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National Center for Testing & Innovation

ANALYTICAL REPORT

April 15, 2020

HilCorp-Farmington, NM

Sample Delivery Group:	L1206925
Samples Received:	04/08/2020
Project Number:	
Description:	Ballantine 34-9 32-2
Site:	BALLANTINE 34-9 32-2
Report To:	Jennifer Deal 382 Road 3100 Aztec, NM 87410

Entire Report Reviewed By:

Olivia Studebaker
Project Manager

BACKGROUND L1206925-01 Solid

Collected by: K Hoekstra | Collected date/time: 04/06/20 09:20 | Received date/time: 04/08/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1457836	1	04/12/20 17:53	04/12/20 17:53	CCE	Mt. Juliet, TN
Calculated Results	WG1458519	1	04/10/20 14:57	04/13/20 15:58	JIC	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1458175	1	04/09/20 13:43	04/13/20 15:58	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1457724	1	04/09/20 16:00	04/16/20 17:00	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1457981	1	04/09/20 09:41	04/09/20 12:04	SL	Mt. Juliet, TN
Mercury by Method 7471A	WG1458391	1	04/09/20 18:27	04/10/20 08:53	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1458519	1	04/10/20 14:57	04/11/20 14:06	TRB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1459275	1	04/09/20 09:14	04/12/20 11:07	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1458853	1	04/10/20 17:28	04/11/20 01:03	KME	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1459085	1	04/11/20 01:34	04/11/20 14:04	AAT	Mt. Juliet, TN

9' N OF SM STAIN L1206925-02 Solid

Collected by: K Hoekstra | Collected date/time: 04/06/20 09:32 | Received date/time: 04/08/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1457836	1	04/12/20 17:55	04/12/20 17:55	CCE	Mt. Juliet, TN
Calculated Results	WG1458519	1	04/10/20 14:57	04/13/20 16:00	JIC	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1458175	1	04/09/20 13:43	04/13/20 16:00	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1457724	1	04/09/20 16:00	04/16/20 17:00	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1457981	1	04/09/20 09:41	04/09/20 12:04	SL	Mt. Juliet, TN
Mercury by Method 7471A	WG1458391	1	04/09/20 18:27	04/10/20 08:56	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1458519	1	04/10/20 14:57	04/11/20 14:09	TRB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1459275	1	04/09/20 09:14	04/12/20 11:27	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1458853	1	04/10/20 17:28	04/11/20 00:37	KME	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1459085	1	04/11/20 01:34	04/11/20 14:25	AAT	Mt. Juliet, TN

LG STAIN L1206925-03 Solid

Collected by: K Hoekstra | Collected date/time: 04/06/20 09:47 | Received date/time: 04/08/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1457836	1	04/12/20 18:09	04/12/20 18:09	CCE	Mt. Juliet, TN
Calculated Results	WG1458519	1	04/10/20 14:57	04/13/20 16:00	JIC	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1458175	1	04/09/20 13:43	04/13/20 16:00	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1457724	1	04/09/20 16:00	04/16/20 17:00	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1457981	1	04/09/20 09:41	04/09/20 12:04	SL	Mt. Juliet, TN
Mercury by Method 7471A	WG1458391	1	04/09/20 18:27	04/10/20 08:58	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1458519	1	04/10/20 14:57	04/11/20 14:12	TRB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1459275	1.01	04/09/20 09:14	04/12/20 12:05	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1458853	1	04/10/20 17:28	04/11/20 01:16	KME	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1459085	1	04/11/20 01:34	04/11/20 14:46	AAT	Mt. Juliet, TN

E OF STAIN IN IRRIGATION TRACK L1206925-04 Solid

Collected by: K Hoekstra | Collected date/time: 04/06/20 09:54 | Received date/time: 04/08/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1457836	1	04/12/20 18:12	04/12/20 18:12	CCE	Mt. Juliet, TN
Calculated Results	WG1458519	1	04/10/20 14:57	04/13/20 16:00	JIC	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1458175	1	04/09/20 13:43	04/13/20 16:00	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1457724	1	04/09/20 16:00	04/16/20 17:00	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1457981	1	04/09/20 09:41	04/09/20 12:04	SL	Mt. Juliet, TN
Mercury by Method 7471A	WG1458391	1	04/09/20 18:27	04/10/20 09:01	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1458519	1	04/10/20 14:57	04/11/20 14:14	TRB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1459275	1	04/09/20 09:14	04/12/20 12:26	JHH	Mt. Juliet, TN

E OF STAIN IN IRRIGATION TRACK L1206925-04 Solid

Collected by: K Hoekstra
Collected date/time: 04/06/20 09:54
Received date/time: 04/08/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1458853	5	04/10/20 17:28	04/11/20 02:34	KME	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1459085	1	04/11/20 01:34	04/11/20 20:03	AAT	Mt. Juliet, TN

S OF STAIN L1206925-05 Solid

Collected by: K Hoekstra
Collected date/time: 04/06/20 10:00
Received date/time: 04/08/20 08:30

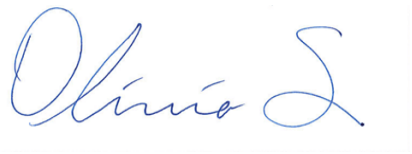
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1457836	1	04/12/20 18:14	04/12/20 18:14	CCE	Mt. Juliet, TN
Calculated Results	WG1458519	1	04/10/20 14:57	04/13/20 16:00	JIC	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1458175	1	04/09/20 13:43	04/13/20 16:00	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1457724	1	04/09/20 16:00	04/16/20 17:00	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1457981	1	04/09/20 09:41	04/09/20 12:04	SL	Mt. Juliet, TN
Mercury by Method 7471A	WG1458391	1	04/09/20 18:27	04/10/20 09:03	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1458519	1	04/10/20 14:57	04/11/20 14:17	TRB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1459275	1	04/09/20 09:14	04/12/20 12:46	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1458853	1	04/10/20 17:28	04/11/20 01:29	KME	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1459085	1	04/11/20 01:34	04/11/20 15:07	AAT	Mt. Juliet, TN

W OF SEPARATOR L1206925-06 Solid

Collected by: K Hoekstra
Collected date/time: 04/06/20 10:10
Received date/time: 04/08/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1457836	1	04/12/20 18:17	04/12/20 18:17	CCE	Mt. Juliet, TN
Calculated Results	WG1458519	1	04/10/20 14:57	04/13/20 16:01	JIC	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1458175	1	04/09/20 13:43	04/13/20 16:01	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1457724	1	04/09/20 16:00	04/16/20 17:00	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1457981	1	04/09/20 09:41	04/09/20 12:04	SL	Mt. Juliet, TN
Mercury by Method 7471A	WG1458391	1	04/09/20 18:27	04/10/20 09:05	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1458519	1	04/10/20 14:57	04/11/20 14:20	TRB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1459275	1	04/09/20 09:14	04/12/20 13:07	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1458853	1	04/10/20 17:28	04/11/20 01:42	KME	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1459085	1	04/11/20 01:34	04/11/20 15:28	AAT	Mt. Juliet, TN

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.



Olivia Studebaker
Project Manager

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.114		1	04/12/2020 17:53	WG1457836

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	15.3		1.00	1	04/13/2020 15:58	WG1458519

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	04/13/2020 15:58	WG1458175

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.98	T8	1	04/16/2020 17:00	WG1457724

Sample Narrative:
L1206925-01 WG1457724: 7.98 at 20C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	189		10.0	1	04/09/2020 12:04	WG1457981

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0400	1	04/10/2020 08:53	WG1458391

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.73		2.00	1	04/11/2020 14:06	WG1458519
Barium	360		0.500	1	04/11/2020 14:06	WG1458519
Boron	ND		20.0	1	04/11/2020 14:06	WG1458519
Cadmium	ND		0.500	1	04/11/2020 14:06	WG1458519
Chromium	15.3		1.00	1	04/11/2020 14:06	WG1458519
Copper	13.5		2.00	1	04/11/2020 14:06	WG1458519
Lead	13.1		0.500	1	04/11/2020 14:06	WG1458519
Nickel	12.6		2.00	1	04/11/2020 14:06	WG1458519
Selenium	ND		2.00	1	04/11/2020 14:06	WG1458519
Silver	ND		1.00	1	04/11/2020 14:06	WG1458519
Zinc	43.9		5.00	1	04/11/2020 14:06	WG1458519

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	04/12/2020 11:07	WG1459275
Toluene	ND		0.00500	1	04/12/2020 11:07	WG1459275
Ethylbenzene	ND		0.000500	1	04/12/2020 11:07	WG1459275
Total Xylene	ND		0.00150	1	04/12/2020 11:07	WG1459275

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	04/12/2020 11:07	WG1459275
(S) a,a,a-Trifluorotoluene(FID)	*96.9*		*77.0-120*		*04/12/2020 11:07*	WG1459275
(S) a,a,a-Trifluorotoluene(PID)	*100*		*72.0-128*		*04/12/2020 11:07*	WG1459275

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	20.6		4.00	1	04/11/2020 01:03	WG1458853
C28-C40 Oil Range	31.8		4.00	1	04/11/2020 01:03	WG1458853
(S) o-Terphenyl	*79.6*		*18.0-148*		*04/11/2020 01:03*	WG1458853

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	04/11/2020 14:04	WG1459085
Acenaphthene	ND		0.00600	1	04/11/2020 14:04	WG1459085
Acenaphthylene	ND		0.00600	1	04/11/2020 14:04	WG1459085
Benzo(a)anthracene	ND		0.00600	1	04/11/2020 14:04	WG1459085
Benzo(a)pyrene	ND		0.00600	1	04/11/2020 14:04	WG1459085
Benzo(b)fluoranthene	ND		0.00600	1	04/11/2020 14:04	WG1459085
Benzo(g,h,i)perylene	ND		0.00600	1	04/11/2020 14:04	WG1459085
Benzo(k)fluoranthene	ND		0.00600	1	04/11/2020 14:04	WG1459085
Chrysene	ND		0.00600	1	04/11/2020 14:04	WG1459085
Dibenz(a,h)anthracene	ND		0.00600	1	04/11/2020 14:04	WG1459085
Fluoranthene	ND		0.00600	1	04/11/2020 14:04	WG1459085
Fluorene	ND		0.00600	1	04/11/2020 14:04	WG1459085
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	04/11/2020 14:04	WG1459085
Naphthalene	ND		0.0200	1	04/11/2020 14:04	WG1459085
Phenanthrene	0.00854		0.00600	1	04/11/2020 14:04	WG1459085
Pyrene	ND		0.00600	1	04/11/2020 14:04	WG1459085
1-Methylnaphthalene	ND		0.0200	1	04/11/2020 14:04	WG1459085
2-Methylnaphthalene	ND		0.0200	1	04/11/2020 14:04	WG1459085
2-Chloronaphthalene	ND		0.0200	1	04/11/2020 14:04	WG1459085
(S) p-Terphenyl-d14	*65.8*		*23.0-120*		*04/11/2020 14:04*	WG1459085
(S) Nitrobenzene-d5	*51.5*		*14.0-149*		*04/11/2020 14:04*	WG1459085
(S) 2-Fluorobiphenyl	*60.8*		*34.0-125*		*04/11/2020 14:04*	WG1459085

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.368		1	04/12/2020 17:55	WG1457836

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	15.8		1.00	1	04/13/2020 16:00	WG1458519

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	04/13/2020 16:00	WG1458175

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.37	T8	1	04/16/2020 17:00	WG1457724

Sample Narrative:

L1206925-02 WG1457724: 8.37 at 21C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	129		10.0	1	04/09/2020 12:04	WG1457981

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0400	1	04/10/2020 08:56	WG1458391

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.45		2.00	1	04/11/2020 14:09	WG1458519
Barium	285		0.500	1	04/11/2020 14:09	WG1458519
Boron	ND		20.0	1	04/11/2020 14:09	WG1458519
Cadmium	ND		0.500	1	04/11/2020 14:09	WG1458519
Chromium	15.8		1.00	1	04/11/2020 14:09	WG1458519
Copper	14.8		2.00	1	04/11/2020 14:09	WG1458519
Lead	13.2		0.500	1	04/11/2020 14:09	WG1458519
Nickel	13.3		2.00	1	04/11/2020 14:09	WG1458519
Selenium	ND		2.00	1	04/11/2020 14:09	WG1458519
Silver	ND		1.00	1	04/11/2020 14:09	WG1458519
Zinc	47.3		5.00	1	04/11/2020 14:09	WG1458519

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	04/12/2020 11:27	WG1459275
Toluene	ND		0.00500	1	04/12/2020 11:27	WG1459275
Ethylbenzene	ND		0.000500	1	04/12/2020 11:27	WG1459275
Total Xylene	ND		0.00150	1	04/12/2020 11:27	WG1459275

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	04/12/2020 11:27	WG1459275
(S) a,a,a-Trifluorotoluene(FID)	*95.4*		*77.0-120*		*04/12/2020 11:27*	WG1459275
(S) a,a,a-Trifluorotoluene(PID)	*99.3*		*72.0-128*		*04/12/2020 11:27*	WG1459275

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	72.3		4.00	1	04/11/2020 00:37	WG1458853
C28-C40 Oil Range	115		4.00	1	04/11/2020 00:37	WG1458853
(S) o-Terphenyl	*75.7*		*18.0-148*		*04/11/2020 00:37*	WG1458853

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	04/11/2020 14:25	WG1459085
Acenaphthene	ND		0.00600	1	04/11/2020 14:25	WG1459085
Acenaphthylene	ND		0.00600	1	04/11/2020 14:25	WG1459085
Benzo(a)anthracene	ND		0.00600	1	04/11/2020 14:25	WG1459085
Benzo(a)pyrene	ND		0.00600	1	04/11/2020 14:25	WG1459085
Benzo(b)fluoranthene	ND		0.00600	1	04/11/2020 14:25	WG1459085
Benzo(g,h,i)perylene	ND		0.00600	1	04/11/2020 14:25	WG1459085
Benzo(k)fluoranthene	ND		0.00600	1	04/11/2020 14:25	WG1459085
Chrysene	ND		0.00600	1	04/11/2020 14:25	WG1459085
Dibenz(a,h)anthracene	ND		0.00600	1	04/11/2020 14:25	WG1459085
Fluoranthene	ND		0.00600	1	04/11/2020 14:25	WG1459085
Fluorene	ND		0.00600	1	04/11/2020 14:25	WG1459085
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	04/11/2020 14:25	WG1459085
Naphthalene	ND		0.0200	1	04/11/2020 14:25	WG1459085
Phenanthrene	ND		0.00600	1	04/11/2020 14:25	WG1459085
Pyrene	ND		0.00600	1	04/11/2020 14:25	WG1459085
1-Methylnaphthalene	ND		0.0200	1	04/11/2020 14:25	WG1459085
2-Methylnaphthalene	ND		0.0200	1	04/11/2020 14:25	WG1459085
2-Chloronaphthalene	ND		0.0200	1	04/11/2020 14:25	WG1459085
(S) p-Terphenyl-d14	*75.4*		*23.0-120*		*04/11/2020 14:25*	WG1459085
(S) Nitrobenzene-d5	*60.8*		*14.0-149*		*04/11/2020 14:25*	WG1459085
(S) 2-Fluorobiphenyl	*71.6*		*34.0-125*		*04/11/2020 14:25*	WG1459085

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.02		1	04/12/2020 18:09	WG1457836

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	15.0		1.00	1	04/13/2020 16:00	WG1458519

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	04/13/2020 16:00	WG1458175

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.96	T8	1	04/16/2020 17:00	WG1457724

Sample Narrative:

L1206925-03 WG1457724: 8.96 at 21.1C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	358		10.0	1	04/09/2020 12:04	WG1457981

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0668		0.0400	1	04/10/2020 08:58	WG1458391

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.95		2.00	1	04/11/2020 14:12	WG1458519
Barium	205		0.500	1	04/11/2020 14:12	WG1458519
Boron	ND		20.0	1	04/11/2020 14:12	WG1458519
Cadmium	ND		0.500	1	04/11/2020 14:12	WG1458519
Chromium	15.0		1.00	1	04/11/2020 14:12	WG1458519
Copper	13.9		2.00	1	04/11/2020 14:12	WG1458519
Lead	16.4		0.500	1	04/11/2020 14:12	WG1458519
Nickel	12.1		2.00	1	04/11/2020 14:12	WG1458519
Selenium	ND		2.00	1	04/11/2020 14:12	WG1458519
Silver	ND		1.00	1	04/11/2020 14:12	WG1458519
Zinc	47.0		5.00	1	04/11/2020 14:12	WG1458519

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.000505	1.01	04/12/2020 12:05	WG1459275
Toluene	ND		0.00505	1.01	04/12/2020 12:05	WG1459275
Ethylbenzene	ND		0.000505	1.01	04/12/2020 12:05	WG1459275
Total Xylene	ND		0.00152	1.01	04/12/2020 12:05	WG1459275

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.101	1.01	04/12/2020 12:05	WG1459275
(S) a,a,a-Trifluorotoluene(FID)	*96.4*		*77.0-120*		*04/12/2020 12:05*	WG1459275
(S) a,a,a-Trifluorotoluene(PID)	*101*		*72.0-128*		*04/12/2020 12:05*	WG1459275

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	9.52		4.00	1	04/11/2020 01:16	WG1458853
C28-C40 Oil Range	11.0		4.00	1	04/11/2020 01:16	WG1458853
(S) o-Terphenyl	*79.2*		*18.0-148*		*04/11/2020 01:16*	WG1458853

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	04/11/2020 14:46	WG1459085
Acenaphthene	ND		0.00600	1	04/11/2020 14:46	WG1459085
Acenaphthylene	ND		0.00600	1	04/11/2020 14:46	WG1459085
Benzo(a)anthracene	ND		0.00600	1	04/11/2020 14:46	WG1459085
Benzo(a)pyrene	ND		0.00600	1	04/11/2020 14:46	WG1459085
Benzo(b)fluoranthene	ND		0.00600	1	04/11/2020 14:46	WG1459085
Benzo(g,h,i)perylene	ND		0.00600	1	04/11/2020 14:46	WG1459085
Benzo(k)fluoranthene	ND		0.00600	1	04/11/2020 14:46	WG1459085
Chrysene	ND		0.00600	1	04/11/2020 14:46	WG1459085
Dibenz(a,h)anthracene	ND		0.00600	1	04/11/2020 14:46	WG1459085
Fluoranthene	ND		0.00600	1	04/11/2020 14:46	WG1459085
Fluorene	ND		0.00600	1	04/11/2020 14:46	WG1459085
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	04/11/2020 14:46	WG1459085
Naphthalene	ND		0.0200	1	04/11/2020 14:46	WG1459085
Phenanthrene	ND		0.00600	1	04/11/2020 14:46	WG1459085
Pyrene	ND		0.00600	1	04/11/2020 14:46	WG1459085
1-Methylnaphthalene	ND		0.0200	1	04/11/2020 14:46	WG1459085
2-Methylnaphthalene	ND		0.0200	1	04/11/2020 14:46	WG1459085
2-Chloronaphthalene	ND		0.0200	1	04/11/2020 14:46	WG1459085
(S) p-Terphenyl-d14	*77.2*		*23.0-120*		*04/11/2020 14:46*	WG1459085
(S) Nitrobenzene-d5	*60.3*		*14.0-149*		*04/11/2020 14:46*	WG1459085
(S) 2-Fluorobiphenyl	*71.4*		*34.0-125*		*04/11/2020 14:46*	WG1459085

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.35		1	04/12/2020 18:12	WG1457836

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	13.6		1.00	1	04/13/2020 16:00	WG1458519

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	04/13/2020 16:00	WG1458175

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.41	T8	1	04/16/2020 17:00	WG1457724

Sample Narrative:

L1206925-04 WG1457724: 8.41 at 20.9C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	167		10.0	1	04/09/2020 12:04	WG1457981

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0698		0.0400	1	04/10/2020 09:01	WG1458391

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.39		2.00	1	04/11/2020 14:14	WG1458519
Barium	206		0.500	1	04/11/2020 14:14	WG1458519
Boron	ND		20.0	1	04/11/2020 14:14	WG1458519
Cadmium	ND		0.500	1	04/11/2020 14:14	WG1458519
Chromium	13.6		1.00	1	04/11/2020 14:14	WG1458519
Copper	11.6		2.00	1	04/11/2020 14:14	WG1458519
Lead	12.7		0.500	1	04/11/2020 14:14	WG1458519
Nickel	10.8		2.00	1	04/11/2020 14:14	WG1458519
Selenium	ND		2.00	1	04/11/2020 14:14	WG1458519
Silver	ND		1.00	1	04/11/2020 14:14	WG1458519
Zinc	43.0		5.00	1	04/11/2020 14:14	WG1458519

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	04/12/2020 12:26	WG1459275
Toluene	ND		0.00500	1	04/12/2020 12:26	WG1459275
Ethylbenzene	ND		0.000500	1	04/12/2020 12:26	WG1459275
Total Xylene	ND		0.00150	1	04/12/2020 12:26	WG1459275

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.126		0.100	1	04/12/2020 12:26	WG1459275
(S) a,a,a-Trifluorotoluene(FID)	*96.4*		*77.0-120*		*04/12/2020 12:26*	WG1459275
(S) a,a,a-Trifluorotoluene(PID)	*100*		*72.0-128*		*04/12/2020 12:26*	WG1459275

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		20.0	5	04/11/2020 02:34	WG1458853
C28-C40 Oil Range	26.7		20.0	5	04/11/2020 02:34	WG1458853
(S) o-Terphenyl	*78.2*		*18.0-148*		*04/11/2020 02:34*	WG1458853

Sample Narrative:

L1206925-04 WG1458853: Cannot run at lower dilution due to viscosity of extract

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	04/11/2020 20:03	WG1459085
Acenaphthene	ND		0.00600	1	04/11/2020 20:03	WG1459085
Acenaphthylene	ND		0.00600	1	04/11/2020 20:03	WG1459085
Benzo(a)anthracene	ND		0.00600	1	04/11/2020 20:03	WG1459085
Benzo(a)pyrene	ND		0.00600	1	04/11/2020 20:03	WG1459085
Benzo(b)fluoranthene	ND		0.00600	1	04/11/2020 20:03	WG1459085
Benzo(g,h,i)perylene	ND		0.00600	1	04/11/2020 20:03	WG1459085
Benzo(k)fluoranthene	ND		0.00600	1	04/11/2020 20:03	WG1459085
Chrysene	ND		0.00600	1	04/11/2020 20:03	WG1459085
Dibenz(a,h)anthracene	ND		0.00600	1	04/11/2020 20:03	WG1459085
Fluoranthene	ND		0.00600	1	04/11/2020 20:03	WG1459085
Fluorene	ND		0.00600	1	04/11/2020 20:03	WG1459085
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	04/11/2020 20:03	WG1459085
Naphthalene	ND		0.0200	1	04/11/2020 20:03	WG1459085
Phenanthrene	ND		0.00600	1	04/11/2020 20:03	WG1459085
Pyrene	ND		0.00600	1	04/11/2020 20:03	WG1459085
1-Methylnaphthalene	ND		0.0200	1	04/11/2020 20:03	WG1459085
2-Methylnaphthalene	ND		0.0200	1	04/11/2020 20:03	WG1459085
2-Chloronaphthalene	ND		0.0200	1	04/11/2020 20:03	WG1459085
(S) p-Terphenyl-d14	*72.3*		*23.0-120*		*04/11/2020 20:03*	WG1459085
(S) Nitrobenzene-d5	*54.6*		*14.0-149*		*04/11/2020 20:03*	WG1459085
(S) 2-Fluorobiphenyl	*65.3*		*34.0-125*		*04/11/2020 20:03*	WG1459085

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.766		1	04/12/2020 18:14	WG1457836

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	12.3		1.00	1	04/13/2020 16:00	WG1458519

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	04/13/2020 16:00	WG1458175

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.40	T8	1	04/16/2020 17:00	WG1457724

Sample Narrative:

L1206925-05 WG1457724: 8.4 at 20.7C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	162		10.0	1	04/09/2020 12:04	WG1457981

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0400	1	04/10/2020 09:03	WG1458391

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.18		2.00	1	04/11/2020 14:17	WG1458519
Barium	536		0.500	1	04/11/2020 14:17	WG1458519
Boron	ND		20.0	1	04/11/2020 14:17	WG1458519
Cadmium	ND		0.500	1	04/11/2020 14:17	WG1458519
Chromium	12.3		1.00	1	04/11/2020 14:17	WG1458519
Copper	14.5		2.00	1	04/11/2020 14:17	WG1458519
Lead	13.7		0.500	1	04/11/2020 14:17	WG1458519
Nickel	11.1		2.00	1	04/11/2020 14:17	WG1458519
Selenium	ND		2.00	1	04/11/2020 14:17	WG1458519
Silver	ND		1.00	1	04/11/2020 14:17	WG1458519
Zinc	44.6		5.00	1	04/11/2020 14:17	WG1458519

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000750		0.000500	1	04/12/2020 12:46	WG1459275
Toluene	ND		0.00500	1	04/12/2020 12:46	WG1459275
Ethylbenzene	ND		0.000500	1	04/12/2020 12:46	WG1459275
Total Xylene	ND		0.00150	1	04/12/2020 12:46	WG1459275

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	04/12/2020 12:46	WG1459275
(S) a,a,a-Trifluorotoluene(FID)	*95.2*		*77.0-120*		*04/12/2020 12:46*	WG1459275
(S) a,a,a-Trifluorotoluene(PID)	*99.8*		*72.0-128*		*04/12/2020 12:46*	WG1459275

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	10.9		4.00	1	04/11/2020 01:29	WG1458853
C28-C40 Oil Range	12.6		4.00	1	04/11/2020 01:29	WG1458853
(S) o-Terphenyl	*84.9*		*18.0-148*		*04/11/2020 01:29*	WG1458853

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	04/11/2020 15:07	WG1459085
Acenaphthene	ND		0.00600	1	04/11/2020 15:07	WG1459085
Acenaphthylene	ND		0.00600	1	04/11/2020 15:07	WG1459085
Benzo(a)anthracene	ND		0.00600	1	04/11/2020 15:07	WG1459085
Benzo(a)pyrene	ND		0.00600	1	04/11/2020 15:07	WG1459085
Benzo(b)fluoranthene	ND		0.00600	1	04/11/2020 15:07	WG1459085
Benzo(g,h,i)perylene	ND		0.00600	1	04/11/2020 15:07	WG1459085
Benzo(k)fluoranthene	ND		0.00600	1	04/11/2020 15:07	WG1459085
Chrysene	ND		0.00600	1	04/11/2020 15:07	WG1459085
Dibenz(a,h)anthracene	ND		0.00600	1	04/11/2020 15:07	WG1459085
Fluoranthene	ND		0.00600	1	04/11/2020 15:07	WG1459085
Fluorene	ND		0.00600	1	04/11/2020 15:07	WG1459085
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	04/11/2020 15:07	WG1459085
Naphthalene	ND		0.0200	1	04/11/2020 15:07	WG1459085
Phenanthrene	ND		0.00600	1	04/11/2020 15:07	WG1459085
Pyrene	ND		0.00600	1	04/11/2020 15:07	WG1459085
1-Methylnaphthalene	ND		0.0200	1	04/11/2020 15:07	WG1459085
2-Methylnaphthalene	ND		0.0200	1	04/11/2020 15:07	WG1459085
2-Chloronaphthalene	ND		0.0200	1	04/11/2020 15:07	WG1459085
(S) p-Terphenyl-d14	*68.7*		*23.0-120*		*04/11/2020 15:07*	WG1459085
(S) Nitrobenzene-d5	*54.2*		*14.0-149*		*04/11/2020 15:07*	WG1459085
(S) 2-Fluorobiphenyl	*64.3*		*34.0-125*		*04/11/2020 15:07*	WG1459085

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.316		1	04/12/2020 18:17	WG1457836

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	14.6		1.00	1	04/13/2020 16:01	WG1458519

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	04/13/2020 16:01	WG1458175

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.54	T8	1	04/16/2020 17:00	WG1457724

Sample Narrative:

L1206925-06 WG1457724: 8.54 at 20.3C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	114		10.0	1	04/09/2020 12:04	WG1457981

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0400	1	04/10/2020 09:05	WG1458391

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.59		2.00	1	04/11/2020 14:20	WG1458519
Barium	268		0.500	1	04/11/2020 14:20	WG1458519
Boron	ND		20.0	1	04/11/2020 14:20	WG1458519
Cadmium	ND		0.500	1	04/11/2020 14:20	WG1458519
Chromium	14.6		1.00	1	04/11/2020 14:20	WG1458519
Copper	15.4		2.00	1	04/11/2020 14:20	WG1458519
Lead	12.3		0.500	1	04/11/2020 14:20	WG1458519
Nickel	12.7		2.00	1	04/11/2020 14:20	WG1458519
Selenium	ND		2.00	1	04/11/2020 14:20	WG1458519
Silver	ND		1.00	1	04/11/2020 14:20	WG1458519
Zinc	44.8		5.00	1	04/11/2020 14:20	WG1458519

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	04/12/2020 13:07	WG1459275
Toluene	ND		0.00500	1	04/12/2020 13:07	WG1459275
Ethylbenzene	ND		0.000500	1	04/12/2020 13:07	WG1459275
Total Xylene	ND		0.00150	1	04/12/2020 13:07	WG1459275

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	04/12/2020 13:07	WG1459275
(S) a,a,a-Trifluorotoluene(FID)	*96.5*		*77.0-120*		*04/12/2020 13:07*	WG1459275
(S) a,a,a-Trifluorotoluene(PID)	*101*		*72.0-128*		*04/12/2020 13:07*	WG1459275

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	8.82		4.00	1	04/11/2020 01:42	WG1458853
C28-C40 Oil Range	11.9		4.00	1	04/11/2020 01:42	WG1458853
(S) o-Terphenyl	*85.3*		*18.0-148*		*04/11/2020 01:42*	WG1458853

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	04/11/2020 15:28	WG1459085
Acenaphthene	ND		0.00600	1	04/11/2020 15:28	WG1459085
Acenaphthylene	ND		0.00600	1	04/11/2020 15:28	WG1459085
Benzo(a)anthracene	ND		0.00600	1	04/11/2020 15:28	WG1459085
Benzo(a)pyrene	ND		0.00600	1	04/11/2020 15:28	WG1459085
Benzo(b)fluoranthene	ND		0.00600	1	04/11/2020 15:28	WG1459085
Benzo(g,h,i)perylene	ND		0.00600	1	04/11/2020 15:28	WG1459085
Benzo(k)fluoranthene	ND		0.00600	1	04/11/2020 15:28	WG1459085
Chrysene	ND		0.00600	1	04/11/2020 15:28	WG1459085
Dibenz(a,h)anthracene	ND		0.00600	1	04/11/2020 15:28	WG1459085
Fluoranthene	ND		0.00600	1	04/11/2020 15:28	WG1459085
Fluorene	ND		0.00600	1	04/11/2020 15:28	WG1459085
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	04/11/2020 15:28	WG1459085
Naphthalene	ND		0.0200	1	04/11/2020 15:28	WG1459085
Phenanthrene	ND		0.00600	1	04/11/2020 15:28	WG1459085
Pyrene	ND		0.00600	1	04/11/2020 15:28	WG1459085
1-Methylnaphthalene	ND		0.0200	1	04/11/2020 15:28	WG1459085
2-Methylnaphthalene	ND		0.0200	1	04/11/2020 15:28	WG1459085
2-Chloronaphthalene	ND		0.0200	1	04/11/2020 15:28	WG1459085
(S) p-Terphenyl-d14	*62.1*		*23.0-120*		*04/11/2020 15:28*	WG1459085
(S) Nitrobenzene-d5	*48.0*		*14.0-149*		*04/11/2020 15:28*	WG1459085
(S) 2-Fluorobiphenyl	*57.8*		*34.0-125*		*04/11/2020 15:28*	WG1459085

Method Blank (MB)

(MB) R3518223-1 04/13/20 15:58

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

L1206925-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1206925-01 04/13/20 15:58 • (DUP) R3518223-3 04/13/20 15:59

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

L1207121-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1207121-11 04/13/20 16:15 • (DUP) R3518223-12 04/13/20 16:16

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chromium,Hexavalent	U	0.000	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3518223-2 04/13/20 15:58

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	24.0	24.7	103	80.0-120	

L1207121-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1207121-04 04/13/20 16:06 • (MS) R3518223-4 04/13/20 16:08 • (MSD) R3518223-5 04/13/20 16:08

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 %
Chromium,Hexavalent	22.6	U	ND	ND	0.000	0.000	1	75.0-125	J6	J6	0.000	20

L1207121-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1207121-09 04/13/20 16:12 • (MS) R3518223-8 04/13/20 16:13 • (MSD) R3518223-9 04/13/20 16:13

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 %
Chromium,Hexavalent	24.7	U	16.4	16.6	66.5	67.2	1	75.0-125	J6	J6	1.10	20

L1207121-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1207121-04 04/13/20 16:06 • (MS) R3518223-6 04/13/20 16:09

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chromium,Hexavalent	715	U	558	78.1	50	75.0-125	

L1207121-09 Original Sample (OS) • Matrix Spike (MS)

(OS) L1207121-09 04/13/20 16:12 • (MS) R3518223-10 04/13/20 16:13

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chromium,Hexavalent	780	U	813	104	50	75.0-125	

L1205966-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1205966-01 04/16/20 17:00 • (DUP) R3517926-2 04/16/20 17:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.79	7.80	1	0.128		1

Sample Narrative:

OS: 7.79 at 21.3C

DUP: 7.8 at 20.1C

L1206925-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1206925-06 04/16/20 17:00 • (DUP) R3517926-3 04/16/20 17:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.54	8.59	1	0.584		1

Sample Narrative:

OS: 8.54 at 20.3C

DUP: 8.59 at 19.7C

Laboratory Control Sample (LCS)

(LCS) R3517926-1 04/16/20 17:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	9.97	99.7	99.0-101	

Sample Narrative:

LCS: 9.97 at 20.3C

Method Blank (MB)

(MB) R3517055-1 04/09/20 12:04

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

L1206917-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1206917-01 04/09/20 12:04 • (DUP) R3517055-3 04/09/20 12:04

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	214	200	1	6.82		20

L1206925-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1206925-04 04/09/20 12:04 • (DUP) R3517055-4 04/09/20 12:04

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	167	138	1	18.9		20

Laboratory Control Sample (LCS)

(LCS) R3517055-2 04/09/20 12:04

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	445	444	99.8	85.0-115	

Method Blank (MB)

(MB) R3517385-1 04/10/20 08:27

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0180	0.0400

Laboratory Control Sample (LCS)

(LCS) R3517385-2 04/10/20 08:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.500	0.495	99.0	80.0-120	

L1207025-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1207025-04 04/10/20 08:32 • (MS) R3517385-3 04/10/20 08:35 • (MSD) R3517385-4 04/10/20 08:37

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 %
Mercury	0.620	U	0.616	0.527	99.4	85.0	1	75.0-125			15.6	20

L1207025-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1207025-07 04/10/20 08:39 • (MS) R3517385-5 04/10/20 08:46 • (MSD) R3517385-6 04/10/20 08:49

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 %
Mercury	0.528	U	0.460	0.568	87.0	108	1	75.0-125		J3	21.2	20

Method Blank (MB)

(MB) R3517670-1 04/11/20 13:32

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.460	2.00
Barium	U		0.240	0.500
Boron	U		6.89	20.0
Cadmium	U		0.0810	0.500
Chromium	U		0.250	1.00
Copper	U		0.506	2.00
Lead	U		0.208	0.500
Nickel	U		0.490	2.00
Selenium	U		0.617	2.00
Silver	U		0.228	1.00
Zinc	U		0.939	5.00

Laboratory Control Sample (LCS)

(LCS) R3517670-2 04/11/20 13:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	98.1	98.1	80.0-120	
Barium	100	106	106	80.0-120	
Boron	100	101	101	80.0-120	
Cadmium	100	102	102	80.0-120	
Chromium	100	103	103	80.0-120	
Copper	100	103	103	80.0-120	
Lead	100	94.8	94.8	80.0-120	
Nickel	100	95.2	95.2	80.0-120	
Selenium	100	106	106	80.0-120	
Silver	20.0	19.0	94.9	80.0-120	
Zinc	100	100	100	80.0-120	

L1207025-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1207025-04 04/11/20 13:38 • (MS) R3517670-5 04/11/20 13:45 • (MSD) R3517670-6 04/11/20 13:48

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	124	14.1	126	130	90.6	93.5	1	75.0-125			2.81	20
Barium	124	68.4	185	157	93.9	71.7	1	75.0-125		J6	16.1	20
Boron	124	U	100	104	81.0	83.5	1	75.0-125			3.00	20
Cadmium	124	0.632	119	123	95.6	98.4	1	75.0-125			2.92	20

L1207025-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1207025-04 04/11/20 13:38 • (MS) R3517670-5 04/11/20 13:45 • (MSD) R3517670-6 04/11/20 13:48

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 %
Chromium	124	17.3	138	140	97.5	99.3	1	75.0-125			1.60	20
Copper	124	26.7	148	153	97.9	102	1	75.0-125			3.25	20
Lead	124	16.2	127	130	89.0	91.9	1	75.0-125			2.86	20
Nickel	124	23.1	137	141	92.0	95.4	1	75.0-125			3.02	20
Selenium	124	1.34	123	127	97.9	101	1	75.0-125			3.10	20
Silver	24.8	U	22.2	22.8	89.4	91.8	1	75.0-125			2.69	20
Zinc	124	89.5	204	213	92.6	99.6	1	75.0-125			4.16	20

L1207025-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1207025-07 04/11/20 13:50 • (MS) R3517670-8 04/11/20 13:56 • (MSD) R3517670-9 04/11/20 14:04

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	106	3.89	109	110	99.5	101	1	75.0-125			1.15	20
Barium	106	77.4	187	171	104	88.9	1	75.0-125			8.83	20
Boron	106	6.78	106	103	100	97.0	1	75.0-125			3.00	20
Cadmium	106	0.707	110	110	103	104	1	75.0-125			0.507	20
Chromium	106	10.2	106	109	90.4	94.0	1	75.0-125			3.46	20
Copper	106	6.80	108	113	96.0	100	1	75.0-125			4.10	20
Lead	106	5.95	99.1	103	88.2	91.4	1	75.0-125			3.36	20
Nickel	106	9.33	105	110	90.7	95.1	1	75.0-125			4.31	20
Selenium	106	U	114	115	108	109	1	75.0-125			0.662	20
Silver	21.1	U	21.0	20.9	99.1	98.9	1	75.0-125			0.225	20
Zinc	106	96.5	134	145	35.4	46.0	1	75.0-125	J6	J6	8.00	20

Method Blank (MB)

(MB) R3518104-4 04/12/20 09:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	0.000226	J	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)	*101*			*77.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*107*			*72.0-128*

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

(LCS) R3518104-1 04/12/20 08:00 • (LCSD) R3518104-2 04/12/20 08:20

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 %
Benzene	0.0500	0.0452	0.0496	90.4	99.2	76.0-121			9.28	20
Toluene	0.0500	0.0491	0.0532	98.2	106	80.0-120			8.02	20
Ethylbenzene	0.0500	0.0486	0.0538	97.2	108	80.0-124			10.2	20
Total Xylene	0.150	0.148	0.163	98.7	109	37.0-160			9.65	20
(S) a,a,a-Trifluorotoluene(FID)				*97.6*	*99.3*	*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*102*	*101*	*72.0-128*				

Laboratory Control Sample (LCS)

(LCS) R3518104-3 04/12/20 08:41

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	6.10	111	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*113*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*112*	*72.0-128*	

L1207745-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1207745-10 04/12/20 18:32 • (MS) R3518104-5 04/12/20 18:53 • (MSD) R3518104-6 04/12/20 19:14

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	1.25	ND	0.963	1.05	77.0	84.0	25	10.0-155			8.64	32
Toluene	1.25	ND	1.08	1.18	86.4	94.4	25	10.0-160			8.85	34
Ethylbenzene	1.25	ND	1.12	1.27	86.3	98.3	25	10.0-160			12.6	32
Total Xylene	3.75	ND	3.27	3.61	81.3	90.4	25	10.0-160			9.88	32
(S) a,a,a-Trifluorotoluene(FID)					*101*	*100*		*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)					*103*	*103*		*72.0-128*				

Method Blank (MB)

(MB) R3517622-1 04/10/20 21:34

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-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*86.5*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3517622-2 04/10/20 21:47

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	43.3	86.6	50.0-150	
(S) o-Terphenyl			*91.7*	*18.0-148*	

L1207464-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1207464-01 04/10/20 22:13 • (MS) R3517622-3 04/10/20 22:26 • (MSD) R3517622-4 04/10/20 22:39

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 %
C10-C28 Diesel Range	68.5	33.3	85.5	118	76.2	123	1	50.0-150		J3	32.2	20
(S) o-Terphenyl					*77.6*	*67.5*		*18.0-148*				

Method Blank (MB)

(MB) R3517923-2 04/11/20 13:43

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	*60.9*			*14.0-149*
(S) 2-Fluorobiphenyl	*73.1*			*34.0-125*
(S) p-Terphenyl-d14	*77.2*			*23.0-120*

Laboratory Control Sample (LCS)

(LCS) R3517923-1 04/11/20 13:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0581	72.6	50.0-126	
Acenaphthene	0.0800	0.0550	68.8	50.0-120	
Acenaphthylene	0.0800	0.0566	70.8	50.0-120	
Benzo(a)anthracene	0.0800	0.0582	72.8	45.0-120	
Benzo(a)pyrene	0.0800	0.0560	70.0	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0531	66.4	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0562	70.3	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0604	75.5	49.0-125	
Chrysene	0.0800	0.0584	73.0	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0555	69.4	47.0-125	
Fluoranthene	0.0800	0.0623	77.9	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3517923-1 04/11/20 13:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0562	70.3	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0564	70.5	46.0-125	
Naphthalene	0.0800	0.0546	68.3	50.0-120	
Phenanthrene	0.0800	0.0556	69.5	47.0-120	
Pyrene	0.0800	0.0543	67.9	43.0-123	
1-Methylnaphthalene	0.0800	0.0598	74.8	51.0-121	
2-Methylnaphthalene	0.0800	0.0565	70.6	50.0-120	
2-Chloronaphthalene	0.0800	0.0549	68.6	50.0-120	
(S) Nitrobenzene-d5			*67.7*	*14.0-149*	
(S) 2-Fluorobiphenyl			*80.6*	*34.0-125*	
(S) p-Terphenyl-d14			*84.3*	*23.0-120*	

L1206932-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1206932-01 04/11/20 20:45 • (MS) R3517923-3 04/11/20 21:06 • (MSD) R3517923-4 04/11/20 21:28

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 %
Anthracene	0.0877	0.0243	0.440	0.216	475	219	1	10.0-145	J5	J3 J5	68.4	30
Acenaphthene	0.0877	0.00867	0.386	0.124	430	131	1	14.0-127	J5	J3 J5	103	27
Acenaphthylene	0.0877	U	0.0656	0.0598	74.9	68.3	1	21.0-124			9.26	25
Benzo(a)anthracene	0.0877	0.0818	0.992	0.357	1040	314	1	10.0-139	J5	J3 J5	94.1	30
Benzo(a)pyrene	0.0877	0.101	0.894	0.317	904	246	1	10.0-141	J5	J3 J5	95.4	31
Benzo(b)fluoranthene	0.0877	0.0731	1.13	0.359	1200	327	1	10.0-140	J5	J3 J5	103	36
Benzo(g,h,i)perylene	0.0877	0.0936	0.650	0.232	635	158	1	10.0-140	J5	J3 J5	94.7	33
Benzo(k)fluoranthene	0.0877	0.0213	0.370	0.147	398	143	1	10.0-137	J5	J3 J5	86.4	31
Chrysene	0.0877	0.0979	1.05	0.325	1090	259	1	10.0-145	J5	J3 J5	106	30
Dibenz(a,h)anthracene	0.0877	0.0342	0.197	0.107	186	83.5	1	10.0-132	J5	J3	59.0	31
Fluoranthene	0.0877	0.0915	2.94	0.687	3250	679	1	10.0-153	J5	J3 J5	124	33
Fluorene	0.0877	0.0107	0.329	0.136	363	143	1	11.0-130	J5	J3 J5	83.0	29
Indeno(1,2,3-cd)pyrene	0.0877	0.0358	0.513	0.174	544	158	1	10.0-137	J5	J3 J5	98.6	32
Naphthalene	0.0877	0.0549	0.268	0.163	244	124	1	10.0-135	J5	J3	48.7	27
Phenanthrene	0.0877	0.0807	2.59	0.561	2860	548	1	10.0-144	J5	J3 J5	129	31
Pyrene	0.0877	0.103	2.14	0.524	2320	480	1	10.0-148	J5	J3 J5	121	35
1-Methylnaphthalene	0.0877	0.0564	0.154	0.116	112	68.1	1	10.0-142		J3	28.3	28
2-Methylnaphthalene	0.0877	0.0952	0.201	0.151	120	63.9	1	10.0-137			28.0	28
2-Chloronaphthalene	0.0877	U	0.0589	0.0529	67.3	60.4	1	29.0-120			10.8	24
(S) Nitrobenzene-d5					*63.5*	*59.4*		*14.0-149*				
(S) 2-Fluorobiphenyl					*75.5*	*70.5*		*34.0-125*				
(S) p-Terphenyl-d14					*89.8*	*78.2*		*23.0-120*				

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

(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.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
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.
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.
T8	Sample(s) received past/too close to holding time expiration.

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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
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

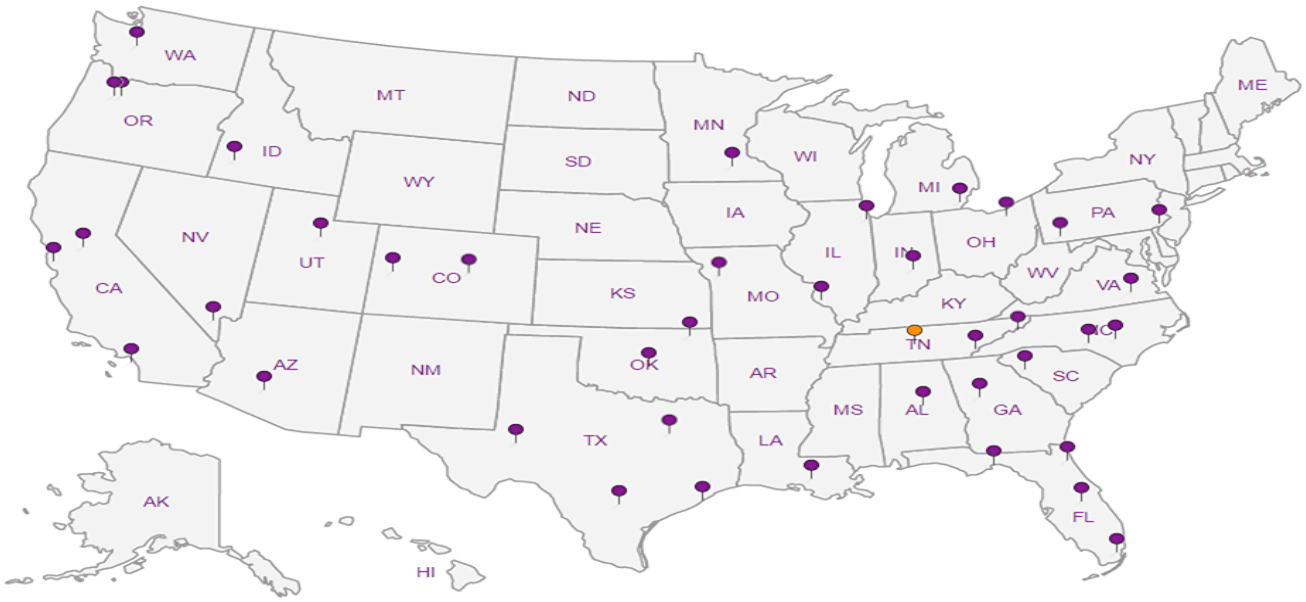
Third Party Federal Accreditations

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.



Billing Information: **ATTN: Jennifer Deal**

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace Analytical® National Center for Testing & Innovation

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Mount Juliet, TN 37122
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Phone: 800-767-5859
Fax: 615-758-5859

L# 1206925
J109

Report to: **Jennifer Deal**

Email To: **jdeal@hilcorp.com; khoekstra@hilcorp**

Project Description: **Ballantine 34-9 32-2**

City/State Collected: **Aztec, NM**

Phone: **505-324-5128**
Fax:

Client Project #

Lab Project #

Collected by (print): **K Hoekstra**

Site/Facility ID # **Ballantine 34-9 32-2**

P.O. #

Collected by (signature): Kurt Hoekstra

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Acctnum: **HILCORANM**
Template:
Prelogin:
TSR:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Table 910-1 (Attached)	Remarks	Sample # (lab only)
Background	Grab	SS	0-6"	4-6-20	9:20	3	X		-01
9' N of Sm Stain	Grab	SS	0-6"	4-6-20	9:32	3	X		-02
Lg Stain	Grab	SS	0-6"	4-6-20	9:47	3	X		-03
E of Stain in Irrigation Track	Grab	SS	0-6"	4-6-20	9:54	3	X		-04
S of Stain	Grab	SS	0-6"	4-6-20	10:00	3	X		-05
W of Separator	Grab	SS	0-6"	4-6-20	10:10	3	X		-06

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other ___

Remarks:

pH ___ Temp ___
Flow ___ Other ___

Samples returned via:
__ UPS __ FedEx __ Courier __ ___

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: Y __N
Bottles arrive intact: Y __N
Correct bottles used: Y __N
Sufficient volume sent: Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

RAD SCREEN: <0.5 mR/hr

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Kurt Hoekstra	4-7-20	7:30			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: NPA3 °C 1.2+.3=1.5	Bottles Received: 18
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) ISA	Date: 4-8	Time: 0830

Hold: | Condition: NCF / OK

L1206925

Table 910-1

CONCENTRATION LEVELS[1] Contaminant of Concern	Concentrations
Organic Compounds in Soil	
TPH (total volatile and extractable petroleum hydrocarbons) DRO,GRO,MRO	500 mg/kg
Benzene	0.17 mg/kg[2]
Toluene	85 mg/kg2
Ethylbenzene	100 mg/kg2
Xylenes (total	175 mg/kg2
Acenaphthene	1,000 mg/kg2
Anthracene	1,000 mg/kg2
Benzo(A)anthracene	0.22 mg/kg2
Benzo(B)fluoranthene	0.22 mg/kg2
Benzo(K)fluoranthene	2.2 mg/kg2
Benzo(A)pyrene	0.022 mg/kg2
Chrysene	22 mg/kg2
Dibenzo(A,H)anthracene	0.022 mg/kg2
Fluoranthene	1,000 mg/kg2
Fluorene	1,000 mg/kg2
Indeno(1,2,3,C,D)pyrene	0.22 mg/kg2
Napthalene	23 mg/kg2
Pyrene	1,000 mg/kg2
Organic Compounds in Ground Water	
Benzene	5 µg/l[3]
Toluene	560 to 1,000 µg/l[3]
Ethylbenzene	700 µg/l[3]
Xylenes (Total)	1,400 to 10,000 µg/l[3,4]
Inorganics in Soils	
Electrical Conductivity (EC)	<4 mmhos/cm or 2x background
Sodium Adsorption Ratio (SAR)	<12[5]
pH	6-9
Inorganics in Ground Water	
Total Dissolved Solids (TDS)	<1.25 x background[3]
Chlorides	<1.25 x background[3]
Sulfates	<1.25 x background[3]
Metals in Soils	
Arsenic	0.39 mg/kg[2]
Barium (LDNR True Total Barium)	15,000 mg/kg[2]
Boron (Hot Water Soluble)	2 mg/l[3]
Cadmium	70 mg/kg[3,6]
Chromium (III)	120,000 mg/kg[2]
Chromium (VI)	23 mg/kg[2,6]
Copper	3,100 mg/kg[2]
Lead (inorganic)	400 mg/kg[2]
Mercury	23 mg/kg[2]
Nickel (soluble salts)	1,600 mg/kg[2,6]
Selenium	390 mg/kg[2,6]
Silver	390 mg/kg[2]
Zinc	23,000 mg/kg[2,6]
Liquid Hydrocarbons in Soils and Ground Water	
Liquid hydrocarbons including condensate and oil	