

MCA 1C Excavation/Sampling Locations

APPROVED

By Olivia Yu at 9:42 am, Oct 05, 2018

Legend

- 32.816011, -103.794741
- Excavated Outline
- Underground Conoco Pipeline
- Underground Holly Line

NSW-1
WSW-1 AH-1 ESW-1
WSW-2 ESW-2
SSW-1

Google Earth

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90 ft





TETRA TECH

CLIENT _____

DATE _____

JOB TITLE _____

JOB NUMBER _____

SUBJECT _____

BY _____

SHEET _____

Sampling GPS

SSW-1	32°48'57.88"N 103°47'40.89"W
NSW-1	32°48'58.25"N 103°47'40.89"W
WSW-1	32°48'58.14"N 103°47'41.07"W
WSW-2	32°48'57.99"N 103°47'41.01"W
ESW-1	32°48'58.14"N 103°47'40.70"W
ESW-2	32°48'57.99"N 103°47'40.78"W
AH-1	32°48'58.16"N 103°47'40.91"W
AH-2	32°48'57.99"N 103°47'40.89"W

Table 1
ConocoPhillips Company
Excavation Soil Sample Results
MCA 1C 1RP-5141
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH				BTEX					Chlorides
			In Situ	Removed	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	Total TPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
AH-1	8/24/2018	6'		X	0.0528 J	12.1	2.71 J	14.86	<0.00131	<0.00654	<0.00327	<0.00851	<0.00851	5,910
	8/24/2018	7'	X		<0.0249	4.69	1.04 J	5.73	<0.00115	<0.00573	<0.00287	<0.00745	<0.00745	1,200
AH-2	8/24/2018	6'		X	3,140	7,060	1,580	11,780	2.16	76.7	82.6	132	293.46	2,190
	8/24/2018	7'	X		0.0698 J	6.78 J3 J6	1.14 J	7.99	<0.00111	0.00250 J	0.00371	0.00575 J	0.012	2,150
NSW-1	8/24/2018		X		<0.114	<4.55	<4.55	<4.55	<0.00114	<0.00569	<0.00285	<0.00740	<0.00740	73.1
SSW-1	8/24/2018		X		<0.104	<4.17	0.789 J	0.0789	<0.00104	<0.00521	<0.00260	<0.00677	<0.00677	105
ESW-1	08/24/18		X		<0.104	10.1	9.62	19.72	<0.00104	<0.00518	<0.00259	<0.00674	<0.00674	56.3
ESW-2	08/24/18		X		<0.105	4.34	1.58 J	5.92	<0.00105	<0.00524	<0.00262	<0.00681	<0.00681	37.1
WSW-1	08/24/18		X		<0.104	<4.16	0.771 J	0.771	<0.00104	<0.00520	<0.00260	<0.00676	<0.00676	51.2
WSW-2	08/24/18		X		<0.105	1.80 J	1.58 J	3.38	<0.00105	<0.00523	<0.00261	<0.00680	<0.00680	217

NOTES:

ft	Feet		Diesel Range Organics
PPM	Parts per million		Oil Range Organics
mg/kg	Milligrams per kilogram	J	The identification of the analyte is acceptable; the reported value is an estimate.
TPH	Total Petroleum Hydrocarbons	J3	The associated batch QC was outside the established quality control range for precision
GRO	Gasoline Range Organics	J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low

September 06, 2018

ConocoPhillips - Tetra Tech

Sample Delivery Group: L1021250
Samples Received: 08/28/2018
Project Number: 212C-MD-01381
Description: MCA 1C Lea County, NM

Report To: Kayla Taylor
4001 N. Big Spring St., Ste. 401
Midland, TX 79705

Entire Report Reviewed By:



Chris McCord
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.



Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	5
Sr: Sample Results	6
NSW-1 L1021250-01	6
SSW-1 L1021250-02	7
ESW-1 L1021250-03	8
ESW-2 L1021250-04	9
WSW-1 L1021250-05	10
WSW-2 L1021250-06	11
AH-1 (6') L1021250-07	12
AH-1 (7') L1021250-08	13
AH-2 (6') L1021250-09	14
AH-2 (7') L1021250-10	15
Qc: Quality Control Summary	16
Total Solids by Method 2540 G-2011	16
Wet Chemistry by Method 300.0	18
Volatile Organic Compounds (GC) by Method 8015D/GRO	20
Volatile Organic Compounds (GC/MS) by Method 8260B	22
Semi-Volatile Organic Compounds (GC) by Method 8015	24
Gl: Glossary of Terms	25
Al: Accreditations & Locations	26
Sc: Sample Chain of Custody	27



SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



NSW-1 L1021250-01 Solid

Collected by
Collected date/time
Received date/time

08/22/18 12:10

08/28/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1160201	1	09/04/18 09:35	09/04/18 09:43	JD
Wet Chemistry by Method 300.0	WG1158706	1	08/28/18 22:18	09/01/18 00:40	MCG
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1159479	1	08/29/18 12:01	08/30/18 22:17	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1160396	1	08/29/18 12:01	09/02/18 05:43	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1159858	1	09/03/18 19:40	09/05/18 20:19	MTJ

¹ Cp

² Tc

³ Ss

⁴ Cn

SSW-1 L1021250-02 Solid

Collected by
Collected date/time
Received date/time

08/22/18 12:32

08/28/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1160201	1	09/04/18 09:35	09/04/18 09:43	JD
Wet Chemistry by Method 300.0	WG1158706	1	08/28/18 22:18	09/01/18 00:49	MCG
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1160015	1	08/29/18 12:01	08/31/18 11:20	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1160396	1	08/29/18 12:01	09/02/18 06:03	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1159858	1	09/03/18 19:40	09/05/18 20:32	MTJ

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

ESW-1 L1021250-03 Solid

Collected by
Collected date/time
Received date/time

08/22/18 09:31

08/28/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1160201	1	09/04/18 09:35	09/04/18 09:43	JD
Wet Chemistry by Method 300.0	WG1158706	1	08/28/18 22:18	09/01/18 00:58	MCG
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1159479	1	08/29/18 12:01	08/30/18 23:29	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1160396	1	08/29/18 12:01	09/02/18 06:23	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1159858	1	09/03/18 19:40	09/05/18 22:35	MTJ

⁹ Sc

ESW-2 L1021250-04 Solid

Collected by
Collected date/time
Received date/time

08/22/18 10:10

08/28/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1160201	1	09/04/18 09:35	09/04/18 09:43	JD
Wet Chemistry by Method 300.0	WG1158742	1	08/29/18 14:05	08/30/18 00:18	ELN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1159479	1	08/29/18 12:01	08/31/18 02:28	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1160396	1	08/29/18 12:01	09/02/18 06:43	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1159858	1	09/03/18 19:40	09/05/18 20:45	MTJ

WSW-1 L1021250-05 Solid

Collected by
Collected date/time
Received date/time

08/22/18 11:20

08/28/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1160201	1	09/04/18 09:35	09/04/18 09:43	JD
Wet Chemistry by Method 300.0	WG1158742	1	08/29/18 14:05	08/30/18 00:27	ELN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1159479	1	08/29/18 12:01	08/31/18 02:49	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1160396	1	08/29/18 12:01	09/02/18 07:04	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1159858	1	09/03/18 19:40	09/05/18 20:58	MTJ

ACCOUNT:

ConocoPhillips - Tetra Tech

PROJECT:

212C-MD-01381

SDG:

L1021250

DATE/TIME:

09/06/18 15:10

PAGE:

3 of 28



WSW-2 L1021250-06 Solid

			Collected by	Collected date/time	Received date/time
				08/22/18 11:28	08/28/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1160203	1	09/04/18 09:20	09/04/18 09:32	JD
Wet Chemistry by Method 300.0	WG1158742	1	08/29/18 14:05	08/30/18 00:36	ELN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1160015	1	08/29/18 12:01	08/31/18 11:42	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1160396	1	08/29/18 12:01	09/02/18 07:24	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1159858	1	09/03/18 19:40	09/05/18 21:12	MTJ

¹ Cp² Tc³ Ss⁴ Cn

AH-1 (6') L1021250-07 Solid

			Collected by	Collected date/time	Received date/time
				08/23/18 10:50	08/28/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1160203	1	09/04/18 09:20	09/04/18 09:32	JD
Wet Chemistry by Method 300.0	WG1158742	20	08/29/18 14:05	08/30/18 00:45	ELN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1159479	1	08/29/18 12:01	08/31/18 03:32	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1160677	1	08/29/18 12:01	09/01/18 21:55	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1159858	1	09/03/18 19:40	09/05/18 21:26	MTJ

⁵ Sr⁶ Qc⁷ Gl⁸ Al

AH-1 (7') L1021250-08 Solid

			Collected by	Collected date/time	Received date/time
				08/23/18 11:31	08/28/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1160203	1	09/04/18 09:20	09/04/18 09:32	JD
Wet Chemistry by Method 300.0	WG1158742	5	08/29/18 14:05	08/30/18 01:02	ELN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1159479	1	08/29/18 12:01	08/31/18 03:54	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1160677	1	08/29/18 12:01	09/01/18 22:14	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1159858	1	09/03/18 19:40	09/05/18 21:40	MTJ

⁹ Sc

AH-2 (6') L1021250-09 Solid

			Collected by	Collected date/time	Received date/time
				08/23/18 10:55	08/28/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1160203	1	09/04/18 09:20	09/04/18 09:32	JD
Wet Chemistry by Method 300.0	WG1158742	5	08/29/18 14:05	08/30/18 01:11	ELN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1159479	500	08/29/18 12:01	08/30/18 21:34	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1160677	40	08/29/18 12:01	09/01/18 22:33	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1159858	10	09/03/18 19:40	09/05/18 22:48	MTJ
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1159858	50	09/03/18 19:40	09/05/18 23:15	MTJ

AH-2 (7') L1021250-10 Solid

			Collected by	Collected date/time	Received date/time
				08/23/18 11:40	08/28/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1160203	1	09/04/18 09:20	09/04/18 09:32	JD
Wet Chemistry by Method 300.0	WG1158742	5	08/29/18 14:05	08/30/18 01:20	ELN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1159479	1	08/29/18 12:01	08/30/18 21:56	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1160677	1	08/29/18 12:01	09/01/18 22:53	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1159858	1	09/03/18 19:40	09/05/18 21:54	MTJ



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	87.8		1	09/04/2018 09:43	WG1160201

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	73.1		0.905	10.0	11.4	1	09/01/2018 00:40	WG1158706

Volatile Organic Compounds (GC) by Method 8015D/GRO

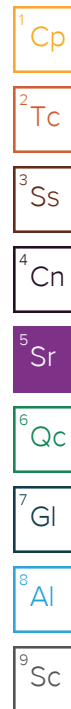
Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0247	0.100	0.114	1	08/30/2018 22:17	WG1159479
(S) a,a,a-Trifluorotoluene(FID)	104				77.0-120		08/30/2018 22:17	WG1159479

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000455	0.00100	0.00114	1	09/02/2018 05:43	WG1160396
Toluene	U		0.00142	0.00500	0.00569	1	09/02/2018 05:43	WG1160396
Ethylbenzene	U		0.000603	0.00250	0.00285	1	09/02/2018 05:43	WG1160396
Total Xylenes	U		0.00544	0.00650	0.00740	1	09/02/2018 05:43	WG1160396
(S) Toluene-d8	106				75.0-131		09/02/2018 05:43	WG1160396
(S) Dibromofluoromethane	99.6				65.0-129		09/02/2018 05:43	WG1160396
(S) a,a,a-Trifluorotoluene	105				80.0-120		09/02/2018 05:43	WG1160396
(S) 4-Bromofluorobenzene	103				67.0-138		09/02/2018 05:43	WG1160396

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.83	4.00	4.55	1	09/05/2018 20:19	WG1159858
C28-C40 Oil Range	U		0.312	4.00	4.55	1	09/05/2018 20:19	WG1159858
(S) o-Terphenyl	56.3				18.0-148		09/05/2018 20:19	WG1159858





Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.0		1	09/04/2018 09:43	WG1160201

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	105		0.828	10.0	10.4	1	09/01/2018 00:49	WG1158706

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0226	0.100	0.104	1	08/31/2018 11:20	WG1160015
(S) a,a,a-Trifluorotoluene(FID)	97.6				77.0-120		08/31/2018 11:20	WG1160015

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000417	0.00100	0.00104	1	09/02/2018 06:03	WG1160396
Toluene	U		0.00130	0.00500	0.00521	1	09/02/2018 06:03	WG1160396
Ethylbenzene	U		0.000552	0.00250	0.00260	1	09/02/2018 06:03	WG1160396
Total Xylenes	U		0.00498	0.00650	0.00677	1	09/02/2018 06:03	WG1160396
(S) Toluene-d8	106				75.0-131		09/02/2018 06:03	WG1160396
(S) Dibromofluoromethane	98.8				65.0-129		09/02/2018 06:03	WG1160396
(S) a,a,a-Trifluorotoluene	103				80.0-120		09/02/2018 06:03	WG1160396
(S) 4-Bromofluorobenzene	102				67.0-138		09/02/2018 06:03	WG1160396

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.68	4.00	4.17	1	09/05/2018 20:32	WG1159858
C28-C40 Oil Range	0.789	J	0.285	4.00	4.17	1	09/05/2018 20:32	WG1159858
(S) o-Terphenyl	81.7				18.0-148		09/05/2018 20:32	WG1159858

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.5		1	09/04/2018 09:43	WG1160201

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	56.3		0.824	10.0	10.4	1	09/01/2018 00:58	WG1158706

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0225	0.100	0.104	1	08/30/2018 23:29	WG1159479
(S) a,a,a-Trifluorotoluene(FID)	104				77.0-120		08/30/2018 23:29	WG1159479

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000415	0.00100	0.00104	1	09/02/2018 06:23	WG1160396
Toluene	U		0.00130	0.00500	0.00518	1	09/02/2018 06:23	WG1160396
Ethylbenzene	U		0.000549	0.00250	0.00259	1	09/02/2018 06:23	WG1160396
Total Xylenes	U		0.00496	0.00650	0.00674	1	09/02/2018 06:23	WG1160396
(S) Toluene-d8	106				75.0-131		09/02/2018 06:23	WG1160396
(S) Dibromofluoromethane	98.2				65.0-129		09/02/2018 06:23	WG1160396
(S) a,a,a-Trifluorotoluene	104				80.0-120		09/02/2018 06:23	WG1160396
(S) 4-Bromofluorobenzene	105				67.0-138		09/02/2018 06:23	WG1160396

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	10.1		1.67	4.00	4.15	1	09/05/2018 22:35	WG1159858
C28-C40 Oil Range	9.62		0.284	4.00	4.15	1	09/05/2018 22:35	WG1159858
(S) o-Terphenyl	88.8				18.0-148		09/05/2018 22:35	WG1159858

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.4		1	09/04/2018 09:43	WG1160201

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	37.1		0.834	10.0	10.5	1	08/30/2018 00:18	WG1158742

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0227	0.100	0.105	1	08/31/2018 02:28	WG1159479
(S) a,a,a-Trifluorotoluene(FID)	104				77.0-120		08/31/2018 02:28	WG1159479

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000419	0.00100	0.00105	1	09/02/2018 06:43	WG1160396
Toluene	U		0.00131	0.00500	0.00524	1	09/02/2018 06:43	WG1160396
Ethylbenzene	U		0.000556	0.00250	0.00262	1	09/02/2018 06:43	WG1160396
Total Xylenes	U		0.00501	0.00650	0.00681	1	09/02/2018 06:43	WG1160396
(S) Toluene-d8	107				75.0-131		09/02/2018 06:43	WG1160396
(S) Dibromofluoromethane	99.2				65.0-129		09/02/2018 06:43	WG1160396
(S) a,a,a-Trifluorotoluene	107				80.0-120		09/02/2018 06:43	WG1160396
(S) 4-Bromofluorobenzene	103				67.0-138		09/02/2018 06:43	WG1160396

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	4.34		1.69	4.00	4.19	1	09/05/2018 20:45	WG1159858
C28-C40 Oil Range	1.58	J	0.287	4.00	4.19	1	09/05/2018 20:45	WG1159858
(S) o-Terphenyl	84.2				18.0-148		09/05/2018 20:45	WG1159858

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.1		1	09/04/2018 09:43	WG1160201

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	51.2		0.827	10.0	10.4	1	08/30/2018 00:27	WG1158742

Volatile Organic Compounds (GC) by Method 8015D/GRO

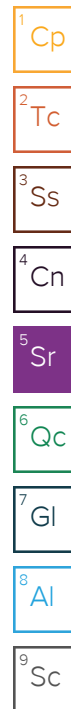
Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0226	0.100	0.104	1	08/31/2018 02:49	WG1159479
(S) a,a,a-Trifluorotoluene(FID)	104				77.0-120		08/31/2018 02:49	WG1159479

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000416	0.00100	0.00104	1	09/02/2018 07:04	WG1160396
Toluene	U		0.00130	0.00500	0.00520	1	09/02/2018 07:04	WG1160396
Ethylbenzene	U		0.000551	0.00250	0.00260	1	09/02/2018 07:04	WG1160396
Total Xylenes	U		0.00497	0.00650	0.00676	1	09/02/2018 07:04	WG1160396
(S) Toluene-d8	107				75.0-131		09/02/2018 07:04	WG1160396
(S) Dibromofluoromethane	99.2				65.0-129		09/02/2018 07:04	WG1160396
(S) a,a,a-Trifluorotoluene	104				80.0-120		09/02/2018 07:04	WG1160396
(S) 4-Bromofluorobenzene	106				67.0-138		09/02/2018 07:04	WG1160396

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.67	4.00	4.16	1	09/05/2018 20:58	WG1159858
C28-C40 Oil Range	0.771	J	0.285	4.00	4.16	1	09/05/2018 20:58	WG1159858
(S) o-Terphenyl	87.9				18.0-148		09/05/2018 20:58	WG1159858





Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.6		1	09/04/2018 09:32	WG1160203

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	217		0.832	10.0	10.5	1	08/30/2018 00:36	WG1158742

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0227	0.100	0.105	1	08/31/2018 11:42	WG1160015
(S) a,a,a-Trifluorotoluene(FID)	97.4				77.0-120		08/31/2018 11:42	WG1160015

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000418	0.00100	0.00105	1	09/02/2018 07:24	WG1160396
Toluene	U		0.00131	0.00500	0.00523	1	09/02/2018 07:24	WG1160396
Ethylbenzene	U		0.000554	0.00250	0.00261	1	09/02/2018 07:24	WG1160396
Total Xylenes	U		0.00500	0.00650	0.00680	1	09/02/2018 07:24	WG1160396
(S) Toluene-d8	108				75.0-131		09/02/2018 07:24	WG1160396
(S) Dibromofluoromethane	99.2				65.0-129		09/02/2018 07:24	WG1160396
(S) a,a,a-Trifluorotoluene	103				80.0-120		09/02/2018 07:24	WG1160396
(S) 4-Bromofluorobenzene	104				67.0-138		09/02/2018 07:24	WG1160396

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	1.80	J	1.68	4.00	4.18	1	09/05/2018 21:12	WG1159858
C28-C40 Oil Range	1.58	J	0.287	4.00	4.18	1	09/05/2018 21:12	WG1159858
(S) o-Terphenyl	80.9				18.0-148		09/05/2018 21:12	WG1159858

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	76.4		1	09/04/2018 09:32	WG1160203

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	5910		20.8	10.0	262	20	08/30/2018 00:45	WG1158742

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0528	<u>J</u>	0.0284	0.100	0.131	1	08/31/2018 03:32	WG1159479
(S) a,a,a-Trifluorotoluene(FID)	103				77.0-120		08/31/2018 03:32	WG1159479

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000524	0.00100	0.00131	1	09/01/2018 21:55	WG1160677
Toluene	U		0.00164	0.00500	0.00654	1	09/01/2018 21:55	WG1160677
Ethylbenzene	U		0.000694	0.00250	0.00327	1	09/01/2018 21:55	WG1160677
Total Xylenes	U		0.00626	0.00650	0.00851	1	09/01/2018 21:55	WG1160677
(S) Toluene-d8	117				75.0-131		09/01/2018 21:55	WG1160677
(S) Dibromofluoromethane	88.8				65.0-129		09/01/2018 21:55	WG1160677
(S) a,a,a-Trifluorotoluene	80.8				80.0-120		09/01/2018 21:55	WG1160677
(S) 4-Bromofluorobenzene	98.4				67.0-138		09/01/2018 21:55	WG1160677

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	12.1		2.11	4.00	5.24	1	09/05/2018 21:26	WG1159858
C28-C40 Oil Range	2.71	<u>J</u>	0.359	4.00	5.24	1	09/05/2018 21:26	WG1159858
(S) o-Terphenyl	50.2				18.0-148		09/05/2018 21:26	WG1159858

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	87.3		1	09/04/2018 09:32	WG1160203

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	1200		4.56	10.0	57.3	5	08/30/2018 01:02	WG1158742

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0249	0.100	0.115	1	08/31/2018 03:54	WG1159479
(S) a,a,a-Trifluorotoluene(FID)	104				77.0-120		08/31/2018 03:54	WG1159479

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000458	0.00100	0.00115	1	09/01/2018 22:14	WG1160677
Toluene	U		0.00143	0.00500	0.00573	1	09/01/2018 22:14	WG1160677
Ethylbenzene	U		0.000607	0.00250	0.00287	1	09/01/2018 22:14	WG1160677
Total Xylenes	U		0.00548	0.00650	0.00745	1	09/01/2018 22:14	WG1160677
(S) Toluene-d8	119				75.0-131		09/01/2018 22:14	WG1160677
(S) Dibromofluoromethane	86.0				65.0-129		09/01/2018 22:14	WG1160677
(S) a,a,a-Trifluorotoluene	80.3				80.0-120		09/01/2018 22:14	WG1160677
(S) 4-Bromofluorobenzene	101				67.0-138		09/01/2018 22:14	WG1160677

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	4.69		1.85	4.00	4.58	1	09/05/2018 21:40	WG1159858
C28-C40 Oil Range	1.04	J	0.314	4.00	4.58	1	09/05/2018 21:40	WG1159858
(S) o-Terphenyl	66.5				18.0-148		09/05/2018 21:40	WG1159858

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	86.2		1	09/04/2018 09:32	WG1160203

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	2190		4.61	10.0	58.0	5	08/30/2018 01:11	WG1158742

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	3140		12.6	0.100	58.0	500	08/30/2018 21:34	WG1159479
(S) a,a,a-Trifluorotoluene(FID)	102				77.0-120		08/30/2018 21:34	WG1159479

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	2.16		0.0186	0.00100	0.0464	40	09/01/2018 22:33	WG1160677
Toluene	76.7		0.0580	0.00500	0.232	40	09/01/2018 22:33	WG1160677
Ethylbenzene	82.6		0.0246	0.00250	0.116	40	09/01/2018 22:33	WG1160677
Total Xylenes	132		0.222	0.00650	0.301	40	09/01/2018 22:33	WG1160677
(S) Toluene-d8	114				75.0-131		09/01/2018 22:33	WG1160677
(S) Dibromofluoromethane	97.9				65.0-129		09/01/2018 22:33	WG1160677
(S) a,a,a-Trifluorotoluene	84.8				80.0-120		09/01/2018 22:33	WG1160677
(S) 4-Bromofluorobenzene	98.6				67.0-138		09/01/2018 22:33	WG1160677

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	7060		93.3	4.00	232	50	09/05/2018 23:15	WG1159858
C28-C40 Oil Range	1580		3.18	4.00	46.4	10	09/05/2018 22:48	WG1159858
(S) o-Terphenyl	0.000	J7			18.0-148		09/05/2018 23:15	WG1159858
(S) o-Terphenyl	686	J1			18.0-148		09/05/2018 22:48	WG1159858

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.4		1	09/04/2018 09:32	WG1160203

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	2150		4.40	10.0	55.3	5	08/30/2018 01:20	WG1158742

Volatile Organic Compounds (GC) by Method 8015D/GRO

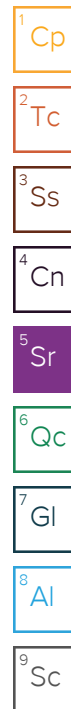
Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0698	J	0.0240	0.100	0.111	1	08/30/2018 21:56	WG1159479
(S) a,a,a-Trifluorotoluene(FID)	103				77.0-120		08/30/2018 21:56	WG1159479

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000443	0.00100	0.00111	1	09/01/2018 22:53	WG1160677
Toluene	0.00250	J	0.00138	0.00500	0.00553	1	09/01/2018 22:53	WG1160677
Ethylbenzene	0.00371		0.000586	0.00250	0.00277	1	09/01/2018 22:53	WG1160677
Total Xylenes	0.00575	J	0.00529	0.00650	0.00719	1	09/01/2018 22:53	WG1160677
(S) Toluene-d8	116				75.0-131		09/01/2018 22:53	WG1160677
(S) Dibromofluoromethane	88.5				65.0-129		09/01/2018 22:53	WG1160677
(S) a,a,a-Trifluorotoluene	81.4				80.0-120		09/01/2018 22:53	WG1160677
(S) 4-Bromofluorobenzene	98.9				67.0-138		09/01/2018 22:53	WG1160677

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	6.78	J3 J6	1.78	4.00	4.43	1	09/05/2018 21:54	WG1159858
C28-C40 Oil Range	1.14	J	0.303	4.00	4.43	1	09/05/2018 21:54	WG1159858
(S) o-Terphenyl	75.5				18.0-148		09/05/2018 21:54	WG1159858



Method Blank (MB)

(MB) R3339093-1 09/04/18 09:43

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

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

L1021250-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1021250-01 09/04/18 09:43 • (DUP) R3339093-3 09/04/18 09:43

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	87.8	87.7	1	0.113		10

Laboratory Control Sample (LCS)

(LCS) R3339093-2 09/04/18 09:43

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

Total Solids by Method 2540 G-2011

[L1021250-06,07,08,09,10](#)

Method Blank (MB)

(MB) R3339092-1 09/04/18 09:32

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

L1021252-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1021252-05 09/04/18 09:32 • (DUP) R3339092-3 09/04/18 09:32

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	87.4	88.0	1	0.650		10

Laboratory Control Sample (LCS)

(LCS) R3339092-2 09/04/18 09:32

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3338911-1 08/31/18 22:55

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chloride	U		0.795	10.0

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1021246-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1021246-16 08/31/18 23:30 • (DUP) R3338911-4 08/31/18 23:39

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	28.1	86.5	1	102	J3	20

L1021288-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1021288-12 09/01/18 03:01 • (DUP) R3338911-5 09/01/18 03:09

	Original Result (dry)	DUP Result (dry)	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	2470	2250	5	9.46		20

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

(LCS) R3338911-2 08/31/18 23:04 • (LCSD) R3338911-3 08/31/18 23:12

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Chloride	200	198	196	98.9	97.9	90.0-110			1.03	20

L1021288-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1021288-02 09/01/18 01:15 • (MS) R3338911-6 09/01/18 12:49 • (MSD) R3338911-7 09/01/18 12:57

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Chloride	5.66	45900	41800	33800	0.000	0.000	100	80.0-120	V	J3 V	21.2	20

Method Blank (MB)

(MB) R3337860-1 08/29/18 21:57				
	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chloride	U		0.795	10.0

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

L1021250-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1021250-07 08/30/18 00:45 • (DUP) R3337860-6 08/30/18 00:53					
	Original Result (dry)	DUP Result (dry)	Dilution	DUP RPD	<u>DUP Qualifier</u> DUP RPD Limits
Analyte	mg/kg	mg/kg		%	%
Chloride	5910	5630	20	4.76	20

L1021301-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1021301-01 08/30/18 01:46 • (DUP) R3337860-7 08/30/18 01:55					
	Original Result (dry)	DUP Result (dry)	Dilution	DUP RPD	<u>DUP Qualifier</u> DUP RPD Limits
Analyte	mg/kg	mg/kg		%	%
Chloride	564	598	1	5.73	20

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

(LCS) R3337860-2 08/29/18 22:06 • (LCSD) R3337860-3 08/29/18 22:15								
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u> RPD RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	%	%	%		% %
Chloride	200	197	200	98.5	100	90.0-110		1.69 20



Method Blank (MB)

(MB) R3338213-3 08/30/18 14:46

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	106			77.0-120

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R3338213-1 08/30/18 13:41 • (LCSD) R3338213-2 08/30/18 14:03

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	5.70	5.76	104	105	72.0-127			0.968	20
(S) a,a,a-Trifluorotoluene(FID)				97.2	96.7	77.0-120				

L1021250-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1021250-09 08/30/18 21:34 • (MS) R3338213-4 08/31/18 04:15 • (MSD) R3338213-5 08/31/18 04:37

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 %
TPH (GC/FID) Low Fraction	6.38	3140	6300	6500	99.0	105	500	10.0-151		E	3.17	28
(S) a,a,a-Trifluorotoluene(FID)					99.7	99.9		77.0-120				



Method Blank (MB)

(MB) R3338326-3 08/31/18 07:30

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	99.7			77.0-120

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

(LCS) R3338326-1 08/31/18 06:23 • (LCSD) R3338326-2 08/31/18 06:46

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	5.44	5.52	98.9	100	72.0-127			1.39	20
(S) a,a,a-Trifluorotoluene(FID)				103	103	77.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3339147-3 09/02/18 00:38

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000400	0.00100
Ethylbenzene	U		0.000530	0.00250
Toluene	U		0.00125	0.00500
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	108			75.0-131
(S) Dibromofluoromethane	98.1			65.0-129
(S) a,a,a-Trifluorotoluene	107			80.0-120
(S) 4-Bromofluorobenzene	98.2			67.0-138

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) R3339147-1 09/01/18 23:18 • (LCSD) R3339147-2 09/01/18 23:38

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	0.125	0.115	0.116	91.9	93.1	70.0-123			1.30	20
Ethylbenzene	0.125	0.118	0.116	94.6	92.9	74.0-126			1.79	20
Toluene	0.125	0.119	0.121	94.9	96.6	75.0-121			1.81	20
Xylenes, Total	0.375	0.315	0.323	84.0	86.1	72.0-127			2.51	20
(S) Toluene-d8				104	107	75.0-131				
(S) Dibromofluoromethane				105	105	65.0-129				
(S) a,a,a-Trifluorotoluene				104	103	80.0-120				
(S) 4-Bromofluorobenzene				101	101	67.0-138				

L1021250-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1021250-06 09/02/18 07:24 • (MS) R3339147-4 09/02/18 07:44 • (MSD) R3339147-5 09/02/18 08:05

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 %
Benzene	0.131	U	0.125	0.113	95.5	86.3	1	10.0-149			10.1	37
Ethylbenzene	0.131	U	0.128	0.128	98.2	97.6	1	10.0-160			0.693	38
Toluene	0.131	U	0.129	0.128	99.0	97.7	1	10.0-156			1.36	38
Xylenes, Total	0.392	U	0.361	0.351	92.0	89.6	1	10.0-160			2.64	38
(S) Toluene-d8					105	109		75.0-131				
(S) Dibromofluoromethane					102	98.1		65.0-129				
(S) a,a,a-Trifluorotoluene					104	106		80.0-120				
(S) 4-Bromofluorobenzene					98.8	105		67.0-138				



Method Blank (MB)

(MB) R3338696-2 09/01/18 18:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000400	0.00100
Ethylbenzene	U		0.000530	0.00250
Toluene	U		0.00125	0.00500
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	114			75.0-131
(S) Dibromofluoromethane	89.9			65.0-129
(S) a,a,a-Trifluorotoluene	85.8			80.0-120
(S) 4-Bromofluorobenzene	97.8			67.0-138

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS)

(LCS) R3338696-1 09/01/18 17:05

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.127	102	70.0-123	
Ethylbenzene	0.125	0.116	92.6	74.0-126	
Toluene	0.125	0.117	93.5	75.0-121	
Xylenes, Total	0.375	0.342	91.2	72.0-127	
(S) Toluene-d8			103	75.0-131	
(S) Dibromofluoromethane			103	65.0-129	
(S) a,a,a-Trifluorotoluene			90.4	80.0-120	
(S) 4-Bromofluorobenzene			98.7	67.0-138	

L1021250-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1021250-09 09/01/18 22:33 • (MS) R3338696-3 09/02/18 01:09 • (MSD) R3338696-4 09/02/18 01:28

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 %
Benzene	0.145	2.16	8.10	8.26	102	105	40	10.0-149			1.91	37
Ethylbenzene	0.145	82.6	85.9	85.7	57.4	53.1	40	10.0-160			0.288	38
Toluene	0.145	76.7	79.2	77.9	43.8	21.4	40	10.0-156			1.66	38
Xylenes, Total	0.435	132	144	144	67.3	68.7	40	10.0-160			0.161	38
(S) Toluene-d8					110	107		75.0-131				
(S) Dibromofluoromethane					102	101		65.0-129				
(S) a,a,a-Trifluorotoluene					84.5	86.9		80.0-120				
(S) 4-Bromofluorobenzene					107	112		67.0-138				



Method Blank (MB)

(MB) R3339438-1 09/05/18 19:41

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	93.4			18.0-148

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R3339438-2 09/05/18 19:54 • (LCSD) R3339438-3 09/05/18 20:06

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 %
C10-C28 Diesel Range	50.0	36.6	39.8	73.2	79.6	50.0-150			8.38	20
(S) o-Terphenyl				86.8	93.8	18.0-148				

L1021250-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1021250-10 09/05/18 21:54 • (MS) R3339438-4 09/05/18 22:08 • (MSD) R3339438-5 09/05/18 22:22

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	55.3	6.78	32.1	47.5	45.7	73.5	1	50.0-150	J6	J3	38.7	20
(S) o-Terphenyl					62.8	70.1		18.0-148				



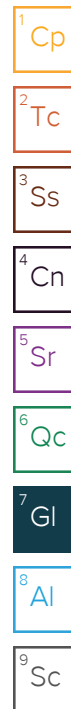
Guide to Reading and Understanding Your Laboratory Report

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.
MQL (dry)	Method Quantitation Limit.
MQL	Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
SDL (dry)	Sample Detection Limit.
(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 Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
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
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
V	The sample concentration is too high to evaluate accurate spike recoveries.





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

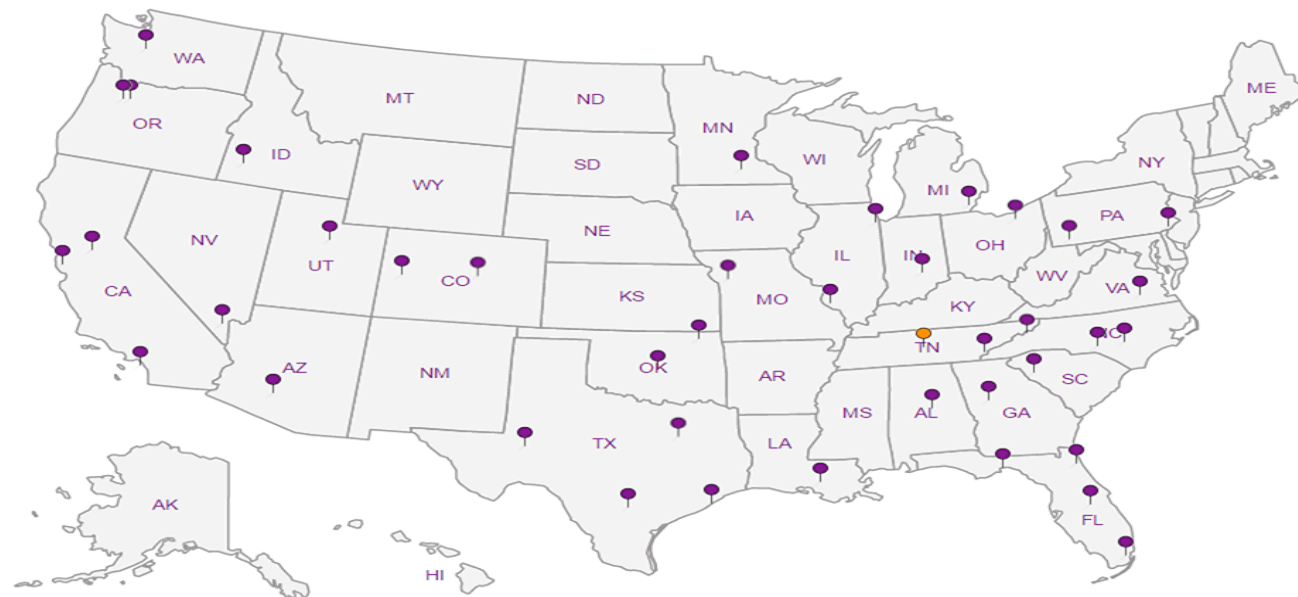
Third Party Federal Accreditations

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.



Analysis Request of Chain of Custody Record

Page 1 of 1

**Tetra Tech, Inc.**900 West Wall St., Suite 100
Midland, Texas 79701
Tel (432) 682-4559
Fax (432) 682-3646

G005

Client Name:	CononoPhillips RMR	Site Manager:	Kayla Taylor
Project Name:	MCA 1C		
Project Location: (county, state)	Lea County, New Mexico	Project #:	212C-MD-01381
Invoice to:	Accounts Payable 900 West Wall St., Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Pace Analytical	Sampler Signature:	<i>[Signature]</i>

Comments: COPTETRA Acetnum

ANALYSIS REQUEST
(Circle or Specify Method No.)

BT/EX 8021B (BT/EX 8260B)	TPH TX1005 (Ext to C35)	TPH 8015M (GRD - DRO - ORG - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	PCB	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	BT/EX 8015B	Hold

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX			PRESERVATIVE METHOD				# CONTAINERS	FILTERED (Y/N)
		YEAR: 2018		WATER	SOIL		HCL	HNO ₃	ICE	None		
		DATE	TIME									
	NSW-1	8/22/2018	1210		X						1	
	SSW-1	8/22/2018	1232		X						1	
	ESW-1	8/22/2018	0931		X						1	
	ESW-2	8/22/2018	1010		X						1	
	WSW-1	8/22/2018	1120		X						1	
	WSW-2	8/22/2018	1128		X						1	
	AH-1(6')	8/23/2018	1050		X						1	
	AH-1(7')	8/23/2018	1131		X						1	
	AH-2(6')	8/23/2018	1055		X						1	
	AH-2(7')	8/23/2018	1140		X						1	

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
<i>[Signature]</i>	8-27-18	13:30	<i>[Signature]</i>	8-27-18	13:30
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
			<i>[Signature]</i>	8/29/18	0845
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
			<i>[Signature]</i>		

LAB USE ONLY	REMARKS:
	☐ STANDARD
	☐ RUSH: Same Day 24 hr 48 hr 72 hr
	☐ Rush Charges Authorized
	☐ Special Report Limits or TRRP Report
0.2 nd	OK

ORIGINAL COPY

4430 3429 2650

COUNT = 10-402

RAD SCREEN: <0.5 mR/hr

Pace Analytical National Center for Testing & Innovation Cooler Receipt Form

Client: <u>COPTETRA</u>	SDG#	<u>410250</u>		
Cooler Received/Opened On:	Temperature: <u>62</u>			
Received By: <u>tiana hutchings</u>				
Signature: <u>[Signature]</u>				
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?				