Entergy Arkansas, LLC
Independence Steam Electric Station
Recycle Ponds

2020 Annual Groundwater Monitoring and Corrective Action Report

Prepared in Compliance with the EPA Final Rule for the Disposal of Coal Combustion Residuals Title 40 CFR Part 257

Prepared for:



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January 29, 2021

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EXECUTIVE SUMMARY

Entergy Arkansas, LLC (Entergy), operated two recycle ponds as part of its process water system for bottom ash transport at the Independence Steam Electric Station (Plant) located near Newark, Arkansas. The recycle ponds provided intermediate storage of waters used in the transport of coal combustion residuals (CCR) generated from the combustion of coal at the plant. The West pond commenced closure as of August 2020 and the East pond is scheduled to commence closure in early 2021. Management of the CCRs at the recycle ponds is performed pursuant to national criteria established in Title 40 of the Code of Federal Regulations (40 CFR), Part 257 (CCR Rule), effective April 19, 2015 and subsequent revisions to the CCR Rule.

The Plant completed the eight (8) background quarterly detection monitoring sampling events in the second quarter of 2020. Upon completion of the eighth background sampling event, the recycle ponds CCR Unit entered semi-annual detection monitoring in the second half of 2020 per 40 CFR § 257.94. In December 2020 the initial detection monitoring sampling was performed for the recycle ponds CCR Unit. The recycle ponds CCR Unit operated under the detection monitoring program (40 CFR § 257.94) during the duration of 2020.

1. INTRODUCTION

Entergy Arkansas, LLC (Entergy), operated two recycle ponds as part of its process water system for bottom ash transport at the Plant located near Newark, Arkansas (Lat: 35.67826 / Long: -91.408848). The recycle ponds provided intermediate storage of waters used in the transport of CCR generated from the combustion of coal at the Plant. The West pond commenced closure as of August 2020 and the East pond is scheduled to commence closure in early 2021. The recycle ponds are managed in accordance with the national criteria established in the CCR Rule. Entergy installed a groundwater monitoring system at the recycle ponds CCR Unit that is subject to the groundwater monitoring and corrective action requirements provided under §§257.90 through 257.98 of the CCR rule. In accordance with §257.90(e) of the CCR rule, Entergy must prepare an annual report that provides information regarding the groundwater monitoring and corrective action program at the recycle ponds CCR Unit.

2. GROUNDWATER MONITORING SYSTEM

The recycle ponds CCR unit groundwater monitoring system consists of 10 monitoring wells as shown on Figure 1 included in Appendix A. Pursuant to §257.91(f) of the CCR rule, a qualified Arkansas-registered professional engineer has certified the groundwater monitoring system, which was designed and constructed to meet the requirements of §257.91.

3. INSTALLED OR DECOMISSIONED WELLS DURING 2020

Entergy did not install any new wells or decommission any existing wells in the certified groundwater monitoring system during 2020.

4. GROUNDWATER MONITORING DATA

In accordance with §257.90(e)(3), all monitoring data obtained under §§257.90 through 257.98 during 2020 are provided in Appendix B along with a summary of the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was collected as part of detection or assessment monitoring.

5. STATUS SUMMARY OF THE 2020 GROUNDWATER MONITORING PROGRAM

Groundwater monitoring was performed in accordance with the detection monitoring requirements of §257.94. A summary of activities related to groundwater detection monitoring performed during 2020 is provided in the list below:

- In accordance with §257.94(b), quarterly detection monitoring was performed during the first and second quarters of 2020 for analysis of Appendix III parameters (boron, calcium, chloride, fluoride, pH, sulfate, and total dissolved solids (TDS)) and Appendix IV parameters (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, fluoride, lead, lithium, mercury, molybdenum, selenium, thallium, and radium 226 and 228 combined) which completed the initial eight independent samples required under the Rule.

- In accordance with §257.94(b), semiannual detection monitoring was performed during the second half (December) of 2020 for analysis of Appendix III parameters. This was the first semi-annual detection monitoring event performed following completion of the initial eight independent background detection monitoring events.

- The second-half 2020 detection monitoring sampling was performed during December 2020. Statistical evaluation of the data will be performed in 2021 to determine if any SSIs are identified in accordance with §257.93(h).

- No problems were encountered during 2020 with regard to the detection monitoring and corrective action system. Therefore, no actions were required to modify the system.

- The recycle ponds CCR unit remained in detection monitoring for the duration of 2020.

6. PROJECTED ACTIVITIES FOR 2021

Planned activities for the program during 2021 are listed below:

- Statistical evaluation of the second-half 2020 detection monitoring sampling data will be performed during 2021 to determine if any SSIs are identified.
- Semiannual detection monitoring is planned for June and December 2021.

APPENDIX A
SITE MAP



LEGEND

- RECYCLING POND WELL
- RECYCLING POND BOUNDARY

NOTES

1. BASE MAP IMAGERY FROM DIGITALGLOBE, 2016.

0 300 600 Feet

1 " = 300 '

1:3,600

PROJECT:

ENTERGY INDEPENDENCE PLANT
555 POINT FERRY ROAD
NEWARK, AR

TITLE:

RECYCLING POND WELL LOCATIONS

DRAWN BY:	S. MAJOR	PROJ. NO.:	431479
CHECKED BY:	L. BURRIS		
APPROVED BY:	J. HOUSE		**FIGURE 1**
DATE:	DECEMBER 2020		

Two United Plaza
8550 United Plaza Blvd., Suite 502
Baton Rouge, LA
Phone: 225.216.7483

FILE NO.: 431479-001.mxd

Plot Date: 12/29/2020, 14:53:52 PM by SMAJOR -- LAYOUT: ANSI B (11"x17")
Path: S:\1-PROJECTS\Entergy\MadisonLegacyProjects\Arkansas\2018_3029674\431479-001.mxd
Coordinate System: NAD 1983 StatePlane Arkansas North FIPS 0301 Feet (Foot US)
Map Rotation: 16.75

TRC - GIS

APPENDIX B
GROUNDWATER MONITORING DATA

Sampling Schedule, Entergy Independence Recycle Ponds Network										
Well ID	Detection Monitoring Sampling Dates and Wells Sampled									Number of Samples Collected
	7/24-7/26/2018	10/23/2018	2/26-3/4/2019	5/29-5/30/2019	9/9/2019	11/12-11/13/2019	3/10-3/11/2020	6/11-6/16/2020	12/15-12/16/2020	
RP-1	X	X	X	X	X	X	X	X	X	9
RP-2	X	X	X	X	X	X	X	X	X	9
RP-3	X	X	X	X	X	X	X	X	[1]	8
RP-4	X	X	X	X	X	X	X	X	X	9
RP-5	X	X	X	X	X	X	X	X	X	9
RP-6	X	X	X	X	X	X	X	X	X	9
RP-7	X	X	X	X	X	X	X	X	X	9
RP-8	X	X	X	X	X	X	X	X	X	9
RP-9	X	X	X	X	X	X	X	X	X	9
RP-10	X	X	X	X	X	X	X	X	X	9

Notes: All samples collected through 2020 were part of the detection monitoring program. No samples collected through 2020 were part of an assessment monitoring program.

[1] RP-3 (a background well) was inaccessible during Q4 sampling (12/15-12/16/2020) due to site construction activities.

Field pH data collected during 2020, Entergy Independence Recycle Ponds network					
Well ID	Date Collected	pH (su)	Well ID	Date Collected	pH (su)
RP-1	7/24/2018	6.4	RP-6	7/25/2018	6.8
	10/23/2018	6.4		10/23/2018	6.8
	3/1/2019	6.4		3/5/2019	6.6
	5/29/2019	6.3		5/30/2019	6.7
	9/9/2019	6.5		9/9/2019	6.9
	11/12/2019	6.5		11/12/2019	7.0
	3/10/2020	6.30		3/10/2020	6.77
	6/12/2020	6.33		6/11/2020	6.92
	12/15/2020	6.54		12/16/2020	7.16
RP-2	7/24/2018	5.8	RP-7	7/26/2018	6.3
	10/23/2018	6.5		10/23/2018	6.5
	2/26/2019	6.0		3/4/2019	6.5
	5/29/2019	5.7		5/30/2019	6.5
	9/9/2019	6.4		9/9/2019	6.6
	11/12/2019	6.3		11/13/2019	6.7
	3/10/2020	6.21		3/10/2020	6.51
	6/12/2020	5.85		6/11/2020	6.48
	12/15/2020	6.29		12/16/2020	6.56
RP-3	7/24/2018	6.2	RP-8	7/26/2018	6.4
	10/23/2018	6.3		10/23/2018	6.9
	3/4/2019	6.6		3/4/2019	6.3
	5/29/2019	6.1		5/30/2019	6.3
	9/9/2019	6.5		9/9/2019	6.5
	11/12/2019	6.5		11/13/2019	6.6
	3/11/2020	6.32		3/10/2020	6.34
	6/16/2020	6.32		6/11/2020	6.38
	12/15/2020	[1]		12/15/2020	6.68

[1] RP-3 (a background well) was inaccessible during Q4 sampling (12/15-12/16/2020) due to site construction activities.

Field pH data collected during 2020, Entergy Independence Recycle Ponds network					
Well ID	Date Collected	pH (su)	Well ID	Date Collected	pH (su)
RP-4	7/25/2018	6.2	RP-9	7/24/2018	6.3
	10/23/2018	6.5		10/23/2018	6.5
	3/4/2019	6.7		3/4/2019	6.3
	5/29/2019	6.5		5/30/2019	6.4
	9/9/2019	6.5		9/9/2019	6.5
	11/12/2019	6.5		11/13/2019	6.6
	3/10/2020	6.32		3/10/2020	6.31
	6/12/2020	6.27		6/11/2020	6.35
	12/15/2020	6.64		12/15/2020	6.62
RP-5	7/25/2018	6.6	RP-10	7/24/2018	6.7
	10/23/2018	6.7		10/23/2018	6.5
	3/4/2019	7.0		3/4/2019	6.4
	5/29/2019	6.6		5/30/2019	6.5
	9/9/2019	6.9		9/9/2019	6.6
	11/12/2019	6.8		11/13/2019	6.7
	3/11/2020	6.68		3/10/2020	6.45
	6/11/2020	6.77		6/11/2020	6.53
	12/15/2020	7.12		12/15/2020	6.86

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

January 21, 2019

FTN Associates - Little Rock, AR

Sample Delivery Group:	L1012816
Samples Received:	07/27/2018
Project Number:	7920-1844-002
Description:	Entergy Independence Landfill

Report To: Dana Derrington
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Entire Report Reviewed By:

Justin Carr
Project Manager

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



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RP-1 L1012816-01 GW

Collected by: Michael Clayton | Collected date/time: 07/24/18 10:30 | Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1144553	1	07/31/18 12:12	07/31/18 12:57	AJS
Wet Chemistry by Method 9056A	WG1144296	1	07/27/18 22:55	07/27/18 22:55	MCG
Mercury by Method 7470A	WG1144863	1	07/30/18 14:23	07/31/18 10:26	ABL
Metals (ICP) by Method 6010B	WG1144267	1	07/28/18 11:39	07/30/18 13:35	TRB
Metals (ICPMS) by Method 6020	WG1144268	1	07/31/18 10:53	08/01/18 00:50	JPD

RP-2 L1012816-02 GW

Collected by: Michael Clayton | Collected date/time: 07/24/18 12:10 | Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1144553	1	07/31/18 12:12	07/31/18 12:57	AJS
Wet Chemistry by Method 9056A	WG1144296	1	07/28/18 00:44	07/28/18 00:44	MCG
Mercury by Method 7470A	WG1144863	1	07/30/18 14:23	07/31/18 11:00	ABL
Metals (ICP) by Method 6010B	WG1144267	1	07/28/18 11:39	07/30/18 13:27	TRB
Metals (ICPMS) by Method 6020	WG1144268	1	07/31/18 10:53	08/01/18 00:55	JPD

RP-3 L1012816-03 GW

Collected by: Michael Clayton | Collected date/time: 07/24/18 13:50 | Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1144553	1	07/31/18 12:12	07/31/18 12:57	AJS
Wet Chemistry by Method 9056A	WG1144296	1	07/28/18 01:02	07/28/18 01:02	MCG
Mercury by Method 7470A	WG1144863	1	07/30/18 14:23	07/31/18 11:02	ABL
Metals (ICP) by Method 6010B	WG1144267	1	07/28/18 11:39	07/30/18 13:38	TRB
Metals (ICPMS) by Method 6020	WG1144268	1	07/31/18 10:53	08/01/18 00:59	JPD

RP-4 L1012816-04 GW

Collected by: Michael Clayton | Collected date/time: 07/25/18 11:20 | Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1145552	1	08/01/18 15:30	08/01/18 16:17	AJS
Wet Chemistry by Method 9056A	WG1144296	1	07/28/18 01:20	07/28/18 01:20	MCG
Wet Chemistry by Method 9056A	WG1144296	10	07/28/18 01:38	07/28/18 01:38	MCG
Mercury by Method 7470A	WG1144863	1	07/30/18 14:23	07/31/18 11:04	ABL
Metals (ICP) by Method 6010B	WG1144267	1	07/28/18 11:39	07/30/18 13:46	TRB
Metals (ICPMS) by Method 6020	WG1144275	1	07/31/18 17:32	08/01/18 00:03	JPD

RP-5 L1012816-05 GW

Collected by: Michael Clayton | Collected date/time: 07/25/18 13:05 | Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1145552	1	08/01/18 15:30	08/01/18 16:17	AJS
Wet Chemistry by Method 9056A	WG1144296	1	07/28/18 01:57	07/28/18 01:57	MCG
Wet Chemistry by Method 9056A	WG1144296	10	07/28/18 02:15	07/28/18 02:15	MCG
Mercury by Method 7470A	WG1144863	1	07/30/18 14:23	07/31/18 11:07	ABL
Metals (ICP) by Method 6010B	WG1144267	1	07/28/18 11:39	07/30/18 13:48	TRB
Metals (ICPMS) by Method 6020	WG1144275	1	07/31/18 17:32	08/01/18 00:07	JPD

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RP-6 L1012816-06 GW

Collected by: Michael Clayton | Collected date/time: 07/25/18 14:40 | Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1145552	1	08/01/18 15:30	08/01/18 16:17	AJS
Wet Chemistry by Method 9056A	WG1144296	1	07/28/18 02:33	07/28/18 02:33	MCG
Wet Chemistry by Method 9056A	WG1144296	10	07/28/18 08:00	07/28/18 08:00	MCG
Mercury by Method 7470A	WG1144863	1	07/30/18 14:23	07/31/18 11:09	ABL
Metals (ICP) by Method 6010B	WG1144267	1	07/28/18 11:39	07/30/18 13:51	TRB
Metals (ICPMS) by Method 6020	WG1144275	1	07/31/18 17:32	08/01/18 00:12	JPD

RP-7 L1012816-07 GW

Collected by: Michael Clayton | Collected date/time: 07/26/18 09:20 | Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1146194	1	08/02/18 12:52	08/02/18 13:30	AJS
Wet Chemistry by Method 9056A	WG1144296	1	07/28/18 03:27	07/28/18 03:27	MCG
Mercury by Method 7470A	WG1144863	1	07/30/18 14:23	07/31/18 11:15	ABL
Metals (ICP) by Method 6010B	WG1144267	1	07/28/18 11:39	07/30/18 13:53	TRB
Metals (ICPMS) by Method 6020	WG1144275	1	07/31/18 17:32	08/01/18 00:16	JPD

RP-8 L1012816-08 GW

Collected by: Michael Clayton | Collected date/time: 07/26/18 11:00 | Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1146194	1	08/02/18 12:52	08/02/18 13:30	AJS
Wet Chemistry by Method 9056A	WG1144296	1	07/28/18 04:22	07/28/18 04:22	MCG
Mercury by Method 7470A	WG1144863	1	07/30/18 14:23	07/31/18 11:17	ABL
Metals (ICP) by Method 6010B	WG1144267	1	07/28/18 11:39	07/30/18 13:56	TRB
Metals (ICPMS) by Method 6020	WG1144275	1	07/31/18 17:32	08/01/18 00:21	JPD

RP-9 L1012816-09 GW

Collected by: Michael Clayton | Collected date/time: 07/24/18 15:10 | Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1145238	1	07/31/18 14:44	07/31/18 15:23	AJS
Wet Chemistry by Method 9056A	WG1144296	1	07/28/18 04:40	07/28/18 04:40	MCG
Mercury by Method 7470A	WG1144863	1	07/30/18 14:23	07/31/18 11:19	ABL
Metals (ICP) by Method 6010B	WG1144267	1	07/28/18 11:39	07/30/18 14:04	TRB
Metals (ICPMS) by Method 6020	WG1144275	1	07/31/18 17:32	08/01/18 00:26	JPD

RP-10 L1012816-10 GW

Collected by: Michael Clayton | Collected date/time: 07/24/18 16:30 | Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1145238	1	07/31/18 14:44	07/31/18 15:23	AJS
Wet Chemistry by Method 9056A	WG1144296	1	07/28/18 04:58	07/28/18 04:58	MCG
Wet Chemistry by Method 9056A	WG1144296	5	07/28/18 08:36	07/28/18 08:36	MCG
Mercury by Method 7470A	WG1144863	1	07/30/18 14:23	07/31/18 11:21	ABL
Metals (ICP) by Method 6010B	WG1144267	1	07/28/18 11:39	07/30/18 14:07	TRB
Metals (ICPMS) by Method 6020	WG1144275	1	07/31/18 17:32	08/01/18 00:30	JPD

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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.



Justin Carr
Project Manager

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	220000		2820	10000	1	07/31/2018 12:57	WG1144553

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6770		51.9	1000	1	07/27/2018 22:55	WG1144296
Fluoride	74.4	J	9.90	100	1	07/27/2018 22:55	WG1144296
Sulfate	17400		77.4	5000	1	07/27/2018 22:55	WG1144296

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	07/31/2018 10:26	WG1144863

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	30.8	J	12.6	200	1	07/30/2018 13:35	WG1144267
Lithium	U		5.30	15.0	1	07/30/2018 13:35	WG1144267

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	08/01/2018 00:50	WG1144268
Arsenic	0.739	J	0.250	2.00	1	08/01/2018 00:50	WG1144268
Barium	46.1		0.360	5.00	1	08/01/2018 00:50	WG1144268
Beryllium	U		0.120	2.00	1	08/01/2018 00:50	WG1144268
Cadmium	U		0.160	1.00	1	08/01/2018 00:50	WG1144268
Calcium	49300		46.0	1000	1	08/01/2018 00:50	WG1144268
Chromium	U		0.540	2.00	1	08/01/2018 00:50	WG1144268
Cobalt	U		0.260	2.00	1	08/01/2018 00:50	WG1144268
Lead	U		0.240	2.00	1	08/01/2018 00:50	WG1144268
Molybdenum	0.560	J	0.140	5.00	1	08/01/2018 00:50	WG1144268
Selenium	2.61		0.380	2.00	1	08/01/2018 00:50	WG1144268
Thallium	U		0.190	2.00	1	08/01/2018 00:50	WG1144268

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	182000		2820	10000	1	07/31/2018 12:57	WG1144553

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	1590		51.9	1000	1	07/28/2018 00:44	WG1144296
Fluoride	85.0	J	9.90	100	1	07/28/2018 00:44	WG1144296
Sulfate	18200		77.4	5000	1	07/28/2018 00:44	WG1144296

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	07/31/2018 11:00	WG1144863

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	113	J	12.6	200	1	07/30/2018 13:27	WG1144267
Lithium	8.13	J	5.30	15.0	1	07/30/2018 13:27	WG1144267

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	08/01/2018 00:55	WG1144268
Arsenic	1.05	J	0.250	2.00	1	08/01/2018 00:55	WG1144268
Barium	25.5		0.360	5.00	1	08/01/2018 00:55	WG1144268
Beryllium	U		0.120	2.00	1	08/01/2018 00:55	WG1144268
Cadmium	U		0.160	1.00	1	08/01/2018 00:55	WG1144268
Calcium	29800		46.0	1000	1	08/01/2018 00:55	WG1144268
Chromium	0.970	J	0.540	2.00	1	08/01/2018 00:55	WG1144268
Cobalt	U		0.260	2.00	1	08/01/2018 00:55	WG1144268
Lead	U		0.240	2.00	1	08/01/2018 00:55	WG1144268
Molybdenum	0.198	J	0.140	5.00	1	08/01/2018 00:55	WG1144268
Selenium	6.53		0.380	2.00	1	08/01/2018 00:55	WG1144268
Thallium	U		0.190	2.00	1	08/01/2018 00:55	WG1144268

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	190000		2820	10000	1	07/31/2018 12:57	WG1144553

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6170		51.9	1000	1	07/28/2018 01:02	WG1144296
Fluoride	63.4	J	9.90	100	1	07/28/2018 01:02	WG1144296
Sulfate	12900		77.4	5000	1	07/28/2018 01:02	WG1144296

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	07/31/2018 11:02	WG1144863

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	47.9	J	12.6	200	1	07/30/2018 13:38	WG1144267
Lithium	U		5.30	15.0	1	07/30/2018 13:38	WG1144267

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	08/01/2018 00:59	WG1144268
Arsenic	1.09	J	0.250	2.00	1	08/01/2018 00:59	WG1144268
Barium	31.9		0.360	5.00	1	08/01/2018 00:59	WG1144268
Beryllium	U		0.120	2.00	1	08/01/2018 00:59	WG1144268
Cadmium	U		0.160	1.00	1	08/01/2018 00:59	WG1144268
Calcium	48300		46.0	1000	1	08/01/2018 00:59	WG1144268
Chromium	U		0.540	2.00	1	08/01/2018 00:59	WG1144268
Cobalt	U		0.260	2.00	1	08/01/2018 00:59	WG1144268
Lead	0.665	J	0.240	2.00	1	08/01/2018 00:59	WG1144268
Molybdenum	0.331	J	0.140	5.00	1	08/01/2018 00:59	WG1144268
Selenium	1.83	J	0.380	2.00	1	08/01/2018 00:59	WG1144268
Thallium	U		0.190	2.00	1	08/01/2018 00:59	WG1144268

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	851000		2820	10000	1	08/01/2018 16:17	WG1145552

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	22500		51.9	1000	1	07/28/2018 01:20	WG1144296
Fluoride	202		9.90	100	1	07/28/2018 01:20	WG1144296
Sulfate	521000		774	50000	10	07/28/2018 01:38	WG1144296

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	07/31/2018 11:04	WG1144863

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	1710		12.6	200	1	07/30/2018 13:46	WG1144267
Lithium	U		5.30	15.0	1	07/30/2018 13:46	WG1144267

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	08/01/2018 00:03	WG1144275
Arsenic	1.37	J	0.250	2.00	1	08/01/2018 00:03	WG1144275
Barium	21.6		0.360	5.00	1	08/01/2018 00:03	WG1144275
Beryllium	U		0.120	2.00	1	08/01/2018 00:03	WG1144275
Cadmium	0.195	J	0.160	1.00	1	08/01/2018 00:03	WG1144275
Calcium	109000		46.0	1000	1	08/01/2018 00:03	WG1144275
Chromium	2.54		0.540	2.00	1	08/01/2018 00:03	WG1144275
Cobalt	0.438	J	0.260	2.00	1	08/01/2018 00:03	WG1144275
Lead	0.647	J	0.240	2.00	1	08/01/2018 00:03	WG1144275
Molybdenum	0.619	J	0.140	5.00	1	08/01/2018 00:03	WG1144275
Selenium	U		0.380	2.00	1	08/01/2018 00:03	WG1144275
Thallium	U		0.190	2.00	1	08/01/2018 00:03	WG1144275

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	875000		2820	10000	1	08/01/2018 16:17	WG1145552

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	21000		51.9	1000	1	07/28/2018 01:57	WG1144296
Fluoride	339		9.90	100	1	07/28/2018 01:57	WG1144296
Sulfate	508000		774	50000	10	07/28/2018 02:15	WG1144296

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	07/31/2018 11:07	WG1144863

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	1570		12.6	200	1	07/30/2018 13:48	WG1144267
Lithium	9.82	J	5.30	15.0	1	07/30/2018 13:48	WG1144267

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	08/01/2018 00:07	WG1144275
Arsenic	1.63	J	0.250	2.00	1	08/01/2018 00:07	WG1144275
Barium	29.0		0.360	5.00	1	08/01/2018 00:07	WG1144275
Beryllium	U		0.120	2.00	1	08/01/2018 00:07	WG1144275
Cadmium	U		0.160	1.00	1	08/01/2018 00:07	WG1144275
Calcium	110000		46.0	1000	1	08/01/2018 00:07	WG1144275
Chromium	2.47		0.540	2.00	1	08/01/2018 00:07	WG1144275
Cobalt	0.326	J	0.260	2.00	1	08/01/2018 00:07	WG1144275
Lead	0.559	J	0.240	2.00	1	08/01/2018 00:07	WG1144275
Molybdenum	3.02	J	0.140	5.00	1	08/01/2018 00:07	WG1144275
Selenium	0.824	J	0.380	2.00	1	08/01/2018 00:07	WG1144275
Thallium	U		0.190	2.00	1	08/01/2018 00:07	WG1144275

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	925000		2820	10000	1	08/01/2018 16:17	WG1145552

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	16500		51.9	1000	1	07/28/2018 02:33	WG1144296
Fluoride	387		9.90	100	1	07/28/2018 02:33	WG1144296
Sulfate	450000		774	50000	10	07/28/2018 08:00	WG1144296

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.0611	B J	0.0490	0.200	1	07/31/2018 11:09	WG1144863

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	622		12.6	200	1	07/30/2018 13:51	WG1144267
Lithium	28.5		5.30	15.0	1	07/30/2018 13:51	WG1144267

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	08/01/2018 00:12	WG1144275
Arsenic	1.26	J	0.250	2.00	1	08/01/2018 00:12	WG1144275
Barium	34.2		0.360	5.00	1	08/01/2018 00:12	WG1144275
Beryllium	U		0.120	2.00	1	08/01/2018 00:12	WG1144275
Cadmium	U		0.160	1.00	1	08/01/2018 00:12	WG1144275
Calcium	135000		46.0	1000	1	08/01/2018 00:12	WG1144275
Chromium	0.807	J	0.540	2.00	1	08/01/2018 00:12	WG1144275
Cobalt	0.626	J	0.260	2.00	1	08/01/2018 00:12	WG1144275
Lead	U		0.240	2.00	1	08/01/2018 00:12	WG1144275
Molybdenum	3.68	J	0.140	5.00	1	08/01/2018 00:12	WG1144275
Selenium	2.75		0.380	2.00	1	08/01/2018 00:12	WG1144275
Thallium	U		0.190	2.00	1	08/01/2018 00:12	WG1144275

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	316000		2820	10000	1	08/02/2018 13:30	WG1146194

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	8040		51.9	1000	1	07/28/2018 03:27	WG1144296
Fluoride	119		9.90	100	1	07/28/2018 03:27	WG1144296
Sulfate	53100		77.4	5000	1	07/28/2018 03:27	WG1144296

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.0520	B J	0.0490	0.200	1	07/31/2018 11:15	WG1144863

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	133	J	12.6	200	1	07/30/2018 13:53	WG1144267
Lithium	U		5.30	15.0	1	07/30/2018 13:53	WG1144267

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	08/01/2018 00:16	WG1144275
Arsenic	1.09	J	0.250	2.00	1	08/01/2018 00:16	WG1144275
Barium	42.8		0.360	5.00	1	08/01/2018 00:16	WG1144275
Beryllium	U		0.120	2.00	1	08/01/2018 00:16	WG1144275
Cadmium	U		0.160	1.00	1	08/01/2018 00:16	WG1144275
Calcium	55800		46.0	1000	1	08/01/2018 00:16	WG1144275
Chromium	0.982	J	0.540	2.00	1	08/01/2018 00:16	WG1144275
Cobalt	U		0.260	2.00	1	08/01/2018 00:16	WG1144275
Lead	0.257	J	0.240	2.00	1	08/01/2018 00:16	WG1144275
Molybdenum	0.619	J	0.140	5.00	1	08/01/2018 00:16	WG1144275
Selenium	4.21		0.380	2.00	1	08/01/2018 00:16	WG1144275
Thallium	U		0.190	2.00	1	08/01/2018 00:16	WG1144275

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	366000		2820	10000	1	08/02/2018 13:30	WG1146194

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	11900		51.9	1000	1	07/28/2018 04:22	WG1144296
Fluoride	96.2	J	9.90	100	1	07/28/2018 04:22	WG1144296
Sulfate	49100		77.4	5000	1	07/28/2018 04:22	WG1144296

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	07/31/2018 11:17	WG1144863

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	79.3	J	12.6	200	1	07/30/2018 13:56	WG1144267
Lithium	U		5.30	15.0	1	07/30/2018 13:56	WG1144267

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	08/01/2018 00:21	WG1144275
Arsenic	1.55	J	0.250	2.00	1	08/01/2018 00:21	WG1144275
Barium	58.3		0.360	5.00	1	08/01/2018 00:21	WG1144275
Beryllium	U		0.120	2.00	1	08/01/2018 00:21	WG1144275
Cadmium	0.177	J	0.160	1.00	1	08/01/2018 00:21	WG1144275
Calcium	63300		46.0	1000	1	08/01/2018 00:21	WG1144275
Chromium	2.75		0.540	2.00	1	08/01/2018 00:21	WG1144275
Cobalt	0.344	J	0.260	2.00	1	08/01/2018 00:21	WG1144275
Lead	0.482	J	0.240	2.00	1	08/01/2018 00:21	WG1144275
Molybdenum	0.749	J	0.140	5.00	1	08/01/2018 00:21	WG1144275
Selenium	5.48		0.380	2.00	1	08/01/2018 00:21	WG1144275
Thallium	U		0.190	2.00	1	08/01/2018 00:21	WG1144275

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	223000		2820	10000	1	07/31/2018 15:23	WG1145238

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6750		51.9	1000	1	07/28/2018 04:40	WG1144296
Fluoride	67.0	J	9.90	100	1	07/28/2018 04:40	WG1144296
Sulfate	15600		77.4	5000	1	07/28/2018 04:40	WG1144296

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	07/31/2018 11:19	WG1144863

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	45.0	J	12.6	200	1	07/30/2018 14:04	WG1144267
Lithium	U		5.30	15.0	1	07/30/2018 14:04	WG1144267

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	08/01/2018 00:26	WG1144275
Arsenic	1.03	J	0.250	2.00	1	08/01/2018 00:26	WG1144275
Barium	37.5		0.360	5.00	1	08/01/2018 00:26	WG1144275
Beryllium	U		0.120	2.00	1	08/01/2018 00:26	WG1144275
Cadmium	U		0.160	1.00	1	08/01/2018 00:26	WG1144275
Calcium	46500		46.0	1000	1	08/01/2018 00:26	WG1144275
Chromium	2.49		0.540	2.00	1	08/01/2018 00:26	WG1144275
Cobalt	0.268	J	0.260	2.00	1	08/01/2018 00:26	WG1144275
Lead	0.273	J	0.240	2.00	1	08/01/2018 00:26	WG1144275
Molybdenum	0.366	J	0.140	5.00	1	08/01/2018 00:26	WG1144275
Selenium	1.96	J	0.380	2.00	1	08/01/2018 00:26	WG1144275
Thallium	U		0.190	2.00	1	08/01/2018 00:26	WG1144275

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	625000		2820	10000	1	07/31/2018 15:23	WG1145238

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	19500		51.9	1000	1	07/28/2018 04:58	WG1144296
Fluoride	174		9.90	100	1	07/28/2018 04:58	WG1144296
Sulfate	152000		387	25000	5	07/28/2018 08:36	WG1144296

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	07/31/2018 11:21	WG1144863

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	820		12.6	200	1	07/30/2018 14:07	WG1144267
Lithium	U		5.30	15.0	1	07/30/2018 14:07	WG1144267

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	08/01/2018 00:30	WG1144275
Arsenic	1.17	J	0.250	2.00	1	08/01/2018 00:30	WG1144275
Barium	38.5		0.360	5.00	1	08/01/2018 00:30	WG1144275
Beryllium	U		0.120	2.00	1	08/01/2018 00:30	WG1144275
Cadmium	U		0.160	1.00	1	08/01/2018 00:30	WG1144275
Calcium	96500		46.0	1000	1	08/01/2018 00:30	WG1144275
Chromium	1.69	J	0.540	2.00	1	08/01/2018 00:30	WG1144275
Cobalt	0.320	J	0.260	2.00	1	08/01/2018 00:30	WG1144275
Lead	0.647	J	0.240	2.00	1	08/01/2018 00:30	WG1144275
Molybdenum	1.82	J	0.140	5.00	1	08/01/2018 00:30	WG1144275
Selenium	4.48		0.380	2.00	1	08/01/2018 00:30	WG1144275
Thallium	U		0.190	2.00	1	08/01/2018 00:30	WG1144275

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Method Blank (MB)

(MB) R3330874-1 07/31/18 12:57

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	16000		2820	10000

L1012722-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1012722-03 07/31/18 12:57 • (DUP) R3330874-5 07/31/18 12:57

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	476000	478000	1	0.419		5

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

(LCS) R3330874-2 07/31/18 12:57 • (LCSD) R3330874-3 07/31/18 12:57

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dissolved Solids	8800000	9300000	8480000	106	96.4	85.0-115			9.22	10

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Method Blank (MB)

(MB) R3330198-1 07/31/18 15:23

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Dissolved Solids	U		2820	10000

L1013160-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1013160-11 07/31/18 15:23 • (DUP) R3330198-4 07/31/18 15:23

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Dissolved Solids	3880000	3980000	1	2.55		5

L1013216-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1013216-01 07/31/18 15:23 • (DUP) R3330198-5 07/31/18 15:23

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Dissolved Solids	349000	351000	1	0.571		5

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

(LCS) R3330198-2 07/31/18 15:23 • (LCSD) R3330198-3 07/31/18 15:23

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Dissolved Solids	8800000	8810000	8600000	100	97.7	85.0-115			2.41	10

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Method Blank (MB)

(MB) R3330591-1 08/01/18 16:17

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Dissolved Solids	U		2820	10000

L1012932-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1012932-01 08/01/18 16:17 • (DUP) R3330591-4 08/01/18 16:17

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Dissolved Solids	86000	84000	1	2.35		5

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

(LCS) R3330591-2 08/01/18 16:17 • (LCSD) R3330591-3 08/01/18 16:17

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Dissolved Solids	8800000	8640000	8760000	98.2	99.5	85.0-115			1.38	10

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PREPARED AT THE DIRECTION OF LEGAL COUNSEL

Method Blank (MB)

(MB) R3330836-1 08/02/18 13:30

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1012730-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1012730-01 08/02/18 13:30 • (DUP) R3330836-4 08/02/18 13:30

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1970000	2000000	1	1.75		5

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

(LCS) R3330836-2 08/02/18 13:30 • (LCSD) R3330836-3 08/02/18 13:30

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dissolved Solids	8800000	8680000	8700000	98.6	98.9	85.0-115			0.230	10

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Method Blank (MB)

(MB) R3329188-1 07/27/18 19:27

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

L1012816-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1012816-01 07/27/18 22:55 • (DUP) R3329188-4 07/27/18 23:49

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	6770	6720	1	0.712		15
Fluoride	74.4	75.4	1	1.34	J	15
Sulfate	17400	17400	1	0.0772		15

L1012816-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1012816-07 07/28/18 03:27 • (DUP) R3329188-7 07/28/18 03:46

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	8040	7950	1	1.14		15
Fluoride	119	132	1	10.5		15
Sulfate	53100	53100	1	0.00471		15

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

(LCS) R3329188-2 07/27/18 19:46 • (LCSD) R3329188-3 07/27/18 20:04

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Chloride	40000	38500	38400	96.1	96.0	80.0-120			0.181	15
Fluoride	8000	7830	7840	97.9	98.0	80.0-120			0.199	15
Sulfate	40000	39300	39400	98.3	98.4	80.0-120			0.0305	15

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L1012816-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1012816-01 07/27/18 22:55 • (MS) R3329188-5 07/28/18 00:08 • (MSD) R3329188-6 07/28/18 00:26

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	6770	56100	56000	98.6	98.4	1	80.0-120			0.152	15
Fluoride	5000	74.4	5150	5130	102	101	1	80.0-120			0.319	15
Sulfate	50000	17400	66700	66400	98.7	98.1	1	80.0-120			0.439	15

L1012816-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L1012816-07 07/28/18 03:27 • (MS) R3329188-8 07/28/18 08:18

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	8040	57400	98.7	1	80.0-120	
Fluoride	5000	119	5210	102	1	80.0-120	
Sulfate	50000	53100	99900	93.7	1	80.0-120	

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Method Blank (MB)

(MB) R3329850-1 07/31/18 10:20

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Mercury	0.0569	J	0.0490	0.200

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

(LCS) R3329850-2 07/31/18 10:22 • (LCSD) R3329850-5 07/31/18 12:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	3.00	2.74	2.69	91.2	89.7	80.0-120			1.61	20

L1012816-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1012816-01 07/31/18 10:26 • (MS) R3329850-3 07/31/18 10:28 • (MSD) R3329850-4 07/31/18 10:30

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	3.00	U	3.39	3.35	113	112	1	75.0-125			1.10	20

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Method Blank (MB)

(MB) R3329522-1 07/30/18 12:07

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		12.6	200
Lithium	U		5.30	15.0

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

(LCS) R3329522-2 07/30/18 12:09 • (LCSD) R3329522-3 07/30/18 12:12

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Boron	1000	1020	1040	102	104	80.0-120			1.79	20
Lithium	1000	958	968	95.8	96.8	80.0-120			1.04	20

L1010435-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1010435-01 07/30/18 12:14 • (MS) R3329522-5 07/30/18 12:20 • (MSD) R3329522-6 07/30/18 12:22

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	ND	1060	1050	102	101	1	75.0-125			0.915	20
Lithium	1000	ND	973	953	97.3	95.3	1	75.0-125			2.13	20

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Method Blank (MB)

(MB) R3330025-1 07/31/18 23:50

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Antimony	U		0.754	2.00
Arsenic	U		0.250	2.00
Barium	U		0.360	5.00
Beryllium	U		0.120	2.00
Cadmium	U		0.160	1.00
Calcium	U		46.0	1000
Chromium	U		0.540	2.00
Cobalt	U		0.260	2.00
Lead	U		0.240	2.00
Molybdenum	U		0.140	5.00
Selenium	U		0.380	2.00
Thallium	U		0.190	2.00

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

(LCS) R3330025-2 07/31/18 23:54 • (LCSD) R3330025-3 07/31/18 23:58

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Antimony	50.0	50.4	51.3	101	103	80.0-120			1.78	20
Arsenic	50.0	47.6	48.1	95.2	96.1	80.0-120			0.930	20
Barium	50.0	46.3	47.3	92.6	94.7	80.0-120			2.25	20
Beryllium	50.0	45.3	44.7	90.6	89.4	80.0-120			1.33	20
Cadmium	50.0	49.1	49.4	98.2	98.8	80.0-120			0.623	20
Calcium	5000	4840	4820	96.9	96.4	80.0-120			0.451	20
Chromium	50.0	49.0	48.9	98.0	97.9	80.0-120			0.100	20
Cobalt	50.0	49.9	50.2	99.7	100	80.0-120			0.711	20
Lead	50.0	48.3	48.0	96.6	96.0	80.0-120			0.617	20
Molybdenum	50.0	47.3	47.9	94.6	95.8	80.0-120			1.29	20
Selenium	50.0	49.9	51.9	99.7	104	80.0-120			4.05	20
Thallium	50.0	48.3	48.4	96.5	96.8	80.0-120			0.213	20

L1012722-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1012722-14 08/01/18 00:03 • (MS) R3330025-5 08/01/18 00:11 • (MSD) R3330025-6 08/01/18 00:16

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Antimony	50.0	U	49.7	52.0	99.5	104	1	75.0-125			4.38	20
Arsenic	50.0	U	46.7	48.0	93.4	96.0	1	75.0-125			2.66	20
Barium	50.0	5.60	50.7	52.6	90.2	94.1	1	75.0-125			3.73	20

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L1012722-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1012722-14 08/01/18 00:03 • (MS) R3330025-5 08/01/18 00:11 • (MSD) R3330025-6 08/01/18 00:16

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Beryllium	50.0	U	44.9	45.4	89.8	90.7	1	75.0-125			1.06	20
Cadmium	50.0	U	51.3	49.4	103	98.7	1	75.0-125			3.79	20
Calcium	5000	638	5540	5410	98.0	95.4	1	75.0-125			2.37	20
Chromium	50.0	U	48.0	48.3	96.0	96.5	1	75.0-125			0.573	20
Cobalt	50.0	U	49.2	49.7	98.3	99.5	1	75.0-125			1.17	20
Lead	50.0	0.545	48.1	50.5	95.1	99.9	1	75.0-125			4.84	20
Molybdenum	50.0	3.44	51.7	51.7	96.5	96.4	1	75.0-125			0.0292	20
Selenium	50.0	U	52.8	50.7	106	101	1	75.0-125			4.18	20
Thallium	50.0	U	47.3	48.4	94.6	96.7	1	75.0-125			2.22	20

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Method Blank (MB)

(MB) R3330020-1 07/31/18 23:04

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Antimony	U		0.754	2.00
Arsenic	U		0.250	2.00
Barium	U		0.360	5.00
Beryllium	U		0.120	2.00
Cadmium	U		0.160	1.00
Calcium	U		46.0	1000
Chromium	U		0.540	2.00
Cobalt	U		0.260	2.00
Lead	U		0.240	2.00
Molybdenum	U		0.140	5.00
Selenium	U		0.380	2.00
Thallium	U		0.190	2.00

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

(LCS) R3330020-2 07/31/18 23:09 • (LCSD) R3330020-3 07/31/18 23:13

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Antimony	50.0	53.1	55.8	106	112	80.0-120			4.90	20
Arsenic	50.0	46.6	46.8	93.2	93.7	80.0-120			0.447	20
Barium	50.0	44.5	45.7	89.0	91.4	80.0-120			2.70	20
Beryllium	50.0	45.5	45.7	91.1	91.4	80.0-120			0.370	20
Cadmium	50.0	46.4	46.4	92.7	92.8	80.0-120			0.144	20
Calcium	5000	4730	4720	94.5	94.4	80.0-120			0.158	20
Chromium	50.0	48.1	47.5	96.2	95.0	80.0-120			1.29	20
Cobalt	50.0	49.2	49.1	98.4	98.3	80.0-120			0.0962	20
Lead	50.0	47.5	47.4	95.1	94.7	80.0-120			0.332	20
Molybdenum	50.0	45.8	46.3	91.6	92.7	80.0-120			1.13	20
Selenium	50.0	45.3	45.3	90.7	90.6	80.0-120			0.116	20
Thallium	50.0	46.8	47.1	93.5	94.3	80.0-120			0.800	20

L1012817-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1012817-02 07/31/18 23:18 • (MS) R3330020-5 07/31/18 23:27 • (MSD) R3330020-6 07/31/18 23:32

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Antimony	50.0	U	55.6	56.2	111	112	1	75.0-125			0.966	20
Arsenic	50.0	78.2	123	124	90.4	90.7	1	75.0-125			0.0952	20
Barium	50.0	36.8	83.2	81.4	92.7	89.1	1	75.0-125			2.21	20

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L1012817-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1012817-02 07/31/18 23:18 • (MS) R3330020-5 07/31/18 23:27 • (MSD) R3330020-6 07/31/18 23:32

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Beryllium	50.0	U	45.1	45.6	90.2	91.2	1	75.0-125			0.997	20
Cadmium	50.0	U	46.3	46.6	92.7	93.3	1	75.0-125			0.639	20
Calcium	5000	178000	180000	177000	33.8	0.000	1	75.0-125	V	V	1.74	20
Chromium	50.0	1.31	46.7	46.9	90.7	91.3	1	75.0-125			0.558	20
Cobalt	50.0	U	46.4	46.5	92.9	93.1	1	75.0-125			0.252	20
Lead	50.0	U	46.7	47.2	93.4	94.4	1	75.0-125			1.01	20
Molybdenum	50.0	5.55	52.9	53.4	94.6	95.6	1	75.0-125			0.929	20
Selenium	50.0	U	47.8	50.2	95.5	100	1	75.0-125			4.91	20
Thallium	50.0	U	47.3	47.2	94.5	94.4	1	75.0-125			0.118	20

L1012817-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1012817-04 07/31/18 23:36 • (MS) R3330020-7 07/31/18 23:41 • (MSD) R3330020-8 07/31/18 23:45

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	0.809	55.2	55.5	109	109	1	75.0-125			0.429	20
Arsenic	50.0	45.7	91.3	91.1	91.2	90.6	1	75.0-125			0.311	20
Barium	50.0	148	190	193	84.3	89.9	1	75.0-125			1.45	20
Beryllium	50.0	0.268	46.1	46.2	91.7	91.9	1	75.0-125			0.234	20
Cadmium	50.0	0.177	46.0	47.0	91.6	93.6	1	75.0-125			2.09	20
Calcium	5000	154000	156000	157000	38.9	66.8	1	75.0-125	V	V	0.894	20
Chromium	50.0	2.31	48.5	48.3	92.3	91.9	1	75.0-125			0.436	20
Cobalt	50.0	0.899	48.1	48.3	94.4	94.7	1	75.0-125			0.298	20
Lead	50.0	3.38	49.4	49.4	92.0	92.1	1	75.0-125			0.0433	20
Molybdenum	50.0	5.19	51.3	52.2	92.3	94.0	1	75.0-125			1.59	20
Selenium	50.0	0.661	49.6	47.5	97.9	93.6	1	75.0-125			4.41	20
Thallium	50.0	U	46.0	46.5	92.0	93.0	1	75.0-125			1.00	20

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Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

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.
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
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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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	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

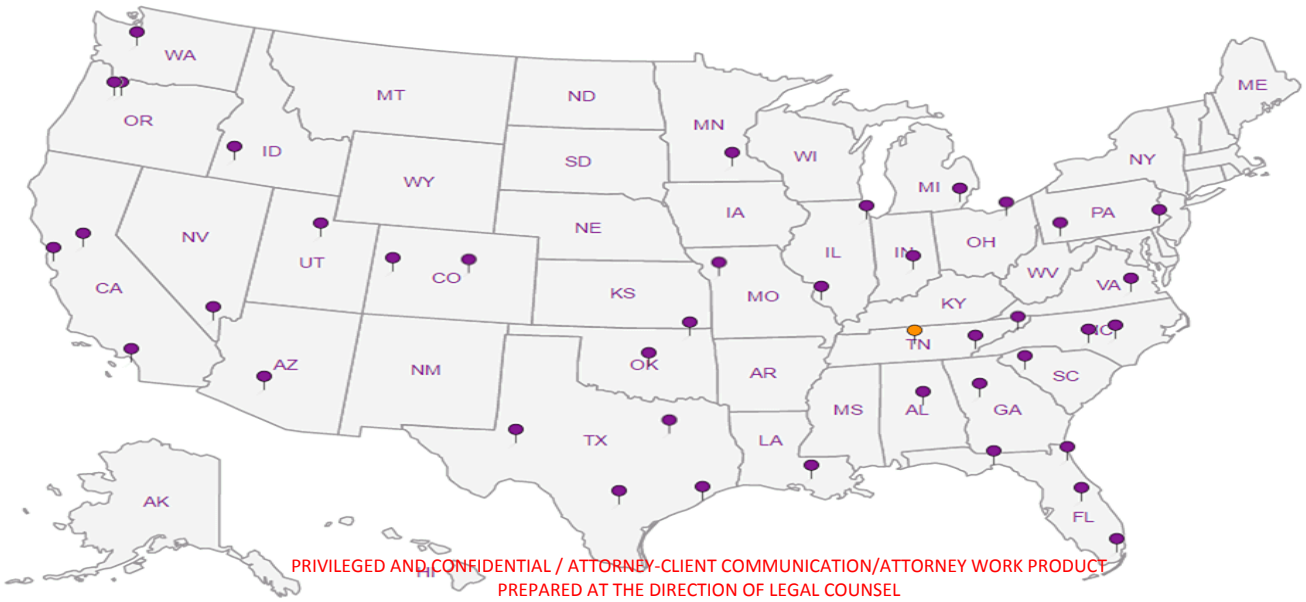
Third Party Federal Accreditations

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.



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FTN Associates - Little Rock, AR

3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Pres Chk

Report to: Dana Derrington

Email To: dld@ftn-assoc.com, hlf@ftn-assoc.com, ajp@ftn-assoc.com

Project Description: Entergy Independence Landfill

City/State Collected:

Phone: 501-902-9642
Fax:

Client Project # 7920-1844-002

Lab Project # FTNLRAR-ENTERGYINDY

Collected by (print): Michael Clayton

Site/Facility ID #

P.O. #

Collected by (signature): Michael Clayton

Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Cl, Fl, SO4, TDS 250mlHDPE-NoPres	Metals 250mlHDPE-HNO3	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add HNO3							Remarks	Sample # (lab only)
								2	2	2								
RP-1	Grab	GW		7/24/18	1030	4	X	X	X	X								01
RP-2		GW		7/24/18	1210	4	X	X	X	X								02
RP-3		GW		7/24/18	1350	4	X	X	X	X								03
RP-4		GW		7/25/18	1120	4	X	X	X	X								04
RP-5		GW		7/25/18	1305	4	X	X	X	X								05
RP-6		GW		7/25/18	1440	4	X	X	X	X								06
RP-7		GW		7/26/18	920	4	X	X	X	X								07
RP-8		GW		7/26/18	1100	4	X	X	X	X								08
RP-9		GW		7/24/18	1510	4	X	X	X	X								09
RP-10	✓	GW		7/24/18	1630	4	X	X	X	X								10

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

Remarks: Metals= As,Ba,Be,B,Ca,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: ___ UPS ✓ FedEx ___ Courier ___ _____

Tracking # 4492 6217 1490 8150 5

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Michael Clayton	7/26/18	1600	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 10.4 °C Bottles Received: 48

Received for lab by: (Signature) Date: 7/27/18 Time: 8.45

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

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Chain of Custody Page 1 of 2

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 101281L

Table # Hood 3

Acctnum: FTNLRAR

Template: T138202

Prelogin: P663251

TSR: 134 - Mark W. Beasley

PB:

Shipped Via: FedEX Ground

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FTN Associates - Little Rock, AR

3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Pres Chk

Report to: **Dana Derrington**

Email To: **dld@ftn-assoc.com, hlf@ftn-assoc.com, ajp@ftn-assoc.com**

Project Description: **Entergy Independence Landfill**

City/State Collected:

Phone: **501-902-9642**
Fax:

Client Project # **7920-1844-002**

Lab Project # **FTNLRAR-ENTERGYINDY**

Collected by (print): Michael Clayton

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Cl, Fl, SO4, TDS 250mlHDPE-NoPres	Metals 250mlHDPE-HNO3	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
RP-4 Dup	Grab	GW		7/25/18	1130	4	X	X	X	X		11
EB-2	↓	GW		7/26/18	1130	4	X	X	X	X		12
		GW				4	X	X	X	X		
		GW				4	X	X	X	X		

Chain of Custody Page 2 of 2

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National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 612811

Table # Hood 3

Acctnum: **FTNLRAR**
Template: **T138202**
Prelogin: **P663251**
TSR: **134 - Mark W. Beasley**
PB:

Shipped Via: **FedEX Ground**

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

Remarks:Metals= As,Ba,Be,B,Ca,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier __ _____

Tracking # 4492 6217 1490

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	7/26/18	1600	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes (No) HCL / MeoH TBR

Temp: 1.0 °C Bottles Received: 48

Date: 7/27/18 Time: 8:45

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

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Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

January 21, 2019

FTN Associates - Little Rock, AR

Sample Delivery Group:	L1012846
Samples Received:	07/27/2018
Project Number:	7920-1844-002
Description:	Entergy Independence Landfill

Report To: Dana Derrington
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Entire Report Reviewed By:

Justin Carr
Project Manager

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



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RP-1 L1012846-01 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 07/24/18 10:30 | Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1145497	1	07/31/18 14:49	08/17/18 14:09	MK
Radiochemistry by Method Calculation	WG1144914	1	08/01/18 08:40	08/17/18 14:09	MK
Radiochemistry by Method SM7500Ra B M	WG1144914	1	08/01/18 08:40	08/02/18 15:40	RRE

RP-2 L1012846-02 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 07/24/18 12:10 | Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1145497	1	07/31/18 14:49	08/17/18 14:09	MK
Radiochemistry by Method Calculation	WG1144914	1	08/01/18 08:40	08/17/18 14:09	MK
Radiochemistry by Method SM7500Ra B M	WG1144914	1	08/01/18 08:40	08/02/18 17:10	RRE

RP-3 L1012846-03 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 07/24/18 13:50 | Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1145497	1	07/31/18 14:49	08/17/18 14:09	MK
Radiochemistry by Method Calculation	WG1144914	1	08/01/18 08:40	08/17/18 14:09	MK
Radiochemistry by Method SM7500Ra B M	WG1144914	1	08/01/18 08:40	08/02/18 17:10	RRE

RP-4 L1012846-04 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 07/25/18 11:20 | Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1145497	1	07/31/18 14:49	08/17/18 14:09	MK
Radiochemistry by Method Calculation	WG1144914	1	08/01/18 08:40	08/17/18 14:09	MK
Radiochemistry by Method SM7500Ra B M	WG1144914	1	08/01/18 08:40	08/02/18 17:10	RRE

RP-5 L1012846-05 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 07/25/18 13:05 | Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1145497	1	07/31/18 14:49	08/17/18 14:09	MK
Radiochemistry by Method Calculation	WG1144914	1	08/01/18 08:40	08/17/18 14:09	MK
Radiochemistry by Method SM7500Ra B M	WG1144914	1	08/01/18 08:40	08/02/18 17:10	RRE

RP-6 L1012846-06 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 07/25/18 14:40 | Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1145497	1	07/31/18 14:49	08/17/18 14:09	MK
Radiochemistry by Method Calculation	WG1144914	1	08/01/18 08:40	08/17/18 14:09	MK
Radiochemistry by Method SM7500Ra B M	WG1144914	1	08/01/18 08:40	08/02/18 17:10	RRE

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RP-7 L1012846-07 Non-Potable Water

Collected by: Michael Clayton
Collected date/time: 07/26/18 09:20
Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1145497	1	07/31/18 14:49	08/17/18 14:09	MK
Radiochemistry by Method Calculation	WG1146490	1	08/03/18 14:21	08/17/18 14:09	MK
Radiochemistry by Method SM7500Ra B M	WG1146490	1	08/03/18 14:21	08/07/18 13:56	RGT

RP-8 L1012846-08 Non-Potable Water

Collected by: Michael Clayton
Collected date/time: 07/26/18 11:00
Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1145497	1	07/31/18 14:49	08/17/18 14:09	MK
Radiochemistry by Method Calculation	WG1146490	1	08/03/18 14:21	08/17/18 14:09	MK
Radiochemistry by Method SM7500Ra B M	WG1146490	1	08/03/18 14:21	08/07/18 13:56	RGT

RP-9 L1012846-09 Non-Potable Water

Collected by: Michael Clayton
Collected date/time: 07/24/18 15:10
Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1145497	1	07/31/18 14:49	08/17/18 14:09	MK
Radiochemistry by Method Calculation	WG1146490	1	08/03/18 14:21	08/17/18 14:09	MK
Radiochemistry by Method SM7500Ra B M	WG1146490	1	08/03/18 14:21	08/07/18 13:56	RGT

RP-10 L1012846-10 Non-Potable Water

Collected by: Michael Clayton
Collected date/time: 07/24/18 16:30
Received date/time: 07/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1145497	1	07/31/18 14:49	08/17/18 14:09	MK
Radiochemistry by Method Calculation	WG1146490	1	08/03/18 14:21	08/17/18 14:09	MK
Radiochemistry by Method SM7500Ra B M	WG1146490	1	08/03/18 14:21	08/07/18 13:56	RGT

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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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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.



Justin Carr
Project Manager

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.0732		0.394	0.587	08/17/2018 14:09	WG1145497
(T) Barium	*100*			*30.0-110*	*08/17/2018 14:09*	WG1145497
(T) Yttrium	*98.9*			*30.0-110*	*08/17/2018 14:09*	WG1145497

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.136		0.495	0.747	08/17/2018 14:09	WG1144914

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0626		0.101	0.16	08/02/2018 15:40	WG1144914
(T) Barium-133	*97.9*			*30.0-110*	*08/02/2018 15:40*	WG1144914

PRIVILEGED AND CONFIDENTIAL / ATTORNEY-CLIENT COMMUNICATION/ATTORNEY WORK PRODUCT
PREPARED AT THE DIRECTION OF LEGAL COUNSEL

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.627		0.430	0.599	08/17/2018 14:09	WG1145497
(T) Barium	*100*			*30.0-110*	*08/17/2018 14:09*	WG1145497
(T) Yttrium	*100*			*30.0-110*	*08/17/2018 14:09*	WG1145497

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.648		0.513	0.788	08/17/2018 14:09	WG1144914

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0215		0.0830	0.189	08/02/2018 17:10	WG1144914
(T) Barium-133	*94.9*			*30.0-110*	*08/02/2018 17:10*	WG1144914

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.565		0.392	0.56	08/17/2018 14:09	WG1145497
(T) Barium	*100*			*30.0-110*	*08/17/2018 14:09*	WG1145497
(T) Yttrium	*100*			*30.0-110*	*08/17/2018 14:09*	WG1145497

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.754		0.705	0.746	08/17/2018 14:09	WG1144914

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.754		0.313	0.186	08/02/2018 17:10	WG1144914
(T) Barium-133	*98.6*			*30.0-110*	*08/02/2018 17:10*	WG1144914

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.678		0.495	0.663	08/17/2018 14:09	WG1145497
(T) Barium	*100*			*30.0-110*	*08/17/2018 14:09*	WG1145497
(T) Yttrium	*98.9*			*30.0-110*	*08/17/2018 14:09*	WG1145497

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.33		0.814	0.919	08/17/2018 14:09	WG1144914

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.655		0.319	0.256	08/02/2018 17:10	WG1144914
(T) Barium-133	*92.8*			*30.0-110*	*08/02/2018 17:10*	WG1144914

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.15		0.559	0.767	08/17/2018 14:09	WG1145497
(T) Barium	*100*			*30.0-110*	*08/17/2018 14:09*	WG1145497
(T) Yttrium	*99.5*			*30.0-110*	*08/17/2018 14:09*	WG1145497

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.17		0.645	0.964	08/17/2018 14:09	WG1144914

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0223		0.0863	0.197	08/02/2018 17:10	WG1144914
(T) Barium-133	*96.5*			*30.0-110*	*08/02/2018 17:10*	WG1144914

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.622		0.498	0.66	08/17/2018 14:09	WG1145497
(T) Barium	*100*			*30.0-110*	*08/17/2018 14:09*	WG1145497
(T) Yttrium	*100*			*30.0-110*	*08/17/2018 14:09*	WG1145497

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.684		0.635	0.898	08/17/2018 14:09	WG1144914

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0616		0.137	0.238	08/02/2018 17:10	WG1144914
(T) Barium-133	*93.2*			*30.0-110*	*08/02/2018 17:10*	WG1144914

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.294		0.388	0.543	08/17/2018 14:09	WG1145497
(T) Barium	*100*			*30.0-110*	*08/17/2018 14:09*	WG1145497
(T) Yttrium	*100*			*30.0-110*	*08/17/2018 14:09*	WG1145497

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.122		0.582	0.841	08/17/2018 14:09	WG1146490

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.122		0.194	0.298	08/07/2018 13:56	WG1146490
(T) Barium-133	*92.3*			*30.0-110*	*08/07/2018 13:56*	WG1146490

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.592		0.405	0.553	08/17/2018 14:09	WG1145497
(T) Barium	*100*			*30.0-110*	*08/17/2018 14:09*	WG1145497
(T) Yttrium	*100*			*30.0-110*	*08/17/2018 14:09*	WG1145497

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.326		0.704	0.941	08/17/2018 14:09	WG1146490

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.326		0.299	0.388	08/07/2018 13:56	WG1146490
(T) Barium-133	*100*			*30.0-110*	*08/07/2018 13:56*	WG1146490

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.0396		0.345	0.471	08/17/2018 14:09	WG1145497
(T) Barium	*100*			*30.0-110*	*08/17/2018 14:09*	WG1145497
(T) Yttrium	*100*			*30.0-110*	*08/17/2018 14:09*	WG1145497

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.568		0.624	0.687	08/17/2018 14:09	WG1146490

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.528		0.279	0.216	08/07/2018 13:56	WG1146490
(T) Barium-133	*98.3*			*30.0-110*	*08/07/2018 13:56*	WG1146490

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Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.451		0.428	0.562	08/17/2018 14:09	WG1145497
(T) Barium	*100*			*30.0-110*	*08/17/2018 14:09*	WG1145497
(T) Yttrium	*100*			*30.0-110*	*08/17/2018 14:09*	WG1145497

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.351		0.673	0.777	08/17/2018 14:09	WG1146490

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.351		0.245	0.215	08/07/2018 13:56	WG1146490
(T) Barium-133	*91.4*			*30.0-110*	*08/07/2018 13:56*	WG1146490

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Method Blank (MB)

(MB) R3335450-1 08/17/18 14:09

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-228	-0.0202		0.458
(T) Barium	*100*		
(T) Yttrium	*100*		

L1012846-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1012846-10 08/17/18 14:09 • (DUP) R3335450-5 08/17/18 14:09

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit pCi/l
Radium-228	-0.451	1.83	1	200	1.93		20	3
(T) Barium	*100*	*100*						
(T) Yttrium	*100*	*100*						

Laboratory Control Sample (LCS)

(LCS) R3335450-2 08/17/18 14:09

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.65	92.9	80.0-120	
(T) Barium			*100*		
(T) Yttrium			*100*		

L1012846-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1012846-09 08/17/18 14:09 • (MS) R3335450-3 08/17/18 14:09 • (MSD) R3335450-4 08/17/18 14:09

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	20.0	0.0396	14.7	15.6	73.2	78.0	1	70.0-130			6.40		20
(T) Barium		*100*			*100*	*100*							
(T) Yttrium		*100*			*97.7*	*98.9*							

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Method Blank (MB)

(MB) R3330842-1 08/02/18 13:40

Analyte	MB Result	MB Qualifier	MB MDA
	pCi/l		pCi/l
Radium-226	0.0145		0.0478
(T) Barium-133	*93.7*		

L1012099-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1012099-03 08/02/18 13:40 • (DUP) R3330842-4 08/02/18 13:40

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	pCi/l		%			%	pCi/l
Radium-226	0.293	0.361	1	20.7	0.186		20	3
(T) Barium-133	*91.3*	*95.9*						

Laboratory Control Sample (LCS)

(LCS) R3330842-2 08/02/18 13:40

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-226	5.02	5.38	107	80.0-120	
(T) Barium-133			*78.5*		

L1012099-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1012099-06 08/02/18 13:40 • (MS) R3330842-3 08/02/18 13:40 • (MSD) R3330842-5 08/02/18 15:40

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
	pCi/l	pCi/l	pCi/l	pCi/l	%	%		%			%		%
Radium-226	20.1	0.595	20.5	18.8	98.9	90.5	1	75.0-125			8.61		20
(T) Barium-133		*88.1*			*99.9*	*100*							

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Method Blank (MB)

(MB) R3331981-1 08/07/18 13:56

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-226	0.00562		0.0495
(T) Barium-133	*90.6*		

L1012846-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1012846-07 08/07/18 13:56 • (DUP) R3331981-5 08/07/18 13:56

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit pCi/l
Radium-226	0.122	0.0934	1	26.3	0.116		20	3
(T) Barium-133	*92.3*	*95.7*						

Laboratory Control Sample (LCS)

(LCS) R3331981-2 08/07/18 13:56

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	5.33	106	80.0-120	
(T) Barium-133			*96.8*		

L1012846-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1012846-11 08/07/18 13:56 • (MS) R3331981-3 08/07/18 13:56 • (MSD) R3331981-4 08/07/18 13:56

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.1	0.000	22.9	21.4	114	107	1	75.0-125			6.76		20
(T) Barium-133		*96.6*			*91.5*	*90.7*							

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Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
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

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

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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	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

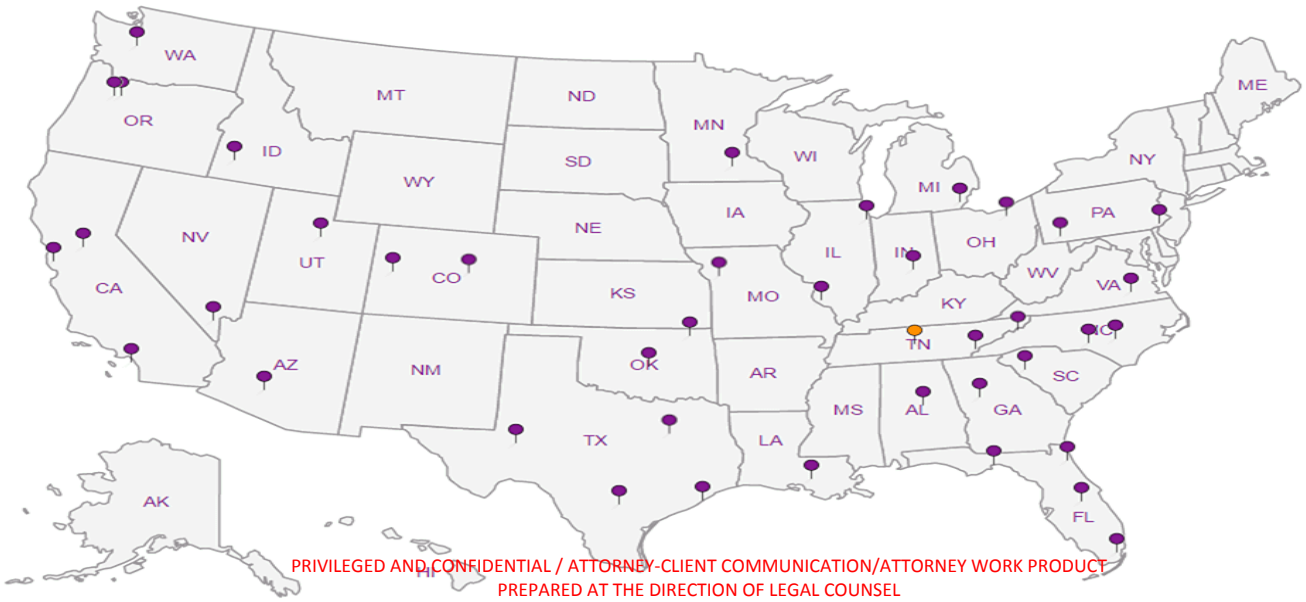
Third Party Federal Accreditations

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.



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FTN Associates - Little Rock, AR

3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Pres Chk

Report to: Dana Derrington

Email To: dld@ftn-assoc.com, hlf@ftn-assoc.com, ajp@ftn-assoc.com

Project Description: Entergy Independence Landfill

City/State Collected:

Phone: 501-902-9642
Fax:

Client Project # 7920-1844-002

Lab Project # FTNLRAR-ENTERGYINDY

Collected by (print): Michael Clayton

Site/Facility ID #

P.O. #

Collected by (signature): Michael Clayton
Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Cl, Fl, SO4, TDS 250mlHDPE-NoPres	Metals 250mlHDPE-HNO3	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
RP-1	Grab	GW		7/24/18	1030	4	X	X	X	X	01	
RP-2		GW		7/24/18	1210	4	X	X	X	X	02	
RP-3		GW		7/24/18	1350	4	X	X	X	X	03	
RP-4		GW		7/25/18	1120	4	X	X	X	X	04	
RP-5		GW		7/25/18	1305	4	X	X	X	X	05	
RP-6		GW		7/25/18	1440	4	X	X	X	X	06	
RP-7		GW		7/26/18	920	4	X	X	X	X	07	
RP-8		GW		7/26/18	1100	4	X	X	X	X	08	
RP-9		GW		7/24/18	1510	4	X	X	X	X	09	
RP-10	↓	GW		7/24/18	1630	4	X	X	X	X	10	

Pace Analytical®
National Center for Testing & Innovation
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # 1012846
Table # Hood 3
Acctnum: FTNLRAR
Template: T138202
Prelogin: P663251
TSR: 134 - Mark W. Beasley
PB:
Shipped Via: FedEX Ground

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

Remarks: Metals= As,Ba,Be,B,Ca,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier __ _____

Tracking # 4492 6217 1490 8150 5

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Michael Clayton	7/26/18	1600	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)

Trip Blank Received: Yes (No) HCL / MeoH TBR

Temp: 10°C Bottles Received: 48

Date: 7/27/18 Time: 8:45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

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FTN Associates - Little Rock, AR

3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Report to: Dana Derrington

Email To: dld@ftn-assoc.com, hlf@ftn-assoc.com, ajp@ftn-assoc.com

Project Description: Entergy Independence Landfill

City/State Collected:

Phone: 501-902-9642
Fax:

Client Project # 7920-1844-002

Lab Project # FTNLRAR-ENTERGYINDY

Collected by (print): Michael Clayton

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

Analysis / Container / Preservative

Pres Chk

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Cl,Fl,SO4,TDS 250mlHDPE-NoPres	Metals 250mlHDPE-HNO3	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add HNO3						Remarks	Sample # (lab only)
RP-4 Dup	Grab	GW		7/25/18	1130	4	X	X	X	X						11	
EB-1	↓	GW		7/26/18	1130	4	X	X	X	X						12	
		GW				4	X	X	X	X							
		GW				4	X	X	X	X							

Chain of Custody Page ___ of ___

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Mount Juliet, TN 37122
Phone: 615-758-5858
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Fax: 615-758-5859

L# 1012846

Table # Hood. 3

Acctnum: FTNLRAR
Template: T138202
Prelogin: P663251
TSR: 134 - Mark W. Beasley
PB:

Shipped Via: FedEX Ground

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

Remarks: Metals= As,Ba,Be,B,Ca,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier __ _____

Tracking # 4492 6217 1490

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	7/26/18	1600		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.0 °C Bottles Received: 48
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date/Time: 7/27/18 8:45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

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ANALYTICAL REPORT

November 01, 2018

FTN Associates - Little Rock, AR

Sample Delivery Group:	L1037797
Samples Received:	10/24/2018
Project Number:	7920-1844-002
Description:	Entergy Independence Landfill

Report To: Dana Derrington
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Entire Report Reviewed By:

Mark W. Beasley
Project Manager

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



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RP-1 L1037797-01 GW

Collected by: Andrew Pruitt | Collected date/time: 10/23/18 10:00 | Received date/time: 10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1187576	1	10/30/18 12:04	10/30/18 12:29	MMF
Wet Chemistry by Method 9056A	WG1186241	1	10/27/18 16:05	10/27/18 16:05	ELN
Mercury by Method 7470A	WG1186090	1	10/25/18 09:48	10/25/18 17:31	TCT
Metals (ICP) by Method 6010B	WG1188181	1	10/30/18 08:57	10/30/18 14:04	ST
Metals (ICPMS) by Method 6020	WG1187096	1	10/30/18 08:03	10/30/18 11:47	JPD

RP-2 L1037797-02 GW

Collected by: Andrew Pruitt | Collected date/time: 10/23/18 11:20 | Received date/time: 10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1187576	1	10/30/18 12:04	10/30/18 12:29	MMF
Wet Chemistry by Method 9056A	WG1186241	1	10/27/18 16:22	10/27/18 16:22	ELN
Mercury by Method 7470A	WG1186090	1	10/25/18 09:48	10/25/18 17:34	TCT
Metals (ICP) by Method 6010B	WG1188181	1	10/30/18 08:57	10/30/18 14:07	ST
Metals (ICPMS) by Method 6020	WG1187096	1	10/30/18 08:03	10/30/18 11:51	JPD

RP-3 L1037797-03 GW

Collected by: Andrew Pruitt | Collected date/time: 10/23/18 14:55 | Received date/time: 10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1187576	1	10/30/18 12:04	10/30/18 12:29	MMF
Wet Chemistry by Method 9056A	WG1186241	1	10/27/18 16:39	10/27/18 16:39	ELN
Mercury by Method 7470A	WG1186090	1	10/25/18 09:48	10/25/18 17:36	TCT
Metals (ICP) by Method 6010B	WG1188181	1	10/30/18 08:57	10/30/18 14:10	ST
Metals (ICPMS) by Method 6020	WG1187096	1	10/30/18 08:03	10/30/18 11:56	JPD

RP-4 L1037797-04 GW

Collected by: Andrew Pruitt | Collected date/time: 10/23/18 09:51 | Received date/time: 10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1187576	1	10/30/18 12:04	10/30/18 12:29	MMF
Wet Chemistry by Method 9056A	WG1186241	1	10/27/18 16:55	10/27/18 16:55	ELN
Wet Chemistry by Method 9056A	WG1188431	5	10/30/18 20:15	10/30/18 20:15	MAJ
Mercury by Method 7470A	WG1186090	1	10/25/18 09:48	10/25/18 17:38	TCT
Metals (ICP) by Method 6010B	WG1188181	1	10/30/18 08:57	10/30/18 14:18	ST
Metals (ICPMS) by Method 6020	WG1187096	1	10/30/18 08:03	10/30/18 12:00	JPD

RP-5 L1037797-05 GW

Collected by: Andrew Pruitt | Collected date/time: 10/23/18 10:56 | Received date/time: 10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1187576	1	10/30/18 12:04	10/30/18 12:29	MMF
Wet Chemistry by Method 9056A	WG1186241	1	10/27/18 17:12	10/27/18 17:12	ELN
Wet Chemistry by Method 9056A	WG1188431	10	10/30/18 20:33	10/30/18 20:33	MAJ
Mercury by Method 7470A	WG1186090	1	10/25/18 09:48	10/25/18 17:41	TCT
Metals (ICP) by Method 6010B	WG1188181	1	10/30/18 08:57	10/30/18 14:20	ST
Metals (ICPMS) by Method 6020	WG1187096	1	10/30/18 08:03	10/30/18 12:05	JPD

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RP-6 L1037797-06 GW

Collected by	Collected date/time	Received date/time
Andrew Pruitt	10/23/18 14:59	10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1187570	1	10/30/18 14:38	10/30/18 15:21	AJS
Wet Chemistry by Method 9056A	WG1186241	1	10/27/18 17:29	10/27/18 17:29	ELN
Wet Chemistry by Method 9056A	WG1188431	10	10/30/18 20:51	10/30/18 20:51	MAJ
Mercury by Method 7470A	WG1186090	1	10/25/18 09:48	10/25/18 17:45	TCT
Metals (ICP) by Method 6010B	WG1188181	1	10/30/18 08:57	10/30/18 14:23	ST
Metals (ICPMS) by Method 6020	WG1187096	1	10/30/18 08:03	10/30/18 12:09	JPD

RP-7 L1037797-07 GW

Collected by	Collected date/time	Received date/time
Andrew Pruitt	10/23/18 16:16	10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1187570	1	10/30/18 14:38	10/30/18 15:21	AJS
Wet Chemistry by Method 9056A	WG1186241	1	10/27/18 17:46	10/27/18 17:46	ELN
Wet Chemistry by Method 9056A	WG1188431	5	10/30/18 21:09	10/30/18 21:09	MAJ
Mercury by Method 7470A	WG1186090	1	10/25/18 09:48	10/25/18 17:48	TCT
Metals (ICP) by Method 6010B	WG1188181	1	10/30/18 08:57	10/30/18 14:25	ST
Metals (ICPMS) by Method 6020	WG1187096	1	10/30/18 08:03	10/30/18 12:14	JPD

RP-8 L1037797-08 GW

Collected by	Collected date/time	Received date/time
Andrew Pruitt	10/23/18 13:50	10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1187570	1	10/30/18 14:38	10/30/18 15:21	AJS
Wet Chemistry by Method 9056A	WG1186241	1	10/27/18 18:37	10/27/18 18:37	ELN
Mercury by Method 7470A	WG1186090	1	10/25/18 09:48	10/25/18 17:51	TCT
Metals (ICP) by Method 6010B	WG1188181	1	10/30/18 08:57	10/30/18 14:28	ST
Metals (ICPMS) by Method 6020	WG1187096	1	10/30/18 08:03	10/30/18 12:19	JPD

RP-9 L1037797-09 GW

Collected by	Collected date/time	Received date/time
Andrew Pruitt	10/23/18 13:10	10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1187570	1	10/30/18 14:38	10/30/18 15:21	AJS
Wet Chemistry by Method 9056A	WG1186241	1	10/27/18 18:54	10/27/18 18:54	ELN
Mercury by Method 7470A	WG1186090	1	10/25/18 09:48	10/25/18 17:53	TCT
Metals (ICP) by Method 6010B	WG1188181	1	10/30/18 08:57	10/30/18 14:31	ST
Metals (ICPMS) by Method 6020	WG1187096	1	10/30/18 08:03	10/30/18 12:23	JPD

RP-10 L1037797-10 GW

Collected by	Collected date/time	Received date/time
Andrew Pruitt	10/23/18 12:15	10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1187570	1	10/30/18 14:38	10/30/18 15:21	AJS
Wet Chemistry by Method 9056A	WG1186241	1	10/27/18 19:45	10/27/18 19:45	ELN
Wet Chemistry by Method 9056A	WG1188431	5	10/30/18 21:27	10/30/18 21:27	NJM
Mercury by Method 7470A	WG1186090	1	10/25/18 09:48	10/25/18 18:01	TCT
Metals (ICP) by Method 6010B	WG1188181	1	10/30/18 08:57	10/30/18 14:33	ST
Metals (ICPMS) by Method 6020	WG1187096	1	10/30/18 08:03	10/30/18 12:28	JPD

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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.

Mark W. Beasley
Project Manager

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	214000		2820	10000	1	10/30/2018 12:29	WG1187576

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6460		51.9	1000	1	10/27/2018 16:05	WG1186241
Fluoride	85.1	J	9.90	100	1	10/27/2018 16:05	WG1186241
Sulfate	14100		77.4	5000	1	10/27/2018 16:05	WG1186241

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.153	J	0.0490	0.200	1	10/25/2018 17:31	WG1186090

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	34.5	J	12.6	200	1	10/30/2018 14:04	WG1188181
Lithium	U		5.30	15.0	1	10/30/2018 14:04	WG1188181

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U	J4	0.754	2.00	1	10/30/2018 11:47	WG1187096
Arsenic	1.23	J	0.250	2.00	1	10/30/2018 11:47	WG1187096
Barium	41.6		0.360	5.00	1	10/30/2018 11:47	WG1187096
Beryllium	U		0.120	2.00	1	10/30/2018 11:47	WG1187096
Cadmium	U		0.160	1.00	1	10/30/2018 11:47	WG1187096
Calcium	46100		46.0	1000	1	10/30/2018 11:47	WG1187096
Chromium	12.6	B	0.540	2.00	1	10/30/2018 11:47	WG1187096
Cobalt	U		0.260	2.00	1	10/30/2018 11:47	WG1187096
Lead	U		0.240	2.00	1	10/30/2018 11:47	WG1187096
Molybdenum	0.636	B J	0.140	5.00	1	10/30/2018 11:47	WG1187096
Selenium	1.49	J	0.380	2.00	1	10/30/2018 11:47	WG1187096
Thallium	U		0.190	2.00	1	10/30/2018 11:47	WG1187096

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	217000		2820	10000	1	10/30/2018 12:29	WG1187576

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	5480		51.9	1000	1	10/27/2018 16:22	WG1186241
Fluoride	95.8	J	9.90	100	1	10/27/2018 16:22	WG1186241
Sulfate	19800		77.4	5000	1	10/27/2018 16:22	WG1186241

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.0669	J	0.0490	0.200	1	10/25/2018 17:34	WG1186090

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	47.2	J	12.6	200	1	10/30/2018 14:07	WG1188181
Lithium	U		5.30	15.0	1	10/30/2018 14:07	WG1188181

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U	J4	0.754	2.00	1	10/30/2018 11:51	WG1187096
Arsenic	1.73	J	0.250	2.00	1	10/30/2018 11:51	WG1187096
Barium	35.0		0.360	5.00	1	10/30/2018 11:51	WG1187096
Beryllium	U		0.120	2.00	1	10/30/2018 11:51	WG1187096
Cadmium	U		0.160	1.00	1	10/30/2018 11:51	WG1187096
Calcium	48100		46.0	1000	1	10/30/2018 11:51	WG1187096
Chromium	0.648	B J	0.540	2.00	1	10/30/2018 11:51	WG1187096
Cobalt	U		0.260	2.00	1	10/30/2018 11:51	WG1187096
Lead	U		0.240	2.00	1	10/30/2018 11:51	WG1187096
Molybdenum	0.173	B J	0.140	5.00	1	10/30/2018 11:51	WG1187096
Selenium	2.61		0.380	2.00	1	10/30/2018 11:51	WG1187096
Thallium	U		0.190	2.00	1	10/30/2018 11:51	WG1187096

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	188000		2820	10000	1	10/30/2018 12:29	WG1187576

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	4620		51.9	1000	1	10/27/2018 16:39	WG1186241
Fluoride	76.6	J	9.90	100	1	10/27/2018 16:39	WG1186241
Sulfate	8510		77.4	5000	1	10/27/2018 16:39	WG1186241

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	10/25/2018 17:36	WG1186090

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	42.0	J	12.6	200	1	10/30/2018 14:10	WG1188181
Lithium	U		5.30	15.0	1	10/30/2018 14:10	WG1188181

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U	J4	0.754	2.00	1	10/30/2018 11:56	WG1187096
Arsenic	1.27	J	0.250	2.00	1	10/30/2018 11:56	WG1187096
Barium	32.5		0.360	5.00	1	10/30/2018 11:56	WG1187096
Beryllium	U		0.120	2.00	1	10/30/2018 11:56	WG1187096
Cadmium	U		0.160	1.00	1	10/30/2018 11:56	WG1187096
Calcium	43800		46.0	1000	1	10/30/2018 11:56	WG1187096
Chromium	0.768	B J	0.540	2.00	1	10/30/2018 11:56	WG1187096
Cobalt	U		0.260	2.00	1	10/30/2018 11:56	WG1187096
Lead	U		0.240	2.00	1	10/30/2018 11:56	WG1187096
Molybdenum	0.277	B J	0.140	5.00	1	10/30/2018 11:56	WG1187096
Selenium	1.95	J	0.380	2.00	1	10/30/2018 11:56	WG1187096
Thallium	U		0.190	2.00	1	10/30/2018 11:56	WG1187096

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	370000		2820	10000	1	10/30/2018 12:29	WG1187576

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	8900		51.9	1000	1	10/27/2018 16:55	WG1186241
Fluoride	195		9.90	100	1	10/27/2018 16:55	WG1186241
Sulfate	126000		387	25000	5	10/30/2018 20:15	WG1188431

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.0526	J	0.0490	0.200	1	10/25/2018 17:38	WG1186090

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	328		12.6	200	1	10/30/2018 14:18	WG1188181
Lithium	U		5.30	15.0	1	10/30/2018 14:18	WG1188181

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U	J4	0.754	2.00	1	10/30/2018 12:00	WG1187096
Arsenic	0.504	J	0.250	2.00	1	10/30/2018 12:00	WG1187096
Barium	35.2		0.360	5.00	1	10/30/2018 12:00	WG1187096
Beryllium	U		0.120	2.00	1	10/30/2018 12:00	WG1187096
Cadmium	U		0.160	1.00	1	10/30/2018 12:00	WG1187096
Calcium	69800		46.0	1000	1	10/30/2018 12:00	WG1187096
Chromium	1.01	B J	0.540	2.00	1	10/30/2018 12:00	WG1187096
Cobalt	0.284	J	0.260	2.00	1	10/30/2018 12:00	WG1187096
Lead	0.561	J	0.240	2.00	1	10/30/2018 12:00	WG1187096
Molybdenum	0.600	B J	0.140	5.00	1	10/30/2018 12:00	WG1187096
Selenium	2.69		0.380	2.00	1	10/30/2018 12:00	WG1187096
Thallium	U		0.190	2.00	1	10/30/2018 12:00	WG1187096

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	739000		3750	13300	1	10/30/2018 12:29	WG1187576

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	18400		51.9	1000	1	10/27/2018 17:12	WG1186241
Fluoride	283		9.90	100	1	10/27/2018 17:12	WG1186241
Sulfate	466000		774	50000	10	10/30/2018 20:33	WG1188431

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.0577	J	0.0490	0.200	1	10/25/2018 17:41	WG1186090

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	1480		12.6	200	1	10/30/2018 14:20	WG1188181
Lithium	5.84	J	5.30	15.0	1	10/30/2018 14:20	WG1188181

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U	J4	0.754	2.00	1	10/30/2018 12:05	WG1187096
Arsenic	1.63	J	0.250	2.00	1	10/30/2018 12:05	WG1187096
Barium	26.8		0.360	5.00	1	10/30/2018 12:05	WG1187096
Beryllium	U		0.120	2.00	1	10/30/2018 12:05	WG1187096
Cadmium	U		0.160	1.00	1	10/30/2018 12:05	WG1187096
Calcium	109000		46.0	1000	1	10/30/2018 12:05	WG1187096
Chromium	U		0.540	2.00	1	10/30/2018 12:05	WG1187096
Cobalt	0.267	J	0.260	2.00	1	10/30/2018 12:05	WG1187096
Lead	0.242	J	0.240	2.00	1	10/30/2018 12:05	WG1187096
Molybdenum	4.32	J	0.140	5.00	1	10/30/2018 12:05	WG1187096
Selenium	0.880	J	0.380	2.00	1	10/30/2018 12:05	WG1187096
Thallium	U		0.190	2.00	1	10/30/2018 12:05	WG1187096

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	1060000		3750	13300	1	10/30/2018 15:21	WG1187570

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	13700		51.9	1000	1	10/27/2018 17:29	WG1186241
Fluoride	331		9.90	100	1	10/27/2018 17:29	WG1186241
Sulfate	353000		774	50000	10	10/30/2018 20:51	WG1188431

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.0548	J	0.0490	0.200	1	10/25/2018 17:45	WG1186090

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	466		12.6	200	1	10/30/2018 14:23	WG1188181
Lithium	21.7		5.30	15.0	1	10/30/2018 14:23	WG1188181

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U	J4	0.754	2.00	1	10/30/2018 12:09	WG1187096
Arsenic	0.386	J	0.250	2.00	1	10/30/2018 12:09	WG1187096
Barium	30.3		0.360	5.00	1	10/30/2018 12:09	WG1187096
Beryllium	U		0.120	2.00	1	10/30/2018 12:09	WG1187096
Cadmium	U		0.160	1.00	1	10/30/2018 12:09	WG1187096
Calcium	124000		46.0	1000	1	10/30/2018 12:09	WG1187096
Chromium	U		0.540	2.00	1	10/30/2018 12:09	WG1187096
Cobalt	U		0.260	2.00	1	10/30/2018 12:09	WG1187096
Lead	U		0.240	2.00	1	10/30/2018 12:09	WG1187096
Molybdenum	2.77	J	0.140	5.00	1	10/30/2018 12:09	WG1187096
Selenium	2.76		0.380	2.00	1	10/30/2018 12:09	WG1187096
Thallium	U		0.190	2.00	1	10/30/2018 12:09	WG1187096

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	431000		2820	10000	1	10/30/2018 15:21	WG1187570

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	10500		51.9	1000	1	10/27/2018 17:46	WG1186241
Fluoride	172		9.90	100	1	10/27/2018 17:46	WG1186241
Sulfate	146000		387	25000	5	10/30/2018 21:09	WG1188431

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.0822	J	0.0490	0.200	1	10/25/2018 17:48	WG1186090

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	345		12.6	200	1	10/30/2018 14:25	WG1188181
Lithium	U		5.30	15.0	1	10/30/2018 14:25	WG1188181

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U	J4	0.754	2.00	1	10/30/2018 12:14	WG1187096
Arsenic	U		0.250	2.00	1	10/30/2018 12:14	WG1187096
Barium	32.5		0.360	5.00	1	10/30/2018 12:14	WG1187096
Beryllium	U		0.120	2.00	1	10/30/2018 12:14	WG1187096
Cadmium	U		0.160	1.00	1	10/30/2018 12:14	WG1187096
Calcium	70700		46.0	1000	1	10/30/2018 12:14	WG1187096
Chromium	U		0.540	2.00	1	10/30/2018 12:14	WG1187096
Cobalt	U		0.260	2.00	1	10/30/2018 12:14	WG1187096
Lead	U		0.240	2.00	1	10/30/2018 12:14	WG1187096
Molybdenum	0.648	B J	0.140	5.00	1	10/30/2018 12:14	WG1187096
Selenium	3.69		0.380	2.00	1	10/30/2018 12:14	WG1187096
Thallium	U		0.190	2.00	1	10/30/2018 12:14	WG1187096

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	323000		2820	10000	1	10/30/2018 15:21	WG1187570

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	8760		51.9	1000	1	10/27/2018 18:37	WG1186241
Fluoride	106		9.90	100	1	10/27/2018 18:37	WG1186241
Sulfate	42200		77.4	5000	1	10/27/2018 18:37	WG1186241

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.0565	J	0.0490	0.200	1	10/25/2018 17:51	WG1186090

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	78.8	J	12.6	200	1	10/30/2018 14:28	WG1188181
Lithium	U		5.30	15.0	1	10/30/2018 14:28	WG1188181

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U	J4	0.754	2.00	1	10/30/2018 12:19	WG1187096
Arsenic	1.65	J	0.250	2.00	1	10/30/2018 12:19	WG1187096
Barium	59.8		0.360	5.00	1	10/30/2018 12:19	WG1187096
Beryllium	U		0.120	2.00	1	10/30/2018 12:19	WG1187096
Cadmium	U		0.160	1.00	1	10/30/2018 12:19	WG1187096
Calcium	60600		46.0	1000	1	10/30/2018 12:19	WG1187096
Chromium	0.943	B J	0.540	2.00	1	10/30/2018 12:19	WG1187096
Cobalt	0.419	J	0.260	2.00	1	10/30/2018 12:19	WG1187096
Lead	0.407	J	0.240	2.00	1	10/30/2018 12:19	WG1187096
Molybdenum	0.542	B J	0.140	5.00	1	10/30/2018 12:19	WG1187096
Selenium	4.22		0.380	2.00	1	10/30/2018 12:19	WG1187096
Thallium	U		0.190	2.00	1	10/30/2018 12:19	WG1187096

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	213000		2820	10000	1	10/30/2018 15:21	WG1187570

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6350		51.9	1000	1	10/27/2018 18:54	WG1186241
Fluoride	85.6	J	9.90	100	1	10/27/2018 18:54	WG1186241
Sulfate	14900		77.4	5000	1	10/27/2018 18:54	WG1186241

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.0713	J	0.0490	0.200	1	10/25/2018 17:53	WG1186090

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	38.2	J	12.6	200	1	10/30/2018 14:31	WG1188181
Lithium	U		5.30	15.0	1	10/30/2018 14:31	WG1188181

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U	J4	0.754	2.00	1	10/30/2018 12:23	WG1187096
Arsenic	1.39	J	0.250	2.00	1	10/30/2018 12:23	WG1187096
Barium	40.0		0.360	5.00	1	10/30/2018 12:23	WG1187096
Beryllium	U		0.120	2.00	1	10/30/2018 12:23	WG1187096
Cadmium	U		0.160	1.00	1	10/30/2018 12:23	WG1187096
Calcium	49300		46.0	1000	1	10/30/2018 12:23	WG1187096
Chromium	U		0.540	2.00	1	10/30/2018 12:23	WG1187096
Cobalt	U		0.260	2.00	1	10/30/2018 12:23	WG1187096
Lead	U		0.240	2.00	1	10/30/2018 12:23	WG1187096
Molybdenum	0.321	B J	0.140	5.00	1	10/30/2018 12:23	WG1187096
Selenium	1.48	J	0.380	2.00	1	10/30/2018 12:23	WG1187096
Thallium	U		0.190	2.00	1	10/30/2018 12:23	WG1187096

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	399000		2820	10000	1	10/30/2018 15:21	WG1187570

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	9440		51.9	1000	1	10/27/2018 19:45	WG1186241
Fluoride	125		9.90	100	1	10/27/2018 19:45	WG1186241
Sulfate	141000		387	25000	5	10/30/2018 21:27	WG1188431

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	10/25/2018 18:01	WG1186090

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	422		12.6	200	1	10/30/2018 14:33	WG1188181
Lithium	U		5.30	15.0	1	10/30/2018 14:33	WG1188181

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U	J4	0.754	2.00	1	10/30/2018 12:28	WG1187096
Arsenic	1.54	J	0.250	2.00	1	10/30/2018 12:28	WG1187096
Barium	26.8		0.360	5.00	1	10/30/2018 12:28	WG1187096
Beryllium	U		0.120	2.00	1	10/30/2018 12:28	WG1187096
Cadmium	U		0.160	1.00	1	10/30/2018 12:28	WG1187096
Calcium	73800		46.0	1000	1	10/30/2018 12:28	WG1187096
Chromium	U		0.540	2.00	1	10/30/2018 12:28	WG1187096
Cobalt	U		0.260	2.00	1	10/30/2018 12:28	WG1187096
Lead	0.249	J	0.240	2.00	1	10/30/2018 12:28	WG1187096
Molybdenum	0.630	B J	0.140	5.00	1	10/30/2018 12:28	WG1187096
Selenium	2.51		0.380	2.00	1	10/30/2018 12:28	WG1187096
Thallium	U		0.190	2.00	1	10/30/2018 12:28	WG1187096

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Method Blank (MB)

(MB) R3355764-1 10/30/18 15:21

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1037797-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1037797-07 10/30/18 15:21 • (DUP) R3355764-3 10/30/18 15:21

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	431000	430000	1	0.232		5

Laboratory Control Sample (LCS)

(LCS) R3355764-2 10/30/18 15:21

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8250000	93.8	85.0-115	

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Method Blank (MB)

(MB) R3355768-1 10/30/18 12:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	3000	J	2820	10000

L1037687-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1037687-02 10/30/18 12:29 • (DUP) R3355768-3 10/30/18 12:29

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	112000	114000	1	1.77		5

Laboratory Control Sample (LCS)

(LCS) R3355768-2 10/30/18 12:29

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	9130000	104	85.0-115	

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Method Blank (MB)

(MB) R3354979-1 10/27/18 09:19

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	412	J	51.9	1000
Fluoride	U		9.90	100
Sulfate	289	J	77.4	5000

L1037753-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1037753-01 10/27/18 12:42 • (DUP) R3354979-3 10/27/18 12:59

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	1010	1040	1	2.85		15
Fluoride	218	223	1	1.95		15
Sulfate	5820	5850	1	0.427		15

L1037797-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1037797-09 10/27/18 18:54 • (DUP) R3354979-6 10/27/18 19:11

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	6350	6370	1	0.409		15
Fluoride	85.6	84.5	1	1.29	J	15
Sulfate	14900	14900	1	0.129		15

Laboratory Control Sample (LCS)

(LCS) R3354979-2 10/27/18 09:36

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	38900	97.3	80.0-120	
Fluoride	8000	7970	99.7	80.0-120	
Sulfate	40000	38900	97.2	80.0-120	

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L1037753-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1037753-01 10/27/18 12:42 • (MS) R3354979-4 10/27/18 13:16 • (MSD) R3354979-5 10/27/18 13:33

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	1010	51200	51200	100	100	1	80.0-120			0.103	15
Fluoride	5000	218	5230	5250	100	101	1	80.0-120			0.464	15
Sulfate	50000	5820	57000	57100	102	103	1	80.0-120			0.219	15

L1037797-09 Original Sample (OS) • Matrix Spike (MS)

(OS) L1037797-09 10/27/18 18:54 • (MS) R3354979-7 10/27/18 19:28

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	6350	57400	102	1	80.0-120	
Fluoride	5000	85.6	5150	101	1	80.0-120	
Sulfate	50000	14900	67000	104	1	80.0-120	

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Method Blank (MB)

(MB) R3355365-1 10/30/18 09:27

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Sulfate	89.8	J	77.4	5000

L1039005-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1039005-01 10/30/18 13:36 • (DUP) R3355365-3 10/30/18 13:53

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	47500	47400	1	0.0396		15

L1037799-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1037799-01 10/30/18 21:46 • (DUP) R3355365-7 10/30/18 22:04

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	128000	128000	5	0.530		15

Laboratory Control Sample (LCS)

(LCS) R3355365-2 10/30/18 09:45

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40000	39800	99.6	80.0-120	

L1039094-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1039094-02 10/30/18 15:24 • (MS) R3355365-4 10/30/18 16:19 • (MSD) R3355365-5 10/30/18 16:37

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	50000	26800	76500	76500	99.5	99.5	1	80.0-120			0.0386	15

L1039102-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1039102-02 10/30/18 18:26 • (MS) R3355365-6 10/30/18 18:44

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50000	10100	59600	99.1	1	80.0-120	

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Method Blank (MB)

(MB) R3354050-1 10/25/18 17:02

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Mercury	U		0.0490	0.200

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

(LCS) R3354050-2 10/25/18 17:04 • (LCSD) R3354050-3 10/25/18 17:07

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Mercury	3.00	3.01	3.10	100	103	80.0-120			3.07	20

L1037799-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1037799-02 10/25/18 17:09 • (MS) R3354050-4 10/25/18 17:11 • (MSD) R3354050-5 10/25/18 17:14

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Mercury	3.00	U	3.12	2.96	104	98.7	1	75.0-125			5.17	20

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Method Blank (MB)

(MB) R3355291-1 10/30/18 13:46

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		12.6	200
Lithium	U		5.30	15.0

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

(LCS) R3355291-2 10/30/18 13:48 • (LCSD) R3355291-3 10/30/18 13:50

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Boron	1000	987	985	98.7	98.5	80.0-120			0.265	20
Lithium	1000	980	977	98.0	97.7	80.0-120			0.335	20

L1038487-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1038487-10 10/30/18 13:53 • (MS) R3355291-5 10/30/18 13:58 • (MSD) R3355291-6 10/30/18 14:00

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	ND	1110	1120	102	102	1	75.0-125			0.101	20
Lithium	1000	ND	1010	987	101	98.7	1	75.0-125			2.16	20

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Method Blank (MB)

(MB) R3355168-1 10/30/18 10:47

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Antimony	U		0.754	2.00
Arsenic	U		0.250	2.00
Barium	0.384	J	0.360	5.00
Beryllium	U		0.120	2.00
Cadmium	U		0.160	1.00
Calcium	68.6	J	46.0	1000
Chromium	1.31	J	0.540	2.00
Cobalt	U		0.260	2.00
Lead	U		0.240	2.00
Molybdenum	0.172	J	0.140	5.00
Selenium	U		0.380	2.00
Thallium	U		0.190	2.00

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

(LCS) R3355168-2 10/30/18 10:52 • (LCSD) R3355168-4 10/30/18 11:10

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	65.1	62.8	130	126	80.0-120	J4	J4	3.56	20
Arsenic	50.0	51.5	50.4	103	101	80.0-120			2.10	20
Barium	50.0	50.7	48.8	101	97.7	80.0-120			3.78	20
Beryllium	50.0	47.1	46.7	94.2	93.3	80.0-120			0.976	20
Cadmium	50.0	52.3	51.3	105	103	80.0-120			1.87	20
Calcium	5000	4910	5050	98.3	101	80.0-120			2.76	20
Chromium	50.0	51.7	52.1	103	104	80.0-120			0.640	20
Cobalt	50.0	52.7	52.7	105	105	80.0-120			0.0647	20
Lead	50.0	49.9	50.0	99.8	100	80.0-120			0.195	20
Molybdenum	50.0	48.4	48.4	96.7	96.8	80.0-120			0.0412	20
Selenium	50.0	52.6	45.6	105	91.3	80.0-120			14.2	20
Thallium	50.0	50.0	50.1	100	100	80.0-120			0.169	20

L1037666-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1037666-03 10/30/18 11:01 • (MS) R3355168-5 10/30/18 11:15 • (MSD) R3355168-6 10/30/18 11:19

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	ND	64.4	66.5	129	133	1	75.0-125	J5	J5	3.17	20
Arsenic	50.0	ND	50.3	50.7	98.2	98.9	1	75.0-125			0.734	20
Barium	50.0	19.4	66.1	67.9	93.3	96.9	1	75.0-125			2.71	20

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L1037666-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1037666-03 10/30/18 11:01 • (MS) R3355168-5 10/30/18 11:15 • (MSD) R3355168-6 10/30/18 11:19

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Beryllium	50.0	ND	47.0	47.8	94.0	95.5	1	75.0-125			1.58	20
Cadmium	50.0	ND	50.2	51.7	100	103	1	75.0-125			3.02	20
Calcium	5000	154000	158000	163000	89.4	174	1	75.0-125		V	2.65	20
Chromium	50.0	ND	50.1	51.3	100	103	1	75.0-125			2.33	20
Cobalt	50.0	ND	50.0	50.5	100	101	1	75.0-125			1.03	20
Lead	50.0	ND	50.1	50.1	100	100	1	75.0-125			0.0949	20
Molybdenum	50.0	ND	49.9	57.4	98.3	113	1	75.0-125			14.1	20
Selenium	50.0	ND	49.4	51.5	98.8	103	1	75.0-125			4.14	20
Thallium	50.0	ND	50.1	49.3	100	98.7	1	75.0-125			1.63	20

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Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

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.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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* 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	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

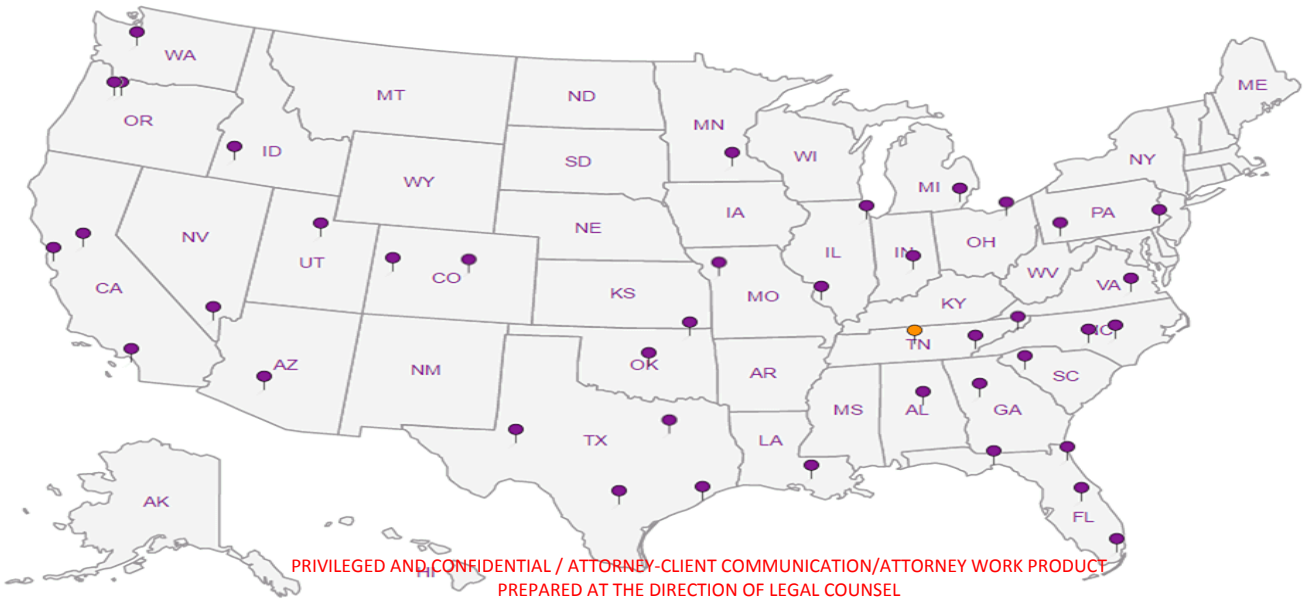
Third Party Federal Accreditations

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.



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FTN Associates - Little Rock, AR

3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Pres Chk

Report to: Dana Derrington

Email To: dld@ftn-assoc.com, hlf@ftn-assoc.com, ajp@ftn-assoc.com

Project Description: Entergy Independence Landfill

City/State Collected: Newark, AR

Phone: 501-902-9642
Fax:

Client Project # 7920-1844-002

Lab Project # FTNLRAR-ENTERGYINDY

Collected by (print): Andrew Pruitt

Site/Facility ID # Intergy Independence

P.O. #

Collected by (signature): Andrew Pruitt

Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Cl, Fl, SO4, TDS 250mlHDPE-NoPres	Metals 250mlHDPE-HNO3	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add HNO3							Remarks	Sample # (lab only)
RP-1	Grab	GW		10/23/14	1000	4	X	X	X	X								01
RP-2		GW			1120	4	X	X	X	X								02
RP-3		GW			1455	4	X	X	X	X								03
RP-4		GW			0951	4	X	X	X	X								04
RP-5		GW		10/23/14	1056	4	X	X	X	X								05
RP-6		GW			1459	4	X	X	X	X								06
RP-7		GW			1616	4	X	X	X	X								07
RP-8		GW			1350	4	X	X	X	X								08
RP-9		GW			1310	4	X	X	X	X								09
RP-10	↓	GW		↓	1215	4	X	X	X	X								10

Chain of Custody Page 1 of 1

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National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 103797
1029

Acctnum: FTNLRAR
Template: T141998
Prelogin: P677296
TSR: 134 - Mark W. Beasley
PB: 10-17-18

Shipped Via: FedEX Ground

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

Remarks: Metals= As,Ba,Be,B,Ca,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl
RAD SCREEN: 0.5 mR/hr

pH ____ Temp ____
Flow ____ Other ____

Samples returned via:
__ UPS X FedEx __ Courier __ ____

Tracking # 4624 2999 6570 6569 6570 22°-5° 0.5 30°

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

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Andrew Pruitt	10/23/14	1930			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.1 °C Bottles Received: 40	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10/24/18 Time: 0845	Hold: Condition: NCF / OK

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ANALYTICAL REPORT

November 15, 2018

FTN Associates - Little Rock, AR

Sample Delivery Group:	L1037798
Samples Received:	10/24/2018
Project Number:	7920-1844-002
Description:	Entergy Independence Landfill

Report To: Dana Derrington
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Entire Report Reviewed By:

Mark W. Beasley
Project Manager

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



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RP-1 L1037798-01 Non-Potable Water

Collected by: Andrew Pruitt | Collected date/time: 10/23/18 10:00 | Received date/time: 10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1186181	1	10/26/18 15:26	11/05/18 17:00	MK
Radiochemistry by Method Calculation	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT
Radiochemistry by Method SM7500Ra B M	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT

RP-2 L1037798-02 Non-Potable Water

Collected by: Andrew Pruitt | Collected date/time: 10/23/18 11:20 | Received date/time: 10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1186181	1	10/26/18 15:26	11/05/18 17:00	MK
Radiochemistry by Method Calculation	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT
Radiochemistry by Method SM7500Ra B M	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT

RP-3 L1037798-03 Non-Potable Water

Collected by: Andrew Pruitt | Collected date/time: 10/23/18 14:55 | Received date/time: 10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1186181	1	10/26/18 15:26	11/05/18 17:00	MK
Radiochemistry by Method Calculation	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT
Radiochemistry by Method SM7500Ra B M	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT

RP-4 L1037798-04 Non-Potable Water

Collected by: Andrew Pruitt | Collected date/time: 10/23/18 09:51 | Received date/time: 10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1186181	1	10/26/18 15:26	11/05/18 17:00	MK
Radiochemistry by Method Calculation	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT
Radiochemistry by Method SM7500Ra B M	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT

RP-5 L1037798-05 Non-Potable Water

Collected by: Andrew Pruitt | Collected date/time: 10/23/18 10:56 | Received date/time: 10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1186181	1	10/26/18 15:26	11/05/18 17:00	MK
Radiochemistry by Method Calculation	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT
Radiochemistry by Method SM7500Ra B M	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT

RP-6 L1037798-06 Non-Potable Water

Collected by: Andrew Pruitt | Collected date/time: 10/23/18 14:59 | Received date/time: 10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1186181	1	10/26/18 15:26	11/05/18 17:00	MK
Radiochemistry by Method Calculation	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT
Radiochemistry by Method SM7500Ra B M	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT

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RP-7 L1037798-07 Non-Potable Water

Collected by: Andrew Pruitt
Collected date/time: 10/23/18 16:16
Received date/time: 10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1186181	1	10/26/18 15:26	11/05/18 17:00	MK
Radiochemistry by Method Calculation	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT
Radiochemistry by Method SM7500Ra B M	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT

RP-8 L1037798-08 Non-Potable Water

Collected by: Andrew Pruitt
Collected date/time: 10/23/18 13:50
Received date/time: 10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1186181	1	10/26/18 15:26	11/05/18 17:00	MK
Radiochemistry by Method Calculation	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT
Radiochemistry by Method SM7500Ra B M	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT

RP-9 L1037798-09 Non-Potable Water

Collected by: Andrew Pruitt
Collected date/time: 10/23/18 13:10
Received date/time: 10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1186181	1	10/26/18 15:26	11/08/18 11:22	MK
Radiochemistry by Method Calculation	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT
Radiochemistry by Method SM7500Ra B M	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT

RP-10 L1037798-10 Non-Potable Water

Collected by: Andrew Pruitt
Collected date/time: 10/23/18 12:15
Received date/time: 10/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Radiochemistry by Method 904	WG1186181	1	10/26/18 15:26	11/07/18 13:23	MK
Radiochemistry by Method Calculation	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT
Radiochemistry by Method SM7500Ra B M	WG1186493	1	10/30/18 14:28	11/13/18 13:59	RGT

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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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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.

Mark W. Beasley
Project Manager

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.655		0.735	1.09	11/05/2018 17:00	WG1186181
(T) Barium	*100*			*30.0-110*	*11/05/2018 17:00*	WG1186181
(T) Yttrium	*100*			*30.0-110*	*11/05/2018 17:00*	WG1186181

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0275		0.855	1.33	11/13/2018 13:59	WG1186493

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0275		0.120	0.238	11/13/2018 13:59	WG1186493
(T) Barium-133	*100*			*30.0-110*	*11/13/2018 13:59*	WG1186493

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.460		0.424	0.586	11/05/2018 17:00	WG1186181
(T) Barium	*100*			*30.0-110*	*11/05/2018 17:00*	WG1186181
(T) Yttrium	*100*			*30.0-110*	*11/05/2018 17:00*	WG1186181

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0673		0.574	0.846	11/13/2018 13:59	WG1186493

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0673		0.150	0.26	11/13/2018 13:59	WG1186493
(T) Barium-133	*100*			*30.0-110*	*11/13/2018 13:59*	WG1186493

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.0605		0.414	0.503	11/05/2018 17:00	WG1186181
(T) Barium	*100*			*30.0-110*	*11/05/2018 17:00*	WG1186181
(T) Yttrium	*100*			*30.0-110*	*11/05/2018 17:00*	WG1186181

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0877		0.594	0.793	11/13/2018 13:59	WG1186493

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0877		0.180	0.29	11/13/2018 13:59	WG1186493
(T) Barium-133	*100*			*30.0-110*	*11/13/2018 13:59*	WG1186493

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.364		0.355	0.494	11/05/2018 17:00	WG1186181
(T) Barium	*100*			*30.0-110*	*11/05/2018 17:00*	WG1186181
(T) Yttrium	*100*			*30.0-110*	*11/05/2018 17:00*	WG1186181

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0278		0.477	0.735	11/13/2018 13:59	WG1186493

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0278		0.122	0.241	11/13/2018 13:59	WG1186493
(T) Barium-133	*100*			*30.0-110*	*11/13/2018 13:59*	WG1186493

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.467		0.426	0.51	11/05/2018 17:00	WG1186181
(T) Barium	*100*			*30.0-110*	*11/05/2018 17:00*	WG1186181
(T) Yttrium	*100*			*30.0-110*	*11/05/2018 17:00*	WG1186181

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.37		0.762	0.677	11/13/2018 13:59	WG1186493

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.904		0.336	0.167	11/13/2018 13:59	WG1186493
(T) Barium-133	*100*			*30.0-110*	*11/13/2018 13:59*	WG1186493

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Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.412		0.445	0.664	11/05/2018 17:00	WG1186181
(T) Barium	*100*			*30.0-110*	*11/05/2018 17:00*	WG1186181
(T) Yttrium	*100*			*30.0-110*	*11/05/2018 17:00*	WG1186181

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.194		0.595	0.795	11/13/2018 13:59	WG1186493

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.194		0.150	0.131	11/13/2018 13:59	WG1186493
(T) Barium-133	*100*			*30.0-110*	*11/13/2018 13:59*	WG1186493

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.732		0.632	0.785	11/05/2018 17:00	WG1186181
(T) Barium	*100*			*30.0-110*	*11/05/2018 17:00*	WG1186181
(T) Yttrium	*75.0*			*30.0-110*	*11/05/2018 17:00*	WG1186181

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.780		0.854	1.14	11/13/2018 13:59	WG1186493

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0478		0.222	0.354	11/13/2018 13:59	WG1186493
(T) Barium-133	*99.9*			*30.0-110*	*11/13/2018 13:59*	WG1186493

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-3.76		0.434	0.721	11/05/2018 17:00	WG1186181
(T) Barium	*100*			*30.0-110*	*11/05/2018 17:00*	WG1186181
(T) Yttrium	*74.4*			*30.0-110*	*11/05/2018 17:00*	WG1186181

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.305		0.690	1.01	11/13/2018 13:59	WG1186493

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.305		0.256	0.287	11/13/2018 13:59	WG1186493
(T) Barium-133	*79.4*			*30.0-110*	*11/13/2018 13:59*	WG1186493

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.192		0.441	0.646	11/08/2018 11:22	WG1186181
(T) Barium	*100*			*30.0-110*	*11/08/2018 11:22*	WG1186181
(T) Yttrium	*99.8*			*30.0-110*	*11/08/2018 11:22*	WG1186181

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.121		0.606	0.884	11/13/2018 13:59	WG1186493

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.121		0.165	0.238	11/13/2018 13:59	WG1186493
(T) Barium-133	*100*			*30.0-110*	*11/13/2018 13:59*	WG1186493

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.822		0.355	0.602	11/07/2018 13:23	WG1186181
(T) Barium	*100*			*30.0-110*	*11/07/2018 13:23*	WG1186181
(T) Yttrium	*100*			*30.0-110*	*11/07/2018 13:23*	WG1186181

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.13		0.556	0.77	11/13/2018 13:59	WG1186493

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.305		0.201	0.168	11/13/2018 13:59	WG1186493
(T) Barium-133	*100*			*30.0-110*	*11/13/2018 13:59*	WG1186493

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Method Blank (MB)

(MB) R3359107-1 11/05/18 17:00

Analyte	MB Result	MB Qualifier	MB MDA
	pCi/l		pCi/l
Radium-228	-0.358		0.402
(T) Barium	*100*		
(T) Yttrium	*100*		

L1037791-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1037791-02 11/05/18 17:00 • (DUP) R3359107-5 11/05/18 17:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	pCi/l		%			%	pCi/l
Radium-228	0.195	1.32	1	149	1.79		20	3
(T) Barium	*100*	*100*						
(T) Yttrium	*100*	*100*						

Laboratory Control Sample (LCS)

(LCS) R3359107-2 11/05/18 17:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-228	5.00	4.50	90.0	80.0-120	
(T) Barium			*100*		
(T) Yttrium			*100*		

L1037791-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1037791-01 11/05/18 17:00 • (MS) R3359107-3 11/05/18 17:00 • (MSD) R3359107-4 11/05/18 17:00

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
	pCi/l	pCi/l	pCi/l	pCi/l	%	%		%			%		%
Radium-228	20.0	-0.151	21.6	20.0	108	100	1	70.0-130			7.49		20
(T) Barium		*100*			*100*	*100*							
(T) Yttrium		*100*			*100*	*100*							

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Method Blank (MB)

(MB) R3360238-1 11/13/18 13:59

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-226	-0.00170		0.0392
(T) Barium-133	*98.9*		

L1037355-18 Original Sample (OS) • Duplicate (DUP)

(OS) L1037355-18 11/13/18 13:59 • (DUP) R3360238-5 11/13/18 13:59

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit pCi/l
Radium-226	0.0785	0.188	1	82.3	0.476		20	3
(T) Barium-133	*100*	*100*						

Laboratory Control Sample (LCS)

(LCS) R3360238-2 11/13/18 13:59

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	4.83	96.2	80.0-120	
(T) Barium-133			*100*		

L1037798-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1037798-01 11/13/18 13:59 • (MS) R3360238-3 11/13/18 13:59 • (MSD) R3360238-4 11/13/18 13:59

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.1	0.0275	19.4	18.7	96.4	92.8	1	75.0-125			3.83		20
(T) Barium-133		*100*			*100*	*88.2*							

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Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
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

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

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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	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

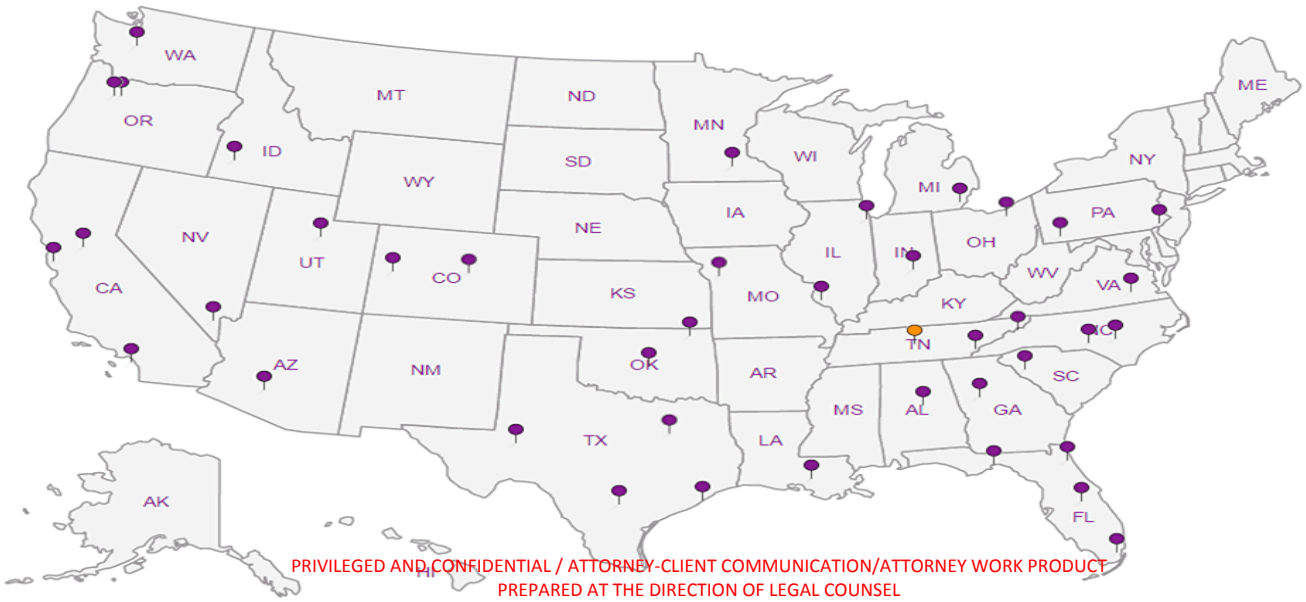
Third Party Federal Accreditations

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.



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FTN Associates - Little Rock, AR

3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Report to: Dana Derrington

Email To: dld@ftn-assoc.com, hlf@ftn-assoc.com, ajp@ftn-assoc.com

Project Description: Entergy Independence Landfill

City/State Collected: Newark, AR

Phone: 501-902-9642
Fax:

Client Project # 7920-1844-002

Lab Project # FTNLRAR-ENTERGYINDY

Collected by (print): Andrew Pruitt

Site/Facility ID # Intergy Independence

P.O. #

Collected by (signature): Andrew Pruitt

Immediately Packed on Ice N ___ Y ✓

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

Date Results Needed

Quote #

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Cl, Fl, SO4, TDS 250mlHDFE-NoPres	Metals 250miHDPE-HNO3	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add HNO3							Remarks	Sample # (lab only)
RP-1	Grab	GW		10/23/14	1000	4	X	X	X	X								01
RP-2		GW			1120	4	X	X	X	X								02
RP-3		GW			1455	4	X	X	X	X								03
RP-4		GW			0951	4	X	X	X	X								04
RP-5		GW		10/23/14	1056	4	X	X	X	X								05
RP-6		GW			1459	4	X	X	X	X								06
RP-7		GW			1616	4	X	X	X	X								07
RP-8		GW			1350	4	X	X	X	X								08
RP-9		GW			1310	4	X	X	X	X								09
RP-10	↓	GW		↓	1215	4	X	X	X	X								10

Chain of Custody Page 1 of 1

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 163794

Table #

Acctnum: FTNLRAR
Template: T141998
Prelogin: P677296
TSR: 134 - Mark W. Beasley
PB: 10-17-186
Shipped Via: FedEX Ground

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

Remarks:Metals= As,Ba,Be,B,Ca,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl
RAD SCREEN: <0.5 mR/hr

pH _____ Temp _____
2.2+0.2 Flow _____ Other _____

Samples returned via:
__ UPS X FedEx __ Courier

Tracking # 4624 2998 6570 6269 6580 05 tote

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Andrew Pruitt	10/23/14	1930	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 2.1 °C Bottles Received: 40

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Date: 10/24/14 Time: 0845

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Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

March 13, 2019

FTN Associates - Little Rock, AR

Sample Delivery Group:	L1074980
Samples Received:	03/02/2019
Project Number:	7920-1993-001
Description:	Entergy Independence Landfill

Report To: Dana Derrington
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Entire Report Reviewed By:

Mark W. Beasley
Project Manager

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



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RP-1 L1074980-01 GW

Collected by: Michael Clayton
Collected date/time: 03/01/19 15:40
Received date/time: 03/02/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1246056	1	03/07/19 19:53	03/07/19 23:39	AEC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1244717	1	03/05/19 02:49	03/05/19 02:49	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1244713	1	03/04/19 09:56	03/04/19 21:35	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1244553	1	03/05/19 14:44	03/06/19 22:08	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1245936	1	03/06/19 12:28	03/06/19 17:53	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1245243	1	03/05/19 14:02	03/06/19 21:25	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1245243	1	03/05/19 14:02	03/07/19 00:10	LD	Mt. Juliet, TN

RP-2 L1074980-02 GW

Collected by: Michael Clayton
Collected date/time: 02/26/19 11:20
Received date/time: 03/02/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1244828	1	03/05/19 21:09	03/05/19 22:49	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1244717	1	03/05/19 03:04	03/05/19 03:04	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1244713	1	03/04/19 09:56	03/04/19 21:37	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1244553	1	03/05/19 14:44	03/06/19 22:11	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1245936	1	03/06/19 12:28	03/06/19 18:00	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1245243	1	03/05/19 14:02	03/06/19 21:30	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1245243	1	03/05/19 14:02	03/07/19 00:14	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1248780	1	03/13/19 08:04	03/13/19 13:16	JPD	Mt. Juliet, TN

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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.

Mark W. Beasley
Project Manager

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	205000		2820	10000	1	03/07/2019 23:39	WG1246056

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6520		51.9	1000	1	03/05/2019 02:49	WG1244717
Fluoride	106		9.90	100	1	03/05/2019 02:49	WG1244717
Sulfate	14800		77.4	5000	1	03/05/2019 02:49	WG1244717

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/04/2019 21:35	WG1244713

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	44.7	J	12.6	200	1	03/06/2019 22:08	WG1244553
Calcium	46200		46.3	1000	1	03/06/2019 17:53	WG1245936
Lithium	5.86	J	5.30	15.0	1	03/06/2019 22:08	WG1244553
Molybdenum	U		1.60	5.00	1	03/06/2019 17:53	WG1245936

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/06/2019 21:25	WG1245243
Arsenic	U		0.250	2.00	1	03/06/2019 21:25	WG1245243
Barium	42.7		0.360	5.00	1	03/07/2019 00:10	WG1245243
Beryllium	U		0.120	2.00	1	03/07/2019 00:10	WG1245243
Cadmium	U		0.160	1.00	1	03/06/2019 21:25	WG1245243
Chromium	1.20	B J	0.540	2.00	1	03/06/2019 21:25	WG1245243
Cobalt	U		0.260	2.00	1	03/06/2019 21:25	WG1245243
Lead	U		0.240	2.00	1	03/06/2019 21:25	WG1245243
Selenium	2.04		0.380	2.00	1	03/06/2019 21:25	WG1245243
Thallium	U		0.190	2.00	1	03/07/2019 00:10	WG1245243

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	173000		2820	10000	1	03/05/2019 22:49	WG1244828

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	867	J	51.9	1000	1	03/05/2019 03:04	WG1244717
Fluoride	112		9.90	100	1	03/05/2019 03:04	WG1244717
Sulfate	24000		77.4	5000	1	03/05/2019 03:04	WG1244717

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/04/2019 21:37	WG1244713

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	150	J	12.6	200	1	03/06/2019 22:11	WG1244553
Calcium	27400		46.3	1000	1	03/06/2019 18:00	WG1245936
Lithium	12.0	J	5.30	15.0	1	03/06/2019 22:11	WG1244553
Molybdenum	U		1.60	5.00	1	03/06/2019 18:00	WG1245936

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/06/2019 21:30	WG1245243
Arsenic	0.471	J	0.250	2.00	1	03/06/2019 21:30	WG1245243
Barium	54.4		0.360	5.00	1	03/07/2019 00:14	WG1245243
Beryllium	U		0.120	2.00	1	03/07/2019 00:14	WG1245243
Cadmium	U		0.160	1.00	1	03/06/2019 21:30	WG1245243
Chromium	3.14		0.540	2.00	1	03/13/2019 13:16	WG1248780
Cobalt	U		0.260	2.00	1	03/06/2019 21:30	WG1245243
Lead	0.246	J	0.240	2.00	1	03/06/2019 21:30	WG1245243
Selenium	8.43		0.380	2.00	1	03/06/2019 21:30	WG1245243
Thallium	U		0.190	2.00	1	03/07/2019 00:14	WG1245243

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Method Blank (MB)

(MB) R3389690-1 03/05/19 22:49

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1074507-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1074507-01 03/05/19 22:49 • (DUP) R3389690-3 03/05/19 22:49

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1170000	1180000	1	1.36		5

Laboratory Control Sample (LCS)

(LCS) R3389690-2 03/05/19 22:49

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8730000	99.2	85.0-115	

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Method Blank (MB)

(MB) R3390172-1 03/07/19 23:39

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1075168-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1075168-04 03/07/19 23:39 • (DUP) R3390172-3 03/07/19 23:39

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1700000	1720000	1	0.878		5

Laboratory Control Sample (LCS)

(LCS) R3390172-2 03/07/19 23:39

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8720000	99.1	85.0-115	

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Method Blank (MB)

(MB) R3388746-1 03/04/19 22:21

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

L1074969-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1074969-01 03/05/19 00:05 • (DUP) R3388746-3 03/05/19 00:20

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	44300	44500	1	0.480		15
Fluoride	122	123	1	0.489		15

L1074997-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1074997-06 03/05/19 05:03 • (DUP) R3388746-6 03/05/19 05:18

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	5170	5330	1	3.04		15
Fluoride	75.6	86.0	1	12.9	J	15
Sulfate	2530	2590	1	2.20	J	15

L1074969-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1074969-01 03/05/19 07:17 • (DUP) R3388746-8 03/05/19 07:32

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Sulfate	189000	189000	5	0.188		15

Laboratory Control Sample (LCS)

(LCS) R3388746-2 03/04/19 22:36

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Chloride	40000	40200	100	80.0-120	
Fluoride	8000	8370	105	80.0-120	
Sulfate	40000	40900	102	80.0-120	

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L1074969-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1074969-01 03/05/19 00:05 • (MS) R3388746-4 03/05/19 00:35 • (MSD) R3388746-5 03/05/19 01:20

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	44300	94200	93700	99.7	98.8	1	80.0-120			0.515	15
Fluoride	5000	122	5110	5030	99.8	98.1	1	80.0-120			1.72	15
Sulfate	50000	198000	241000	241000	85.0	84.7	1	80.0-120	E	E	0.0463	15

L1074997-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1074997-06 03/05/19 05:03 • (MS) R3388746-7 03/05/19 05:33

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	5170	55400	101	1	80.0-120	
Fluoride	5000	75.6	5160	102	1	80.0-120	
Sulfate	50000	2530	53000	101	1	80.0-120	

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Method Blank (MB)

(MB) R3388592-1 03/04/19 20:43

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Mercury	U		0.0490	0.200

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

(LCS) R3388592-2 03/04/19 20:46 • (LCSD) R3388592-3 03/04/19 20:48

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Mercury	3.00	2.95	2.94	98.4	98.0	80.0-120			0.411	20

L1074867-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1074867-01 03/04/19 20:51 • (MS) R3388592-4 03/04/19 20:53 • (MSD) R3388592-5 03/04/19 21:01

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Mercury	3.00	ND	2.56	2.62	85.5	87.3	1	75.0-125			2.09	20

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Method Blank (MB)

(MB) R3389361-1 03/06/19 21:48

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		12.6	200
Lithium	U		5.30	15.0

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

(LCS) R3389361-2 03/06/19 21:51 • (LCSD) R3389361-3 03/06/19 21:53

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Boron	1000	941	927	94.1	92.7	80.0-120			1.56	20
Lithium	1000	947	953	94.7	95.3	80.0-120			0.637	20

L1075050-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1075050-01 03/06/19 21:56 • (MS) R3389361-5 03/06/19 22:01 • (MSD) R3389361-6 03/06/19 22:03

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	530	1480	1540	95.4	101	1	75.0-125			3.96	20
Lithium	1000	67.1	1070	1070	100	100	1	75.0-125			0.0951	20

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Method Blank (MB)

(MB) R3389359-1 03/06/19 17:30

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Calcium	U		46.3	1000
Molybdenum	U		1.60	5.00

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

(LCS) R3389359-2 03/06/19 17:32 • (LCSD) R3389359-3 03/06/19 17:35

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Calcium	10000	9780	9850	97.8	98.5	80.0-120			0.731	20
Molybdenum	1000	991	996	99.1	99.6	80.0-120			0.583	20

L1075741-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1075741-01 03/06/19 17:37 • (MS) R3389359-5 03/06/19 17:42 • (MSD) R3389359-6 03/06/19 17:45

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Calcium	10000	47100	56100	55700	90.0	85.7	1	75.0-125			0.768	20
Molybdenum	1000	ND	989	986	98.9	98.6	1	75.0-125			0.255	20

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Method Blank (MB)

(MB) R3389333-1 03/06/19 19:09

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Antimony	U		0.754	2.00
Arsenic	U		0.250	2.00
Cadmium	U		0.160	1.00
Chromium	3.53		0.540	2.00
Cobalt	U		0.260	2.00
Lead	U		0.240	2.00
Selenium	U		0.380	2.00

Method Blank (MB)

(MB) R3389345-1 03/06/19 23:37

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Barium	U		0.360	5.00
Beryllium	U		0.120	2.00
Thallium	U		0.190	2.00

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

(LCS) R3389333-2 03/06/19 19:14 • (LCSD) R3389333-3 03/06/19 19:18

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Antimony	50.0	56.7	54.6	113	109	80.0-120			3.74	20
Arsenic	50.0	49.1	50.5	98.1	101	80.0-120			2.95	20
Cadmium	50.0	49.9	49.6	99.7	99.2	80.0-120			0.527	20
Chromium	50.0	51.0	53.8	102	108	80.0-120			5.28	20
Cobalt	50.0	49.4	51.9	98.8	104	80.0-120			4.86	20
Lead	50.0	48.4	50.0	96.8	100	80.0-120			3.25	20
Selenium	50.0	50.0	51.5	100	103	80.0-120			2.85	20

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

(LCS) R3389345-2 03/06/19 23:42 • (LCSD) R3389345-3 03/06/19 23:46

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Barium	50.0	48.8	48.9	97.7	97.8	80.0-120			0.109	20
Beryllium	50.0	45.1	46.8	90.2	93.6	80.0-120			3.69	20
Thallium	50.0	46.3	47.4	92.6	94.9	80.0-120			2.36	20

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L1074867-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1074867-06 03/06/19 19:23 • (MS) R3389333-5 03/06/19 19:32 • (MSD) R3389333-6 03/06/19 19:37

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	U	58.0	56.7	116	113	1	75.0-125			2.15	20
Arsenic	50.0	4.55	51.6	51.4	94.1	93.6	1	75.0-125			0.399	20
Cadmium	50.0	U	49.4	49.8	98.7	99.6	1	75.0-125			0.916	20
Chromium	50.0	2.30	49.3	49.3	94.0	94.1	1	75.0-125			0.0866	20
Cobalt	50.0	1.98	50.5	50.0	97.0	96.0	1	75.0-125			0.921	20
Lead	50.0	0.329	50.0	49.6	99.3	98.5	1	75.0-125			0.784	20
Selenium	50.0	2.83	54.2	54.2	103	103	1	75.0-125			0.0138	20

L1074867-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1074867-06 03/06/19 23:51 • (MS) R3389345-5 03/07/19 00:00 • (MSD) R3389345-6 03/07/19 00:05

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	50.0	29.3	77.4	74.3	96.3	90.1	1	75.0-125			4.08	20
Beryllium	50.0	U	46.7	47.8	93.3	95.6	1	75.0-125			2.45	20
Thallium	50.0	U	46.6	46.5	93.1	93.0	1	75.0-125			0.163	20

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Method Blank (MB)

(MB) R3391241-1 03/13/19 12:44

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Chromium	U		0.540	2.00

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

(LCS) R3391241-2 03/13/19 12:48 • (LCSD) R3391241-7 03/13/19 13:36

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Chromium	50.0	49.8	49.1	99.7	98.2	80.0-120			1.48	20

L1077329-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1077329-01 03/13/19 12:57 • (MS) R3391241-5 03/13/19 13:07 • (MSD) R3391241-6 03/13/19 13:11

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Chromium	50.0	2.43	48.7	48.9	92.6	93.0	1	75.0-125			0.416	20

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Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

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.
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
B	The same analyte is found in the associated blank.
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.

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* 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

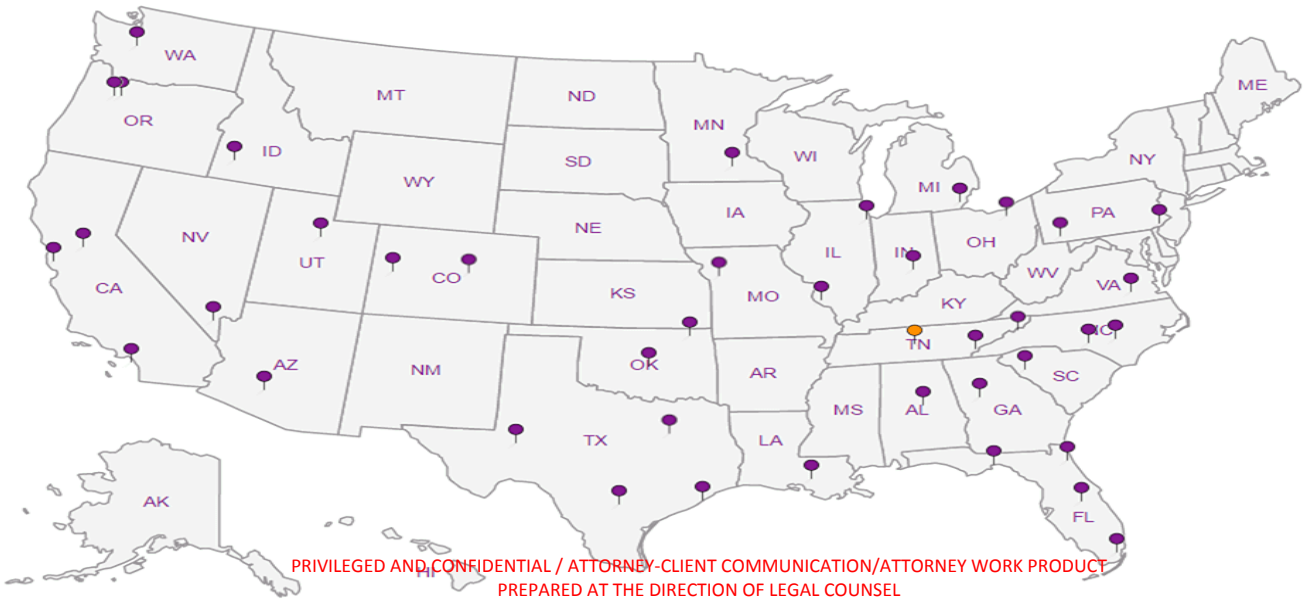
Third Party Federal Accreditations

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.



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FTN Associates - Little Rock, AR

3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Report to: **Dana Derrington**

Email To: **dld@ftn-assoc.com, hlf@ftn-assoc.com, ajp@ftn-assoc.com, mmv@ftn-assoc.com**

Project Description: **Entergy Independence Landfill**

City/State Collected:

Phone: **501-902-9642**
Fax:

Client Project # **7920-1993-001**

Lab Project # **FTNLRAR-ENTERGYINDY**

Collected by (print): Michael Clayton

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Pres Chk	Cl, Fl, SO4, TDS 250mlHDPE-NoPres	Metals 250mlHDPE-HNO3	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
									<2	<2	<2		
RP-1	Grab	GW		3/1/19	1540	4		X	X	X	X		-01
RP-2	Grab	GW		2-26-19	1120	4		X	X	X	X		02
RP-3		GW				4		X	X	X	X		
RP-4		GW				4		X	X	X	X		
RP-5		GW				4		X	X	X	X		
RP-6		GW				4		X	X	X	X		
RP-7		GW				4		X	X	X	X		
RP-8		GW				4		X	X	X	X		
RP-9		GW				4		X	X	X	X		
RP-10		GW				4		X	X	X	X		

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

Remarks:Metals= CCR List (As,Ba,Be,B,Ca,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl)

RAD SCREEN: <0.5 mR/hr

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier __ _____

Tracking # 4757 5092 1933

Relinquished by : (Signature) — Date: 3/1/19 — Time: 1700

Received by: (Signature)

Trip Blank Received: Yes / (No)
HCL / MeoH
TBR

Relinquished by : (Signature) — Date: — Time:

Received by: (Signature)

Temp: 1.9-0.1 °C — Bottles Received: 8

If preservation required by Login: Date/Time

Relinquished by : (Signature) — Date: — Time:

Received for lab by: (Signature) — Date: 3/2/19 — Time: 0845

Hold:

Condition: NCF / OK

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

Chain of Custody Page 1 of 1

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 1074080
H248

Acctnum: **FTNLRAR**
Template: **T141998**
Prelogin: **P694563**
TSR: **134 - Mark W. Beasley**
PB:
Shipped Via: **FedEX Ground**

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ANALYTICAL REPORT

March 12, 2019

FTN Associates - Little Rock, AR

Sample Delivery Group:	L1074981
Samples Received:	03/02/2019
Project Number:	7920-1993-001
Description:	Entergy Independence Landfill

Report To: Dana Derrington
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Entire Report Reviewed By:

Mark W. Beasley
Project Manager

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



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RP-1 L1074981-01 Non-Potable Water

Collected by: Michael Clayton
Collected date/time: 03/01/19 15:40
Received date/time: 03/02/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1245169	1	03/08/19 17:00	03/11/19 11:47	MK	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1245858	1	03/06/19 11:10	03/11/19 11:47	MK	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1245858	1	03/06/19 11:10	03/08/19 11:29	RGT	Mt. Juliet, TN

RP-2 L1074981-02 Non-Potable Water

Collected by: Michael Clayton
Collected date/time: 02/26/19 11:20
Received date/time: 03/02/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1245169	1	03/08/19 17:00	03/11/19 11:47	MK	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1245858	1	03/06/19 11:10	03/11/19 11:47	MK	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1245858	1	03/06/19 11:10	03/08/19 11:29	RGT	Mt. Juliet, TN

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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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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.

Mark W. Beasley
Project Manager

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.629		0.522	0.602	03/11/2019 11:47	WG1245169
(T) Barium	*104*			*62.0-143*	*03/11/2019 11:47*	WG1245169
(T) Yttrium	*102*			*79.0-136*	*03/11/2019 11:47*	WG1245169

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.758		0.717	0.889	03/11/2019 11:47	WG1245858

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.128		0.195	0.287	03/08/2019 11:29	WG1245858
(T) Barium-133	*86.6*			*30.0-110*	*03/08/2019 11:29*	WG1245858

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.497		0.373	0.486	03/11/2019 11:47	WG1245169
(T) Barium	*101*			*62.0-143*	*03/11/2019 11:47*	WG1245169
(T) Yttrium	*101*			*79.0-136*	*03/11/2019 11:47*	WG1245169

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.497		0.434	0.719	03/11/2019 11:47	WG1245858

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	-0.0241		0.0610	0.233	03/08/2019 11:29	WG1245858
(T) Barium-133	*79.8*			*30.0-110*	*03/08/2019 11:29*	WG1245858

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Method Blank (MB)

(MB) R3390595-1 03/11/19 11:47

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-228	0.350		0.406
(T) Barium	*108*		
(T) Yttrium	*107*		

L1071255-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1071255-10 03/11/19 11:47 • (DUP) R3390595-5 03/11/19 11:47

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.793	0.00858	1	196	1.29		20	3
(T) Barium	*85.3*	*98.2*						
(T) Yttrium	*96.4*	*119*						

Laboratory Control Sample (LCS)

(LCS) R3390595-2 03/11/19 11:47

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.07	101	80.0-120	
(T) Barium			*101*		
(T) Yttrium			*95.2*		

L1071526-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1071526-03 03/11/19 11:47 • (MS) R3390595-3 03/11/19 11:47 • (MSD) R3390595-4 03/11/19 11:47

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	20.0	-0.0757	17.0	16.8	84.8	84.0	1	70.0-130			1.01		20
(T) Barium		*107*			*99.4*	*98.8*							
(T) Yttrium		*102*			*105*	*111*							

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Method Blank (MB)

(MB) R3390561-5 03/08/19 19:15

Analyte	MB Result	MB Qualifier	MB MDA
	pCi/l		pCi/l
Radium-226	0.00378		0.0418
(T) Barium-133	*93.1*		

L1074981-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1074981-02 03/08/19 11:29 • (DUP) R3390561-4 03/08/19 11:29

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	pCi/l		%			%	
Radium-226	-0.0241	0.0912	1	200	0.818		20	3
(T) Barium-133	*79.8*	*97.6*						

Laboratory Control Sample (LCS)

(LCS) R3390561-1 03/08/19 11:29

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-226	5.02	4.96	98.8	80.0-120	
(T) Barium-133			*90.0*		

L1074981-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1074981-01 03/08/19 11:29 • (MS) R3390561-2 03/08/19 11:29 • (MSD) R3390561-3 03/08/19 11:29

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
	pCi/l	pCi/l	pCi/l	pCi/l	%	%		%			%		%
Radium-226	20.1	0.128	17.5	19.1	86.4	94.2	1	75.0-125			8.59		20
(T) Barium-133		*86.6*			*90.7*	*80.8*							

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Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
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

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

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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

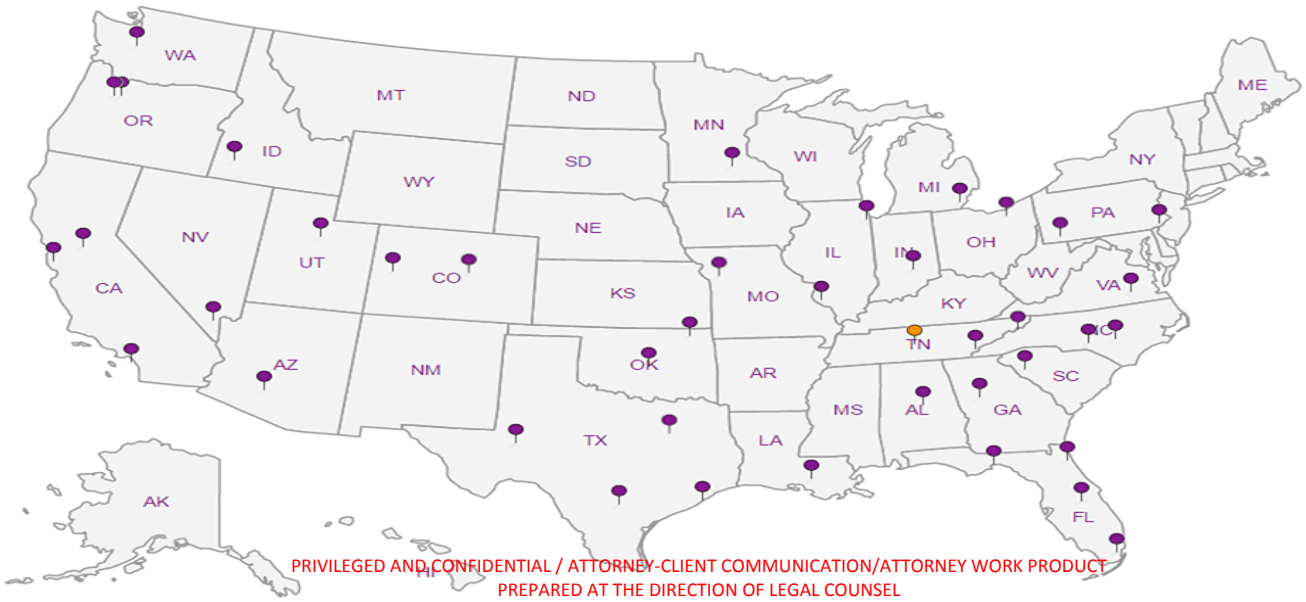
Third Party Federal Accreditations

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.



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FTN Associates - Little Rock, AR
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Report to: Dana Derrington

Email To: dld@ftn-assoc.com, hlf@ftn-assoc.com, ajp@ftn-assoc.com, mmv@ftn-assoc.com

Project Description: Entergy Independence Landfill

City/State Collected:

Phone: 501-902-9642
Fax:

Client Project # 7920-1993-001

Lab Project # FTNLRAR-ENTERGYINDY

Collected by (print): Michael Clayton

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

Chain of Custody Page 1 of 1

Pace Analytical® National Center for Testing & Innovation
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 1074981
H248

Acctnum: FTNLRAR
Template: T141998
Prelogin: P694563
TSR: 134 - Mark W. Beasley
PB:
Shipped Via: FedEx Ground

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Cl,Fl,SO4,TDS 250mlHDPE-NoPres	Metals 250mlHDPE-HNO3	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add HNO3	Pres Chk				Remarks	Sample # (lab only)
									<2	<2						
RP-1	GRAB	GW		3/1/19	1540	4	X	X	X	X						-01
RP-2	GRAB	GW		2-26-19	1120	4	X	X	X	X						02
RP-3		GW				4	X	X	X	X						
RP-4		GW				4	X	X	X	X						
RP-5		GW				4	X	X	X	X						
RP-6		GW				4	X	X	X	X						
RP-7		GW				4	X	X	X	X						
RP-8		GW				4	X	X	X	X						
RP-9		GW				4	X	X	X	X						
RP-10		GW				4	X	X	X	X						

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

Remarks: Metals= CCR List (As,Ba,Be,B,Ca,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl)

RAD SCREEN: <0.5 mR/hr

pH ___ Temp ___
Flow ___ Other ___

Samples returned via:
__ UPS ✓ FedEx __ Courier __ ____

Tracking # 4757 5092 1933

Trip Blank Received: Yes / (No)
HCL / MeoH
TBR

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	3/1/19	1700	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			[signature] Fawn

Temp: 1.9-0.1 PJC Bottles Received: 8
Date: 3/2/19 Time: 0845

If preservation required by Login: Date/Time

Hold: Condition: NCF / (OK)

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Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

March 25, 2019

FTN Associates - Little Rock, AR

Sample Delivery Group:	L1076350
Samples Received:	03/07/2019
Project Number:	7920-1993-001
Description:	Entergy Independence Landfill

Report To: Dana Derrington
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Entire Report Reviewed By:

Mark W. Beasley
Project Manager

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



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RP-3 L1076350-01 GW

Collected by: Michael Clayton | Collected date/time: 03/04/19 14:00 | Received date/time: 03/07/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1247409	1	03/11/19 10:12	03/11/19 11:02	AJS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1247148	1	03/09/19 15:36	03/09/19 15:36	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1246712	1	03/07/19 19:47	03/08/19 11:14	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1246970	1	03/09/19 11:34	03/12/19 18:56	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1247355	1	03/09/19 08:23	03/09/19 15:55	LD	Mt. Juliet, TN

RP-4 L1076350-02 GW

Collected by: Michael Clayton | Collected date/time: 03/04/19 14:50 | Received date/time: 03/07/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1247409	1	03/11/19 10:12	03/11/19 11:02	AJS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1247148	1	03/09/19 15:51	03/09/19 15:51	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1247148	5	03/10/19 14:44	03/10/19 14:44	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1246712	1	03/07/19 19:47	03/08/19 11:16	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1246970	1	03/09/19 11:34	03/12/19 18:59	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1247355	1	03/09/19 08:23	03/09/19 16:02	LD	Mt. Juliet, TN

RP-5 L1076350-03 GW

Collected by: Michael Clayton | Collected date/time: 03/04/19 15:40 | Received date/time: 03/07/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1247409	1	03/11/19 10:12	03/11/19 11:02	AJS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1247148	1	03/09/19 16:35	03/09/19 16:35	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1247148	5	03/09/19 16:50	03/09/19 16:50	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1246712	1	03/07/19 19:47	03/08/19 11:19	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1246970	1	03/09/19 11:34	03/12/19 19:02	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1247355	1	03/09/19 08:23	03/09/19 16:07	LD	Mt. Juliet, TN

RP-6 L1076350-04 GW

Collected by: Michael Clayton | Collected date/time: 03/05/19 11:30 | Received date/time: 03/07/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1247409	1	03/11/19 10:12	03/11/19 11:02	AJS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1247148	1	03/09/19 17:05	03/09/19 17:05	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1247148	5	03/09/19 17:20	03/09/19 17:20	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1246712	1	03/07/19 19:47	03/08/19 11:21	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1246970	1	03/09/19 11:34	03/12/19 19:09	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1247355	1	03/09/19 08:23	03/09/19 16:11	LD	Mt. Juliet, TN

RP-7 L1076350-05 GW

Collected by: Michael Clayton | Collected date/time: 03/05/19 12:30 | Received date/time: 03/07/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1247409	1	03/11/19 10:12	03/11/19 11:02	AJS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1247148	1	03/09/19 17:35	03/09/19 17:35	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1247148	5	03/10/19 14:59	03/10/19 14:59	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1246712	1	03/07/19 19:47	03/08/19 11:24	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1246970	1	03/09/19 11:34	03/12/19 19:12	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1247355	1	03/09/19 08:23	03/09/19 16:16	LD	Mt. Juliet, TN

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RP-8 L1076350-06 GW

Collected by: Michael Clayton
Collected date/time: 03/05/19 13:25
Received date/time: 03/07/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1247409	1	03/11/19 10:12	03/11/19 11:02	AJS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1247148	1	03/09/19 17:50	03/09/19 17:50	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1246712	1	03/07/19 19:47	03/08/19 11:26	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1246970	1	03/09/19 11:34	03/12/19 19:15	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1247355	1	03/09/19 08:23	03/09/19 16:21	LD	Mt. Juliet, TN

RP-9 L1076350-07 GW

Collected by: Michael Clayton
Collected date/time: 03/05/19 14:20
Received date/time: 03/07/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1247409	1	03/11/19 10:12	03/11/19 11:02	AJS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1247148	1	03/09/19 18:05	03/09/19 18:05	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1246712	1	03/07/19 19:47	03/08/19 11:28	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1246970	1	03/09/19 11:34	03/12/19 19:17	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1247355	1	03/09/19 08:23	03/09/19 16:25	LD	Mt. Juliet, TN

RP-10 L1076350-08 GW

Collected by: Michael Clayton
Collected date/time: 03/05/19 15:15
Received date/time: 03/07/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1247409	1	03/11/19 10:12	03/11/19 11:02	AJS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1247148	1	03/09/19 18:20	03/09/19 18:20	MCG	Mt. Juliet, TN
Mercury by Method 7470A	WG1246712	1	03/07/19 19:47	03/08/19 11:31	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1246970	1	03/09/19 11:34	03/12/19 19:20	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1247355	1	03/09/19 08:23	03/09/19 16:30	LD	Mt. Juliet, TN

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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.

Mark W. Beasley
Project Manager

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	191000		2820	10000	1	03/11/2019 11:02	WG1247409

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	4440		51.9	1000	1	03/09/2019 15:36	WG1247148
Fluoride	92.2	J	9.90	100	1	03/09/2019 15:36	WG1247148
Sulfate	8420		77.4	5000	1	03/09/2019 15:36	WG1247148

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/08/2019 11:14	WG1246712

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	50.7	J	12.6	200	1	03/12/2019 18:56	WG1246970
Calcium	46800		46.3	1000	1	03/12/2019 18:56	WG1246970
Lithium	11.5	J	5.30	15.0	1	03/12/2019 18:56	WG1246970
Molybdenum	U		1.60	5.00	1	03/12/2019 18:56	WG1246970

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/09/2019 15:55	WG1247355
Arsenic	U		0.250	2.00	1	03/09/2019 15:55	WG1247355
Barium	27.9		0.360	5.00	1	03/09/2019 15:55	WG1247355
Beryllium	U		0.120	2.00	1	03/09/2019 15:55	WG1247355
Cadmium	U		0.160	1.00	1	03/09/2019 15:55	WG1247355
Chromium	U		0.540	2.00	1	03/09/2019 15:55	WG1247355
Cobalt	U		0.260	2.00	1	03/09/2019 15:55	WG1247355
Lead	U		0.240	2.00	1	03/09/2019 15:55	WG1247355
Selenium	1.56	J	0.380	2.00	1	03/09/2019 15:55	WG1247355
Thallium	U		0.190	2.00	1	03/09/2019 15:55	WG1247355

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	393000		2820	10000	1	03/11/2019 11:02	WG1247409

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	9020		51.9	1000	1	03/09/2019 15:51	WG1247148
Fluoride	212		9.90	100	1	03/09/2019 15:51	WG1247148
Sulfate	134000		387	25000	5	03/10/2019 14:44	WG1247148

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/08/2019 11:16	WG1246712

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	425		12.6	200	1	03/12/2019 18:59	WG1246970
Calcium	76000		46.3	1000	1	03/12/2019 18:59	WG1246970
Lithium	11.5	J	5.30	15.0	1	03/12/2019 18:59	WG1246970
Molybdenum	U		1.60	5.00	1	03/12/2019 18:59	WG1246970

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/09/2019 16:02	WG1247355
Arsenic	U		0.250	2.00	1	03/09/2019 16:02	WG1247355
Barium	34.9		0.360	5.00	1	03/09/2019 16:02	WG1247355
Beryllium	U		0.120	2.00	1	03/09/2019 16:02	WG1247355
Cadmium	U		0.160	1.00	1	03/09/2019 16:02	WG1247355
Chromium	U		0.540	2.00	1	03/09/2019 16:02	WG1247355
Cobalt	U		0.260	2.00	1	03/09/2019 16:02	WG1247355
Lead	U		0.240	2.00	1	03/09/2019 16:02	WG1247355
Selenium	2.10		0.380	2.00	1	03/09/2019 16:02	WG1247355
Thallium	U		0.190	2.00	1	03/09/2019 16:02	WG1247355

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	704000		2820	10000	1	03/11/2019 11:02	WG1247409

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	16500		51.9	1000	1	03/09/2019 16:35	WG1247148
Fluoride	273		9.90	100	1	03/09/2019 16:35	WG1247148
Sulfate	370000		387	25000	5	03/09/2019 16:50	WG1247148

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/08/2019 11:19	WG1246712

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	1300		12.6	200	1	03/12/2019 19:02	WG1246970
Calcium	107000		46.3	1000	1	03/12/2019 19:02	WG1246970
Lithium	14.0	J	5.30	15.0	1	03/12/2019 19:02	WG1246970
Molybdenum	5.25		1.60	5.00	1	03/12/2019 19:02	WG1246970

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/09/2019 16:07	WG1247355
Arsenic	0.465	J	0.250	2.00	1	03/09/2019 16:07	WG1247355
Barium	22.4		0.360	5.00	1	03/09/2019 16:07	WG1247355
Beryllium	U		0.120	2.00	1	03/09/2019 16:07	WG1247355
Cadmium	U		0.160	1.00	1	03/09/2019 16:07	WG1247355
Chromium	U		0.540	2.00	1	03/09/2019 16:07	WG1247355
Cobalt	U		0.260	2.00	1	03/09/2019 16:07	WG1247355
Lead	U		0.240	2.00	1	03/09/2019 16:07	WG1247355
Selenium	0.753	J	0.380	2.00	1	03/09/2019 16:07	WG1247355
Thallium	U		0.190	2.00	1	03/09/2019 16:07	WG1247355

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	657000		2820	10000	1	03/11/2019 11:02	WG1247409

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	12700		51.9	1000	1	03/09/2019 17:05	WG1247148
Fluoride	345		9.90	100	1	03/09/2019 17:05	WG1247148
Sulfate	252000		387	25000	5	03/09/2019 17:20	WG1247148

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/08/2019 11:21	WG1246712

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	381		12.6	200	1	03/12/2019 19:09	WG1246970
Calcium	114000		46.3	1000	1	03/12/2019 19:09	WG1246970
Lithium	28.4		5.30	15.0	1	03/12/2019 19:09	WG1246970
Molybdenum	2.13	J	1.60	5.00	1	03/12/2019 19:09	WG1246970

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/09/2019 16:11	WG1247355
Arsenic	0.318	J	0.250	2.00	1	03/09/2019 16:11	WG1247355
Barium	25.1		0.360	5.00	1	03/09/2019 16:11	WG1247355
Beryllium	U		0.120	2.00	1	03/09/2019 16:11	WG1247355
Cadmium	U		0.160	1.00	1	03/09/2019 16:11	WG1247355
Chromium	U		0.540	2.00	1	03/09/2019 16:11	WG1247355
Cobalt	U		0.260	2.00	1	03/09/2019 16:11	WG1247355
Lead	U		0.240	2.00	1	03/09/2019 16:11	WG1247355
Selenium	3.28		0.380	2.00	1	03/09/2019 16:11	WG1247355
Thallium	U		0.190	2.00	1	03/09/2019 16:11	WG1247355

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	419000		2820	10000	1	03/11/2019 11:02	WG1247409

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	8290		51.9	1000	1	03/09/2019 17:35	WG1247148
Fluoride	245		9.90	100	1	03/09/2019 17:35	WG1247148
Sulfate	123000		387	25000	5	03/10/2019 14:59	WG1247148

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/08/2019 11:24	WG1246712

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	203		12.6	200	1	03/12/2019 19:12	WG1246970
Calcium	74900		46.3	1000	1	03/12/2019 19:12	WG1246970
Lithium	20.6		5.30	15.0	1	03/12/2019 19:12	WG1246970
Molybdenum	U		1.60	5.00	1	03/12/2019 19:12	WG1246970

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/09/2019 16:16	WG1247355
Arsenic	U		0.250	2.00	1	03/09/2019 16:16	WG1247355
Barium	20.0		0.360	5.00	1	03/09/2019 16:16	WG1247355
Beryllium	U		0.120	2.00	1	03/09/2019 16:16	WG1247355
Cadmium	U		0.160	1.00	1	03/09/2019 16:16	WG1247355
Chromium	U		0.540	2.00	1	03/09/2019 16:16	WG1247355
Cobalt	U		0.260	2.00	1	03/09/2019 16:16	WG1247355
Lead	U		0.240	2.00	1	03/09/2019 16:16	WG1247355
Selenium	2.52		0.380	2.00	1	03/09/2019 16:16	WG1247355
Thallium	U		0.190	2.00	1	03/09/2019 16:16	WG1247355

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	362000		2820	10000	1	03/11/2019 11:02	WG1247409

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	10400		51.9	1000	1	03/09/2019 17:50	WG1247148
Fluoride	124		9.90	100	1	03/09/2019 17:50	WG1247148
Sulfate	54500		77.4	5000	1	03/09/2019 17:50	WG1247148

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/08/2019 11:26	WG1246712

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	84.5	J	12.6	200	1	03/12/2019 19:15	WG1246970
Calcium	70500		46.3	1000	1	03/12/2019 19:15	WG1246970
Lithium	8.50	J	5.30	15.0	1	03/12/2019 19:15	WG1246970
Molybdenum	U		1.60	5.00	1	03/12/2019 19:15	WG1246970

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/09/2019 16:21	WG1247355
Arsenic	0.294	J	0.250	2.00	1	03/09/2019 16:21	WG1247355
Barium	48.9		0.360	5.00	1	03/09/2019 16:21	WG1247355
Beryllium	U		0.120	2.00	1	03/09/2019 16:21	WG1247355
Cadmium	U		0.160	1.00	1	03/09/2019 16:21	WG1247355
Chromium	U		0.540	2.00	1	03/09/2019 16:21	WG1247355
Cobalt	U		0.260	2.00	1	03/09/2019 16:21	WG1247355
Lead	U		0.240	2.00	1	03/09/2019 16:21	WG1247355
Selenium	5.39		0.380	2.00	1	03/09/2019 16:21	WG1247355
Thallium	U		0.190	2.00	1	03/09/2019 16:21	WG1247355

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	221000		2820	10000	1	03/11/2019 11:02	WG1247409

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	5950		51.9	1000	1	03/09/2019 18:05	WG1247148
Fluoride	98.5	J	9.90	100	1	03/09/2019 18:05	WG1247148
Sulfate	15200		77.4	5000	1	03/09/2019 18:05	WG1247148

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/08/2019 11:28	WG1246712

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	46.6	J	12.6	200	1	03/12/2019 19:17	WG1246970
Calcium	52800		46.3	1000	1	03/12/2019 19:17	WG1246970
Lithium	8.21	J	5.30	15.0	1	03/12/2019 19:17	WG1246970
Molybdenum	U		1.60	5.00	1	03/12/2019 19:17	WG1246970

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/09/2019 16:25	WG1247355
Arsenic	U		0.250	2.00	1	03/09/2019 16:25	WG1247355
Barium	35.0		0.360	5.00	1	03/09/2019 16:25	WG1247355
Beryllium	U		0.120	2.00	1	03/09/2019 16:25	WG1247355
Cadmium	U		0.160	1.00	1	03/09/2019 16:25	WG1247355
Chromium	U		0.540	2.00	1	03/09/2019 16:25	WG1247355
Cobalt	U		0.260	2.00	1	03/09/2019 16:25	WG1247355
Lead	U		0.240	2.00	1	03/09/2019 16:25	WG1247355
Selenium	1.99	J	0.380	2.00	1	03/09/2019 16:25	WG1247355
Thallium	U		0.190	2.00	1	03/09/2019 16:25	WG1247355

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	291000		2820	10000	1	03/11/2019 11:02	WG1247409

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6870		51.9	1000	1	03/09/2019 18:20	WG1247148
Fluoride	133		9.90	100	1	03/09/2019 18:20	WG1247148
Sulfate	55400		77.4	5000	1	03/09/2019 18:20	WG1247148

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/08/2019 11:31	WG1246712

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	235		12.6	200	1	03/12/2019 19:20	WG1246970
Calcium	61600		46.3	1000	1	03/12/2019 19:20	WG1246970
Lithium	10.9	J	5.30	15.0	1	03/12/2019 19:20	WG1246970
Molybdenum	U		1.60	5.00	1	03/12/2019 19:20	WG1246970

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/09/2019 16:30	WG1247355
Arsenic	U		0.250	2.00	1	03/09/2019 16:30	WG1247355
Barium	43.4		0.360	5.00	1	03/09/2019 16:30	WG1247355
Beryllium	U		0.120	2.00	1	03/09/2019 16:30	WG1247355
Cadmium	U		0.160	1.00	1	03/09/2019 16:30	WG1247355
Chromium	U		0.540	2.00	1	03/09/2019 16:30	WG1247355
Cobalt	U		0.260	2.00	1	03/09/2019 16:30	WG1247355
Lead	U		0.240	2.00	1	03/09/2019 16:30	WG1247355
Selenium	1.91	J	0.380	2.00	1	03/09/2019 16:30	WG1247355
Thallium	U		0.190	2.00	1	03/09/2019 16:30	WG1247355

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Method Blank (MB)

(MB) R3390885-1 03/11/19 11:02

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1076350-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1076350-01 03/11/19 11:02 • (DUP) R3390885-3 03/11/19 11:02

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	191000	188000	1	1.58		5

Laboratory Control Sample (LCS)

(LCS) R3390885-2 03/11/19 11:02

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	9250000	105	85.0-115	

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Method Blank (MB)

(MB) R3390267-1 03/09/19 13:05

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

L1076138-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1076138-01 03/09/19 14:22 • (DUP) R3390267-3 03/09/19 14:36

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	11100	11200	1	0.126		15
Fluoride	ND	63.3	1	1.72	J	15
Sulfate	18300	18400	1	0.483		15

L1076350-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1076350-08 03/09/19 18:20 • (DUP) R3390267-6 03/09/19 18:35

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	6870	6900	1	0.472		15
Fluoride	133	134	1	0.747		15
Sulfate	55400	55500	1	0.121		15

Laboratory Control Sample (LCS)

(LCS) R3390267-2 03/09/19 13:20

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39500	98.8	80.0-120	
Fluoride	8000	8210	103	80.0-120	
Sulfate	40000	39700	99.3	80.0-120	

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L1076138-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1076138-01 03/09/19 14:22 • (MS) R3390267-4 03/09/19 14:51

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	11100	60800	99.4	1	80.0-120	
Fluoride	5000	ND	4920	97.2	1	80.0-120	
Sulfate	50000	18300	68400	100	1	80.0-120	

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Method Blank (MB)

(MB) R3389943-1 03/08/19 10:28

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Mercury	U		0.0490	0.200

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

(LCS) R3389943-2 03/08/19 10:30 • (LCSD) R3389943-3 03/08/19 10:32

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Mercury	3.00	2.81	2.83	93.7	94.3	80.0-120			0.734	20

L1076309-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1076309-01 03/08/19 10:40 • (MS) R3389943-4 03/08/19 10:42 • (MSD) R3389943-5 03/08/19 10:45

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Mercury	3.00	3.59	6.62	6.05	101	82.1	1	75.0-125			8.85	20

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Method Blank (MB)

(MB) R3391009-1 03/12/19 18:39

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		12.6	200
Calcium	U		46.3	1000
Lithium	U		5.30	15.0
Molybdenum	U		1.60	5.00

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

(LCS) R3391009-2 03/12/19 18:41 • (LCSD) R3391009-3 03/12/19 18:44

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Boron	1000	963	956	96.3	95.6	80.0-120			0.744	20
Calcium	10000	9450	9500	94.5	95.0	80.0-120			0.479	20
Lithium	1000	977	969	97.7	96.9	80.0-120			0.873	20
Molybdenum	1000	959	956	95.9	95.6	80.0-120			0.287	20

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) • (MS) R3391009-5 03/12/19 18:51 • (MSD) R3391009-6 03/12/19 18:54

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l		ug/l	ug/l	%	%		%			%	%
Boron	1000		1050	1020	96.7	93.8	1	75.0-125			2.84	20
Calcium	10000		115000	114000	80.7	66.6	1	75.0-125		V	1.23	20
Lithium	1000		1010	975	99.6	96.5	1	75.0-125			3.06	20
Molybdenum	1000		970	942	97.0	94.2	1	75.0-125			2.93	20

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Method Blank (MB)

(MB) R3390281-1 03/09/19 14:17

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Antimony	0.780	J	0.754	2.00
Arsenic	U		0.250	2.00
Barium	U		0.360	5.00
Beryllium	U		0.120	2.00
Cadmium	U		0.160	1.00
Chromium	U		0.540	2.00
Cobalt	U		0.260	2.00
Lead	U		0.240	2.00
Selenium	U		0.380	2.00
Thallium	U		0.190	2.00

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

(LCS) R3390281-2 03/09/19 14:22 • (LCSD) R3390281-3 03/09/19 14:27

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	46.5	45.5	93.0	91.0	80.0-120			2.21	20
Arsenic	50.0	44.9	45.7	89.9	91.4	80.0-120			1.64	20
Barium	50.0	43.6	41.7	87.1	83.4	80.0-120			4.32	20
Beryllium	50.0	40.4	40.1	80.9	80.1	80.0-120			0.927	20
Cadmium	50.0	45.8	44.9	91.7	89.8	80.0-120			2.04	20
Chromium	50.0	46.0	46.2	91.9	92.5	80.0-120			0.561	20
Cobalt	50.0	46.2	46.2	92.5	92.5	80.0-120			0.0143	20
Lead	50.0	43.1	45.1	86.2	90.2	80.0-120			4.59	20
Selenium	50.0	42.7	43.2	85.3	86.4	80.0-120			1.28	20
Thallium	50.0	43.8	44.7	87.6	89.3	80.0-120			1.92	20

L1076330-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1076330-05 03/09/19 14:31 • (MS) R3390281-5 03/09/19 14:41 • (MSD) R3390281-6 03/09/19 14:45

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	U	45.9	45.6	91.7	91.2	1	75.0-125			0.581	20
Arsenic	50.0	1.47	44.1	45.3	85.3	87.6	1	75.0-125			2.56	20
Barium	50.0	11.8	56.2	54.8	88.7	85.9	1	75.0-125			2.56	20
Beryllium	50.0	U	41.3	42.0	82.6	84.0	1	75.0-125			1.66	20
Cadmium	50.0	U	45.1	45.5	90.2	91.0	1	75.0-125			0.844	20
Chromium	50.0	U	44.1	44.8	88.2	89.6	1	75.0-125			1.62	20
Cobalt	50.0	U	44.4	44.2	88.7	88.4	1	75.0-125			0.410	20

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L1076330-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1076330-05 03/09/19 14:31 • (MS) R3390281-5 03/09/19 14:41 • (MSD) R3390281-6 03/09/19 14:45

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Lead	50.0	U	44.9	45.8	89.9	91.6	1	75.0-125			1.93	20
Selenium	50.0	U	46.3	40.9	92.5	81.9	1	75.0-125			12.2	20
Thallium	50.0	U	44.0	45.4	88.0	90.7	1	75.0-125			3.03	20

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Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

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.
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.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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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

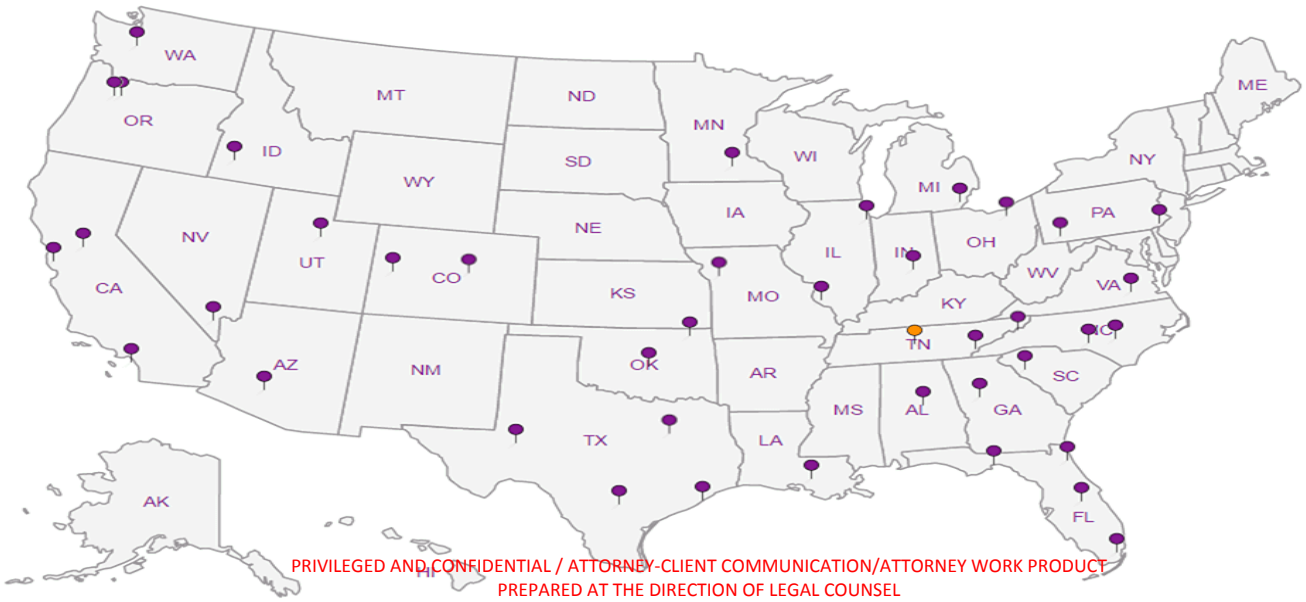
Third Party Federal Accreditations

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.



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FTN Associates - Little Rock, AR
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Report to: Dana Derrington

Email To: dld@ftn-assoc.com, hlf@ftn-assoc.com, ajp@ftn-assoc.com, mmv@ftn-assoc.com

Project Description: Entergy Independence Landfill

City/State Collected:

Phone: 501-902-9642
Fax:

Client Project # 7920-1993-001

Lab Project # FTNLRAR-ENTERGYINDY

Collected by (print): Michael Clayton

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Cl,Fl,SO4,TDS 250mlHDPE-NoPres	Metals 250mlHDPE-HNO3	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add HNO3							Remarks	Sample # (lab only)
							<2	<2	<2									
RP-1		GW				4	X	X	X	X								
RP-2		GW				4	X	X	X	X								01
RP-3	Grab	GW		3-4-19	1400	4	X	X	X	X								02
RP-4		GW		3-4-19	1450	4	X	X	X	X								03
RP-5		GW		3-4-19	1540	4	X	X	X	X								04
RP-6		GW		3-5-19	1130	4	X	X	X	X								05
RP-7		GW		3-5-19	1230	4	X	X	X	X								06
RP-8		GW		3-5-19	1325	4	X	X	X	X								07
RP-9		GW		3-5-19	1420	4	X	X	X	X								08
RP-10		GW		3-5-19	1515	4	X	X	X	X								

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

Remarks: Metals= CCR List (As,Ba,Be,B,Ca,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl)

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier __ _____

Tracking # 4757 5092 1885 1911

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 19.1-2.0 °C Bottles Received: 37

Date: 3/7/19 Time: 0900

Relinquished by : (Signature)
Date: 3-5-19 Time: 1700

Received by: (Signature)

Relinquished by : (Signature)
Date: Time:

Received by: (Signature)

Relinquished by : (Signature)
Date: Time:

Received by: (Signature)

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

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

Chain of Custody Page 1 of 1

Pace Analytical
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 1076350
H105
Acctnum: FTNLRAR
Template: T141998
Prelogin: P694564
TSR: 134 - Mark W. Beasley
PB: TB 2-18-19
Shipped Via: FedEX Ground

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ANALYTICAL REPORT

April 09, 2019

FTN Associates - Little Rock, AR

Sample Delivery Group:	L1076356
Samples Received:	03/07/2019
Project Number:	7920-1993-001
Description:	Entergy Independence Landfill

Report To: Dana Derrington
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Entire Report Reviewed By:

Mark W. Beasley
Project Manager

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



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Cn: Case Narrative 5
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RP-3 L1076356-01 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 03/04/19 14:00 | Received date/time: 03/07/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1257626	1	04/02/19 14:07	04/05/19 14:50	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1251419	1	03/19/19 09:37	04/05/19 14:50	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1251419	1	03/19/19 09:37	03/20/19 12:54	RGT	Mt. Juliet, TN

RP-4 L1076356-02 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 03/04/19 14:50 | Received date/time: 03/07/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1257626	1	04/02/19 14:07	04/05/19 14:50	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1251419	1	03/19/19 09:37	04/05/19 14:50	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1251419	1	03/19/19 09:37	03/20/19 12:54	RGT	Mt. Juliet, TN

RP-5 L1076356-03 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 03/04/19 15:40 | Received date/time: 03/07/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1257626	1	04/02/19 14:07	04/05/19 14:50	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1251419	1	03/19/19 09:37	04/05/19 14:50	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1251419	1	03/19/19 09:37	03/20/19 12:54	RGT	Mt. Juliet, TN

RP-6 L1076356-04 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 03/05/19 11:30 | Received date/time: 03/07/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1257626	1	04/02/19 14:07	04/05/19 14:50	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1251419	1	03/19/19 09:37	04/05/19 14:50	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1251419	1	03/19/19 09:37	03/21/19 12:22	RGT	Mt. Juliet, TN

RP-7 L1076356-05 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 03/05/19 12:30 | Received date/time: 03/07/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1257629	1	04/02/19 14:10	04/05/19 14:20	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1251419	1	03/19/19 09:37	04/05/19 14:20	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1251419	1	03/19/19 09:37	03/20/19 12:54	RGT	Mt. Juliet, TN

RP-8 L1076356-06 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 03/05/19 13:25 | Received date/time: 03/07/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1257629	1	04/02/19 14:10	04/05/19 14:20	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1251419	1	03/19/19 09:37	04/05/19 14:20	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1251419	1	03/19/19 09:37	03/20/19 12:54	RGT	Mt. Juliet, TN

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RP-9 L1076356-07 Non-Potable Water

Collected by: Michael Clayton
Collected date/time: 03/05/19 14:20
Received date/time: 03/07/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1257629	1	04/02/19 14:10	04/05/19 14:20	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1251419	1	03/19/19 09:37	04/05/19 14:20	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1251419	1	03/19/19 09:37	03/20/19 12:54	RGT	Mt. Juliet, TN

RP-10 L1076356-08 Non-Potable Water

Collected by: Michael Clayton
Collected date/time: 03/05/19 15:15
Received date/time: 03/07/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1257629	1	04/02/19 14:10	04/05/19 14:20	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1251419	1	03/19/19 09:37	04/05/19 14:20	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1251419	1	03/19/19 09:37	03/20/19 12:54	RGT	Mt. Juliet, TN

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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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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.

Mark W. Beasley
Project Manager

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.294		0.414	0.571	04/05/2019 14:50	WG1257626
(T) Barium	*112*			*62.0-143*	*04/05/2019 14:50*	WG1257626
(T) Yttrium	*109*			*79.0-136*	*04/05/2019 14:50*	WG1257626

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.315		0.498	0.762	04/05/2019 14:50	WG1251419

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0217		0.0837	0.191	03/20/2019 12:54	WG1251419
(T) Barium-133	*96.3*			*30.0-110*	*03/20/2019 12:54*	WG1251419

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.43		0.403	0.599	04/05/2019 14:50	WG1257626
(T) Barium	*98.0*			*62.0-143*	*04/05/2019 14:50*	WG1257626
(T) Yttrium	*103*			*79.0-136*	*04/05/2019 14:50*	WG1257626

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.43		0.518	0.873	04/05/2019 14:50	WG1251419

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	-0.0218		0.115	0.274	03/20/2019 12:54	WG1251419
(T) Barium-133	*87.2*			*30.0-110*	*03/20/2019 12:54*	WG1251419

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.486		0.436	0.955	04/05/2019 14:50	WG1257626
(T) Barium	*70.2*			*62.0-143*	*04/05/2019 14:50*	WG1257626
(T) Yttrium	*109*			*79.0-136*	*04/05/2019 14:50*	WG1257626

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.587		0.630	1.27	04/05/2019 14:50	WG1251419

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.100		0.194	0.316	03/20/2019 12:54	WG1251419
(T) Barium-133	*84.3*			*30.0-110*	*03/20/2019 12:54*	WG1251419

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.772		0.371	0.555	04/05/2019 14:50	WG1257626
(T) Barium	*94.6*			*62.0-143*	*04/05/2019 14:50*	WG1257626
(T) Yttrium	*113*			*79.0-136*	*04/05/2019 14:50*	WG1257626

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.993		0.580	0.815	04/05/2019 14:50	WG1251419

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.221		0.209	0.26	03/21/2019 12:22	WG1251419
(T) Barium-133	*91.9*			*30.0-110*	*03/21/2019 12:22*	WG1251419

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.519		0.483	0.723	04/05/2019 14:20	WG1257629
(T) Barium	*89.1*			*62.0-143*	*04/05/2019 14:20*	WG1257629
(T) Yttrium	*94.9*			*79.0-136*	*04/05/2019 14:20*	WG1257629

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.519		0.685	1.08	04/05/2019 14:20	WG1251419

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	-0.0117		0.202	0.355	03/20/2019 12:54	WG1251419
(T) Barium-133	*90.5*			*30.0-110*	*03/20/2019 12:54*	WG1251419

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.131		0.441	0.662	04/05/2019 14:20	WG1257629
(T) Barium	*96.1*			*62.0-143*	*04/05/2019 14:20*	WG1257629
(T) Yttrium	*97.2*			*79.0-136*	*04/05/2019 14:20*	WG1257629

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.338		0.663	0.848	04/05/2019 14:20	WG1251419

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.338		0.222	0.186	03/20/2019 12:54	WG1251419
(T) Barium-133	*97.3*			*30.0-110*	*03/20/2019 12:54*	WG1251419

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.631		0.398	0.512	04/05/2019 14:20	WG1257629
(T) Barium	*111*			*62.0-143*	*04/05/2019 14:20*	WG1257629
(T) Yttrium	*105*			*79.0-136*	*04/05/2019 14:20*	WG1257629

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.846		0.596	0.764	04/05/2019 14:20	WG1251419

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.215		0.198	0.252	03/20/2019 12:54	WG1251419
(T) Barium-133	*98.7*			*30.0-110*	*03/20/2019 12:54*	WG1251419

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.788		0.393	0.567	04/05/2019 14:20	WG1257629
(T) Barium	*108*			*62.0-143*	*04/05/2019 14:20*	WG1257629
(T) Yttrium	*97.4*			*79.0-136*	*04/05/2019 14:20*	WG1257629

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.897		0.528	0.753	04/05/2019 14:20	WG1251419

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.109		0.135	0.186	03/20/2019 12:54	WG1251419
(T) Barium-133	*101*			*30.0-110*	*03/20/2019 12:54*	WG1251419

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Method Blank (MB)

(MB) R3399418-1 04/05/19 10:50

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-228	0.581		0.393
(T) Barium	*104*		
(T) Yttrium	*110*		

L1077725-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1077725-01 04/05/19 14:50 • (DUP) R3399418-5 04/05/19 10:50

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	1.77	1.19	1	39.8	0.930		20	3
(T) Barium	*94.4*	*104*						
(T) Yttrium	*99.2*	*95.3*						

Laboratory Control Sample (LCS)

(LCS) R3399418-2 04/05/19 10:50

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.84	117	80.0-120	
(T) Barium			*103*		
(T) Yttrium			*97.7*		

L1076953-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1076953-03 04/05/19 14:50 • (MS) R3399418-3 04/05/19 10:50 • (MSD) R3399418-4 04/05/19 10:50

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	20.0	-0.294	23.1	21.6	116	108	1	70.0-130			6.93		20
(T) Barium		*116*			*111*	*110*							
(T) Yttrium		*109*			*94.4*	*99.0*							

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Method Blank (MB)

(MB) R3399434-1 04/05/19 14:20

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-228	0.0638		0.502
(T) Barium	*98.3*		
(T) Yttrium	*103*		

L1077732-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1077732-02 04/06/19 12:50 • (DUP) R3399434-5 04/05/19 14:20

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	1.77	0.715	1	85.1	1.50		20	3
(T) Barium	*108*	*111*						
(T) Yttrium	*114*	*104*						

Laboratory Control Sample (LCS)

(LCS) R3399434-2 04/05/19 14:20

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.83	117	80.0-120	
(T) Barium			*105*		
(T) Yttrium			*101*		

L1076953-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1076953-02 04/06/19 12:50 • (MS) R3399434-3 04/05/19 14:20 • (MSD) R3399434-4 04/05/19 14:20

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	20.0	1.35	23.1	23.4	109	110	1	70.0-130			1.16		20
(T) Barium		*105*			*109*	*109*							
(T) Yttrium		*119*			*91.8*	*93.6*							

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Method Blank (MB)

(MB) R3394047-1 03/20/19 12:54

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-226	0.0147		0.0568
(T) Barium-133	*105*		

L1076356-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1076356-02 03/20/19 12:54 • (DUP) R3394047-4 03/20/19 12:54

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	-0.0218	0.166	1	200	0.799		20	3
(T) Barium-133	*87.2*	*68.7*						

Laboratory Control Sample (LCS)

(LCS) R3394047-2 03/20/19 12:54

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	4.76	94.8	80.0-120	
(T) Barium-133			*98.8*		

L1076356-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1076356-01 03/20/19 12:54 • (MS) R3394047-3 03/20/19 12:54

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Radium-226	20.1	0.0217	15.3	76.2	1	75.0-125	
(T) Barium-133		*96.3*		*76.9*			

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Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
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

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

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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

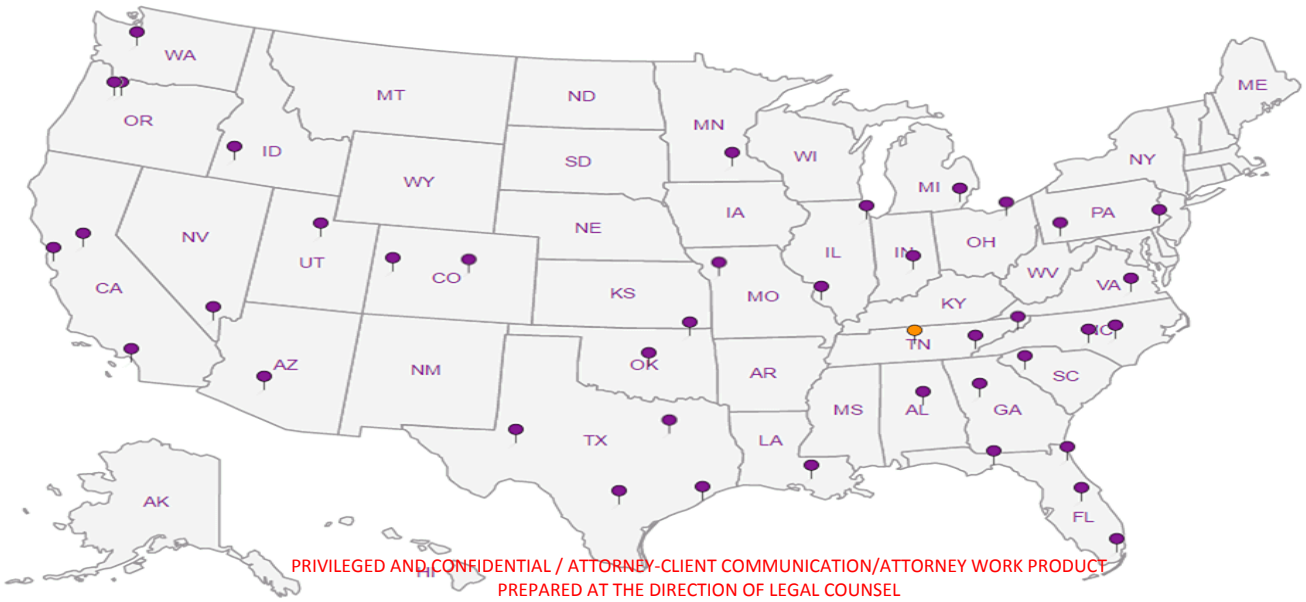
Third Party Federal Accreditations

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.



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FTN Associates - Little Rock, AR

3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Report to: Dana Derrington

Email To: dld@ftn-assoc.com, hlf@ftn-assoc.com, ajp@ftn-assoc.com, mmv@ftn-assoc.com

Project Description: Entergy Independence Landfill

City/State Collected:

Phone: 501-902-9642
Fax:

Client Project # 7920-1993-001

Lab Project # FTNLRAR-ENTERGYINDY

Collected by (print): Michael Clayton

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Cl, Fl, SO4, TDS 250mlHDPE-NoPres	Metals 250mlHDPE-HNO3	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add HNO3	Pres Chk	<2	<2	<2	Remarks	Sample # (lab only)
RP-1		GW				4	X	X	X	X						
RP-2		GW				4	X	X	X	X						
RP-3	Grab	GW		3-4-19	1400	4	X	X	X	X						01
RP-4		GW		3-4-19	1450	4	X	X	X	X						02
RP-5		GW		3-4-19	1540	4	X	X	X	X						03
RP-6		GW		3-5-19	1130	4	X	X	X	X						04
RP-7		GW		3-5-19	1230	4	X	X	X	X						05
RP-8		GW		3-5-19	1325	4	X	X	X	X						06
RP-9		GW		3-5-19	1420	4	X	X	X	X						07
RP-10		GW		3-5-19	1515	4	X	X	X	X						08

Remarks: Metals= CCR List (As,Ba,Be,B,Ca,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl)

pH _____ Temp _____

Flow _____ Other _____

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

Samples returned via:
__ UPS ✓ FedEx __ Courier _____

Tracking # 4757 5092 1885 1911

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Relinquished by : (Signature) — Date: 3-5-19 — Time: 1700

Received by: (Signature)

Relinquished by : (Signature) — Date: — Time:

Received by: (Signature)

Relinquished by : (Signature) — Date: — Time:

Received for lab by: (Signature)

Temp: 1.9 1.2.0 °C — Bottles Received: 32

Date: 3/7/19 — Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

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

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 1076356
H105

Acctnum: FTNLRAR
Template: T141998
Prelogin: P694564
TSR: 134 - Mark W. Beasley
PB: TB 2-18-19
Shipped Via: FedEX Ground

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National Center for Testing & Innovation

ANALYTICAL REPORT

June 10, 2019

FTN Associates - Little Rock, AR

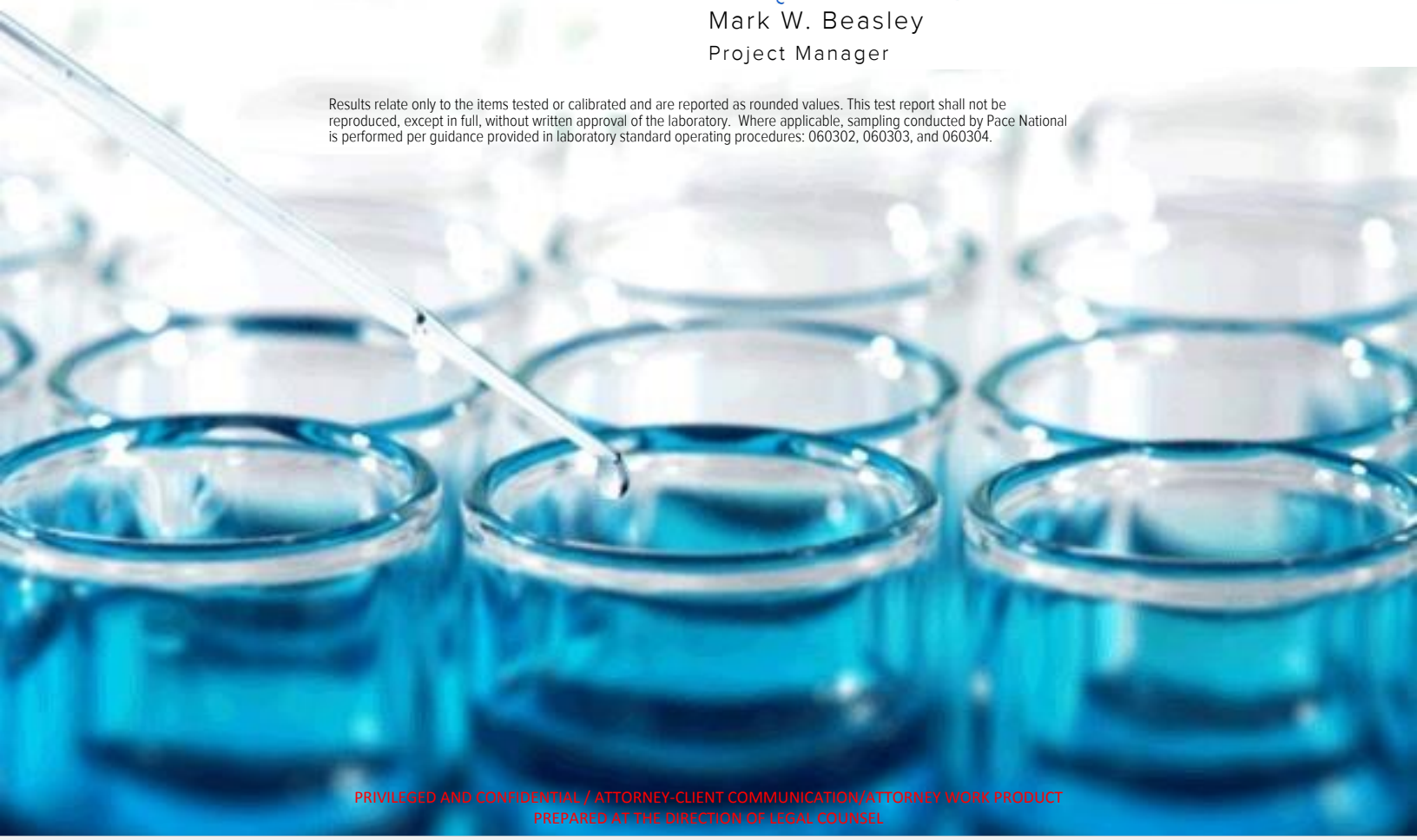
Sample Delivery Group:	L1104139
Samples Received:	05/31/2019
Project Number:	7920-1993-001
Description:	Entergy Independence Landfill

Report To: Dana Derrington
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Entire Report Reviewed By:

Mark W. Beasley
Project Manager

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



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RP-1 L1104139-01 GW

Collected by: Michael Clayton | Collected date/time: 05/29/19 12:25 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1290084	1	06/05/19 02:19	06/05/19 05:43	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1292521	1	06/08/19 12:44	06/08/19 12:44	ST	Mt. Juliet, TN
Mercury by Method 7470A	WG1289971	1	06/03/19 19:00	06/04/19 10:34	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1289598	1	06/04/19 11:10	06/06/19 20:55	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1289604	1	06/04/19 06:51	06/04/19 23:43	LAT	Mt. Juliet, TN

RP-2 L1104139-02 GW

Collected by: Michael Clayton | Collected date/time: 05/29/19 11:10 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1290084	1	06/05/19 02:19	06/05/19 05:43	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1292521	1	06/08/19 13:31	06/08/19 13:31	ST	Mt. Juliet, TN
Mercury by Method 7470A	WG1289971	1	06/03/19 19:00	06/04/19 10:36	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1289598	1	06/04/19 11:10	06/06/19 20:58	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1289604	1	06/04/19 06:51	06/04/19 23:48	LAT	Mt. Juliet, TN

RP-3 L1104139-03 GW

Collected by: Michael Clayton | Collected date/time: 05/29/19 13:45 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1290084	1	06/05/19 02:19	06/05/19 05:43	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1292521	1	06/08/19 14:19	06/08/19 14:19	ST	Mt. Juliet, TN
Mercury by Method 7470A	WG1289971	1	06/03/19 19:00	06/04/19 10:39	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1289598	1	06/04/19 11:10	06/06/19 21:01	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1289604	1	06/04/19 06:51	06/04/19 23:53	LAT	Mt. Juliet, TN

RP-4 L1104139-04 GW

Collected by: Michael Clayton | Collected date/time: 05/29/19 14:50 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1290084	1	06/05/19 02:19	06/05/19 05:43	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1292521	1	06/08/19 14:35	06/08/19 14:35	ST	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1292521	5	06/08/19 14:51	06/08/19 14:51	ST	Mt. Juliet, TN
Mercury by Method 7470A	WG1289971	1	06/03/19 19:00	06/04/19 10:41	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1289598	1	06/04/19 11:10	06/06/19 21:04	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1289604	1	06/04/19 06:51	06/04/19 23:58	LAT	Mt. Juliet, TN

RP-5 L1104139-05 GW

Collected by: Michael Clayton | Collected date/time: 05/29/19 15:55 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1290084	1	06/05/19 02:19	06/05/19 05:43	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1292521	1	06/08/19 15:07	06/08/19 15:07	ST	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1292521	5	06/08/19 15:23	06/08/19 15:23	ST	Mt. Juliet, TN
Mercury by Method 7470A	WG1289971	1	06/03/19 19:00	06/04/19 10:48	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1289598	1	06/04/19 11:10	06/06/19 21:12	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1289604	1	06/04/19 06:51	06/05/19 00:41	LAT	Mt. Juliet, TN

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RP-6 L1104139-06 GW

Collected by: Michael Clayton | Collected date/time: 05/30/19 09:40 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1291147	1	06/05/19 18:48	06/05/19 20:19	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1292521	1	06/08/19 15:39	06/08/19 15:39	ST	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1292521	5	06/08/19 15:55	06/08/19 15:55	ST	Mt. Juliet, TN
Mercury by Method 7470A	WG1289971	1	06/03/19 19:00	06/04/19 10:51	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1289598	1	06/04/19 11:10	06/06/19 21:15	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1289604	1	06/04/19 06:51	06/05/19 00:47	LAT	Mt. Juliet, TN

RP-7 L1104139-07 GW

Collected by: Michael Clayton | Collected date/time: 05/30/19 10:55 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1291147	1	06/05/19 18:48	06/05/19 20:19	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1292521	1	06/08/19 16:11	06/08/19 16:11	ST	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1292521	5	06/08/19 16:26	06/08/19 16:26	ST	Mt. Juliet, TN
Mercury by Method 7470A	WG1289971	1	06/03/19 19:00	06/04/19 10:53	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1289598	1	06/04/19 11:10	06/06/19 21:18	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1289604	1	06/04/19 06:51	06/05/19 00:52	LAT	Mt. Juliet, TN

RP-8 L1104139-08 GW

Collected by: Michael Clayton | Collected date/time: 05/30/19 12:10 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1291147	1	06/05/19 18:48	06/05/19 20:19	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1292521	1	06/08/19 16:42	06/08/19 16:42	ST	Mt. Juliet, TN
Mercury by Method 7470A	WG1289971	1	06/03/19 19:00	06/04/19 10:56	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1289598	1	06/04/19 11:10	06/06/19 21:21	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1289604	1	06/04/19 06:51	06/05/19 00:57	LAT	Mt. Juliet, TN

RP-9 L1104139-09 GW

Collected by: Michael Clayton | Collected date/time: 05/30/19 13:25 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1291147	1	06/05/19 18:48	06/05/19 20:19	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1292521	1	06/08/19 17:30	06/08/19 17:30	ST	Mt. Juliet, TN
Mercury by Method 7470A	WG1289971	1	06/03/19 19:00	06/04/19 10:58	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1289598	1	06/04/19 11:10	06/06/19 21:23	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1289604	1	06/04/19 06:51	06/05/19 01:02	LAT	Mt. Juliet, TN

RP-10 L1104139-10 GW

Collected by: Michael Clayton | Collected date/time: 05/30/19 14:40 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1291147	1	06/05/19 18:48	06/05/19 20:19	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1292521	1	06/08/19 18:02	06/08/19 18:02	ST	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1292521	5	06/09/19 18:08	06/09/19 18:08	ST	Mt. Juliet, TN
Mercury by Method 7470A	WG1289971	1	06/03/19 19:00	06/04/19 11:01	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1289598	1	06/04/19 11:10	06/06/19 21:26	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1289604	1	06/04/19 06:51	06/05/19 01:07	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1289604	1	06/04/19 06:51	06/05/19 09:21	LAT	Mt. Juliet, TN

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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.

Mark W. Beasley
Project Manager

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	217000		2820	10000	1	06/05/2019 05:43	WG1290084

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6350		51.9	1000	1	06/08/2019 12:44	WG1292521
Fluoride	99.3	J	9.90	100	1	06/08/2019 12:44	WG1292521
Sulfate	14900		77.4	5000	1	06/08/2019 12:44	WG1292521

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	06/04/2019 10:34	WG1289971

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	49.2	J	12.6	200	1	06/06/2019 20:55	WG1289598
Calcium	49000		46.3	1000	1	06/06/2019 20:55	WG1289598
Lithium	7.26	B J	5.30	15.0	1	06/06/2019 20:55	WG1289598
Molybdenum	U		1.60	5.00	1	06/06/2019 20:55	WG1289598

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	06/04/2019 23:43	WG1289604
Arsenic	U		0.250	2.00	1	06/04/2019 23:43	WG1289604
Barium	44.0		0.360	5.00	1	06/04/2019 23:43	WG1289604
Beryllium	U		0.120	2.00	1	06/04/2019 23:43	WG1289604
Cadmium	U		0.160	1.00	1	06/04/2019 23:43	WG1289604
Chromium	U		0.540	2.00	1	06/04/2019 23:43	WG1289604
Cobalt	U		0.260	2.00	1	06/04/2019 23:43	WG1289604
Lead	U		0.240	2.00	1	06/04/2019 23:43	WG1289604
Selenium	1.94	J	0.380	2.00	1	06/04/2019 23:43	WG1289604
Thallium	U		0.190	2.00	1	06/04/2019 23:43	WG1289604

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	192000		2820	10000	1	06/05/2019 05:43	WG1290084

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	2740		51.9	1000	1	06/08/2019 13:31	WG1292521
Fluoride	114		9.90	100	1	06/08/2019 13:31	WG1292521
Sulfate	23100		77.4	5000	1	06/08/2019 13:31	WG1292521

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	06/04/2019 10:36	WG1289971

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	118	J	12.6	200	1	06/06/2019 20:58	WG1289598
Calcium	30700		46.3	1000	1	06/06/2019 20:58	WG1289598
Lithium	12.7	B J	5.30	15.0	1	06/06/2019 20:58	WG1289598
Molybdenum	U		1.60	5.00	1	06/06/2019 20:58	WG1289598

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	06/04/2019 23:48	WG1289604
Arsenic	0.536	J	0.250	2.00	1	06/04/2019 23:48	WG1289604
Barium	64.7		0.360	5.00	1	06/04/2019 23:48	WG1289604
Beryllium	U		0.120	2.00	1	06/04/2019 23:48	WG1289604
Cadmium	U		0.160	1.00	1	06/04/2019 23:48	WG1289604
Chromium	1.05	J	0.540	2.00	1	06/04/2019 23:48	WG1289604
Cobalt	U		0.260	2.00	1	06/04/2019 23:48	WG1289604
Lead	U		0.240	2.00	1	06/04/2019 23:48	WG1289604
Selenium	5.25		0.380	2.00	1	06/04/2019 23:48	WG1289604
Thallium	U		0.190	2.00	1	06/04/2019 23:48	WG1289604

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	189000		2820	10000	1	06/05/2019 05:43	WG1290084

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	4700		51.9	1000	1	06/08/2019 14:19	WG1292521
Fluoride	91.6	J	9.90	100	1	06/08/2019 14:19	WG1292521
Sulfate	8820		77.4	5000	1	06/08/2019 14:19	WG1292521

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	06/04/2019 10:39	WG1289971

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	42.0	J	12.6	200	1	06/06/2019 21:01	WG1289598
Calcium	47700		46.3	1000	1	06/06/2019 21:01	WG1289598
Lithium	7.11	B J	5.30	15.0	1	06/06/2019 21:01	WG1289598
Molybdenum	U		1.60	5.00	1	06/06/2019 21:01	WG1289598

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	06/04/2019 23:53	WG1289604
Arsenic	U		0.250	2.00	1	06/04/2019 23:53	WG1289604
Barium	31.6		0.360	5.00	1	06/04/2019 23:53	WG1289604
Beryllium	U		0.120	2.00	1	06/04/2019 23:53	WG1289604
Cadmium	U		0.160	1.00	1	06/04/2019 23:53	WG1289604
Chromium	U		0.540	2.00	1	06/04/2019 23:53	WG1289604
Cobalt	U		0.260	2.00	1	06/04/2019 23:53	WG1289604
Lead	U		0.240	2.00	1	06/04/2019 23:53	WG1289604
Selenium	1.14	J	0.380	2.00	1	06/04/2019 23:53	WG1289604
Thallium	U		0.190	2.00	1	06/04/2019 23:53	WG1289604

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	362000		2820	10000	1	06/05/2019 05:43	WG1290084

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	8620		51.9	1000	1	06/08/2019 14:35	WG1292521
Fluoride	225		9.90	100	1	06/08/2019 14:35	WG1292521
Sulfate	104000		387	25000	5	06/08/2019 14:51	WG1292521

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	06/04/2019 10:41	WG1289971

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	354		12.6	200	1	06/06/2019 21:04	WG1289598
Calcium	71300		46.3	1000	1	06/06/2019 21:04	WG1289598
Lithium	7.44	B J	5.30	15.0	1	06/06/2019 21:04	WG1289598
Molybdenum	U		1.60	5.00	1	06/06/2019 21:04	WG1289598

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	06/04/2019 23:58	WG1289604
Arsenic	0.297	J	0.250	2.00	1	06/04/2019 23:58	WG1289604
Barium	35.2		0.360	5.00	1	06/04/2019 23:58	WG1289604
Beryllium	U		0.120	2.00	1	06/04/2019 23:58	WG1289604
Cadmium	U		0.160	1.00	1	06/04/2019 23:58	WG1289604
Chromium	1.02	J	0.540	2.00	1	06/04/2019 23:58	WG1289604
Cobalt	U		0.260	2.00	1	06/04/2019 23:58	WG1289604
Lead	U		0.240	2.00	1	06/04/2019 23:58	WG1289604
Selenium	1.99	J	0.380	2.00	1	06/04/2019 23:58	WG1289604
Thallium	U		0.190	2.00	1	06/04/2019 23:58	WG1289604

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	831000		3750	13300	1	06/05/2019 05:43	WG1290084

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	17100		51.9	1000	1	06/08/2019 15:07	WG1292521
Fluoride	346		9.90	100	1	06/08/2019 15:07	WG1292521
Sulfate	437000		387	25000	5	06/08/2019 15:23	WG1292521

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	06/04/2019 10:48	WG1289971

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	1410		12.6	200	1	06/06/2019 21:12	WG1289598
Calcium	119000		46.3	1000	1	06/06/2019 21:12	WG1289598
Lithium	13.1	B J	5.30	15.0	1	06/06/2019 21:12	WG1289598
Molybdenum	2.38	J	1.60	5.00	1	06/06/2019 21:12	WG1289598

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	06/05/2019 00:41	WG1289604
Arsenic	0.695	J	0.250	2.00	1	06/05/2019 00:41	WG1289604
Barium	25.1		0.360	5.00	1	06/05/2019 00:41	WG1289604
Beryllium	U		0.120	2.00	1	06/05/2019 00:41	WG1289604
Cadmium	U		0.160	1.00	1	06/05/2019 00:41	WG1289604
Chromium	0.642	J	0.540	2.00	1	06/05/2019 00:41	WG1289604
Cobalt	0.568	J	0.260	2.00	1	06/05/2019 00:41	WG1289604
Lead	U		0.240	2.00	1	06/05/2019 00:41	WG1289604
Selenium	1.88	J	0.380	2.00	1	06/05/2019 00:41	WG1289604
Thallium	U		0.190	2.00	1	06/05/2019 00:41	WG1289604

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	642000		2820	10000	1	06/05/2019 20:19	WG1291147

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	8380		51.9	1000	1	06/08/2019 15:39	WG1292521
Fluoride	411		9.90	100	1	06/08/2019 15:39	WG1292521
Sulfate	213000		387	25000	5	06/08/2019 15:55	WG1292521

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	06/04/2019 10:51	WG1289971

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	329		12.6	200	1	06/06/2019 21:15	WG1289598
Calcium	109000		46.3	1000	1	06/06/2019 21:15	WG1289598
Lithium	32.2	B	5.30	15.0	1	06/06/2019 21:15	WG1289598
Molybdenum	2.74	J	1.60	5.00	1	06/06/2019 21:15	WG1289598

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	06/05/2019 00:47	WG1289604
Arsenic	0.506	J	0.250	2.00	1	06/05/2019 00:47	WG1289604
Barium	31.5		0.360	5.00	1	06/05/2019 00:47	WG1289604
Beryllium	U		0.120	2.00	1	06/05/2019 00:47	WG1289604
Cadmium	U		0.160	1.00	1	06/05/2019 00:47	WG1289604
Chromium	U		0.540	2.00	1	06/05/2019 00:47	WG1289604
Cobalt	U		0.260	2.00	1	06/05/2019 00:47	WG1289604
Lead	U		0.240	2.00	1	06/05/2019 00:47	WG1289604
Selenium	3.36		0.380	2.00	1	06/05/2019 00:47	WG1289604
Thallium	U		0.190	2.00	1	06/05/2019 00:47	WG1289604

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	498000		2820	10000	1	06/05/2019 20:19	WG1291147

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	9400		51.9	1000	1	06/08/2019 16:11	WG1292521
Fluoride	207		9.90	100	1	06/08/2019 16:11	WG1292521
Sulfate	175000		387	25000	5	06/08/2019 16:26	WG1292521

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	06/04/2019 10:53	WG1289971

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	270		12.6	200	1	06/06/2019 21:18	WG1289598
Calcium	81600		46.3	1000	1	06/06/2019 21:18	WG1289598
Lithium	15.5	B	5.30	15.0	1	06/06/2019 21:18	WG1289598
Molybdenum	U		1.60	5.00	1	06/06/2019 21:18	WG1289598

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	06/05/2019 00:52	WG1289604
Arsenic	U		0.250	2.00	1	06/05/2019 00:52	WG1289604
Barium	33.5		0.360	5.00	1	06/05/2019 00:52	WG1289604
Beryllium	U		0.120	2.00	1	06/05/2019 00:52	WG1289604
Cadmium	U		0.160	1.00	1	06/05/2019 00:52	WG1289604
Chromium	U		0.540	2.00	1	06/05/2019 00:52	WG1289604
Cobalt	U		0.260	2.00	1	06/05/2019 00:52	WG1289604
Lead	U		0.240	2.00	1	06/05/2019 00:52	WG1289604
Selenium	2.27		0.380	2.00	1	06/05/2019 00:52	WG1289604
Thallium	U		0.190	2.00	1	06/05/2019 00:52	WG1289604

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	347000		2820	10000	1	06/05/2019 20:19	WG1291147

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	10600		51.9	1000	1	06/08/2019 16:42	WG1292521
Fluoride	123		9.90	100	1	06/08/2019 16:42	WG1292521
Sulfate	50000		77.4	5000	1	06/08/2019 16:42	WG1292521

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	06/04/2019 10:56	WG1289971

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	90.4	J	12.6	200	1	06/06/2019 21:21	WG1289598
Calcium	68200		46.3	1000	1	06/06/2019 21:21	WG1289598
Lithium	9.41	B J	5.30	15.0	1	06/06/2019 21:21	WG1289598
Molybdenum	U		1.60	5.00	1	06/06/2019 21:21	WG1289598

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	06/05/2019 00:57	WG1289604
Arsenic	0.274	J	0.250	2.00	1	06/05/2019 00:57	WG1289604
Barium	52.2		0.360	5.00	1	06/05/2019 00:57	WG1289604
Beryllium	U		0.120	2.00	1	06/05/2019 00:57	WG1289604
Cadmium	U		0.160	1.00	1	06/05/2019 00:57	WG1289604
Chromium	U		0.540	2.00	1	06/05/2019 00:57	WG1289604
Cobalt	U		0.260	2.00	1	06/05/2019 00:57	WG1289604
Lead	U		0.240	2.00	1	06/05/2019 00:57	WG1289604
Selenium	5.03		0.380	2.00	1	06/05/2019 00:57	WG1289604
Thallium	U		0.190	2.00	1	06/05/2019 00:57	WG1289604

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	321000		2820	10000	1	06/05/2019 20:19	WG1291147

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	7310		51.9	1000	1	06/08/2019 17:30	WG1292521
Fluoride	111		9.90	100	1	06/08/2019 17:30	WG1292521
Sulfate	80800		77.4	5000	1	06/08/2019 17:30	WG1292521

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	06/04/2019 10:58	WG1289971

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	121	J	12.6	200	1	06/06/2019 21:23	WG1289598
Calcium	64200		46.3	1000	1	06/06/2019 21:23	WG1289598
Lithium	6.56	B J	5.30	15.0	1	06/06/2019 21:23	WG1289598
Molybdenum	U		1.60	5.00	1	06/06/2019 21:23	WG1289598

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	06/05/2019 01:02	WG1289604
Arsenic	U		0.250	2.00	1	06/05/2019 01:02	WG1289604
Barium	41.5		0.360	5.00	1	06/05/2019 01:02	WG1289604
Beryllium	U		0.120	2.00	1	06/05/2019 01:02	WG1289604
Cadmium	U		0.160	1.00	1	06/05/2019 01:02	WG1289604
Chromium	U		0.540	2.00	1	06/05/2019 01:02	WG1289604
Cobalt	U		0.260	2.00	1	06/05/2019 01:02	WG1289604
Lead	U		0.240	2.00	1	06/05/2019 01:02	WG1289604
Selenium	1.66	J	0.380	2.00	1	06/05/2019 01:02	WG1289604
Thallium	U		0.190	2.00	1	06/05/2019 01:02	WG1289604

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	426000		2820	10000	1	06/05/2019 20:19	WG1291147

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	9020		51.9	1000	1	06/08/2019 18:02	WG1292521
Fluoride	149		9.90	100	1	06/08/2019 18:02	WG1292521
Sulfate	125000		387	25000	5	06/09/2019 18:08	WG1292521

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	06/04/2019 11:01	WG1289971

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	480		12.6	200	1	06/06/2019 21:26	WG1289598
Calcium	74100		46.3	1000	1	06/06/2019 21:26	WG1289598
Lithium	9.90	B J	5.30	15.0	1	06/06/2019 21:26	WG1289598
Molybdenum	U		1.60	5.00	1	06/06/2019 21:26	WG1289598

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	06/05/2019 01:07	WG1289604
Arsenic	0.257	J	0.250	2.00	1	06/05/2019 01:07	WG1289604
Barium	51.6		0.360	5.00	1	06/05/2019 01:07	WG1289604
Beryllium	U		0.120	2.00	1	06/05/2019 01:07	WG1289604
Cadmium	U		0.160	1.00	1	06/05/2019 01:07	WG1289604
Chromium	U		0.540	2.00	1	06/05/2019 01:07	WG1289604
Cobalt	U		0.260	2.00	1	06/05/2019 01:07	WG1289604
Lead	U		0.240	2.00	1	06/05/2019 09:21	WG1289604
Selenium	2.57		0.380	2.00	1	06/05/2019 01:07	WG1289604
Thallium	U		0.190	2.00	1	06/05/2019 09:21	WG1289604

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Method Blank (MB)

(MB) R3418546-1 06/05/19 05:43

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Dissolved Solids	U		2820	10000

L1104560-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1104560-03 06/05/19 05:43 • (DUP) R3418546-3 06/05/19 05:43

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Dissolved Solids	183000	185000	1	1.09		5

Laboratory Control Sample (LCS)

(LCS) R3418546-2 06/05/19 05:43

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Dissolved Solids	8800000	8460000	96.1	85.0-115	

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Method Blank (MB)

(MB) R3418571-1 06/05/19 20:19

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Dissolved Solids	U		2820	10000

L1104216-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1104216-01 06/05/19 20:19 • (DUP) R3418571-3 06/05/19 20:19

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Dissolved Solids	358000	358000	1	0.000		5

Laboratory Control Sample (LCS)

(LCS) R3418571-2 06/05/19 20:19

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Dissolved Solids	8800000	8790000	99.9	85.0-115	

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Method Blank (MB)

(MB) R3419311-1 06/08/19 10:43

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

L1098820-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1098820-02 06/08/19 11:41 • (DUP) R3419311-3 06/08/19 11:56

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	433	428	1	1.18	J	15
Fluoride	U	0.000	1	0.000		15
Sulfate	U	0.000	1	0.000		15

L1104139-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1104139-09 06/08/19 17:30 • (DUP) R3419311-6 06/08/19 17:46

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	7310	7350	1	0.569		15
Fluoride	111	106	1	4.24		15
Sulfate	80800	81200	1	0.538		15

Laboratory Control Sample (LCS)

(LCS) R3419311-2 06/08/19 10:59

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	40200	100	80.0-120	
Fluoride	8000	8450	106	80.0-120	
Sulfate	40000	39900	99.9	80.0-120	

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L1104139-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1104139-01 06/08/19 12:44 • (MS) R3419311-4 06/08/19 13:00 • (MSD) R3419311-5 06/08/19 13:16

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	6350	56800	56900	101	101	1	80.0-120			0.0549	15
Fluoride	5000	99.3	5190	5200	102	102	1	80.0-120			0.0693	15
Sulfate	50000	14900	67200	67200	105	105	1	80.0-120			0.0107	15

L1104139-10 Original Sample (OS) • Matrix Spike (MS)

(OS) L1104139-10 06/08/19 18:02 • (MS) R3419311-7 06/08/19 18:18

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	9020	59500	101	1	80.0-120	
Fluoride	5000	149	5240	102	1	80.0-120	
Sulfate	50000	132000	181000	97.1	1	80.0-120	E

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Method Blank (MB)

(MB) R3417700-1 06/04/19 10:07

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Mercury	U		0.0490	0.200

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

(LCS) R3417700-2 06/04/19 10:09 • (LCSD) R3417700-3 06/04/19 10:12

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Mercury	3.00	2.81	3.13	93.6	104	80.0-120			11.0	20

L1103829-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1103829-07 06/04/19 10:19 • (MS) R3417700-4 06/04/19 10:22 • (MSD) R3417700-5 06/04/19 10:24

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Mercury	3.00	U	2.34	2.12	77.9	70.8	1	75.0-125		J6	9.59	20

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Method Blank (MB)

(MB) R3418624-1 06/06/19 20:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Boron	U		12.6	200
Calcium	U		46.3	1000
Lithium	5.53	J	5.30	15.0
Molybdenum	U		1.60	5.00

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

(LCS) R3418624-2 06/06/19 20:08 • (LCSD) R3418624-3 06/06/19 20:11

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Boron	1000	979	994	97.9	99.4	80.0-120			1.56	20
Calcium	10000	9890	9790	98.9	97.9	80.0-120			0.950	20
Lithium	1000	984	980	98.4	98.0	80.0-120			0.417	20
Molybdenum	1000	987	987	98.7	98.7	80.0-120			0.00387	20

L1104129-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1104129-03 06/06/19 20:13 • (MS) R3418624-5 06/06/19 20:19 • (MSD) R3418624-6 06/06/19 20:21

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1000	154	1110	1110	96.1	95.9	1	75.0-125			0.158	20
Calcium	10000	180000	187000	187000	65.5	65.4	1	75.0-125	V	V	0.00134	20
Lithium	1000	374	1370	1360	99.9	99.0	1	75.0-125			0.659	20
Molybdenum	1000	U	965	960	96.5	96.0	1	75.0-125			0.588	20

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Method Blank (MB)

(MB) R3417819-1 06/04/19 22:10

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Antimony	U		0.754	2.00
Arsenic	U		0.250	2.00
Barium	U		0.360	5.00
Beryllium	U		0.120	2.00
Cadmium	U		0.160	1.00
Chromium	U		0.540	2.00
Cobalt	U		0.260	2.00
Lead	U		0.240	2.00
Selenium	U		0.380	2.00
Thallium	U		0.190	2.00

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

(LCS) R3417819-2 06/04/19 22:15 • (LCSD) R3417819-3 06/04/19 22:20

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	58.8	57.7	118	115	80.0-120			1.91	20
Arsenic	50.0	51.0	52.2	102	104	80.0-120			2.44	20
Barium	50.0	49.3	50.2	98.6	100	80.0-120			1.79	20
Beryllium	50.0	48.5	47.2	97.0	94.5	80.0-120			2.68	20
Cadmium	50.0	51.0	50.9	102	102	80.0-120			0.247	20
Chromium	50.0	50.3	50.2	101	100	80.0-120			0.368	20
Cobalt	50.0	50.5	51.4	101	103	80.0-120			1.74	20
Lead	50.0	50.7	50.8	101	102	80.0-120			0.105	20
Selenium	50.0	54.3	53.4	109	107	80.0-120			1.64	20
Thallium	50.0	50.8	50.3	102	101	80.0-120			1.12	20

L1104129-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1104129-01 06/04/19 22:25 • (MS) R3417819-5 06/04/19 22:35 • (MSD) R3417819-6 06/04/19 22:41

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	50.0	9.71	60.8	60.1	102	101	1	75.0-125			1.20	20
Beryllium	50.0	24.9	71.1	71.4	92.4	93.0	1	75.0-125			0.375	20
Selenium	50.0	13.3	68.1	65.9	110	105	1	75.0-125			3.20	20

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L1104129-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1104129-01 06/05/19 00:21 • (MS) R3417819-8 06/05/19 00:31 • (MSD) R3417819-9 06/05/19 00:36

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	10.0	U	59.4	59.6	119	119	5	75.0-125			0.264	20
Arsenic	10.0	12.3	57.8	58.1	91.0	91.6	5	75.0-125			0.501	20
Cadmium	10.0	1.05	50.5	52.7	98.9	103	5	75.0-125			4.26	20
Chromium	10.0	U	42.3	42.1	84.6	84.3	5	75.0-125			0.375	20
Cobalt	10.0	223	258	258	68.6	69.0	5	75.0-125	V	V	0.0814	20
Lead	10.0	U	49.0	49.7	98.0	99.3	5	75.0-125			1.32	20
Thallium	10.0	U	49.2	49.4	98.4	98.7	5	75.0-125			0.318	20

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Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
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
B	The same analyte is found in the associated blank.
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.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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* 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

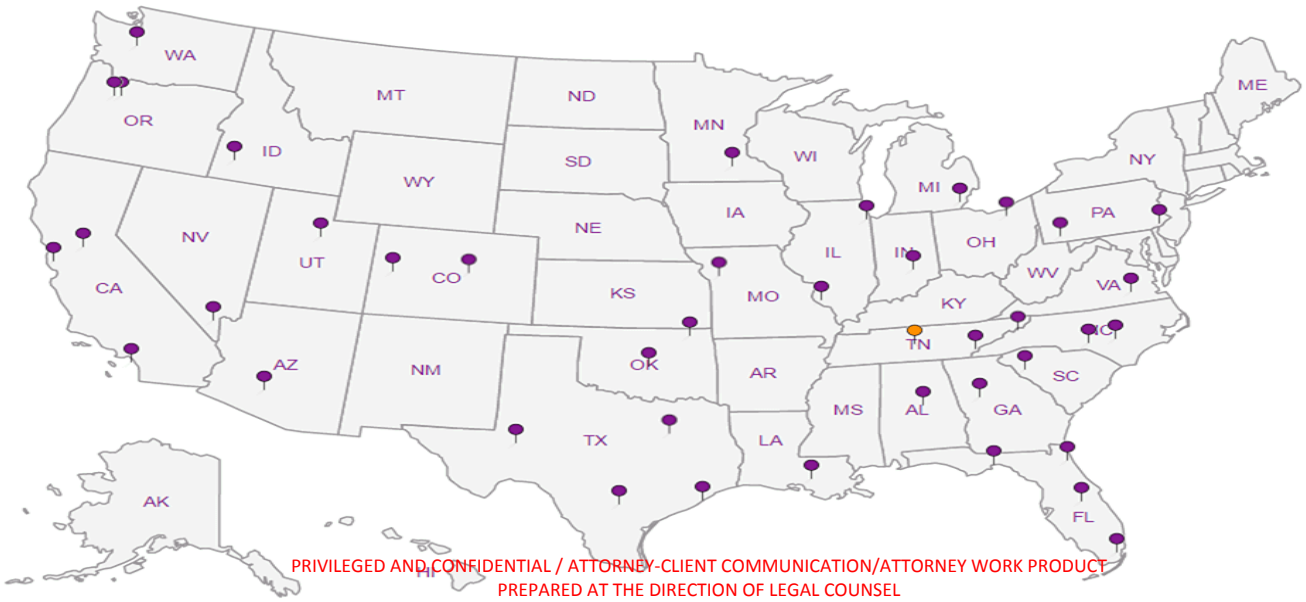
Third Party Federal Accreditations

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.



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FTN Associates - Little Rock, AR

3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Report to: Dana Derrington

Email To: dld@ftn-assoc.com, hlf@ftn-assoc.com, ajp@ftn-assoc.com, mmv@ftn-assoc.com

Project Description: Entergy Independence Landfill

City/State Collected:

Phone: 501-902-9642
Fax:

Client Project # 7920-1993-001

Lab Project # FTNLRAR-ENTERGYINDY

Collected by (print): Michael Clayton

Site/Facility ID #

P.O. #

Collected by (signature): Michael Clayton
Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

Analysis / Container / Preservative

Pres Chk

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Cl,Fl,SO4,TDS 250mlHDPE-NoPres	Metals 250mlHDPE-HNO3	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
RP-1	Grab	GW		5-29-19	1225	4	X	X	X	X		01
RP-2		GW		5-29-19	1110	4	X	X	X	X		02
RP-3		GW			1345	4	X	X	X	X		03
RP-4		GW			1450	4	X	X	X	X		04
RP-5		GW			1555	4	X	X	X	X		05
RP-6		GW		5-30-19	940	4	X	X	X	X		06
RP-7		GW			1055	4	X	X	X	X		07
RP-8		GW			1210	4	X	X	X	X		08
RP-9		GW			1325	4	X	X	X	X		09
RP-10		GW			1440	4	X	X	X	X		10

Pace Analytical® National Center for Testing & Innovation
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 1104139
Table #
Acctnum: FTNLRAR
Template: T141998
Prelogin: P710062
TSR: 134 - Mark W. Beasley
PB: TB 5-22-19
Shipped Via: FedEX Ground

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

Remarks:Metals= CCR List (As,Ba,Be,B,Ca,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Ti)
Temp (0.7)

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS X FedEx __ Courier __ _____

Tracking # 1023 1353 1669 6980

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
Michael Clayton	5-30-19	1700		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.7 1.1 1.8 °C Bottles Received: 40
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Date: 5/31/19 Time: 0845

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

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ANALYTICAL REPORT

July 03, 2019

FTN Associates - Little Rock, AR

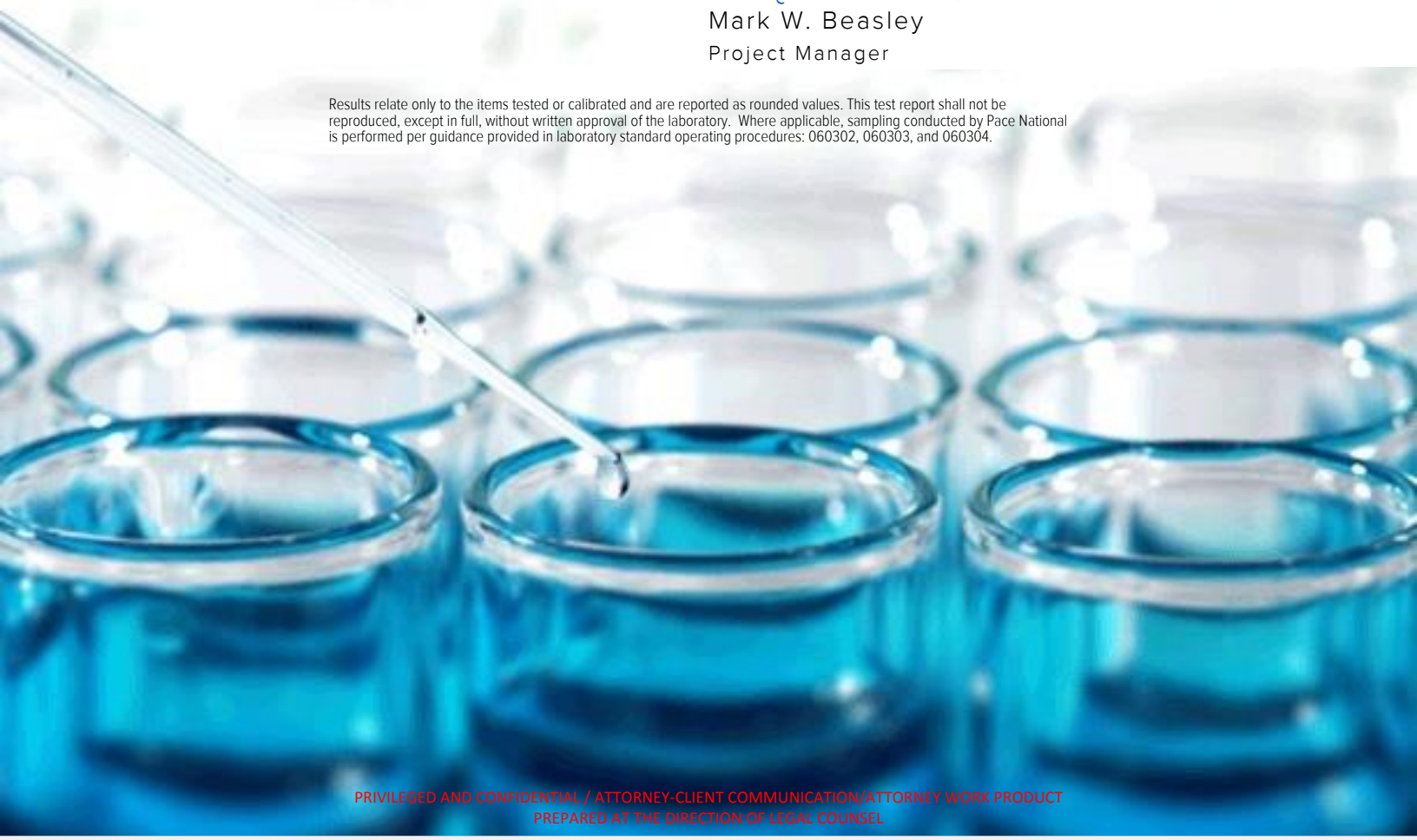
Sample Delivery Group:	L1104142
Samples Received:	05/31/2019
Project Number:	7920-1993-001
Description:	Entergy Independence Landfill

Report To: Dana Derrington
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Entire Report Reviewed By:

Mark W. Beasley
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.



PRIVILEGED AND CONFIDENTIAL / ATTORNEY-CLIENT COMMUNICATION/ATTORNEY WORK PRODUCT
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RP-1 L1104142-01 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 05/29/19 12:25 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1294005	1	06/12/19 08:46	06/17/19 12:10	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1290447	1	06/10/19 16:13	06/17/19 12:10	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1290447	1	06/10/19 16:13	06/13/19 12:14	RGT	Mt. Juliet, TN

RP-2 L1104142-02 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 05/29/19 11:10 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1294005	1	06/12/19 08:46	06/17/19 12:10	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1290447	1	06/10/19 16:13	06/17/19 12:10	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1290447	1	06/10/19 16:13	06/13/19 12:14	RGT	Mt. Juliet, TN

RP-3 L1104142-03 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 05/29/19 13:45 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1294005	1	06/12/19 08:46	06/17/19 12:10	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1290447	1	06/10/19 16:13	06/17/19 12:10	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1290447	1	06/10/19 16:13	06/13/19 12:14	RGT	Mt. Juliet, TN

RP-4 L1104142-04 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 05/29/19 14:50 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1294005	1	06/12/19 08:46	06/17/19 12:10	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1290447	1	06/10/19 16:13	06/17/19 12:10	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1290447	1	06/10/19 16:13	06/13/19 12:14	RGT	Mt. Juliet, TN

RP-5 L1104142-05 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 05/29/19 15:55 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1294005	1	06/12/19 08:46	06/17/19 12:10	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1290447	1	06/10/19 16:13	06/17/19 12:10	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1290447	1	06/10/19 16:13	06/13/19 12:14	RGT	Mt. Juliet, TN

RP-6 L1104142-06 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 05/30/19 09:40 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1294005	1	06/12/19 08:46	06/17/19 12:10	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1290447	1	06/10/19 16:13	06/17/19 12:10	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1290447	1	06/10/19 16:13	06/13/19 12:14	RGT	Mt. Juliet, TN

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RP-7 L1104142-07 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 05/30/19 10:55 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1294005	1	06/12/19 08:46	06/17/19 12:10	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1290447	1	06/10/19 16:13	06/17/19 12:10	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1290447	1	06/10/19 16:13	06/13/19 17:28	RGT	Mt. Juliet, TN

RP-8 L1104142-08 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 05/30/19 12:10 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1294005	1	06/12/19 08:46	06/17/19 16:15	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1290447	1	06/10/19 16:13	06/17/19 16:15	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1290447	1	06/10/19 16:13	06/13/19 12:14	RGT	Mt. Juliet, TN

RP-9 L1104142-09 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 05/30/19 13:25 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1294005	1	06/12/19 08:46	06/17/19 16:15	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1290447	1	06/10/19 16:13	06/17/19 16:15	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1290447	1	06/10/19 16:13	06/13/19 17:28	RGT	Mt. Juliet, TN

RP-10 L1104142-10 Non-Potable Water

Collected by: Michael Clayton | Collected date/time: 05/30/19 14:40 | Received date/time: 05/31/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1294005	1	06/12/19 08:46	06/17/19 16:15	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1290447	1	06/10/19 16:13	06/17/19 16:15	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1290447	1	06/10/19 16:13	06/13/19 17:28	RGT	Mt. Juliet, TN

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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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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.

Mark W. Beasley
Project Manager

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.711		0.564	1.13	06/17/2019 12:10	WG1294005
(T) Barium	*89.3*			*62.0-143*	*06/17/2019 12:10*	WG1294005
(T) Yttrium	*120*			*79.0-136*	*06/17/2019 12:10*	WG1294005

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.000		0.845	1.66	06/17/2019 12:10	WG1290447

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	-0.133		0.281	0.526	06/13/2019 12:14	WG1290447
(T) Barium-133	*67.9*			*30.0-143*	*06/13/2019 12:14*	WG1290447

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.311		0.369	0.622	06/17/2019 12:10	WG1294005
(T) Barium	*112*			*62.0-143*	*06/17/2019 12:10*	WG1294005
(T) Yttrium	*119*			*79.0-136*	*06/17/2019 12:10*	WG1294005

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.311		0.637	1.19	06/17/2019 12:10	WG1290447

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	-0.171		0.268	0.571	06/13/2019 12:14	WG1290447
(T) Barium-133	*68.4*			*30.0-143*	*06/13/2019 12:14*	WG1290447

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.948		0.358	0.573	06/17/2019 12:10	WG1294005
(T) Barium	*103*			*62.0-143*	*06/17/2019 12:10*	WG1294005
(T) Yttrium	*114*			*79.0-136*	*06/17/2019 12:10*	WG1294005

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.19		0.725	1.09	06/17/2019 12:10	WG1290447

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.244		0.367	0.52	06/13/2019 12:14	WG1290447
(T) Barium-133	*70.5*			*30.0-143*	*06/13/2019 12:14*	WG1290447

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.0524		0.382	0.601	06/17/2019 12:10	WG1294005
(T) Barium	*96.4*			*62.0-143*	*06/17/2019 12:10*	WG1294005
(T) Yttrium	*121*			*79.0-136*	*06/17/2019 12:10*	WG1294005

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0524		0.515	0.919	06/17/2019 12:10	WG1290447

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	-0.0325		0.133	0.318	06/13/2019 12:14	WG1290447
(T) Barium-133	*78.5*			*30.0-143*	*06/13/2019 12:14*	WG1290447

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.147		0.408	0.717	06/17/2019 12:10	WG1294005
(T) Barium	*91.6*			*62.0-143*	*06/17/2019 12:10*	WG1294005
(T) Yttrium	*118*			*79.0-136*	*06/17/2019 12:10*	WG1294005

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.377		0.611	0.933	06/17/2019 12:10	WG1290447

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.230		0.203	0.216	06/13/2019 12:14	WG1290447
(T) Barium-133	*77.1*			*30.0-143*	*06/13/2019 12:14*	WG1290447

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.204		0.345	0.702	06/17/2019 12:10	WG1294005
(T) Barium	*85.7*			*62.0-143*	*06/17/2019 12:10*	WG1294005
(T) Yttrium	*115*			*79.0-136*	*06/17/2019 12:10*	WG1294005

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.204		0.495	1.1	06/17/2019 12:10	WG1290447

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	-0.145		0.150	0.396	06/13/2019 12:14	WG1290447
(T) Barium-133	*83.4*			*30.0-143*	*06/13/2019 12:14*	WG1290447

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.07		0.370	0.808	06/17/2019 12:10	WG1294005
(T) Barium	*87.2*			*62.0-143*	*06/17/2019 12:10*	WG1294005
(T) Yttrium	*115*			*79.0-136*	*06/17/2019 12:10*	WG1294005

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.21		0.512	0.971	06/17/2019 12:10	WG1290447

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.134		0.142	0.163	06/13/2019 17:28	WG1290447
(T) Barium-133	*95.0*			*30.0-143*	*06/13/2019 17:28*	WG1290447

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.524		0.390	0.604	06/17/2019 16:15	WG1294005
(T) Barium	*105*			*62.0-143*	*06/17/2019 16:15*	WG1294005
(T) Yttrium	*105*			*79.0-136*	*06/17/2019 16:15*	WG1294005

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.619		0.522	0.797	06/17/2019 16:15	WG1290447

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0950		0.132	0.193	06/13/2019 12:14	WG1290447
(T) Barium-133	*87.2*			*30.0-143*	*06/13/2019 12:14*	WG1290447

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.157		0.372	0.579	06/17/2019 16:15	WG1294005
(T) Barium	*103*			*62.0-143*	*06/17/2019 16:15*	WG1294005
(T) Yttrium	*116*			*79.0-136*	*06/17/2019 16:15*	WG1294005

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0937		0.502	0.769	06/17/2019 16:15	WG1290447

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0937		0.130	0.19	06/13/2019 17:28	WG1290447
(T) Barium-133	*88.4*			*30.0-143*	*06/13/2019 17:28*	WG1290447

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.588		0.315	0.464	06/17/2019 16:15	WG1294005
(T) Barium	*106*			*62.0-143*	*06/17/2019 16:15*	WG1294005
(T) Yttrium	*116*			*79.0-136*	*06/17/2019 16:15*	WG1294005

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.930		0.689	0.959	06/17/2019 16:15	WG1290447

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.342		0.374	0.495	06/13/2019 17:28	WG1290447
(T) Barium-133	*46.2*			*30.0-143*	*06/13/2019 17:28*	WG1290447

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Method Blank (MB)

(MB) R3422042-1 06/17/19 12:10

Analyte	MB Result	MB Qualifier	MB MDA
	pCi/l		pCi/l
Radium-228	0.295		0.421
(T) Barium	*102*		
(T) Yttrium	*115*		

L1104142-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1104142-01 06/17/19 12:10 • (DUP) R3422042-5 06/17/19 12:10

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	pCi/l		%			%	
Radium-228	-0.711	0.0762	1	200	1.01		20	3
(T) Barium	*89.3*	*110*						
(T) Yttrium	*120*	*120*						

Laboratory Control Sample (LCS)

(LCS) R3422042-2 06/17/19 12:10

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-228	5.00	5.12	102	80.0-120	
(T) Barium			*108*		
(T) Yttrium			*105*		

L1104649-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1104649-01 06/17/19 16:15 • (MS) R3422042-3 06/17/19 12:10 • (MSD) R3422042-4 06/17/19 12:10

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
	pCi/l	pCi/l	pCi/l	pCi/l	%	%		%			%		%
Radium-228	7.14	0.742	9.51	8.61	123	110	1	70.0-130			9.90		20
(T) Barium		*105*			*110*	*109*							
(T) Yttrium		*112*			*103*	*119*							

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Method Blank (MB)

(MB) R3425290-2 06/13/19 17:28

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-226	-0.00984		0.111
(T) Barium-133	*74.1*		

L1103698-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1103698-07 06/13/19 12:14 • (DUP) R3425290-1 06/13/19 12:14

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.188	0.177	1	6.14	0.0372		20	3
(T) Barium-133	*72.7*	*73.8*						

Laboratory Control Sample (LCS)

(LCS) R3425290-3 06/13/19 17:28

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	4.90	97.6	80.0-120	
(T) Barium-133			*72.2*		

L1103698-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1103698-07 06/13/19 12:14 • (MS) R3425290-4 06/13/19 17:28 • (MSD) R3425290-5 06/13/19 17:28

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.1	0.188	16.5	20.0	81.3	98.7	1	75.0-125			19.2		20
(T) Barium-133		*72.7*			*85.8*	*70.9*							

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Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
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

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

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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

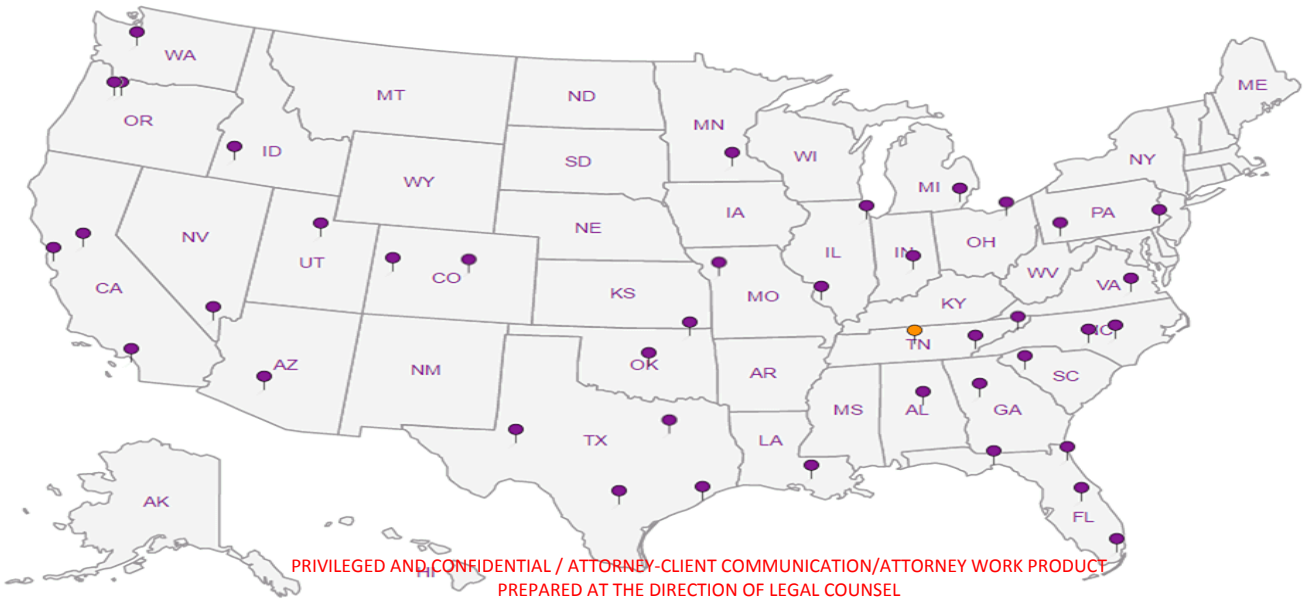
Third Party Federal Accreditations

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.



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FTN Associates - Little Rock, AR

3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Report to: Dana Derrington

Email To: dld@ftn-assoc.com, hlf@ftn-assoc.com, ajp@ftn-assoc.com, mmv@ftn-assoc.com

Project Description: Entergy Independence Landfill

City/State Collected:

Phone: 501-902-9642
Fax:

Client Project # 7920-1993-001

Lab Project # FTNLRAR-ENTERGYINDY

Collected by (print): Michael Clayton

Site/Facility ID #

P.O. #

Collected by (signature): Michael Clayton
Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Cl, Fl, SO4, TDS 250mlHDPE-NoPres	Metals 250mlHDPE-HNO3	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add HNO3						Remarks	Sample # (lab only)
								✓2	✓2	✓2							
RP-1	Grab	GW		5-29-19	1225	4	X	X	X	X							01
RP-2		GW		5-29-19	1110	4	X	X	X	X							02
RP-3		GW			1345	4	X	X	X	X							03
RP-4		GW			1450	4	X	X	X	X							04
RP-5		GW			1555	4	X	X	X	X							05
RP-6		GW		5-30-19	940	4	X	X	X	X							06
RP-7		GW			1055	4	X	X	X	X							07
RP-8		GW			1210	4	X	X	X	X							08
RP-9		GW			1325	4	X	X	X	X							09
RP-10		GW			1440	4	X	X	X	X							10

Chain of Custody Page 1 of 2

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 110442

Table #

Acctnum: FTNLRAR
Template: T141998
Prelogin: P710062
TSR: 134 - Mark W. Beasley
PB: TB 5-22-19
Shipped Via: FedEX Ground

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

Remarks:Metals= CCR List (As,Ba,Be,B,Ca,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Ti)

Temp (0.7)

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier __ _____

Tracking # 1023 1353 1669 6980

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
Michael Clayton	5-30-19	1700		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.7 °C Bottles Received: 40
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 5/31/19 Time: 0845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

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Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

September 20, 2019

FTN Associates - Little Rock, AR

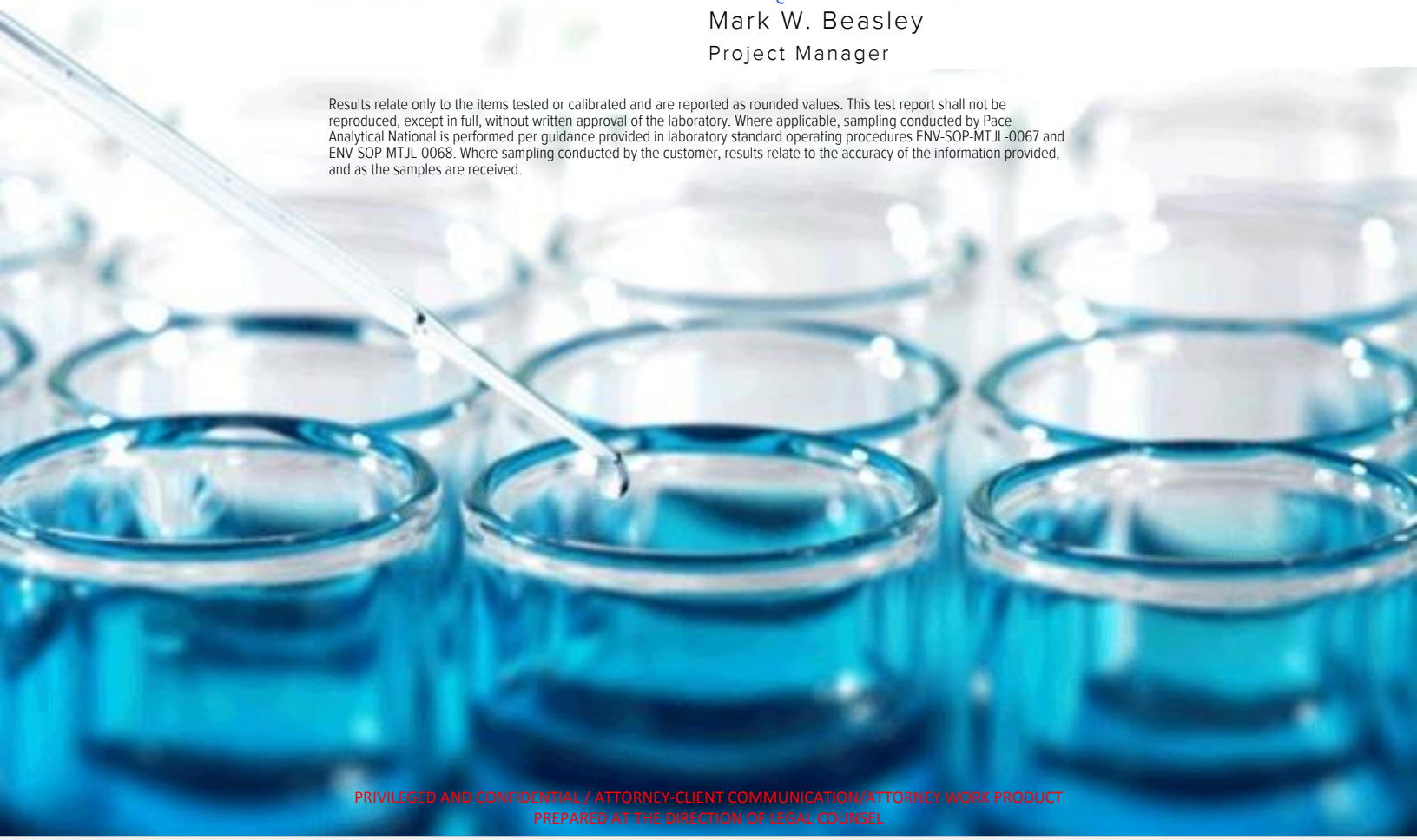
Sample Delivery Group:	L1138563
Samples Received:	09/12/2019
Project Number:	07920-1993-003
Description:	Entergy Independence Landfill

Report To: Dana Derrington
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Entire Report Reviewed By:

Mark W. Beasley
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 Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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RP-1 L1138563-01 GW

Collected by: Jacob Waymack | Collected date/time: 09/09/19 10:23 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1345017	1	09/13/19 09:56	09/13/19 10:24	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1345088	1	09/13/19 20:23	09/13/19 20:23	LDC	Mt. Juliet, TN
Mercury by Method 7470A	WG1344922	1	09/13/19 10:37	09/15/19 20:37	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1345067	1	09/17/19 11:00	09/18/19 09:35	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1345073	1	09/14/19 12:40	09/14/19 16:09	LD	Mt. Juliet, TN

RP-2 L1138563-02 GW

Collected by: Jacob Waymack | Collected date/time: 09/09/19 09:57 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1345017	1	09/13/19 09:56	09/13/19 10:24	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1345088	1	09/13/19 20:37	09/13/19 20:37	LDC	Mt. Juliet, TN
Mercury by Method 7470A	WG1344922	1	09/13/19 10:37	09/15/19 20:39	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1345067	1	09/17/19 11:00	09/18/19 09:38	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1345073	1	09/14/19 12:40	09/14/19 16:13	LD	Mt. Juliet, TN

RP-3 L1138563-03 GW

Collected by: Jacob Waymack | Collected date/time: 09/09/19 13:05 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1345017	1	09/13/19 09:56	09/13/19 10:24	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1345088	1	09/13/19 20:52	09/13/19 20:52	LDC	Mt. Juliet, TN
Mercury by Method 7470A	WG1344923	1	09/16/19 18:26	09/17/19 10:04	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1345067	1	09/17/19 11:00	09/18/19 09:41	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1345073	1	09/14/19 12:40	09/14/19 16:17	LD	Mt. Juliet, TN

RP-4 L1138563-04 GW

Collected by: Jacob Waymack | Collected date/time: 09/09/19 16:34 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1345017	1	09/13/19 09:56	09/13/19 10:24	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1345088	1	09/13/19 21:06	09/13/19 21:06	LDC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1345088	5	09/13/19 21:21	09/13/19 21:21	LDC	Mt. Juliet, TN
Mercury by Method 7470A	WG1344923	1	09/16/19 18:26	09/17/19 10:07	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1345067	1	09/17/19 11:00	09/18/19 09:43	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1345073	1	09/14/19 12:40	09/14/19 16:21	LD	Mt. Juliet, TN

RP-5 L1138563-05 GW

Collected by: Jacob Waymack | Collected date/time: 09/09/19 17:17 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1345017	1	09/13/19 09:56	09/13/19 10:24	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1345088	1	09/13/19 22:04	09/13/19 22:04	LDC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1345088	10	09/13/19 22:18	09/13/19 22:18	LDC	Mt. Juliet, TN
Mercury by Method 7470A	WG1344923	1	09/16/19 18:26	09/17/19 10:09	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1345067	1	09/17/19 11:00	09/18/19 09:51	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1345074	1	09/17/19 02:03	09/17/19 16:32	JPD	Mt. Juliet, TN

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RP-6 L1138563-06 GW

Collected by: Jacob Waymack | Collected date/time: 09/09/19 11:52 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1345017	1	09/13/19 09:56	09/13/19 10:24	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1345088	1	09/13/19 22:33	09/13/19 22:33	LDC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1345088	5	09/13/19 22:47	09/13/19 22:47	LDC	Mt. Juliet, TN
Mercury by Method 7470A	WG1344923	1	09/16/19 18:26	09/17/19 10:11	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1345067	1	09/17/19 11:00	09/18/19 09:54	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1345074	1	09/17/19 02:03	09/17/19 16:35	JPD	Mt. Juliet, TN

RP-7 L1138563-07 GW

Collected by: Jacob Waymack | Collected date/time: 09/09/19 13:06 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1345017	1	09/13/19 09:56	09/13/19 10:24	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1345088	1	09/13/19 23:02	09/13/19 23:02	LDC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1345088	5	09/13/19 23:16	09/13/19 23:16	LDC	Mt. Juliet, TN
Mercury by Method 7470A	WG1344923	1	09/16/19 18:26	09/17/19 10:18	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1345067	1	09/17/19 11:00	09/18/19 09:56	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1345074	1	09/17/19 02:03	09/17/19 16:39	JPD	Mt. Juliet, TN

RP-8 L1138563-08 GW

Collected by: Jacob Waymack | Collected date/time: 09/09/19 14:03 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1345017	1	09/13/19 09:56	09/13/19 10:24	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1345088	1	09/13/19 23:30	09/13/19 23:30	LDC	Mt. Juliet, TN
Mercury by Method 7470A	WG1344923	1	09/16/19 18:26	09/17/19 10:20	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1345067	1	09/17/19 11:00	09/18/19 09:59	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1345074	1	09/17/19 02:03	09/17/19 16:54	JPD	Mt. Juliet, TN

RP-9 L1138563-09 GW

Collected by: Jacob Waymack | Collected date/time: 09/09/19 14:50 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1345017	1	09/13/19 09:56	09/13/19 10:24	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1345088	1	09/13/19 23:59	09/13/19 23:59	LDC	Mt. Juliet, TN
Mercury by Method 7470A	WG1344923	1	09/16/19 18:26	09/17/19 10:22	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1345067	1	09/17/19 11:00	09/18/19 10:02	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1345074	1	09/17/19 02:03	09/17/19 16:57	JPD	Mt. Juliet, TN

RP-10 L1138563-10 GW

Collected by: Jacob Waymack | Collected date/time: 09/09/19 15:34 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1345017	1	09/13/19 09:56	09/13/19 10:24	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1345093	1	09/14/19 11:43	09/14/19 11:43	ST	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1345093	5	09/14/19 11:58	09/14/19 11:58	ST	Mt. Juliet, TN
Mercury by Method 7470A	WG1344923	1	09/16/19 18:26	09/17/19 10:24	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1345067	1	09/17/19 11:00	09/18/19 10:05	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1345074	1	09/17/19 02:03	09/17/19 17:00	JPD	Mt. Juliet, TN

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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.

Mark W. Beasley
Project Manager

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	213000		2820	10000	1	09/13/2019 10:24	WG1345017

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	7280		51.9	1000	1	09/13/2019 20:23	WG1345088
Fluoride	73.0	J	9.90	100	1	09/13/2019 20:23	WG1345088
Sulfate	17200		77.4	5000	1	09/13/2019 20:23	WG1345088

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	09/15/2019 20:37	WG1344922

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	U		12.6	200	1	09/18/2019 09:35	WG1345067
Calcium	47300		46.3	1000	1	09/18/2019 09:35	WG1345067
Lithium	U		5.30	15.0	1	09/18/2019 09:35	WG1345067
Molybdenum	U		1.60	5.00	1	09/18/2019 09:35	WG1345067

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	09/14/2019 16:09	WG1345073
Arsenic	U		0.250	2.00	1	09/14/2019 16:09	WG1345073
Barium	42.6		0.360	5.00	1	09/14/2019 16:09	WG1345073
Beryllium	U		0.120	2.00	1	09/14/2019 16:09	WG1345073
Cadmium	U		0.160	1.00	1	09/14/2019 16:09	WG1345073
Chromium	1.81	B J	0.540	2.00	1	09/14/2019 16:09	WG1345073
Cobalt	U		0.260	2.00	1	09/14/2019 16:09	WG1345073
Lead	0.398	B J	0.240	2.00	1	09/14/2019 16:09	WG1345073
Selenium	1.76	J	0.380	2.00	1	09/14/2019 16:09	WG1345073
Thallium	U		0.190	2.00	1	09/14/2019 16:09	WG1345073

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	206000		2820	10000	1	09/13/2019 10:24	WG1345017

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6010		51.9	1000	1	09/13/2019 20:37	WG1345088
Fluoride	92.4	J	9.90	100	1	09/13/2019 20:37	WG1345088
Sulfate	17500		77.4	5000	1	09/13/2019 20:37	WG1345088

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	09/15/2019 20:39	WG1344922

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	U		12.6	200	1	09/18/2019 09:38	WG1345067
Calcium	47600		46.3	1000	1	09/18/2019 09:38	WG1345067
Lithium	U		5.30	15.0	1	09/18/2019 09:38	WG1345067
Molybdenum	U		1.60	5.00	1	09/18/2019 09:38	WG1345067

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	09/14/2019 16:13	WG1345073
Arsenic	0.394	J	0.250	2.00	1	09/14/2019 16:13	WG1345073
Barium	42.0		0.360	5.00	1	09/14/2019 16:13	WG1345073
Beryllium	U		0.120	2.00	1	09/14/2019 16:13	WG1345073
Cadmium	U		0.160	1.00	1	09/14/2019 16:13	WG1345073
Chromium	0.889	B J	0.540	2.00	1	09/14/2019 16:13	WG1345073
Cobalt	U		0.260	2.00	1	09/14/2019 16:13	WG1345073
Lead	0.504	B J	0.240	2.00	1	09/14/2019 16:13	WG1345073
Selenium	1.73	J	0.380	2.00	1	09/14/2019 16:13	WG1345073
Thallium	U		0.190	2.00	1	09/14/2019 16:13	WG1345073

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	180000		2820	10000	1	09/13/2019 10:24	WG1345017

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	4860		51.9	1000	1	09/13/2019 20:52	WG1345088
Fluoride	69.0	J	9.90	100	1	09/13/2019 20:52	WG1345088
Sulfate	9450		77.4	5000	1	09/13/2019 20:52	WG1345088

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	09/17/2019 10:04	WG1344923

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	19.0	J	12.6	200	1	09/18/2019 09:41	WG1345067
Calcium	45100		46.3	1000	1	09/18/2019 09:41	WG1345067
Lithium	U		5.30	15.0	1	09/18/2019 09:41	WG1345067
Molybdenum	U		1.60	5.00	1	09/18/2019 09:41	WG1345067

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	09/14/2019 16:17	WG1345073
Arsenic	U		0.250	2.00	1	09/14/2019 16:17	WG1345073
Barium	30.8		0.360	5.00	1	09/14/2019 16:17	WG1345073
Beryllium	U		0.120	2.00	1	09/14/2019 16:17	WG1345073
Cadmium	U		0.160	1.00	1	09/14/2019 16:17	WG1345073
Chromium	U		0.540	2.00	1	09/14/2019 16:17	WG1345073
Cobalt	U		0.260	2.00	1	09/14/2019 16:17	WG1345073
Lead	0.514	B J	0.240	2.00	1	09/14/2019 16:17	WG1345073
Selenium	1.56	J	0.380	2.00	1	09/14/2019 16:17	WG1345073
Thallium	U		0.190	2.00	1	09/14/2019 16:17	WG1345073

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	527000		2820	10000	1	09/13/2019 10:24	WG1345017

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	13400		51.9	1000	1	09/13/2019 21:06	WG1345088
Fluoride	223		9.90	100	1	09/13/2019 21:06	WG1345088
Sulfate	277000		387	25000	5	09/13/2019 21:21	WG1345088

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	09/17/2019 10:07	WG1344923

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	677		12.6	200	1	09/18/2019 09:43	WG1345067
Calcium	86900		46.3	1000	1	09/18/2019 09:43	WG1345067
Lithium	U		5.30	15.0	1	09/18/2019 09:43	WG1345067
Molybdenum	U		1.60	5.00	1	09/18/2019 09:43	WG1345067

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	09/14/2019 16:21	WG1345073
Arsenic	0.283	J	0.250	2.00	1	09/14/2019 16:21	WG1345073
Barium	41.8		0.360	5.00	1	09/14/2019 16:21	WG1345073
Beryllium	U		0.120	2.00	1	09/14/2019 16:21	WG1345073
Cadmium	U		0.160	1.00	1	09/14/2019 16:21	WG1345073
Chromium	U		0.540	2.00	1	09/14/2019 16:21	WG1345073
Cobalt	U		0.260	2.00	1	09/14/2019 16:21	WG1345073
Lead	0.437	B J	0.240	2.00	1	09/14/2019 16:21	WG1345073
Selenium	3.58		0.380	2.00	1	09/14/2019 16:21	WG1345073
Thallium	U		0.190	2.00	1	09/14/2019 16:21	WG1345073

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	770000		2820	10000	1	09/13/2019 10:24	WG1345017

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	18600		51.9	1000	1	09/13/2019 22:04	WG1345088
Fluoride	357		9.90	100	1	09/13/2019 22:04	WG1345088
Sulfate	488000		774	50000	10	09/13/2019 22:18	WG1345088

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	09/17/2019 10:09	WG1344923

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	1530		12.6	200	1	09/18/2019 09:51	WG1345067
Calcium	115000		46.3	1000	1	09/18/2019 09:51	WG1345067
Lithium	U		5.30	15.0	1	09/18/2019 09:51	WG1345067
Molybdenum	4.68	J	1.60	5.00	1	09/18/2019 09:51	WG1345067

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	09/17/2019 16:32	WG1345074
Arsenic	0.589	J	0.250	2.00	1	09/17/2019 16:32	WG1345074
Barium	26.5		0.360	5.00	1	09/17/2019 16:32	WG1345074
Beryllium	U		0.120	2.00	1	09/17/2019 16:32	WG1345074
Cadmium	U		0.160	1.00	1	09/17/2019 16:32	WG1345074
Chromium	1.13	B J	0.540	2.00	1	09/17/2019 16:32	WG1345074
Cobalt	U		0.260	2.00	1	09/17/2019 16:32	WG1345074
Lead	0.276	B J	0.240	2.00	1	09/17/2019 16:32	WG1345074
Selenium	1.00	J	0.380	2.00	1	09/17/2019 16:32	WG1345074
Thallium	U		0.190	2.00	1	09/17/2019 16:32	WG1345074

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	709000		2820	10000	1	09/13/2019 10:24	WG1345017

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	12300		51.9	1000	1	09/13/2019 22:33	WG1345088
Fluoride	397		9.90	100	1	09/13/2019 22:33	WG1345088
Sulfate	324000		387	25000	5	09/13/2019 22:47	WG1345088

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	09/17/2019 10:11	WG1344923

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	420		12.6	200	1	09/18/2019 09:54	WG1345067
Calcium	119000		46.3	1000	1	09/18/2019 09:54	WG1345067
Lithium	21.5		5.30	15.0	1	09/18/2019 09:54	WG1345067
Molybdenum	2.76	J	1.60	5.00	1	09/18/2019 09:54	WG1345067

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	09/17/2019 16:35	WG1345074
Arsenic	0.426	J	0.250	2.00	1	09/17/2019 16:35	WG1345074
Barium	35.5		0.360	5.00	1	09/17/2019 16:35	WG1345074
Beryllium	U		0.120	2.00	1	09/17/2019 16:35	WG1345074
Cadmium	U		0.160	1.00	1	09/17/2019 16:35	WG1345074
Chromium	1.18	B J	0.540	2.00	1	09/17/2019 16:35	WG1345074
Cobalt	U		0.260	2.00	1	09/17/2019 16:35	WG1345074
Lead	U		0.240	2.00	1	09/17/2019 16:35	WG1345074
Selenium	3.61		0.380	2.00	1	09/17/2019 16:35	WG1345074
Thallium	U		0.190	2.00	1	09/17/2019 16:35	WG1345074

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	500000		2820	10000	1	09/13/2019 10:24	WG1345017

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	11000		51.9	1000	1	09/13/2019 23:02	WG1345088
Fluoride	243		9.90	100	1	09/13/2019 23:02	WG1345088
Sulfate	213000		387	25000	5	09/13/2019 23:16	WG1345088

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	09/17/2019 10:18	WG1344923

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	276		12.6	200	1	09/18/2019 09:56	WG1345067
Calcium	88300		46.3	1000	1	09/18/2019 09:56	WG1345067
Lithium	12.1	J	5.30	15.0	1	09/18/2019 09:56	WG1345067
Molybdenum	U		1.60	5.00	1	09/18/2019 09:56	WG1345067

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	09/17/2019 16:39	WG1345074
Arsenic	U		0.250	2.00	1	09/17/2019 16:39	WG1345074
Barium	27.5		0.360	5.00	1	09/17/2019 16:39	WG1345074
Beryllium	U		0.120	2.00	1	09/17/2019 16:39	WG1345074
Cadmium	U		0.160	1.00	1	09/17/2019 16:39	WG1345074
Chromium	1.23	B J	0.540	2.00	1	09/17/2019 16:39	WG1345074
Cobalt	U		0.260	2.00	1	09/17/2019 16:39	WG1345074
Lead	0.460	B J	0.240	2.00	1	09/17/2019 16:39	WG1345074
Selenium	3.44		0.380	2.00	1	09/17/2019 16:39	WG1345074
Thallium	U		0.190	2.00	1	09/17/2019 16:39	WG1345074

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	406000		2820	10000	1	09/13/2019 10:24	WG1345017

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	15700		51.9	1000	1	09/13/2019 23:30	WG1345088
Fluoride	111		9.90	100	1	09/13/2019 23:30	WG1345088
Sulfate	66200		77.4	5000	1	09/13/2019 23:30	WG1345088

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	09/17/2019 10:20	WG1344923

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	32.1	J	12.6	200	1	09/18/2019 09:59	WG1345067
Calcium	82600		46.3	1000	1	09/18/2019 09:59	WG1345067
Lithium	U		5.30	15.0	1	09/18/2019 09:59	WG1345067
Molybdenum	U		1.60	5.00	1	09/18/2019 09:59	WG1345067

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	09/17/2019 16:54	WG1345074
Arsenic	0.273	J	0.250	2.00	1	09/17/2019 16:54	WG1345074
Barium	58.2		0.360	5.00	1	09/17/2019 16:54	WG1345074
Beryllium	U		0.120	2.00	1	09/17/2019 16:54	WG1345074
Cadmium	U		0.160	1.00	1	09/17/2019 16:54	WG1345074
Chromium	1.02	B J	0.540	2.00	1	09/17/2019 16:54	WG1345074
Cobalt	U		0.260	2.00	1	09/17/2019 16:54	WG1345074
Lead	U		0.240	2.00	1	09/17/2019 16:54	WG1345074
Selenium	8.65		0.380	2.00	1	09/17/2019 16:54	WG1345074
Thallium	U		0.190	2.00	1	09/17/2019 16:54	WG1345074

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	208000		2820	10000	1	09/13/2019 10:24	WG1345017

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6230		51.9	1000	1	09/13/2019 23:59	WG1345088
Fluoride	75.0	J	9.90	100	1	09/13/2019 23:59	WG1345088
Sulfate	14600		77.4	5000	1	09/13/2019 23:59	WG1345088

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	09/17/2019 10:22	WG1344923

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	U		12.6	200	1	09/18/2019 10:02	WG1345067
Calcium	49000		46.3	1000	1	09/18/2019 10:02	WG1345067
Lithium	U		5.30	15.0	1	09/18/2019 10:02	WG1345067
Molybdenum	U		1.60	5.00	1	09/18/2019 10:02	WG1345067

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	09/17/2019 16:57	WG1345074
Arsenic	U		0.250	2.00	1	09/17/2019 16:57	WG1345074
Barium	40.0		0.360	5.00	1	09/17/2019 16:57	WG1345074
Beryllium	U		0.120	2.00	1	09/17/2019 16:57	WG1345074
Cadmium	U		0.160	1.00	1	09/17/2019 16:57	WG1345074
Chromium	0.951	B J	0.540	2.00	1	09/17/2019 16:57	WG1345074
Cobalt	U		0.260	2.00	1	09/17/2019 16:57	WG1345074
Lead	U		0.240	2.00	1	09/17/2019 16:57	WG1345074
Selenium	1.49	J	0.380	2.00	1	09/17/2019 16:57	WG1345074
Thallium	U		0.190	2.00	1	09/17/2019 16:57	WG1345074

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	338000		2820	10000	1	09/13/2019 10:24	WG1345017

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	8750		51.9	1000	1	09/14/2019 11:43	WG1345093
Fluoride	95.0	J	9.90	100	1	09/14/2019 11:43	WG1345093
Sulfate	103000		387	25000	5	09/14/2019 11:58	WG1345093

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	09/17/2019 10:24	WG1344923

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	207		12.6	200	1	09/18/2019 10:05	WG1345067
Calcium	71000		46.3	1000	1	09/18/2019 10:05	WG1345067
Lithium	U		5.30	15.0	1	09/18/2019 10:05	WG1345067
Molybdenum	U		1.60	5.00	1	09/18/2019 10:05	WG1345067

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	09/17/2019 17:00	WG1345074
Arsenic	U		0.250	2.00	1	09/17/2019 17:00	WG1345074
Barium	58.4		0.360	5.00	1	09/17/2019 17:00	WG1345074
Beryllium	U		0.120	2.00	1	09/17/2019 17:00	WG1345074
Cadmium	U		0.160	1.00	1	09/17/2019 17:00	WG1345074
Chromium	1.07	B J	0.540	2.00	1	09/17/2019 17:00	WG1345074
Cobalt	U		0.260	2.00	1	09/17/2019 17:00	WG1345074
Lead	0.312	B J	0.240	2.00	1	09/17/2019 17:00	WG1345074
Selenium	2.69		0.380	2.00	1	09/17/2019 17:00	WG1345074
Thallium	U		0.190	2.00	1	09/17/2019 17:00	WG1345074

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Method Blank (MB)

(MB) R3450780-1 09/13/19 10:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1138563-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1138563-01 09/13/19 10:24 • (DUP) R3450780-3 09/13/19 10:24

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	213000	213000	1	0.000		5

Laboratory Control Sample (LCS)

(LCS) R3450780-2 09/13/19 10:24

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8660000	98.4	85.0-115	

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Method Blank (MB)

(MB) R3450605-1 09/13/19 15:36

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

L1138516-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1138516-07 09/13/19 17:30 • (DUP) R3450605-3 09/13/19 17:44

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	3310	3220	1	2.91		15
Fluoride	21.2	27.3	1	25.2	J P1	15
Sulfate	15100	15000	1	0.581		15

L1138563-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1138563-08 09/13/19 23:30 • (DUP) R3450605-6 09/13/19 23:45

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	15700	15700	1	0.0427		15
Fluoride	111	112	1	0.448		15
Sulfate	66200	66300	1	0.187		15

Laboratory Control Sample (LCS)

(LCS) R3450605-2 09/13/19 15:50

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39200	98.0	80.0-120	
Fluoride	8000	8000	100	80.0-120	
Sulfate	40000	40700	102	80.0-120	

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L1138516-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1138516-08 09/13/19 17:59 • (MS) R3450605-4 09/13/19 18:13 • (MSD) R3450605-5 09/13/19 18:28

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	7560	57000	57200	98.9	99.4	1	80.0-120			0.421	15
Fluoride	5000	18.0	5110	5280	102	105	1	80.0-120			3.20	15
Sulfate	50000	49700	96000	96000	92.5	92.6	1	80.0-120			0.0510	15

L1138672-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1138672-01 09/14/19 00:14 • (MS) R3450605-7 09/14/19 00:57

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	14300	63800	99.0	1	80.0-120	
Fluoride	5000	326	5350	100	1	80.0-120	
Sulfate	50000	1560000	1540000	0.000	1	80.0-120	E V

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Method Blank (MB)

(MB) R3450889-1 09/14/19 09:44

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

L1138570-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1138570-02 09/14/19 16:11 • (DUP) R3450889-3 09/14/19 16:56

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	U	0.000	1	0.000		15
Fluoride	U	0.000	1	0.000		15
Sulfate	U	0.000	1	0.000		15

L1138634-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1138634-03 09/14/19 20:39 • (DUP) R3450889-6 09/14/19 20:54

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	8050	8000	1	0.652		15
Fluoride	ND	37.9	1	0.000		15
Sulfate	ND	0.000	1	0.000		15

Laboratory Control Sample (LCS)

(LCS) R3450889-2 09/14/19 09:58

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39400	98.4	80.0-120	
Fluoride	8000	8070	101	80.0-120	
Sulfate	40000	41000	102	80.0-120	

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L1138570-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1138570-03 09/14/19 17:11 • (MS) R3450889-4 09/14/19 17:26 • (MSD) R3450889-5 09/14/19 17:41

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	U	50400	50100	101	100	1	80.0-120			0.709	15
Fluoride	5000	U	5110	5040	102	101	1	80.0-120			1.46	15
Sulfate	50000	U	50400	49900	101	99.8	1	80.0-120			1.06	15

L1138634-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1138634-03 09/14/19 20:39 • (MS) R3450889-7 09/14/19 21:09

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	8050	58000	99.9	1	80.0-120	
Fluoride	5000	ND	5060	100	1	80.0-120	
Sulfate	50000	ND	45700	91.3	1	80.0-120	

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Method Blank (MB)

(MB) R3450879-1 09/15/19 19:55

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Mercury	U		0.0490	0.200

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

(LCS) R3450879-2 09/15/19 19:57 • (LCSD) R3450879-3 09/15/19 19:59

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Mercury	3.00	2.95	3.00	98.3	100	80.0-120			1.68	20

L1138469-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1138469-01 09/15/19 20:02 • (MS) R3450879-4 09/15/19 20:04 • (MSD) R3450879-5 09/15/19 20:06

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Mercury	3.00	2.18	5.02	5.24	94.7	102	1	75.0-125			4.29	20

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Method Blank (MB)

(MB) R3451455-1 09/17/19 09:51

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Mercury	U		0.0490	0.200

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

(LCS) R3451455-2 09/17/19 09:53 • (LCSD) R3451455-3 09/17/19 09:56

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Mercury	3.00	3.06	3.09	102	103	80.0-120			0.976	20

L1138634-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1138634-03 09/17/19 09:58 • (MS) R3451455-4 09/17/19 10:00 • (MSD) R3451455-5 09/17/19 10:02

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Mercury	3.00	ND	2.80	3.02	93.3	101	1	75.0-125			7.56	20

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Method Blank (MB)

(MB) R3451942-1 09/18/19 08:21

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		12.6	200
Calcium	U		46.3	1000
Lithium	U		5.30	15.0
Molybdenum	U		1.60	5.00

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

(LCS) R3451942-2 09/18/19 08:24 • (LCSD) R3451942-3 09/18/19 08:26

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Boron	1000	957	955	95.7	95.5	80.0-120			0.227	20
Calcium	10000	9990	9850	99.9	98.5	80.0-120			1.45	20
Lithium	1000	941	924	94.1	92.4	80.0-120			1.83	20
Molybdenum	1000	987	973	98.7	97.3	80.0-120			1.40	20

L1138387-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1138387-06 09/18/19 08:29 • (MS) R3451942-5 09/18/19 08:34 • (MSD) R3451942-6 09/18/19 08:36

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	4230	5200	5190	96.4	95.3	1	75.0-125			0.205	20
Calcium	10000	84000	94900	95400	110	114	1	75.0-125			0.480	20
Lithium	1000	73.2	1010	1000	94.0	93.2	1	75.0-125			0.850	20
Molybdenum	1000	3.03	993	980	98.9	97.7	1	75.0-125			1.25	20

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Method Blank (MB)

(MB) R3450849-1 09/14/19 14:55

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Antimony	U		0.754	2.00
Arsenic	U		0.250	2.00
Barium	U		0.360	5.00
Beryllium	U		0.120	2.00
Cadmium	U		0.160	1.00
Chromium	0.654	J	0.540	2.00
Cobalt	U		0.260	2.00
Lead	0.523	J	0.240	2.00
Selenium	U		0.380	2.00
Thallium	U		0.190	2.00

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

(LCS) R3450849-2 09/14/19 14:58 • (LCSD) R3450849-3 09/14/19 15:02

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	53.5	53.0	107	106	80.0-120			0.917	20
Arsenic	50.0	49.3	51.8	98.7	104	80.0-120			4.87	20
Barium	50.0	50.4	48.8	101	97.6	80.0-120			3.20	20
Beryllium	50.0	47.1	47.7	94.3	95.4	80.0-120			1.17	20
Cadmium	50.0	50.4	51.7	101	103	80.0-120			2.50	20
Chromium	50.0	52.3	53.3	105	107	80.0-120			1.90	20
Cobalt	50.0	52.1	54.0	104	108	80.0-120			3.42	20
Lead	50.0	50.8	50.1	102	100	80.0-120			1.27	20
Selenium	50.0	51.7	50.0	103	100	80.0-120			3.38	20
Thallium	50.0	50.0	50.0	99.9	100	80.0-120			0.0537	20

L1138430-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1138430-01 09/14/19 15:06 • (MS) R3450849-5 09/14/19 15:13 • (MSD) R3450849-6 09/14/19 15:17

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	ND	53.2	55.1	106	110	1	75.0-125			3.51	20
Arsenic	50.0	ND	49.6	49.8	98.2	98.6	1	75.0-125			0.378	20
Barium	50.0	54.5	106	103	103	97.4	1	75.0-125			2.51	20
Beryllium	50.0	ND	48.1	48.5	96.3	97.0	1	75.0-125			0.700	20
Cadmium	50.0	ND	53.2	54.7	106	109	1	75.0-125			2.66	20
Chromium	50.0	ND	50.2	51.4	100	103	1	75.0-125			2.21	20
Cobalt	50.0	ND	49.5	50.6	98.9	101	1	75.0-125			2.16	20

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L1138430-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1138430-01 09/14/19 15:06 • (MS) R3450849-5 09/14/19 15:13 • (MSD) R3450849-6 09/14/19 15:17

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Lead	50.0	ND	50.9	51.6	98.1	99.5	1	75.0-125			1.32	20
Selenium	50.0	3.86	60.6	57.7	114	108	1	75.0-125			5.03	20
Thallium	50.0	ND	51.3	51.6	103	103	1	75.0-125			0.761	20

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Method Blank (MB)

(MB) R3451635-1 09/17/19 16:08

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Antimony	U		0.754	2.00
Arsenic	U		0.250	2.00
Barium	U		0.360	5.00
Beryllium	U		0.120	2.00
Cadmium	U		0.160	1.00
Chromium	1.03	J	0.540	2.00
Cobalt	U		0.260	2.00
Lead	0.276	J	0.240	2.00
Selenium	U		0.380	2.00
Thallium	U		0.190	2.00

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

(LCS) R3451635-2 09/17/19 16:12 • (LCSD) R3451635-3 09/17/19 16:15

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	52.8	52.1	106	104	80.0-120			1.42	20
Arsenic	50.0	50.7	49.9	101	99.8	80.0-120			1.50	20
Barium	50.0	52.4	50.5	105	101	80.0-120			3.62	20
Beryllium	50.0	54.8	51.5	110	103	80.0-120			6.35	20
Cadmium	50.0	50.3	49.8	101	99.6	80.0-120			0.983	20
Chromium	50.0	52.9	52.2	106	104	80.0-120			1.21	20
Cobalt	50.0	51.9	50.7	104	101	80.0-120			2.36	20
Lead	50.0	52.0	50.1	104	100	80.0-120			3.76	20
Selenium	50.0	51.4	50.2	103	100	80.0-120			2.35	20
Thallium	50.0	50.9	50.0	102	100	80.0-120			1.66	20

L1138570-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1138570-02 09/17/19 16:19 • (MS) R3451635-5 09/17/19 16:25 • (MSD) R3451635-6 09/17/19 16:29

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	U	52.1	52.9	104	106	1	75.0-125			1.44	20
Arsenic	50.0	U	50.6	50.1	101	100	1	75.0-125			1.00	20
Barium	50.0	U	51.1	50.1	102	100	1	75.0-125			2.01	20
Beryllium	50.0	U	54.6	52.9	109	106	1	75.0-125			3.18	20
Cadmium	50.0	U	50.5	50.2	101	100	1	75.0-125			0.561	20
Chromium	50.0	2.69	53.0	53.1	101	101	1	75.0-125			0.281	20
Cobalt	50.0	U	51.8	51.9	104	104	1	75.0-125			0.226	20

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L1138570-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1138570-02 09/17/19 16:19 • (MS) R3451635-5 09/17/19 16:25 • (MSD) R3451635-6 09/17/19 16:29

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Lead	50.0	0.266	50.7	51.1	101	102	1	75.0-125			0.697	20
Selenium	50.0	U	51.6	52.9	103	106	1	75.0-125			2.51	20
Thallium	50.0	U	49.1	51.1	98.2	102	1	75.0-125			3.97	20

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Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
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
B	The same analyte is found in the associated blank.
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.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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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

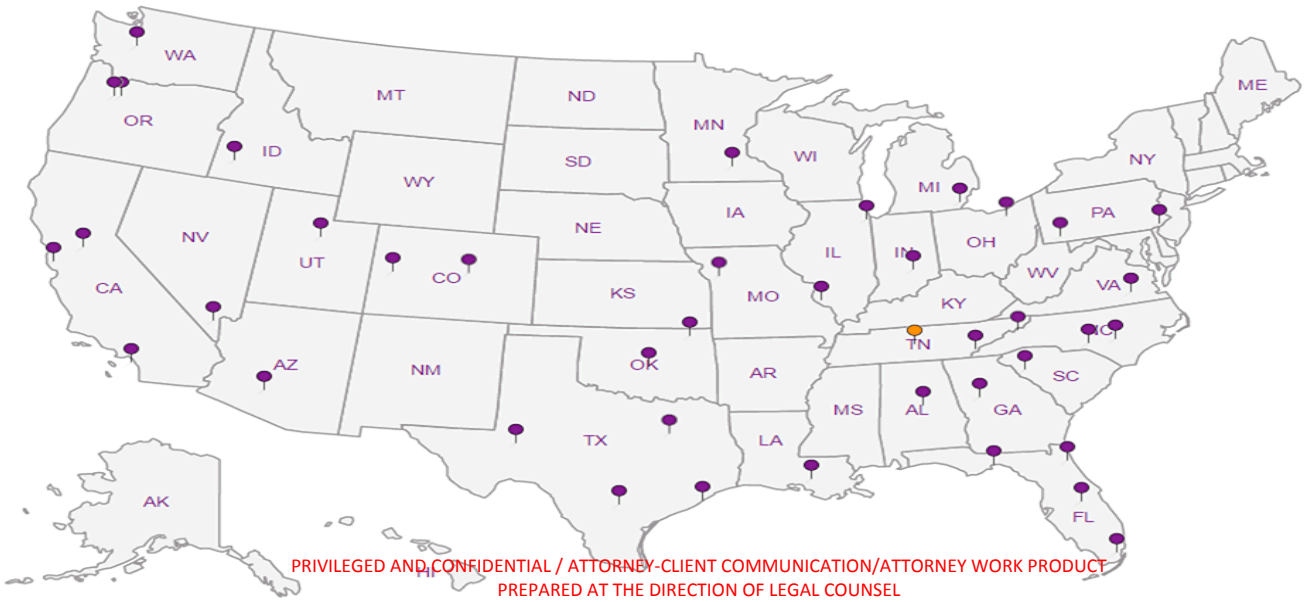
Third Party Federal Accreditations

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.



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FTN Associates - Little Rock, AR
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Report to: Dana Derrington

Email To: dld@ftn-assoc.com, hlf@ftn-assoc.com, ajp@ftn-assoc.com, mmv@ftn-assoc.com

Project Description: Entergy Independence Landfill

City/State Collected:

Please Circle: PT MT CT ET

Phone: 501-902-9642
Fax:

Client Project # 07920-1993-003

Lab Project # FTNLRAR-ENTERGYINDY

Collected by (print): Jacob Weyrauch

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Site/Facility ID #

P.O. #

Quote #

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

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Pres Chk	Cl,Fl,SO4,TDS 250mlHDPE-NoPres	Metals 250mlHDPE-HNO3	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
RP-1	Grab	GW		09/09/19	1023	4	<2	X	X	X	X		-01
RP-2		GW			0957	4	<2	X	X	X	X		02
RP-3		GW			1305	4	<2	X	X	X	X		03
RP-4		GW			1634	4	<2	X	X	X	X		04
RP-5		GW			1717	4		X	X	X	X		05
RP-6		GW			1152	4		X	X	X	X		06
RP-7		GW			1306	4		X	X	X	X		07
RP-8		GW			1403	4		X	X	X	X		08
RP-9		GW			1450	4		X	X	X	X		09
RP-10		GW			1534	4		X	X	X	X		10

Pace Analytical®
National Center for Testing & Innovation
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 1138563
H129

Acctnum: FTNLRAR
Template: T141998
Prelogin: P728866
PM: 134 - Mark W. Beasley
PB: 9/11-19

Shipped Via: FedEX Ground

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

Remarks: Metals= CCR List (As,Ba,Be,B,Ca,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl)

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __UPS X FedEx __Courier _____

Tracking # 1203 5718 3340-50

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: X Y __N
Bottles arrive intact: X Y __N
Correct bottles used: X Y __N
Sufficient volume sent: X Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: X Y __N
RAD Screen <0.5 mR/hr: X Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	09/11/19	0830		Ø	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 5.6 °C Bottles Received: 40	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Date: 9-12-19 Time: 8:45	Hold: Condition: NCF OK

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Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

October 09, 2019

FTN Associates - Little Rock, AR

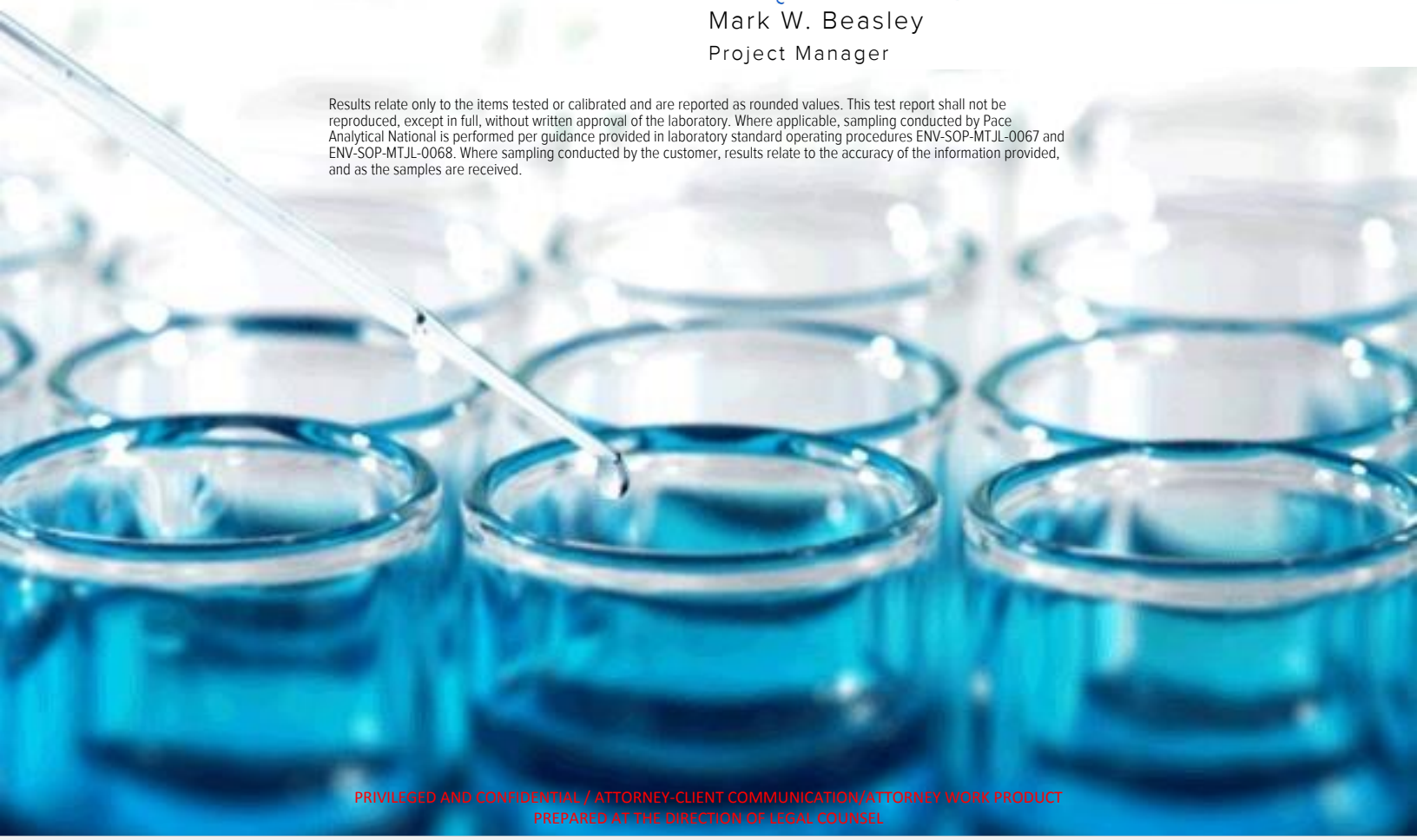
Sample Delivery Group:	L1138565
Samples Received:	09/12/2019
Project Number:	07920-1993-003
Description:	Entergy Independence Landfill

Report To: Dana Derrington
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Entire Report Reviewed By:

Mark W. Beasley
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 Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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RP-1 L1138565-01 Non-Potable Water

Collected by: Jacob Waymack | Collected date/time: 09/09/19 10:23 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1350897	1	09/24/19 11:30	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1354507	1	10/01/19 08:12	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1354507	1	10/01/19 08:12	10/02/19 16:16	RGT	Mt. Juliet, TN

RP-2 L1138565-02 Non-Potable Water

Collected by: Jacob Waymack | Collected date/time: 09/09/19 09:57 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1350897	1	09/24/19 11:30	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1354507	1	10/01/19 08:12	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1354507	1	10/01/19 08:12	10/02/19 16:16	RGT	Mt. Juliet, TN

RP-3 L1138565-03 Non-Potable Water

Collected by: Jacob Waymack | Collected date/time: 09/09/19 13:05 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1350897	1	09/24/19 11:30	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1354507	1	10/01/19 08:12	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1354507	1	10/01/19 08:12	10/02/19 16:16	RGT	Mt. Juliet, TN

RP-4 L1138565-04 Non-Potable Water

Collected by: Jacob Waymack | Collected date/time: 09/09/19 16:34 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1350897	1	09/24/19 11:30	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1354507	1	10/01/19 08:12	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1354507	1	10/01/19 08:12	10/02/19 16:16	RGT	Mt. Juliet, TN

RP-5 L1138565-05 Non-Potable Water

Collected by: Jacob Waymack | Collected date/time: 09/09/19 17:17 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1350897	1	09/24/19 11:30	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1354507	1	10/01/19 08:12	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1354507	1	10/01/19 08:12	10/02/19 16:16	RGT	Mt. Juliet, TN

RP-6 L1138565-06 Non-Potable Water

Collected by: Jacob Waymack | Collected date/time: 09/09/19 11:52 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1350897	1	09/24/19 11:30	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1354507	1	10/01/19 08:12	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1354507	1	10/01/19 08:12	10/02/19 16:16	RGT	Mt. Juliet, TN

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RP-7 L1138565-07 Non-Potable Water

Collected by: Jacob Waymack | Collected date/time: 09/09/19 13:06 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1350897	1	09/24/19 11:30	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1354507	1	10/01/19 08:12	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1354507	1	10/01/19 08:12	10/02/19 16:16	RGT	Mt. Juliet, TN

RP-8 L1138565-08 Non-Potable Water

Collected by: Jacob Waymack | Collected date/time: 09/09/19 14:03 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1350897	1	09/24/19 11:30	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1354507	1	10/01/19 08:12	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1354507	1	10/01/19 08:12	10/02/19 16:16	RGT	Mt. Juliet, TN

RP-9 L1138565-09 Non-Potable Water

Collected by: Jacob Waymack | Collected date/time: 09/09/19 14:50 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1350897	1	09/24/19 11:30	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1354507	1	10/01/19 08:12	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1354507	1	10/01/19 08:12	10/02/19 16:16	RGT	Mt. Juliet, TN

RP-10 L1138565-10 Non-Potable Water

Collected by: Jacob Waymack | Collected date/time: 09/09/19 15:34 | Received date/time: 09/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1350897	1	09/24/19 11:30	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1354507	1	10/01/19 08:12	10/07/19 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1354507	1	10/01/19 08:12	10/02/19 16:16	RGT	Mt. Juliet, TN

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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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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.

Mark W. Beasley
Project Manager

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.0258		0.397	0.601	10/07/2019 11:40	WG1350897
(T) Barium	*102*			*62.0-143*	*10/07/2019 11:40*	WG1350897
(T) Yttrium	*117*			*79.0-136*	*10/07/2019 11:40*	WG1350897

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0258		0.471	0.882	10/07/2019 11:40	WG1354507

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	-0.0291		0.0737	0.281	10/02/2019 16:16	WG1354507
(T) Barium-133	*72.5*			*30.0-143*	*10/02/2019 16:16*	WG1354507

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.114		0.351	0.593	10/07/2019 11:40	WG1350897
(T) Barium	*93.8*			*62.0-143*	*10/07/2019 11:40*	WG1350897
(T) Yttrium	*109*			*79.0-136*	*10/07/2019 11:40*	WG1350897

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0590		0.467	0.788	10/07/2019 11:40	WG1354507

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0590		0.116	0.195	10/02/2019 16:16	WG1354507
(T) Barium-133	*96.9*			*30.0-143*	*10/02/2019 16:16*	WG1354507

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.0773		0.429	0.647	10/07/2019 11:40	WG1350897
(T) Barium	*97.1*			*62.0-143*	*10/07/2019 11:40*	WG1350897
(T) Yttrium	*113*			*79.0-136*	*10/07/2019 11:40*	WG1350897

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.134		0.633	0.944	10/07/2019 11:40	WG1354507

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.134		0.204	0.297	10/02/2019 16:16	WG1354507
(T) Barium-133	*106*			*30.0-143*	*10/02/2019 16:16*	WG1354507

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Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.203		0.408	0.752	10/07/2019 11:40	WG1350897
(T) Barium	*86.7*			*62.0-143*	*10/07/2019 11:40*	WG1350897
(T) Yttrium	*118*			*79.0-136*	*10/07/2019 11:40*	WG1350897

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.0522		0.526	0.968	10/07/2019 11:40	WG1354507

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0522		0.118	0.216	10/02/2019 16:16	WG1354507
(T) Barium-133	*92.9*			*30.0-143*	*10/02/2019 16:16*	WG1354507

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.129		0.424	0.916	10/07/2019 11:40	WG1350897
(T) Barium	*84.4*			*62.0-143*	*10/07/2019 11:40*	WG1350897
(T) Yttrium	*111*			*79.0-136*	*10/07/2019 11:40*	WG1350897

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0152		0.619	1.24	10/07/2019 11:40	WG1354507

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0152		0.195	0.325	10/02/2019 16:16	WG1354507
(T) Barium-133	*107*			*30.0-143*	*10/02/2019 16:16*	WG1354507

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.175		0.394	0.902	10/07/2019 11:40	WG1350897
(T) Barium	*76.7*			*62.0-143*	*10/07/2019 11:40*	WG1350897
(T) Yttrium	*113*			*79.0-136*	*10/07/2019 11:40*	WG1350897

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.000		0.496	1.14	10/07/2019 11:40	WG1354507

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.000		0.102	0.242	10/02/2019 16:16	WG1354507
(T) Barium-133	*87.8*			*30.0-143*	*10/02/2019 16:16*	WG1354507

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.317		0.426	0.821	10/07/2019 11:40	WG1350897
(T) Barium	*83.6*			*62.0-143*	*10/07/2019 11:40*	WG1350897
(T) Yttrium	*114*			*79.0-136*	*10/07/2019 11:40*	WG1350897

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.438		0.553	0.967	10/07/2019 11:40	WG1354507

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.121		0.127	0.146	10/02/2019 16:16	WG1354507
(T) Barium-133	*106*			*30.0-143*	*10/02/2019 16:16*	WG1354507

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.558		0.455	0.856	10/07/2019 11:40	WG1350897
(T) Barium	*87.9*			*62.0-143*	*10/07/2019 11:40*	WG1350897
(T) Yttrium	*113*			*79.0-136*	*10/07/2019 11:40*	WG1350897

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.666		0.599	1.07	10/07/2019 11:40	WG1354507

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.108		0.144	0.209	10/02/2019 16:16	WG1354507
(T) Barium-133	*109*			*30.0-143*	*10/02/2019 16:16*	WG1354507

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.244		0.366	0.756	10/07/2019 11:40	WG1350897
(T) Barium	*86.2*			*62.0-143*	*10/07/2019 11:40*	WG1350897
(T) Yttrium	*123*			*79.0-136*	*10/07/2019 11:40*	WG1350897

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.00754		0.544	1.1	10/07/2019 11:40	WG1354507

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.00754		0.178	0.34	10/02/2019 16:16	WG1354507
(T) Barium-133	*105*			*30.0-143*	*10/02/2019 16:16*	WG1354507

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Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.220		0.439	0.869	10/07/2019 11:40	WG1350897
(T) Barium	*78.8*			*62.0-143*	*10/07/2019 11:40*	WG1350897
(T) Yttrium	*118*			*79.0-136*	*10/07/2019 11:40*	WG1350897

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.0927		0.583	1.09	10/07/2019 11:40	WG1354507

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0927		0.144	0.224	10/02/2019 16:16	WG1354507
(T) Barium-133	*97.5*			*30.0-143*	*10/02/2019 16:16*	WG1354507

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Method Blank (MB)

(MB) R3459265-1 10/04/19 09:20

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-228	0.617		0.417
(T) Barium	*109*		
(T) Yttrium	*109*		

L1138758-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1138758-01 10/07/19 11:40 • (DUP) R3459265-5 10/04/19 09:20

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.281	0.000	1	200	0.375		20	3
(T) Barium	*90.5*	*96.6*						
(T) Yttrium	*113*	*117*						

Laboratory Control Sample (LCS)

(LCS) R3459265-2 10/04/19 09:20

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.52	110	80.0-120	
(T) Barium			*104*		
(T) Yttrium			*112*		

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Method Blank (MB)

(MB) R3457799-1 10/02/19 16:16

Analyte	MB Result	MB Qualifier	MB MDA
	pCi/l		pCi/l
Radium-226	0.0174		0.0703
(T) Barium-133	*106*		

L1138565-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1138565-05 10/02/19 16:16 • (DUP) R3457799-5 10/02/19 16:16

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	pCi/l		%			%	
Radium-226	0.0152	-0.0518	1	200	0.283		20	3
(T) Barium-133	*107*	*86.2*						

Laboratory Control Sample (LCS)

(LCS) R3457799-2 10/02/19 16:16

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-226	5.02	5.00	99.5	80.0-120	
(T) Barium-133			*101*		

L1143826-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1143826-01 10/02/19 16:16 • (MS) R3457799-3 10/02/19 16:16 • (MSD) R3457799-4 10/02/19 16:16

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
	pCi/l	pCi/l	pCi/l	pCi/l	%	%		%			%		%
Radium-226	20.1	0.251	18.4	20.3	90.2	99.8	1	75.0-125			9.97		20
(T) Barium-133		*95.1*			*98.1*	*103*							

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Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
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

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

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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

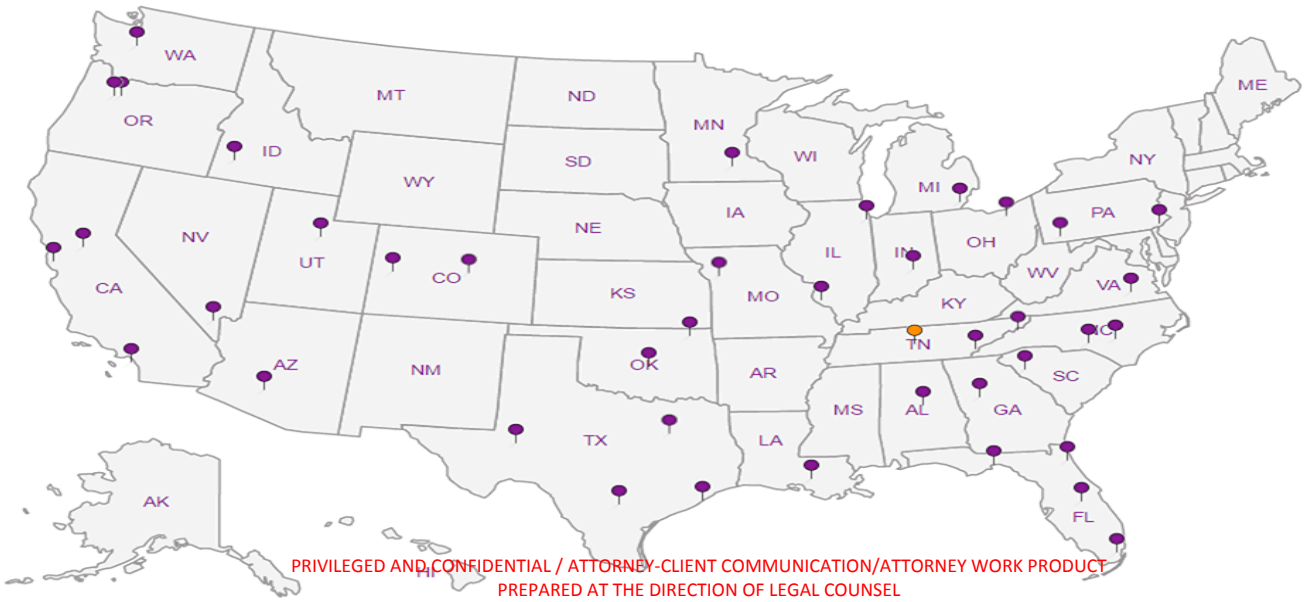
Third Party Federal Accreditations

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.



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FTN Associates - Little Rock, AR

3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Report to: Dana Derrington

Email To: dld@ftn-assoc.com, hlf@ftn-assoc.com, ajp@ftn-assoc.com, mmv@ftn-assoc.com

Project Description: Entergy Independence Landfill

City/State Collected:

Please Circle: PT MT CT ET

Phone: 501-902-9642
Fax:

Client Project # 07920-1993-003

Lab Project # FTNLRAR-ENTERGYINDY

Collected by (print): Jacob Wyman

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

Analysis / Container / Preservative

Pres Chk

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Cl,Fl,SO4,TDS 250mlHDPE-NoPres	Metals 250mlHDPE-HNO3	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
RP-1	Grab	GW		09/09/19	1023	4	X	X	X	X		-01
RP-2		GW			0957	4	X	X	X	X		02
RP-3		GW			1305	4	X	X	X	X		03
RP-4		GW			1634	4	X	X	X	X		04
RP-5		GW			1717	4	X	X	X	X		05
RP-6		GW			1152	4	X	X	X	X		06
RP-7		GW			1306	4	X	X	X	X		07
RP-8		GW			1403	4	X	X	X	X		08
RP-9		GW			1450	4	X	X	X	X		09
RP-10		GW			1534	4	X	X	X	X		10

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

Remarks: Metals= CCR List (As,Ba,Be,B,Ca,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl)

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS X FedEx __ Courier _____

Tracking # 1203 5718 3340-50

Trip Blank Received: Yes (No) HCL / MeoH TBR

Temp: 5.6 °C Bottles Received: 40

Relinquished by : (Signature) Date: 09/11/19 Time: 0830 Received by: (Signature)

Relinquished by : (Signature) Date: Time: Received by: (Signature)

Relinquished by : (Signature) Date: Time: Received for lab by: (Signature) Date: 9-12-19 Time: 8:45

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: X Y __N
Bottles arrive intact: X Y __N
Correct bottles used: X Y __N
Sufficient volume sent: X Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: X Y __N

Chain of Custody Page ___ of ___

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 1138565

H129

Acctnum: FTNLRAR
Template: T141998
Prelogin: P728866
PM: 134 - Mark W. Beasley
PB: 9-11-19 MWB
Shipped Via: FedEX Ground

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Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

November 27, 2019

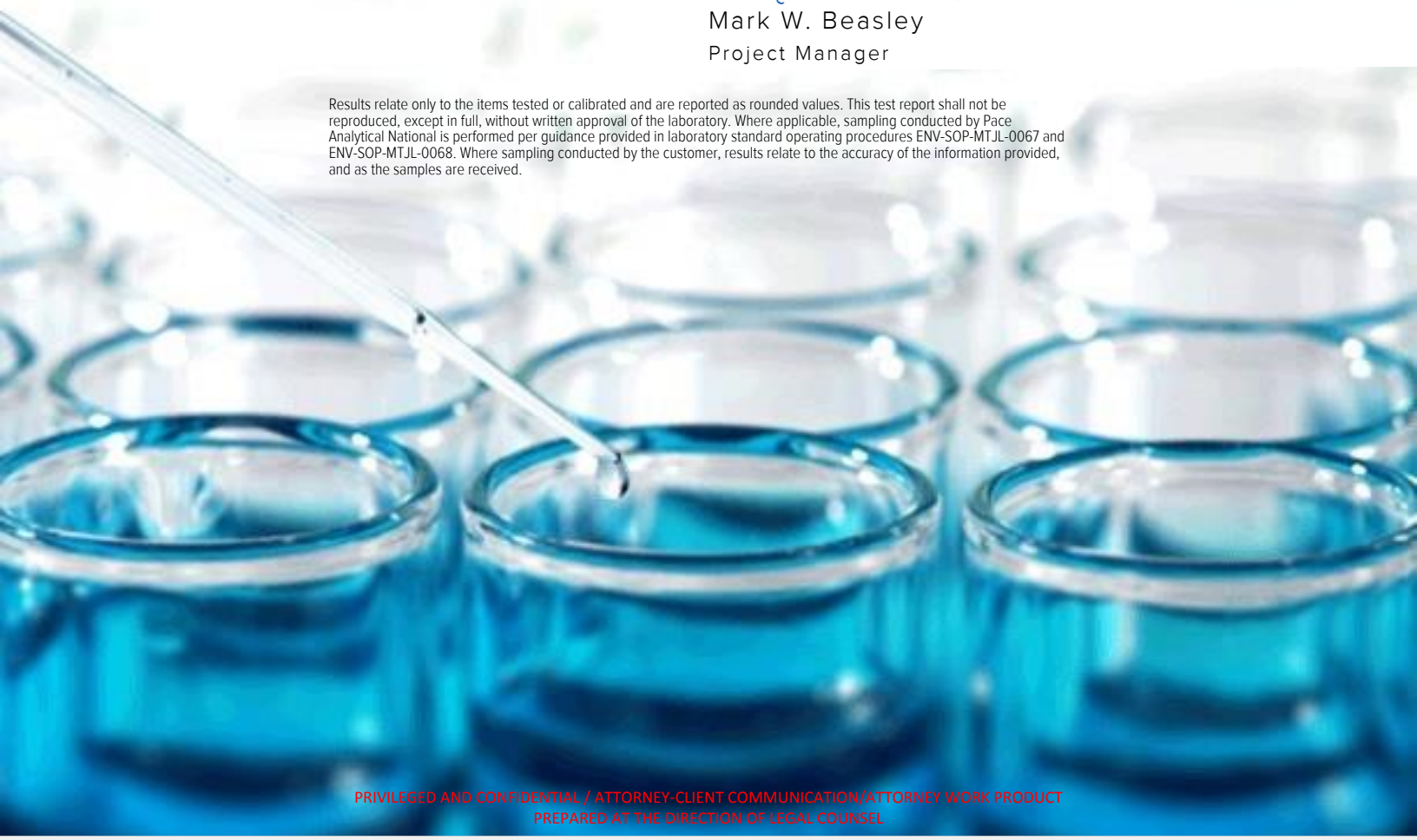
FTN Associates - Little Rock, AR

Sample Delivery Group:	L1161786
Samples Received:	11/16/2019
Project Number:	07920-1993-003
Description:	Entergy Independence Landfill
Report To:	Dana Derrington
	3 Innwood Circle, Suite 220
	Little Rock, AR 72211

Entire Report Reviewed By:

Mark W. Beasley
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 Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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RP-1 L1161786-01 GW

Collected by: Andrew Pruitt | Collected date/time: 11/12/19 12:25 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1382044	1	11/19/19 07:26	11/19/19 09:12	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1386713	1	11/25/19 21:11	11/25/19 21:11	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1382136	1	11/19/19 10:53	11/19/19 18:08	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1382329	1	11/21/19 23:12	11/22/19 12:31	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1383991	1	11/20/19 22:06	11/21/19 18:44	LD	Mt. Juliet, TN

RP-2 L1161786-02 GW

Collected by: Andrew Pruitt | Collected date/time: 11/12/19 13:15 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1382044	1	11/19/19 07:26	11/19/19 09:12	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1386713	1	11/25/19 21:24	11/25/19 21:24	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1382136	1	11/19/19 10:53	11/19/19 18:10	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1382329	1	11/21/19 23:12	11/22/19 12:34	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1383991	1	11/20/19 22:06	11/21/19 18:48	LD	Mt. Juliet, TN

RP-3 L1161786-03 GW

Collected by: Andrew Pruitt | Collected date/time: 11/12/19 11:32 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1382044	1	11/19/19 07:26	11/19/19 09:12	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1386713	1	11/25/19 22:02	11/25/19 22:02	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1382136	1	11/19/19 10:53	11/19/19 18:12	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1382329	1	11/21/19 23:12	11/22/19 12:37	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1383991	1	11/20/19 22:06	11/21/19 18:51	LD	Mt. Juliet, TN

RP-4 L1161786-04 GW

Collected by: Andrew Pruitt | Collected date/time: 11/12/19 09:33 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1382044	1	11/19/19 07:26	11/19/19 09:12	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1386713	1	11/25/19 22:15	11/25/19 22:15	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1386713	5	11/25/19 22:28	11/25/19 22:28	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1382136	1	11/19/19 10:53	11/19/19 18:13	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1382329	1	11/21/19 23:12	11/22/19 12:39	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1383991	1	11/20/19 22:06	11/21/19 19:25	LD	Mt. Juliet, TN

RP-5 L1161786-05 GW

Collected by: Andrew Pruitt | Collected date/time: 11/12/19 10:29 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1382044	1	11/19/19 07:26	11/19/19 09:12	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1386847	1	11/25/19 21:16	11/25/19 21:16	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1386847	10	11/25/19 21:29	11/25/19 21:29	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1382136	1	11/19/19 10:53	11/19/19 18:15	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1382329	1	11/21/19 23:12	11/22/19 12:42	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1383991	1	11/20/19 22:06	11/21/19 19:28	LD	Mt. Juliet, TN

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RP-6 L1161786-06 GW

Collected by: Andrew Pruitt | Collected date/time: 11/12/19 14:16 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1382044	1	11/19/19 07:26	11/19/19 09:12	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1386847	1	11/25/19 21:41	11/25/19 21:41	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1386847	5	11/25/19 21:54	11/25/19 21:54	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1382137	1	11/19/19 10:51	11/19/19 16:30	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1382329	1	11/21/19 23:12	11/22/19 12:50	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1383991	1	11/20/19 22:06	11/21/19 19:32	LD	Mt. Juliet, TN

RP-7 L1161786-07 GW

Collected by: Andrew Pruitt | Collected date/time: 11/13/19 12:22 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1382044	1	11/19/19 07:26	11/19/19 09:12	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1386847	1	11/25/19 22:07	11/25/19 22:07	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1386847	5	11/25/19 22:20	11/25/19 22:20	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1382137	1	11/19/19 10:51	11/19/19 16:36	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1382329	1	11/21/19 23:12	11/22/19 12:53	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1383991	1	11/20/19 22:06	11/21/19 19:36	LD	Mt. Juliet, TN

RP-8 L1161786-08 GW

Collected by: Andrew Pruitt | Collected date/time: 11/13/19 09:56 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1382044	1	11/19/19 07:26	11/19/19 09:12	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1386847	1	11/25/19 22:33	11/25/19 22:33	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1382137	1	11/19/19 10:51	11/19/19 16:38	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1382329	1	11/21/19 23:12	11/22/19 12:56	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1383991	1	11/20/19 22:06	11/21/19 19:40	LD	Mt. Juliet, TN

RP-9 L1161786-09 GW

Collected by: Andrew Pruitt | Collected date/time: 11/13/19 10:48 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1382044	1	11/19/19 07:26	11/19/19 09:12	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1386847	1	11/25/19 22:45	11/25/19 22:45	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1382137	1	11/19/19 10:51	11/19/19 16:40	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1382329	1	11/21/19 23:12	11/22/19 12:59	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1383991	1	11/20/19 22:06	11/21/19 19:44	LD	Mt. Juliet, TN

RP-10 L1161786-10 GW

Collected by: Andrew Pruitt | Collected date/time: 11/13/19 11:30 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1382044	1	11/19/19 07:26	11/19/19 09:12	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1386847	1	11/26/19 00:02	11/26/19 00:02	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1386847	5	11/26/19 00:15	11/26/19 00:15	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1382137	1	11/19/19 10:51	11/19/19 16:42	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1382329	1	11/21/19 23:12	11/22/19 13:02	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1383991	1	11/20/19 22:06	11/21/19 19:47	LD	Mt. Juliet, TN

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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.

Mark W. Beasley
Project Manager

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	196000		2820	10000	1	11/19/2019 09:12	WG1382044

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	7600		51.9	1000	1	11/25/2019 21:11	WG1386713
Fluoride	75.2	J	9.90	100	1	11/25/2019 21:11	WG1386713
Sulfate	16000		77.4	5000	1	11/25/2019 21:11	WG1386713

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	11/19/2019 18:08	WG1382136

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	14.5	J	12.6	200	1	11/22/2019 12:31	WG1382329
Calcium	47600		46.3	1000	1	11/22/2019 12:31	WG1382329
Lithium	U		5.30	15.0	1	11/22/2019 12:31	WG1382329
Molybdenum	U		1.60	5.00	1	11/22/2019 12:31	WG1382329

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	11/21/2019 18:44	WG1383991
Arsenic	U		0.250	2.00	1	11/21/2019 18:44	WG1383991
Barium	42.4		0.360	5.00	1	11/21/2019 18:44	WG1383991
Beryllium	U		0.120	2.00	1	11/21/2019 18:44	WG1383991
Cadmium	U		0.160	1.00	1	11/21/2019 18:44	WG1383991
Chromium	U		0.540	2.00	1	11/21/2019 18:44	WG1383991
Cobalt	U		0.260	2.00	1	11/21/2019 18:44	WG1383991
Lead	0.566	J	0.240	2.00	1	11/21/2019 18:44	WG1383991
Selenium	1.86	J	0.380	2.00	1	11/21/2019 18:44	WG1383991
Thallium	U		0.190	2.00	1	11/21/2019 18:44	WG1383991

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	173000		2820	10000	1	11/19/2019 09:12	WG1382044

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	3700		51.9	1000	1	11/25/2019 21:24	WG1386713
Fluoride	93.1	J	9.90	100	1	11/25/2019 21:24	WG1386713
Sulfate	20500		77.4	5000	1	11/25/2019 21:24	WG1386713

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	11/19/2019 18:10	WG1382136

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	64.1	J	12.6	200	1	11/22/2019 12:34	WG1382329
Calcium	37300		46.3	1000	1	11/22/2019 12:34	WG1382329
Lithium	7.80	J	5.30	15.0	1	11/22/2019 12:34	WG1382329
Molybdenum	U		1.60	5.00	1	11/22/2019 12:34	WG1382329

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	11/21/2019 18:48	WG1383991
Arsenic	0.382	J	0.250	2.00	1	11/21/2019 18:48	WG1383991
Barium	52.7		0.360	5.00	1	11/21/2019 18:48	WG1383991
Beryllium	U		0.120	2.00	1	11/21/2019 18:48	WG1383991
Cadmium	U		0.160	1.00	1	11/21/2019 18:48	WG1383991
Chromium	U		0.540	2.00	1	11/21/2019 18:48	WG1383991
Cobalt	U		0.260	2.00	1	11/21/2019 18:48	WG1383991
Lead	0.337	J	0.240	2.00	1	11/21/2019 18:48	WG1383991
Selenium	4.79		0.380	2.00	1	11/21/2019 18:48	WG1383991
Thallium	U		0.190	2.00	1	11/21/2019 18:48	WG1383991

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	124000		2820	10000	1	11/19/2019 09:12	WG1382044

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	5470		51.9	1000	1	11/25/2019 22:02	WG1386713
Fluoride	69.3	J	9.90	100	1	11/25/2019 22:02	WG1386713
Sulfate	9630		77.4	5000	1	11/25/2019 22:02	WG1386713

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	11/19/2019 18:12	WG1382136

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	14.8	J	12.6	200	1	11/22/2019 12:37	WG1382329
Calcium	44600		46.3	1000	1	11/22/2019 12:37	WG1382329
Lithium	U		5.30	15.0	1	11/22/2019 12:37	WG1382329
Molybdenum	U		1.60	5.00	1	11/22/2019 12:37	WG1382329

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	11/21/2019 18:51	WG1383991
Arsenic	U		0.250	2.00	1	11/21/2019 18:51	WG1383991
Barium	31.3		0.360	5.00	1	11/21/2019 18:51	WG1383991
Beryllium	U		0.120	2.00	1	11/21/2019 18:51	WG1383991
Cadmium	U		0.160	1.00	1	11/21/2019 18:51	WG1383991
Chromium	U		0.540	2.00	1	11/21/2019 18:51	WG1383991
Cobalt	U		0.260	2.00	1	11/21/2019 18:51	WG1383991
Lead	U		0.240	2.00	1	11/21/2019 18:51	WG1383991
Selenium	1.36	J	0.380	2.00	1	11/21/2019 18:51	WG1383991
Thallium	U		0.190	2.00	1	11/21/2019 18:51	WG1383991

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	474000		2820	10000	1	11/19/2019 09:12	WG1382044

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	12600		51.9	1000	1	11/25/2019 22:15	WG1386713
Fluoride	216		9.90	100	1	11/25/2019 22:15	WG1386713
Sulfate	245000		387	25000	5	11/25/2019 22:28	WG1386713

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	11/19/2019 18:13	WG1382136

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	632		12.6	200	1	11/22/2019 12:39	WG1382329
Calcium	81400		46.3	1000	1	11/22/2019 12:39	WG1382329
Lithium	5.39	J	5.30	15.0	1	11/22/2019 12:39	WG1382329
Molybdenum	U		1.60	5.00	1	11/22/2019 12:39	WG1382329

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	11/21/2019 19:25	WG1383991
Arsenic	U		0.250	2.00	1	11/21/2019 19:25	WG1383991
Barium	36.3		0.360	5.00	1	11/21/2019 19:25	WG1383991
Beryllium	U		0.120	2.00	1	11/21/2019 19:25	WG1383991
Cadmium	U		0.160	1.00	1	11/21/2019 19:25	WG1383991
Chromium	U		0.540	2.00	1	11/21/2019 19:25	WG1383991
Cobalt	U		0.260	2.00	1	11/21/2019 19:25	WG1383991
Lead	0.341	J	0.240	2.00	1	11/21/2019 19:25	WG1383991
Selenium	2.74		0.380	2.00	1	11/21/2019 19:25	WG1383991
Thallium	U		0.190	2.00	1	11/21/2019 19:25	WG1383991

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	695000		2820	10000	1	11/19/2019 09:12	WG1382044

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	17800		51.9	1000	1	11/25/2019 21:16	WG1386847
Fluoride	311		9.90	100	1	11/25/2019 21:16	WG1386847
Sulfate	429000		774	50000	10	11/25/2019 21:29	WG1386847

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	11/19/2019 18:15	WG1382136

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	1470		12.6	200	1	11/22/2019 12:42	WG1382329
Calcium	107000		46.3	1000	1	11/22/2019 12:42	WG1382329
Lithium	9.13	J	5.30	15.0	1	11/22/2019 12:42	WG1382329
Molybdenum	4.86	J	1.60	5.00	1	11/22/2019 12:42	WG1382329

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	11/21/2019 19:28	WG1383991
Arsenic	0.476	J	0.250	2.00	1	11/21/2019 19:28	WG1383991
Barium	26.1		0.360	5.00	1	11/21/2019 19:28	WG1383991
Beryllium	U		0.120	2.00	1	11/21/2019 19:28	WG1383991
Cadmium	U		0.160	1.00	1	11/21/2019 19:28	WG1383991
Chromium	U		0.540	2.00	1	11/21/2019 19:28	WG1383991
Cobalt	U		0.260	2.00	1	11/21/2019 19:28	WG1383991
Lead	0.308	J	0.240	2.00	1	11/21/2019 19:28	WG1383991
Selenium	0.881	J	0.380	2.00	1	11/21/2019 19:28	WG1383991
Thallium	U		0.190	2.00	1	11/21/2019 19:28	WG1383991

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	774000		2820	10000	1	11/19/2019 09:12	WG1382044

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	12900		51.9	1000	1	11/25/2019 21:41	WG1386847
Fluoride	464		9.90	100	1	11/25/2019 21:41	WG1386847
Sulfate	352000		387	25000	5	11/25/2019 21:54	WG1386847

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	11/19/2019 16:30	WG1382137

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	497		12.6	200	1	11/22/2019 12:50	WG1382329
Calcium	130000		46.3	1000	1	11/22/2019 12:50	WG1382329
Lithium	29.1		5.30	15.0	1	11/22/2019 12:50	WG1382329
Molybdenum	3.66	J	1.60	5.00	1	11/22/2019 12:50	WG1382329

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	11/21/2019 19:32	WG1383991
Arsenic	0.463	J	0.250	2.00	1	11/21/2019 19:32	WG1383991
Barium	36.3		0.360	5.00	1	11/21/2019 19:32	WG1383991
Beryllium	U		0.120	2.00	1	11/21/2019 19:32	WG1383991
Cadmium	U		0.160	1.00	1	11/21/2019 19:32	WG1383991
Chromium	U		0.540	2.00	1	11/21/2019 19:32	WG1383991
Cobalt	U		0.260	2.00	1	11/21/2019 19:32	WG1383991
Lead	U		0.240	2.00	1	11/21/2019 19:32	WG1383991
Selenium	6.18		0.380	2.00	1	11/21/2019 19:32	WG1383991
Thallium	U		0.190	2.00	1	11/21/2019 19:32	WG1383991

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	439000		2820	10000	1	11/19/2019 09:12	WG1382044

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	9860		51.9	1000	1	11/25/2019 22:07	WG1386847
Fluoride	211		9.90	100	1	11/25/2019 22:07	WG1386847
Sulfate	177000		387	25000	5	11/25/2019 22:20	WG1386847

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	11/19/2019 16:36	WG1382137

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	214		12.6	200	1	11/22/2019 12:53	WG1382329
Calcium	83000		46.3	1000	1	11/22/2019 12:53	WG1382329
Lithium	12.0	J	5.30	15.0	1	11/22/2019 12:53	WG1382329
Molybdenum	U		1.60	5.00	1	11/22/2019 12:53	WG1382329

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	11/21/2019 19:36	WG1383991
Arsenic	U		0.250	2.00	1	11/21/2019 19:36	WG1383991
Barium	27.9		0.360	5.00	1	11/21/2019 19:36	WG1383991
Beryllium	U		0.120	2.00	1	11/21/2019 19:36	WG1383991
Cadmium	U		0.160	1.00	1	11/21/2019 19:36	WG1383991
Chromium	U		0.540	2.00	1	11/21/2019 19:36	WG1383991
Cobalt	U		0.260	2.00	1	11/21/2019 19:36	WG1383991
Lead	U		0.240	2.00	1	11/21/2019 19:36	WG1383991
Selenium	4.31		0.380	2.00	1	11/21/2019 19:36	WG1383991
Thallium	U		0.190	2.00	1	11/21/2019 19:36	WG1383991

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	376000		2820	10000	1	11/19/2019 09:12	WG1382044

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	14000		51.9	1000	1	11/25/2019 22:33	WG1386847
Fluoride	104	B	9.90	100	1	11/25/2019 22:33	WG1386847
Sulfate	62000		77.4	5000	1	11/25/2019 22:33	WG1386847

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	11/19/2019 16:38	WG1382137

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	46.1	J	12.6	200	1	11/22/2019 12:56	WG1382329
Calcium	80600		46.3	1000	1	11/22/2019 12:56	WG1382329
Lithium	5.65	J	5.30	15.0	1	11/22/2019 12:56	WG1382329
Molybdenum	U		1.60	5.00	1	11/22/2019 12:56	WG1382329

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	11/21/2019 19:40	WG1383991
Arsenic	0.317	J	0.250	2.00	1	11/21/2019 19:40	WG1383991
Barium	57.7		0.360	5.00	1	11/21/2019 19:40	WG1383991
Beryllium	U		0.120	2.00	1	11/21/2019 19:40	WG1383991
Cadmium	U		0.160	1.00	1	11/21/2019 19:40	WG1383991
Chromium	U		0.540	2.00	1	11/21/2019 19:40	WG1383991
Cobalt	U		0.260	2.00	1	11/21/2019 19:40	WG1383991
Lead	U		0.240	2.00	1	11/21/2019 19:40	WG1383991
Selenium	8.19		0.380	2.00	1	11/21/2019 19:40	WG1383991
Thallium	U		0.190	2.00	1	11/21/2019 19:40	WG1383991

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	196000		2820	10000	1	11/19/2019 09:12	WG1382044

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6240		51.9	1000	1	11/25/2019 22:45	WG1386847
Fluoride	87.1	B J	9.90	100	1	11/25/2019 22:45	WG1386847
Sulfate	15300		77.4	5000	1	11/25/2019 22:45	WG1386847

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	11/19/2019 16:40	WG1382137

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	18.3	J	12.6	200	1	11/22/2019 12:59	WG1382329
Calcium	48200		46.3	1000	1	11/22/2019 12:59	WG1382329
Lithium	U		5.30	15.0	1	11/22/2019 12:59	WG1382329
Molybdenum	U		1.60	5.00	1	11/22/2019 12:59	WG1382329

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	11/21/2019 19:44	WG1383991
Arsenic	U		0.250	2.00	1	11/21/2019 19:44	WG1383991
Barium	36.5		0.360	5.00	1	11/21/2019 19:44	WG1383991
Beryllium	U		0.120	2.00	1	11/21/2019 19:44	WG1383991
Cadmium	U		0.160	1.00	1	11/21/2019 19:44	WG1383991
Chromium	U		0.540	2.00	1	11/21/2019 19:44	WG1383991
Cobalt	U		0.260	2.00	1	11/21/2019 19:44	WG1383991
Lead	U		0.240	2.00	1	11/21/2019 19:44	WG1383991
Selenium	1.05	J	0.380	2.00	1	11/21/2019 19:44	WG1383991
Thallium	U		0.190	2.00	1	11/21/2019 19:44	WG1383991

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Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	391000		2820	10000	1	11/19/2019 09:12	WG1382044

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	9520		51.9	1000	1	11/26/2019 00:02	WG1386847
Fluoride	154	B	9.90	100	1	11/26/2019 00:02	WG1386847
Sulfate	134000		387	25000	5	11/26/2019 00:15	WG1386847

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	11/19/2019 16:42	WG1382137

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	413		12.6	200	1	11/22/2019 13:02	WG1382329
Calcium	76900		46.3	1000	1	11/22/2019 13:02	WG1382329
Lithium	6.27	J	5.30	15.0	1	11/22/2019 13:02	WG1382329
Molybdenum	U		1.60	5.00	1	11/22/2019 13:02	WG1382329

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	11/21/2019 19:47	WG1383991
Arsenic	0.325	J	0.250	2.00	1	11/21/2019 19:47	WG1383991
Barium	60.6		0.360	5.00	1	11/21/2019 19:47	WG1383991
Beryllium	U		0.120	2.00	1	11/21/2019 19:47	WG1383991
Cadmium	U		0.160	1.00	1	11/21/2019 19:47	WG1383991
Chromium	U		0.540	2.00	1	11/21/2019 19:47	WG1383991
Cobalt	U		0.260	2.00	1	11/21/2019 19:47	WG1383991
Lead	U		0.240	2.00	1	11/21/2019 19:47	WG1383991
Selenium	3.06		0.380	2.00	1	11/21/2019 19:47	WG1383991
Thallium	U		0.190	2.00	1	11/21/2019 19:47	WG1383991

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Method Blank (MB)

(MB) R3474136-1 11/19/19 09:12

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1161786-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1161786-01 11/19/19 09:12 • (DUP) R3474136-3 11/19/19 09:12

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	196000	199000	1	1.52		5

Laboratory Control Sample (LCS)

(LCS) R3474136-2 11/19/19 09:12

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8440000	95.9	85.0-115	

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Method Blank (MB)

(MB) R3476298-1 11/25/19 12:17

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	60.0	J	51.9	1000
Fluoride	U		9.90	100
Sulfate	87.0	J	77.4	5000

L1161732-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1161732-12 11/25/19 16:05 • (DUP) R3476298-3 11/25/19 16:18

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	182	505	1	94.1	J P1	15
Fluoride	U	10.2	1	200	J P1	15
Sulfate	123	316	1	88.0	J P1	15

L1161786-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1161786-02 11/25/19 21:24 • (DUP) R3476298-6 11/25/19 21:37

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	3700	3770	1	2.00		15
Fluoride	93.1	93.1	1	0.000	J	15
Sulfate	20500	20600	1	0.113		15

Laboratory Control Sample (LCS)

(LCS) R3476298-2 11/25/19 12:29

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	38900	97.1	80.0-120	
Fluoride	8000	7800	97.5	80.0-120	
Sulfate	40000	39300	98.3	80.0-120	

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L1161732-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1161732-13 11/25/19 16:30 • (MS) R3476298-4 11/25/19 16:43 • (MSD) R3476298-5 11/25/19 16:56

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	11700	61400	61300	99.4	99.2	1	80.0-120			0.155	15
Fluoride	5000	277	5310	5320	101	101	1	80.0-120			0.132	15
Sulfate	50000	238000	274000	273000	71.9	70.7	1	80.0-120	E V	E V	0.228	15

L1161786-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1161786-02 11/25/19 21:24 • (MS) R3476298-7 11/25/19 21:49

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	3700	54200	101	1	80.0-120	
Fluoride	5000	93.1	5260	103	1	80.0-120	
Sulfate	50000	20500	70600	100	1	80.0-120	

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Method Blank (MB)

(MB) R3476342-1 11/25/19 19:08

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	57.1	J	51.9	1000
Fluoride	18.2	J	9.90	100
Sulfate	137	J	77.4	5000

L1161786-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1161786-09 11/25/19 22:45 • (DUP) R3476342-3 11/25/19 23:24

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	6240	5500	1	12.6		15
Fluoride	87.1	79.9	1	8.62	J	15
Sulfate	15300	13400	1	13.6		15

L1161791-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1161791-14 11/26/19 06:26 • (DUP) R3476342-6 11/26/19 07:04

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	46800	46800	1	0.0376		15
Fluoride	331	336	1	1.41		15
Sulfate	45000	45400	1	0.778		15

Laboratory Control Sample (LCS)

(LCS) R3476342-2 11/25/19 19:21

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39000	97.4	80.0-120	
Fluoride	8000	7710	96.3	80.0-120	
Sulfate	40000	40100	100	80.0-120	

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L1161786-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1161786-09 11/25/19 22:45 • (MS) R3476342-4 11/25/19 23:37 • (MSD) R3476342-5 11/25/19 23:49

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	6240	57200	58200	102	104	1	80.0-120			1.64	15
Fluoride	5000	87.1	5170	5280	102	104	1	80.0-120			2.16	15
Sulfate	50000	15300	67200	67600	104	105	1	80.0-120			0.604	15

L1161791-14 Original Sample (OS) • Matrix Spike (MS)

(OS) L1161791-14 11/26/19 06:26 • (MS) R3476342-7 11/26/19 07:17

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	46800	95100	96.7	1	80.0-120	
Fluoride	5000	331	5280	99.0	1	80.0-120	
Sulfate	50000	45000	94900	99.7	1	80.0-120	

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Method Blank (MB)

(MB) R3473917-1 11/19/19 17:21

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Mercury	U		0.0490	0.200

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

(LCS) R3473917-2 11/19/19 17:23 • (LCSD) R3473917-3 11/19/19 17:25

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Mercury	3.00	2.89	2.85	96.2	95.0	80.0-120			1.25	20

L1161712-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1161712-01 11/19/19 17:27 • (MS) R3473917-4 11/19/19 17:28 • (MSD) R3473917-5 11/19/19 17:34

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Mercury	3.00	ND	2.61	2.63	87.1	87.7	1	75.0-125			0.751	20

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Method Blank (MB)

(MB) R3473916-1 11/19/19 16:24

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Mercury	U		0.0490	0.200

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

(LCS) R3473916-2 11/19/19 16:26 • (LCSD) R3473916-3 11/19/19 16:28

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Mercury	3.00	2.84	2.93	94.5	97.7	80.0-120			3.29	20

L1161786-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1161786-06 11/19/19 16:30 • (MS) R3473916-4 11/19/19 16:32 • (MSD) R3473916-5 11/19/19 16:34

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Mercury	3.00	U	2.95	2.92	98.3	97.3	1	75.0-125			1.02	20

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Method Blank (MB)

(MB) R3475090-1 11/22/19 11:44

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		12.6	200
Calcium	U		46.3	1000
Lithium	U		5.30	15.0
Molybdenum	U		1.60	5.00

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

(LCS) R3475090-2 11/22/19 11:47 • (LCSD) R3475090-3 11/22/19 11:50

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Boron	1000	964	965	96.4	96.5	80.0-120			0.132	20
Calcium	10000	9550	9500	95.5	95.0	80.0-120			0.569	20
Lithium	1000	960	957	96.0	95.7	80.0-120			0.322	20
Molybdenum	1000	982	973	98.2	97.3	80.0-120			0.923	20

L1161761-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1161761-01 11/22/19 11:52 • (MS) R3475090-5 11/22/19 11:58 • (MSD) R3475090-6 11/22/19 12:00

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	219	1200	1190	98.5	97.1	1	75.0-125			1.16	20
Calcium	10000	192000	197000	198000	56.4	60.1	1	75.0-125	V	V	0.183	20
Lithium	1000	20.4	1000	991	98.3	97.1	1	75.0-125			1.16	20
Molybdenum	1000	29.3	1020	1010	98.6	97.9	1	75.0-125			0.695	20

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Method Blank (MB)

(MB) R3474780-1 11/21/19 18:17

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Antimony	U		0.754	2.00
Arsenic	U		0.250	2.00
Barium	U		0.360	5.00
Beryllium	U		0.120	2.00
Cadmium	U		0.160	1.00
Chromium	U		0.540	2.00
Cobalt	U		0.260	2.00
Lead	U		0.240	2.00
Selenium	U		0.380	2.00
Thallium	U		0.190	2.00

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

(LCS) R3474780-2 11/21/19 18:21 • (LCSD) R3474780-3 11/21/19 18:25

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	51.5	51.4	103	103	80.0-120			0.211	20
Arsenic	50.0	50.8	50.9	102	102	80.0-120			0.201	20
Barium	50.0	49.3	47.9	98.5	95.7	80.0-120			2.91	20
Beryllium	50.0	47.5	47.1	94.9	94.3	80.0-120			0.717	20
Cadmium	50.0	49.4	48.0	98.8	96.0	80.0-120			2.93	20
Chromium	50.0	50.2	50.9	100	102	80.0-120			1.47	20
Cobalt	50.0	51.3	51.5	103	103	80.0-120			0.508	20
Lead	50.0	48.5	47.5	97.0	95.0	80.0-120			2.16	20
Selenium	50.0	56.7	55.6	113	111	80.0-120			1.87	20
Thallium	50.0	47.9	47.0	95.9	94.0	80.0-120			1.92	20

L1161135-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1161135-01 11/21/19 18:29 • (MS) R3474780-5 11/21/19 18:37 • (MSD) R3474780-6 11/21/19 18:40

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	ND	53.1	54.3	106	109	1	75.0-125			2.29	20
Arsenic	50.0	ND	52.6	51.1	103	99.6	1	75.0-125			2.92	20
Barium	50.0	66.6	122	119	112	104	1	75.0-125			2.98	20
Beryllium	50.0	ND	47.8	49.1	95.5	98.2	1	75.0-125			2.76	20
Cadmium	50.0	ND	50.2	51.2	100	102	1	75.0-125			1.84	20
Chromium	50.0	ND	48.8	51.4	97.5	103	1	75.0-125			5.29	20
Cobalt	50.0	2.27	51.0	51.9	97.4	99.3	1	75.0-125			1.80	20

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L1161135-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1161135-01 11/21/19 18:29 • (MS) R3474780-5 11/21/19 18:37 • (MSD) R3474780-6 11/21/19 18:40

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Lead	50.0	ND	49.1	49.2	97.4	97.5	1	75.0-125			0.0500	20
Selenium	50.0	2.46	64.3	62.5	124	120	1	75.0-125			2.88	20
Thallium	50.0	ND	48.6	49.2	97.1	98.3	1	75.0-125			1.22	20

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Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
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
B	The same analyte is found in the associated blank.
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.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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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

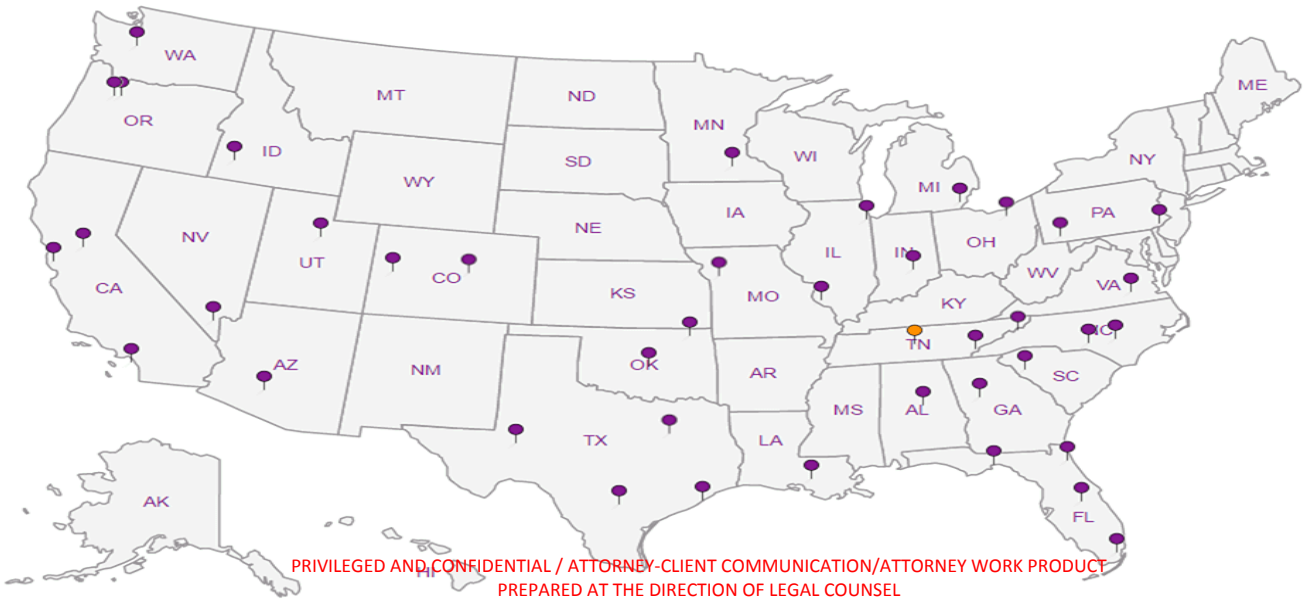
Third Party Federal Accreditations

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.



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FTN Associates - Little Rock, AR
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Pres Chk

Report to: Dana Derrington

Email To: dld@ftn-assoc.com, hlf@ftn-assoc.com, ajp@ftn-assoc.com, mmv@ftn-assoc.com

Project Description: Entergy Independence Landfill

City/State Collected: Newark, AR

Please Circle: PT MT CT ET

Phone: 501-902-9642
Fax:

Client Project # 07920-1993-003

Lab Project # FTNLRAR-ENTERGYINDY

Collected by (print): Andrew Pruitt

Site/Facility ID #

P.O. #

Collected by (signature): Andrew Pruitt

Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Cl,Fl,SO4,TDS 250mlHDPE-NoPres	Metals 250mlHDPE-HNO3	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
RP-1	Grab	GW		11/12/19	1225	4	X	X	X	X		-01
RP-2		GW		11/12/19	1315	4	X	X	X	X		02
RP-3		GW		11/12/19	1132	4	X	X	X	X		03
RP-4		GW		11/12/19	0933	4	X	X	X	X		04
RP-5		GW		11/12/19	1029	4	X	X	X	X		05
RP-6		GW		11/12/19	1416	4	X	X	X	X		06
RP-7		GW		11/13/19	1222	4	X	X	X	X		07
RP-8		GW		11/13/19	0956	4	X	X	X	X		08
RP-9		GW		11/13/19	1048	4	X	X	X	X		09
RP-10	↓	GW		11/13/19	1130	4	X	X	X	X		10

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

Remarks: Metals= CCR List (As,Ba,Be,B,Ca,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl)

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 1329 2019 4550 4560

Relinquished by : (Signature) Andrew Pruitt — Date: 11/15/19 — Time: 1000

Received by: (Signature)

Trip Blank Received: Yes / No (No) HCL / MeoH TBR

Relinquished by : (Signature) — Date: — Time:

Received by: (Signature)

Temp: °C Bottles Received:

If preservation required by Login: Date/Time

Relinquished by : (Signature) — Date: — Time:

Received by: (Signature) Carol Kemp — Date: 11/16/19 — Time: 9:00

Hold:

Condition: NCF / OK

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: ✓Y __N

Chain of Custody Page 1 of 1

Pace Analytical® National Center for Testing & Innovation
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 116786
G211

Acctnum: FTNLRAR
Template: T141998
Prelogin: P739631
PM: 134 - Mark W. Beasley
PB: LC 11/6

Shipped Via: FedEX Ground

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Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

December 19, 2019

FTN Associates - Little Rock, AR

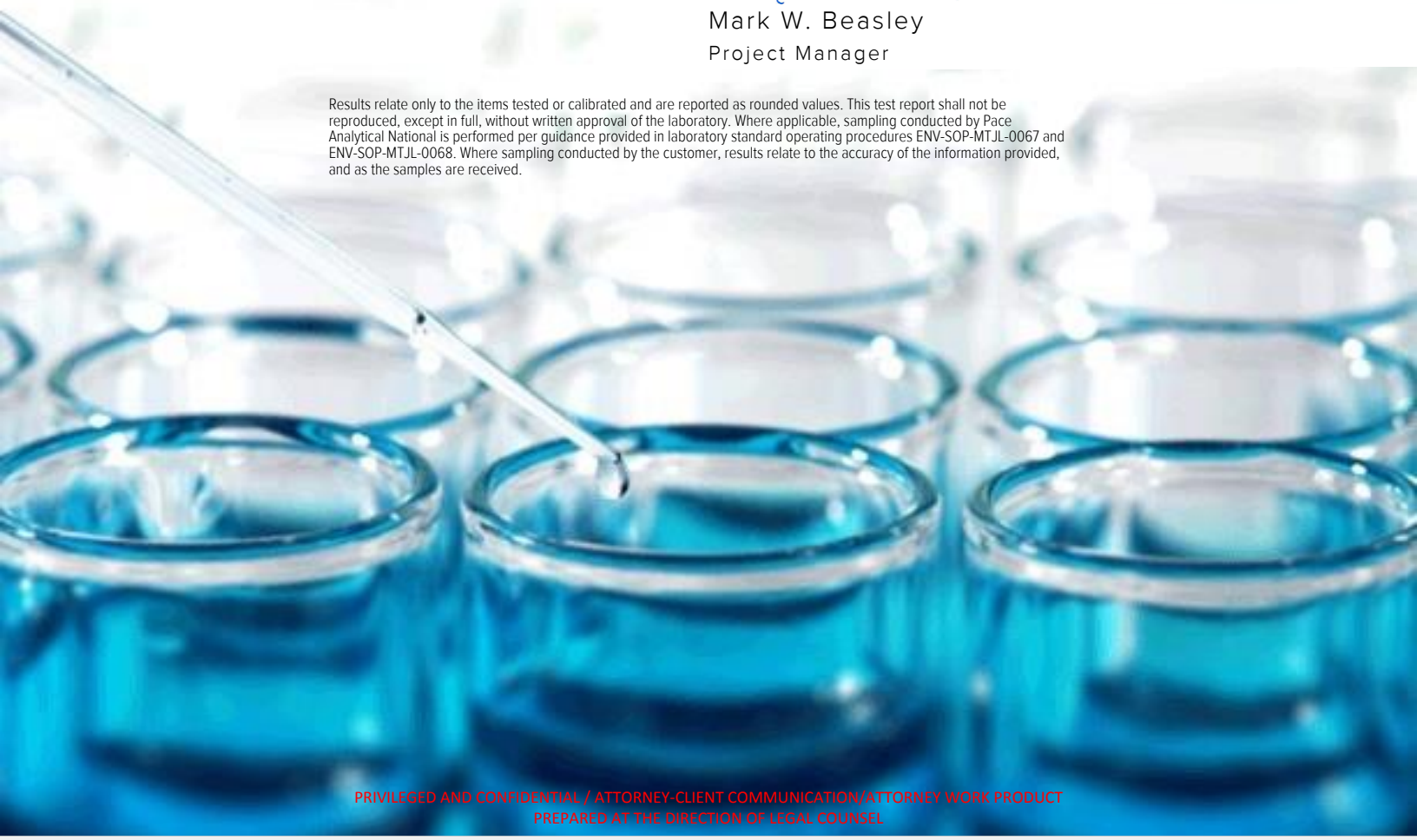
Sample Delivery Group:	L1161787
Samples Received:	11/16/2019
Project Number:	07920-1993-003
Description:	Entergy Independence Landfill

Report To: Dana Derrington
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Entire Report Reviewed By:

Mark W. Beasley
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 Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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1 Cp
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5 Sr
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8 Al
9 Sc

RP-1 L1161787-01 Non-Potable Water

Collected by: Andrew Pruitt | Collected date/time: 11/12/19 12:25 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1386596	1	11/29/19 09:59	12/04/19 10:05	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1390884	1	12/05/19 12:53	12/11/19 23:03	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1390884	1	12/05/19 12:53	12/11/19 23:03	RGT	Mt. Juliet, TN

RP-2 L1161787-02 Non-Potable Water

Collected by: Andrew Pruitt | Collected date/time: 11/12/19 13:15 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1386596	1	11/29/19 09:59	12/04/19 10:05	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1390884	1	12/05/19 12:53	12/11/19 23:03	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1390884	1	12/05/19 12:53	12/11/19 23:03	RGT	Mt. Juliet, TN

RP-3 L1161787-03 Non-Potable Water

Collected by: Andrew Pruitt | Collected date/time: 11/12/19 11:32 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1386596	1	11/29/19 09:59	12/04/19 10:05	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1390884	1	12/05/19 12:53	12/11/19 23:03	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1390884	1	12/05/19 12:53	12/11/19 23:03	RGT	Mt. Juliet, TN

RP-4 L1161787-04 Non-Potable Water

Collected by: Andrew Pruitt | Collected date/time: 11/12/19 09:33 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1386596	1	11/29/19 09:59	12/04/19 10:05	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1390884	1	12/05/19 12:53	12/11/19 23:03	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1390884	1	12/05/19 12:53	12/11/19 23:03	RGT	Mt. Juliet, TN

RP-5 L1161787-05 Non-Potable Water

Collected by: Andrew Pruitt | Collected date/time: 11/12/19 10:29 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1386596	1	11/29/19 09:59	12/04/19 10:05	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1390884	1	12/05/19 12:53	12/11/19 23:03	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1390884	1	12/05/19 12:53	12/11/19 23:03	RGT	Mt. Juliet, TN

RP-6 L1161787-06 Non-Potable Water

Collected by: Andrew Pruitt | Collected date/time: 11/12/19 14:16 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1386596	1	11/29/19 09:59	12/04/19 10:05	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1390884	1	12/05/19 12:53	12/11/19 23:03	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1390884	1	12/05/19 12:53	12/11/19 23:03	RGT	Mt. Juliet, TN

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RP-7 L1161787-07 Non-Potable Water

Collected by: Andrew Pruitt | Collected date/time: 11/13/19 12:22 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1386596	1	11/29/19 09:59	12/04/19 10:05	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1390884	1	12/05/19 12:53	12/11/19 23:03	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1390884	1	12/05/19 12:53	12/11/19 23:03	RGT	Mt. Juliet, TN

RP-8 L1161787-08 Non-Potable Water

Collected by: Andrew Pruitt | Collected date/time: 11/13/19 09:56 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1386596	1	11/29/19 09:59	12/04/19 10:05	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1390884	1	12/05/19 12:53	12/11/19 23:03	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1390884	1	12/05/19 12:53	12/11/19 23:03	RGT	Mt. Juliet, TN

RP-9 L1161787-09 Non-Potable Water

Collected by: Andrew Pruitt | Collected date/time: 11/13/19 10:48 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1386596	1	11/29/19 09:59	12/06/19 10:40	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1390884	1	12/05/19 12:53	12/11/19 23:03	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1390884	1	12/05/19 12:53	12/11/19 23:03	RGT	Mt. Juliet, TN

RP-10 L1161787-10 Non-Potable Water

Collected by: Andrew Pruitt | Collected date/time: 11/13/19 11:30 | Received date/time: 11/16/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1386596	1	11/29/19 09:59	12/06/19 10:40	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1390884	1	12/05/19 12:53	12/11/19 23:03	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1390884	1	12/05/19 12:53	12/11/19 23:03	RGT	Mt. Juliet, TN

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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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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.

Mark W. Beasley
Project Manager

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.06		0.401	0.612	12/04/2019 10:05	WG1386596
(T) Barium	*105*			*62.0-143*	*12/04/2019 10:05*	WG1386596
(T) Yttrium	*107*			*79.0-136*	*12/04/2019 10:05*	WG1386596

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.58		0.910	1.2	12/11/2019 23:03	WG1390884

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.514		0.509	0.589	12/11/2019 23:03	WG1390884
(T) Barium-133	*90.8*			*30.0-143*	*12/11/2019 23:03*	WG1390884

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Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.227		0.417	0.627	12/04/2019 10:05	WG1386596
(T) Barium	*117*			*62.0-143*	*12/04/2019 10:05*	WG1386596
(T) Yttrium	*109*			*79.0-136*	*12/04/2019 10:05*	WG1386596

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.547		0.936	1.27	12/11/2019 23:03	WG1390884

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.547		0.519	0.645	12/11/2019 23:03	WG1390884
(T) Barium-133	*95.9*			*30.0-143*	*12/11/2019 23:03*	WG1390884

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Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.564		0.432	0.681	12/04/2019 10:05	WG1386596
(T) Barium	*112*			*62.0-143*	*12/04/2019 10:05*	WG1386596
(T) Yttrium	*113*			*79.0-136*	*12/04/2019 10:05*	WG1386596

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.804		0.815	1.28	12/11/2019 23:03	WG1390884

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.240		0.383	0.595	12/11/2019 23:03	WG1390884
(T) Barium-133	*96.2*			*30.0-143*	*12/11/2019 23:03*	WG1390884

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Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.490		0.376	0.697	12/04/2019 10:05	WG1386596
(T) Barium	*90.2*			*62.0-143*	*12/04/2019 10:05*	WG1386596
(T) Yttrium	*111*			*79.0-136*	*12/04/2019 10:05*	WG1386596

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.01		0.906	1.37	12/11/2019 23:03	WG1390884

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.522		0.530	0.677	12/11/2019 23:03	WG1390884
(T) Barium-133	*98.0*			*30.0-143*	*12/11/2019 23:03*	WG1390884

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.308		0.422	0.68	12/04/2019 10:05	WG1386596
(T) Barium	*93.5*			*62.0-143*	*12/04/2019 10:05*	WG1386596
(T) Yttrium	*110*			*79.0-136*	*12/04/2019 10:05*	WG1386596

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.425		0.687	1.17	12/11/2019 23:03	WG1390884

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.118		0.265	0.486	12/11/2019 23:03	WG1390884
(T) Barium-133	*93.4*			*30.0-143*	*12/11/2019 23:03*	WG1390884

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Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.403		0.427	0.696	12/04/2019 10:05	WG1386596
(T) Barium	*90.1*			*62.0-143*	*12/04/2019 10:05*	WG1386596
(T) Yttrium	*111*			*79.0-136*	*12/04/2019 10:05*	WG1386596

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.495		0.832	1.44	12/11/2019 23:03	WG1390884

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0924		0.405	0.748	12/11/2019 23:03	WG1390884
(T) Barium-133	*98.0*			*30.0-143*	*12/11/2019 23:03*	WG1390884

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.306		0.386	0.618	12/04/2019 10:05	WG1386596
(T) Barium	*93.5*			*62.0-143*	*12/04/2019 10:05*	WG1386596
(T) Yttrium	*113*			*79.0-136*	*12/04/2019 10:05*	WG1386596

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.521		0.685	1.06	12/11/2019 23:03	WG1390884

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.215		0.299	0.437	12/11/2019 23:03	WG1390884
(T) Barium-133	*100*			*30.0-143*	*12/11/2019 23:03*	WG1390884

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.766		0.395	0.639	12/04/2019 10:05	WG1386596
(T) Barium	*101*			*62.0-143*	*12/04/2019 10:05*	WG1386596
(T) Yttrium	*117*			*79.0-136*	*12/04/2019 10:05*	WG1386596

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.796		0.565	0.957	12/11/2019 23:03	WG1390884

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0305		0.170	0.318	12/11/2019 23:03	WG1390884
(T) Barium-133	*90.9*			*30.0-143*	*12/11/2019 23:03*	WG1390884

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Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.235		0.404	0.642	12/06/2019 10:40	WG1386596
(T) Barium	*116*			*62.0-143*	*12/06/2019 10:40*	WG1386596
(T) Yttrium	*100*			*79.0-136*	*12/06/2019 10:40*	WG1386596

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0679		0.514	0.816	12/11/2019 23:03	WG1390884

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0679		0.110	0.174	12/11/2019 23:03	WG1390884
(T) Barium-133	*104*			*30.0-143*	*12/11/2019 23:03*	WG1390884

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Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.345		0.481	0.705	12/06/2019 10:40	WG1386596
(T) Barium	*103*			*62.0-143*	*12/06/2019 10:40*	WG1386596
(T) Yttrium	*117*			*79.0-136*	*12/06/2019 10:40*	WG1386596

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.632		0.743	1.04	12/11/2019 23:03	WG1390884

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.286		0.262	0.331	12/11/2019 23:03	WG1390884
(T) Barium-133	*95.2*			*30.0-143*	*12/11/2019 23:03*	WG1390884

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Method Blank (MB)

(MB) R3483199-1 12/04/19 10:05

Analyte	MB Result	MB Qualifier	MB MDA
	pCi/l		pCi/l
Radium-228	0.136		0.430
(T) Barium	*108*		
(T) Yttrium	*114*		

L1161795-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1161795-06 12/06/19 10:40 • (DUP) R3483199-5 12/04/19 10:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	pCi/l		%			%	
Radium-228	0.0846	0.153	1	57.7	0.0611		20	3
(T) Barium	*95.7*	*97.3*						
(T) Yttrium	*111*	*111*						

Laboratory Control Sample (LCS)

(LCS) R3483199-2 12/04/19 10:05

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-228	5.00	5.23	105	80.0-120	
(T) Barium			*105*		
(T) Yttrium			*113*		

L1161787-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1161787-10 12/06/19 10:40 • (MS) R3483199-3 12/04/19 10:05 • (MSD) R3483199-4 12/04/19 10:05

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
	pCi/l	pCi/l	pCi/l	pCi/l	%	%		%			%		%
Radium-228	12.5	0.345	14.9	14.9	117	117	1	70.0-130			0.0670		20
(T) Barium		*103*			*113*	*114*							
(T) Yttrium		*117*			*113*	*110*							

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Method Blank (MB)

(MB) R3482043-1 12/11/19 23:03

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-226	0.0258		0.0852
(T) Barium-133	*95.0*		

L1161787-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1161787-03 12/11/19 23:03 • (DUP) R3482043-5 12/11/19 23:03

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.240	0.000	1	200	0.597		20	3
(T) Barium-133	*96.2*	*91.5*						

Laboratory Control Sample (LCS)

(LCS) R3482043-2 12/11/19 23:03

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	5.19	103	80.0-120	
(T) Barium-133			*103*		

L1161787-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1161787-01 12/11/19 23:03 • (MS) R3482043-3 12/11/19 23:03 • (MSD) R3482043-4 12/11/19 23:03

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.1	0.514	21.5	19.5	105	94.2	1	75.0-125			10.2		20
(T) Barium-133		*90.8*			*97.7*	*97.4*							

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Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
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

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

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* 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

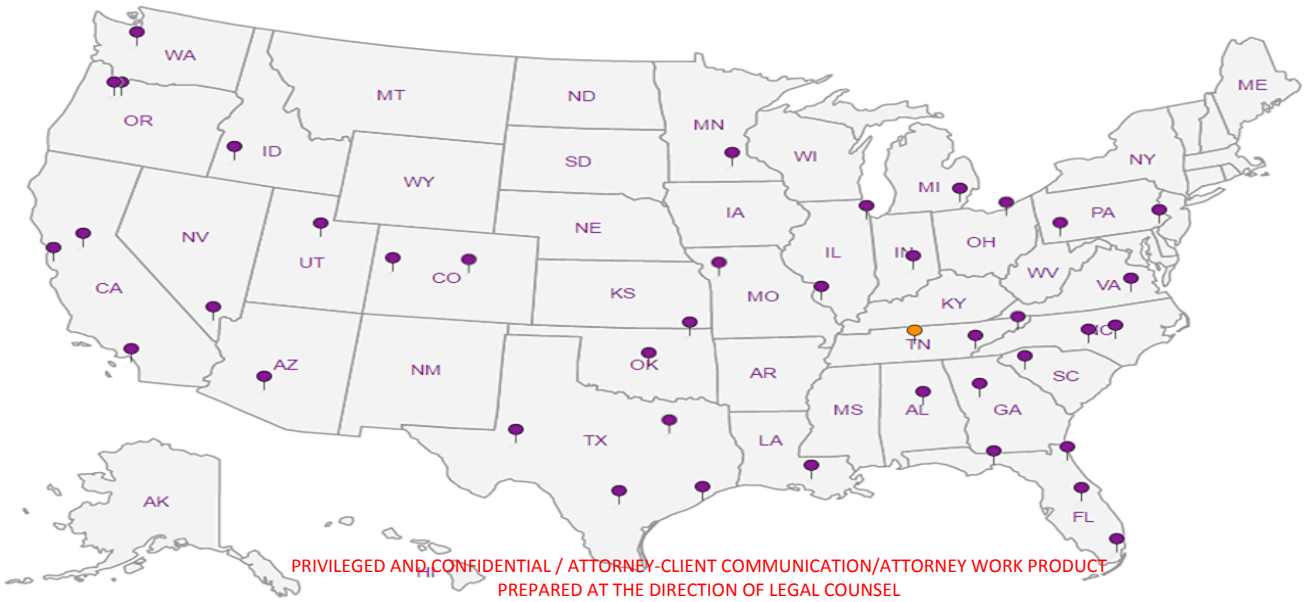
Third Party Federal Accreditations

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.



PRIVILEGED AND CONFIDENTIAL / ATTORNEY-CLIENT COMMUNICATION/ATTORNEY WORK PRODUCT
PREPARED AT THE DIRECTION OF LEGAL COUNSEL

FTN Associates - Little Rock, AR
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Pres Chk

Report to: Dana Derrington

Email To: dld@ftn-assoc.com, hlf@ftn-assoc.com, ajp@ftn-assoc.com, mmv@ftn-assoc.com

Project Description: Entergy Independence Landfill

City/State Collected: Newark, AR

Please Circle: PT MT CT ET

Phone: 501-902-9642
Fax:

Client Project # 07920-1993-003

Lab Project # FTNLRAR-ENTERGYINDY

Collected by (print): Andrea Pruitt

Site/Facility ID #

P.O. #

Collected by (signature): Andrea Pruitt
Immediately Packed on Ice N ___ Y ✓

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

Date Results Needed

Quote #

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Cl,Fl,SO4,TDS 250mlHDPE-NoPres	Metals 250mlHDPE-HNO3	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
RP-1	Grab	GW		11/12/19	1225	4	X	X	X	X		-01
RP-2		GW		11/12/19	1315	4	X	X	X	X		02
RP-3		GW		11/12/19	1132	4	X	X	X	X		03
RP-4		GW		11/12/19	0933	4	X	X	X	X		04
RP-5		GW		11/12/19	1029	4	X	X	X	X		05
RP-6		GW		11/12/19	1416	4	X	X	X	X		06
RP-7		GW		11/13/19	1222	4	X	X	X	X		07
RP-8		GW		11/13/19	0956	4	X	X	X	X		08
RP-9		GW		11/13/19	1048	4	X	X	X	X		09
RP-10		GW		11/13/19	1130	4	X	X	X	X		10

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

Remarks: Metals= CCR List (As,Ba,Be,B,Ca,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl)

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 1329 2019 4550 4560

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 2.2 °C Bottles Received: 40

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Relinquished by : (Signature) Andrea Pruitt — Date: 11/15/19 — Time: 1000 — Received by: (Signature)

Relinquished by : (Signature) — Date: — Time: — Received by: (Signature)

Relinquished by : (Signature) — Date: — Time: — Received for lab by: (Signature) — Date: 11/16/19 — Time: 9:00

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:		Y / N

Chain of Custody Page 1 of 1

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 1161787
G211

Acctnum: FTNLRAR
Template: T141998
Prelogin: P739631
PM: 134 - Mark W. Beasley
PB: LC 11/16

Shipped Via: FedEx Ground

PRIVILEGED AND CONFIDENTIAL / ATTORNEY CLIENT COMMUNICATION/ATTORNEY WORK PRODUCT
PREPARED AT THE DIRECTION OF LEGAL COUNSEL

ANALYTICAL REPORT

April 10, 2020

Terracon - Little Rock, AR

Sample Delivery Group:	L1198902
Samples Received:	03/13/2020
Project Number:	35207057
Description:	Entergy - Independence Landfill

Report To: David Jaros
25809 I-30
Bryant, AR 72022

Entire Report Reviewed By:

Mark W. Beasley
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 Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

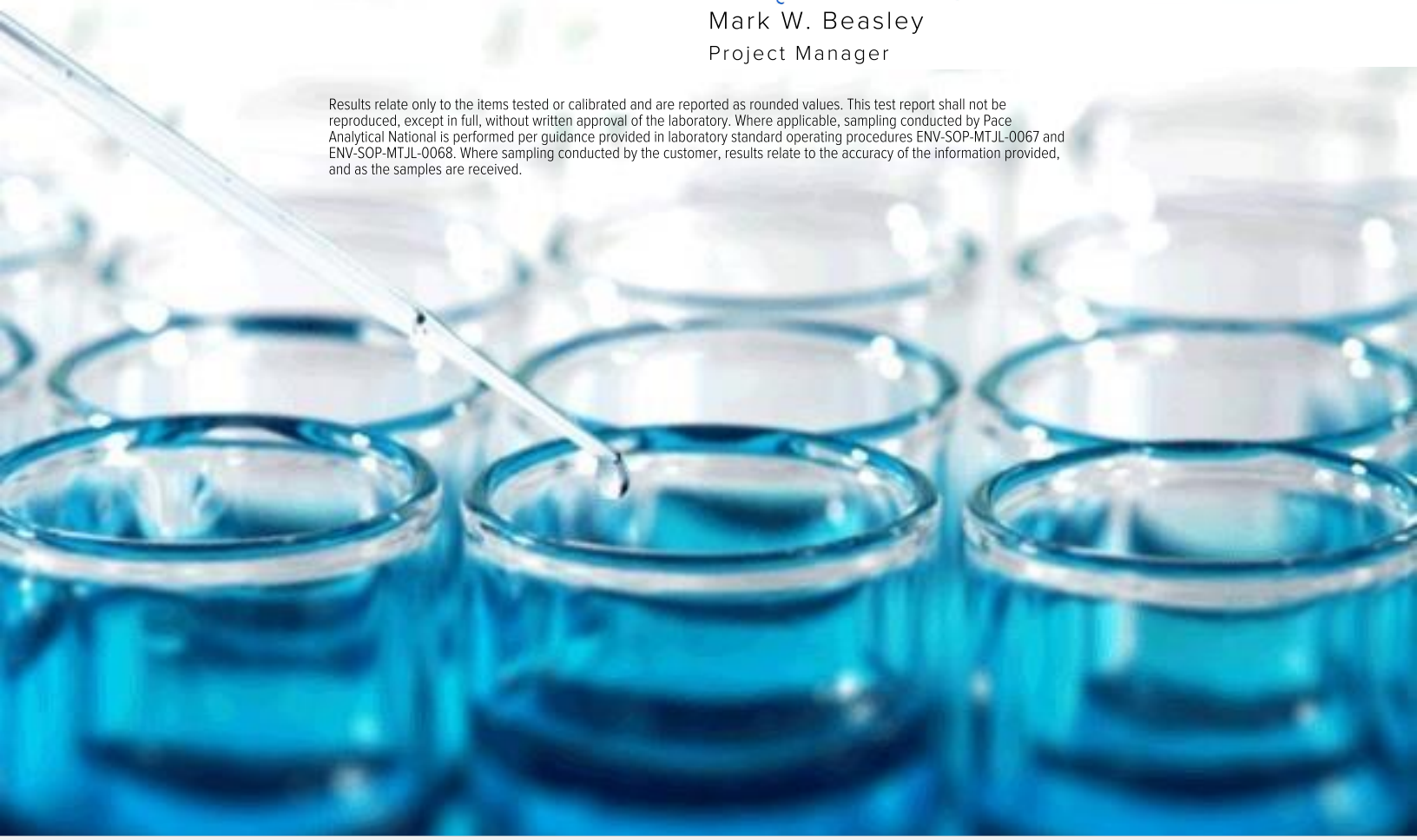


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RP-1 L1198902-01 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 03/10/20 09:23 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1447396	1	03/25/20 14:17	04/06/20 15:30	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1444833	1	03/20/20 09:33	04/06/20 15:30	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1444833	1	03/20/20 09:33	03/23/20 16:30	RGT	Mt. Juliet, TN

RP-2 L1198902-02 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 03/10/20 10:23 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1447396	1	03/25/20 14:17	04/06/20 15:30	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1444833	1	03/20/20 09:33	04/06/20 15:30	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1444833	1	03/20/20 09:33	03/23/20 16:30	RGT	Mt. Juliet, TN

RP-3 L1198902-03 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 03/11/20 16:23 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1447396	1	03/25/20 14:17	04/06/20 15:30	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1444833	1	03/20/20 09:33	04/06/20 15:30	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1444833	1	03/20/20 09:33	03/23/20 17:10	RGT	Mt. Juliet, TN

RP-4 L1198902-04 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 03/10/20 11:06 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1447396	1	03/25/20 14:17	04/06/20 09:20	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1444833	1	03/20/20 09:33	04/06/20 09:20	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1444833	1	03/20/20 09:33	03/23/20 17:10	RGT	Mt. Juliet, TN

RP-5 L1198902-05 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 03/11/20 13:48 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1447396	1	03/25/20 14:17	04/08/20 12:30	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1444833	1	03/20/20 09:33	04/08/20 12:30	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1444833	1	03/20/20 09:33	03/23/20 17:10	RGT	Mt. Juliet, TN

RP-6 L1198902-06 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 03/10/20 17:09 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1447396	1	03/25/20 14:17	04/08/20 12:30	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1444833	1	03/20/20 09:33	04/08/20 12:30	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1444833	1	03/20/20 09:33	03/23/20 17:10	RGT	Mt. Juliet, TN

RP-7 L1198902-07 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 03/10/20 16:34 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1447396	1	03/25/20 14:17	04/08/20 12:30	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1444833	1	03/20/20 09:33	04/08/20 12:30	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1444833	1	03/20/20 09:33	03/23/20 17:10	RGT	Mt. Juliet, TN

RP-8 L1198902-08 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 03/10/20 15:37 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1447396	1	03/25/20 14:17	04/08/20 12:30	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1444833	1	03/20/20 09:33	04/08/20 12:30	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1444833	1	03/20/20 09:33	03/23/20 17:10	RGT	Mt. Juliet, TN

RP-9 L1198902-09 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 03/10/20 14:32 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1447396	1	03/25/20 14:17	04/06/20 09:20	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1444833	1	03/20/20 09:33	04/06/20 09:20	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1444833	1	03/20/20 09:33	03/23/20 12:21	RGT	Mt. Juliet, TN

RP-10 L1198902-10 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 03/10/20 13:55 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1447396	1	03/25/20 14:17	04/06/20 09:20	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1444833	1	03/20/20 09:33	04/06/20 09:20	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1444833	1	03/20/20 09:33	03/23/20 12:21	RGT	Mt. Juliet, TN

FB L1198902-11 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 03/11/20 16:10 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1447396	1	03/25/20 14:17	04/06/20 09:20	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1444833	1	03/20/20 09:33	04/06/20 09:20	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1444833	1	03/20/20 09:33	03/23/20 12:21	RGT	Mt. Juliet, TN

DUPE L1198902-12 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 03/11/20 16:25 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1447396	1	03/25/20 14:17	04/03/20 13:35	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1444833	1	03/20/20 09:33	04/03/20 13:35	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1444833	1	03/20/20 09:33	03/23/20 12:21	RGT	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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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.



Mark W. Beasley
Project Manager

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-228	-1.32		0.857		1	04/06/2020 15:30	WG1447396
(T) Barium	*88.0*			*62.0-143*		*04/06/2020 15:30*	WG1447396
(T) Yttrium	*84.6*			*79.0-136*		*04/06/2020 15:30*	WG1447396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
Combined Radium	0.000		1.06		1	04/06/2020 15:30	WG1444833

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-226	-0.0154		0.203		1	03/23/2020 16:30	WG1444833
(T) Barium-133	*84.5*			*30.0-143*		*03/23/2020 16:30*	WG1444833

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-228	-0.567		0.671		1	04/06/2020 15:30	WG1447396
(T) Barium	*84.5*			*62.0-143*		*04/06/2020 15:30*	WG1447396
(T) Yttrium	*98.0*			*79.0-136*		*04/06/2020 15:30*	WG1447396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
Combined Radium	0.502		0.923		1	04/06/2020 15:30	WG1444833

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-226	0.502		0.252		1	03/23/2020 16:30	WG1444833
(T) Barium-133	*94.4*			*30.0-143*		*03/23/2020 16:30*	WG1444833

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-228	0.0170		0.724		1	04/06/2020 15:30	WG1447396
(T) Barium	*85.4*			*62.0-143*		*04/06/2020 15:30*	WG1447396
(T) Yttrium	*106*			*79.0-136*		*04/06/2020 15:30*	WG1447396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
Combined Radium	0.148		0.947		1	04/06/2020 15:30	WG1444833

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-226	0.131		0.223		1	03/23/2020 17:10	WG1444833
(T) Barium-133	*86.4*			*30.0-143*		*03/23/2020 17:10*	WG1444833

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-228	0.892		0.854		1	04/06/2020 09:20	WG1447396
(T) Barium	*83.8*			*62.0-143*		*04/06/2020 09:20*	WG1447396
(T) Yttrium	*103*			*79.0-136*		*04/06/2020 09:20*	WG1447396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
Combined Radium	2.28		1.1		1	04/06/2020 09:20	WG1444833

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-226	1.39		0.241		1	03/23/2020 17:10	WG1444833
(T) Barium-133	*92.0*			*30.0-143*		*03/23/2020 17:10*	WG1444833

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-228	0.180		0.909		1	04/08/2020 12:30	WG1447396
(T) Barium	*69.5*			*62.0-143*		*04/08/2020 12:30*	WG1447396
(T) Yttrium	*108*			*79.0-136*		*04/08/2020 12:30*	WG1447396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
Combined Radium	0.232		1.18		1	04/08/2020 12:30	WG1444833

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-226	0.0522		0.271		1	03/23/2020 17:10	WG1444833
(T) Barium-133	*85.4*			*30.0-143*		*03/23/2020 17:10*	WG1444833

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-228	-0.347		0.836		1	04/08/2020 12:30	WG1447396
(T) Barium	*78.6*			*62.0-143*		*04/08/2020 12:30*	WG1447396
(T) Yttrium	*111*			*79.0-136*		*04/08/2020 12:30*	WG1447396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
Combined Radium	0.000		1.09		1	04/08/2020 12:30	WG1444833

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-226	0.000		0.258		1	03/23/2020 17:10	WG1444833
(T) Barium-133	*84.7*			*30.0-143*		*03/23/2020 17:10*	WG1444833

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-228	0.189		0.74		1	04/08/2020 12:30	WG1447396
(T) Barium	*73.0*			*62.0-143*		*04/08/2020 12:30*	WG1447396
(T) Yttrium	*98.5*			*79.0-136*		*04/08/2020 12:30*	WG1447396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
Combined Radium	0.189		1		1	04/08/2020 12:30	WG1444833

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-226	-0.0450		0.261		1	03/23/2020 17:10	WG1444833
(T) Barium-133	*83.5*			*30.0-143*		*03/23/2020 17:10*	WG1444833

Radiochemistry by Method 904

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	pCi/l		pCi/l	pCi/l		date / time	
RADIUM-228	2.00		0.736		1	04/08/2020 12:30	WG1447396
(T) Barium	*76.2*			*62.0-143*		*04/08/2020 12:30*	WG1447396
(T) Yttrium	*113*			*79.0-136*		*04/08/2020 12:30*	WG1447396

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	pCi/l		pCi/l	pCi/l		date / time	
Combined Radium	2.13		1.08		1	04/08/2020 12:30	WG1444833

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	pCi/l		pCi/l	pCi/l		date / time	
RADIUM-226	0.131		0.34		1	03/23/2020 17:10	WG1444833
(T) Barium-133	*94.7*			*30.0-143*		*03/23/2020 17:10*	WG1444833

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-228	-0.128		0.722		1	04/06/2020 09:20	WG1447396
(T) Barium	*86.9*			*62.0-143*		*04/06/2020 09:20*	WG1447396
(T) Yttrium	*108*			*79.0-136*		*04/06/2020 09:20*	WG1447396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
Combined Radium	0.205		0.942		1	04/06/2020 09:20	WG1444833

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-226	0.205		0.22		1	03/23/2020 12:21	WG1444833
(T) Barium-133	*87.6*			*30.0-143*		*03/23/2020 12:21*	WG1444833

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-228	-0.726		0.74		1	04/06/2020 09:20	WG1447396
(T) Barium	*86.7*			*62.0-143*		*04/06/2020 09:20*	WG1447396
(T) Yttrium	*99.5*			*79.0-136*		*04/06/2020 09:20*	WG1447396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
Combined Radium	0.522		1.03		1	04/06/2020 09:20	WG1444833

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-226	0.522		0.287		1	03/23/2020 12:21	WG1444833
(T) Barium-133	*77.3*			*30.0-143*		*03/23/2020 12:21*	WG1444833

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-228	0.239		0.578		1	04/06/2020 09:20	WG1447396
(T) Barium	*96.2*			*62.0-143*		*04/06/2020 09:20*	WG1447396
(T) Yttrium	*105*			*79.0-136*		*04/06/2020 09:20*	WG1447396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
Combined Radium	0.532		0.831		1	04/06/2020 09:20	WG1444833

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-226	0.293		0.253		1	03/23/2020 12:21	WG1444833
(T) Barium-133	*91.4*			*30.0-143*		*03/23/2020 12:21*	WG1444833

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-228	-0.233		0.67		1	04/03/2020 13:35	WG1447396
(T) Barium	*121*			*62.0-143*		*04/03/2020 13:35*	WG1447396
(T) Yttrium	*109*			*79.0-136*		*04/03/2020 13:35*	WG1447396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
Combined Radium	0.0725		0.909		1	04/03/2020 13:35	WG1444833

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	MDL pCi/l	RDL pCi/l	Dilution	Analysis date / time	Batch
RADIUM-226	0.0725		0.239		1	03/23/2020 12:21	WG1444833
(T) Barium-133	*91.1*			*30.0-143*		*03/23/2020 12:21*	WG1444833

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
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.
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.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

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

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

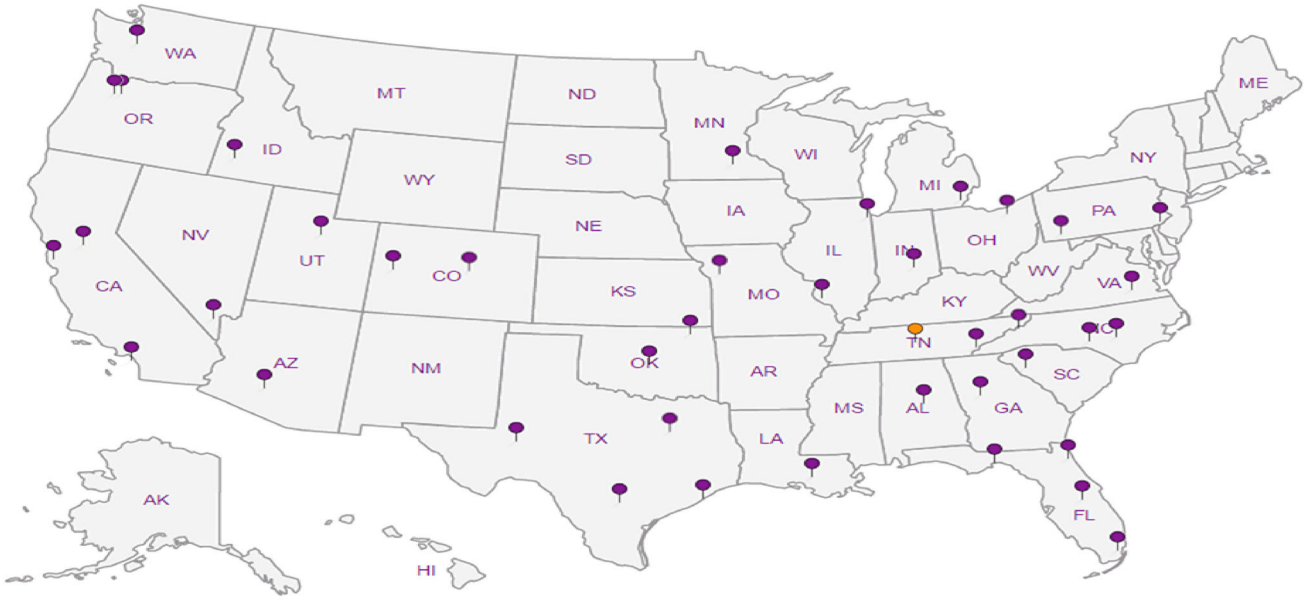
Third Party Federal Accreditations

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.



Terracon - Little Rock, AR

25809 I-30
Bryant, AR 72022

Billing Information:
Accounts Payable
25809 I-30
Bryant, AR 72022

Report to: David Jaros

Email To: David.Jaros@terracon.com;JHouse@trccompanies.

Project Description: Entergy - Independence Landfil

City/State Collected:

Please Circle: PT MT CT ET

Phone: 501-847-9210
Fax:

Client Project # 35207057

Lab Project # GENENLAR-ENTERGY

Collected by (print): Matt Acree

Site/Facility ID #

P.O. #

Collected by (signature):

Quote #

Immediately Packed on Ice N ___ Y ✓

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

Date Results Needed

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*Total Metals 250mlHDPE-HNO3	Cl, F, SO4, PH 125mlHDPE-NoPres	RA-226/228 Combined 1L-HDPE-Add HNO3	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
RP-1	G	GW		3-10-20	0923	4	1	1	1	1		-01
RP-2	G	GW		3-10-20	1023	1	1	1	1	1		02
RP-3	G	GW		3-11-20	1623	1	1	1	1	1		03
RP-4	G	GW		3-10-20	1106	1	1	1	1	1		04
RP-5	G	GW		3-11-20	1348	1	1	1	1	1		05
RP-6	G	GW		3-10-20	1709	1	1	1	1	1		06
RP-7	G	GW		3-10-20	1634	1	1	1	1	1		07
RP-8	G	GW		3-10-20	1537	1	1	1	1	1		08
RP-9	G	GW		3-10-20	1432	1	1	1	1	1		09
RP-10	G	GW		3-10-20	1355	1	1	1	1	1		10

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

Remarks: CCR - Appendix III & IV
*Total Metals = As, Ba, Be, B, Ca, Cd, Co, Cr, Hg, Li, Mo, Pb, Sb, Se, Tl

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 1663 5751 2593 / 2582

Trip Blank Received: Yes / (No)
HCL / MeoH
TBR

Temp: WA °C Bottles Received: 48

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	3.12.20	1300	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Carol Kemp

Date: 3/13/20 Time: 8:45

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: ✓Y __N

Chain of Custody Page ___ of ___

Pace Analytical
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 119892
G053

Acctnum: GENENLAR
Template: T163916
Prelogin: P758143
PM: 134 - Mark W. Beasley
PB: LC 2/26

Shipped Via: FedEx Ground

Terracon - Little Rock, AR

25809 I-30
Bryant, AR 72022

Billing Information:
Accounts Payable
25809 I-30
Bryant, AR 72022

Report to: David Jaros

Email To: David.Jaros@terracon.com;JHouse@trccompanies.

Project Description: Entergy - Independence Landfil

City/State Collected:

Please Circle: PT MT CT ET

Phone: 501-847-9210
Fax:

Client Project # 35207057

Lab Project # GENENLAR-ENTERGY

Collected by (print): Matt Acree

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

Site/Facility ID #

P.O. #

Quote #

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

Date Results Needed

Analysis / Container / Preservative

Pres Chk: 22 | | 22

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*Total Metals 250mlHDPE-HNO3	Cl, F, SO4, PH 125mlHDPE-NoPres	RA-226/228 Combined 1L-HDPE-Add HNO3	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
FB	G	GW		3-11-20	1610	4	1	1	1	1		11
Dupe	G	GW		3-11-20	1625	1	1	1	1	1		12
		GW										
		GW										
		GW										
		GW										
		GW										
		GW										
		GW										
		GW										

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 1198902

Table #

Acctnum: GENENLAR

Template: T163916

Prelogin: P758143

PM: 134 - Mark W. Beasley

PB: LC 2/26

Shipped Via: FedEX Ground

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

Remarks: CCR - Appendix III & IV
*Total Metals = As, Ba, Be, B, Ca, Cd, Co, Cr, Hg, Li, Mo, Pb, Sb, Se, Tl

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:		Y N

	Date:	Time:		
Relinquished by: (Signature)	3.12.20	1300	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 48
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) Carol Kemp	Date: 3/13/20 Time: 8:45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

ANALYTICAL REPORT

March 24, 2020

Terracon - Little Rock, AR

Sample Delivery Group:	L1198900
Samples Received:	03/13/2020
Project Number:	35207057
Description:	Entergy - Independence Landfill
Report To:	David Jaros
	25809 I-30
	Bryant, AR 72022

Entire Report Reviewed By:

Mark W. Beasley
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 Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

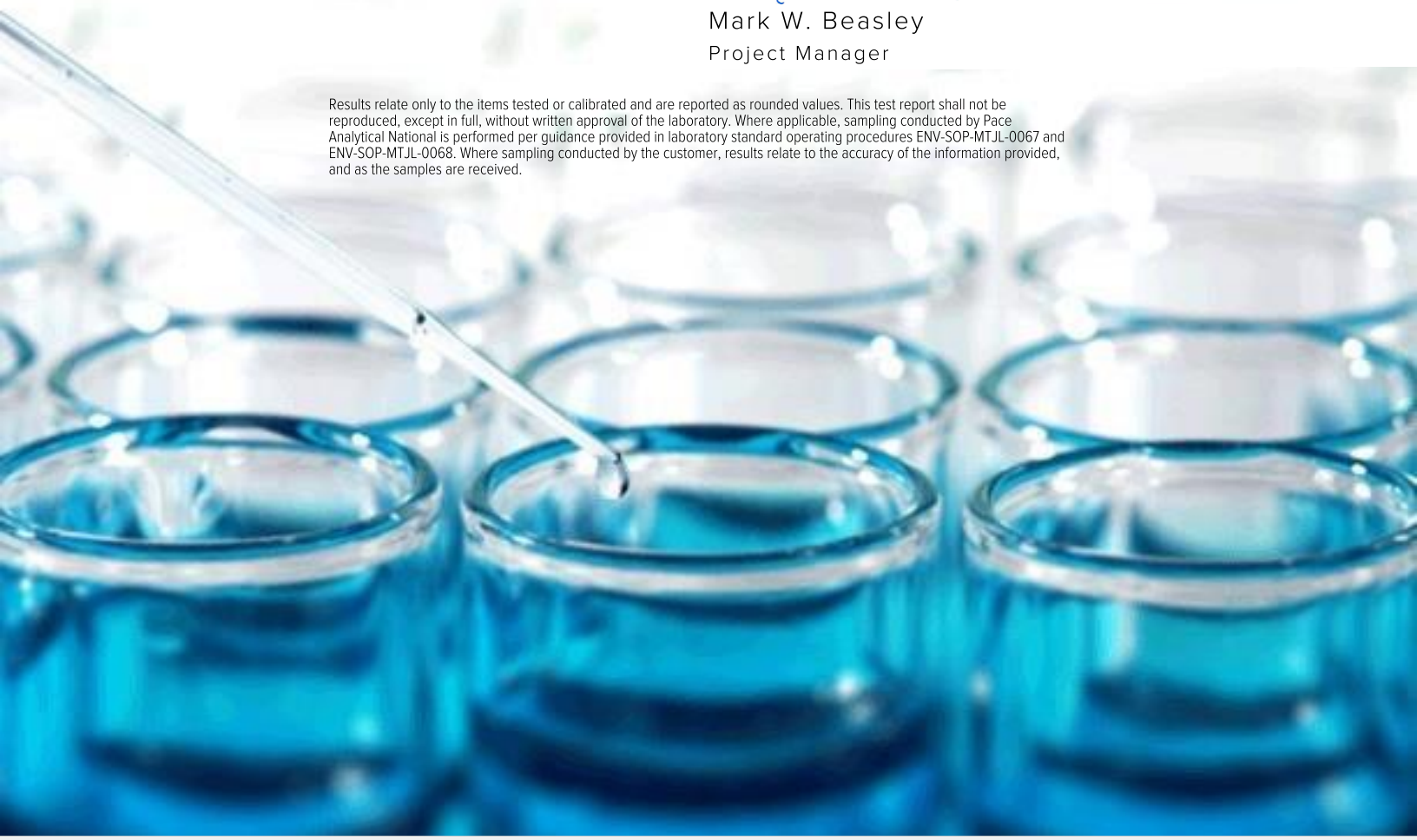


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RP-1 L1198900-01 GW

Collected by: Matt Acree | Collected date/time: 03/10/20 09:23 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1443902	1	03/16/20 15:18	03/16/20 17:11	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1443997	1	03/17/20 12:21	03/17/20 12:21	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1444548	1	03/16/20 23:39	03/16/20 23:39	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1445719	1	03/17/20 18:00	03/18/20 10:32	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1443730	1	03/16/20 08:04	03/16/20 16:32	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 13:07	TM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 16:54	JDG	Mt. Juliet, TN

RP-2 L1198900-02 GW

Collected by: Matt Acree | Collected date/time: 03/10/20 10:23 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1443902	1	03/16/20 15:18	03/16/20 17:11	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1443997	1	03/17/20 12:21	03/17/20 12:21	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1444548	1	03/17/20 00:30	03/17/20 00:30	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1445719	1	03/17/20 18:00	03/18/20 10:34	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1443730	1	03/16/20 08:04	03/16/20 16:35	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 13:10	TM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 16:57	JDG	Mt. Juliet, TN

RP-3 L1198900-03 GW

Collected by: Matt Acree | Collected date/time: 03/11/20 16:23 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1443908	1	03/16/20 21:03	03/16/20 21:51	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1443997	1	03/17/20 12:21	03/17/20 12:21	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1444548	1	03/17/20 00:43	03/17/20 00:43	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1445719	1	03/17/20 18:00	03/18/20 10:36	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1443730	1	03/16/20 08:04	03/16/20 16:37	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 13:13	TM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 17:01	JDG	Mt. Juliet, TN

RP-4 L1198900-04 GW

Collected by: Matt Acree | Collected date/time: 03/10/20 11:06 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1443902	1	03/16/20 15:18	03/16/20 17:11	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1443997	1	03/17/20 12:21	03/17/20 12:21	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1444548	1	03/17/20 00:56	03/17/20 00:56	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1444548	5	03/17/20 09:38	03/17/20 09:38	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1445719	1	03/17/20 18:00	03/18/20 10:38	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1443730	1	03/16/20 08:04	03/16/20 16:40	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 13:17	TM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 17:18	JDG	Mt. Juliet, TN

RP-5 L1198900-05 GW

Collected by: Matt Acree | Collected date/time: 03/11/20 13:48 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1443908	1	03/16/20 21:03	03/16/20 21:51	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1443997	1	03/17/20 12:21	03/17/20 12:21	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1444548	1	03/17/20 01:09	03/17/20 01:09	ELN	Mt. Juliet, TN

RP-5 L1198900-05 GW

Collected by: Matt Acree | Collected date/time: 03/11/20 13:48 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1444548	5	03/17/20 01:47	03/17/20 01:47	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1445719	1	03/17/20 18:00	03/18/20 10:39	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1443730	1	03/16/20 08:04	03/16/20 16:43	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 13:20	TM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 17:21	JDG	Mt. Juliet, TN

RP-6 L1198900-06 GW

Collected by: Matt Acree | Collected date/time: 03/10/20 17:09 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1443902	1	03/16/20 15:18	03/16/20 17:11	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1443997	1	03/17/20 12:21	03/17/20 12:21	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1444548	1	03/17/20 02:00	03/17/20 02:00	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1444548	5	03/17/20 02:12	03/17/20 02:12	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1445719	1	03/17/20 18:00	03/18/20 10:41	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1443730	1	03/16/20 08:04	03/16/20 16:51	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 13:23	TM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 17:25	JDG	Mt. Juliet, TN

RP-7 L1198900-07 GW

Collected by: Matt Acree | Collected date/time: 03/10/20 16:34 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1443902	1	03/16/20 15:18	03/16/20 17:11	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1443997	1	03/17/20 12:21	03/17/20 12:21	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1444548	1	03/17/20 02:25	03/17/20 02:25	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1444548	5	03/17/20 09:51	03/17/20 09:51	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1445719	1	03/17/20 18:00	03/18/20 10:47	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1443730	1	03/16/20 08:04	03/16/20 16:54	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 13:27	TM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 17:28	JDG	Mt. Juliet, TN

RP-8 L1198900-08 GW

Collected by: Matt Acree | Collected date/time: 03/10/20 15:37 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1443902	1	03/16/20 15:18	03/16/20 17:11	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1443997	1	03/17/20 12:21	03/17/20 12:21	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1444548	1	03/17/20 02:38	03/17/20 02:38	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1445719	1	03/17/20 18:00	03/18/20 10:49	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1443730	1	03/16/20 08:04	03/16/20 16:57	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 13:30	TM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 17:31	JDG	Mt. Juliet, TN

RP-9 L1198900-09 GW

Collected by: Matt Acree | Collected date/time: 03/10/20 14:32 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1443902	1	03/16/20 15:18	03/16/20 17:11	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1443997	1	03/17/20 12:21	03/17/20 12:21	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1444548	1	03/17/20 02:51	03/17/20 02:51	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1445719	1	03/17/20 18:00	03/18/20 10:51	ABL	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 GI
7 Al
8 Sc

RP-9 L1198900-09 GW

Collected by: Matt Acree | Collected date/time: 03/10/20 14:32 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1443730	1	03/16/20 08:04	03/16/20 17:00	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 13:33	TM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 17:35	JDG	Mt. Juliet, TN

RP-10 L1198900-10 GW

Collected by: Matt Acree | Collected date/time: 03/10/20 13:55 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1443902	1	03/16/20 15:18	03/16/20 17:11	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1443997	1	03/17/20 12:21	03/17/20 12:21	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1444548	1	03/17/20 03:03	03/17/20 03:03	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1444548	5	03/17/20 10:04	03/17/20 10:04	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1444506	1	03/16/20 20:48	03/17/20 07:37	TRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1444360	1	03/16/20 08:21	03/16/20 12:51	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 14:10	TM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 17:38	JDG	Mt. Juliet, TN

FB L1198900-11 GW

Collected by: Matt Acree | Collected date/time: 03/11/20 16:10 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1443908	1	03/16/20 21:03	03/16/20 21:51	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1443997	1	03/17/20 12:21	03/17/20 12:21	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1444548	1	03/17/20 03:16	03/17/20 03:16	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1444506	1	03/16/20 20:48	03/17/20 07:39	TRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1444360	1	03/16/20 08:21	03/16/20 12:54	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 14:14	TM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 17:41	JDG	Mt. Juliet, TN

DUPE L1198900-12 GW

Collected by: Matt Acree | Collected date/time: 03/11/20 16:25 | Received date/time: 03/13/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1443908	1	03/16/20 21:03	03/16/20 21:51	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1443997	1	03/17/20 12:21	03/17/20 12:21	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1444548	1	03/17/20 03:29	03/17/20 03:29	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1444506	1	03/16/20 20:48	03/17/20 07:41	TRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1444360	1	03/16/20 08:21	03/16/20 12:57	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 14:17	TM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 17:45	JDG	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.

Mark W. Beasley
Project Manager

Report Revision History

Level II Report - Version 1: 03/20/20 14:41

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	210000		2820	10000	1	03/16/2020 17:11	WG1443902

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.84	T8	1	03/17/2020 12:21	WG1443997

Sample Narrative:

L1198900-01 WG1443997: 6.84 at 20.2C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	8030		51.9	1000	1	03/16/2020 23:39	WG1444548
Fluoride	75.4	J	9.90	100	1	03/16/2020 23:39	WG1444548
Sulfate	18000		77.4	5000	1	03/16/2020 23:39	WG1444548

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/18/2020 10:32	WG1445719

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	U		12.6	200	1	03/16/2020 16:32	WG1443730

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/16/2020 13:07	WG1443737
Arsenic	U		0.250	2.00	1	03/16/2020 13:07	WG1443737
Barium	43.7		0.360	5.00	1	03/16/2020 13:07	WG1443737
Beryllium	U		0.120	2.00	1	03/16/2020 13:07	WG1443737
Calcium	49300		46.0	1000	1	03/16/2020 16:54	WG1443737
Cadmium	U		0.160	1.00	1	03/16/2020 13:07	WG1443737
Chromium	0.643	B J	0.540	2.00	1	03/16/2020 13:07	WG1443737
Cobalt	U		0.260	2.00	1	03/16/2020 13:07	WG1443737
Lead	0.323	J	0.240	2.00	1	03/16/2020 13:07	WG1443737
Molybdenum	0.322	J	0.140	5.00	1	03/16/2020 13:07	WG1443737
Selenium	2.15		0.380	2.00	1	03/16/2020 13:07	WG1443737
Lithium	1.62	J	0.190	2.00	1	03/16/2020 16:54	WG1443737
Thallium	U		0.190	2.00	1	03/16/2020 13:07	WG1443737

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	204000		2820	10000	1	03/16/2020 17:11	WG1443902

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.79	T8	1	03/17/2020 12:21	WG1443997

Sample Narrative:

L1198900-02 WG1443997: 6.79 at 20.1C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	5570		51.9	1000	1	03/17/2020 00:30	WG1444548
Fluoride	96.3	J	9.90	100	1	03/17/2020 00:30	WG1444548
Sulfate	20600		77.4	5000	1	03/17/2020 00:30	WG1444548

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/18/2020 10:34	WG1445719

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	25.2	J	12.6	200	1	03/16/2020 16:35	WG1443730

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/16/2020 13:10	WG1443737
Arsenic	0.400	J	0.250	2.00	1	03/16/2020 13:10	WG1443737
Barium	52.8		0.360	5.00	1	03/16/2020 13:10	WG1443737
Beryllium	U		0.120	2.00	1	03/16/2020 13:10	WG1443737
Calcium	41400		46.0	1000	1	03/16/2020 16:57	WG1443737
Cadmium	U		0.160	1.00	1	03/16/2020 13:10	WG1443737
Chromium	1.22	B J	0.540	2.00	1	03/16/2020 13:10	WG1443737
Cobalt	U		0.260	2.00	1	03/16/2020 13:10	WG1443737
Lead	U		0.240	2.00	1	03/16/2020 13:10	WG1443737
Molybdenum	0.297	J	0.140	5.00	1	03/16/2020 13:10	WG1443737
Selenium	2.95		0.380	2.00	1	03/16/2020 13:10	WG1443737
Lithium	4.76		0.190	2.00	1	03/16/2020 16:57	WG1443737
Thallium	U		0.190	2.00	1	03/16/2020 13:10	WG1443737

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	174000		2820	10000	1	03/16/2020 21:51	WG1443908

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.92	T8	1	03/17/2020 12:21	WG1443997

Sample Narrative:

L1198900-03 WG1443997: 6.92 at 20.6C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	4590		51.9	1000	1	03/17/2020 00:43	WG1444548
Fluoride	68.4	J	9.90	100	1	03/17/2020 00:43	WG1444548
Sulfate	9050		77.4	5000	1	03/17/2020 00:43	WG1444548

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/18/2020 10:36	WG1445719

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	U		12.6	200	1	03/16/2020 16:37	WG1443730

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/16/2020 13:13	WG1443737
Arsenic	U		0.250	2.00	1	03/16/2020 13:13	WG1443737
Barium	31.0		0.360	5.00	1	03/16/2020 13:13	WG1443737
Beryllium	U		0.120	2.00	1	03/16/2020 13:13	WG1443737
Calcium	44700		46.0	1000	1	03/16/2020 17:01	WG1443737
Cadmium	U		0.160	1.00	1	03/16/2020 13:13	WG1443737
Chromium	0.717	B J	0.540	2.00	1	03/16/2020 13:13	WG1443737
Cobalt	U		0.260	2.00	1	03/16/2020 13:13	WG1443737
Lead	U		0.240	2.00	1	03/16/2020 13:13	WG1443737
Molybdenum	0.360	J	0.140	5.00	1	03/16/2020 13:13	WG1443737
Selenium	1.20	J	0.380	2.00	1	03/16/2020 13:13	WG1443737
Lithium	1.12	J	0.190	2.00	1	03/16/2020 17:01	WG1443737
Thallium	U		0.190	2.00	1	03/16/2020 13:13	WG1443737

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	461000		2820	10000	1	03/16/2020 17:11	WG1443902

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.99	T8	1	03/17/2020 12:21	WG1443997

Sample Narrative:

L1198900-04 WG1443997: 6.99 at 20.4C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	11400		51.9	1000	1	03/17/2020 00:56	WG1444548
Fluoride	218		9.90	100	1	03/17/2020 00:56	WG1444548
Sulfate	210000		387	25000	5	03/17/2020 09:38	WG1444548

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/18/2020 10:38	WG1445719

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	621		12.6	200	1	03/16/2020 16:40	WG1443730

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/16/2020 13:17	WG1443737
Arsenic	0.307	J	0.250	2.00	1	03/16/2020 13:17	WG1443737
Barium	34.5		0.360	5.00	1	03/16/2020 13:17	WG1443737
Beryllium	U		0.120	2.00	1	03/16/2020 13:17	WG1443737
Calcium	82500		46.0	1000	1	03/16/2020 17:18	WG1443737
Cadmium	U		0.160	1.00	1	03/16/2020 13:17	WG1443737
Chromium	0.741	B J	0.540	2.00	1	03/16/2020 13:17	WG1443737
Cobalt	U		0.260	2.00	1	03/16/2020 13:17	WG1443737
Lead	U		0.240	2.00	1	03/16/2020 13:17	WG1443737
Molybdenum	0.542	J	0.140	5.00	1	03/16/2020 13:17	WG1443737
Selenium	1.95	J	0.380	2.00	1	03/16/2020 13:17	WG1443737
Lithium	3.88		0.190	2.00	1	03/16/2020 17:18	WG1443737
Thallium	U		0.190	2.00	1	03/16/2020 13:17	WG1443737

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	729000		2820	10000	1	03/16/2020 21:51	WG1443908

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.24	T8	1	03/17/2020 12:21	WG1443997

Sample Narrative:

L1198900-05 WG1443997: 7.24 at 20.1C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	17200		51.9	1000	1	03/17/2020 01:09	WG1444548
Fluoride	377		9.90	100	1	03/17/2020 01:09	WG1444548
Sulfate	415000		387	25000	5	03/17/2020 01:47	WG1444548

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/18/2020 10:39	WG1445719

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	1500		12.6	200	1	03/16/2020 16:43	WG1443730

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/16/2020 13:20	WG1443737
Arsenic	0.559	J	0.250	2.00	1	03/16/2020 13:20	WG1443737
Barium	25.3		0.360	5.00	1	03/16/2020 13:20	WG1443737
Beryllium	U		0.120	2.00	1	03/16/2020 13:20	WG1443737
Calcium	108000		46.0	1000	1	03/16/2020 17:21	WG1443737
Cadmium	U		0.160	1.00	1	03/16/2020 13:20	WG1443737
Chromium	0.862	B J	0.540	2.00	1	03/16/2020 13:20	WG1443737
Cobalt	U		0.260	2.00	1	03/16/2020 13:20	WG1443737
Lead	U		0.240	2.00	1	03/16/2020 13:20	WG1443737
Molybdenum	3.96	J	0.140	5.00	1	03/16/2020 13:20	WG1443737
Selenium	0.629	J	0.380	2.00	1	03/16/2020 13:20	WG1443737
Lithium	7.64		0.190	2.00	1	03/16/2020 17:21	WG1443737
Thallium	U		0.190	2.00	1	03/16/2020 13:20	WG1443737

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	733000		2820	10000	1	03/16/2020 17:11	WG1443902

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.30	T8	1	03/17/2020 12:21	WG1443997

Sample Narrative:

L1198900-06 WG1443997: 7.3 at 20.2C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	13300		51.9	1000	1	03/17/2020 02:00	WG1444548
Fluoride	414		9.90	100	1	03/17/2020 02:00	WG1444548
Sulfate	325000		387	25000	5	03/17/2020 02:12	WG1444548

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/18/2020 10:41	WG1445719

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	391		12.6	200	1	03/16/2020 16:51	WG1443730

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/16/2020 13:23	WG1443737
Arsenic	0.506	J	0.250	2.00	1	03/16/2020 13:23	WG1443737
Barium	35.5		0.360	5.00	1	03/16/2020 13:23	WG1443737
Beryllium	U		0.120	2.00	1	03/16/2020 13:23	WG1443737
Calcium	125000		46.0	1000	1	03/16/2020 17:25	WG1443737
Cadmium	U		0.160	1.00	1	03/16/2020 13:23	WG1443737
Chromium	0.731	B J	0.540	2.00	1	03/16/2020 13:23	WG1443737
Cobalt	U		0.260	2.00	1	03/16/2020 13:23	WG1443737
Lead	U		0.240	2.00	1	03/16/2020 13:23	WG1443737
Molybdenum	3.11	J	0.140	5.00	1	03/16/2020 13:23	WG1443737
Selenium	4.45		0.380	2.00	1	03/16/2020 13:23	WG1443737
Lithium	25.9		0.190	2.00	1	03/16/2020 17:25	WG1443737
Thallium	U		0.190	2.00	1	03/16/2020 13:23	WG1443737

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	416000		2820	10000	1	03/16/2020 17:11	WG1443902

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.11	T8	1	03/17/2020 12:21	WG1443997

Sample Narrative:

L1198900-07 WG1443997: 7.11 at 20.1C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	7920		51.9	1000	1	03/17/2020 02:25	WG1444548
Fluoride	230		9.90	100	1	03/17/2020 02:25	WG1444548
Sulfate	150000		387	25000	5	03/17/2020 09:51	WG1444548

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/18/2020 10:47	WG1445719

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	154	J	12.6	200	1	03/16/2020 16:54	WG1443730

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/16/2020 13:27	WG1443737
Arsenic	U		0.250	2.00	1	03/16/2020 13:27	WG1443737
Barium	20.4		0.360	5.00	1	03/16/2020 13:27	WG1443737
Beryllium	U		0.120	2.00	1	03/16/2020 13:27	WG1443737
Calcium	73500		46.0	1000	1	03/16/2020 17:28	WG1443737
Cadmium	U		0.160	1.00	1	03/16/2020 13:27	WG1443737
Chromium	0.859	B J	0.540	2.00	1	03/16/2020 13:27	WG1443737
Cobalt	U		0.260	2.00	1	03/16/2020 13:27	WG1443737
Lead	U		0.240	2.00	1	03/16/2020 13:27	WG1443737
Molybdenum	0.662	J	0.140	5.00	1	03/16/2020 13:27	WG1443737
Selenium	2.13		0.380	2.00	1	03/16/2020 13:27	WG1443737
Lithium	8.61		0.190	2.00	1	03/16/2020 17:28	WG1443737
Thallium	U		0.190	2.00	1	03/16/2020 13:27	WG1443737

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	408000		2820	10000	1	03/16/2020 17:11	WG1443902

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.91	T8	1	03/17/2020 12:21	WG1443997

Sample Narrative:

L1198900-08 WG1443997: 6.91 at 20.4C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	13800		51.9	1000	1	03/17/2020 02:38	WG1444548
Fluoride	107		9.90	100	1	03/17/2020 02:38	WG1444548
Sulfate	61100		77.4	5000	1	03/17/2020 02:38	WG1444548

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/18/2020 10:49	WG1445719

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	35.0	J	12.6	200	1	03/16/2020 16:57	WG1443730

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/16/2020 13:30	WG1443737
Arsenic	0.371	J	0.250	2.00	1	03/16/2020 13:30	WG1443737
Barium	53.5		0.360	5.00	1	03/16/2020 13:30	WG1443737
Beryllium	U		0.120	2.00	1	03/16/2020 13:30	WG1443737
Calcium	81800		46.0	1000	1	03/16/2020 17:31	WG1443737
Cadmium	U		0.160	1.00	1	03/16/2020 13:30	WG1443737
Chromium	1.05	B J	0.540	2.00	1	03/16/2020 13:30	WG1443737
Cobalt	U		0.260	2.00	1	03/16/2020 13:30	WG1443737
Lead	U		0.240	2.00	1	03/16/2020 13:30	WG1443737
Molybdenum	0.409	J	0.140	5.00	1	03/16/2020 13:30	WG1443737
Selenium	8.44		0.380	2.00	1	03/16/2020 13:30	WG1443737
Lithium	2.48		0.190	2.00	1	03/16/2020 17:31	WG1443737
Thallium	U		0.190	2.00	1	03/16/2020 13:30	WG1443737

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	199000		2820	10000	1	03/16/2020 17:11	WG1443902

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.92	T8	1	03/17/2020 12:21	WG1443997

Sample Narrative:

L1198900-09 WG1443997: 6.92 at 20.3C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	5910		51.9	1000	1	03/17/2020 02:51	WG1444548
Fluoride	71.0	J	9.90	100	1	03/17/2020 02:51	WG1444548
Sulfate	14800		77.4	5000	1	03/17/2020 02:51	WG1444548

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/18/2020 10:51	WG1445719

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	U		12.6	200	1	03/16/2020 17:00	WG1443730

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/16/2020 13:33	WG1443737
Arsenic	U		0.250	2.00	1	03/16/2020 13:33	WG1443737
Barium	38.9		0.360	5.00	1	03/16/2020 13:33	WG1443737
Beryllium	U		0.120	2.00	1	03/16/2020 13:33	WG1443737
Calcium	49000		46.0	1000	1	03/16/2020 17:35	WG1443737
Cadmium	U		0.160	1.00	1	03/16/2020 13:33	WG1443737
Chromium	0.677	B J	0.540	2.00	1	03/16/2020 13:33	WG1443737
Cobalt	U		0.260	2.00	1	03/16/2020 13:33	WG1443737
Lead	U		0.240	2.00	1	03/16/2020 13:33	WG1443737
Molybdenum	0.389	J	0.140	5.00	1	03/16/2020 13:33	WG1443737
Selenium	1.80	J	0.380	2.00	1	03/16/2020 13:33	WG1443737
Lithium	1.48	J	0.190	2.00	1	03/16/2020 17:35	WG1443737
Thallium	U		0.190	2.00	1	03/16/2020 13:33	WG1443737

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	345000		2820	10000	1	03/16/2020 17:11	WG1443902

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.03	T8	1	03/17/2020 12:21	WG1443997

Sample Narrative:

L1198900-10 WG1443997: 7.03 at 20.2C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	8590		51.9	1000	1	03/17/2020 03:03	WG1444548
Fluoride	122		9.90	100	1	03/17/2020 03:03	WG1444548
Sulfate	109000		387	25000	5	03/17/2020 10:04	WG1444548

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/17/2020 07:37	WG1444506

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	352		12.6	200	1	03/16/2020 12:51	WG1444360

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	0.979	J	0.754	2.00	1	03/16/2020 14:10	WG1443737
Arsenic	0.318	J	0.250	2.00	1	03/16/2020 14:10	WG1443737
Barium	52.6		0.360	5.00	1	03/16/2020 14:10	WG1443737
Beryllium	U		0.120	2.00	1	03/16/2020 14:10	WG1443737
Calcium	68400		46.0	1000	1	03/16/2020 17:38	WG1443737
Cadmium	0.203	J	0.160	1.00	1	03/16/2020 14:10	WG1443737
Chromium	1.13	B J	0.540	2.00	1	03/16/2020 14:10	WG1443737
Cobalt	U		0.260	2.00	1	03/16/2020 14:10	WG1443737
Lead	0.312	J	0.240	2.00	1	03/16/2020 14:10	WG1443737
Molybdenum	0.752	J	0.140	5.00	1	03/16/2020 14:10	WG1443737
Selenium	2.52		0.380	2.00	1	03/16/2020 14:10	WG1443737
Lithium	2.30		0.190	2.00	1	03/16/2020 17:38	WG1443737
Thallium	U		0.190	2.00	1	03/16/2020 14:10	WG1443737

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	42000		2820	10000	1	03/16/2020 21:51	WG1443908

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.75	T8	1	03/17/2020 12:21	WG1443997

Sample Narrative:

L1198900-11 WG1443997: 6.75 at 20C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	7710		51.9	1000	1	03/17/2020 03:16	WG1444548
Fluoride	18.5	J	9.90	100	1	03/17/2020 03:16	WG1444548
Sulfate	2490	J	77.4	5000	1	03/17/2020 03:16	WG1444548

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/17/2020 07:39	WG1444506

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	19.2	B J	12.6	200	1	03/16/2020 12:54	WG1444360

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/16/2020 14:14	WG1443737
Arsenic	U		0.250	2.00	1	03/16/2020 14:14	WG1443737
Barium	31.3		0.360	5.00	1	03/16/2020 14:14	WG1443737
Beryllium	U		0.120	2.00	1	03/16/2020 14:14	WG1443737
Calcium	1700		46.0	1000	1	03/16/2020 17:41	WG1443737
Cadmium	U		0.160	1.00	1	03/16/2020 14:14	WG1443737
Chromium	1.21	B J	0.540	2.00	1	03/16/2020 14:14	WG1443737
Cobalt	0.559	J	0.260	2.00	1	03/16/2020 14:14	WG1443737
Lead	0.289	J	0.240	2.00	1	03/16/2020 14:14	WG1443737
Molybdenum	U		0.140	5.00	1	03/16/2020 14:14	WG1443737
Selenium	U		0.380	2.00	1	03/16/2020 14:14	WG1443737
Lithium	1.89	J	0.190	2.00	1	03/16/2020 17:41	WG1443737
Thallium	U		0.190	2.00	1	03/16/2020 14:14	WG1443737

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	178000		2820	10000	1	03/16/2020 21:51	WG1443908

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.91	T8	1	03/17/2020 12:21	WG1443997

Sample Narrative:

L1198900-12 WG1443997: 6.91 at 20C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	4590		51.9	1000	1	03/17/2020 03:29	WG1444548
Fluoride	68.1	J	9.90	100	1	03/17/2020 03:29	WG1444548
Sulfate	9150		77.4	5000	1	03/17/2020 03:29	WG1444548

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	03/17/2020 07:41	WG1444506

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	19.0	B J	12.6	200	1	03/16/2020 12:57	WG1444360

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	03/16/2020 14:17	WG1443737
Arsenic	U		0.250	2.00	1	03/16/2020 14:17	WG1443737
Barium	31.0		0.360	5.00	1	03/16/2020 14:17	WG1443737
Beryllium	U		0.120	2.00	1	03/16/2020 14:17	WG1443737
Calcium	45000		46.0	1000	1	03/16/2020 17:45	WG1443737
Cadmium	U		0.160	1.00	1	03/16/2020 14:17	WG1443737
Chromium	0.779	B J	0.540	2.00	1	03/16/2020 14:17	WG1443737
Cobalt	U		0.260	2.00	1	03/16/2020 14:17	WG1443737
Lead	U		0.240	2.00	1	03/16/2020 14:17	WG1443737
Molybdenum	0.435	J	0.140	5.00	1	03/16/2020 14:17	WG1443737
Selenium	1.92	J	0.380	2.00	1	03/16/2020 14:17	WG1443737
Lithium	1.13	J	0.190	2.00	1	03/16/2020 17:45	WG1443737
Thallium	U		0.190	2.00	1	03/16/2020 14:17	WG1443737

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
SDG	Sample Delivery Group.
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.
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.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
T8	Sample(s) received past/too close to holding time expiration.

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

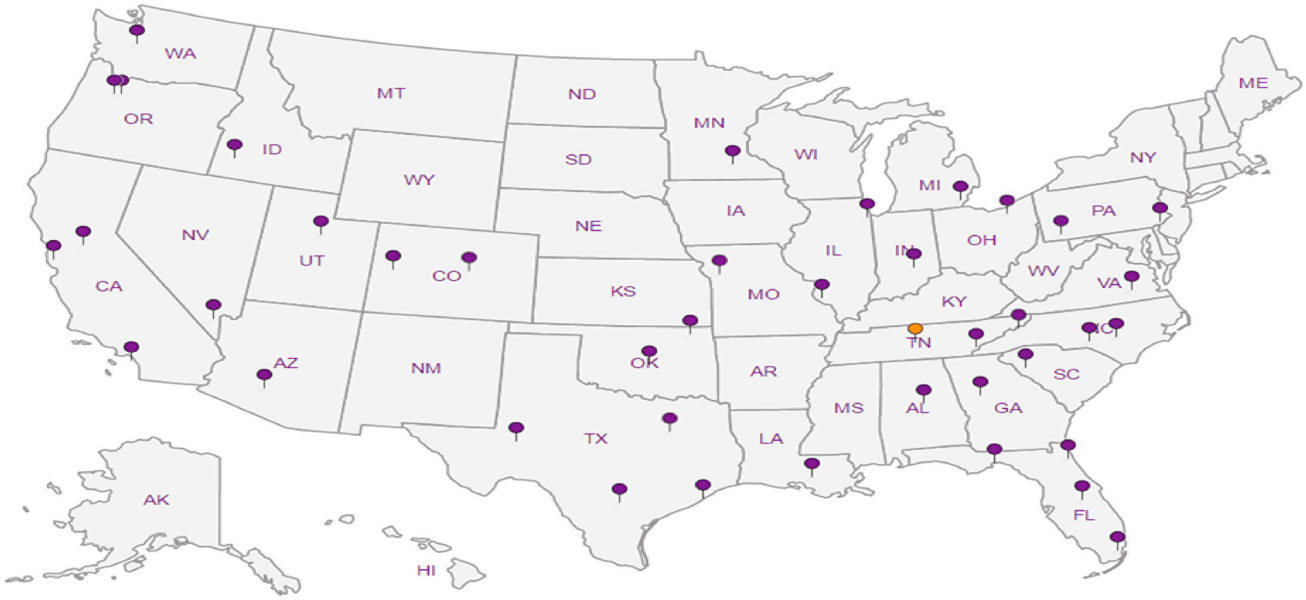
Third Party Federal Accreditations

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.



Terracon - Little Rock, AR
25809 I-30
Bryant, AR 72022

Billing Information:
Accounts Payable
25809 I-30
Bryant, AR 72022

Report to: David Jaros

Email To: David.Jaros@terracon.com;JHouse@trccompanies.

Project Description: Entergy - Independence Landfil

City/State Collected:

Please Circle: PT MT CT ET

Phone: 501-847-9210
Fax:

Client Project # 35207057

Lab Project # GENENLAR-ENTERGY

Collected by (print): Matt Acree

Site/Facility ID #

P.O. #

Collected by (signature): Immediately Packed on Ice N ___ Y ✓

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

Date Results Needed

Quote #

Pres Chk: LL | | LL | | | | | | | |

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*Total Metals 250mlHDPE-HNO3	Cl, F, SO4, PH 125mlHDPE-NoPres	RA-226/228 Combined 1L-HDPE-Add HNO3	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
RP-1	G	GW		3-10-20	0923	4	1	1	1	1		-01
RP-2	G	GW		3-10-20	1023		1	1	1	1		02
RP-3	G	GW		3-11-20	1623		1	1	1	1		03
RP-4	G	GW		3-10-20	1106		1	1	1	1		04
RP-5	G	GW		3-11-20	1348		1	1	1	1		05
RP-6	G	GW		3-10-20	1709		1	1	1	1		06
RP-7	G	GW		3-10-20	1634		1	1	1	1		07
RP-8	G	GW		3-10-20	1537		1	1	1	1		08
RP-9	G	GW		3-10-20	1432		1	1	1	1		09
RP-10	G	GW		3-10-20	1355		1	1	1	1		10

Chain of Custody Page ___ of ___

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 1195900
G053

Acctnum: GENENLAR
Template: T163916
Prelogin: P758143
PM: 134 - Mark W. Beasley
PB: LC 3/2/20
Shipped Via: FedEX Ground

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

Remarks:CCR - Appendix III & IV
*Total Metals = As, Ba, Be, B, Ca, Cd, Co, Cr, Hg, Li, Mo, Pb,Sb, Se, Tl

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 1663 5751 2593 12582

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: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	3.12.20	1300			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.1 °C Bottles Received: 48	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Carol Kemp	Date: 3/13/20 Time: 8:45	Hold: / Condition: NCF / OK

Terracon - Little Rock, AR

25809 I-30
Bryant, AR 72022

Billing Information:
Accounts Payable
25809 I-30
Bryant, AR 72022

Report to: David Jaros

Email To: David.Jaros@terracon.com;JHouse@trccompanies.

Project Description: Entergy - Independence Landfil

City/State Collected:

Please Circle: PT MT CT ET

Phone: 501-847-9210
Fax:

Client Project # 35207057

Lab Project # GENENLAR-ENTERGY

Collected by (print): Matt Accel

Site/Facility ID #

P.O. #

Collected by (signature):
Immediately Packed on Ice N ___ Y ___

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

Date Results Needed

Quote #

Pres Chk: 22 | | 22

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*Total Metals 250mlHDPE-HNO3	Cl, F, SO4, PH 125mlHDPE-NoPres	RA-226/228 Combined 1L-HDPE-Add HNO3	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
FB	G	GW		3-11-20	1610	4	1	1	1	1		11
Dupe	G	GW		3-11-20	1625	4	1	1	1	1		12
		GW										
		GW										
		GW										
		GW										
		GW										
		GW										
		GW										
		GW										
		GW										

Chain of Custody Page ___ of ___

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 1198900

Table #

Acctnum: GENENLAR

Template: T163916

Prelogin: P758143

PM: 134 - Mark W. Beasley

PB: LC 2/26

Shipped Via: FedEX Ground

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

Remarks:CCR - Appendix III & IV
*Total Metals = As, Ba, Be, B, Ca, Cd, Co, Cr, Hg, Li, Mo, Pb,Sb, Se, Tl

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP X Y __N
COC Signed/Accurate: X Y __N
Bottles arrive intact: X Y __N
Correct bottles used: X Y __N
Sufficient volume sent: X Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: X Y __N
RAD Screen <0.5 mR/hr: X Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / (No) HCL / MeoH TBR	
Matt Accel	3.12.20	1300			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: WAT °C .3+0=3	Bottles Received: 48
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Carol Kemp	Date: 3/13/20	Time: 8:45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

July 15, 2020

Terracon - Little Rock, AR

Sample Delivery Group:	L1229620
Samples Received:	06/16/2020
Project Number:	35207056
Description:	Entergy - Independence Landfill
Site:	INDEPENDENCE
Report To:	David Jaros
	25809 I-30
	Bryant, AR 72022

Entire Report Reviewed By:

Mark W. Beasley
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 Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

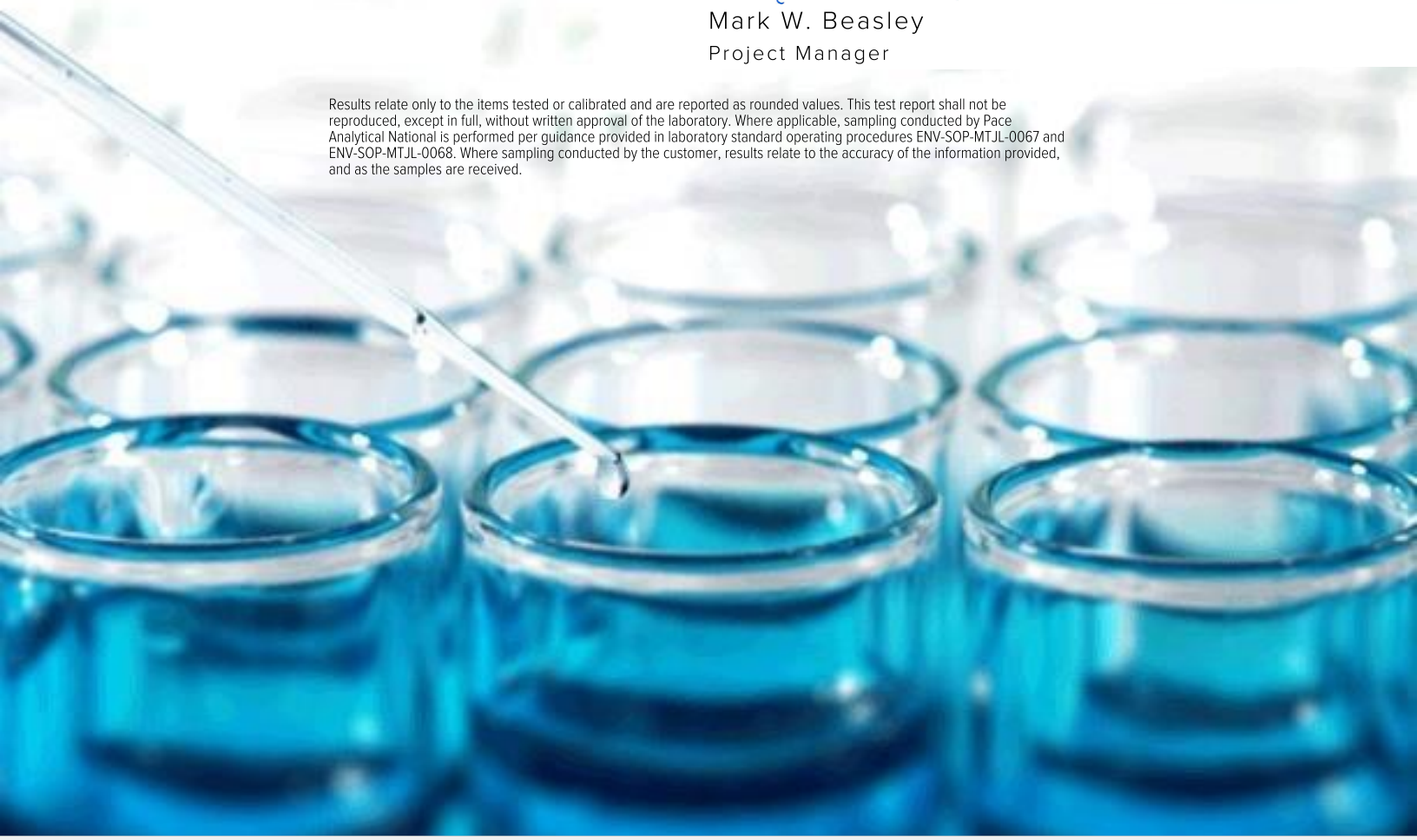


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RP-1 L1229620-01 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 06/12/20 10:36 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1497745	1	06/25/20 15:19	07/08/20 10:00	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1504370	1	07/06/20 15:33	07/08/20 10:00	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1504370	1	07/06/20 15:33	07/07/20 17:10	RRE	Mt. Juliet, TN

RP-2 L1229620-02 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 06/12/20 09:43 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1497745	1	06/25/20 15:19	07/08/20 10:00	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1504370	1	07/06/20 15:33	07/08/20 10:00	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1504370	1	07/06/20 15:33	07/07/20 17:10	RRE	Mt. Juliet, TN

RP-4 L1229620-03 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 06/12/20 08:37 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1497745	1	06/25/20 15:19	07/08/20 10:00	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1504370	1	07/06/20 15:33	07/08/20 10:00	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1504370	1	07/06/20 15:33	07/07/20 17:10	RRE	Mt. Juliet, TN

RP-5 L1229620-04 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 06/11/20 18:00 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1497745	1	06/25/20 15:19	07/08/20 10:00	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1504370	1	07/06/20 15:33	07/08/20 10:00	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1504370	1	07/06/20 15:33	07/07/20 17:10	RRE	Mt. Juliet, TN

RP-6 L1229620-05 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 06/11/20 15:07 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1497745	1	06/25/20 15:19	07/08/20 10:00	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1504370	1	07/06/20 15:33	07/08/20 10:00	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1504370	1	07/06/20 15:33	07/07/20 17:10	RRE	Mt. Juliet, TN

RP-7 L1229620-06 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 06/11/20 17:20 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1497745	1	06/25/20 15:19	07/08/20 10:00	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1504370	1	07/06/20 15:33	07/08/20 10:00	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1504370	1	07/06/20 15:33	07/07/20 17:10	RRE	Mt. Juliet, TN

RP-8 L1229620-07 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 06/11/20 14:13 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1497745	1	06/25/20 15:19	07/09/20 09:25	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1504370	1	07/06/20 15:33	07/09/20 09:25	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1504370	1	07/06/20 15:33	07/07/20 17:10	RRE	Mt. Juliet, TN

RP-9 L1229620-08 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 06/11/20 13:19 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1497745	1	06/25/20 15:19	07/09/20 09:25	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1504370	1	07/06/20 15:33	07/09/20 09:25	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1504370	1	07/06/20 15:33	07/07/20 17:10	RRE	Mt. Juliet, TN

RP-10 L1229620-09 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 06/11/20 12:18 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1497745	1	06/25/20 15:19	07/09/20 09:25	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1504370	1	07/06/20 15:33	07/09/20 09:25	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1504370	1	07/06/20 15:33	07/07/20 17:10	RRE	Mt. Juliet, TN

DUP L1229620-10 Non-Potable Water

Collected by: Matt Acree | Collected date/time: 06/11/20 12:20 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1497745	1	06/25/20 15:19	07/09/20 09:25	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1504370	1	07/06/20 15:33	07/09/20 09:25	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1504370	1	07/06/20 15:33	07/07/20 17:10	RRE	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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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.

Mark W. Beasley
Project Manager

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.157		0.574	0.935	07/08/2020 10:00	WG1497745
(T) Barium	*98.8*			*62.0-143*	*07/08/2020 10:00*	WG1497745
(T) Yttrium	*98.1*			*79.0-136*	*07/08/2020 10:00*	WG1497745

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.175		0.761	1.18	07/08/2020 10:00	WG1504370

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.175		0.187	0.245	07/07/2020 17:10	WG1504370
(T) Barium-133	*97.1*			*30.0-143*	*07/07/2020 17:10*	WG1504370

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.16		0.678	1.17	07/08/2020 10:00	WG1497745
(T) Barium	*99.3*			*62.0-143*	*07/08/2020 10:00*	WG1497745
(T) Yttrium	*95.7*			*79.0-136*	*07/08/2020 10:00*	WG1497745

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.18		0.754	1.34	07/08/2020 10:00	WG1504370

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0196		0.0758	0.172	07/07/2020 17:10	WG1504370
(T) Barium-133	*95.2*			*30.0-143*	*07/07/2020 17:10*	WG1504370

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	2.51		0.649	1.44	07/08/2020 10:00	WG1497745
(T) Barium	*80.5*			*62.0-143*	*07/08/2020 10:00*	WG1497745
(T) Yttrium	*84.7*			*79.0-136*	*07/08/2020 10:00*	WG1497745

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	3.46		1.04	1.69	07/08/2020 10:00	WG1504370

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.955		0.393	0.245	07/07/2020 17:10	WG1504370
(T) Barium-133	*84.1*			*30.0-143*	*07/07/2020 17:10*	WG1504370

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.65		0.699	1.22	07/08/2020 10:00	WG1497745
(T) Barium	*85.6*			*62.0-143*	*07/08/2020 10:00*	WG1497745
(T) Yttrium	*82.0*			*79.0-136*	*07/08/2020 10:00*	WG1497745

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.69		0.926	1.62	07/08/2020 10:00	WG1504370

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0437		0.227	0.404	07/07/2020 17:10	WG1504370
(T) Barium-133	*84.2*			*30.0-143*	*07/07/2020 17:10*	WG1504370

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.16		0.578	0.836	07/08/2020 10:00	WG1497745
(T) Barium	*100*			*62.0-143*	*07/08/2020 10:00*	WG1497745
(T) Yttrium	*108*			*79.0-136*	*07/08/2020 10:00*	WG1497745

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.26		0.728	1.07	07/08/2020 10:00	WG1504370

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0971		0.150	0.234	07/07/2020 17:10	WG1504370
(T) Barium-133	*91.6*			*30.0-143*	*07/07/2020 17:10*	WG1504370

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.0196		0.521	0.859	07/08/2020 10:00	WG1497745
(T) Barium	*91.6*			*62.0-143*	*07/08/2020 10:00*	WG1497745
(T) Yttrium	*111*			*79.0-136*	*07/08/2020 10:00*	WG1497745

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.378		0.799	1.16	07/08/2020 10:00	WG1504370

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.359		0.278	0.296	07/07/2020 17:10	WG1504370
(T) Barium-133	*82.3*			*30.0-143*	*07/07/2020 17:10*	WG1504370

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.346		0.599	0.911	07/09/2020 09:25	WG1497745
(T) Barium	*97.7*			*62.0-143*	*07/09/2020 09:25*	WG1497745
(T) Yttrium	*97.1*			*79.0-136*	*07/09/2020 09:25*	WG1497745

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.388		0.716	1.13	07/09/2020 09:25	WG1504370

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0428		0.117	0.222	07/07/2020 17:10	WG1504370
(T) Barium-133	*94.0*			*30.0-143*	*07/07/2020 17:10*	WG1504370

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.732		0.533	0.785	07/09/2020 09:25	WG1497745
(T) Barium	*102*			*62.0-143*	*07/09/2020 09:25*	WG1497745
(T) Yttrium	*104*			*79.0-136*	*07/09/2020 09:25*	WG1497745

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.732		0.989	1.5	07/09/2020 09:25	WG1504370

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	-0.106		0.456	0.711	07/07/2020 17:10	WG1504370
(T) Barium-133	*94.1*			*30.0-143*	*07/07/2020 17:10*	WG1504370

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.0220		0.678	1.13	07/09/2020 09:25	WG1497745
(T) Barium	*94.2*			*62.0-143*	*07/09/2020 09:25*	WG1497745
(T) Yttrium	*92.0*			*79.0-136*	*07/09/2020 09:25*	WG1497745

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.0572		0.807	1.37	07/09/2020 09:25	WG1504370

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0572		0.129	0.237	07/07/2020 17:10	WG1504370
(T) Barium-133	*95.5*			*30.0-143*	*07/07/2020 17:10*	WG1504370

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.96		0.579	1.46	07/09/2020 09:25	WG1497745
(T) Barium	*67.1*			*62.0-143*	*07/09/2020 09:25*	WG1497745
(T) Yttrium	*103*			*79.0-136*	*07/09/2020 09:25*	WG1497745

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	2.02		0.740	1.75	07/09/2020 09:25	WG1504370

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0536		0.161	0.289	07/07/2020 17:10	WG1504370
(T) Barium-133	*90.5*			*30.0-143*	*07/07/2020 17:10*	WG1504370

Method Blank (MB)

(MB) R3549558-1 07/08/20 10:00

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-228	0.145		0.557
(T) Barium	*97.4*		
(T) Yttrium	*82.3*		

L1231156-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1231156-05 07/09/20 09:25 • (DUP) R3549558-5 07/08/20 10:00

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	1.37	1.53	1	11.0	0.164		20	3
(T) Barium	*94.3*	*93.9*						
(T) Yttrium	*78.0*	*91.4*						

Laboratory Control Sample (LCS)

(LCS) R3549558-2 07/08/20 10:00

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.92	118	80.0-120	
(T) Barium			*101*		
(T) Yttrium			*92.4*		

L1229543-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1229543-01 07/08/20 10:00 • (MS) R3549558-3 07/08/20 10:00 • (MSD) R3549558-4 07/08/20 10:00

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	3.46	11.5	11.4	80.3	79.8	1	70.0-130			0.436		20
(T) Barium		*90.1*			*91.3*	*82.2*							
(T) Yttrium		*107*			*98.0*	*105*							

Method Blank (MB)

(MB) R3548920-1 07/07/20 17:10

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-226	0.00368		0.0696
(T) Barium-133	*94.1*		

L1230038-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1230038-01 07/07/20 17:10 • (DUP) R3548920-5 07/07/20 17:10

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.128	0.120	1	6.39	0.0245		20	3
(T) Barium-133	*92.4*	*86.6*						

Laboratory Control Sample (LCS)

(LCS) R3548920-2 07/07/20 17:10

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	4.82	96.0	80.0-120	
(T) Barium-133			*95.2*		

L1230038-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1230038-03 07/07/20 17:10 • (MS) R3548920-3 07/07/20 17:10 • (MSD) R3548920-4 07/07/20 17:10

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.1	0.166	17.6	15.6	86.6	76.8	1	75.0-125			11.9		20
(T) Barium-133		*87.8*			*90.4*	*94.3*							

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

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
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

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

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

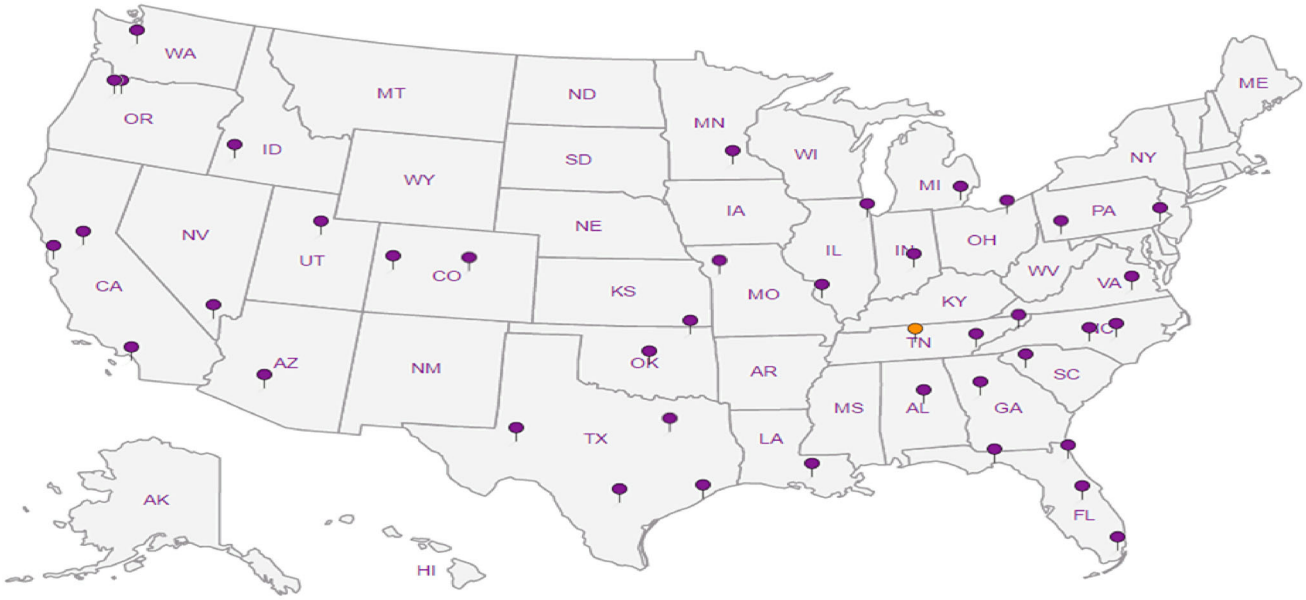
Third Party Federal Accreditations

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.



Terracon - Little Rock, AR

25809 I-30
Bryant, AR 72022

Billing Information:
Accounts Payable
25809 I-30
Bryant, AR 72022

Report to: David Jaros

Email To: David.Jaros@terracon.com;Paul.Gramling@terr

Project Description: Entergy - Independence Landfill

City/State Collected:

Please Circle: PT MT CT ET

Phone: 501-847-9210

Client Project # 35207056

Lab Project # GENENLAR-ENTERGY

Collected by (print): Matt Acree

Site/Facility ID # Independence

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

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

Date Results Needed

Quote #

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*Total Metals 250mlHDPE-HNO3	Cl, F, SO4, PH 125mlHDPE-NoPres	RA-226/228 Combined 1L-HDPE-Add HNO3	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
RP-1	Grab	GW		6-12-20	1036	4	1	1	1	1		-01
RP-2	Grab	GW		6-12-20	0943	4	1	1	1	1		02
~~RP-3~~ ~~RP-3~~ Not included	~~Grab~~	GW										
RP-4	Grab	GW		6-12-20	0837	4	1	1	1	1		03
RP-5	Grab	GW		6-11-20	1800	4	1	1	1	1		04
RP-6	Grab	GW		6-11-20	1507	4	1	1	1	1		05
RP-7	Grab	GW		6-11-20	1720	4	1	1	1	1		06
RP-8	Grab	GW		6-11-20	1413	4	1	1	1	1		07
RP-9	Grab	GW		6-11-20	1319	4	1	1	1	1		08
RP-10	Grab	GW		6-11-20	1218	4	1	1	1	1		09

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

Remarks: CCR - Appendix III & IV
*Total Metals = As, Ba, Be, B, Ca, Cd, Co, Cr, Hg, Li, Mo, Pb, Sb, Se, Tl

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 1790 3033 5812 / 1790 3035 5368

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/15/20	1000 AM	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Carol Kemp

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 0.1°C 1.6-1=1.5

Bottles Received: 40

Date: 6/16/20 Time: 8:45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

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: ✓Y N

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 129620
G228

Acctnum: GENENLAR
Template: T163916
Prelogin: P778592
PM: 134 - Mark W. Beasley
PB: LC 6/3

Shipped Via: FedEX Ground

Chain of Custody Page ___ of ___

Terracon - Little Rock, AR

25809 I-30
Bryant, AR 72022

Billing Information:
Accounts Payable
25809 I-30
Bryant, AR 72022

Pres Chk

Report to: David Jaros

Email To: David.Jaros@terracon.com;Paul.Gramling@terr

Project Description: Entergy - Independence Landfill

City/State Collected:

Please Circle: PT MT CT ET

Phone: 501-847-9210

Client Project # 352070056

Lab Project # GENENLAR-ENTERGY

Collected by (print): Matt Arnett

Site/Facility ID # Independence

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

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

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*Total Metals 250mlHDPE-HNO3	Cl, F, SO4, PH 125mlHDPE-NoPres	RA-226/228 Combined 1L-HDPE-Add HNO3	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
Dup		GW		6/11/20	1220	4	1	1	1	1		10
FB MA		GW										
		GW										
		GW										
		GW										

Remarks: CCR - Appendix III & IV
*Total Metals = As, Ba, Be, B, Ca, Cd, Co, Cr, Hg, Li, Mo, Pb, Sb, Se, Tl

pH ___ Temp ___
Flow ___ Other ___

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

Samples returned via: __ UPS __ FedEx __ Courier ___

Tracking #

Relinquished by : (Signature) — Date: 6/15/20 — Time: 1000 — Received by: (Signature)

Relinquished by : (Signature) — Date: — Time: — Received by: (Signature)

Relinquished by : (Signature) — Date: — Time: — Received for lab by: (Signature) — Date: 6/16/20 — Time: 8:45

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 4.7 °C — Bottles Received: 40

6.0 - .1 = 1.5

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

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:		Y N

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 1229620

Table #

Acctnum: GENENLAR
Template: T163916
Prelogin: P778592
PM: 134 - Mark W. Beasley
PB: LL 6/3

Shipped Via: FedEx Ground

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

June 24, 2020

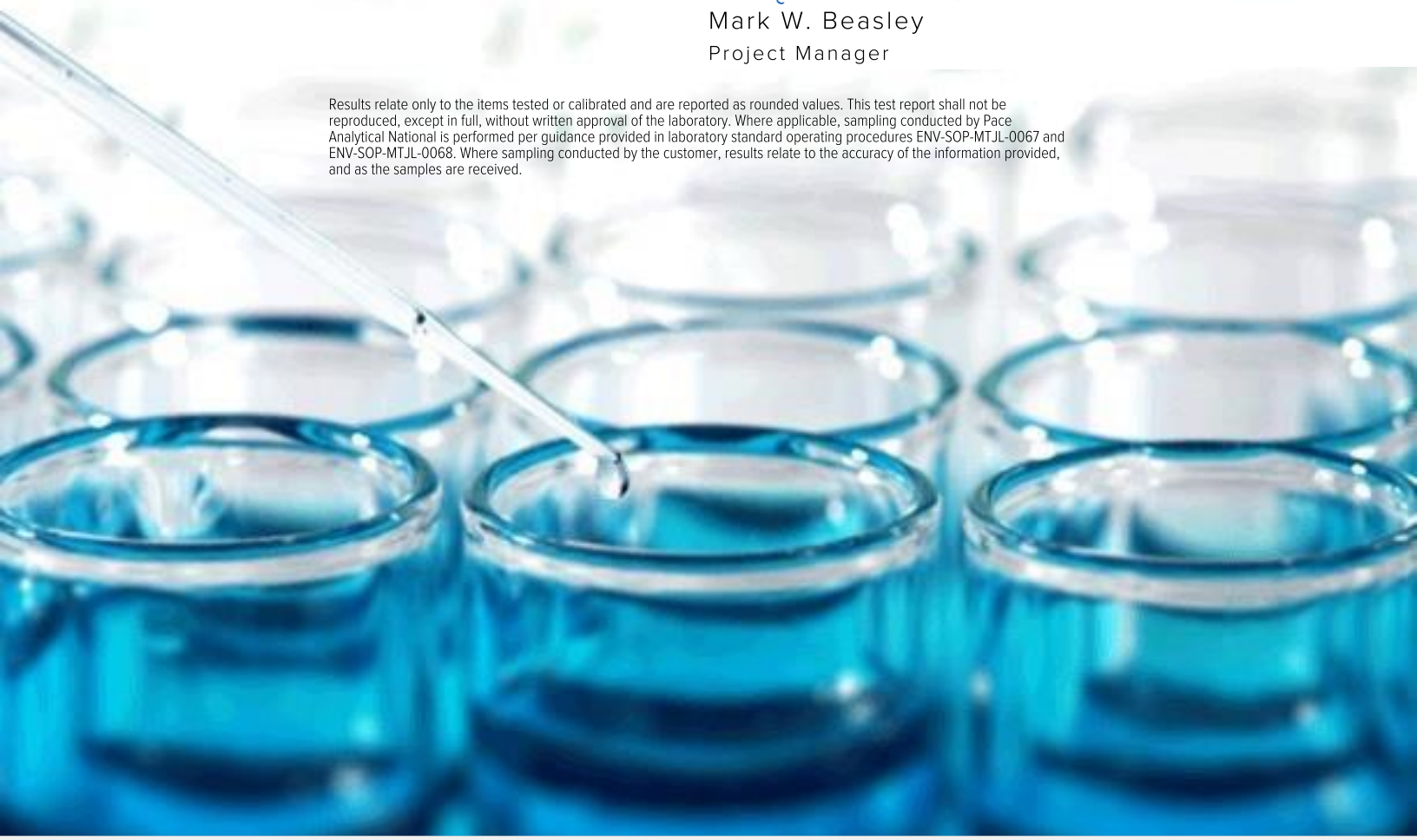
Terracon - Little Rock, AR

Sample Delivery Group:	L1229617
Samples Received:	06/16/2020
Project Number:	35207056
Description:	Entergy - Independence Landfill
Site:	INDEPENDENCE
Report To:	David Jaros
	25809 I-30
	Bryant, AR 72022

Entire Report Reviewed By:

Mark W. Beasley
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 Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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RP-1 L1229617-01 GW

Collected by: Matt Acree | Collected date/time: 06/12/20 10:36 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1494563	1	06/17/20 22:25	06/18/20 07:42	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1496789	1	06/22/20 10:15	06/22/20 10:15	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1496158	1	06/22/20 14:57	06/22/20 14:57	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1493633	1	06/16/20 20:00	06/17/20 09:36	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1495356	1	06/22/20 10:36	06/22/20 17:04	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1495139	1	06/18/20 21:22	06/19/20 11:33	JPD	Mt. Juliet, TN

RP-2 L1229617-02 GW

Collected by: Matt Acree | Collected date/time: 06/12/20 09:43 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1494563	1	06/17/20 22:25	06/18/20 07:42	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1496789	1	06/22/20 10:15	06/22/20 10:15	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1496158	1	06/22/20 15:12	06/22/20 15:12	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1493633	1	06/16/20 20:00	06/17/20 09:38	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1495356	1	06/22/20 10:36	06/22/20 17:07	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1495139	1	06/18/20 21:22	06/19/20 13:25	JPD	Mt. Juliet, TN

RP-4 L1229617-03 GW

Collected by: Matt Acree | Collected date/time: 06/12/20 08:37 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1494563	1	06/17/20 22:25	06/18/20 07:42	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1496789	1	06/22/20 10:15	06/22/20 10:15	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1496158	1	06/22/20 15:27	06/22/20 15:27	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1496158	5	06/22/20 15:42	06/22/20 15:42	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1493633	1	06/16/20 20:00	06/17/20 09:40	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1495356	1	06/22/20 10:36	06/22/20 17:15	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1495139	1	06/18/20 21:22	06/19/20 13:29	JPD	Mt. Juliet, TN

RP-5 L1229617-04 GW

Collected by: Matt Acree | Collected date/time: 06/11/20 18:00 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1493848	1	06/17/20 19:34	06/17/20 20:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1496789	1	06/22/20 10:15	06/22/20 10:15	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1496158	1	06/22/20 15:57	06/22/20 15:57	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1496158	5	06/22/20 16:42	06/22/20 16:42	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1493633	1	06/16/20 20:00	06/17/20 09:42	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1495356	1	06/22/20 10:36	06/22/20 17:17	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1495139	1	06/18/20 21:22	06/19/20 13:42	JPD	Mt. Juliet, TN

RP-6 L1229617-05 GW

Collected by: Matt Acree | Collected date/time: 06/11/20 15:07 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1493848	1	06/17/20 19:34	06/17/20 20:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1496789	1	06/22/20 10:15	06/22/20 10:15	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1496158	1	06/22/20 16:57	06/22/20 16:57	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1496158	5	06/22/20 17:12	06/22/20 17:12	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1493633	1	06/16/20 20:00	06/17/20 09:44	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1495356	1	06/22/20 10:36	06/22/20 17:20	EL	Mt. Juliet, TN

RP-6 L1229617-05 GW

Collected by: Matt Acree | Collected date/time: 06/11/20 15:07 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG1495139	1	06/18/20 21:22	06/19/20 13:46	JPD	Mt. Juliet, TN

RP-7 L1229617-06 GW

Collected by: Matt Acree | Collected date/time: 06/11/20 17:20 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1493848	1	06/17/20 19:34	06/17/20 20:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1496789	1	06/22/20 10:15	06/22/20 10:15	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1496158	1	06/22/20 17:27	06/22/20 17:27	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1496158	5	06/22/20 17:42	06/22/20 17:42	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1493633	1	06/16/20 20:00	06/17/20 09:50	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1495356	1	06/22/20 10:36	06/22/20 17:23	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1495139	1	06/18/20 21:22	06/19/20 13:49	JPD	Mt. Juliet, TN

RP-8 L1229617-07 GW

Collected by: Matt Acree | Collected date/time: 06/11/20 14:13 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1493848	1	06/17/20 19:34	06/17/20 20:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1496789	1	06/22/20 10:15	06/22/20 10:15	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1496158	1	06/22/20 17:57	06/22/20 17:57	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1493633	1	06/16/20 20:00	06/17/20 09:52	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1495356	1	06/22/20 10:36	06/22/20 17:25	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1495139	1	06/18/20 21:22	06/19/20 13:53	JPD	Mt. Juliet, TN

RP-9 L1229617-08 GW

Collected by: Matt Acree | Collected date/time: 06/11/20 13:19 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1493848	1	06/17/20 19:34	06/17/20 20:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1496789	1	06/22/20 10:15	06/22/20 10:15	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1496158	1	06/22/20 18:12	06/22/20 18:12	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1493633	1	06/16/20 20:00	06/17/20 09:54	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1495356	1	06/22/20 10:36	06/22/20 17:28	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1495139	1	06/18/20 21:22	06/19/20 13:56	JPD	Mt. Juliet, TN

RP-10 L1229617-09 GW

Collected by: Matt Acree | Collected date/time: 06/11/20 12:18 | Received date/time: 06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1493848	1	06/17/20 19:34	06/17/20 20:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1496789	1	06/22/20 10:15	06/22/20 10:15	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1496158	1	06/22/20 18:41	06/22/20 18:41	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1496158	5	06/22/20 18:56	06/22/20 18:56	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1493633	1	06/16/20 20:00	06/17/20 09:55	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1495356	1	06/22/20 10:36	06/22/20 17:31	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1495139	1	06/18/20 21:22	06/19/20 14:00	JPD	Mt. Juliet, TN

DUP L1229617-10 GW

Collected by	Collected date/time	Received date/time
Matt Acree	06/11/20 12:20	06/16/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1493848	1	06/17/20 19:34	06/17/20 20:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1496789	1	06/22/20 10:15	06/22/20 10:15	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1496158	1	06/22/20 19:41	06/22/20 19:41	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1496158	5	06/22/20 19:56	06/22/20 19:56	ELN	Mt. Juliet, TN
Mercury by Method 7470A	WG1493633	1	06/16/20 20:00	06/17/20 09:57	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1495356	1	06/22/20 10:36	06/22/20 17:33	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1495369	1	06/20/20 11:42	06/20/20 15:37	RDS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1495369	1	06/20/20 11:42	06/20/20 17:51	JPD	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.

Mark W. Beasley
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	202000		2820	10000	1	06/18/2020 07:42	WG1494563

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.04	T8	1	06/22/2020 10:15	WG1496789

Sample Narrative:

L1229617-01 WG1496789: 7.04 at 20.4C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6960		379	1000	1	06/22/2020 14:57	WG1496158
Fluoride	84.3	J	64.0	150	1	06/22/2020 14:57	WG1496158
Sulfate	18100		594	5000	1	06/22/2020 14:57	WG1496158

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.100	0.200	1	06/17/2020 09:36	WG1493633

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	U		25.4	200	1	06/22/2020 17:04	WG1495356

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		1.32	4.00	1	06/19/2020 11:33	WG1495139
Arsenic	U		0.735	2.00	1	06/19/2020 11:33	WG1495139
Barium	45.1		7.78	20.0	1	06/19/2020 11:33	WG1495139
Beryllium	U		0.454	2.00	1	06/19/2020 11:33	WG1495139
Cadmium	U		0.478	1.00	1	06/19/2020 11:33	WG1495139
Calcium	50800		480	1000	1	06/19/2020 11:33	WG1495139
Chromium	U		1.49	2.00	1	06/19/2020 11:33	WG1495139
Cobalt	U		0.477	2.00	1	06/19/2020 11:33	WG1495139
Lead	U		2.49	5.00	1	06/19/2020 11:33	WG1495139
Molybdenum	U		0.953	5.00	1	06/19/2020 11:33	WG1495139
Selenium	2.14		0.657	2.00	1	06/19/2020 11:33	WG1495139
Thallium	U		0.460	2.00	1	06/19/2020 11:33	WG1495139
Lithium	1.85	J	0.936	2.00	1	06/19/2020 11:33	WG1495139

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	144000		2820	10000	1	06/18/2020 07:42	WG1494563

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.68	T8	1	06/22/2020 10:15	WG1496789

Sample Narrative:

L1229617-02 WG1496789: 6.68 at 20.3C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	533	J	379	1000	1	06/22/2020 15:12	WG1496158
Fluoride	88.8	J	64.0	150	1	06/22/2020 15:12	WG1496158
Sulfate	24000		594	5000	1	06/22/2020 15:12	WG1496158

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.100	0.200	1	06/17/2020 09:38	WG1493633

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	103	J	25.4	200	1	06/22/2020 17:07	WG1495356

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		1.32	4.00	1	06/19/2020 13:25	WG1495139
Arsenic	U		0.735	2.00	1	06/19/2020 13:25	WG1495139
Barium	63.4		7.78	20.0	1	06/19/2020 13:25	WG1495139
Beryllium	U		0.454	2.00	1	06/19/2020 13:25	WG1495139
Cadmium	U		0.478	1.00	1	06/19/2020 13:25	WG1495139
Calcium	25900		480	1000	1	06/19/2020 13:25	WG1495139
Chromium	3.17		1.49	2.00	1	06/19/2020 13:25	WG1495139
Cobalt	U		0.477	2.00	1	06/19/2020 13:25	WG1495139
Lead	U		2.49	5.00	1	06/19/2020 13:25	WG1495139
Molybdenum	U		0.953	5.00	1	06/19/2020 13:25	WG1495139
Selenium	8.39		0.657	2.00	1	06/19/2020 13:25	WG1495139
Thallium	U		0.460	2.00	1	06/19/2020 13:25	WG1495139
Lithium	9.40		0.936	2.00	1	06/19/2020 13:25	WG1495139

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	371000		2820	10000	1	06/18/2020 07:42	WG1494563

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.07	T8	1	06/22/2020 10:15	WG1496789

Sample Narrative:

L1229617-03 WG1496789: 7.07 at 20.3C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	9450		379	1000	1	06/22/2020 15:27	WG1496158
Fluoride	218		64.0	150	1	06/22/2020 15:27	WG1496158
Sulfate	158000		2970	25000	5	06/22/2020 15:42	WG1496158

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.100	0.200	1	06/17/2020 09:40	WG1493633

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	420		25.4	200	1	06/22/2020 17:15	WG1495356

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		1.32	4.00	1	06/19/2020 13:29	WG1495139
Arsenic	U		0.735	2.00	1	06/19/2020 13:29	WG1495139
Barium	36.3		7.78	20.0	1	06/19/2020 13:29	WG1495139
Beryllium	U		0.454	2.00	1	06/19/2020 13:29	WG1495139
Cadmium	U		0.478	1.00	1	06/19/2020 13:29	WG1495139
Calcium	73900		480	1000	1	06/19/2020 13:29	WG1495139
Chromium	2.11		1.49	2.00	1	06/19/2020 13:29	WG1495139
Cobalt	U		0.477	2.00	1	06/19/2020 13:29	WG1495139
Lead	U		2.49	5.00	1	06/19/2020 13:29	WG1495139
Molybdenum	U		0.953	5.00	1	06/19/2020 13:29	WG1495139
Selenium	2.89		0.657	2.00	1	06/19/2020 13:29	WG1495139
Thallium	U		0.460	2.00	1	06/19/2020 13:29	WG1495139
Lithium	3.43		0.936	2.00	1	06/19/2020 13:29	WG1495139

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	711000		2820	10000	1	06/17/2020 20:41	WG1493848

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.47	T8	1	06/22/2020 10:15	WG1496789

Sample Narrative:

L1229617-04 WG1496789: 7.47 at 20.4C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	15100		379	1000	1	06/22/2020 15:57	WG1496158
Fluoride	340		64.0	150	1	06/22/2020 15:57	WG1496158
Sulfate	426000		2970	25000	5	06/22/2020 16:42	WG1496158

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.100	0.200	1	06/17/2020 09:42	WG1493633

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	1460		25.4	200	1	06/22/2020 17:17	WG1495356

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		1.32	4.00	1	06/19/2020 13:42	WG1495139
Arsenic	U		0.735	2.00	1	06/19/2020 13:42	WG1495139
Barium	26.1		7.78	20.0	1	06/19/2020 13:42	WG1495139
Beryllium	U		0.454	2.00	1	06/19/2020 13:42	WG1495139
Cadmium	U		0.478	1.00	1	06/19/2020 13:42	WG1495139
Calcium	110000		480	1000	1	06/19/2020 13:42	WG1495139
Chromium	1.58	J	1.49	2.00	1	06/19/2020 13:42	WG1495139
Cobalt	U		0.477	2.00	1	06/19/2020 13:42	WG1495139
Lead	U		2.49	5.00	1	06/19/2020 13:42	WG1495139
Molybdenum	3.64	J	0.953	5.00	1	06/19/2020 13:42	WG1495139
Selenium	1.42	J	0.657	2.00	1	06/19/2020 13:42	WG1495139
Thallium	U		0.460	2.00	1	06/19/2020 13:42	WG1495139
Lithium	7.94		0.936	2.00	1	06/19/2020 13:42	WG1495139

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	553000		2820	10000	1	06/17/2020 20:41	WG1493848

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.70	T8	1	06/22/2020 10:15	WG1496789

Sample Narrative:

L1229617-05 WG1496789: 7.7 at 20.7C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	7210		379	1000	1	06/22/2020 16:57	WG1496158
Fluoride	429		64.0	150	1	06/22/2020 16:57	WG1496158
Sulfate	187000		2970	25000	5	06/22/2020 17:12	WG1496158

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.100	0.200	1	06/17/2020 09:44	WG1493633

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	313		25.4	200	1	06/22/2020 17:20	WG1495356

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		1.32	4.00	1	06/19/2020 13:46	WG1495139
Arsenic	U		0.735	2.00	1	06/19/2020 13:46	WG1495139
Barium	30.7		7.78	20.0	1	06/19/2020 13:46	WG1495139
Beryllium	U		0.454	2.00	1	06/19/2020 13:46	WG1495139
Cadmium	U		0.478	1.00	1	06/19/2020 13:46	WG1495139
Calcium	96400		480	1000	1	06/19/2020 13:46	WG1495139
Chromium	1.76	J	1.49	2.00	1	06/19/2020 13:46	WG1495139
Cobalt	U		0.477	2.00	1	06/19/2020 13:46	WG1495139
Lead	U		2.49	5.00	1	06/19/2020 13:46	WG1495139
Molybdenum	3.74	J	0.953	5.00	1	06/19/2020 13:46	WG1495139
Selenium	3.42		0.657	2.00	1	06/19/2020 13:46	WG1495139
Thallium	U		0.460	2.00	1	06/19/2020 13:46	WG1495139
Lithium	26.5		0.936	2.00	1	06/19/2020 13:46	WG1495139

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	584000		2820	10000	1	06/17/2020 20:41	WG1493848

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.33	T8	1	06/22/2020 10:15	WG1496789

Sample Narrative:

L1229617-06 WG1496789: 7.33 at 21C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	11700		379	1000	1	06/22/2020 17:27	WG1496158
Fluoride	222		64.0	150	1	06/22/2020 17:27	WG1496158
Sulfate	269000		2970	25000	5	06/22/2020 17:42	WG1496158

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.100	0.200	1	06/17/2020 09:50	WG1493633

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	340		25.4	200	1	06/22/2020 17:23	WG1495356

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		1.32	4.00	1	06/19/2020 13:49	WG1495139
Arsenic	U		0.735	2.00	1	06/19/2020 13:49	WG1495139
Barium	34.5		7.78	20.0	1	06/19/2020 13:49	WG1495139
Beryllium	U		0.454	2.00	1	06/19/2020 13:49	WG1495139
Cadmium	U		0.478	1.00	1	06/19/2020 13:49	WG1495139
Calcium	94800		480	1000	1	06/19/2020 13:49	WG1495139
Chromium	U		1.49	2.00	1	06/19/2020 13:49	WG1495139
Cobalt	U		0.477	2.00	1	06/19/2020 13:49	WG1495139
Lead	U		2.49	5.00	1	06/19/2020 13:49	WG1495139
Molybdenum	U		0.953	5.00	1	06/19/2020 13:49	WG1495139
Selenium	2.76		0.657	2.00	1	06/19/2020 13:49	WG1495139
Thallium	U		0.460	2.00	1	06/19/2020 13:49	WG1495139
Lithium	11.1		0.936	2.00	1	06/19/2020 13:49	WG1495139

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	358000		2820	10000	1	06/17/2020 20:41	WG1493848

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.23	T8	1	06/22/2020 10:15	WG1496789

Sample Narrative:

L1229617-07 WG1496789: 7.23 at 20.8C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	11700		379	1000	1	06/22/2020 17:57	WG1496158
Fluoride	105	J	64.0	150	1	06/22/2020 17:57	WG1496158
Sulfate	57100		594	5000	1	06/22/2020 17:57	WG1496158

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.100	0.200	1	06/17/2020 09:52	WG1493633

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	52.0	J	25.4	200	1	06/22/2020 17:25	WG1495356

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		1.32	4.00	1	06/19/2020 13:53	WG1495139
Arsenic	U		0.735	2.00	1	06/19/2020 13:53	WG1495139
Barium	53.4		7.78	20.0	1	06/19/2020 13:53	WG1495139
Beryllium	U		0.454	2.00	1	06/19/2020 13:53	WG1495139
Cadmium	U		0.478	1.00	1	06/19/2020 13:53	WG1495139
Calcium	73700		480	1000	1	06/19/2020 13:53	WG1495139
Chromium	1.61	J	1.49	2.00	1	06/19/2020 13:53	WG1495139
Cobalt	U		0.477	2.00	1	06/19/2020 13:53	WG1495139
Lead	U		2.49	5.00	1	06/19/2020 13:53	WG1495139
Molybdenum	U		0.953	5.00	1	06/19/2020 13:53	WG1495139
Selenium	6.84		0.657	2.00	1	06/19/2020 13:53	WG1495139
Thallium	U		0.460	2.00	1	06/19/2020 13:53	WG1495139
Lithium	2.35		0.936	2.00	1	06/19/2020 13:53	WG1495139

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	185000		2820	10000	1	06/17/2020 20:41	WG1493848

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.10	T8	1	06/22/2020 10:15	WG1496789

Sample Narrative:

L1229617-08 WG1496789: 7.1 at 20.8C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	5540		379	1000	1	06/22/2020 18:12	WG1496158
Fluoride	79.0	J	64.0	150	1	06/22/2020 18:12	WG1496158
Sulfate	14000		594	5000	1	06/22/2020 18:12	WG1496158

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.100	0.200	1	06/17/2020 09:54	WG1493633

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	U		25.4	200	1	06/22/2020 17:28	WG1495356

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		1.32	4.00	1	06/19/2020 13:56	WG1495139
Arsenic	U		0.735	2.00	1	06/19/2020 13:56	WG1495139
Barium	38.1		7.78	20.0	1	06/19/2020 13:56	WG1495139
Beryllium	U		0.454	2.00	1	06/19/2020 13:56	WG1495139
Cadmium	U		0.478	1.00	1	06/19/2020 13:56	WG1495139
Calcium	48900		480	1000	1	06/19/2020 13:56	WG1495139
Chromium	U		1.49	2.00	1	06/19/2020 13:56	WG1495139
Cobalt	U		0.477	2.00	1	06/19/2020 13:56	WG1495139
Lead	U		2.49	5.00	1	06/19/2020 13:56	WG1495139
Molybdenum	U		0.953	5.00	1	06/19/2020 13:56	WG1495139
Selenium	2.00		0.657	2.00	1	06/19/2020 13:56	WG1495139
Thallium	U		0.460	2.00	1	06/19/2020 13:56	WG1495139
Lithium	1.71	J	0.936	2.00	1	06/19/2020 13:56	WG1495139

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	411000		2820	10000	1	06/17/2020 20:41	WG1493848

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.38	T8	1	06/22/2020 10:15	WG1496789

Sample Narrative:

L1229617-09 WG1496789: 7.38 at 21C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	9150		379	1000	1	06/22/2020 18:41	WG1496158
Fluoride	132	J	64.0	150	1	06/22/2020 18:41	WG1496158
Sulfate	141000		2970	25000	5	06/22/2020 18:56	WG1496158

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.100	0.200	1	06/17/2020 09:55	WG1493633

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	413		25.4	200	1	06/22/2020 17:31	WG1495356

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		1.32	4.00	1	06/19/2020 14:00	WG1495139
Arsenic	U		0.735	2.00	1	06/19/2020 14:00	WG1495139
Barium	52.5		7.78	20.0	1	06/19/2020 14:00	WG1495139
Beryllium	U		0.454	2.00	1	06/19/2020 14:00	WG1495139
Cadmium	U		0.478	1.00	1	06/19/2020 14:00	WG1495139
Calcium	76800		480	1000	1	06/19/2020 14:00	WG1495139
Chromium	1.52	J	1.49	2.00	1	06/19/2020 14:00	WG1495139
Cobalt	U		0.477	2.00	1	06/19/2020 14:00	WG1495139
Lead	U		2.49	5.00	1	06/19/2020 14:00	WG1495139
Molybdenum	0.995	J	0.953	5.00	1	06/19/2020 14:00	WG1495139
Selenium	3.05		0.657	2.00	1	06/19/2020 14:00	WG1495139
Thallium	U		0.460	2.00	1	06/19/2020 14:00	WG1495139
Lithium	2.62		0.936	2.00	1	06/19/2020 14:00	WG1495139

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	398000		2820	10000	1	06/17/2020 20:41	WG1493848

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.38	T8	1	06/22/2020 10:15	WG1496789

Sample Narrative:

L1229617-10 WG1496789: 7.38 at 21.2C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	9150		379	1000	1	06/22/2020 19:41	WG1496158
Fluoride	130	J	64.0	150	1	06/22/2020 19:41	WG1496158
Sulfate	138000		2970	25000	5	06/22/2020 19:56	WG1496158

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.100	0.200	1	06/17/2020 09:57	WG1493633

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	418		25.4	200	1	06/22/2020 17:33	WG1495356

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Antimony	U		1.32	4.00	1	06/20/2020 15:37	WG1495369
Arsenic	U		0.735	2.00	1	06/20/2020 15:37	WG1495369
Barium	51.6		7.78	20.0	1	06/20/2020 15:37	WG1495369
Beryllium	U		0.454	2.00	1	06/20/2020 15:37	WG1495369
Cadmium	U		0.478	1.00	1	06/20/2020 15:37	WG1495369
Calcium	72300		480	1000	1	06/20/2020 15:37	WG1495369
Chromium	U		1.49	2.00	1	06/20/2020 17:51	WG1495369
Cobalt	U		0.477	2.00	1	06/20/2020 15:37	WG1495369
Lead	U		2.49	5.00	1	06/20/2020 15:37	WG1495369
Molybdenum	U		0.953	5.00	1	06/20/2020 15:37	WG1495369
Selenium	2.95		0.657	2.00	1	06/20/2020 17:51	WG1495369
Thallium	U		0.460	2.00	1	06/20/2020 15:37	WG1495369
Lithium	2.64		0.936	2.00	1	06/20/2020 17:51	WG1495369

Method Blank (MB)

(MB) R3540646-1 06/17/20 20:41

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1228670-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1228670-16 06/17/20 20:41 • (DUP) R3540646-4 06/17/20 20:41

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	620000	598000	1	3.61		5

Laboratory Control Sample (LCS)

(LCS) R3540646-2 06/17/20 20:41

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8740000	99.3	85.0-115	

Method Blank (MB)

(MB) R3540664-1 06/18/20 07:42

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

Laboratory Control Sample (LCS)

(LCS) R3540664-2 06/18/20 07:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8570000	97.4	85.0-115	

L1229414-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1229414-04 06/22/20 10:15 • (DUP) R3541472-2 06/22/20 10:15

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.73	7.71	1	0.259		1

Sample Narrative:

OS: 7.73 at 19.1C

DUP: 7.71 at 18.1C

L1229617-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1229617-07 06/22/20 10:15 • (DUP) R3541472-3 06/22/20 10:15

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.23	7.24	1	0.138		1

Sample Narrative:

OS: 7.23 at 20.8C

DUP: 7.24 at 21.4C

Laboratory Control Sample (LCS)

(LCS) R3541472-1 06/22/20 10:15

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	10.0	100	99.0-101	

Sample Narrative:

LCS: 10.02 at 22.2C

Method Blank (MB)

(MB) R3541655-1 06/22/20 09:44

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		379	1000
Fluoride	U		64.0	150
Sulfate	U		594	5000

L1229408-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1229408-01 06/22/20 11:43 • (DUP) R3541655-3 06/22/20 11:58

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	23300	23200	1	0.615		15
Fluoride	U	U	1	0.000		15
Sulfate	13000	12900	1	1.01		15

L1229617-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1229617-08 06/22/20 18:12 • (DUP) R3541655-5 06/22/20 18:27

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	5540	5530	1	0.177		15
Fluoride	79.0	80.9	1	2.38	J	15
Sulfate	14000	14000	1	0.265		15

Laboratory Control Sample (LCS)

(LCS) R3541655-2 06/22/20 09:59

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39500	98.9	80.0-120	
Fluoride	8000	8190	102	80.0-120	
Sulfate	40000	39200	98.0	80.0-120	

L1229409-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1229409-01 06/22/20 12:13 • (MS) R3541655-4 06/22/20 12:28

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	38700	88900	100	1	80.0-120	
Fluoride	5000	U	5230	105	1	80.0-120	
Sulfate	50000	12900	63600	101	1	80.0-120	

L1229690-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1229690-01 06/22/20 20:11 • (MS) R3541655-6 06/22/20 20:26 • (MSD) R3541655-7 06/22/20 20:41

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	465	51900	52100	103	103	1	80.0-120			0.315	15
Fluoride	5000	136	4960	5420	96.5	106	1	80.0-120			8.76	15
Sulfate	50000	1030	51100	51100	100	100	1	80.0-120			0.164	15

Method Blank (MB)

(MB) R3539548-1 06/17/20 09:04

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Mercury	U		0.100	0.200

Laboratory Control Sample (LCS)

(LCS) R3539548-2 06/17/20 09:06

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	3.00	3.25	108	80.0-120	

Method Blank (MB)

(MB) R3541601-1 06/22/20 16:43

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Boron	U		25.4	200

Laboratory Control Sample (LCS)

(LCS) R3541601-2 06/22/20 16:46

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1000	953	95.3	80.0-120	

Method Blank (MB)

(MB) R3540507-1 06/19/20 11:26

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Antimony	U		1.32	4.00
Arsenic	U		0.735	2.00
Barium	U		7.78	20.0
Beryllium	U		0.454	2.00
Cadmium	U		0.478	1.00
Calcium	U		480	1000
Chromium	U		1.49	2.00
Cobalt	U		0.477	2.00
Lead	U		2.49	5.00
Molybdenum	U		0.953	5.00
Selenium	U		0.657	2.00
Thallium	U		0.460	2.00
Lithium	U		0.936	2.00

Laboratory Control Sample (LCS)

(LCS) R3540507-2 06/19/20 11:29

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	50.0	53.5	107	80.0-120	
Arsenic	50.0	51.6	103	80.0-120	
Barium	50.0	52.5	105	80.0-120	
Beryllium	50.0	51.7	103	80.0-120	
Cadmium	50.0	53.1	106	80.0-120	
Calcium	5000	5130	103	80.0-120	
Chromium	50.0	53.2	106	80.0-120	
Cobalt	50.0	53.1	106	80.0-120	
Lead	50.0	48.5	97.1	80.0-120	
Molybdenum	50.0	50.7	101	80.0-120	
Selenium	50.0	56.4	113	80.0-120	
Thallium	50.0	47.3	94.7	80.0-120	
Lithium	50.0	52.4	105	80.0-120	

L1229617-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1229617-01 06/19/20 11:33 • (MS) R3540507-4 06/19/20 11:39 • (MSD) R3540507-5 06/19/20 11:43

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	U	52.8	52.9	106	106	1	75.0-125			0.251	20
Arsenic	50.0	U	48.4	49.8	96.8	99.6	1	75.0-125			2.91	20
Barium	50.0	45.1	98.6	95.3	107	100	1	75.0-125			3.42	20
Beryllium	50.0	U	50.3	50.3	101	101	1	75.0-125			0.0439	20
Cadmium	50.0	U	52.7	53.8	105	108	1	75.0-125			2.10	20
Calcium	5000	50800	55400	54500	93.1	75.3	1	75.0-125			1.62	20
Chromium	50.0	U	49.6	51.7	99.3	103	1	75.0-125			4.14	20
Cobalt	50.0	U	49.2	50.6	98.3	101	1	75.0-125			2.80	20
Lead	50.0	U	49.5	47.9	98.9	95.8	1	75.0-125			3.20	20
Molybdenum	50.0	U	50.4	51.6	101	103	1	75.0-125			2.34	20
Selenium	50.0	2.14	61.0	62.7	118	121	1	75.0-125			2.69	20
Thallium	50.0	U	47.7	47.2	95.3	94.5	1	75.0-125			0.904	20
Lithium	50.0	1.85	52.9	53.5	102	103	1	75.0-125			1.12	20

Method Blank (MB)

(MB) R3540945-1 06/20/20 15:30

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Antimony	U		1.32	4.00
Arsenic	U		0.735	2.00
Barium	U		7.78	20.0
Beryllium	U		0.454	2.00
Cadmium	U		0.478	1.00
Calcium	U		480	1000
Cobalt	U		0.477	2.00
Lead	U		2.49	5.00
Molybdenum	U		0.953	5.00
Thallium	U		0.460	2.00

Method Blank (MB)

(MB) R3540957-1 06/20/20 17:44

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chromium	U		1.49	2.00
Selenium	U		0.657	2.00
Lithium	U		0.936	2.00

Laboratory Control Sample (LCS)

(LCS) R3540945-2 06/20/20 15:34

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	50.0	49.8	99.5	80.0-120	
Arsenic	50.0	45.7	91.5	80.0-120	
Barium	50.0	49.1	98.2	80.0-120	
Beryllium	50.0	51.2	102	80.0-120	
Cadmium	50.0	51.0	102	80.0-120	
Calcium	5000	4800	96.0	80.0-120	
Cobalt	50.0	48.4	96.9	80.0-120	
Lead	50.0	48.4	96.8	80.0-120	
Molybdenum	50.0	46.1	92.3	80.0-120	
Thallium	50.0	46.9	93.8	80.0-120	

Laboratory Control Sample (LCS)

(LCS) R3540957-2 06/20/20 17:48

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium	50.0	51.5	103	80.0-120	
Selenium	50.0	50.1	100	80.0-120	
Lithium	50.0	47.5	94.9	80.0-120	

L1229617-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1229617-10 06/20/20 15:37 • (MS) R3540945-4 06/20/20 15:44 • (MSD) R3540945-5 06/20/20 15:48

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	50.0	U	53.6	53.0	107	106	1	75.0-125			1.02	20
Arsenic	50.0	U	48.4	48.6	96.8	97.2	1	75.0-125			0.405	20
Barium	50.0	51.6	97.1	100	91.0	97.1	1	75.0-125			3.10	20
Beryllium	50.0	U	51.6	50.8	103	102	1	75.0-125			1.47	20
Cadmium	50.0	U	52.8	51.0	106	102	1	75.0-125			3.42	20
Calcium	5000	72300	78000	76700	114	89.0	1	75.0-125			1.63	20
Cobalt	50.0	U	48.3	48.4	96.5	96.8	1	75.0-125			0.294	20
Lead	50.0	U	50.5	50.2	101	100	1	75.0-125			0.623	20
Molybdenum	50.0	U	50.3	49.5	101	99.0	1	75.0-125			1.59	20
Thallium	50.0	U	48.6	48.6	97.3	97.3	1	75.0-125			0.00681	20

L1229617-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1229617-10 06/20/20 17:51 • (MS) R3540957-4 06/20/20 17:59 • (MSD) R3540957-5 06/20/20 18:03

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chromium	50.0	U	48.9	48.6	97.8	97.2	1	75.0-125			0.676	20
Selenium	50.0	2.95	54.9	53.6	104	101	1	75.0-125			2.49	20
Lithium	50.0	2.64	49.6	48.9	93.8	92.6	1	75.0-125			1.27	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
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.
T8	Sample(s) received past/too close to holding time expiration.

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

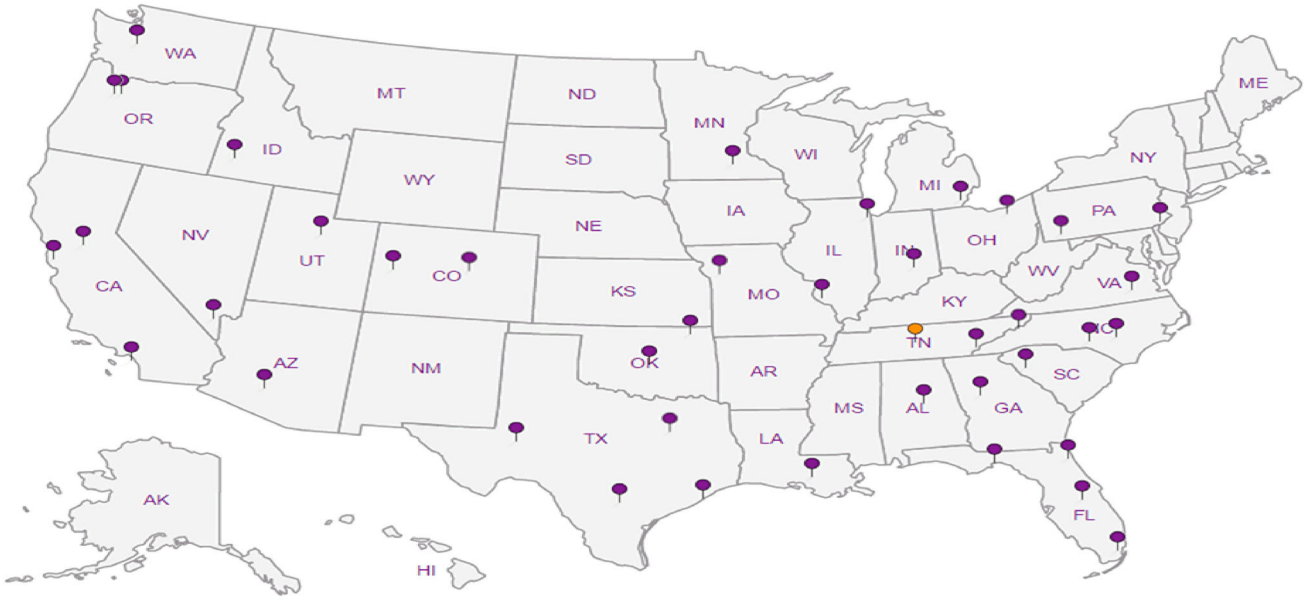
Third Party Federal Accreditations

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.



Terracon - Little Rock, AR

25809 I-30
Bryant, AR 72022

Billing Information:
Accounts Payable
25809 I-30
Bryant, AR 72022

Pres Chk

Report to: David Jaros

Email To: David.Jaros@terracon.com;Paul.Gramling@terr

Project Description: Entergy - Independence Landfill

City/State Collected:

Please Circle: PT MT CT ET

Phone: 501-847-9210

Client Project # 35207056

Lab Project # GENENLAR-ENTERGY

Collected by (print): Matt Arrez

Site/Facility ID # Independence

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*Total Metals 250mlHDPE-HNO3	Cl, F, SO4, PH 125mlHDPE-NoPres	RA-226/228 Combined 1L-HDPE-Add HNO3	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
RP-1	Grab	GW		6-12-20	1036	4	1	1	1	1		-01
RP-2	Grab	GW		6-12-20	0943	4	1	1	1	1		02
~~RP-3MA~~ ~~RP-3MS~~ Not included	~~Grab~~	GW										
RP-4	Grab	GW		6-12-20	0837	4	1	1	1	1		03
RP-5	Grab	GW		6-11-20	1800	4	1	1	1	1		04
RP-6	Grab	GW		6-11-20	1507	4	1	1	1	1		05
RP-7	Grab	GW		6-11-20	1720	4	1	1	1	1		06
RP-8	Grab	GW		6-11-20	1413	4	1	1	1	1		07
RP-9	Grab	GW		6-11-20	1319	4	1	1	1	1		08
RP-10	Grab	GW		6-11-20	1218	4	1	1	1	1		09

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 122961 7
G228

Acctnum: GENENLAR
Template: T163916
Prelogin: P778592
PM: 134 - Mark W. Beasley
PB: LC 6/3

Shipped Via: FedEX Ground

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

Remarks:CCR - Appendix III & IV
*Total Metals = As, Ba, Be, B, Ca, Cd, Co, Cr, Hg, Li, Mo, Pb,Sb, Se, Tl

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 1790 3033 5812 / 1790 3035 5368

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: ✓Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	6/15/20	1000 AM			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.6-1=1.5 °C Bottles Received: 40	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 6/16/20 Time: 8:45	Hold: / Condition: NCF / OK

Terracon - Little Rock, AR

25809 I-30
Bryant, AR 72022

Billing Information:
Accounts Payable
25809 I-30
Bryant, AR 72022

Report to: David Jaros

Email To: David.Jaros@terracon.com;Paul.Gramling@terr

Project Description: Entergy - Independence Landfill

City/State Collected:

Please Circle: PT MT CT ET

Phone: 501-847-9210

Client Project # 352070560

Lab Project # GENENLAR-ENTERGY

Collected by (print): Matt Acree

Site/Facility ID # Independence

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

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

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Pres Chk		LL		LL							
		*Total Metals 250mlHDPE-HNO3	Cl, F, SO4, PH 125mlHDPE-NoPres	RA-226/228 Combined 1L-HDPE-Add HNO3	TDS 250mlHDPE-NoPres						

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs										Remarks	Sample # (lab only)
Dup		GW		6/11/20	1220	4	1	1	1	1							10
FB MA		GW															
		GW															
		GW															
		GW															

Chain of Custody Page ___ of ___

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 122961?

Table #

Acctnum: GENENLAR

Template: T163916

Prelogin: P778592

PM: 134 - Mark W. Beasley

PB: LL 6/3

Shipped Via: FedEX Ground

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

Remarks: CCR - Appendix III & IV
*Total Metals = As, Ba, Be, B, Ca, Cd, Co, Cr, Hg, Li, Mo, Pb, Sb, Se, Tl

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:	Y N

Relinquished by : (Signature)	Date: 6/15/20 6/14/20 MA	Time: 1000	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.7 °C 6.6 - .1 = 1.5 Bottles Received: 40
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 6/16/20 Time: 8:45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

January 26, 2021

Revised Report

Terracon - Little Rock, AR

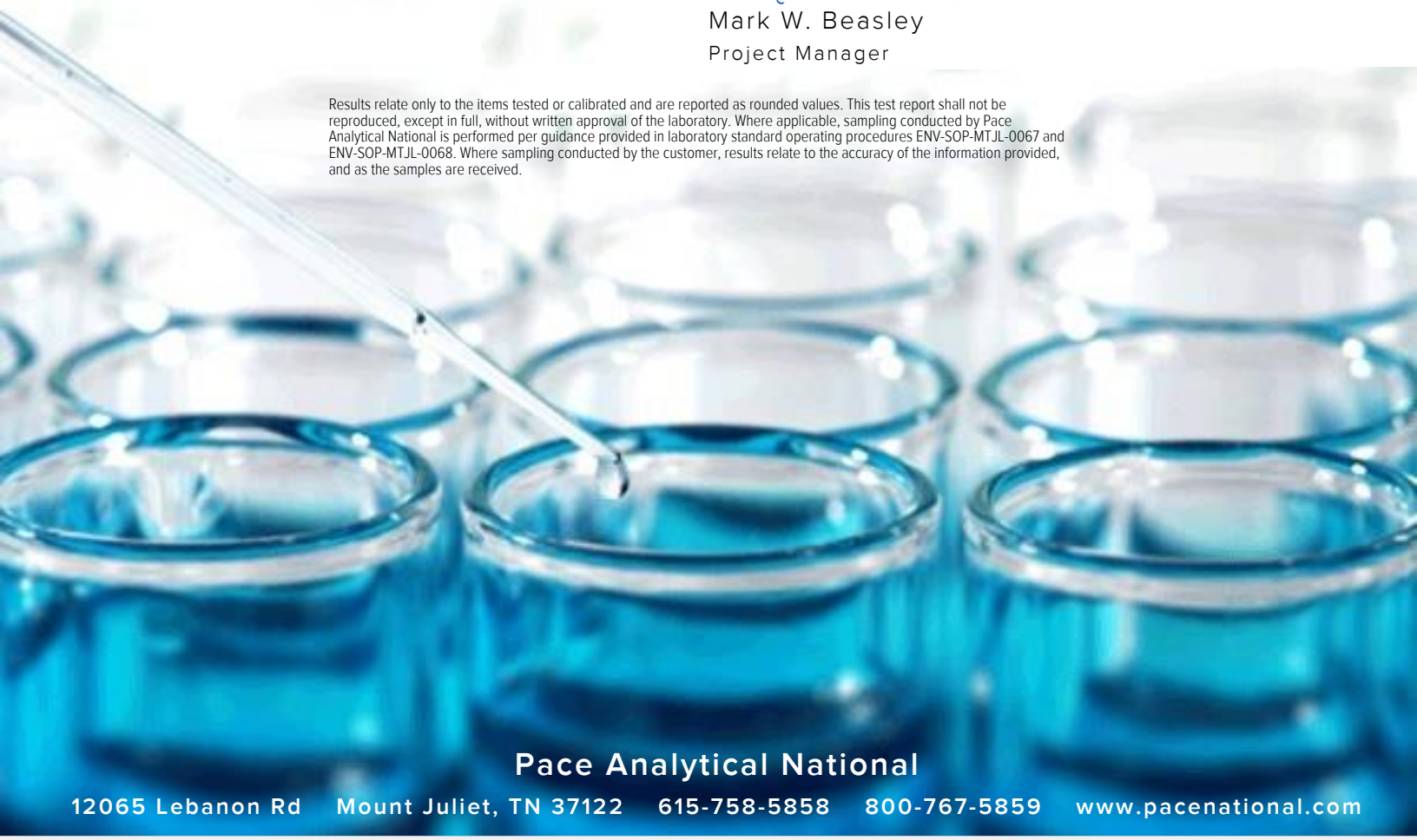
Sample Delivery Group:	L1298666
Samples Received:	12/18/2020
Project Number:	35207056
Description:	Entergy - Independence Landfill

Report To: David Jaros
25809 I-30
Bryant, AR 72022

Entire Report Reviewed By:

Mark W. Beasley
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 Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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RP-1 L1298666-01 GW

Collected by: Matt Acree | Collected date/time: 12/15/20 12:52 | Received date/time: 12/18/20 11:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1594789	1	12/19/20 16:28	12/19/20 17:26	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1597849	1	12/29/20 02:08	12/29/20 02:08	WOS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597503	1	12/28/20 20:54	12/28/20 20:54	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597029	1	01/01/21 21:22	01/04/21 00:40	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1598976	1	12/30/20 10:12	12/30/20 15:14	TM	Mt. Juliet, TN

RP-2 L1298666-02 GW

Collected by: Matt Acree | Collected date/time: 12/15/20 13:40 | Received date/time: 12/18/20 11:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1594789	1	12/19/20 16:28	12/19/20 17:26	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1597849	1	12/29/20 02:08	12/29/20 02:08	WOS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597503	1	12/28/20 22:02	12/28/20 22:02	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597029	1	01/01/21 21:22	01/04/21 00:43	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1598976	1	12/30/20 10:12	12/30/20 15:17	TM	Mt. Juliet, TN

RP-4 L1298666-03 GW

Collected by: Matt Acree | Collected date/time: 12/15/20 12:05 | Received date/time: 12/18/20 11:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1594789	1	12/19/20 16:28	12/19/20 17:26	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1597849	1	12/29/20 02:08	12/29/20 02:08	WOS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597503	1	12/28/20 22:36	12/28/20 22:36	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597503	5	12/28/20 22:53	12/28/20 22:53	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597029	1	01/01/21 21:22	01/04/21 00:45	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1598976	1	12/30/20 10:12	12/30/20 15:21	TM	Mt. Juliet, TN

RP-5 L1298666-04 GW

Collected by: Matt Acree | Collected date/time: 12/15/20 10:58 | Received date/time: 12/18/20 11:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1594789	1	12/19/20 16:28	12/19/20 17:26	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1597849	1	12/29/20 02:08	12/29/20 02:08	WOS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597503	1	12/28/20 23:10	12/28/20 23:10	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597503	5	12/28/20 23:26	12/28/20 23:26	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597029	1	01/01/21 21:22	01/04/21 00:48	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1598976	1	12/30/20 10:12	12/30/20 15:31	TM	Mt. Juliet, TN

RP-6 L1298666-05 GW

Collected by: Matt Acree | Collected date/time: 12/16/20 15:09 | Received date/time: 12/18/20 11:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1596377	1	12/23/20 01:18	12/23/20 02:36	CAT	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1597849	1	12/29/20 02:08	12/29/20 02:08	WOS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597503	1	12/28/20 23:43	12/28/20 23:43	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597503	5	12/29/20 00:00	12/29/20 00:00	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597029	1	01/01/21 21:22	01/04/21 00:51	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1598976	1	12/30/20 10:12	12/30/20 15:34	TM	Mt. Juliet, TN

DUP-3 L1298666-06 GW

Collected by: Matt Acree
Collected date/time: 12/15/20 08:27
Received date/time: 12/18/20 11:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1594789	1	12/19/20 16:28	12/19/20 17:26	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1597849	1	12/29/20 02:08	12/29/20 02:08	WOS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597503	1	12/29/20 00:17	12/29/20 00:17	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597503	5	12/29/20 00:34	12/29/20 00:34	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597029	1	01/01/21 21:22	01/04/21 00:53	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1598976	1	12/30/20 10:12	12/30/20 15:37	TM	Mt. Juliet, TN

FB-3 L1298666-07 GW

Collected by: Matt Acree
Collected date/time: 12/15/20 08:31
Received date/time: 12/18/20 11:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1594789	1	12/19/20 16:28	12/19/20 17:26	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1597849	1	12/29/20 02:08	12/29/20 02:08	WOS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597503	1	12/29/20 01:25	12/29/20 01:25	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597029	1	01/01/21 21:22	01/04/21 00:56	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1598976	1	12/30/20 10:12	12/30/20 15:40	TM	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.

Mark W. Beasley
Project Manager

Report Revision History

Level II Report - Version 1: 01/06/21 09:22

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	223000		2820	10000	1	12/19/2020 17:26	WG1594789

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.50	T8	1	12/29/2020 02:08	WG1597849

Sample Narrative:

L1298666-01 WG1597849: 7.5 at 18.4C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	7110		379	1000	1	12/28/2020 20:54	WG1597503
Fluoride	101	J	64.0	150	1	12/28/2020 20:54	WG1597503
Sulfate	15600		594	5000	1	12/28/2020 20:54	WG1597503

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	U		20.0	200	1	01/04/2021 00:40	WG1597029

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	46200		93.6	1000	1	12/30/2020 15:14	WG1598976

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	190000		2820	10000	1	12/19/2020 17:26	WG1594789

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.19	T8	1	12/29/2020 02:08	WG1597849

Sample Narrative:

L1298666-02 WG1597849: 7.19 at 18.5C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	2980	B	379	1000	1	12/28/2020 22:02	WG1597503
Fluoride	111	J	64.0	150	1	12/28/2020 22:02	WG1597503
Sulfate	20000		594	5000	1	12/28/2020 22:02	WG1597503

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	65.2	J	20.0	200	1	01/04/2021 00:43	WG1597029

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	33200		93.6	1000	1	12/30/2020 15:17	WG1598976

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	363000		2820	10000	1	12/19/2020 17:26	WG1594789

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.42	T8	1	12/29/2020 02:08	WG1597849

Sample Narrative:

L1298666-03 WG1597849: 7.42 at 18.2C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	8500		379	1000	1	12/28/2020 22:36	WG1597503
Fluoride	214		64.0	150	1	12/28/2020 22:36	WG1597503
Sulfate	127000		2970	25000	5	12/28/2020 22:53	WG1597503

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	381		20.0	200	1	01/04/2021 00:45	WG1597029

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	66700		93.6	1000	1	12/30/2020 15:21	WG1598976

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	768000		2820	10000	1	12/19/2020 17:26	WG1594789

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.61	T8	1	12/29/2020 02:08	WG1597849

Sample Narrative:

L1298666-04 WG1597849: 7.61 at 18.1C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	14100		379	1000	1	12/28/2020 23:10	WG1597503
Fluoride	406		64.0	150	1	12/28/2020 23:10	WG1597503
Sulfate	404000		2970	25000	5	12/28/2020 23:26	WG1597503

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	1350		20.0	200	1	01/04/2021 00:48	WG1597029

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	99200		93.6	1000	1	12/30/2020 15:31	WG1598976

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	696000		2820	10000	1	12/23/2020 02:36	WG1596377

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.97	T8	1	12/29/2020 02:08	WG1597849

Sample Narrative:

L1298666-05 WG1597849: 7.97 at 18.8C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	8830		379	1000	1	12/28/2020 23:43	WG1597503
Fluoride	502		64.0	150	1	12/28/2020 23:43	WG1597503
Sulfate	245000		2970	25000	5	12/29/2020 00:00	WG1597503

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	365		20.0	200	1	01/04/2021 00:51	WG1597029

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	99500		93.6	1000	1	12/30/2020 15:34	WG1598976

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	449000		2820	10000	1	12/19/2020 17:26	WG1594789

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.80	T8	1	12/29/2020 02:08	WG1597849

Sample Narrative:

L1298666-06 WG1597849: 7.8 at 18.1C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	7990		379	1000	1	12/29/2020 00:17	WG1597503
Fluoride	156		64.0	150	1	12/29/2020 00:17	WG1597503
Sulfate	115000		2970	25000	5	12/29/2020 00:34	WG1597503

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	474		20.0	200	1	01/04/2021 00:53	WG1597029

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	75300		93.6	1000	1	12/30/2020 15:37	WG1598976

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	U		2820	10000	1	12/19/2020 17:26	WG1594789

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	5.71	T8	1	12/29/2020 02:08	WG1597849

Sample Narrative:

L1298666-07 WG1597849: 5.71 at 18.2C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	U		379	1000	1	12/29/2020 01:25	WG1597503
Fluoride	U		64.0	150	1	12/29/2020 01:25	WG1597503
Sulfate	U		594	5000	1	12/29/2020 01:25	WG1597503

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	U		20.0	200	1	01/04/2021 00:56	WG1597029

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	U		93.6	1000	1	12/30/2020 15:40	WG1598976

Method Blank (MB)

(MB) R3605950-1 12/19/20 17:26

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Dissolved Solids	U		2820	10000

L1298355-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1298355-09 12/19/20 17:26 • (DUP) R3605950-3 12/19/20 17:26

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Dissolved Solids	25000	571000	1	183	J3	5

L1298666-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1298666-06 12/19/20 17:26 • (DUP) R3605950-4 12/19/20 17:26

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Dissolved Solids	449000	442000	1	1.57		5

Laboratory Control Sample (LCS)

(LCS) R3605950-2 12/19/20 17:26

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Dissolved Solids	8800000	8750000	99.4	77.4-123	

Method Blank (MB)

(MB) R3606874-1 12/23/20 02:36

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1297986-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1297986-01 12/23/20 02:36 • (DUP) R3606874-3 12/23/20 02:36

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	116000	126000	1	8.26	J3	5

L1299481-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1299481-01 12/23/20 02:36 • (DUP) R3606874-4 12/23/20 02:36

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1570000	1570000	1	0.000		5

Laboratory Control Sample (LCS)

(LCS) R3606874-2 12/23/20 02:36

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8750000	99.4	77.4-123	

L1298503-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1298503-01 12/29/20 02:08 • (DUP) R3607821-2 12/29/20 02:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.63	7.61	1	0.262		1

Sample Narrative:

OS: 7.63 at 18.6C

DUP: 7.61 at 18.3C

L1298674-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1298674-02 12/29/20 02:08 • (DUP) R3607821-3 12/29/20 02:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.32	7.33	1	0.137		1

Sample Narrative:

OS: 7.32 at 18.2C

DUP: 7.33 at 18.1C

Laboratory Control Sample (LCS)

(LCS) R3607821-1 12/29/20 02:08

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	10.1	101	99.0-101	

Sample Narrative:

LCS: 10.05 at 18.7C

Method Blank (MB)

(MB) R3607982-1 12/28/20 11:26

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	613	J	379	1000
Fluoride	U		64.0	150
Sulfate	U		594	5000

L1298658-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1298658-03 12/28/20 14:07 • (DUP) R3607982-5 12/28/20 14:24

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	40900	40900	1	0.0574		15
Fluoride	226	222	1	1.83		15
Sulfate	49600	49700	1	0.198		15

L1298666-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1298666-01 12/28/20 20:54 • (DUP) R3607982-6 12/28/20 21:11

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	7110	7130	1	0.258		15
Fluoride	101	100	1	0.499	J	15
Sulfate	15600	15600	1	0.0761		15

Laboratory Control Sample (LCS)

(LCS) R3607982-2 12/28/20 11:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39200	97.9	80.0-120	
Fluoride	8000	8050	101	80.0-120	
Sulfate	40000	38900	97.2	80.0-120	

L1298658-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1298658-01 12/28/20 12:26 • (MS) R3607982-3 12/28/20 12:43 • (MSD) R3607982-4 12/28/20 13:00

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	49800	99100	99700	98.6	99.8	1	80.0-120			0.624	15
Fluoride	5000	178	5150	5220	99.5	101	1	80.0-120			1.21	15
Sulfate	50000	391000	429000	432000	77.2	81.9	1	80.0-120	E V	E	0.545	15

L1298666-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1298666-02 12/28/20 22:02 • (MS) R3607982-7 12/28/20 22:19

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	2980	55100	104	1	80.0-120	
Fluoride	5000	111	5310	104	1	80.0-120	
Sulfate	50000	20000	72000	104	1	80.0-120	

Method Blank (MB)

(MB) R3609246-1 01/04/21 00:09

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Boron	U		20.0	200

Laboratory Control Sample (LCS)

(LCS) R3609246-2 01/04/21 00:11

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1000	976	97.6	80.0-120	

L1298661-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1298661-02 01/04/21 00:14 • (MS) R3609246-4 01/04/21 00:19 • (MSD) R3609246-5 01/04/21 00:21

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1000	U	968	974	96.8	97.4	1	75.0-125			0.655	20

Method Blank (MB)

(MB) R3608438-1 12/30/20 14:12

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Calcium	U		93.6	1000

Laboratory Control Sample (LCS)

(LCS) R3608438-2 12/30/20 14:15

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Calcium	5000	4900	98.1	80.0-120	

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) • (MS) R3608438-4 12/30/20 14:25 • (MSD) R3608438-5 12/30/20 14:28

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l		ug/l	ug/l	%	%		%			%	%
Calcium	5000		68500	68600	67.4	68.3	1	75.0-125	V	V	0.0685	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
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
B	The same analyte is found in the associated blank.
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.
J3	The associated batch QC was outside the established quality control range for precision.
T8	Sample(s) received past/too close to holding time expiration.
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.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN, 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

Pace Analytical National 1313 Point Mallard Parkway SE Suite B Decatur, AL, 35601

Alabama	40160
ANSI National Accreditation Board	L2239

Pace Analytical National 660 Bercut Dr. Ste. C Sacramento, CA, 95811

California	2961	Oregon	CA300002
Minnesota	006-999-465	Washington	C926
North Dakota	R-214		

Pace Analytical National 6000 South Eastern Avenue Ste 9A Las Vegas, NV, 89119

Nevada	NV009412021-1

Pace Analytical National 1606 E. Brazos Street Suite D Victoria, TX, 77901

Texas	T104704328-20-18

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Terracon - Little Rock, AR

25809 I-30
Bryant, AR 72022

Billing Information:
Accounts Payable
25809 I-30
Bryant, AR 72022

Pres Chk

Report to: David Jaros

Email To: David.Jaros@terracon.com;Paul.Gramling@terr

Project Description: Entergy - Independence Landfill

City/State Collected:

Please Circle: PT MT CT ET

Phone: 501-847-9210

Client Project # 352070S6

Lab Project # GENENLAR-ENTERGY

Collected by (print): Matt Acree

Site/Facility ID # Independence

P.O. #

Collected by (signature): Matt A

Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*Total Metals 250mlHDPE-HNO3	Cl, F, SO4, PH 125mlHDPE-NoPres	RA-226/228 Combined 1L-HDPE-Add HNO3	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
RP-1		GW		12/15/20	1252	4	1	1	1	1		-01
RP-2		GW		12/15/20	1340	4	1	1	1	1		02
RP-4		GW		12/15/20	1205	4	1	1	1	1		03
RP-5		GW		12/15/20	1058	4	1	1	1	1		04
RP-6		GW		12/16/20	1509	4	1	1	1	1		05
~~RP-7~~ Dup-3		GW		12/15/20	0827	4	1	1	1	1		06
~~RP-8~~ FB-3		GW		12/15/20	0831	4	1	1	1	1		07
~~RP-9~~		GW										
~~RP-10~~		GW										
		GW										

Chain of Custody Page ___ of ___

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L98666

H113

Acctnum: GENENLAR
Template: T163916
Prelogin: P807151
PM: 134 - Mark W. Beasley
PB: BF 12/28/20

Shipped Via: FedEX Ground

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

Remarks: CCR - Appendix III & IV
*Total Metals = As, Ba, Be, B, Ca, Cd, Co, Cr, Hg, Li, Mo, Pb,Sb, Se, Tl

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS X FedEx __ Courier _____

Tracking # 9348 1599 0423

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: ✓Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes (No) HCL / MeoH TBR	If preservation required by Login: Date/Time
Matt A	12/17/20	1730			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: NR °C 1.6-1.5 Bottles Received: 28	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) MPappas	Date: 12-18-20 Time: 1115	Hold: Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

January 26, 2021

Revised Report

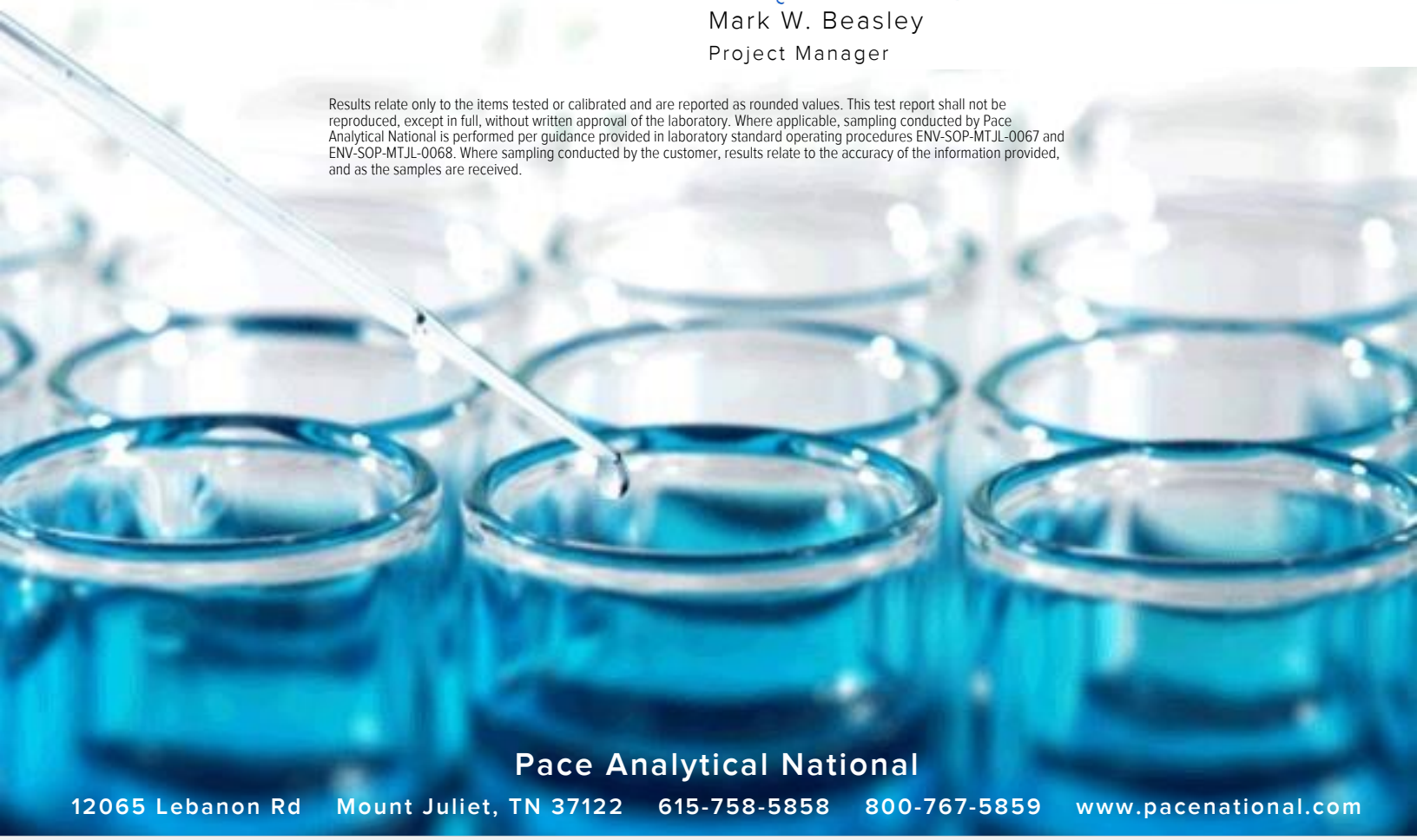
Terracon - Little Rock, AR

Sample Delivery Group:	L1298674
Samples Received:	12/18/2020
Project Number:	
Description:	Entergy - Independence Landfill
Report To:	David Jaros
	25809 I-30
	Bryant, AR 72022

Entire Report Reviewed By:

Mark W. Beasley
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 Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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RP-7 L1298674-01 GW

Collected by: Matt Acree
Collected date/time: 12/16/20 16:00
Received date/time: 12/18/20 11:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1596377	1	12/23/20 01:18	12/23/20 02:36	CAT	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1597849	1	12/29/20 02:08	12/29/20 02:08	WOS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597504	1	12/29/20 08:15	12/29/20 08:15	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597028	1	01/04/21 05:46	01/04/21 22:07	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1598976	1	12/30/20 10:12	12/30/20 15:44	TM	Mt. Juliet, TN

RP-8 L1298674-02 GW

Collected by: Matt Acree
Collected date/time: 12/15/20 10:15
Received date/time: 12/18/20 11:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1594789	1	12/19/20 16:28	12/19/20 17:26	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1597849	1	12/29/20 02:08	12/29/20 02:08	WOS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597504	1	12/29/20 08:50	12/29/20 08:50	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597028	1	01/04/21 05:46	01/04/21 22:10	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1599248	1	01/01/21 20:45	01/03/21 20:27	LD	Mt. Juliet, TN

RP-9 L1298674-03 GW

Collected by: Matt Acree
Collected date/time: 12/15/20 09:26
Received date/time: 12/18/20 11:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1594745	1	12/19/20 17:34	12/19/20 18:38	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1597849	1	12/29/20 02:08	12/29/20 02:08	WOS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597504	1	12/29/20 09:07	12/29/20 09:07	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597028	1	01/04/21 05:46	01/04/21 22:13	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1599248	1	01/01/21 20:45	01/03/21 20:30	LD	Mt. Juliet, TN

RP-10 L1298674-04 GW

Collected by: Matt Acree
Collected date/time: 12/15/20 08:23
Received date/time: 12/18/20 11:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1595288	1	12/22/20 11:06	12/22/20 12:05	MML	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1597849	1	12/29/20 02:08	12/29/20 02:08	WOS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597504	1	12/29/20 09:24	12/29/20 09:24	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597504	5	12/29/20 09:42	12/29/20 09:42	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597028	1	01/04/21 05:46	01/04/21 22:16	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1599248	1	01/01/21 20:45	01/03/21 20:33	LD	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.

Mark W. Beasley
Project Manager

Report Revision History

Level II Report - Version 1: 01/06/21 09:23
Level II Report - Version 2: 01/26/21 10:34

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	376000		2820	10000	1	12/23/2020 02:36	WG1596377

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.54	T8	1	12/29/2020 02:08	WG1597849

Sample Narrative:

L1298674-01 WG1597849: 7.54 at 18.3C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	9640		379	1000	1	12/29/2020 08:15	WG1597504
Fluoride	141	J	64.0	150	1	12/29/2020 08:15	WG1597504
Sulfate	89900		594	5000	1	12/29/2020 08:15	WG1597504

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	168	J	20.0	200	1	01/04/2021 22:07	WG1597028

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	63700		93.6	1000	1	12/30/2020 15:44	WG1598976

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	307000		2820	10000	1	12/19/2020 17:26	WG1594789

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.32	T8	1	12/29/2020 02:08	WG1597849

Sample Narrative:

L1298674-02 WG1597849: 7.32 at 18.2C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	9070		379	1000	1	12/29/2020 08:50	WG1597504
Fluoride	97.1	J	64.0	150	1	12/29/2020 08:50	WG1597504
Sulfate	33400		594	5000	1	12/29/2020 08:50	WG1597504

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	38.9	J	20.0	200	1	01/04/2021 22:10	WG1597028

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	58600		93.6	1000	1	01/03/2021 20:27	WG1599248

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	200000		2820	10000	1	12/19/2020 18:38	WG1594745

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.29	T8	1	12/29/2020 02:08	WG1597849

Sample Narrative:

L1298674-03 WG1597849: 7.29 at 18.3C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	6240		379	1000	1	12/29/2020 09:07	WG1597504
Fluoride	69.9	J	64.0	150	1	12/29/2020 09:07	WG1597504
Sulfate	14000		594	5000	1	12/29/2020 09:07	WG1597504

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	U		20.0	200	1	01/04/2021 22:13	WG1597028

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	45700		93.6	1000	1	01/03/2021 20:30	WG1599248

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	455000		2820	10000	1	12/22/2020 12:05	WG1595288

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.05	T8	1	12/29/2020 02:08	WG1597849

Sample Narrative:

L1298674-04 WG1597849: 8.05 at 18C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	8340		379	1000	1	12/29/2020 09:24	WG1597504
Fluoride	145	J	64.0	150	1	12/29/2020 09:24	WG1597504
Sulfate	124000		2970	25000	5	12/29/2020 09:42	WG1597504

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	468		20.0	200	1	01/04/2021 22:16	WG1597028

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	78300		93.6	1000	1	01/03/2021 20:33	WG1599248

Method Blank (MB)

(MB) R3606871-1 12/19/20 18:38

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1298355-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1298355-01 12/19/20 18:38 • (DUP) R3606871-3 12/19/20 18:38

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	406000	424000	1	4.34		5

L1298355-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1298355-08 12/19/20 18:38 • (DUP) R3606871-4 12/19/20 18:38

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	73000	75000	1	2.70		5

Laboratory Control Sample (LCS)

(LCS) R3606871-2 12/19/20 18:38

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8740000	99.3	77.4-123	

Method Blank (MB)

(MB) R3605950-1 12/19/20 17:26

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1298355-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1298355-09 12/19/20 17:26 • (DUP) R3605950-3 12/19/20 17:26

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	25000	571000	1	183	J3	5

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3605950-4 12/19/20 17:26

Analyte	Original Result	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids		442000	1	1.57		5

Laboratory Control Sample (LCS)

(LCS) R3605950-2 12/19/20 17:26

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8750000	99.4	77.4-123	

Method Blank (MB)

(MB) R3606763-1 12/22/20 12:05

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1299147-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1299147-01 12/22/20 12:05 • (DUP) R3606763-3 12/22/20 12:05

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	90000	89000	1	1.12		5

L1299205-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1299205-02 12/22/20 12:05 • (DUP) R3606763-4 12/22/20 12:05

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	418000	421000	1	0.715		5

Laboratory Control Sample (LCS)

(LCS) R3606763-2 12/22/20 12:05

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8720000	99.1	77.4-123	

Method Blank (MB)

(MB) R3606874-1 12/23/20 02:36

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1297986-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1297986-01 12/23/20 02:36 • (DUP) R3606874-3 12/23/20 02:36

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	116000	126000	1	8.26	J3	5

L1299481-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1299481-01 12/23/20 02:36 • (DUP) R3606874-4 12/23/20 02:36

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1570000	1570000	1	0.000		5

Laboratory Control Sample (LCS)

(LCS) R3606874-2 12/23/20 02:36

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8750000	99.4	77.4-123	

L1298503-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1298503-01 12/29/20 02:08 • (DUP) R3607821-2 12/29/20 02:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.63	7.61	1	0.262		1

Sample Narrative:

OS: 7.63 at 18.6C

DUP: 7.61 at 18.3C

L1298674-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1298674-02 12/29/20 02:08 • (DUP) R3607821-3 12/29/20 02:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.32	7.33	1	0.137		1

Sample Narrative:

OS: 7.32 at 18.2C

DUP: 7.33 at 18.1C

Laboratory Control Sample (LCS)

(LCS) R3607821-1 12/29/20 02:08

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	10.1	101	99.0-101	

Sample Narrative:

LCS: 10.05 at 18.7C

Method Blank (MB)

(MB) R3607989-1 12/29/20 00:25

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		379	1000
Fluoride	U		64.0	150
Sulfate	U		594	5000

L1298662-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1298662-05 12/29/20 03:54 • (DUP) R3607989-3 12/29/20 04:11

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	46900	46800	1	0.196		15
Fluoride	176	176	1	0.171		15
Sulfate	97400	97100	1	0.320		15

L1298674-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1298674-07 12/29/20 11:09 • (DUP) R3607989-6 12/29/20 11:26

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	14900	14900	1	0.0530		15
Fluoride	221	221	1	0.181		15
Sulfate	80100	80100	1	0.0281		15

Laboratory Control Sample (LCS)

(LCS) R3607989-2 12/29/20 00:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	40600	101	80.0-120	
Fluoride	8000	8160	102	80.0-120	
Sulfate	40000	41200	103	80.0-120	

L1298662-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1298662-05 12/29/20 03:54 • (MS) R3607989-4 12/29/20 04:28 • (MSD) R3607989-5 12/29/20 04:46

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	46900	94300	94400	94.8	94.9	1	80.0-120			0.0453	15
Fluoride	5000	176	5170	5190	99.9	100	1	80.0-120			0.440	15
Sulfate	50000	97400	142000	142000	88.9	89.1	1	80.0-120	E	E	0.0770	15

L1298674-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L1298674-07 12/29/20 11:09 • (MS) R3607989-7 12/29/20 11:44

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	14900	66500	103	1	80.0-120	
Fluoride	5000	221	5490	105	1	80.0-120	
Sulfate	50000	80100	128000	95.9	1	80.0-120	E

Method Blank (MB)

(MB) R3609602-1 01/04/21 21:51

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron	U		20.0	200

Laboratory Control Sample (LCS)

(LCS) R3609602-2 01/04/21 21:53

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	945	94.5	80.0-120	

L1298822-23 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1298822-23 01/04/21 21:56 • (MS) R3609602-4 01/04/21 22:02 • (MSD) R3609602-5 01/04/21 22:04

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron	1000	U	956	950	95.6	95.0	1	75.0-125			0.607	20

Method Blank (MB)

(MB) R3608438-1 12/30/20 14:12

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Calcium	U		93.6	1000

Laboratory Control Sample (LCS)

(LCS) R3608438-2 12/30/20 14:15

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Calcium	5000	4900	98.1	80.0-120	

L1298658-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1298658-03 12/30/20 14:18 • (MS) R3608438-4 12/30/20 14:25 • (MSD) R3608438-5 12/30/20 14:28

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Calcium	5000	65200	68500	68600	67.4	68.3	1	75.0-125	V	V	0.0685	20

Method Blank (MB)

(MB) R3609173-1 01/03/21 16:52

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Calcium	U		93.6	1000

Laboratory Control Sample (LCS)

(LCS) R3609173-2 01/03/21 16:55

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Calcium	5000	4780	95.6	80.0-120	

L1298723-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1298723-07 01/03/21 16:59 • (MS) R3609173-4 01/03/21 17:05 • (MSD) R3609173-5 01/03/21 17:08

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Calcium	5000	50900	55000	55200	82.6	85.9	1	75.0-125			0.303	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
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
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.
J3	The associated batch QC was outside the established quality control range for precision.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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* 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.

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Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
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Texas	T104704328-20-18

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Terracon - Little Rock, AR

25809 I-30
Bryant, AR 72022

Billing Information:
Accounts Payable
25809 I-30
Bryant, AR 72022

Pres Chk

Report to: David Jaros

Email To: David.Jaros@terracon.com;Paul.Gramling@terr

Project Description: Entergy - Independence Landfill

City/State Collected:

Please Circle: PT MT CT ET

Phone: 501-847-9210

Client Project # 35207057

Lab Project # GENENLAR-ENTERGY

Collected by (print): Matt Acey

Site/Facility ID # ISES

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*Total Metals 250mlHDPE-HNO3	Cl, F, SO4, PH 125mlHDPE-NoPres	RA-226/228 Combined 1L-HDPE-Add HNO3	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
RP-7		GW		12-16-20	1600	4	1	1	1	1		-01
RP-8		GW		12-15-20	1015	4	1	1	1	1		02
RP-9		GW		12-15-20	0926	4	1	1	1	1		03
RP-10		GW		12-15-20	0823	4	1	1	1	1		04
MW-18		GW		12-17-20	1350	4	1	1	1	1		05
MW-17				12-15-20	1344	4	1	1	1	1		06
MW-13				12-16-20	1427	4	1	1	1	1		07
MW-11				12-17-20	1143	4	1	1	1	1		08

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

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SDG # 1298674

G217

Template: T163916
Prelogin: P807151
PM: 134 - Mark W. Beasley
PB: Bf 10/28/20

Shipped Via: FedEX Ground

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

Remarks:CCR - Appendix III & IV
*Total Metals = As, Ba, Be, B, Ca, Cd, Co, Cr, Hg, Li, Mo, Pb,Sb, Se, Tl

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS X FedEx __ Courier _____

Tracking # 9348 1599 0526

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: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12/17/20	1730	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			NPeppas

Trip Blank Received: Yes No
HCL / MeoH
TBR

Temp: 1.1-1.2+1.0 °C Bottles Received: 32

Date: 12-18-20 Time: 1115

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK