/25/18 08:57	10/25/18 16:27	DMG

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc

SP 11 L1036765-08 Solid

Collected by
Casey Richardson

Collected date/time
10/19/18 08:40

Received date/time
10/20/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1186308	1	10/23/18 11:13	10/25/18 19:47	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1185804	5	10/25/18 10:25	10/25/18 23:19	DMW
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1185430	1	10/25/18 08:57	10/25/18 16:49	DMG



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.

Pam Langford
Project Manager

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	0.00151	B	0.000500	1	10/24/2018 10:54	WG1185482
Toluene	ND		0.00500	1	10/24/2018 10:54	WG1185482
Ethylbenzene	0.000533	B	0.000500	1	10/24/2018 10:54	WG1185482
Total Xylene	0.00233	B	0.00150	1	10/24/2018 10:54	WG1185482
TPH (GC/FID) Low Fraction	ND		0.100	1	10/24/2018 10:54	WG1185482
(S) a,a,a-Trifluorotoluene(FID)	89.6		77.0-120		10/24/2018 10:54	WG1185482
(S) a,a,a-Trifluorotoluene(PID)	84.7		72.0-128		10/24/2018 10:54	WG1185482

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

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	50.7		4.00	1	10/25/2018 21:37	WG1185804
(S) o-Terphenyl	77.9		18.0-148		10/25/2018 21:37	WG1185804

6 Qc

7 Gl

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.0122		0.00600	1	10/25/2018 14:15	WG1185430
Acenaphthene	ND		0.00600	1	10/25/2018 14:15	WG1185430
Acenaphthylene	ND		0.00600	1	10/25/2018 14:15	WG1185430
Benzo(a)anthracene	0.0672		0.00600	1	10/25/2018 14:15	WG1185430
Benzo(a)pyrene	0.0222		0.00600	1	10/25/2018 14:15	WG1185430
Benzo(b)fluoranthene	0.0948		0.00600	1	10/25/2018 14:15	WG1185430
Benzo(g,h,i)perylene	0.0255		0.00600	1	10/25/2018 14:15	WG1185430
Benzo(k)fluoranthene	0.0152		0.00600	1	10/25/2018 14:15	WG1185430
Chrysene	0.0731		0.00600	1	10/25/2018 14:15	WG1185430
Dibenz(a,h)anthracene	0.0130		0.00600	1	10/25/2018 14:15	WG1185430
Fluoranthene	0.123		0.00600	1	10/25/2018 14:15	WG1185430
Fluorene	0.00795		0.00600	1	10/25/2018 14:15	WG1185430
Indeno(1,2,3-cd)pyrene	0.0179		0.00600	1	10/25/2018 14:15	WG1185430
Naphthalene	0.0385		0.0200	1	10/25/2018 14:15	WG1185430
Phenanthrene	0.0631		0.00600	1	10/25/2018 14:15	WG1185430
Pyrene	0.0506		0.00600	1	10/25/2018 14:15	WG1185430
1-Methylnaphthalene	0.0320		0.0200	1	10/25/2018 14:15	WG1185430
2-Methylnaphthalene	0.0574		0.0200	1	10/25/2018 14:15	WG1185430
2-Chloronaphthalene	ND		0.0200	1	10/25/2018 14:15	WG1185430
(S) p-Terphenyl-d14	72.5		23.0-120		10/25/2018 14:15	WG1185430
(S) Nitrobenzene-d5	59.2		14.0-149		10/25/2018 14:15	WG1185430
(S) 2-Fluorobiphenyl	50.5		34.0-125		10/25/2018 14:15	WG1185430

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	0.00166	B	0.000500	1	10/24/2018 11:15	WG1185482
Toluene	ND		0.00500	1	10/24/2018 11:15	WG1185482
Ethylbenzene	0.000527	B	0.000500	1	10/24/2018 11:15	WG1185482
Total Xylene	0.00213	B	0.00150	1	10/24/2018 11:15	WG1185482
TPH (GC/FID) Low Fraction	ND		0.100	1	10/24/2018 11:15	WG1185482
(S) a,a,a-Trifluorotoluene(FID)	89.1		77.0-120		10/24/2018 11:15	WG1185482
(S) a,a,a-Trifluorotoluene(PID)	84.3		72.0-128		10/24/2018 11:15	WG1185482

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

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	80.1		4.00	1	10/25/2018 21:49	WG1185804
(S) o-Terphenyl	72.6		18.0-148		10/25/2018 21:49	WG1185804

6 Qc

7 Gl

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.0138		0.00600	1	10/25/2018 14:37	WG1185430
Acenaphthene	ND		0.00600	1	10/25/2018 14:37	WG1185430
Acenaphthylene	ND		0.00600	1	10/25/2018 14:37	WG1185430
Benzo(a)anthracene	0.0343		0.00600	1	10/25/2018 14:37	WG1185430
Benzo(a)pyrene	0.0115		0.00600	1	10/25/2018 14:37	WG1185430
Benzo(b)fluoranthene	0.0462		0.00600	1	10/25/2018 14:37	WG1185430
Benzo(g,h,i)perylene	0.0127		0.00600	1	10/25/2018 14:37	WG1185430
Benzo(k)fluoranthene	0.0101		0.00600	1	10/25/2018 14:37	WG1185430
Chrysene	0.0375		0.00600	1	10/25/2018 14:37	WG1185430
Dibenz(a,h)anthracene	0.00669		0.00600	1	10/25/2018 14:37	WG1185430
Fluoranthene	0.0750		0.00600	1	10/25/2018 14:37	WG1185430
Fluorene	0.00783		0.00600	1	10/25/2018 14:37	WG1185430
Indeno(1,2,3-cd)pyrene	0.00891		0.00600	1	10/25/2018 14:37	WG1185430
Naphthalene	0.0410		0.0200	1	10/25/2018 14:37	WG1185430
Phenanthrene	0.0503		0.00600	1	10/25/2018 14:37	WG1185430
Pyrene	0.0301		0.00600	1	10/25/2018 14:37	WG1185430
1-Methylnaphthalene	0.0363		0.0200	1	10/25/2018 14:37	WG1185430
2-Methylnaphthalene	0.0779		0.0200	1	10/25/2018 14:37	WG1185430
2-Chloronaphthalene	ND		0.0200	1	10/25/2018 14:37	WG1185430
(S) p-Terphenyl-d14	64.2		23.0-120		10/25/2018 14:37	WG1185430
(S) Nitrobenzene-d5	51.9		14.0-149		10/25/2018 14:37	WG1185430
(S) 2-Fluorobiphenyl	35.5		34.0-125		10/25/2018 14:37	WG1185430

8 Al

9 Sc



Collected date/time: 10/19/18 08:06

L1036765

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00152	B	0.000500	1	10/24/2018 11:36	WG1185482
Toluene	ND		0.00500	1	10/24/2018 11:36	WG1185482
Ethylbenzene	ND		0.000500	1	10/24/2018 11:36	WG1185482
Total Xylene	0.00199	B	0.00150	1	10/24/2018 11:36	WG1185482
TPH (GC/FID) Low Fraction	ND		0.100	1	10/24/2018 11:36	WG1185482
(S) a,a,a-Trifluorotoluene(FID)	89.8		77.0-120		10/24/2018 11:36	WG1185482
(S) a,a,a-Trifluorotoluene(PID)	84.9		72.0-128		10/24/2018 11:36	WG1185482

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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	70.2		4.00	1	10/25/2018 22:01	WG1185804
(S) o-Terphenyl	85.2		18.0-148		10/25/2018 22:01	WG1185804

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	10/25/2018 14:59	WG1185430
Acenaphthene	ND		0.00600	1	10/25/2018 14:59	WG1185430
Acenaphthylene	ND		0.00600	1	10/25/2018 14:59	WG1185430
Benzo(a)anthracene	0.0700		0.00600	1	10/25/2018 14:59	WG1185430
Benzo(a)pyrene	0.0221		0.00600	1	10/25/2018 14:59	WG1185430
Benzo(b)fluoranthene	0.0931		0.00600	1	10/25/2018 14:59	WG1185430
Benzo(g,h,i)perylene	0.0249		0.00600	1	10/25/2018 14:59	WG1185430
Benzo(k)fluoranthene	0.0187		0.00600	1	10/25/2018 14:59	WG1185430
Chrysene	0.0720		0.00600	1	10/25/2018 14:59	WG1185430
Dibenz(a,h)anthracene	0.0127		0.00600	1	10/25/2018 14:59	WG1185430
Fluoranthene	0.144		0.00600	1	10/25/2018 14:59	WG1185430
Fluorene	0.00938		0.00600	1	10/25/2018 14:59	WG1185430
Indeno(1,2,3-cd)pyrene	0.0171		0.00600	1	10/25/2018 14:59	WG1185430
Naphthalene	0.0421		0.0200	1	10/25/2018 14:59	WG1185430
Phenanthrene	0.0719		0.00600	1	10/25/2018 14:59	WG1185430
Pyrene	0.0582		0.00600	1	10/25/2018 14:59	WG1185430
1-Methylnaphthalene	0.0341		0.0200	1	10/25/2018 14:59	WG1185430
2-Methylnaphthalene	0.0599		0.0200	1	10/25/2018 14:59	WG1185430
2-Chloronaphthalene	ND		0.0200	1	10/25/2018 14:59	WG1185430
(S) p-Terphenyl-d14	58.8		23.0-120		10/25/2018 14:59	WG1185430
(S) Nitrobenzene-d5	58.0		14.0-149		10/25/2018 14:59	WG1185430
(S) 2-Fluorobiphenyl	40.0		34.0-125		10/25/2018 14:59	WG1185430



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00137	B	0.000500	1	10/24/2018 11:58	WG1185482
Toluene	ND		0.00500	1	10/24/2018 11:58	WG1185482
Ethylbenzene	ND		0.000500	1	10/24/2018 11:58	WG1185482
Total Xylene	0.00250	B	0.00150	1	10/24/2018 11:58	WG1185482
TPH (GC/FID) Low Fraction	ND		0.100	1	10/24/2018 11:58	WG1185482
(S) a,a,a-Trifluorotoluene(FID)	89.7		77.0-120		10/24/2018 11:58	WG1185482
(S) a,a,a-Trifluorotoluene(PID)	84.5		72.0-128		10/24/2018 11:58	WG1185482

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

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	126		4.00	1	10/25/2018 22:12	WG1185804
(S) o-Terphenyl	76.6		18.0-148		10/25/2018 22:12	WG1185804

6 Qc

7 Gl

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.0102		0.00600	1	10/25/2018 15:21	WG1185430
Acenaphthene	ND		0.00600	1	10/25/2018 15:21	WG1185430
Acenaphthylene	ND		0.00600	1	10/25/2018 15:21	WG1185430
Benzo(a)anthracene	0.0555		0.00600	1	10/25/2018 15:21	WG1185430
Benzo(a)pyrene	0.0194		0.00600	1	10/25/2018 15:21	WG1185430
Benzo(b)fluoranthene	0.0827		0.00600	1	10/25/2018 15:21	WG1185430
Benzo(g,h,i)perylene	0.0213		0.00600	1	10/25/2018 15:21	WG1185430
Benzo(k)fluoranthene	0.0128		0.00600	1	10/25/2018 15:21	WG1185430
Chrysene	0.0572		0.00600	1	10/25/2018 15:21	WG1185430
Dibenz(a,h)anthracene	0.0112		0.00600	1	10/25/2018 15:21	WG1185430
Fluoranthene	0.113		0.00600	1	10/25/2018 15:21	WG1185430
Fluorene	0.00729		0.00600	1	10/25/2018 15:21	WG1185430
Indeno(1,2,3-cd)pyrene	0.0152		0.00600	1	10/25/2018 15:21	WG1185430
Naphthalene	0.0346		0.0200	1	10/25/2018 15:21	WG1185430
Phenanthrene	0.0533		0.00600	1	10/25/2018 15:21	WG1185430
Pyrene	0.0450		0.00600	1	10/25/2018 15:21	WG1185430
1-Methylnaphthalene	0.0277		0.0200	1	10/25/2018 15:21	WG1185430
2-Methylnaphthalene	0.0500		0.0200	1	10/25/2018 15:21	WG1185430
2-Chloronaphthalene	ND		0.0200	1	10/25/2018 15:21	WG1185430
(S) p-Terphenyl-d14	78.8		23.0-120		10/25/2018 15:21	WG1185430
(S) Nitrobenzene-d5	56.1		14.0-149		10/25/2018 15:21	WG1185430
(S) 2-Fluorobiphenyl	41.4		34.0-125		10/25/2018 15:21	WG1185430

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

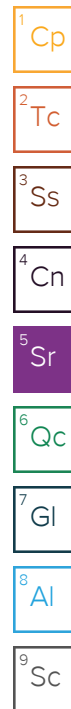
Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00157	B	0.000500	1	10/24/2018 12:19	WG1185482
Toluene	ND		0.00500	1	10/24/2018 12:19	WG1185482
Ethylbenzene	0.000508	B	0.000500	1	10/24/2018 12:19	WG1185482
Total Xylene	0.00217	B	0.00150	1	10/24/2018 12:19	WG1185482
TPH (GC/FID) Low Fraction	ND		0.100	1	10/24/2018 12:19	WG1185482
(S) a,a,a-Trifluorotoluene(FID)	88.7		77.0-120		10/24/2018 12:19	WG1185482
(S) a,a,a-Trifluorotoluene(PID)	83.7		72.0-128		10/24/2018 12:19	WG1185482

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	49.3		4.00	1	10/25/2018 22:43	WG1185804
(S) o-Terphenyl	69.3		18.0-148		10/25/2018 22:43	WG1185804

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.00893		0.00600	1	10/25/2018 15:43	WG1185430
Acenaphthene	ND		0.00600	1	10/25/2018 15:43	WG1185430
Acenaphthylene	ND		0.00600	1	10/25/2018 15:43	WG1185430
Benzo(a)anthracene	0.0408		0.00600	1	10/25/2018 15:43	WG1185430
Benzo(a)pyrene	0.0138		0.00600	1	10/25/2018 15:43	WG1185430
Benzo(b)fluoranthene	0.0580		0.00600	1	10/25/2018 15:43	WG1185430
Benzo(g,h,i)perylene	0.0153		0.00600	1	10/25/2018 15:43	WG1185430
Benzo(k)fluoranthene	0.0105		0.00600	1	10/25/2018 15:43	WG1185430
Chrysene	0.0448		0.00600	1	10/25/2018 15:43	WG1185430
Dibenz(a,h)anthracene	0.00801		0.00600	1	10/25/2018 15:43	WG1185430
Fluoranthene	0.0806		0.00600	1	10/25/2018 15:43	WG1185430
Fluorene	0.00741		0.00600	1	10/25/2018 15:43	WG1185430
Indeno(1,2,3-cd)pyrene	0.0108		0.00600	1	10/25/2018 15:43	WG1185430
Naphthalene	0.0401		0.0200	1	10/25/2018 15:43	WG1185430
Phenanthrene	0.0493		0.00600	1	10/25/2018 15:43	WG1185430
Pyrene	0.0347		0.00600	1	10/25/2018 15:43	WG1185430
1-Methylnaphthalene	0.0302		0.0200	1	10/25/2018 15:43	WG1185430
2-Methylnaphthalene	0.0607		0.0200	1	10/25/2018 15:43	WG1185430
2-Chloronaphthalene	ND		0.0200	1	10/25/2018 15:43	WG1185430
(S) p-Terphenyl-d14	79.3		23.0-120		10/25/2018 15:43	WG1185430
(S) Nitrobenzene-d5	50.0		14.0-149		10/25/2018 15:43	WG1185430
(S) 2-Fluorobiphenyl	41.3		34.0-125		10/25/2018 15:43	WG1185430





Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00168	B	0.000500	1	10/24/2018 14:26	WG1185482
Toluene	ND		0.00500	1	10/24/2018 14:26	WG1185482
Ethylbenzene	0.000531	B	0.000500	1	10/24/2018 14:26	WG1185482
Total Xylene	0.00216	B	0.00150	1	10/24/2018 14:26	WG1185482
TPH (GC/FID) Low Fraction	ND		0.100	1	10/24/2018 14:26	WG1185482
(S) a,a,a-Trifluorotoluene(FID)	89.8		77.0-120		10/24/2018 14:26	WG1185482
(S) a,a,a-Trifluorotoluene(PID)	84.8		72.0-128		10/24/2018 14:26	WG1185482

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

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	43.3		4.00	1	10/25/2018 22:55	WG1185804
(S) o-Terphenyl	80.3		18.0-148		10/25/2018 22:55	WG1185804

6 Qc

7 Gl

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.0144		0.00600	1	10/25/2018 16:05	WG1185430
Acenaphthene	ND		0.00600	1	10/25/2018 16:05	WG1185430
Acenaphthylene	ND		0.00600	1	10/25/2018 16:05	WG1185430
Benzo(a)anthracene	0.0650		0.00600	1	10/25/2018 16:05	WG1185430
Benzo(a)pyrene	0.0213		0.00600	1	10/25/2018 16:05	WG1185430
Benzo(b)fluoranthene	0.0982		0.00600	1	10/25/2018 16:05	WG1185430
Benzo(g,h,i)perylene	0.0216		0.00600	1	10/25/2018 16:05	WG1185430
Benzo(k)fluoranthene	0.0192		0.00600	1	10/25/2018 16:05	WG1185430
Chrysene	0.0708		0.00600	1	10/25/2018 16:05	WG1185430
Dibenz(a,h)anthracene	0.0115		0.00600	1	10/25/2018 16:05	WG1185430
Fluoranthene	0.122		0.00600	1	10/25/2018 16:05	WG1185430
Fluorene	0.00929		0.00600	1	10/25/2018 16:05	WG1185430
Indeno(1,2,3-cd)pyrene	0.0155		0.00600	1	10/25/2018 16:05	WG1185430
Naphthalene	0.0428		0.0200	1	10/25/2018 16:05	WG1185430
Phenanthrene	0.0637		0.00600	1	10/25/2018 16:05	WG1185430
Pyrene	0.0511		0.00600	1	10/25/2018 16:05	WG1185430
1-Methylnaphthalene	0.0342		0.0200	1	10/25/2018 16:05	WG1185430
2-Methylnaphthalene	0.0631		0.0200	1	10/25/2018 16:05	WG1185430
2-Chloronaphthalene	ND		0.0200	1	10/25/2018 16:05	WG1185430
(S) p-Terphenyl-d14	76.8		23.0-120		10/25/2018 16:05	WG1185430
(S) Nitrobenzene-d5	50.7		14.0-149		10/25/2018 16:05	WG1185430
(S) 2-Fluorobiphenyl	48.6		34.0-125		10/25/2018 16:05	WG1185430

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

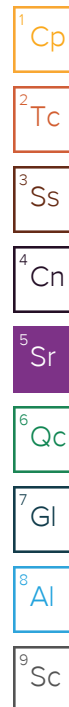
Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00164	B	0.000500	1	10/24/2018 14:47	WG1185482
Toluene	ND		0.00500	1	10/24/2018 14:47	WG1185482
Ethylbenzene	ND		0.000500	1	10/24/2018 14:47	WG1185482
Total Xylene	0.00171	B	0.00150	1	10/24/2018 14:47	WG1185482
TPH (GC/FID) Low Fraction	ND		0.100	1	10/24/2018 14:47	WG1185482
(S) a,a,a-Trifluorotoluene(FID)	90.0		77.0-120		10/24/2018 14:47	WG1185482
(S) a,a,a-Trifluorotoluene(PID)	84.7		72.0-128		10/24/2018 14:47	WG1185482

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	78.7	J5	8.00	2	10/25/2018 20:12	WG1185804
(S) o-Terphenyl	87.5		18.0-148		10/25/2018 20:12	WG1185804

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.0156		0.00600	1	10/25/2018 16:27	WG1185430
Acenaphthene	ND		0.00600	1	10/25/2018 16:27	WG1185430
Acenaphthylene	ND		0.00600	1	10/25/2018 16:27	WG1185430
Benzo(a)anthracene	0.101		0.00600	1	10/25/2018 16:27	WG1185430
Benzo(a)pyrene	0.0329		0.00600	1	10/25/2018 16:27	WG1185430
Benzo(b)fluoranthene	0.141		0.00600	1	10/25/2018 16:27	WG1185430
Benzo(g,h,i)perylene	0.0385		0.00600	1	10/25/2018 16:27	WG1185430
Benzo(k)fluoranthene	0.0261		0.00600	1	10/25/2018 16:27	WG1185430
Chrysene	0.112		0.00600	1	10/25/2018 16:27	WG1185430
Dibenz(a,h)anthracene	0.0192		0.00600	1	10/25/2018 16:27	WG1185430
Fluoranthene	0.187		0.00600	1	10/25/2018 16:27	WG1185430
Fluorene	0.0133		0.00600	1	10/25/2018 16:27	WG1185430
Indeno(1,2,3-cd)pyrene	0.0262		0.00600	1	10/25/2018 16:27	WG1185430
Naphthalene	0.0619		0.0200	1	10/25/2018 16:27	WG1185430
Phenanthrene	0.102		0.00600	1	10/25/2018 16:27	WG1185430
Pyrene	0.0720		0.00600	1	10/25/2018 16:27	WG1185430
1-Methylnaphthalene	0.0492		0.0200	1	10/25/2018 16:27	WG1185430
2-Methylnaphthalene	0.0941		0.0200	1	10/25/2018 16:27	WG1185430
2-Chloronaphthalene	ND		0.0200	1	10/25/2018 16:27	WG1185430
(S) p-Terphenyl-d14	75.2		23.0-120		10/25/2018 16:27	WG1185430
(S) Nitrobenzene-d5	60.0		14.0-149		10/25/2018 16:27	WG1185430
(S) 2-Fluorobiphenyl	54.7		34.0-125		10/25/2018 16:27	WG1185430





Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00194		0.000500	1	10/25/2018 19:47	WG1186308
Toluene	ND		0.00500	1	10/25/2018 19:47	WG1186308
Ethylbenzene	0.000702	B	0.000500	1	10/25/2018 19:47	WG1186308
Total Xylene	0.00465		0.00150	1	10/25/2018 19:47	WG1186308
TPH (GC/FID) Low Fraction	0.960		0.100	1	10/25/2018 19:47	WG1186308
(S) a,a,a-Trifluorotoluene(FID)	99.6		77.0-120		10/25/2018 19:47	WG1186308
(S) a,a,a-Trifluorotoluene(PID)	95.8		72.0-128		10/25/2018 19:47	WG1186308

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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	173		20.0	5	10/25/2018 23:19	WG1185804
(S) o-Terphenyl	61.0		18.0-148		10/25/2018 23:19	WG1185804

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.0164		0.00600	1	10/25/2018 16:49	WG1185430
Acenaphthene	ND		0.00600	1	10/25/2018 16:49	WG1185430
Acenaphthylene	ND		0.00600	1	10/25/2018 16:49	WG1185430
Benzo(a)anthracene	0.0918		0.00600	1	10/25/2018 16:49	WG1185430
Benzo(a)pyrene	0.0309		0.00600	1	10/25/2018 16:49	WG1185430
Benzo(b)fluoranthene	0.127		0.00600	1	10/25/2018 16:49	WG1185430
Benzo(g,h,i)perylene	0.0355		0.00600	1	10/25/2018 16:49	WG1185430
Benzo(k)fluoranthene	0.0262		0.00600	1	10/25/2018 16:49	WG1185430
Chrysene	0.0986		0.00600	1	10/25/2018 16:49	WG1185430
Dibenz(a,h)anthracene	0.0175		0.00600	1	10/25/2018 16:49	WG1185430
Fluoranthene	0.169		0.00600	1	10/25/2018 16:49	WG1185430
Fluorene	0.0114		0.00600	1	10/25/2018 16:49	WG1185430
Indeno(1,2,3-cd)pyrene	0.0244		0.00600	1	10/25/2018 16:49	WG1185430
Naphthalene	0.0558		0.0200	1	10/25/2018 16:49	WG1185430
Phenanthrene	0.0863		0.00600	1	10/25/2018 16:49	WG1185430
Pyrene	0.0702		0.00600	1	10/25/2018 16:49	WG1185430
1-Methylnaphthalene	0.0448		0.0200	1	10/25/2018 16:49	WG1185430
2-Methylnaphthalene	0.0835		0.0200	1	10/25/2018 16:49	WG1185430
2-Chloronaphthalene	ND		0.0200	1	10/25/2018 16:49	WG1185430
(S) p-Terphenyl-d14	62.4		23.0-120		10/25/2018 16:49	WG1185430
(S) Nitrobenzene-d5	59.6		14.0-149		10/25/2018 16:49	WG1185430
(S) 2-Fluorobiphenyl	42.2		34.0-125		10/25/2018 16:49	WG1185430



Method Blank (MB)

(MB) R3353537-4 10/24/18 06:19

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	0.000232	⌋	0.000120	0.000500
Toluene	0.000214	⌋	0.000150	0.00500
Ethylbenzene	0.000174	⌋	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)	92.5			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	87.4			72.0-128

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Laboratory Control Sample (LCS)

(LCS) R3353537-1 10/24/18 04:54

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0468	93.6	76.0-121	
Toluene	0.0500	0.0468	93.6	80.0-120	
Ethylbenzene	0.0500	0.0459	91.7	80.0-124	
Total Xylene	0.150	0.142	94.9	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			91.5	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			85.2	72.0-128	

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

(LCS) R3353537-2 10/24/18 05:16 • (LCSD) R3353537-3 10/24/18 05:37

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 %
TPH (GC/FID) Low Fraction	5.50	5.27	5.41	95.9	98.3	72.0-127			2.55	20
(S) a,a,a-Trifluorotoluene(FID)				106	107	77.0-120				
(S) a,a,a-Trifluorotoluene(PID)				98.0	98.6	72.0-128				



L1037112-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1037112-06 10/24/18 15:08 • (MS) R3353537-5 10/24/18 15:29 • (MSD) R3353537-6 10/24/18 15:50

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	0.465	21.0	20.1	82.2	78.3	500	10.0-155			4.69	32
Toluene	0.0500	6.04	31.0	30.5	99.7	97.9	500	10.0-160			1.39	34
Ethylbenzene	0.0500	37.7	47.3	49.0	38.4	45.1	500	10.0-160			3.50	32
Total Xylene	0.150	45.7	108	109	83.3	83.7	500	10.0-160	J6	J6	0.277	32
(S) a,a,a-Trifluorotoluene(FID)					97.1	97.8		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					91.7	92.6		72.0-128				

L1037112-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1037112-06 10/24/18 15:08 • (MS) R3353537-7 10/24/18 16:11 • (MSD) R3353537-8 10/24/18 16:32

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	2120	3040	3180	33.4	38.8	500	10.0-151			4.79	28
(S) a,a,a-Trifluorotoluene(FID)					104	104		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					97.7	98.4		72.0-128				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3353990-5 10/25/18 13:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	0.000168	U	0.000150	0.00500
Ethylbenzene	0.000120	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)	106			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	95.8			72.0-128

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

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

(LCS) R3353990-1 10/25/18 09:55 • (LCSD) R3353990-2 10/25/18 10:16

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	0.0505	0.0475	101	95.0	76.0-121			6.03	20
Toluene	0.0500	0.0517	0.0505	103	101	80.0-120			2.39	20
Ethylbenzene	0.0500	0.0521	0.0509	104	102	80.0-124			2.25	20
Total Xylene	0.150	0.158	0.153	105	102	37.0-160			2.64	20
(S) a,a,a-Trifluorotoluene(FID)				98.9	99.0	77.0-120				
(S) a,a,a-Trifluorotoluene(PID)				98.9	96.9	72.0-128				

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

(LCS) R3353990-3 10/25/18 10:40 • (LCSD) R3353990-4 10/25/18 11:01

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) Low Fraction	5.50	5.00	4.84	91.0	88.0	72.0-127			3.28	20
(S) a,a,a-Trifluorotoluene(FID)				93.0	93.2	77.0-120				
(S) a,a,a-Trifluorotoluene(PID)				105	105	72.0-128				



Method Blank (MB)

(MB) R3354102-1 10/25/18 19:36

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	81.4			18.0-148

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R3354102-2 10/25/18 19:48 • (LCSD) R3354102-3 10/25/18 20:00

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	50.0	39.9	42.6	79.8	85.2	50.0-150			6.55	20
(S) o-Terphenyl				84.4	84.5	18.0-148				

L1036765-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1036765-07 10/25/18 20:12 • (MS) R3354102-4 10/25/18 20:24 • (MSD) R3354102-5 10/25/18 20:36

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	50.0	78.7	154	179	151	201	2	50.0-150	J5	J5	15.0	20
(S) o-Terphenyl					71.5	72.7		18.0-148				

Method Blank (MB)

(MB) R3353972-3 10/25/18 11:42

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) Nitrobenzene-d5	49.5			14.0-149
(S) 2-Fluorobiphenyl	74.0			34.0-125
(S) p-Terphenyl-d14	73.6			23.0-120

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R3353972-1 10/25/18 10:58 • (LCSD) R3353972-2 10/25/18 11:20

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	0.0600	0.0548	75.0	68.5	50.0-126			9.06	20
Acenaphthene	0.0800	0.0513	0.0499	64.1	62.4	50.0-120			2.77	20
Acenaphthylene	0.0800	0.0499	0.0516	62.4	64.5	50.0-120			3.35	20
Benzo(a)anthracene	0.0800	0.0561	0.0534	70.1	66.8	45.0-120			4.93	20
Benzo(a)pyrene	0.0800	0.0477	0.0463	59.6	57.9	42.0-120			2.98	20
Benzo(b)fluoranthene	0.0800	0.0510	0.0509	63.8	63.6	42.0-121			0.196	20
Benzo(g,h,i)perylene	0.0800	0.0524	0.0505	65.5	63.1	45.0-125			3.69	20
Benzo(k)fluoranthene	0.0800	0.0577	0.0542	72.1	67.8	49.0-125			6.26	20
Chrysene	0.0800	0.0595	0.0585	74.4	73.1	49.0-122			1.69	20
Dibenz(a,h)anthracene	0.0800	0.0519	0.0499	64.9	62.4	47.0-125			3.93	20
Fluoranthene	0.0800	0.0631	0.0567	78.9	70.9	49.0-129			10.7	20

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

(LCS) R3353972-1 10/25/18 10:58 • (LCSD) R3353972-2 10/25/18 11:20

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	0.0504	0.0486	63.0	60.8	49.0-120			3.64	20
Indeno(1,2,3-cd)pyrene	0.0800	0.0524	0.0506	65.5	63.3	46.0-125			3.50	20
Naphthalene	0.0800	0.0484	0.0481	60.5	60.1	50.0-120			0.622	20
Phenanthrene	0.0800	0.0552	0.0539	69.0	67.4	47.0-120			2.38	20
Pyrene	0.0800	0.0564	0.0531	70.5	66.4	43.0-123			6.03	20
1-Methylnaphthalene	0.0800	0.0552	0.0541	69.0	67.6	51.0-121			2.01	20
2-Methylnaphthalene	0.0800	0.0502	0.0497	62.8	62.1	50.0-120			1.00	20
2-Chloronaphthalene	0.0800	0.0514	0.0494	64.3	61.8	50.0-120			3.97	20
(S) Nitrobenzene-d5				55.2	52.8	14.0-149				
(S) 2-Fluorobiphenyl				75.8	70.7	34.0-125				
(S) p-Terphenyl-d14				77.6	73.5	23.0-120				

L1036517-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1036517-04 10/25/18 12:26 • (MS) R3353972-4 10/25/18 12:47 • (MSD) R3353972-5 10/25/18 13:09

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 %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Anthracene	0.0862	U	0.0561	0.0614	65.0	71.3	1	10.0-145			9.17	30
Acenaphthene	0.0862	U	0.0506	0.0549	58.6	63.6	1	14.0-127			8.18	27
Acenaphthylene	0.0862	U	0.0474	0.0520	55.0	60.3	1	21.0-124			9.11	25
Benzo(a)anthracene	0.0862	0.000741	0.0539	0.0601	61.6	68.9	1	10.0-139			11.0	30
Benzo(a)pyrene	0.0862	U	0.0511	0.0580	59.3	67.3	1	10.0-141			12.6	31
Benzo(b)fluoranthene	0.0862	U	0.0476	0.0529	55.3	61.4	1	10.0-140			10.5	36
Benzo(g,h,i)perylene	0.0862	U	0.0482	0.0563	55.9	65.3	1	10.0-140			15.5	33
Benzo(k)fluoranthene	0.0862	U	0.0525	0.0612	60.9	71.0	1	10.0-137			15.4	31
Chrysene	0.0862	0.000856	0.0578	0.0639	66.0	73.1	1	10.0-145			10.1	30
Dibenz(a,h)anthracene	0.0862	U	0.0498	0.0561	57.8	65.0	1	10.0-132			11.8	31
Fluoranthene	0.0862	U	0.0572	0.0638	66.4	74.0	1	10.0-153			10.9	33
Fluorene	0.0862	U	0.0565	0.0523	65.5	60.6	1	11.0-130			7.73	29
Indeno(1,2,3-cd)pyrene	0.0862	U	0.0484	0.0559	56.1	64.9	1	10.0-137			14.5	32
Naphthalene	0.0862	U	0.0484	0.0518	56.1	60.1	1	10.0-135			6.88	27
Phenanthrene	0.0862	U	0.0534	0.0591	61.9	68.5	1	10.0-144			10.2	31
Pyrene	0.0862	0.00104	0.0559	0.0626	63.7	71.4	1	10.0-148			11.3	35
1-Methylnaphthalene	0.0862	U	0.0526	0.0557	61.0	64.6	1	10.0-142			5.77	28
2-Methylnaphthalene	0.0862	U	0.0479	0.0522	55.5	60.5	1	10.0-137			8.62	28
2-Chloronaphthalene	0.0862	U	0.0487	0.0544	56.5	63.1	1	29.0-120			11.1	24
(S) Nitrobenzene-d5					52.0	50.7		14.0-149				
(S) 2-Fluorobiphenyl					65.2	73.3		34.0-125				
(S) p-Terphenyl-d14					72.4	77.0		23.0-120				

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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.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
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.
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.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National 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.

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

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	n/a
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}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

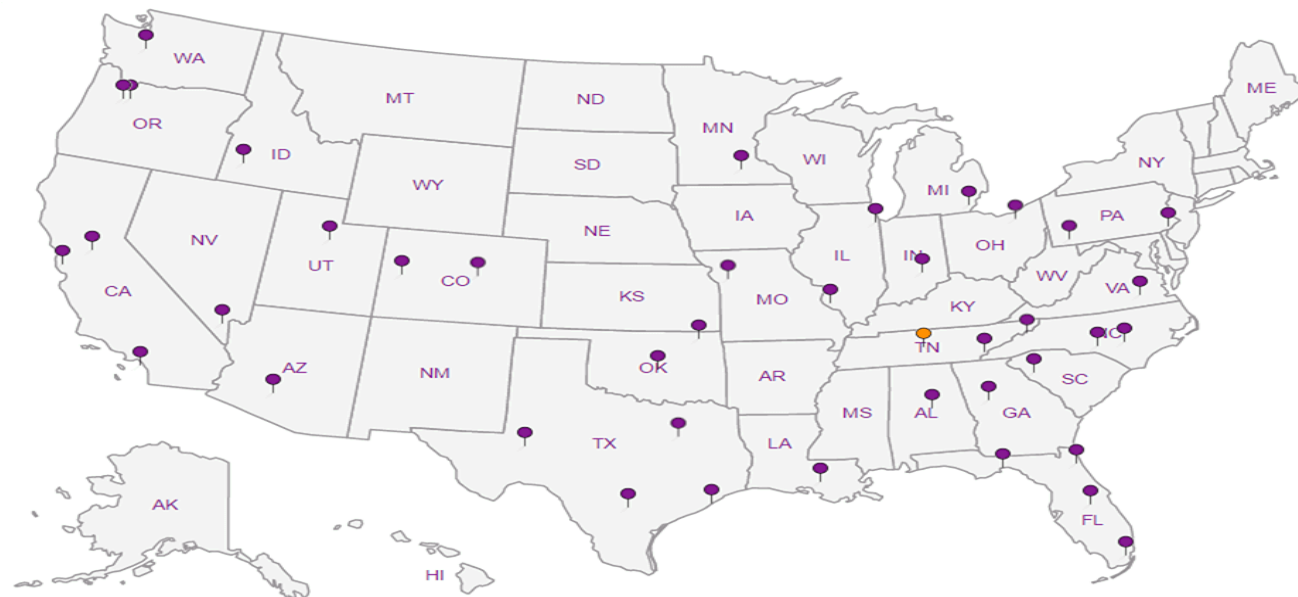
Third Party Federal Accreditations

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

Our Locations

Pace National 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. Pace National performs all testing at our central laboratory.



¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr


⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Pace Analytical National Center for Testing & Innovation Cooler Receipt Form

Client: <u>HRLCSCO</u>	SDG#	<u>61036785</u>	
Cooler Received/Opened On: <u>10/20 /18</u>	Temperature:	<u>3.3</u>	
Received By: Kevin Turner			
Signature: 			
Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	✓		
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			