Entergy Arkansas, LLC
Independence Steam Electric Station
Landfill Cells 12-15

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:

PO Box 551
Little Rock, Arkansas 72203

Prepared by:

8550 United Plaza Blvd. Suite 502
Baton Rouge, LA 70809

January 29, 2021

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EXECUTIVE SUMMARY

Entergy Arkansas, LLC (Entergy), operates a coal ash disposal landfill (Landfill) for the disposal of coal combustion residuals (CCR) at the Independence Steam Electric Station (Plant) located near Newark, Arkansas. The Landfill receives CCR generated from the combustion of coal at the Plant. Management of CCR at the Landfill 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 conducted two semi-annual detection monitoring events in 2020 for the Landfill CCR Unit monitoring well network per 40 CFR § 257.94. The statistical analyses completed for the second semi-annual 2019 and the first semi-annual 2020 sampling event analytical data did not identify statistically significant increases (SSIs). The Landfill CCR unit operated under the detection monitoring program (40 CFR § 257.94) during the duration of 2020.

1. INTRODUCTION

Entergy Arkansas, LLC (Entergy), operates the Landfill for the disposal of CCR at the Plant located near Newark, Arkansas (Lat: 35.67826 / Long: -91.408848). The Landfill receives CCR generated from the combustion of coal at the Plant. The CCR Landfill is managed in accordance with the national criteria established in the CCR Rule. Entergy installed a groundwater monitoring system at the Landfill 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 Landfill.

2. GROUNDWATER MONITORING SYSTEM

The Landfill's groundwater monitoring system consists of 11 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), semiannual detection monitoring was performed during the first half (March) and second half (December) of 2020 for analysis of Appendix III parameters (boron, calcium, chloride, fluoride, pH, sulfate and total dissolved solids (TDS)).

- Statistical evaluation of the semiannual detection monitoring data was performed in accordance with the statistical method certified by a qualified Arkansas-registered professional engineer. The certified statistical method has been posted to Entergy's CCR Rule Compliance Data and Information website.

- The first half 2020 semi-annual detection monitoring sampling was performed during March 2020. Based on statistical evaluation of the data, resampling was not required, and no statistically significant increases (SSIs) were identified.

- No SSIs were identified in the second half of 2019 and the first half of 2020 semi-annual detection monitoring events; therefore, Entergy did not prepare alternative source demonstrations (ASDs) per §257.94(e)(2) for either of the detection monitoring events for the CADL CCR Unit.

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

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

- The Landfill CCR unit remained in detection monitoring during 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

- CADL MONITORING WELLS
- CCR UNIT BOUNDARY

NOTES

1. BASE MAP IMAGERY FROM ESRI/DIGITAL GLOBE, 2016.

0 900 1,800 Feet

1 " = 900 '

1:10,800

PROJECT:
ENTERGY INDEPENDENCE PLANT
555 POINT FERRY ROAD
NEWARK, ARKANSAS

TITLE:
MONITORING WELL LOCATIONS FOR CCR GROUNDWATER MONITORING NETWORK

DRAWN BY:	S. MAJOR	PROJ. NO.:	341479
CHECKED BY:	J. HOUSE		
APPROVED BY:	J. HOUSE		**FIGURE 1**
DATE:	OCTOBER 2020		

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

FILE NO.: 341479-005IND.mxd

TRC - GIS
Plot Date: 1/5/2021, 15:59:32 PM by SMAJOR -- LAYOUT: ANSI B(11"x17")
Path: S:\1-PROJECTS\Entergy\MadisonLegacyProjects\Arkansas\2018_270853\341479-005IND.mxd
Coordinate System: NAD 1983 StatePlane Arkansas North FIPS 0301 Feet (Foot US)
Map Rotation: 0

APPENDIX B
GROUNDWATER MONITORING DATA

Sampling Schedule, Entergy Independence CADL Network			
	Detection Monitoring Sampling Dates and Wells Sampled		
Well ID	3/10-3/17/2020	12/15-12/17/2020	Number of Samples Collected
MW-1R	X	X	2
MW-3	X	X	2
MW-6	X	X	2
MW-7	X	X	2
MW-8	X	X	2
MW-9	X	X	2
MW-10	X	X	2
MW-11	X	X	2
MW-13	X	X	2
MW-17	X	X	2
MW-18	X	X	2

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

Field pH data collected during 2020, Entergy Independence CADL network		
Well ID	Date Collected	pH (su)
MW-1R	3/17/2020	6.39
	12/16/2020	6.70
MW-3	3/12/2020	6.45
	12/17/2020	6.68
MW-6	3/12/2020	6.33
	12/17/2020	6.44
MW-7	3/12/2020	7.21
	12/17/2020	7.40
MW-8	3/17/2020	6.34
	12/16/2020	6.57
MW-9	3/13/2020	6.41
	12/16/2020	6.48
MW-10	3/12/2020	6.51
	12/17/2020	6.68
MW-11	3/12/2020	6.65
	12/17/2020	6.69
MW-13	3/13/2020	6.68
	12/16/2020	6.92
MW-17	3/10/2020	6.21
	12/15/2020	6.29
MW-18	3/11/2020	6.33
	12/17/2020	6.55

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ANALYTICAL REPORT

March 20, 2020

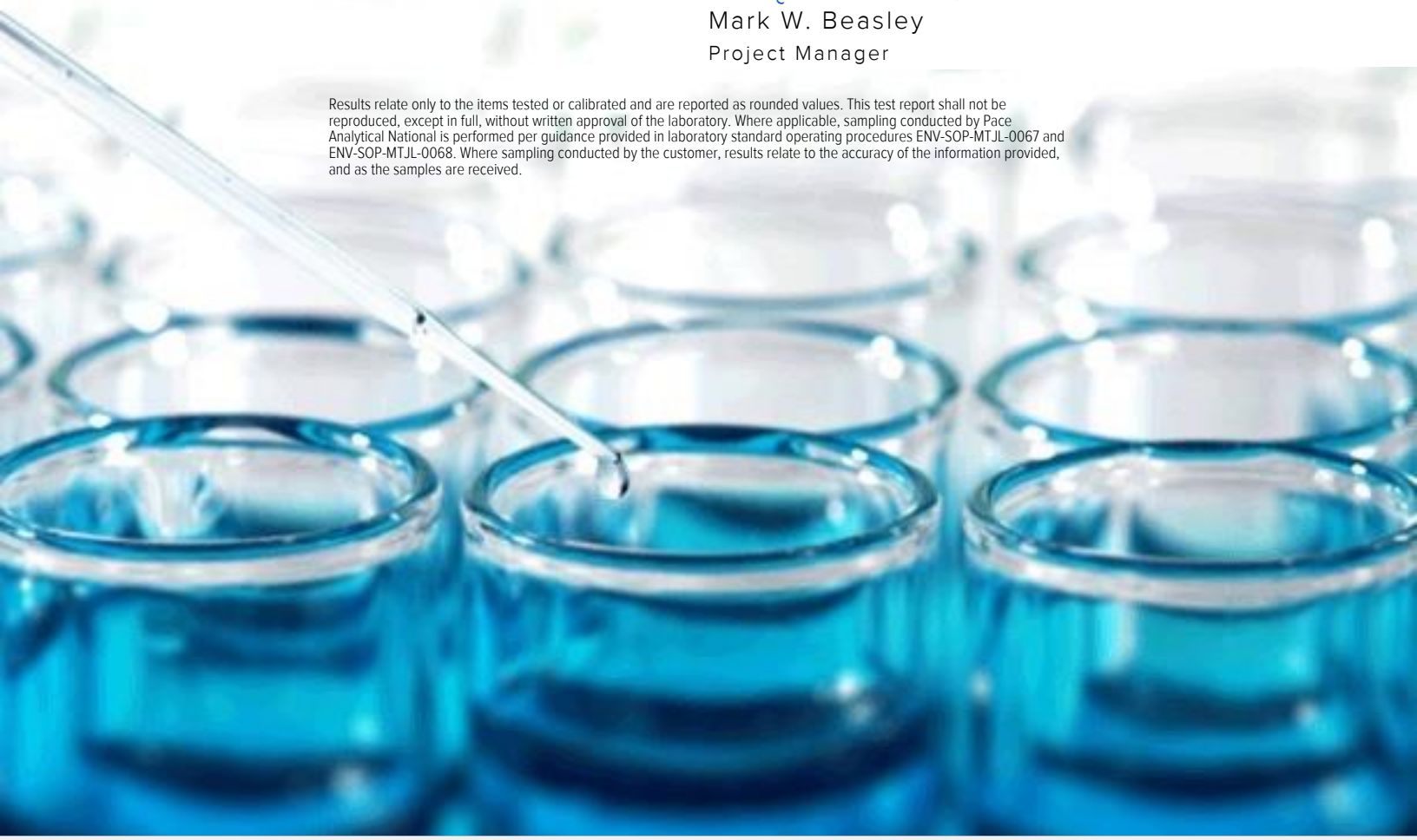
Terracon - Little Rock, AR

Sample Delivery Group:	L1198851
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



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MW-17 L1198851-01 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	WG1444547	1	03/17/20 05:13	03/17/20 05:13	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1443730	1	03/16/20 08:04	03/16/20 16:26	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 12:44	TM	Mt. Juliet, TN

MW-18 L1198851-02 GW

Collected by: Matt Acree
Collected date/time: 03/11/20 14:49
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	WG1444547	1	03/17/20 05:49	03/17/20 05:49	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1443730	1	03/16/20 08:04	03/16/20 16:29	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1443737	1	03/16/20 10:28	03/16/20 12:47	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

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	209000		2820	10000	1	03/16/2020 17:11	WG1443902

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.93	T8	1	03/17/2020 12:21	WG1443997

Sample Narrative:

L1198851-01 WG1443997: 6.93 at 19.8C

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	03/17/2020 05:13	WG1444547
Fluoride	100		9.90	100	1	03/17/2020 05:13	WG1444547
Sulfate	19800		77.4	5000	1	03/17/2020 05:13	WG1444547

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	22.0	J	12.6	200	1	03/16/2020 16:26	WG1443730

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	45800		46.0	1000	1	03/16/2020 12:44	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	244000		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:

L1198851-02 WG1443997: 6.91 at 19.9C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	5400		51.9	1000	1	03/17/2020 05:49	WG1444547
Fluoride	85.1	J	9.90	100	1	03/17/2020 05:49	WG1444547
Sulfate	27300		77.4	5000	1	03/17/2020 05:49	WG1444547

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 16:29	WG1443730

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	56800		46.0	1000	1	03/16/2020 12:47	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
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

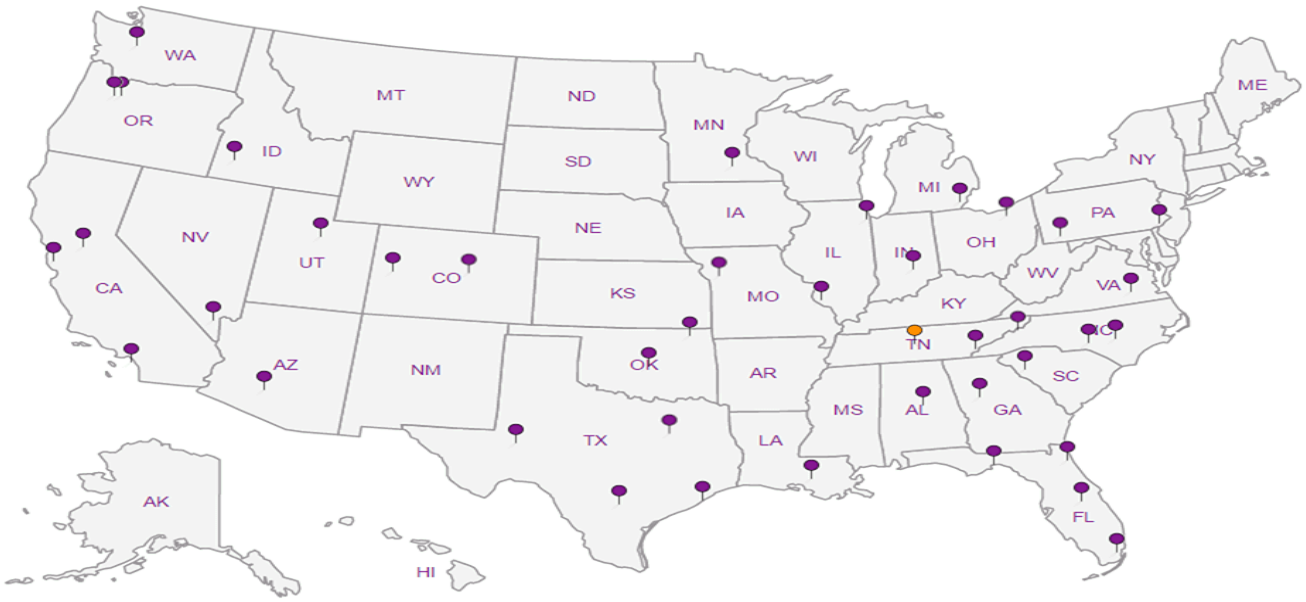
Third Party Federal Accreditations

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

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

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

SDG # 1198851

G054

Collected by (print): Matt Acree

Site/Facility ID #

P.O. #

Acctnum: GENENLAR
Template: T163924
Prelogin: P758145
PM: 134 - Mark W. Beasley
PB: 2-26-2020
Shipped Via: FedEX Ground

Collected by (signature): [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	Cl, F, SO4, PH 125mlHDPE-NoPres	TDS 250mlHDPE-NoPres	Total B, Ca 250mlHDPE-HNO3							Remarks	Sample # (lab only)
MW-17	G	GW		3.10.20	1023	3	1	1	1								-01
MW-18	G	GW		3.11.20	1449	1	1	1									02
		GW															
		GW															
		GW															
		GW															
		GW															
		GW															
		GW															
		GW															

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

Remarks: CCR - Appendix III Only

pH _______ Temp _______
Flow _______ Other _______

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

Samples returned via:
__ UPS __ FedEx __ Courier ________

Tracking # 1663 5751 2593/ 2582

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
[signature]	3.12.20	1300			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: NA °C 3+2=5 Bottles Received: 6	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Carol Kemp	Date: 3/13/20 Time: 8:45	Hold: Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

March 24, 2020

Terracon - Little Rock, AR

Sample Delivery Group:	L1199813
Samples Received:	03/17/2020
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

TABLE OF CONTENTS

MW-3 L1199813-01 GW

Collected by: Wes Williams | Collected date/time: 03/12/20 11:40 | Received date/time: 03/17/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1446152	1	03/19/20 18:09	03/19/20 23:51	TH	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1446482	1	03/18/20 18:59	03/18/20 18:59	KEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1445193	1	03/18/20 21:12	03/18/20 21:12	ST	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1445598	1	03/18/20 17:13	03/19/20 11:19	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1445609	1	03/19/20 08:43	03/19/20 12:24	JPD	Mt. Juliet, TN

MW-6 L1199813-02 GW

Collected by: Wes Williams | Collected date/time: 03/12/20 10:34 | Received date/time: 03/17/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1446152	1	03/19/20 18:09	03/19/20 23:51	TH	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1446482	1	03/18/20 18:59	03/18/20 18:59	KEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1447250	1	03/19/20 22:47	03/19/20 22:47	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1447250	5	03/19/20 23:02	03/19/20 23:02	MCG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1445778	1	03/19/20 10:39	03/19/20 19:41	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1445609	1	03/19/20 08:43	03/19/20 12:27	JPD	Mt. Juliet, TN

MW-7 L1199813-03 GW

Collected by: Wes Williams | Collected date/time: 03/12/20 16:19 | Received date/time: 03/17/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1446152	1	03/19/20 18:09	03/19/20 23:51	TH	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1446482	1	03/18/20 18:59	03/18/20 18:59	KEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1447250	1	03/19/20 23:18	03/19/20 23:18	MCG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1445778	1	03/19/20 10:39	03/19/20 19:51	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1445609	1	03/19/20 08:43	03/19/20 12:30	JPD	Mt. Juliet, TN

MW-10 L1199813-04 GW

Collected by: Wes Williams | Collected date/time: 03/12/20 13:58 | Received date/time: 03/17/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1446152	1	03/19/20 18:09	03/19/20 23:51	TH	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1446482	1	03/18/20 18:59	03/18/20 18:59	KEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1447250	1	03/19/20 23:49	03/19/20 23:49	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1447250	5	03/20/20 00:04	03/20/20 00:04	MCG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1445778	1	03/19/20 10:39	03/19/20 19:54	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1445609	1	03/19/20 08:43	03/19/20 12:34	JPD	Mt. Juliet, TN

MW-9 L1199813-05 GW

Collected by: Wes Williams | Collected date/time: 03/13/20 15:11 | Received date/time: 03/17/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1446152	1	03/19/20 18:09	03/19/20 23:51	TH	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1446482	1	03/18/20 18:59	03/18/20 18:59	KEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1447250	1	03/20/20 00:19	03/20/20 00:19	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1447250	5	03/20/20 00:35	03/20/20 00:35	MCG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1445778	1	03/19/20 10:39	03/19/20 19:56	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1445609	1	03/19/20 08:43	03/19/20 12:37	JPD	Mt. Juliet, TN

MW-11 L1199813-06 GW

Collected by: Wes Williams | Collected date/time: 03/12/20 15:30 | Received date/time: 03/17/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1446152	1	03/19/20 18:09	03/19/20 23:51	TH	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1446482	1	03/18/20 18:59	03/18/20 18:59	KEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1447250	1	03/20/20 00:50	03/20/20 00:50	MCG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1445778	1	03/19/20 10:39	03/19/20 19:59	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1445609	1	03/19/20 08:43	03/19/20 12:40	JPD	Mt. Juliet, TN

DUP-2 L1199813-07 GW

Collected by: Wes Williams | Collected date/time: 03/12/20 16:00 | Received date/time: 03/17/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1446152	1	03/19/20 18:09	03/19/20 23:51	TH	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1446482	1	03/18/20 18:59	03/18/20 18:59	KEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1447250	1	03/20/20 01:52	03/20/20 01:52	MCG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1445778	1	03/19/20 10:39	03/19/20 20:07	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1445609	1	03/19/20 08:43	03/19/20 12:43	JPD	Mt. Juliet, TN

FB L1199813-08 GW

Collected by: Wes Williams | Collected date/time: 03/12/20 17:00 | Received date/time: 03/17/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1446152	1	03/19/20 18:09	03/19/20 23:51	TH	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1446482	1	03/18/20 18:59	03/18/20 18:59	KEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1447250	1	03/20/20 02:23	03/20/20 02:23	MCG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1445778	1	03/19/20 10:39	03/19/20 20:10	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1445609	1	03/19/20 08:43	03/19/20 12:27	TM	Mt. Juliet, TN

MW-13 L1199813-09 GW

Collected by: Wes Williams | Collected date/time: 03/13/20 08:59 | Received date/time: 03/17/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1446152	1	03/19/20 18:09	03/19/20 23:51	TH	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1446482	1	03/18/20 18:59	03/18/20 18:59	KEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1447250	1	03/20/20 02:54	03/20/20 02:54	MCG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1445778	1	03/19/20 10:39	03/19/20 20:22	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1446468	1	03/19/20 08:47	03/19/20 11:43	LAT	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	435000		2820	10000	1	03/19/2020 23:51	WG1446152

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.67	T8	1	03/18/2020 18:59	WG1446482

Sample Narrative:

L1199813-01 WG1446482: 6.67 at 11.7C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	38700		51.9	1000	1	03/18/2020 21:12	WG1445193
Fluoride	154		9.90	100	1	03/18/2020 21:12	WG1445193
Sulfate	80500		77.4	5000	1	03/18/2020 21:12	WG1445193

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	238		12.6	200	1	03/19/2020 11:19	WG1445598

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	58100		46.0	1000	1	03/19/2020 12:24	WG1445609

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	434000		2820	10000	1	03/19/2020 23:51	WG1446152

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.56	T8	1	03/18/2020 18:59	WG1446482

Sample Narrative:

L1199813-02 WG1446482: 6.56 at 12.8C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	32000		51.9	1000	1	03/19/2020 22:47	WG1447250
Fluoride	115		9.90	100	1	03/19/2020 22:47	WG1447250
Sulfate	116000		387	25000	5	03/19/2020 23:02	WG1447250

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	90.6	J	12.6	200	1	03/19/2020 19:41	WG1445778

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	65200		46.0	1000	1	03/19/2020 12:27	WG1445609

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	590000		2820	10000	1	03/19/2020 23:51	WG1446152

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.57	T8	1	03/18/2020 18:59	WG1446482

Sample Narrative:

L1199813-03 WG1446482: 7.57 at 13C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	24300		51.9	1000	1	03/19/2020 23:18	WG1447250
Fluoride	777		9.90	100	1	03/19/2020 23:18	WG1447250
Sulfate	65800		77.4	5000	1	03/19/2020 23:18	WG1447250

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	56.3	J	12.6	200	1	03/19/2020 19:51	WG1445778

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	45600		46.0	1000	1	03/19/2020 12:30	WG1445609

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	628000		2820	10000	1	03/19/2020 23:51	WG1446152

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.85	T8	1	03/18/2020 18:59	WG1446482

Sample Narrative:

L1199813-04 WG1446482: 6.85 at 13.4C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	52300		51.9	1000	1	03/19/2020 23:49	WG1447250
Fluoride	259		9.90	100	1	03/19/2020 23:49	WG1447250
Sulfate	176000		387	25000	5	03/20/2020 00:04	WG1447250

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	1010		12.6	200	1	03/19/2020 19:54	WG1445778

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	79100		46.0	1000	1	03/19/2020 12:34	WG1445609

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	560000		2820	10000	1	03/19/2020 23:51	WG1446152

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.73	T8	1	03/18/2020 18:59	WG1446482

Sample Narrative:

L1199813-05 WG1446482: 6.73 at 13.2C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	46200		51.9	1000	1	03/20/2020 00:19	WG1447250
Fluoride	158		9.90	100	1	03/20/2020 00:19	WG1447250
Sulfate	271000		387	25000	5	03/20/2020 00:35	WG1447250

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	520		12.6	200	1	03/19/2020 19:56	WG1445778

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	92400		46.0	1000	1	03/19/2020 12:37	WG1445609

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	377000		2820	10000	1	03/19/2020 23:51	WG1446152

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.96	T8	1	03/18/2020 18:59	WG1446482

Sample Narrative:

L1199813-06 WG1446482: 6.96 at 13.9C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	43700		51.9	1000	1	03/20/2020 00:50	WG1447250
Fluoride	255		9.90	100	1	03/20/2020 00:50	WG1447250
Sulfate	33500		77.4	5000	1	03/20/2020 00:50	WG1447250

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	03/19/2020 19:59	WG1445778

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	64000		46.0	1000	1	03/19/2020 12:40	WG1445609

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	598000		2820	10000	1	03/19/2020 23:51	WG1446152

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.53	T8	1	03/18/2020 18:59	WG1446482

Sample Narrative:

L1199813-07 WG1446482: 7.53 at 14.5C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	22100		51.9	1000	1	03/20/2020 01:52	WG1447250
Fluoride	783		9.90	100	1	03/20/2020 01:52	WG1447250
Sulfate	66600		77.4	5000	1	03/20/2020 01:52	WG1447250

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	56.2	J	12.6	200	1	03/19/2020 20:07	WG1445778

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	46900		46.0	1000	1	03/19/2020 12:43	WG1445609

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	03/19/2020 23:51	WG1446152

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	5.85	T8	1	03/18/2020 18:59	WG1446482

Sample Narrative:

L1199813-08 WG1446482: 5.85 at 14.9C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	U		51.9	1000	1	03/20/2020 02:23	WG1447250
Fluoride	U		9.90	100	1	03/20/2020 02:23	WG1447250
Sulfate	U		77.4	5000	1	03/20/2020 02:23	WG1447250

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	03/19/2020 20:10	WG1445778

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	U		46.0	1000	1	03/19/2020 12:27	WG1445609

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	03/19/2020 23:51	WG1446152

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.96	T8	1	03/18/2020 18:59	WG1446482

Sample Narrative:

L1199813-09 WG1446482: 6.96 at 15.1C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	23600		51.9	1000	1	03/20/2020 02:54	WG1447250
Fluoride	187		9.90	100	1	03/20/2020 02:54	WG1447250
Sulfate	62300		77.4	5000	1	03/20/2020 02:54	WG1447250

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	74.5	J	12.6	200	1	03/19/2020 20:22	WG1445778

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	72800		46.0	1000	1	03/19/2020 11:43	WG1446468

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
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

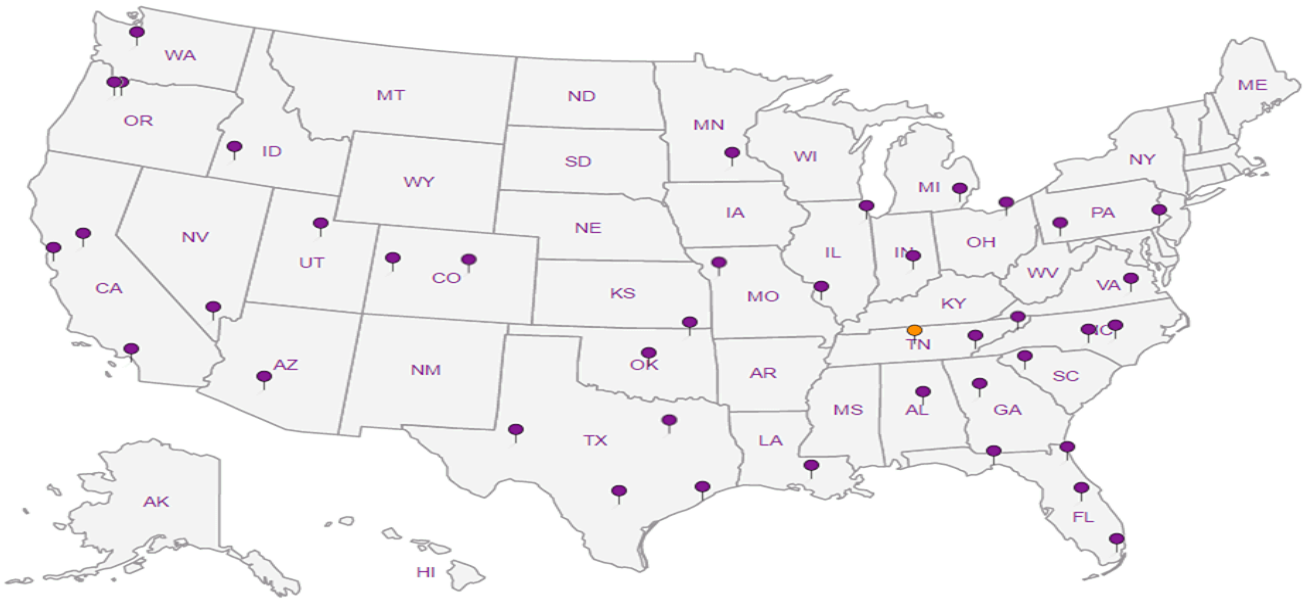
Third Party Federal Accreditations

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 #

Lab Project # **GENENLAR-ENTERGY**

Collected by (print): Wes Williams

Site/Facility ID #

P.O. #

Collected by (signature): Wes Williams

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

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 # 1199813

H070

Acctnum: **GENENLAR**
Template: **T163924**
Prelogin: **P758145**
PM: **134 - Mark W. Beasley**
PB:

Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Cl, F, SO4, PH 125mlHDPE-NoPres	TDS 250mlHDPE-NoPres	Total B, Ca 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-3		GW		3-12-20	1140	3	✓	✓	✓		01
MW-6		GW		3-12-20	1034	3	✓	✓	✓		02
MW-7		GW		3-12-20	1619	3	✓	✓	✓		03
MW-10		GW		3-12-20	1358	3	✓	✓	✓		04
MW-9		GW		3-13-20	1511	3	✓	✓	✓		05
MW-11		GW		3-12-20	1530	3	✓	✓	✓		06
Dup-2		GW		3-12-20	1620	3	✓	✓	✓		07
FB		GW		3-12-20	1700	3	✓	✓	✓		08
MW-13		GW		3-13-20	859	3	✓	✓	✓		09

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

Remarks:CCR - Appendix III Only

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 4876 1077 8350

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
Wes Williams	3-16-20	1600			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.3-.1 °C Bottles Received: 27	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 3/17/20 Time: 0830	Hold: / Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

March 24, 2020

Terracon - Little Rock, AR

Sample Delivery Group:	L1200905
Samples Received:	03/19/2020
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

TABLE OF CONTENTS

MW-1R L1200905-01 GW

Collected by: Quin Baber | Collected date/time: 03/17/20 10:53 | Received date/time: 03/19/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1447943	1	03/22/20 11:32	03/22/20 11:48	TH	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1447746	1	03/21/20 11:00	03/21/20 11:00	MSP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1447845	1	03/21/20 21:59	03/21/20 21:59	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1447845	5	03/21/20 22:39	03/21/20 22:39	MCG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1447851	1	03/22/20 18:29	03/23/20 18:25	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1448605	1	03/22/20 23:23	03/23/20 17:00	LD	Mt. Juliet, TN

MW-8 L1200905-02 GW

Collected by: Quin Baber | Collected date/time: 03/17/20 10:00 | Received date/time: 03/19/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1447943	1	03/22/20 11:32	03/22/20 11:48	TH	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1447746	1	03/21/20 11:00	03/21/20 11:00	MSP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1447845	1	03/21/20 22:52	03/21/20 22:52	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1447845	5	03/21/20 23:05	03/21/20 23:05	MCG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1447851	1	03/22/20 18:29	03/23/20 18:28	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1448605	1	03/22/20 23:23	03/23/20 17:04	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

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	945000		3750	13300	1	03/22/2020 11:48	WG1447943

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.83	T8	1	03/21/2020 11:00	WG1447746

Sample Narrative:

L1200905-01 WG1447746: 6.83 at 19.1C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	169000		260	5000	5	03/21/2020 22:39	WG1447845
Fluoride	146		9.90	100	1	03/21/2020 21:59	WG1447845
Sulfate	229000		387	25000	5	03/21/2020 22:39	WG1447845

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	70.9	J	12.6	200	1	03/23/2020 18:25	WG1447851

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	125000		46.0	1000	1	03/23/2020 17:00	WG1448605

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	796000		3750	13300	1	03/22/2020 11:48	WG1447943

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.78	T8	1	03/21/2020 11:00	WG1447746

Sample Narrative:

L1200905-02 WG1447746: 6.78 at 19C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	125000		260	5000	5	03/21/2020 23:05	WG1447845
Fluoride	145		9.90	100	1	03/21/2020 22:52	WG1447845
Sulfate	243000		387	25000	5	03/21/2020 23:05	WG1447845

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	189	J	12.6	200	1	03/23/2020 18:28	WG1447851

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	118000		46.0	1000	1	03/23/2020 17:04	WG1448605

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.
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
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

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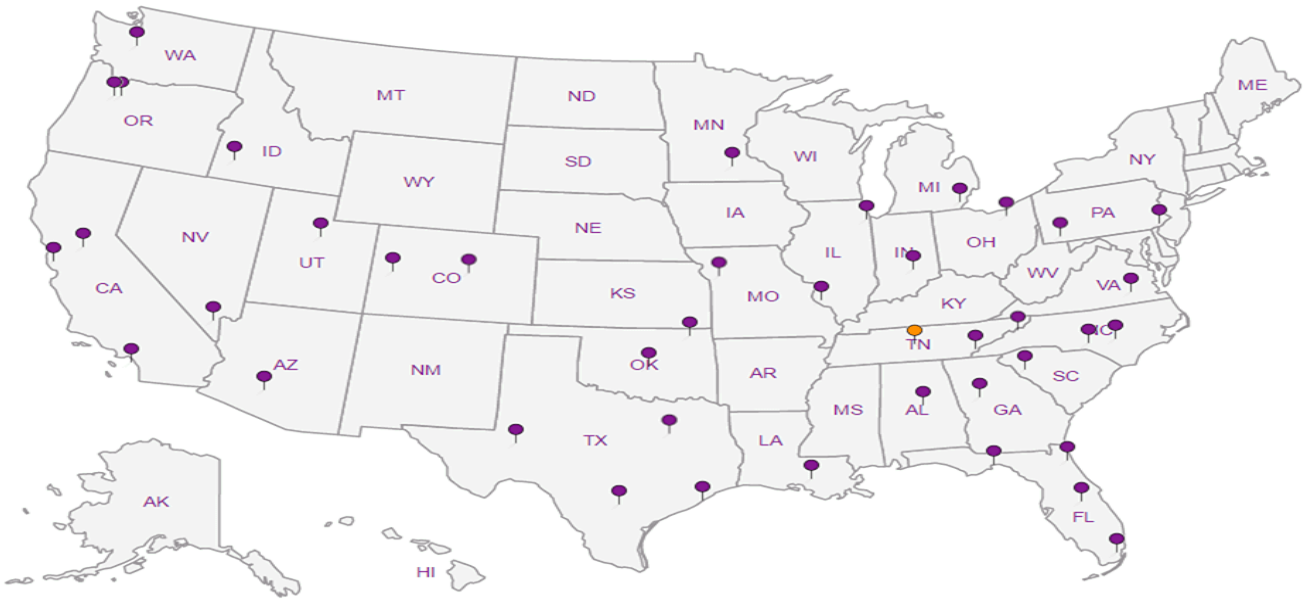


Terracon - Little Rock, AR
25809 I-30
Bryant, AR 72022

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 #

Lab Project # **GENENLAR-ENTERGY**

Collected by (print): Quinn Bolen

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, F, SO4, PH 125mlHDPE-NoPres	TDS 250mlHDPE-NoPres	Total B, Ca 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-1B		GW		3-17-20	1053	3	✓	✓	✓		-01
MW-8		GW		3-17-20	1000	3	✓	✓	✓		02
		GW									
		GW									
		GW									
		GW									

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

Remarks: CCR - Appendix III Only

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 1676 2749 6790

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 # 1200905
G240

Acctnum: **GENENLAR**
Template: **T163924**
Prelogin: **P758145**
PM: **134 - Mark W. Beasley**
PB:

Shipped Via: **FedEX Ground**

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)
	3-18-20	1500	
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: 4.7 °C
.2 -.1 =.1

Bottles Received: 6

Date: 3/19/20 Time: 8:30

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

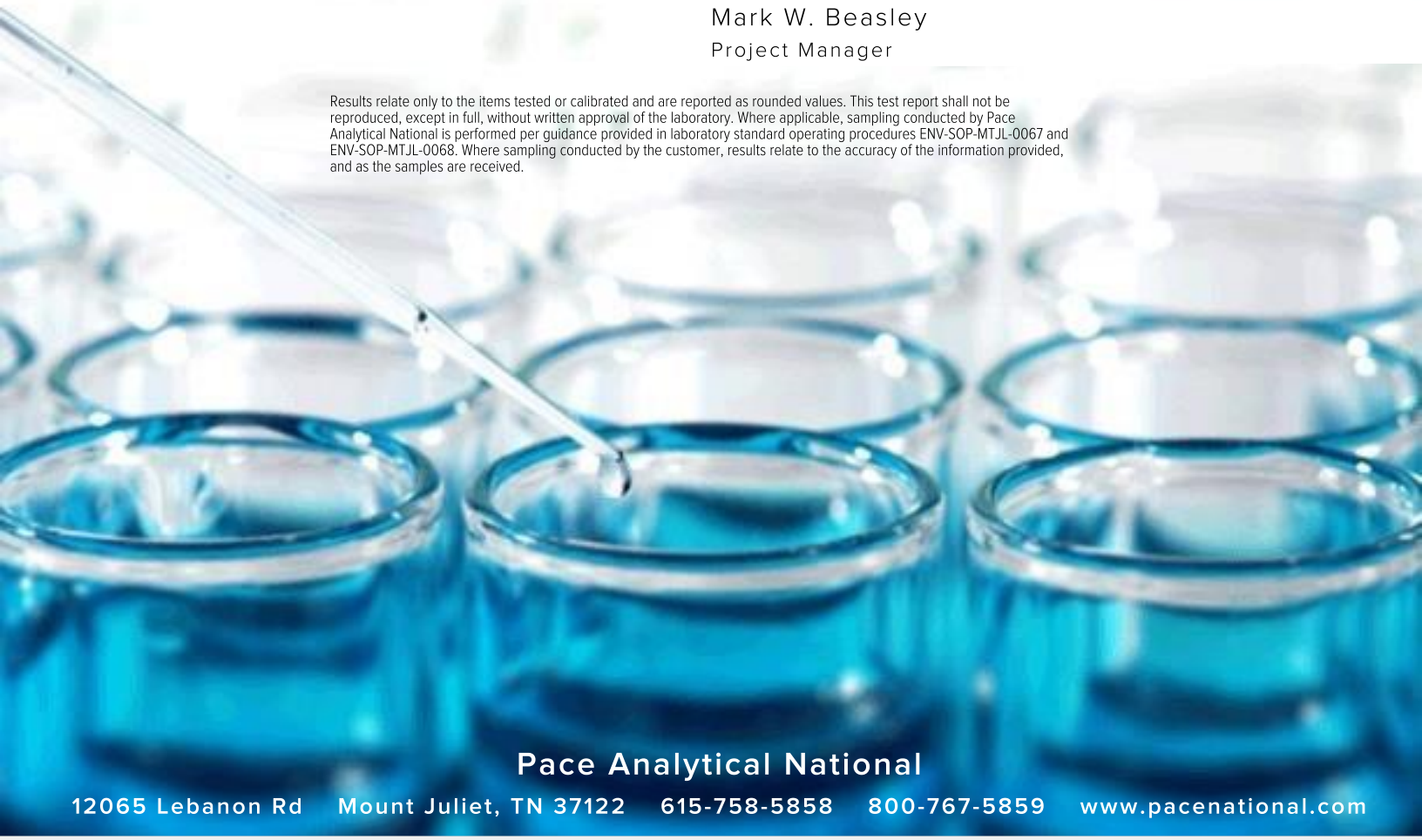
Sample Delivery Group:	L1298654
Samples Received:	12/18/2020
Project Number:	35207057
Description:	Entergy - Independence Landfill

Report To: David Jaros
25809 I-30
Bryant, AR 72022

Entire Report Reviewed By:

[Preliminary Report]

Mark W. Beasley
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

DUP-1 L1298654-01 GW

Collected by: Matt Acree | Collected date/time: 12/17/20 09:16 | 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	WG1596585	1	12/23/20 11:48	12/23/20 12:37	KLS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597502	1	12/27/20 18:02	12/27/20 18:02	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597502	5	12/27/20 18:19	12/27/20 18:19	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597024	1	12/28/20 04:48	12/28/20 22:42	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1598023	1	12/29/20 06:03	12/29/20 12:14	LAT	Mt. Juliet, TN

FB-1 L1298654-02 GW

Collected by: Matt Acree | Collected date/time: 12/17/20 09:02 | 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	WG1596585	1	12/23/20 11:48	12/23/20 12:37	KLS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597502	1	12/27/20 18:35	12/27/20 18:35	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597024	1	12/28/20 04:48	12/28/20 22:45	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1598023	1	12/29/20 06:03	12/29/20 12:17	LAT	Mt. Juliet, TN

MW-1R L1298654-03 GW

Collected by: Matt Acree | Collected date/time: 12/16/20 10:52 | 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	WG1595783	1	12/22/20 16:38	12/22/20 17:41	KLS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597502	1	12/27/20 19:26	12/27/20 19:26	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597502	5	12/27/20 19:43	12/27/20 19:43	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597024	1	12/28/20 04:48	12/28/20 22:48	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1598023	1	12/29/20 06:03	12/29/20 12:21	LAT	Mt. Juliet, TN

MW-3 L1298654-04 GW

Collected by: Matt Acree | Collected date/time: 12/17/20 09:12 | 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	WG1596585	1	12/23/20 11:48	12/23/20 12:37	KLS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597502	1	12/27/20 20:00	12/27/20 20:00	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597502	5	12/28/20 09:35	12/28/20 09:35	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597024	1	12/28/20 04:48	12/28/20 22:50	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1598023	1	12/29/20 06:03	12/29/20 12:24	LAT	Mt. Juliet, TN

MW-6 L1298654-05 GW

Collected by: Matt Acree | Collected date/time: 12/17/20 13:08 | 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	WG1596585	1	12/23/20 11:48	12/23/20 12:37	KLS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597502	1	12/27/20 20:34	12/27/20 20:34	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597502	5	12/27/20 20:51	12/27/20 20:51	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597024	1	12/28/20 04:48	12/28/20 22:59	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1598023	1	12/29/20 06:03	12/29/20 12:27	LAT	Mt. Juliet, TN

MW-7 L1298654-06 GW

Collected by: Matt Acree
Collected date/time: 12/17/20 12:26
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	WG1596585	1	12/23/20 11:48	12/23/20 12:37	KLS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597502	1	12/27/20 21:08	12/27/20 21:08	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597024	1	12/28/20 04:48	12/28/20 23:02	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1598023	1	12/29/20 06:03	12/29/20 12:50	LAT	Mt. Juliet, TN

MW-8 L1298654-07 GW

Collected by: Matt Acree
Collected date/time: 12/16/20 09:10
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	WG1595783	1	12/22/20 16:38	12/22/20 17:41	KLS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597502	1	12/27/20 21:42	12/27/20 21:42	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597502	5	12/27/20 21:59	12/27/20 21:59	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597024	1	12/28/20 04:48	12/28/20 23:05	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1598023	1	12/29/20 06:03	12/29/20 12:53	LAT	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.

[Preliminary Report]

Mark W. Beasley
Project Manager

Report Revision History

Level II Report - Version 1: 01/06/21 09:20

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	515000		2820	10000	1	12/23/2020 12:37	WG1596585

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	47600		379	1000	1	12/27/2020 18:02	WG1597502
Fluoride	169		64.0	150	1	12/27/2020 18:02	WG1597502
Sulfate	96100		2970	25000	5	12/27/2020 18:19	WG1597502

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	180	J	20.0	200	1	12/28/2020 22:42	WG1597024

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	72000		93.6	1000	1	12/29/2020 12:14	WG1598023

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	12/23/2020 12:37	WG1596585

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	12/27/2020 18:35	WG1597502
Fluoride	U		64.0	150	1	12/27/2020 18:35	WG1597502
Sulfate	U		594	5000	1	12/27/2020 18:35	WG1597502

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	12/28/2020 22:45	WG1597024

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	12/29/2020 12:17	WG1598023

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	954000		5640	20000	1	12/22/2020 17:41	WG1595783

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	169000		1900	5000	5	12/27/2020 19:43	WG1597502
Fluoride	172		64.0	150	1	12/27/2020 19:26	WG1597502
Sulfate	256000		2970	25000	5	12/27/2020 19:43	WG1597502

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	83.5	J	20.0	200	1	12/28/2020 22:48	WG1597024

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	133000		93.6	1000	1	12/29/2020 12:21	WG1598023

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	515000		2820	10000	1	12/23/2020 12:37	WG1596585

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	47100		379	1000	1	12/27/2020 20:00	WG1597502
Fluoride	181		64.0	150	1	12/27/2020 20:00	WG1597502
Sulfate	91300		2970	25000	5	12/28/2020 09:35	WG1597502

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	181	J	20.0	200	1	12/28/2020 22:50	WG1597024

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	71500		93.6	1000	1	12/29/2020 12:24	WG1598023

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	395000		2820	10000	1	12/23/2020 12:37	WG1596585

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	29900		379	1000	1	12/27/2020 20:34	WG1597502
Fluoride	133	J	64.0	150	1	12/27/2020 20:34	WG1597502
Sulfate	101000		2970	25000	5	12/27/2020 20:51	WG1597502

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	81.9	J	20.0	200	1	12/28/2020 22:59	WG1597024

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	65900		93.6	1000	1	12/29/2020 12:27	WG1598023

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	550000		2820	10000	1	12/23/2020 12:37	WG1596585

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	7330		379	1000	1	12/27/2020 21:08	WG1597502
Fluoride	704		64.0	150	1	12/27/2020 21:08	WG1597502
Sulfate	60900		594	5000	1	12/27/2020 21:08	WG1597502

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	49.7	J	20.0	200	1	12/28/2020 23:02	WG1597024

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	44100		93.6	1000	1	12/29/2020 12:50	WG1598023

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	926000		5640	20000	1	12/22/2020 17:41	WG1595783

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	163000		1900	5000	5	12/27/2020 21:59	WG1597502
Fluoride	194		64.0	150	1	12/27/2020 21:42	WG1597502
Sulfate	276000		2970	25000	5	12/27/2020 21:59	WG1597502

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	201		20.0	200	1	12/28/2020 23:05	WG1597024

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	130000		93.6	1000	1	12/29/2020 12:53	WG1598023

Method Blank (MB)

(MB) R3607137-1 12/22/20 17:41

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

L1298460-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1298460-06 12/22/20 17:41 • (DUP) R3607137-3 12/22/20 17:41

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	160000	163000	1	1.86		5

L1298658-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1298658-08 12/22/20 17:41 • (DUP) R3607137-4 12/22/20 17:41

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	601000	610000	1	1.49		5

Laboratory Control Sample (LCS)

(LCS) R3607137-2 12/22/20 17:41

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8810000	100	77.4-123	

Method Blank (MB)

(MB) R3607174-1 12/23/20 12:37

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

L1298504-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1298504-03 12/23/20 12:37 • (DUP) R3607174-3 12/23/20 12:37

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	182000	194000	1	6.38	J3	5

L1298504-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1298504-04 12/23/20 12:37 • (DUP) R3607174-4 12/23/20 12:37

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	183000	186000	1	1.63		5

Laboratory Control Sample (LCS)

(LCS) R3607174-2 12/23/20 12:37

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8560000	97.3	77.4-123	

Method Blank (MB)

(MB) R3607511-1 12/27/20 11:20

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Chloride	U		379	1000
Fluoride	U		64.0	150
Sulfate	U		594	5000

L1298498-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1298498-01 12/27/20 13:14 • (DUP) R3607511-3 12/27/20 13:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	12800	12800	1	0.148		15
Fluoride	274	273	1	0.439		15
Sulfate	1630	1630	1	0.165	J	15

L1298654-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1298654-04 12/27/20 20:00 • (DUP) R3607511-6 12/27/20 20:17

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	47100	47100	1	0.0448		15
Fluoride	181	179	1	1.33		15

L1298654-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1298654-04 12/28/20 09:35 • (DUP) R3607511-8 12/28/20 09:52

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Sulfate	91300	92400	5	1.21		15

Laboratory Control Sample (LCS)

(LCS) R3607511-2 12/27/20 11:37

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Chloride	40000	39300	98.2	80.0-120	
Fluoride	8000	8080	101	80.0-120	
Sulfate	40000	39100	97.7	80.0-120	

L1298593-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1298593-02 12/27/20 14:21 • (MS) R3607511-4 12/27/20 14:38 • (MSD) R3607511-5 12/27/20 14:55

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	3620	54800	54700	102	102	1	80.0-120			0.0749	15
Fluoride	5000	126	5200	5200	102	102	1	80.0-120			0.0596	15
Sulfate	50000	2110	52600	52600	101	101	1	80.0-120			0.111	15

L1298654-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1298654-06 12/27/20 21:08 • (MS) R3607511-7 12/27/20 21:25

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	7330	59600	105	1	80.0-120	
Fluoride	5000	704	5970	105	1	80.0-120	
Sulfate	50000	60900	110000	98.8	1	80.0-120	E

Method Blank (MB)

(MB) R3607733-1 12/28/20 14:22

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) R3607733-2 12/28/20 14:25

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1000	990	99.0	80.0-120	

L1298456-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1298456-02 12/28/20 14:27 • (MS) R3607733-4 12/28/20 14:33 • (MSD) R3607733-5 12/28/20 14:36

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 %
Boron	1000	23.6	1030	1040	100	102	1	75.0-125			1.61	20

Method Blank (MB)

(MB) R3607943-1 12/29/20 11:08

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) R3607943-2 12/29/20 11:11

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Calcium	5000	4810	96.2	80.0-120	

L1298484-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1298484-01 12/29/20 11:14 • (MS) R3607943-4 12/29/20 11:21 • (MSD) R3607943-5 12/29/20 11:24

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	%	%		%			%	%
Calcium	5000	102000	104000	106000	56.0	77.9	1	75.0-125	V		1.04	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.
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.

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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
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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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

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 Hall

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

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*Total Metals 250mlHDPE-HNO3	Cl, F, SO4 125mlHDPE-NoPres	RA-226/228 Combined 1L-HDPE-Add HNO3	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
Dup - 1		GW		12-17-20	~~0916~~ 0902	4	1	1	1	1		-01
FB - 1		GW		12-17-20	0902	4	1	1	1	1		02
MW - 1R		GW		12-16-20	1052	4	1	1	1	1		03
MW - 3		GW		12-17-20	0912	4	1	1	1	1		04
MW - 6		GW		12-17-20	1308	4	1	1	1	1		05
MW - 7		GW		12-17-20	1226	4	1	1	1	1		06
MW - 8		GW		12-16-20	0910	4	1	1	1	1		07
		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 # 129854

G215

Acctnum: GENENLAR

Template: T163927

Prelogin: P807150

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: ADEQ Reg 22
*Total Metals = Ag, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Hg, Li, Mn, Mo, Ni, Pb, Sb, Se, Sr, Tl, V, Zn

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS ✓ FedEx __ Courier _____

Tracking # 9348 1599 0412

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: 12/17/20	Time: 1730	Received by: (Signature)	Trip Blank Received: Yes / (No) HCL / MeoH TBR
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.4-1.9 °C Bottles Received: 18
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) NRappas	Date: 12-18-20 Time: 1115

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

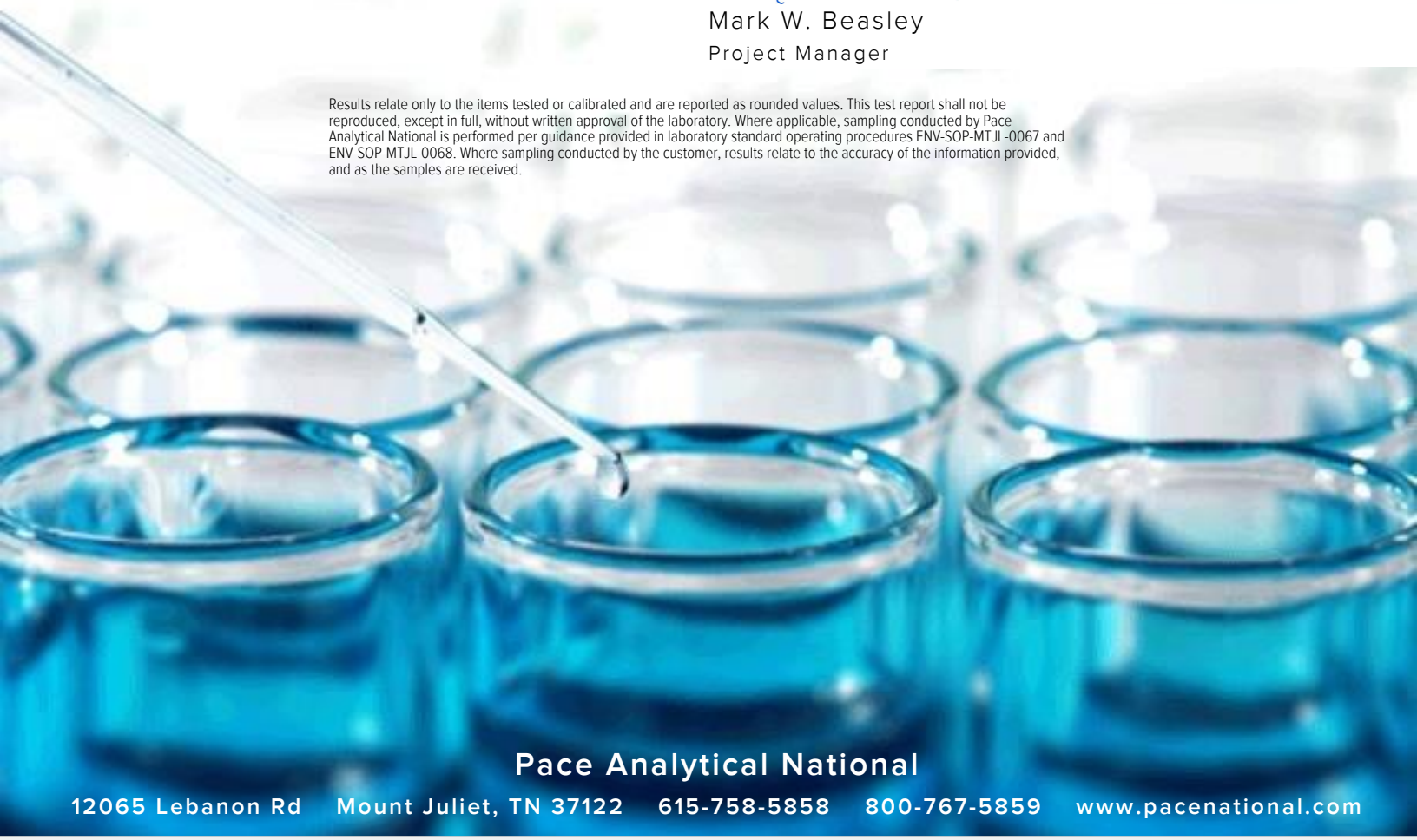
Terracon - Little Rock, AR

Sample Delivery Group:	L1298662
Samples Received:	12/18/2020
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



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

MW-9 L1298662-01 GW

Collected by: Matt Acree
Collected date/time: 12/16/20 08:22
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 9056A	WG1597504	1	12/29/20 00:59	12/29/20 00:59	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597504	5	12/29/20 01:17	12/29/20 01:17	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597025	1	01/04/21 05:38	01/04/21 21:01	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1596433	1	12/24/20 00:27	12/27/20 22:59	LAT	Mt. Juliet, TN

MW-10 L1298662-02 GW

Collected by: Matt Acree
Collected date/time: 12/17/20 10:08
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	WG1596585	1	12/23/20 11:48	12/23/20 12:37	KLS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1597504	1	12/29/20 01:34	12/29/20 01:34	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597025	1	01/04/21 05:38	01/04/21 21:04	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1596433	1	12/24/20 00:27	12/27/20 23:02	LAT	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	945000		2820	10000	1	12/23/2020 02:36	WG1596377

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	49400		379	1000	1	12/29/2020 00:59	WG1597504
Fluoride	176		64.0	150	1	12/29/2020 00:59	WG1597504
Sulfate	379000		2970	25000	5	12/29/2020 01:17	WG1597504

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	683		20.0	200	1	01/04/2021 21:01	WG1597025

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	110000		93.6	1000	1	12/27/2020 22:59	WG1596433

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	536000		2820	10000	1	12/23/2020 12:37	WG1596585

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	68900		379	1000	1	12/29/2020 01:34	WG1597504
Fluoride	182		64.0	150	1	12/29/2020 01:34	WG1597504
Sulfate	89500		594	5000	1	12/29/2020 01:34	WG1597504

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	67.3	J	20.0	200	1	01/04/2021 21:04	WG1597025

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	69100		93.6	1000	1	12/27/2020 23:02	WG1596433

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	

Method Blank (MB)

(MB) R3607174-1 12/23/20 12:37

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

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3607174-3 12/23/20 12:37

Analyte	Original Result	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids		194000	1	6.38	J3	5

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3607174-4 12/23/20 12:37

Analyte	Original Result	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids		186000	1	1.63		5

Laboratory Control Sample (LCS)

(LCS) R3607174-2 12/23/20 12:37

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8560000	97.3	77.4-123	

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) R3609601-6 01/04/21 20:13

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) R3609601-7 01/04/21 20:16

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron	1000	961	96.1	80.0-120	

L1298651-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1298651-01 01/04/21 20:18 • (MS) R3609601-9 01/04/21 20:24 • (MSD) R3609601-10 01/04/21 20:27

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	993	972	99.3	97.2	1	75.0-125			2.15	20

Method Blank (MB)

(MB) R3607492-1 12/27/20 22:07

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) R3607492-2 12/27/20 22:10

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Calcium	5000	4740	94.7	80.0-120	

L1298307-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1298307-01 12/27/20 22:14 • (MS) R3607492-4 12/27/20 22:20 • (MSD) R3607492-5 12/27/20 22:23

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	107000	112000	110000	101	58.8	1	75.0-125		V	1.92	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.
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
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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 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

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*Total Metals 250mlHDPE-HNO3	Cl, F, SO4 125mlHDPE-NoPres	RA-226/228 Combined 1L-HDPE-Add HNO3	TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-9		GW		12/16/20	0822	4	1	1	1	1		-01
MW-10		GW		12/17/20	1008	4	1	1	1	1		02
701S-R		GW		12/16/20	1048	3	1	1		1		03
702S		GW		12/16/20	1328	3	1	1		1		04
703S		GW		12/17/20	0912	3	1	1		1		05
704S		GW		12/17/20	0951	3	1	1		1		06
705S		GW		12/15/20	1618	3	1	1		1		07
706S		GW		12/17/20	1303	3	1	1		1		08
707S		GW		12/17/20	1222	3	1	1		1		09
708S		GW		12/16/20	0915	3	1	1		1		10

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

Remarks: ADEQ Reg 22
*Total Metals = Ag, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Hg, Li, Mn, Mo, Ni, Pb, Sb, Se, Sr, Tl, V, Zn

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __UPS X FedEx __Courier _____

Tracking # 9348 1599 0386

Relinquished by : (Signature) — Date: 12/17/20 Time: 1730 — Received by: (Signature)

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

Relinquished by : (Signature) — Date: — Time: — Received for lab by: (Signature) M Pappas — Date: 12-18-20 Time: 1115

Trip Blank Received: Yes / No HCL / MeoH TBR

Temp: WA °C 1.7-.1=1.6 Bottles Received: 32

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 # 129662

G218

Acctnum: GENENLAR
Template: T163927
Prelogin: P807150
PM: 134 - Mark W. Beasley
PB: BF 10/28/20
Shipped Via: FedEX Ground

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

January 26, 2021

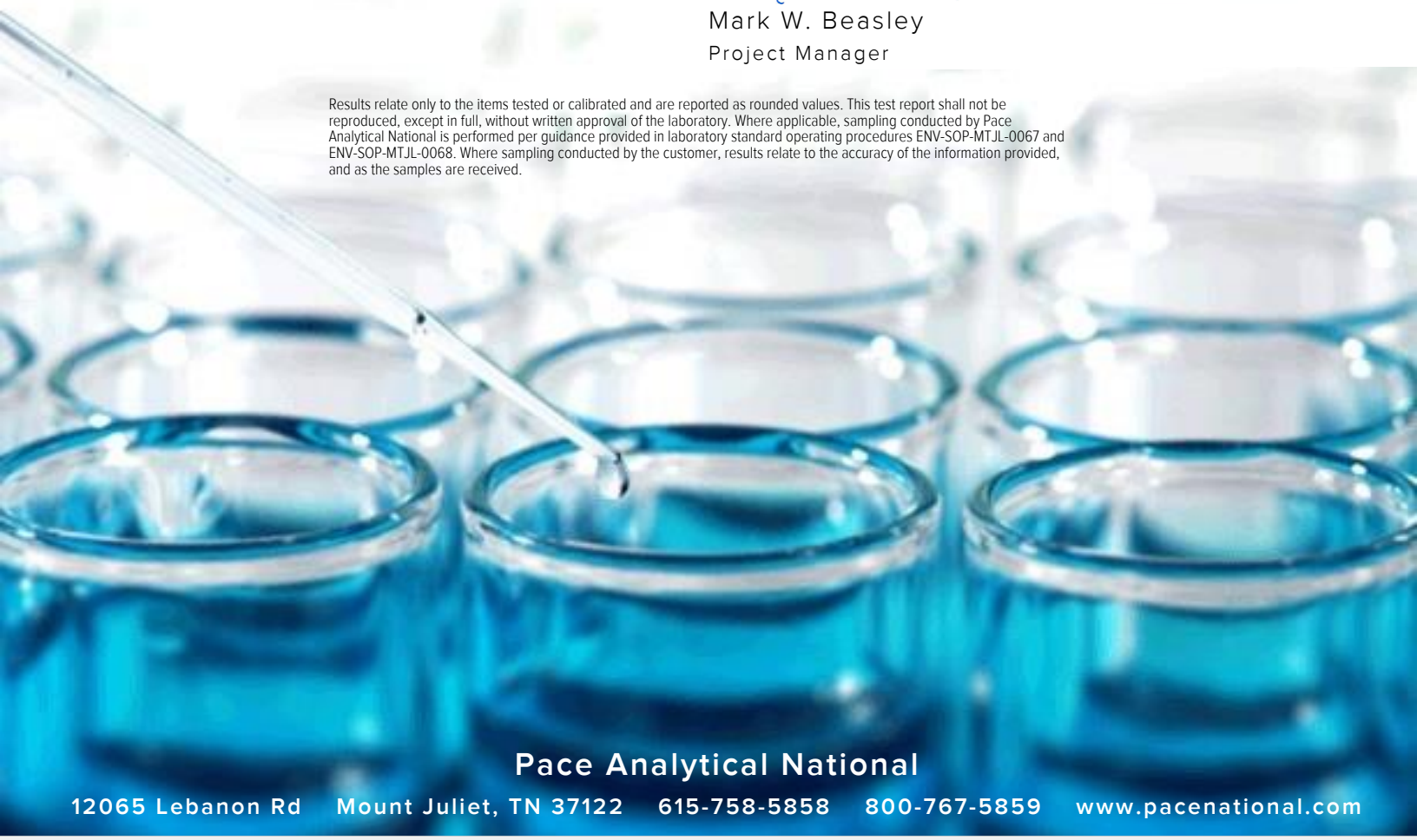
Revised Report

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



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

MW-18 L1298674-05 GW

Collected by: Matt Acree | Collected date/time: 12/17/20 13:50 | 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	WG1596588	1	12/23/20 12:49	12/23/20 13:39	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 09:59	12/29/20 09:59	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597028	1	01/04/21 05:46	01/04/21 22:24	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1599248	1	01/01/21 20:45	01/03/21 20:36	LD	Mt. Juliet, TN

MW-17 L1298674-06 GW

Collected by: Matt Acree | Collected date/time: 12/15/20 13:44 | 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 10:51	12/29/20 10:51	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597028	1	01/04/21 05:46	01/04/21 22:27	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1599248	1	01/01/21 20:45	01/03/21 20:40	LD	Mt. Juliet, TN

MW-13 L1298674-07 GW

Collected by: Matt Acree | Collected date/time: 12/16/20 14:27 | 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	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 11:09	12/29/20 11:09	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597028	1	01/04/21 05:46	01/04/21 22:30	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1599248	1	01/01/21 20:45	01/03/21 20:43	LD	Mt. Juliet, TN

MW-11 L1298674-08 GW

Collected by: Matt Acree | Collected date/time: 12/17/20 11:43 | 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	WG1596588	1	12/23/20 12:49	12/23/20 13:39	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 12:01	12/29/20 12:01	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1597028	1	01/04/21 05:46	01/04/21 22:33	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1599248	1	01/01/21 20:45	01/03/21 20:46	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

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	327000		2820	10000	1	12/23/2020 13:39	WG1596588

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.45	T8	1	12/29/2020 02:08	WG1597849

Sample Narrative:

L1298674-05 WG1597849: 7.45 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	5970		379	1000	1	12/29/2020 09:59	WG1597504
Fluoride	87.7	J	64.0	150	1	12/29/2020 09:59	WG1597504
Sulfate	41400		594	5000	1	12/29/2020 09:59	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 22:24	WG1597028

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	70000		93.6	1000	1	01/03/2021 20:36	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	193000		2820	10000	1	12/22/2020 12:05	WG1595288

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.15	T8	1	12/29/2020 02:08	WG1597849

Sample Narrative:

L1298674-06 WG1597849: 7.15 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	3200		379	1000	1	12/29/2020 10:51	WG1597504
Fluoride	88.0	J	64.0	150	1	12/29/2020 10:51	WG1597504
Sulfate	20400		594	5000	1	12/29/2020 10:51	WG1597504

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	57.3	J	20.0	200	1	01/04/2021 22:27	WG1597028

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	34800		93.6	1000	1	01/03/2021 20:40	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	443000		2820	10000	1	12/23/2020 02:36	WG1596377

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.52	T8	1	12/29/2020 02:08	WG1597849

Sample Narrative:

L1298674-07 WG1597849: 7.52 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	14900		379	1000	1	12/29/2020 11:09	WG1597504
Fluoride	221		64.0	150	1	12/29/2020 11:09	WG1597504
Sulfate	80100		594	5000	1	12/29/2020 11:09	WG1597504

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	162	J	20.0	200	1	01/04/2021 22:30	WG1597028

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	74700		93.6	1000	1	01/03/2021 20:43	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	403000		2820	10000	1	12/23/2020 13:39	WG1596588

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.37	T8	1	12/29/2020 02:08	WG1597849

Sample Narrative:

L1298674-08 WG1597849: 7.37 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	41000		379	1000	1	12/29/2020 12:01	WG1597504
Fluoride	240		64.0	150	1	12/29/2020 12:01	WG1597504
Sulfate	48900		594	5000	1	12/29/2020 12:01	WG1597504

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron	93.4	J	20.0	200	1	01/04/2021 22:33	WG1597028

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Calcium	66300		93.6	1000	1	01/03/2021 20:46	WG1599248

Method Blank (MB)

(MB) R3606763-1 12/22/20 12:05

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	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	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
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	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Dissolved Solids	418000	421000	1	0.715		5

Laboratory Control Sample (LCS)

(LCS) R3606763-2 12/22/20 12:05

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
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	

Method Blank (MB)

(MB) R3607171-1 12/23/20 13:39

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

L1298662-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1298662-06 12/23/20 13:39 • (DUP) R3607171-3 12/23/20 13:39

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	253000	248000	1	2.00		5

L1298662-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1298662-08 12/23/20 13:39 • (DUP) R3607171-4 12/23/20 13:39

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	409000	402000	1	1.73		5

Laboratory Control Sample (LCS)

(LCS) R3607171-2 12/23/20 13:39

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8480000	96.4	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

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

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) 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.

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 # 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

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-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

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 # 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