November 15, 2024

An Annual Groundwater Monitoring and Corrective Action Report (Annual Report) documenting the activities completed in 2020 for the Agremax Staging Area at AES Puerto Rico, LP in Guayama, PR (AES-PR) was completed and placed in the facilities operating record on January 31, 2021, as required by 40 CFR Part 257 §257.90(e)(1) through §257.90(e)(6) and subsequently posted to the AES-PR CCR public website.

This Addendum has been prepared to supplement the 2018 Annual Report. AES Puerto Rico is providing the following, as applicable:

- Laboratory Analytical Reports;
- Well Purging and Sampling and Field Data Sheets; and
- Statistical Analysis Reports.

This information is being provided in the appendices to this Addendum as follows:

- Appendix A – Laboratory Analytical Reports
  Includes laboratory data packages with supporting information, such as case narrative, sample and method summary, analytical results, quality control, and chain-of-custody documentation.
- Appendix B – Well Purging and Sampling and Field Data Sheets
  Includes forms documenting well purging and sampling efforts from groundwater sampling events.
- Appendix C – Statistical Analysis Reports
  Includes statistical evaluation findings and statistical software outputs. A discussion of statistical methods employed can be found in the 2021 CCR Annual Groundwater Monitoring and Corrective Action Report, AES Puerto Rico LP, Guayama, Puerto Rico, which is where this information was first reported.

APPENDIX A
Laboratory Analytical Reports

August 19, 2020

Alberto Meléndez
DNA-ENVIRONMENT, LLC
35 Calle Juan C. Borbón STE 67
Guaynabo, PR 009695375

RE: Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Dear Alberto Meléndez:

Enclosed are the analytical results for sample(s) received by the laboratory on May 19, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - New Orleans
- Pace Analytical Services - Greensburg

Revision 2 - This report replaces the July 13, 2020 report. This project was revised on August 6, 2020 to reflect changes to the case narrative. (Greensburg, PA)

Revision 1 - This report replaces the June 12, 2020 report. This project was revised on July 13, 2020 to correct the sample times for samples 008 and 009 and the Sample ID for 009. The results were also corrected to add flagging qualifiers as indicated on the COC and to reflect the addition of comments to the case narrative. (Greensburg, PA)

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Juan Redondo
juan.redondo@pacelabs.com
(787)720-0319
Project Manager

Enclosures

CERTIFICATIONS

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Pace Analytical Services New Orleans

California Env. Lab Accreditation Program Branch: 11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC): E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP): 02006
Texas Commission on Env. Quality (NELAC): T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-00119

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

SAMPLE SUMMARY

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Lab ID	Sample ID	Matrix	Date Collected	Date Received
20155075001	**AES-MW1-051820**	Water	05/18/20 09:45	05/19/20 11:15
20155075002	**AES-MW2-051820**	Water	05/18/20 11:05	05/19/20 11:15
20155075003	**AES-MW3-051820**	Water	05/18/20 13:27	05/19/20 11:15
20155075004	**AES-MW4-051820**	Water	05/18/20 15:07	05/19/20 11:15
20155075005	**AES-MW4-DUP-051820**	Water	05/18/20 15:24	05/19/20 11:15
20155075006	**AES-MW5-051820**	Water	05/18/20 17:27	05/19/20 11:15
20155075007	**AES-FB-051820**	Water	05/18/20 17:29	05/19/20 11:15
20155075008	**AES-MW2-051820 MS**	Water	05/18/20 11:18	05/19/20 11:15
20155075009	**AES-MW2-051820 MSD**	Water	05/18/20 11:32	05/19/20 11:15

SAMPLE ANALYTE COUNT

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
20155075001	**AES-MW1-051820**	EPA 6020	KJR	19	PASI-N
		EPA 7470	AJS	1	PASI-N
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2320B	KMM	5	PASI-N
		SM 2540C	DPF	1	PASI-N
		EPA 300.0	NTG	1	PASI-N
		SM 4500-Cl-E	MHM	1	PASI-N
		ASTM D516-90,02	MHM	1	PASI-N
20155075002	**AES-MW2-051820**	EPA 6020	KJR	19	PASI-N
		EPA 7470	AJS	1	PASI-N
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2320B	KMM	5	PASI-N
		SM 2540C	DPF	1	PASI-N
		EPA 300.0	NTG	1	PASI-N
		SM 4500-Cl-E	MHM	1	PASI-N
		ASTM D516-90,02	MHM	1	PASI-N
20155075003	**AES-MW3-051820**	EPA 6020	KJR	19	PASI-N
		EPA 7470	AJS	1	PASI-N
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2320B	KMM	5	PASI-N
		SM 2540C	DPF	1	PASI-N
		EPA 300.0	NTG	1	PASI-N
		SM 4500-Cl-E	MHM	1	PASI-N
		ASTM D516-90,02	MHM	1	PASI-N
20155075004	**AES-MW4-051820**	EPA 6020	KJR	19	PASI-N
		EPA 7470	AJS	1	PASI-N
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2320B	KMM	5	PASI-N
		SM 2540C	DPF	1	PASI-N

SAMPLE ANALYTE COUNT

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 300.0	NTG	1	PASI-N
		SM 4500-Cl-E	MHM	1	PASI-N
		ASTM D516-90,02	MHM	1	PASI-N
20155075005	**AES-MW4-DUP-051820**	EPA 6020	KJR	19	PASI-N
		EPA 7470	AJS	1	PASI-N
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2320B	KMM	5	PASI-N
		SM 2540C	DPF	1	PASI-N
		EPA 300.0	NTG	1	PASI-N
		SM 4500-Cl-E	MHM	1	PASI-N
		ASTM D516-90,02	MHM	1	PASI-N
20155075006	**AES-MW5-051820**	EPA 6020	KJR	19	PASI-N
		EPA 7470	AJS	1	PASI-N
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2320B	KMM	5	PASI-N
		SM 2540C	DPF	1	PASI-N
		EPA 300.0	NTG	1	PASI-N
		SM 4500-Cl-E	MHM	1	PASI-N
		ASTM D516-90,02	MHM	1	PASI-N
20155075007	**AES-FB-051820**	EPA 6020	KJR	19	PASI-N
		EPA 7470	AJS	1	PASI-N
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2320B	KMM	5	PASI-N
		SM 2540C	DPF	1	PASI-N
		EPA 300.0	NTG	1	PASI-N
		SM 4500-Cl-E	MHM	1	PASI-N
		ASTM D516-90,02	MHM	1	PASI-N
20155075008	**AES-MW2-051820 MS**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
20155075009	**AES-MW2-051820 MSD**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

SAMPLE ANALYTE COUNT

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory

PASI-N = Pace Analytical Services - New Orleans
PASI-PA = Pace Analytical Services - Greensburg

PROJECT NARRATIVE

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Date: August 19, 2020

After additional review by the quality department, it was confirmed that deviations noted on MS/MSD were due to sample matrix interferences.

Pace uses Total Radium instead of equivalent "Combined Radium -226 and Radium -228" naming convention. The sum calculation method used for " Total Radium" is as defined under the CCR rule.

Blank recoveries were below the reporting limit and deemed non detected.

LCS recoveries were within acceptable ranges further supporting matrix interferences.

Identical spiking on the LCS, MS and MSD in conjunction with consistent recovery on the MS in comparison with the MSD support the indicated matrix effects of the sample.

Matrix interferences were noted on both EPA 6020 and EPA 300.0 results.

PROJECT NARRATIVE

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Method: **EPA 6020**
Description: 6020 MET ICPMS
Client: DNA-ENVIRONMENT, LLC
Date: August 19, 2020

General Information:
7 samples were analyzed for EPA 6020 by Pace Analytical Services New Orleans. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 186220

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 20155075002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 857332)
  - Boron
  - Calcium
  - Manganese
  - Sodium
- MSD (Lab ID: 857333)
  - Boron
  - Calcium
  - Magnesium
  - Manganese

Additional Comments:

REPORT OF LABORATORY ANALYSIS

PROJECT NARRATIVE

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Method: **EPA 6020**
Description: 6020 MET ICPMS
Client: DNA-ENVIRONMENT, LLC
Date: August 19, 2020

Analyte Comments:

QC Batch: 186220

P8: Analyte was detected in the method blank. All associated samples had concentrations of at least ten times greater than the blank or were below the reporting limit.

- AES-FB-051820 (Lab ID: 20155075007)
  - Magnesium
- AES-MW1-051820 (Lab ID: 20155075001)
  - Molybdenum
- AES-MW2-051820 (Lab ID: 20155075002)
  - Molybdenum
- AES-MW5-051820 (Lab ID: 20155075006)
  - Molybdenum

PROJECT NARRATIVE

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Method: **EPA 7470**
Description: 7470 Mercury
Client: DNA-ENVIRONMENT, LLC
Date: August 19, 2020

General Information:
7 samples were analyzed for EPA 7470 by Pace Analytical Services New Orleans. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 7470 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Method: **EPA 9315**
Description: 9315 Total Radium
Client: DNA-ENVIRONMENT, LLC
Date: August 19, 2020

General Information:
9 samples were analyzed for EPA 9315 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Method: **EPA 9320**
Description: 9320 Radium 228
Client: DNA-ENVIRONMENT, LLC
Date: August 19, 2020

General Information:
9 samples were analyzed for EPA 9320 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Method: **Total Radium Calculation**
Description: Total Radium 228+226
Client: DNA-ENVIRONMENT, LLC
Date: August 19, 2020

General Information:
7 samples were analyzed for Total Radium Calculation by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Method: **SM 2320B**
Description: 2320B Alkalinity
Client: DNA-ENVIRONMENT, LLC
Date: August 19, 2020

General Information:
7 samples were analyzed for SM 2320B by Pace Analytical Services New Orleans. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: DNA-ENVIRONMENT, LLC
Date: August 19, 2020

General Information:
7 samples were analyzed for SM 2540C by Pace Analytical Services New Orleans. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: DNA-ENVIRONMENT, LLC
Date: August 19, 2020

General Information:
7 samples were analyzed for EPA 300.0 by Pace Analytical Services New Orleans. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 186087

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 20155075002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 857078)
  - Fluoride

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Method: **SM 4500-Cl-E**
Description: 4500 Chloride
Client: DNA-ENVIRONMENT, LLC
Date: August 19, 2020

General Information:
7 samples were analyzed for SM 4500-Cl-E by Pace Analytical Services New Orleans. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Method: **ASTM D516-90,02**
Description: ASTM D516-9002 Sulfate Water
Client: DNA-ENVIRONMENT, LLC
Date: August 19, 2020

General Information:
7 samples were analyzed for ASTM D516-90,02 by Pace Analytical Services New Orleans. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical®
www.pacelabs.com

ANALYTICAL RESULTS

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Sample: AES-MW1-051820 **Lab ID: 20155075001** Collected: 05/18/20 09:45 Received: 05/19/20 11:16 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - New Orleans								
Collected By	**DNA**				1		05/18/20 09:45		
Collected Date	**05-18-20**				1		05/18/20 09:45		
Collected Time	**09:45**				1		05/18/20 09:45		
Field pH	**7.13 SU**	Std. Units			1		05/18/20 09:45		
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - New Orleans								
Antimony	**0.00063U**	mg/L	0.0010	0.00063	1	05/21/20 07:42	05/22/20 15:45	7440-36-0	
Arsenic	**0.00057J**	mg/L	0.0010	0.00020	1	05/21/20 07:42	05/22/20 15:45	7440-38-2	
Barium	**0.047**	mg/L	0.0010	0.00036	1	05/21/20 07:42	05/22/20 15:45	7440-39-3	
Beryllium	**0.00012U**	mg/L	0.0010	0.00012	1	05/21/20 07:42	05/22/20 15:45	7440-41-7	
Boron	**0.32**	mg/L	0.050	0.049	10	05/21/20 07:42	06/01/20 10:27	7440-42-8	
Cadmium	**0.000080U**	mg/L	0.0010	0.000080	1	05/21/20 07:42	05/22/20 15:45	7440-43-9	
Calcium	**172**	mg/L	0.10	0.084	1	05/21/20 07:42	05/22/20 15:45	7440-70-2	
Chromium	**0.00062U**	mg/L	0.0010	0.00062	1	05/21/20 07:42	05/22/20 15:45	7440-47-3	
Cobalt	**0.00046J**	mg/L	0.0010	0.000060	1	05/21/20 07:42	05/22/20 15:45	7440-48-4	
Iron	**0.18**	mg/L	0.10	0.049	1	05/21/20 07:42	05/22/20 15:45	7439-89-6	
Lead	**0.000070U**	mg/L	0.0010	0.000070	1	05/21/20 07:42	05/22/20 15:45	7439-92-1	
Lithium	**0.00049U**	mg/L	0.0010	0.00049	1	05/21/20 07:42	05/22/20 15:45	7439-93-2	
Magnesium	**67.5**	mg/L	0.10	0.00060	1	05/21/20 07:42	05/22/20 15:45	7439-95-4	
Manganese	**0.055**	mg/L	0.0050	0.0045	1	05/21/20 07:42	05/22/20 15:45	7439-96-5	
Molybdenum	**0.00076J**	mg/L	0.0030	0.00061	1	05/21/20 07:42	05/22/20 15:45	7439-98-7	P8
Potassium	**0.98**	mg/L	0.10	0.085	1	05/21/20 07:42	05/22/20 15:45	7440-09-7	
Selenium	**0.0014**	mg/L	0.0010	0.00037	1	05/21/20 07:42	05/22/20 15:45	7782-49-2	
Sodium	**297**	mg/L	0.10	0.078	1	05/21/20 07:42	05/22/20 15:45	7440-23-5	
Thallium	**0.000080U**	mg/L	0.00050	0.000080	1	05/21/20 07:42	05/22/20 15:45	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - New Orleans								
Mercury	**0.000064U**	mg/L	0.00020	0.000064	1	05/21/20 09:20	05/21/20 13:50	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - New Orleans								
Alkalinity, Hydroxide (CaCO3)	**2.0U**	mg/L	2.0	2.0	1		05/27/20 09:45		
Alkalinity, Phenolphthalein	**2.0U**	mg/L	2.0	2.0	1		05/27/20 09:45		
Alkalinity, Total as CaCO3	**264**	mg/L	2.0	2.0	1		05/27/20 09:45		
Alkalinity,Bicarbonate (CaCO3)	**264**	mg/L	2.0	2.0	1		05/27/20 09:45		
Alkalinity,Carbonate (CaCO3)	**2.0U**	mg/L	2.0	2.0	1		05/27/20 09:45		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - New Orleans								
Total Dissolved Solids	**1740**	mg/L	10.0	10.0	1		05/20/20 15:47		

REPORT OF LABORATORY ANALYSIS

ANALYTICAL RESULTS

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Sample: AES-MW1-051820 **Lab ID: 20155075001** Collected: 05/18/20 09:45 Received: 05/19/20 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - New Orleans								
Fluoride	**0.40**	mg/L	0.10	0.041	1		05/20/20 16:16	16984-48-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - New Orleans								
Chloride	**539**	mg/L	10.0	8.4	10		05/22/20 10:46	16887-00-6	
ASTM D516-9002 Sulfate Water	Analytical Method: ASTM D516-90,02 Pace Analytical Services - New Orleans								
Sulfate	**403**	mg/L	50.0	48.0	50		05/22/20 11:35	14808-79-8	

Sample: AES-MW2-051820 **Lab ID: 20155075002** Collected: 05/18/20 11:05 Received: 05/19/20 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - New Orleans								
Collected By	**DNA**				1		05/18/20 11:05		
Collected Date	**05-18-20**				1		05/18/20 11:05		
Collected Time	**11:05**				1		05/18/20 11:05		
Field pH	**7.13 SU**	Std. Units			1		05/18/20 11:05		
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - New Orleans								
Antimony	**0.00063U**	mg/L	0.0010	0.00063	1	05/21/20 07:42	05/22/20 15:27	7440-36-0	
Arsenic	**0.00046J**	mg/L	0.0010	0.00020	1	05/21/20 07:42	05/22/20 15:27	7440-38-2	
Barium	**0.12**	mg/L	0.010	0.0036	10	05/21/20 07:42	06/01/20 10:31	7440-39-3	
Beryllium	**0.00012U**	mg/L	0.0010	0.00012	1	05/21/20 07:42	05/22/20 15:27	7440-41-7	
Boron	**0.22**	mg/L	0.050	0.049	10	05/21/20 07:42	06/01/20 10:31	7440-42-8	M1
Cadmium	**0.000080U**	mg/L	0.0010	0.000080	1	05/21/20 07:42	05/22/20 15:27	7440-43-9	
Calcium	**112**	mg/L	0.10	0.084	1	05/21/20 07:42	05/22/20 15:27	7440-70-2	M1
Chromium	**0.00062U**	mg/L	0.0010	0.00062	1	05/21/20 07:42	05/22/20 15:27	7440-47-3	
Cobalt	**0.00033J**	mg/L	0.0010	0.000060	1	05/21/20 07:42	05/22/20 15:27	7440-48-4	
Iron	**0.049U**	mg/L	0.10	0.049	1	05/21/20 07:42	05/22/20 15:27	7439-89-6	
Lead	**0.000070U**	mg/L	0.0010	0.000070	1	05/21/20 07:42	05/22/20 15:27	7439-92-1	
Lithium	**0.00049U**	mg/L	0.0010	0.00049	1	05/21/20 07:42	05/22/20 15:27	7439-93-2	
Magnesium	**47.0**	mg/L	0.10	0.00060	1	05/21/20 07:42	05/22/20 15:27	7439-95-4	M1
Manganese	**0.68**	mg/L	0.050	0.045	10	05/21/20 07:42	06/01/20 10:31	7439-96-5	M1
Molybdenum	**0.0020J**	mg/L	0.0030	0.00061	1	05/21/20 07:42	05/22/20 15:27	7439-98-7	P8
Potassium	**0.79**	mg/L	0.10	0.085	1	05/21/20 07:42	05/22/20 15:27	7440-09-7	
Selenium	**0.00037U**	mg/L	0.0010	0.00037	1	05/21/20 07:42	05/22/20 15:27	7782-49-2	
Sodium	**56.5**	mg/L	0.10	0.078	1	05/21/20 07:42	05/22/20 15:27	7440-23-5	M1
Thallium	**0.000080U**	mg/L	0.00050	0.000080	1	05/21/20 07:42	05/22/20 15:27	7440-28-0	

REPORT OF LABORATORY ANALYSIS

ANALYTICAL RESULTS

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Sample: AES-MW2-051820 **Lab ID: 20155075002** Collected: 05/18/20 11:05 Received: 05/19/20 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - New Orleans								
Mercury	**0.000064U**	mg/L	0.00020	0.000064	1	05/21/20 09:20	05/21/20 13:53	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - New Orleans								
Alkalinity, Hydroxide (CaCO3)	**2.0U**	mg/L	2.0	2.0	1		05/27/20 10:04		
Alkalinity, Phenolphthalein	**2.0U**	mg/L	2.0	2.0	1		05/27/20 10:04		
Alkalinity, Total as CaCO3	**424**	mg/L	2.0	2.0	1		05/27/20 10:04		
Alkalinity,Bicarbonate (CaCO3)	**424**	mg/L	2.0	2.0	1		05/27/20 10:04		
Alkalinity,Carbonate (CaCO3)	**2.0U**	mg/L	2.0	2.0	1		05/27/20 10:04		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - New Orleans								
Total Dissolved Solids	**545**	mg/L	10.0	10.0	1		05/20/20 15:47		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - New Orleans								
Fluoride	**0.58**	mg/L	0.10	0.041	1		05/20/20 16:34	16984-48-8	M1
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - New Orleans								
Chloride	**64.5**	mg/L	1.0	0.84	1		05/22/20 10:31	16887-00-6	
ASTM D516-9002 Sulfate Water	Analytical Method: ASTM D516-90,02 Pace Analytical Services - New Orleans								
Sulfate	**3.2**	mg/L	1.0	0.96	1		05/22/20 10:34	14808-79-8	

Sample: AES-MW3-051820 **Lab ID: 20155075003** Collected: 05/18/20 13:27 Received: 05/19/20 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - New Orleans								
Collected By	**DNA**				1		05/18/20 13:27		
Collected Date	**05-18-20**				1		05/18/20 13:27		
Collected Time	**13:27**				1		05/18/20 13:27		
Field pH	**7.28 SU**	Std. Units			1		05/18/20 13:27		
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - New Orleans								
Antimony	**0.00063U**	mg/L	0.0010	0.00063	1	05/21/20 07:42	05/22/20 15:50	7440-36-0	
Arsenic	**0.0033**	mg/L	0.0010	0.00020	1	05/21/20 07:42	05/22/20 15:50	7440-38-2	
Barium	**0.66**	mg/L	0.010	0.0036	10	05/21/20 07:42	06/01/20 10:34	7440-39-3	

REPORT OF LABORATORY ANALYSIS

ANALYTICAL RESULTS

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Sample: AES-MW3-051820 **Lab ID: 20155075003** Collected: 05/18/20 13:27 Received: 05/19/20 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - New Orleans								
Beryllium	**0.00012U**	mg/L	0.0010	0.00012	1	05/21/20 07:42	05/22/20 15:50	7440-41-7	
Boron	**0.80**	mg/L	0.050	0.049	10	05/21/20 07:42	06/01/20 10:34	7440-42-8	
Cadmium	**0.000080U**	mg/L	0.0010	0.000080	1	05/21/20 07:42	05/22/20 15:50	7440-43-9	
Calcium	**255**	mg/L	0.10	0.084	1	05/21/20 07:42	05/22/20 15:50	7440-70-2	
Chromium	**0.00062U**	mg/L	0.0010	0.00062	1	05/21/20 07:42	05/22/20 15:50	7440-47-3	
Cobalt	**0.00085J**	mg/L	0.0010	0.000060	1	05/21/20 07:42	05/22/20 15:50	7440-48-4	
Iron	**9.9**	mg/L	0.10	0.049	1	05/21/20 07:42	05/22/20 15:50	7439-89-6	
Lead	**0.000070U**	mg/L	0.0010	0.000070	1	05/21/20 07:42	05/22/20 15:50	7439-92-1	
Lithium	**0.0014**	mg/L	0.0010	0.00049	1	05/21/20 07:42	05/22/20 15:50	7439-93-2	
Magnesium	**406**	mg/L	1.0	0.0060	10	05/21/20 07:42	06/01/20 10:34	7439-95-4	
Manganese	**0.77**	mg/L	0.050	0.045	10	05/21/20 07:42	06/01/20 10:34	7439-96-5	
Molybdenum	**0.064**	mg/L	0.0030	0.00061	1	05/21/20 07:42	05/22/20 15:50	7439-98-7	
Potassium	**9.9**	mg/L	0.10	0.085	1	05/21/20 07:42	05/22/20 15:50	7440-09-7	
Selenium	**0.026**	mg/L	0.0010	0.00037	1	05/21/20 07:42	05/22/20 15:50	7782-49-2	
Sodium	**1640**	mg/L	1.0	0.78	10	05/21/20 07:42	06/01/20 10:34	7440-23-5	
Thallium	**0.000080U**	mg/L	0.00050	0.000080	1	05/21/20 07:42	05/22/20 15:50	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - New Orleans								
Mercury	**0.000064U**	mg/L	0.00020	0.000064	1	05/21/20 09:20	05/21/20 13:59	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - New Orleans								
Alkalinity, Hydroxide (CaCO3)	**2.0U**	mg/L	2.0	2.0	1		05/27/20 10:28		
Alkalinity, Phenolphthalein	**2.0U**	mg/L	2.0	2.0	1		05/27/20 10:28		
Alkalinity, Total as CaCO3	**424**	mg/L	2.0	2.0	1		05/27/20 10:28		
Alkalinity,Bicarbonate (CaCO3)	**424**	mg/L	2.0	2.0	1		05/27/20 10:28		
Alkalinity,Carbonate (CaCO3)	**2.0U**	mg/L	2.0	2.0	1		05/27/20 10:28		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - New Orleans								
Total Dissolved Solids	**6190**	mg/L	10.0	10.0	1		05/20/20 15:47		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - New Orleans								
Fluoride	**0.87**	mg/L	0.10	0.041	1		05/20/20 17:29	16984-48-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - New Orleans								
Chloride	**3730**	mg/L	50.0	42.0	50		05/22/20 11:40	16887-00-6	
ASTM D516-9002 Sulfate Water	Analytical Method: ASTM D516-90,02 Pace Analytical Services - New Orleans								
Sulfate	**633**	mg/L	50.0	48.0	50		05/22/20 11:35	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Sample: AES-MW4-051820 **Lab ID: 20155075004** Collected: 05/18/20 15:07 Received: 05/19/20 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - New Orleans								
Collected By	**DNA**				1		05/18/20 15:07		
Collected Date	**05-18-20**				1		05/18/20 15:07		
Collected Time	**15:07**				1		05/18/20 15:07		
Field pH	**7.43 SU**	Std. Units			1		05/18/20 15:07		
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - New Orleans								
Antimony	**0.00063U**	mg/L	0.0010	0.00063	1	05/21/20 07:42	05/22/20 15:54	7440-36-0	
Arsenic	**0.0035**	mg/L	0.0010	0.00020	1	05/21/20 07:42	05/22/20 15:54	7440-38-2	
Barium	**0.056**	mg/L	0.0010	0.00036	1	05/21/20 07:42	05/22/20 15:54	7440-39-3	
Beryllium	**0.00012U**	mg/L	0.0010	0.00012	1	05/21/20 07:42	05/22/20 15:54	7440-41-7	
Boron	**3.0**	mg/L	0.50	0.49	100	05/21/20 07:42	06/01/20 10:38	7440-42-8	
Cadmium	**0.00018J**	mg/L	0.0010	0.000080	1	05/21/20 07:42	05/22/20 15:54	7440-43-9	
Calcium	**673**	mg/L	1.0	0.84	10	05/21/20 07:42	06/01/20 10:57	7440-70-2	
Chromium	**0.00062U**	mg/L	0.0010	0.00062	1	05/21/20 07:42	05/22/20 15:54	7440-47-3	
Cobalt	**0.0011**	mg/L	0.0010	0.000060	1	05/21/20 07:42	05/22/20 15:54	7440-48-4	
Iron	**15.1**	mg/L	0.10	0.049	1	05/21/20 07:42	05/22/20 15:54	7439-89-6	
Lead	**0.000070U**	mg/L	0.0010	0.000070	1	05/21/20 07:42	05/22/20 15:54	7439-92-1	
Lithium	**0.96**	mg/L	0.010	0.0049	10	05/21/20 07:42	06/01/20 10:57	7439-93-2	
Magnesium	**77.1**	mg/L	0.10	0.00060	1	05/21/20 07:42	05/22/20 15:54	7439-95-4	
Manganese	**4.0**	mg/L	0.50	0.45	100	05/21/20 07:42	06/01/20 10:38	7439-96-5	
Molybdenum	**0.37**	mg/L	0.030	0.0061	10	05/21/20 07:42	06/01/20 10:57	7439-98-7	
Potassium	**1860**	mg/L	1.0	0.85	10	05/21/20 07:42	06/01/20 10:57	7440-09-7	
Selenium	**0.0028**	mg/L	0.0010	0.00037	1	05/21/20 07:42	05/22/20 15:54	7782-49-2	
Sodium	**11900**	mg/L	10.0	7.8	100	05/21/20 07:42	06/01/20 10:38	7440-23-5	
Thallium	**0.000080U**	mg/L	0.00050	0.000080	1	05/21/20 07:42	05/22/20 15:54	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - New Orleans								
Mercury	**0.000064U**	mg/L	0.00020	0.000064	1	05/21/20 09:20	05/21/20 14:02	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - New Orleans								
Alkalinity, Hydroxide (CaCO3)	**2.0U**	mg/L	2.0	2.0	1		05/27/20 10:39		
Alkalinity, Phenolphthalein	**2.0U**	mg/L	2.0	2.0	1		05/27/20 10:39		
Alkalinity, Total as CaCO3	**274**	mg/L	2.0	2.0	1		05/27/20 10:39		
Alkalinity,Bicarbonate (CaCO3)	**274**	mg/L	2.0	2.0	1		05/27/20 10:39		
Alkalinity,Carbonate (CaCO3)	**2.0U**	mg/L	2.0	2.0	1		05/27/20 10:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - New Orleans								
Total Dissolved Solids	**34900**	mg/L	10.0	10.0	1		05/20/20 15:47		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Sample: AES-MW4-051820 **Lab ID: 20155075004** Collected: 05/18/20 15:07 Received: 05/19/20 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - New Orleans								
Fluoride	**0.23**	mg/L	0.10	0.041	1		05/20/20 17:48	16984-48-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - New Orleans								
Chloride	**8340**	mg/L	500	420	500		05/22/20 11:49	16887-00-6	
ASTM D516-9002 Sulfate Water	Analytical Method: ASTM D516-90,02 Pace Analytical Services - New Orleans								
Sulfate	**12800**	mg/L	500	480	500		05/22/20 13:21	14808-79-8	

Sample: AES-MW4-DUP-051820 **Lab ID: 20155075005** Collected: 05/18/20 15:24 Received: 05/19/20 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - New Orleans								
Antimony	**0.00063U**	mg/L	0.0010	0.00063	1	05/21/20 07:42	05/22/20 15:59	7440-36-0	
Arsenic	**0.0026**	mg/L	0.0010	0.00020	1	05/21/20 07:42	05/22/20 15:59	7440-38-2	
Barium	**0.055**	mg/L	0.0010	0.00036	1	05/21/20 07:42	05/22/20 15:59	7440-39-3	
Beryllium	**0.00012U**	mg/L	0.0010	0.00012	1	05/21/20 07:42	05/22/20 15:59	7440-41-7	
Boron	**2.8**	mg/L	0.50	0.49	100	05/21/20 07:42	06/01/20 10:49	7440-42-8	
Cadmium	**0.00020J**	mg/L	0.0010	0.000080	1	05/21/20 07:42	05/22/20 15:59	7440-43-9	
Calcium	**661**	mg/L	1.0	0.84	10	05/21/20 07:42	06/01/20 11:00	7440-70-2	
Chromium	**0.00062U**	mg/L	0.0010	0.00062	1	05/21/20 07:42	05/22/20 15:59	7440-47-3	
Cobalt	**0.0010**	mg/L	0.0010	0.000060	1	05/21/20 07:42	05/22/20 15:59	7440-48-4	
Iron	**14.7**	mg/L	0.10	0.049	1	05/21/20 07:42	05/22/20 15:59	7439-89-6	
Lead	**0.000070U**	mg/L	0.0010	0.000070	1	05/21/20 07:42	05/22/20 15:59	7439-92-1	
Lithium	**0.94**	mg/L	0.010	0.0049	10	05/21/20 07:42	06/01/20 11:00	7439-93-2	
Magnesium	**73.7**	mg/L	0.10	0.00060	1	05/21/20 07:42	05/22/20 15:59	7439-95-4	
Manganese	**3.9**	mg/L	0.50	0.45	100	05/21/20 07:42	06/01/20 10:49	7439-96-5	
Molybdenum	**0.37**	mg/L	0.030	0.0061	10	05/21/20 07:42	06/01/20 11:00	7439-98-7	
Potassium	**1820**	mg/L	1.0	0.85	10	05/21/20 07:42	06/01/20 11:00	7440-09-7	
Selenium	**0.0065**	mg/L	0.0010	0.00037	1	05/21/20 07:42	05/22/20 15:59	7782-49-2	
Sodium	**11400**	mg/L	10.0	7.8	100	05/21/20 07:42	06/01/20 10:49	7440-23-5	
Thallium	**0.000080U**	mg/L	0.00050	0.000080	1	05/21/20 07:42	05/22/20 15:59	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - New Orleans								
Mercury	**0.000064U**	mg/L	0.00020	0.000064	1	05/21/20 09:20	05/21/20 14:04	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - New Orleans								
Alkalinity, Hydroxide (CaCO3)	**2.0U**	mg/L	2.0	2.0	1		05/27/20 10:49		

REPORT OF LABORATORY ANALYSIS

ANALYTICAL RESULTS

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Sample: AES-MW4-DUP-051820 **Lab ID: 20155075005** Collected: 05/18/20 15:24 Received: 05/19/20 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - New Orleans								
Alkalinity, Phenolphthalein	**2.0U**	mg/L	2.0	2.0	1		05/27/20 10:49		
Alkalinity, Total as CaCO3	**292**	mg/L	2.0	2.0	1		05/27/20 10:49		
Alkalinity,Bicarbonate (CaCO3)	**292**	mg/L	2.0	2.0	1		05/27/20 10:49		
Alkalinity,Carbonate (CaCO3)	**2.0U**	mg/L	2.0	2.0	1		05/27/20 10:49		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - New Orleans								
Total Dissolved Solids	**31900**	mg/L	10.0	10.0	1		05/20/20 15:47		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - New Orleans								
Fluoride	**0.24**	mg/L	0.10	0.041	1		05/20/20 18:43	16984-48-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - New Orleans								
Chloride	**9260**	mg/L	500	420	500		05/22/20 11:49	16887-00-6	
ASTM D516-9002 Sulfate Water	Analytical Method: ASTM D516-90,02 Pace Analytical Services - New Orleans								
Sulfate	**13800**	mg/L	500	480	500		05/22/20 13:21	14808-79-8	

Sample: AES-MW5-051820 **Lab ID: 20155075006** Collected: 05/18/20 17:27 Received: 05/19/20 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - New Orleans								
Collected By	**DNA**				1		05/18/20 17:27		
Collected Date	**05-18-20**				1		05/18/20 17:27		
Collected Time	**17:27**				1		05/18/20 17:27		
Field pH	**7.07 SU**	Std. Units			1		05/18/20 17:27		
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - New Orleans								
Antimony	**0.00063U**	mg/L	0.0010	0.00063	1	05/21/20 07:42	05/22/20 16:13	7440-36-0	
Arsenic	**0.0057**	mg/L	0.0010	0.00020	1	05/21/20 07:42	05/22/20 16:13	7440-38-2	
Barium	**0.033**	mg/L	0.0010	0.00036	1	05/21/20 07:42	05/22/20 16:13	7440-39-3	
Beryllium	**0.00012U**	mg/L	0.0010	0.00012	1	05/21/20 07:42	05/22/20 16:13	7440-41-7	
Boron	**0.44**	mg/L	0.050	0.049	10	05/21/20 07:42	06/01/20 11:04	7440-42-8	
Cadmium	**0.000091J**	mg/L	0.0010	0.000080	1	05/21/20 07:42	05/22/20 16:13	7440-43-9	
Calcium	**657**	mg/L	1.0	0.84	10	05/21/20 07:42	06/01/20 11:04	7440-70-2	
Chromium	**0.00062U**	mg/L	0.0010	0.00062	1	05/21/20 07:42	05/22/20 16:13	7440-47-3	
Cobalt	**0.0027**	mg/L	0.0010	0.000060	1	05/21/20 07:42	05/22/20 16:13	7440-48-4	

REPORT OF LABORATORY ANALYSIS

ANALYTICAL RESULTS

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Sample: AES-MW5-051820 **Lab ID: 20155075006** Collected: 05/18/20 17:27 Received: 05/19/20 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - New Orleans								
Iron	**6.7**	mg/L	0.10	0.049	1	05/21/20 07:42	05/22/20 16:13	7439-89-6	
Lead	**0.000070U**	mg/L	0.0010	0.000070	1	05/21/20 07:42	05/22/20 16:13	7439-92-1	
Lithium	**0.0040**	mg/L	0.0010	0.00049	1	05/21/20 07:42	05/22/20 16:13	7439-93-2	
Magnesium	**328**	mg/L	0.10	0.00060	1	05/21/20 07:42	05/22/20 16:13	7439-95-4	
Manganese	**11.8**	mg/L	0.50	0.45	100	05/21/20 07:42	06/01/20 10:53	7439-96-5	
Molybdenum	**0.0025J**	mg/L	0.0030	0.00061	1	05/21/20 07:42	05/22/20 16:13	7439-98-7	P8
Potassium	**9.2**	mg/L	0.10	0.085	1	05/21/20 07:42	05/22/20 16:13	7440-09-7	
Selenium	**0.0020**	mg/L	0.0010	0.00037	1	05/21/20 07:42	05/22/20 16:13	7782-49-2	
Sodium	**2530**	mg/L	1.0	0.78	10	05/21/20 07:42	06/01/20 11:04	7440-23-5	
Thallium	**0.000080U**	mg/L	0.00050	0.000080	1	05/21/20 07:42	05/22/20 16:13	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - New Orleans								
Mercury	**0.000064U**	mg/L	0.00020	0.000064	1	05/21/20 09:20	05/21/20 14:06	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - New Orleans								
Alkalinity, Hydroxide (CaCO3)	**2.0U**	mg/L	2.0	2.0	1		05/27/20 11:01		
Alkalinity, Phenolphthalein	**2.0U**	mg/L	2.0	2.0	1		05/27/20 11:01		
Alkalinity, Total as CaCO3	**406**	mg/L	2.0	2.0	1		05/27/20 11:01		
Alkalinity,Bicarbonate (CaCO3)	**406**	mg/L	2.0	2.0	1		05/27/20 11:01		
Alkalinity,Carbonate (CaCO3)	**2.0U**	mg/L	2.0	2.0	1		05/27/20 11:01		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - New Orleans								
Total Dissolved Solids	**10400**	mg/L	10.0	10.0	1		05/20/20 15:47		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - New Orleans								
Fluoride	**0.041U**	mg/L	0.10	0.041	1		05/20/20 19:02	16984-48-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - New Orleans								
Chloride	**4410**	mg/L	50.0	42.0	50		05/22/20 11:40	16887-00-6	
ASTM D516-9002 Sulfate Water	Analytical Method: ASTM D516-90,02 Pace Analytical Services - New Orleans								
Sulfate	**2560**	mg/L	250	240	250		05/22/20 11:49	14808-79-8	

REPORT OF LABORATORY ANALYSIS

ANALYTICAL RESULTS

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Sample: AES-FB-051820 **Lab ID: 20155075007** Collected: 05/18/20 17:29 Received: 05/19/20 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - New Orleans								
Antimony	**0.00063U**	mg/L	0.0010	0.00063	1	05/21/20 07:42	06/01/20 10:23	7440-36-0	
Arsenic	**0.00020U**	mg/L	0.0010	0.00020	1	05/21/20 07:42	06/01/20 10:23	7440-38-2	
Barium	**0.00036U**	mg/L	0.0010	0.00036	1	05/21/20 07:42	06/01/20 10:23	7440-39-3	
Beryllium	**0.00012U**	mg/L	0.0010	0.00012	1	05/21/20 07:42	06/01/20 10:23	7440-41-7	
Boron	**0.014**	mg/L	0.0050	0.0049	1	05/21/20 07:42	06/01/20 10:23	7440-42-8	
Cadmium	**0.000080U**	mg/L	0.0010	0.000080	1	05/21/20 07:42	06/01/20 10:23	7440-43-9	
Calcium	**0.084U**	mg/L	0.10	0.084	1	05/21/20 07:42	06/01/20 10:23	7440-70-2	
Chromium	**0.00062U**	mg/L	0.0010	0.00062	1	05/21/20 07:42	06/01/20 10:23	7440-47-3	
Cobalt	**0.000060U**	mg/L	0.0010	0.000060	1	05/21/20 07:42	06/01/20 10:23	7440-48-4	
Iron	**0.049U**	mg/L	0.10	0.049	1	05/21/20 07:42	06/01/20 10:23	7439-89-6	
Lead	**0.000070U**	mg/L	0.0010	0.000070	1	05/21/20 07:42	06/01/20 10:23	7439-92-1	
Lithium	**0.00049U**	mg/L	0.0010	0.00049	1	05/21/20 07:42	06/01/20 10:23	7439-93-2	
Magnesium	**0.012J**	mg/L	0.10	0.00060	1	05/21/20 07:42	06/01/20 10:23	7439-95-4	P8
Manganese	**0.0045U**	mg/L	0.0050	0.0045	1	05/21/20 07:42	06/01/20 10:23	7439-96-5	
Molybdenum	**0.022**	mg/L	0.0030	0.00061	1	05/21/20 07:42	06/01/20 10:23	7439-98-7	
Potassium	**0.089J**	mg/L	0.10	0.085	1	05/21/20 07:42	06/01/20 10:23	7440-09-7	
Selenium	**0.00037U**	mg/L	0.0010	0.00037	1	05/21/20 07:42	06/01/20 10:23	7782-49-2	
Sodium	**0.078U**	mg/L	0.10	0.078	1	05/21/20 07:42	06/01/20 10:23	7440-23-5	
Thallium	**0.000080U**	mg/L	0.00050	0.000080	1	05/21/20 07:42	06/01/20 10:23	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - New Orleans								
Mercury	**0.000064U**	mg/L	0.00020	0.000064	1	05/21/20 09:20	05/21/20 14:08	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - New Orleans								
Alkalinity, Hydroxide (CaCO3)	**2.0U**	mg/L	2.0	2.0	1		05/27/20 11:05		
Alkalinity, Phenolphthalein	**2.0U**	mg/L	2.0	2.0	1		05/27/20 11:05		
Alkalinity, Total as CaCO3	**3.0**	mg/L	2.0	2.0	1		05/27/20 11:05		
Alkalinity,Bicarbonate (CaCO3)	**3.0**	mg/L	2.0	2.0	1		05/27/20 11:05		
Alkalinity,Carbonate (CaCO3)	**2.0U**	mg/L	2.0	2.0	1		05/27/20 11:05		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - New Orleans								
Total Dissolved Solids	**45.0**	mg/L	10.0	10.0	1		05/20/20 15:47		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - New Orleans								
Fluoride	**0.041U**	mg/L	0.10	0.041	1		05/20/20 19:20	16984-48-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - New Orleans								
Chloride	**5.6**	mg/L	1.0	0.84	1		05/22/20 10:48	16887-00-6	

REPORT OF LABORATORY ANALYSIS

ANALYTICAL RESULTS

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Sample: AES-FB-051820 **Lab ID: 20155075007** Collected: 05/18/20 17:29 Received: 05/19/20 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
ASTM D516-9002 Sulfate Water	Analytical Method: ASTM D516-90,02 Pace Analytical Services - New Orleans								
Sulfate	**0.96U**	mg/L	1.0	0.96	1		05/22/20 10:54	14808-79-8	

QUALITY CONTROL DATA

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

QC Batch: 186235
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - New Orleans
Associated Lab Samples: 20155075001, 20155075002, 20155075003, 20155075004, 20155075005, 20155075006, 20155075007

METHOD BLANK: 857429 Matrix: Water
Associated Lab Samples: 20155075001, 20155075002, 20155075003, 20155075004, 20155075005, 20155075006, 20155075007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	0.000064U	0.00020	0.000064	05/21/20 13:39	

LABORATORY CONTROL SAMPLE: 857430

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.001	0.0011	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 857431 857432

Parameter	Units	20155075002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	0.000064 U	0.001	0.001	0.00097	0.00095	97	95	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 857645 857646

Parameter	Units	20155412013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	0.001	0.001	0.00094	0.00095	92	93	75-125	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

QC Batch: 186220
QC Batch Method: EPA 3010
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - New Orleans
Associated Lab Samples: 20155075001, 20155075002, 20155075003, 20155075004, 20155075005, 20155075006, 20155075007

METHOD BLANK: 857330 Matrix: Water
Associated Lab Samples: 20155075001, 20155075002, 20155075003, 20155075004, 20155075005, 20155075006, 20155075007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	0.00063U	0.0010	0.00063	05/22/20 11:44	
Arsenic	mg/L	0.00020U	0.0010	0.00020	05/22/20 11:44	
Barium	mg/L	0.00036U	0.0010	0.00036	05/22/20 11:44	
Beryllium	mg/L	0.00012U	0.0010	0.00012	05/22/20 11:44	
Boron	mg/L	0.0049U	0.0050	0.0049	05/22/20 11:44	
Cadmium	mg/L	0.000080U	0.0010	0.000080	05/22/20 11:44	
Calcium	mg/L	0.084U	0.10	0.084	05/22/20 11:44	
Chromium	mg/L	0.00062U	0.0010	0.00062	05/22/20 11:44	
Cobalt	mg/L	0.000060U	0.0010	0.000060	05/22/20 11:44	
Iron	mg/L	0.049U	0.10	0.049	05/22/20 11:44	
Lead	mg/L	0.000070U	0.0010	0.000070	05/22/20 11:44	
Lithium	mg/L	0.00049U	0.0010	0.00049	05/22/20 11:44	
Magnesium	mg/L	0.0017J	0.10	0.00060	05/22/20 11:44	
Manganese	mg/L	0.0045U	0.0050	0.0045	05/22/20 11:44	
Molybdenum	mg/L	0.00063J	0.0030	0.00061	05/22/20 11:44	
Potassium	mg/L	0.085U	0.10	0.085	05/22/20 11:44	
Selenium	mg/L	0.00037U	0.0010	0.00037	05/22/20 11:44	
Sodium	mg/L	0.078U	0.10	0.078	05/22/20 11:44	
Thallium	mg/L	0.000080U	0.00050	0.000080	05/22/20 11:44	

LABORATORY CONTROL SAMPLE: 857331

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.06	0.059	98	85-115	
Arsenic	mg/L	0.06	0.059	98	85-115	
Barium	mg/L	0.06	0.060	101	85-115	
Beryllium	mg/L	0.06	0.061	102	84-115	
Boron	mg/L	0.06	0.063	105	83-116	
Cadmium	mg/L	0.06	0.059	99	85-115	
Calcium	mg/L	6	6.2	103	85-115	
Chromium	mg/L	0.06	0.061	102	85-115	
Cobalt	mg/L	0.06	0.061	101	85-115	
Iron	mg/L	6	6.1	102	85-115	
Lead	mg/L	0.06	0.062	104	85-115	
Lithium	mg/L	0.06	0.063	105	85-115	
Magnesium	mg/L	6	6.2	103	85-115	
Manganese	mg/L	0.06	0.061	101	85-115	
Molybdenum	mg/L	0.06	0.061	102	85-115	
Potassium	mg/L	6	6.5	108	76-124	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

LABORATORY CONTROL SAMPLE: 857331

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Selenium	mg/L	0.06	0.058	97	85-115	
Sodium	mg/L	6	6.3	105	84-117	
Thallium	mg/L	0.06	0.061	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 857332 857333

Parameter	Units	20155075002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	0.00063U	0.06	0.06	0.060	0.059	100	98	80-120	2	20	
Arsenic	mg/L	0.00046J	0.06	0.06	0.058	0.057	96	95	80-120	1	20	
Barium	mg/L	0.12	0.06	0.06	0.18	0.18	101	93	80-120	3	20	
Beryllium	mg/L	0.00012U	0.06	0.06	0.059	0.056	98	94	80-120	5	20	
Boron	mg/L	0.22	0.06	0.06	0.22	0.21	0	-20	75-125	6	20	M1
Cadmium	mg/L	0.000080U	0.06	0.06	0.059	0.059	99	98	80-120	1	20	
Calcium	mg/L	112	6	6	123	120	175	132	80-120	2	20	M1
Chromium	mg/L	0.00062U	0.06	0.06	0.059	0.058	97	96	80-120	1	20	
Cobalt	mg/L	0.00033J	0.06	0.06	0.058	0.057	96	95	80-120	1	20	
Iron	mg/L	0.049U	6	6	6.0	5.9	99	97	80-120	1	20	
Lead	mg/L	0.000070U	0.06	0.06	0.062	0.060	103	100	80-120	3	20	
Lithium	mg/L	0.00049U	0.06	0.06	0.061	0.058	101	96	80-120	5	20	
Magnesium	mg/L	47.0	6	6	54.1	51.6	119	78	80-120	5	20	M1
Manganese	mg/L	0.68	0.06	0.06	0.71	0.70	59	30	80-120	2	20	M1
Molybdenum	mg/L	0.0020J	0.06	0.06	0.064	0.062	103	101	80-120	2	20	
Potassium	mg/L	0.79	6	6	6.9	6.9	101	101	75-125	0	20	
Selenium	mg/L	0.00037U	0.06	0.06	0.054	0.054	90	89	80-120	0	20	
Sodium	mg/L	56.5	6	6	65.4	63.9	148	123	75-125	2	20	M1
Thallium	mg/L	0.000080U	0.06	0.06	0.063	0.061	105	101	80-120	4	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

QC Batch: 186768
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - New Orleans
Associated Lab Samples: 20155075001, 20155075002, 20155075003, 20155075004, 20155075005, 20155075006, 20155075007

LABORATORY CONTROL SAMPLE: 859827

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	53.5	107	90-110	

SAMPLE DUPLICATE: 859829

Parameter	Units	20155075002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	424	434	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

QC Batch: 186134
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - New Orleans
Associated Lab Samples: 20155075001, 20155075002, 20155075003, 20155075004, 20155075005, 20155075006, 20155075007

METHOD BLANK: 856868 Matrix: Water
Associated Lab Samples: 20155075001, 20155075002, 20155075003, 20155075004, 20155075005, 20155075006, 20155075007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	10.0U	10.0	10.0	05/20/20 15:46	

LABORATORY CONTROL SAMPLE: 856869

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	100	106	106	80-120	

SAMPLE DUPLICATE: 856870

Parameter	Units	20155075002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	545	620	13	20	

SAMPLE DUPLICATE: 856871

Parameter	Units	20155111002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	100	90.0	11	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

QC Batch: 186087
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - New Orleans
Associated Lab Samples: 20155075001, 20155075002, 20155075003, 20155075004, 20155075005, 20155075006, 20155075007

METHOD BLANK: 856499 Matrix: Water
Associated Lab Samples: 20155075001, 20155075002, 20155075003, 20155075004, 20155075005, 20155075006, 20155075007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	0.041U	0.10	0.041	05/20/20 14:44	

LABORATORY CONTROL SAMPLE: 856500

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2	1.9	97	90-110	

MATRIX SPIKE SAMPLE: 857078

Parameter	Units	20155075002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	0.58	10	9.3	88	90-110	M1

SAMPLE DUPLICATE: 857077

Parameter	Units	20155075002 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	0.58	0.64	10	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

QC Batch: 186423 | Analysis Method: SM 4500-Cl-E
QC Batch Method: SM 4500-Cl-E | Analysis Description: 4500 Chloride
Laboratory: Pace Analytical Services - New Orleans
Associated Lab Samples: 20155075001, 20155075002, 20155075003, 20155075004, 20155075005, 20155075006, 20155075007

METHOD BLANK: 858372 Matrix: Water
Associated Lab Samples: 20155075001, 20155075002, 20155075003, 20155075004, 20155075005, 20155075006, 20155075007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.84U	1.0	0.84	05/22/20 10:31	

LABORATORY CONTROL SAMPLE: 858373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	104	109	105	90-110	

MATRIX SPIKE SAMPLE: 858375

Parameter	Units	20155075002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	64.5	100	183	119	75-125	

SAMPLE DUPLICATE: 858374

Parameter	Units	20155075002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	64.5	64.5	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

QC Batch: 186424
QC Batch Method: ASTM D516-90,02
Analysis Method: ASTM D516-90,02
Analysis Description: ASTM D516-9002 Sulfate Water
Laboratory: Pace Analytical Services - New Orleans
Associated Lab Samples: 20155075001, 20155075002, 20155075003, 20155075004, 20155075005, 20155075006, 20155075007

METHOD BLANK: 858376 Matrix: Water
Associated Lab Samples: 20155075001, 20155075002, 20155075003, 20155075004, 20155075005, 20155075006, 20155075007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	0.96U	1.0	0.96	05/22/20 10:34	

LABORATORY CONTROL SAMPLE: 858377

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	19.7	99	90-110	

MATRIX SPIKE SAMPLE: 858379

Parameter	Units	20155075002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	3.2	10	12.2	90	75-125	

SAMPLE DUPLICATE: 858378

Parameter	Units	20155075002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	3.2	3.0	6	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Sample: AES-MW1-051820 **Lab ID: 20155075001** Collected: 05/18/20 09:45 Received: 05/19/20 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0950U ± 0.140 (0.300) C:96% T:NA**	pCi/L	06/07/20 07:35	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.155U ± 0.447 (0.925) C:73% T:84%**	pCi/L	06/09/20 17:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.250U ± 0.587 (1.23)**	pCi/L	06/10/20 14:33	7440-14-4	

Sample: AES-MW2-051820 **Lab ID: 20155075002** Collected: 05/18/20 11:05 Received: 05/19/20 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.131U ± 0.194 (0.426) C:96% T:NA**	pCi/L	06/07/20 07:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.388U ± 0.376 (0.733) C:71% T:86%**	pCi/L	06/09/20 17:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.519U ± 0.570 (1.16)**	pCi/L	06/10/20 14:33	7440-14-4	

Sample: AES-MW3-051820 **Lab ID: 20155075003** Collected: 05/18/20 13:27 Received: 05/19/20 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0469U ± 0.123 (0.299) C:96% T:NA**	pCi/L	06/07/20 07:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.206U ± 0.422 (0.865) C:68% T:81%**	pCi/L	06/09/20 17:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.253U ± 0.545 (1.16)**	pCi/L	06/10/20 14:33	7440-14-4	

REPORT OF LABORATORY ANALYSIS

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Sample: AES-MW4-051820 **Lab ID: 20155075004** Collected: 05/18/20 15:07 Received: 05/19/20 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 9315	**0.0801U ± 0.138 (0.311) C:103% T:NA**	pCi/L	06/07/20 07:37	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 9320	**0.643U ± 0.489 (0.924) C:69% T:75%**	pCi/L	06/09/20 17:45	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.723U ± 0.627 (1.24)**	pCi/L	06/10/20 14:33	7440-14-4	

Sample: AES-MW4-DUP-051820 **Lab ID: 20155075005** Collected: 05/18/20 15:24 Received: 05/19/20 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 9315	**0.104U ± 0.151 (0.328) C:101% T:NA**	pCi/L	06/07/20 07:37	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 9320	**0.0958U ± 0.437 (0.916) C:70% T:81%**	pCi/L	06/09/20 17:45	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.200U ± 0.588 (1.24)**	pCi/L	06/10/20 14:33	7440-14-4	

Sample: AES-MW5-051820 **Lab ID: 20155075006** Collected: 05/18/20 17:27 Received: 05/19/20 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 9315	**-0.0139U ± 0.165 (0.446) C:97% T:NA**	pCi/L	06/07/20 07:37	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 9320	**0.522U ± 0.442 (0.846) C:67% T:80%**	pCi/L	06/09/20 17:45	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.522U ± 0.607 (1.29)**	pCi/L	06/10/20 14:33	7440-14-4	

REPORT OF LABORATORY ANALYSIS

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Sample: AES-FB-051820 **Lab ID: 20155075007** Collected: 05/18/20 17:29 Received: 05/19/20 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 9315	**-0.0393U ± 0.116 (0.366) C:90% T:NA**	pCi/L	06/07/20 07:51	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 9320	**0.404U ± 0.500 (0.999) C:67% T:86%**	pCi/L	06/09/20 17:45	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.404U ± 0.616 (1.37)**	pCi/L	06/10/20 14:33	7440-14-4	

Sample: AES-MW2-051820 MS **Lab ID: 20155075008** Collected: 05/18/20 11:18 Received: 05/19/20 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 9315	**104.85 %REC ± NA (NA) C:NA T:NA**	pCi/L	06/07/20 07:52	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 9320	**108.24 %REC ± NA (NA) C:NA T:NA**	pCi/L	06/09/20 17:46	15262-20-1	

Sample: AES-MW2-051820 MSD **Lab ID: 20155075009** Collected: 05/18/20 11:32 Received: 05/19/20 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 9315	**93.76 %REC 11.17 RPD ± NA (NA) C:NA T:NA**	pCi/L	06/07/20 07:53	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 9320	**82.40 %REC 27.12 RPD ± NA (NA) C:NA T:NA**	pCi/L	06/09/20 17:46	15262-20-1	

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL - RADIOCHEMISTRY

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

QC Batch: 398939
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 20155075001, 20155075002, 20155075003, 20155075004, 20155075005, 20155075006, 20155075007, 20155075008, 20155075009

METHOD BLANK: 1931937 Matrix: Water
Associated Lab Samples: 20155075001, 20155075002, 20155075003, 20155075004, 20155075005, 20155075006, 20155075007, 20155075008, 20155075009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0762 ± 0.159 (0.371) C:95% T:NA	pCi/L	06/07/20 07:34	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL - RADIOCHEMISTRY

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

QC Batch: 399001 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 20155075001, 20155075002, 20155075003, 20155075004, 20155075005, 20155075006, 20155075007, 20155075008, 20155075009

METHOD BLANK: 1932186 Matrix: Water
Associated Lab Samples: 20155075001, 20155075002, 20155075003, 20155075004, 20155075005, 20155075006, 20155075007, 20155075008, 20155075009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.729 ± 0.503 (0.940) C:69% T:78%	pCi/L	06/09/20 17:44	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

QUALIFIERS

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

WORKORDER QUALIFIERS

WO: 20155075

[1]	Pace uses Total Radium instead of equivalent "Combined Radium -226 and Radium -228" naming convention. The sum calculation method used for " Total Radium" is as defined under the CCR rule.

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P8	Analyte was detected in the method blank. All associated samples had concentrations of at least ten times greater than the blank or were below the reporting limit.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
20155075001	**AES-MW1-051820**				
20155075002	**AES-MW2-051820**				
20155075003	**AES-MW3-051820**				
20155075004	**AES-MW4-051820**				
20155075006	**AES-MW5-051820**				
20155075001	**AES-MW1-051820**	EPA 3010	186220	EPA 6020	186286
20155075002	**AES-MW2-051820**	EPA 3010	186220	EPA 6020	186286
20155075003	**AES-MW3-051820**	EPA 3010	186220	EPA 6020	186286
20155075004	**AES-MW4-051820**	EPA 3010	186220	EPA 6020	186286
20155075005	**AES-MW4-DUP-051820**	EPA 3010	186220	EPA 6020	186286
20155075006	**AES-MW5-051820**	EPA 3010	186220	EPA 6020	186286
20155075007	**AES-FB-051820**	EPA 3010	186220	EPA 6020	186286
20155075001	**AES-MW1-051820**	EPA 7470	186235	EPA 7470	186364
20155075002	**AES-MW2-051820**	EPA 7470	186235	EPA 7470	186364
20155075003	**AES-MW3-051820**	EPA 7470	186235	EPA 7470	186364
20155075004	**AES-MW4-051820**	EPA 7470	186235	EPA 7470	186364
20155075005	**AES-MW4-DUP-051820**	EPA 7470	186235	EPA 7470	186364
20155075006	**AES-MW5-051820**	EPA 7470	186235	EPA 7470	186364
20155075007	**AES-FB-051820**	EPA 7470	186235	EPA 7470	186364
20155075001	**AES-MW1-051820**	EPA 9315	398939		
20155075002	**AES-MW2-051820**	EPA 9315	398939		
20155075003	**AES-MW3-051820**	EPA 9315	398939		
20155075004	**AES-MW4-051820**	EPA 9315	398939		
20155075005	**AES-MW4-DUP-051820**	EPA 9315	398939		
20155075006	**AES-MW5-051820**	EPA 9315	398939		
20155075007	**AES-FB-051820**	EPA 9315	398939		
20155075008	**AES-MW2-051820 MS**	EPA 9315	398939		
20155075009	**AES-MW2-051820 MSD**	EPA 9315	398939		
20155075001	**AES-MW1-051820**	EPA 9320	399001		
20155075002	**AES-MW2-051820**	EPA 9320	399001		
20155075003	**AES-MW3-051820**	EPA 9320	399001		
20155075004	**AES-MW4-051820**	EPA 9320	399001		
20155075005	**AES-MW4-DUP-051820**	EPA 9320	399001		
20155075006	**AES-MW5-051820**	EPA 9320	399001		
20155075007	**AES-FB-051820**	EPA 9320	399001		
20155075008	**AES-MW2-051820 MS**	EPA 9320	399001		
20155075009	**AES-MW2-051820 MSD**	EPA 9320	399001		
20155075001	**AES-MW1-051820**	Total Radium Calculation	400294		
20155075002	**AES-MW2-051820**	Total Radium Calculation	400294		
20155075003	**AES-MW3-051820**	Total Radium Calculation	400294		
20155075004	**AES-MW4-051820**	Total Radium Calculation	400294		
20155075005	**AES-MW4-DUP-051820**	Total Radium Calculation	400294		
20155075006	**AES-MW5-051820**	Total Radium Calculation	400294		
20155075007	**AES-FB-051820**	Total Radium Calculation	400294		
20155075001	**AES-MW1-051820**	SM 2320B	186768		
20155075002	**AES-MW2-051820**	SM 2320B	186768		

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR GW MONITORING, AES - PR
Pace Project No.: 20155075

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
20155075003	**AES-MW3-051820**	SM 2320B	186768		
20155075004	**AES-MW4-051820**	SM 2320B	186768		
20155075005	**AES-MW4-DUP-051820**	SM 2320B	186768		
20155075006	**AES-MW5-051820**	SM 2320B	186768		
20155075007	**AES-FB-051820**	SM 2320B	186768		
20155075001	**AES-MW1-051820**	SM 2540C	186134		
20155075002	**AES-MW2-051820**	SM 2540C	186134		
20155075003	**AES-MW3-051820**	SM 2540C	186134		
20155075004	**AES-MW4-051820**	SM 2540C	186134		
20155075005	**AES-MW4-DUP-051820**	SM 2540C	186134		
20155075006	**AES-MW5-051820**	SM 2540C	186134		
20155075007	**AES-FB-051820**	SM 2540C	186134		
20155075001	**AES-MW1-051820**	EPA 300.0	186087		
20155075002	**AES-MW2-051820**	EPA 300.0	186087		
20155075003	**AES-MW3-051820**	EPA 300.0	186087		
20155075004	**AES-MW4-051820**	EPA 300.0	186087		
20155075005	**AES-MW4-DUP-051820**	EPA 300.0	186087		
20155075006	**AES-MW5-051820**	EPA 300.0	186087		
20155075007	**AES-FB-051820**	EPA 300.0	186087		
20155075001	**AES-MW1-051820**	SM 4500-Cl-E	186423		
20155075002	**AES-MW2-051820**	SM 4500-Cl-E	186423		
20155075003	**AES-MW3-051820**	SM 4500-Cl-E	186423		
20155075004	**AES-MW4-051820**	SM 4500-Cl-E	186423		
20155075005	**AES-MW4-DUP-051820**	SM 4500-Cl-E	186423		
20155075006	**AES-MW5-051820**	SM 4500-Cl-E	186423		
20155075007	**AES-FB-051820**	SM 4500-Cl-E	186423		
20155075001	**AES-MW1-051820**	ASTM D516-90,02	186424		
20155075002	**AES-MW2-051820**	ASTM D516-90,02	186424		
20155075003	**AES-MW3-051820**	ASTM D516-90,02	186424		
20155075004	**AES-MW4-051820**	ASTM D516-90,02	186424		
20155075005	**AES-MW4-DUP-051820**	ASTM D516-90,02	186424		
20155075006	**AES-MW5-051820**	ASTM D516-90,02	186424		
20155075007	**AES-FB-051820**	ASTM D516-90,02	186424		

WO# : 20155075

20155075

14687

Pace Analytical

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

Lab Number or MTJL Log-In Number Here

ALL SHADED AREAS are for LAB USE ONLY

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Report To: Alberto Melendez	Email To: alberto.melendez@dnaenv.com
Copy To:	Site Collection Info/Address: AES Puerto Rico LP, Guayama, PR
Customer Project Name/Number: CCR Groundwater Monitoring, AES Puerto Rico LP, Guayama, PR	State: PR / County/City: Guayama / Time Zone Collected: PT MT CT ET (Zone = Atlantic Time)
Phone: 787-209-6386 Email: alberto.melendez@dnaenv.com	Site/Facility ID #
Collected by (print): VICENTE PEREZ	Purchase Order #
Collected by (signature):	Quote #
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive [ ] Hold	Turnaround Date Required: Regular TAT
	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)
	Compliance Monitoring? [ ] Yes [ ] No
	DW PWS ID #:
	DW Location Code #:
	Immediately Packed on Ice? [X] Yes [ ] No
	Field Filtered (if applicable): [ ] Yes [X] No
	Analysis:

Container Preservative Type **: U | 1 | 1

Lab Project Manager: Juan Redondo

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	SM4500_Cl_E-Chloride, Field pH, EPA_300-Fluoride, ASTM_D516-Sulfate, SM2540C-TDS, 2320B-Alkalinity	6020, 7470- Total Metals (Sb,As,Ba,Be,B,Cd,Ca,Cr,Co,Pb,Li,Mo,Se,Tl, Fe,Mg,Mn,K,Na; 7470-Hg)	9315_Ra226, 9320_Ra228, Radium-228 & Radium-228 combined							Field pH (SU):	LAB USE ONLY - Lab Sample # / Comments
AES-MW1- 051820	GW	G	5.18.20	0945				4	X	X	X							7.13	
AES-MW2- 051820	GW	G		1105				4	X	X	X							7.13	
AES-MW2- 051820 MS	GW	G		1118				4	X	X	X							-	
AES-MW2- 051820 MSD	GW	G		1132				4	X	X	X							-	
AES-MW3- 051820	GW	G		1327				4	X	X	X							7.28	
AES-MW4- 051820	GW	G		1507				4	X	X	X							7.43	
AES-MW4-DUP- 051820	GW	G		1524				4	X	X	X							-	
AES-MW5- 051820	GW	G		1727				4	X	X	X							7.07	
AES-FB- 051820	Water	G		1729				4	X	X	X							-	

LAB Profile/Line:

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on Ice	Y	N	NA
VOA Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

Customer Remarks/ Special Conditions/ Possible Hazards:

Temp Inorganics 3.1°C

Temp RADS. 23.1°C

Type of Ice Used: (Wet) Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): (Y) N N/A

Packing Material Used:

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: (FEDEX) [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier

	Date/Time		Date/Time
Relinquished by/Company : (Signature)	5/19/20 11:15	Received by/Company : (Signature) PACE	5/19/20 11:15
Relinquished by/Company : (Signature)	5/19/20 1300	Received by/Company : (Signature) FedEx	5/19/20 1300
Relinquished by/Company : (Signature) FedEx	5/20/20 8:20	Received by/Company : (Signature) Alexa Pace	5/20/20 8:20

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received:	Y	N	NA
Therm ID #: 10			
Cooler 1 Temp Upon Receipt: 1.1			oC
Cooler 1 Therm Corr. Factor:			oC
Cooler 1 Corrected Temp:			oC

Comments:

Trip Blank Received: Y N N/A

HCl MeOH TSP Other

NonConformance(s): YES / NO

Page ____ of ____

F-ALL-C-010-rev.00, 05Jul2018

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Rece

Project

WO#: 20155075

PM: JAR1 **Due Date: 06/03/20**

CLIENT: 98-DNAENVIRO

Courier: ☐ Pace Courier ☐ Hired Courier ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals intact:** ☑Yes ☐No

Therometer Used: ☐ Therm Fisher IR 7 ☑ Therm Fisher IR 10

Type of Ice: (Wet) Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 5/20/20 AL

Temp must be measured from Temperature blank when present

			Comments:
Temperature Blank Present"?	☐Yes	☑No ☐N/A	1
Chain of Custody Present:	☑Yes	☐No ☐N/A	2
Chain of Custody Complete:	☑Yes	☐No ☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No ☐N/A	4
Sampler Name & Signature on COC:	☑Yes	☐No ☐N/A	5
Samples Arrived within Hold Time:	☑Yes	☐No ☐N/A	6
Sufficient Volume:	☑Yes	☐No ☐N/A	7
Correct Containers Used:	☑Yes	☐No ☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No ☑N/A	9
Sample Labels match COC:	☑Yes	☐No ☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes	☐No ☐N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☑Yes	☐No ☐N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☑Yes	☐No ☐N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	☐Yes	☐No ☑N/A	14
Trip Blank Present:	☐Yes	☑No	15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Ðaliz Ëstades Santalíz

Licensed Chemist

To Whom It May Concern:

I, Daliz M. Estades Santaliz, in my capacity as Puerto Rico Certified Chemist, hereby certify the attached Analytical Results from CCR GW Monitoring AES-PR Project and ID Numbers:

20177741001
20177741002
20177741003
20177741004
20177741005
20177741006
20177741007

Lcda. Daliz M. Estades Santaliz

PO Box 727
Dorado, PR 00646-0727

February 23, 2021

Alberto Meléndez
DNA-ENVIRONMENT, LLC
35 Calle Juan C. Borbón STE 67
Guaynabo, PR 009695375

RE: Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Dear Alberto Meléndez:

Enclosed are the analytical results for sample(s) received by the laboratory on October 28, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Gulf Coast
- Pace Analytical Services - New Orleans

This is a revised report. Fluoride and metals data was reviewed and revised for some samples.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Juan Redondo
juan.redondo@pacelabs.com
(787)720-0319
Project Manager

Enclosures

CERTIFICATIONS

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Pace Analytical Services New Orleans

California Env. Lab Accreditation Program Branch: 11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC): E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP): 02006
Texas Commission on Env. Quality (NELAC): T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-00119

Pace Analytical Gulf Coast

7979 Innovation Park Drive, Baton Rouge, LA 70820
Arkansas Certification #: 88-0655
DoD ELAP Certification #: L18-597
Florida Certification #: E87854
Illinois Certification #: 004585
Kansas Certification #: E-10354
Louisiana/LELAP Certification #: 01955
North Carolina Certification #: 618
North Dakota Certification #: R-195
Oklahoma Certification #: 2019-101
South Carolina Certification #: 73006001
Texas Certification #: T104704178-19-11
USDA Soil Permit # P330-19-00209
Virginia Certification #: 460215
Washington Certification #: C929

SAMPLE SUMMARY

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Lab ID	Sample ID	Matrix	Date Collected	Date Received
20177741001	**AES-MW1-102720**	Water	10/27/20 10:05	10/28/20 10:30
20177741002	**AES-MW2-102720**	Water	10/27/20 11:16	10/28/20 10:30
20177741003	**AES-MW3-102720**	Water	10/27/20 12:54	10/28/20 10:30
20177741004	**AES-MW4-102720**	Water	10/27/20 14:53	10/28/20 10:30
20177741005	**AES-MW4-DUP-102720**	Water	10/27/20 15:18	10/28/20 10:30
20177741006	**AES-MW5-102720**	Water	10/27/20 16:07	10/28/20 10:30
20177741007	**AES-FB-102720**	Water	10/27/20 16:10	10/28/20 10:30

SAMPLE ANALYTE COUNT

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
20177741001	**AES-MW1-102720**	EPA 6020	KJR	14	PASI-N
		EPA 7470	FC1	1	PASI-N
		SM 2540C	ABW	1	PASI-N
		EPA 300.0	AJE	1	PASI-GCLA
		SM 4500-Cl-E	MHM	1	PASI-N
		ASTM D516-90,02	MHM	1	PASI-N
20177741002	**AES-MW2-102720**	EPA 6020	KJR	14	PASI-N
		EPA 7470	FC1	1	PASI-N
		SM 2540C	ABW	1	PASI-N
		EPA 300.0	AJE	1	PASI-GCLA
		SM 4500-Cl-E	MHM	1	PASI-N
		ASTM D516-90,02	MHM	1	PASI-N
20177741003	**AES-MW3-102720**	EPA 6020	KJR	14	PASI-N
		EPA 7470	FC1	1	PASI-N
		SM 2540C	ABW	1	PASI-N
		EPA 300.0	AJE	1	PASI-GCLA
		SM 4500-Cl-E	MHM	1	PASI-N
		ASTM D516-90,02	MHM	1	PASI-N
20177741004	**AES-MW4-102720**	EPA 6020	KJR	14	PASI-N
		EPA 7470	FC1	1	PASI-N
		SM 2540C	ABW	1	PASI-N
		EPA 300.0	AJE	1	PASI-GCLA
		SM 4500-Cl-E	MHM	1	PASI-N
		ASTM D516-90,02	MHM	1	PASI-N
20177741005	**AES-MW4-DUP-102720**	EPA 6020	KJR	14	PASI-N
		EPA 7470	FC1	1	PASI-N
		SM 2540C	ABW	1	PASI-N
		EPA 300.0	AJE	1	PASI-GCLA
		SM 4500-Cl-E	MHM	1	PASI-N
		ASTM D516-90,02	MHM	1	PASI-N
20177741006	**AES-MW5-102720**	EPA 6020	KJR	14	PASI-N
		EPA 7470	FC1	1	PASI-N
		SM 2540C	ABW	1	PASI-N
		EPA 300.0	AJE	1	PASI-GCLA
		SM 4500-Cl-E	MHM	1	PASI-N
		ASTM D516-90,02	MHM	1	PASI-N
20177741007	**AES-FB-102720**	EPA 6020	KJR	14	PASI-N

SAMPLE ANALYTE COUNT

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7470	FC1	1	PASI-N
		SM 2540C	ABW	1	PASI-N
		EPA 300.0	AJE	1	PASI-GCLA
		SM 4500-Cl-E	MHM	1	PASI-N
		ASTM D516-90,02	MHM	1	PASI-N

PASI-GCLA = Pace Analytical Gulf Coast
PASI-N = Pace Analytical Services - New Orleans

PROJECT NARRATIVE

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Date: February 23, 2021

In the EPA 300.0 analysis for analytical batch 699381, samples AES-MW4-102720 and AES-MW4-DUP-102720 were re-analyzed at a lower dilution outside holding time.

See special project narrative on page 35.

Results reported for sample 20177741006 have been revised to report 1:100 dilution for EPA 6020 analyses.

PROJECT NARRATIVE

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Method: **EPA 6020**
Description: 6020 MET ICPMS
Client: DNA-ENVIRONMENT, LLC
Date: February 23, 2021

General Information:
7 samples were analyzed for EPA 6020 by Pace Analytical Services New Orleans. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Method: **EPA 7470**
Description: 7470 Mercury
Client: DNA-ENVIRONMENT, LLC
Date: February 23, 2021

General Information:
7 samples were analyzed for EPA 7470 by Pace Analytical Services New Orleans. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 7470 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: DNA-ENVIRONMENT, LLC
Date: February 23, 2021

General Information:
7 samples were analyzed for SM 2540C by Pace Analytical Services New Orleans. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Method: **EPA 300.0**
Description: EPA 300.0
Client: DNA-ENVIRONMENT, LLC
Date: February 23, 2021

General Information:
7 samples were analyzed for EPA 300.0 by Pace Analytical Gulf Coast. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Method: **SM 4500-Cl-E**
Description: 4500 Chloride
Client: DNA-ENVIRONMENT, LLC
Date: February 23, 2021

General Information:
7 samples were analyzed for SM 4500-Cl-E by Pace Analytical Services New Orleans. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Method: **ASTM D516-90,02**
Description: ASTM D516-9002 Sulfate Water
Client: DNA-ENVIRONMENT, LLC
Date: February 23, 2021

General Information:
7 samples were analyzed for ASTM D516-90,02 by Pace Analytical Services New Orleans. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

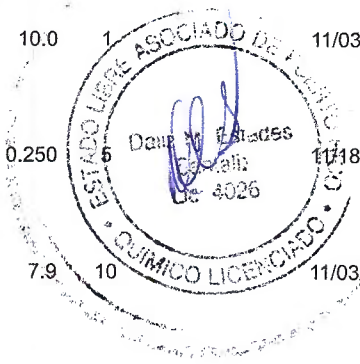
This data package has been reviewed for quality and completeness and is approved for release.

ANALYTICAL RESULTS

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Sample: AES-MW1-102720 **Lab ID: 20177741001** Collected: 10/27/20 10:05 Received: 10/28/20 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - New Orleans								
Collected By	**DNA**				1		10/27/20 10:05		
Collected Date	**10-27-20**				1		10/27/20 10:05		
Collected Time	**10:05**				1		10/27/20 10:05		
Field pH	**7.36 SU**	Std. Units			1		10/27/20 10:05		
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - New Orleans								
Antimony	**0.00063U**	mg/L	0.0010	0.00063	1	11/03/20 12:25	11/04/20 14:28	7440-36-0	
Arsenic	**0.0018**	mg/L	0.0010	0.00020	1	11/03/20 12:25	11/04/20 14:28	7440-38-2	
Barium	**0.046**	mg/L	0.0010	0.00036	1	11/03/20 12:25	11/04/20 14:28	7440-39-3	
Beryllium	**0.00012U**	mg/L	0.0010	0.00012	1	11/03/20 12:25	11/04/20 14:28	7440-41-7	
Boron	**0.24**	mg/L	0.050	0.049	10	11/03/20 12:25	11/05/20 12:57	7440-42-8	
Cadmium	**0.000080U**	mg/L	0.0010	0.000080	1	11/03/20 12:25	11/04/20 14:28	7440-43-9	
Calcium	**219**	mg/L	1.0	0.84	10	11/03/20 12:25	11/05/20 12:57	7440-70-2	
Chromium	**0.00070J**	mg/L	0.0010	0.00062	1	11/03/20 12:25	11/04/20 14:28	7440-47-3	
Cobalt	**0.00086J**	mg/L	0.0010	0.000060	1	11/03/20 12:25	11/04/20 14:28	7440-48-4	
Lead	**0.000070U**	mg/L	0.0010	0.000070	1	11/03/20 12:25	11/04/20 14:28	7439-92-1	
Lithium	**0.00065J**	mg/L	0.0010	0.00049	1	11/03/20 12:25	11/04/20 14:28	7439-93-2	
Molybdenum	**0.00061U**	mg/L	0.0030	0.00061	1	11/03/20 12:25	11/04/20 14:28	7439-98-7	
Selenium	**0.0064**	mg/L	0.0010	0.00037	1	11/03/20 12:25	11/04/20 14:28	7782-49-2	
Thallium	**0.000080U**	mg/L	0.00050	0.000080	1	11/03/20 12:25	11/04/20 14:28	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - New Orleans								
Mercury	**0.000064U**	mg/L	0.00020	0.000064	1	11/03/20 10:20	11/03/20 16:20	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - New Orleans								
Total Dissolved Solids	**1500**	mg/L	10.0	10.0	1		11/03/20 16:15		
EPA 300.0	Analytical Method: EPA 300.0 Pace Analytical Gulf Coast								
Fluoride	**0.910J**	mg/L	1.00	0.250	5		11/18/20 00:40	16984-48-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - New Orleans								
Chloride	**392**	mg/L	10.0	7.9	10		11/03/20 11:03	16887-00-6	
ASTM D516-9002 Sulfate Water	Analytical Method: ASTM D516-90,02 Pace Analytical Services - New Orleans								
Sulfate	**361**	mg/L	50.0	48.0	50		11/03/20 12:31	14808-79-8	



REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

ANALYTICAL RESULTS

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Sample: AES-MW2-102720 **Lab ID: 20177741002** Collected: 10/27/20 11:16 Received: 10/28/20 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - New Orleans								
Collected By	**DNA**				1		10/27/20 11:16		
Collected Date	**10-27-20**				1		10/27/20 11:16		
Collected Time	**11:16**				1		10/27/20 11:16		
Field pH	**7.08 SU**	Std. Units			1		10/27/20 11:16		
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - New Orleans								
Antimony	**0.00063U**	mg/L	0.0010	0.00063	1	11/03/20 12:25	11/04/20 14:09	7440-36-0	
Arsenic	**0.00083J**	mg/L	0.0010	0.00020	1	11/03/20 12:25	11/04/20 14:09	7440-38-2	
Barium	**0.097**	mg/L	0.0010	0.00036	1	11/03/20 12:25	11/04/20 14:09	7440-39-3	
Beryllium	**0.00012U**	mg/L	0.0010	0.00012	1	11/03/20 12:25	11/04/20 14:09	7440-41-7	
Boron	**0.15**	mg/L	0.050	0.049	10	11/03/20 12:25	11/05/20 12:38	7440-42-8	M6
Cadmium	**0.000080U**	mg/L	0.0010	0.000080	1	11/03/20 12:25	11/04/20 14:09	7440-43-9	
Calcium	**79.4**	mg/L	1.0	0.84	10	11/03/20 12:25	11/05/20 12:38	7440-70-2	M6
Chromium	**0.00062U**	mg/L	0.0010	0.00062	1	11/03/20 12:25	11/04/20 14:09	7440-47-3	
Cobalt	**0.00028J**	mg/L	0.0010	0.000060	1	11/03/20 12:25	11/04/20 14:09	7440-48-4	
Lead	**0.000070U**	mg/L	0.0010	0.000070	1	11/03/20 12:25	11/04/20 14:09	7439-92-1	
Lithium	**0.00049U**	mg/L	0.0010	0.00049	1	11/03/20 12:25	11/04/20 14:09	7439-93-2	
Molybdenum	**0.00085J**	mg/L	0.0030	0.00061	1	11/03/20 12:25	11/04/20 14:09	7439-98-7	
Selenium	**0.0025**	mg/L	0.0010	0.00037	1	11/03/20 12:25	11/04/20 14:09	7782-49-2	
Thallium	**0.000080U**	mg/L	0.00050	0.000080	1	11/03/20 12:25	11/04/20 14:09	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - New Orleans								
Mercury	**0.000064U**	mg/L	0.00020	0.000064	1	11/03/20 10:20	11/03/20 16:22	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - New Orleans								
Total Dissolved Solids	**250**	mg/L	10.0	10.0	1		11/03/20 15:02		
EPA 300.0	Analytical Method: EPA 300.0 Pace Analytical Gulf Coast								
Fluoride	**0.728**	mg/L	0.200	0.050	1		11/18/20 12:40	16984-48-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - New Orleans								
Chloride	**48.0**	mg/L	1.0	0.79	1		11/03/20 10:49	16887-00-6	
ASTM D516-9002 Sulfate Water	Analytical Method: ASTM D516-90,02 Pace Analytical Services - New Orleans								
Sulfate	**17.9**	mg/L	1.0	0.96	1		11/03/20 10:44	14808-79-8	

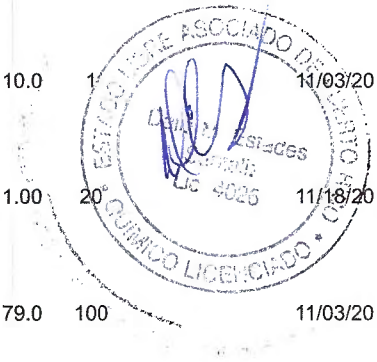
REPORT OF LABORATORY ANALYSIS

ANALYTICAL RESULTS

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Sample: AES-MW3-102720 **Lab ID: 20177741003** Collected: 10/27/20 12:54 Received: 10/28/20 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - New Orleans								
Collected By	**DNA**				1		10/27/20 12:54		
Collected Date	**10-27-20**				1		10/27/20 12:54		
Collected Time	**12:54**				1		10/27/20 12:54		
Field pH	**7.45 SU**	Std. Units			1		10/27/20 12:54		
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - New Orleans								
Antimony	**0.00063U**	mg/L	0.0010	0.00063	1	11/03/20 12:25	11/04/20 14:33	7440-36-0	
Arsenic	**0.0015**	mg/L	0.0010	0.00020	1	11/03/20 12:25	11/04/20 14:33	7440-38-2	
Barium	**0.27**	mg/L	0.0010	0.00036	1	11/03/20 12:25	11/04/20 14:33	7440-39-3	
Beryllium	**0.00029J**	mg/L	0.0010	0.00012	1	11/03/20 12:25	11/04/20 14:33	7440-41-7	
Boron	**0.97**	mg/L	0.050	0.049	10	11/03/20 12:25	11/05/20 13:01	7440-42-8	
Cadmium	**0.00027J**	mg/L	0.0010	0.000080	1	11/03/20 12:25	11/04/20 14:33	7440-43-9	
Calcium	**370**	mg/L	1.0	0.84	10	11/03/20 12:25	11/05/20 13:01	7440-70-2	
Chromium	**0.00062U**	mg/L	0.0010	0.00062	1	11/03/20 12:25	11/04/20 14:33	7440-47-3	
Cobalt	**0.0017**	mg/L	0.0010	0.000060	1	11/03/20 12:25	11/04/20 14:33	7440-48-4	
Lead	**0.000070U**	mg/L	0.0010	0.000070	1	11/03/20 12:25	11/04/20 14:33	7439-92-1	
Lithium	**0.0031**	mg/L	0.0010	0.00049	1	11/03/20 12:25	11/04/20 14:33	7439-93-2	
Molybdenum	**0.12**	mg/L	0.0030	0.00061	1	11/03/20 12:25	11/04/20 14:33	7439-98-7	
Selenium	**0.065**	mg/L	0.0010	0.00037	1	11/03/20 12:25	11/04/20 14:33	7782-49-2	
Thallium	**0.000080U**	mg/L	0.00050	0.000080	1	11/03/20 12:25	11/04/20 14:33	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - New Orleans								
Mercury	**0.000064U**	mg/L	0.00020	0.000064	1	11/03/20 10:20	11/03/20 16:29	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - New Orleans								
Total Dissolved Solids	**8660**	mg/L	10.0	10.0	1		11/03/20 15:03		
EPA 300.0	Analytical Method: EPA 300.0 Pace Analytical Gulf Coast								
Fluoride	**1.27J**	mg/L	4.00	1.00	20		11/18/20 01:51	16984-48-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - New Orleans								
Chloride	**3960**	mg/L	100	79.0	100		11/03/20 12:39	16887-00-6	
ASTM D516-9002 Sulfate Water	Analytical Method: ASTM D516-90,02 Pace Analytical Services - New Orleans								
Sulfate	**1420**	mg/L	100	96.0	100		11/03/20 12:31	14808-79-8	



REPORT OF LABORATORY ANALYSIS

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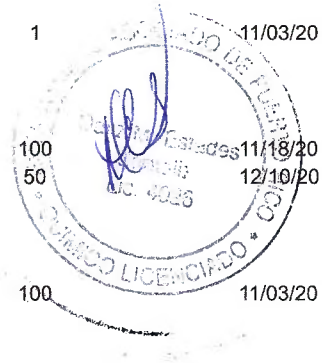
ANALYTICAL RESULTS

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Sample: AES-MW4-102720 **Lab ID: 20177741004** Collected: 10/27/20 14:53 Received: 10/28/20 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - New Orleans								
Collected By	**DNA**				1		10/27/20 14:53		
Collected Date	**10-27-20**				1		10/27/20 14:53		
Collected Time	**14:53**				1		10/27/20 14:53		
Field pH	**7.61 SU**	Std. Units			1		10/27/20 14:53		
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - New Orleans								
Antimony	**0.00063U**	mg/L	0.0010	0.00063	1	11/03/20 12:25	11/04/20 14:37	7440-36-0	
Arsenic	**0.0021**	mg/L	0.0010	0.00020	1	11/03/20 12:25	11/04/20 14:37	7440-38-2	
Barium	**0.046**	mg/L	0.0010	0.00036	1	11/03/20 12:25	11/04/20 14:37	7440-39-3	
Beryllium	**0.0017**	mg/L	0.0010	0.00012	1	11/03/20 12:25	11/04/20 14:37	7440-41-7	
Boron	**2.9**	mg/L	0.50	0.49	100	11/03/20 12:25	11/05/20 13:06	7440-42-8	
Cadmium	**0.00061J**	mg/L	0.0010	0.000080	1	11/03/20 12:25	11/04/20 14:37	7440-43-9	
Calcium	**514**	mg/L	10.0	8.4	100	11/03/20 12:25	11/05/20 13:06	7440-70-2	
Chromium	**0.00062U**	mg/L	0.0010	0.00062	1	11/03/20 12:25	11/04/20 14:37	7440-47-3	
Cobalt	**0.0011**	mg/L	0.0010	0.000060	1	11/03/20 12:25	11/04/20 14:37	7440-48-4	
Lead	**0.000070U**	mg/L	0.0010	0.000070	1	11/03/20 12:25	11/04/20 14:37	7439-92-1	
Lithium	**1.1**	mg/L	0.0010	0.00049	1	11/03/20 12:25	11/04/20 14:37	7439-93-2	
Molybdenum	**0.47**	mg/L	0.0030	0.00061	1	11/03/20 12:25	11/04/20 14:37	7439-98-7	
Selenium	**0.0061**	mg/L	0.0010	0.00037	1	11/03/20 12:25	11/04/20 14:37	7782-49-2	
Thallium	**0.000080U**	mg/L	0.00050	0.000080	1	11/03/20 12:25	11/04/20 14:37	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - New Orleans								
Mercury	**0.000064U**	mg/L	0.00020	0.000064	1	11/03/20 10:20	11/03/20 16:31	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - New Orleans								
Total Dissolved Solids	**36200**	mg/L	10.0	10.0	1		11/03/20 15:04		
EPA 300.0	Analytical Method: EPA 300.0 Pace Analytical Gulf Coast								
Fluoride	**5.00U**	mg/L	20.0	5.00	100		11/18/20 02:09	16984-48-8	
Fluoride	**2.50U**	mg/L	10.0	2.50	50		12/10/20 14:01	16984-48-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - New Orleans								
Chloride	**9340**	mg/L	100	79.0	100		11/03/20 12:39	16887-00-6	
ASTM D516-9002 Sulfate Water	Analytical Method: ASTM D516-90,02 Pace Analytical Services - New Orleans								
Sulfate	**12100**	mg/L	500	480	500		11/03/20 12:41	14808-79-8	



REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Sample: AES-MW4-DUP-102720 **Lab ID: 20177741005** Collected: 10/27/20 15:18 Received: 10/28/20 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - New Orleans								
Antimony	**0.00063U**	mg/L	0.0010	0.00063	1	11/03/20 12:25	11/04/20 14:42	7440-36-0	
Arsenic	**0.0019**	mg/L	0.0010	0.00020	1	11/03/20 12:25	11/04/20 14:42	7440-38-2	
Barium	**0.047**	mg/L	0.0010	0.00036	1	11/03/20 12:25	11/04/20 14:42	7440-39-3	
Beryllium	**0.0020**	mg/L	0.0010	0.00012	1	11/03/20 12:25	11/04/20 14:42	7440-41-7	
Boron	**2.9**	mg/L	0.50	0.49	100	11/03/20 12:25	11/05/20 13:11	7440-42-8	
Cadmium	**0.00068J**	mg/L	0.0010	0.000080	1	11/03/20 12:25	11/04/20 14:42	7440-43-9	
Calcium	**497**	mg/L	10.0	8.4	100	11/03/20 12:25	11/05/20 13:11	7440-70-2	
Chromium	**0.00062U**	mg/L	0.0010	0.00062	1	11/03/20 12:25	11/04/20 14:42	7440-47-3	
Cobalt	**0.0012**	mg/L	0.0010	0.000060	1	11/03/20 12:25	11/04/20 14:42	7440-48-4	
Lead	**0.000070U**	mg/L	0.0010	0.000070	1	11/03/20 12:25	11/04/20 14:42	7439-92-1	
Lithium	**1.0**	mg/L	0.0010	0.00049	1	11/03/20 12:25	11/04/20 14:42	7439-93-2	
Molybdenum	**0.47**	mg/L	0.0030	0.00061	1	11/03/20 12:25	11/04/20 14:42	7439-98-7	
Selenium	**0.018**	mg/L	0.0010	0.00037	1	11/03/20 12:25	11/04/20 14:42	7782-49-2	
Thallium	**0.000080U**	mg/L	0.00050	0.000080	1	11/03/20 12:25	11/04/20 14:42	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - New Orleans								
Mercury	**0.000064U**	mg/L	0.00020	0.000064	1	11/03/20 10:20	11/03/20 16:33	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - New Orleans								
Total Dissolved Solids	**34600**	mg/L	10.0	10.0	1		11/03/20 15:05		
EPA 300.0	Analytical Method: EPA 300.0 Pace Analytical Gulf Coast								
Fluoride	**5.00U**	mg/L	20.0	5.00	100		11/18/20 02:27	16984-48-8	
Fluoride	**2.50U**	mg/L	10.0	2.50	50		12/10/20 14:15	16984-48-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - New Orleans								
Chloride	**9220**	mg/L	100	79.0	100		11/03/20 12:39	16887-00-6	
ASTM D516-9002 Sulfate Water	Analytical Method: ASTM D516-90,02 Pace Analytical Services - New Orleans								
Sulfate	**11900**	mg/L	500	480	500		11/03/20 12:41	14808-79-8	

Sample: AES-MW5-102720 **Lab ID: 20177741006** Collected: 10/27/20 16:07 Received: 10/28/20 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - New Orleans								
Collected By	**DNA**				1		10/27/20 16:07		

REPORT OF LABORATORY ANALYSIS

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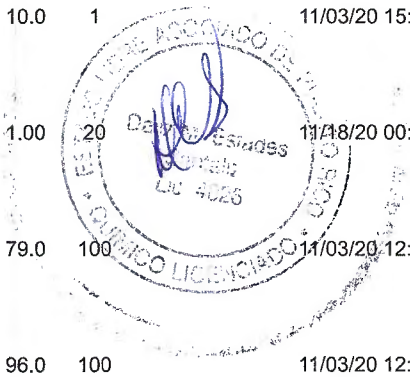
ANALYTICAL RESULTS

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Sample: AES-MW5-102720 **Lab ID: 20177741006** Collected: 10/27/20 16:07 Received: 10/28/20 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - New Orleans								
Collected Date	**10-27-20**				1		10/27/20 16:07		
Collected Time	**16:07**				1		10/27/20 16:07		
Field pH	**6.90 SU**	Std. Units			1		10/27/20 16:07		
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - New Orleans								
Antimony	**0.063U**	mg/L	0.10	0.063	100	11/03/20 12:25	11/05/20 13:15	7440-36-0	
Arsenic	**0.022J**	mg/L	0.10	0.020	100	11/03/20 12:25	11/05/20 13:15	7440-38-2	
Barium	**0.036U**	mg/L	0.10	0.036	100	11/03/20 12:25	11/05/20 13:15	7440-39-3	
Beryllium	**0.012U**	mg/L	0.10	0.012	100	11/03/20 12:25	11/05/20 13:15	7440-41-7	
Boron	**0.49U**	mg/L	0.50	0.49	100	11/03/20 12:25	11/05/20 13:15	7440-42-8	
Cadmium	**0.0080U**	mg/L	0.10	0.0080	100	11/03/20 12:25	11/05/20 13:15	7440-43-9	
Calcium	**644**	mg/L	10.0	8.4	100	11/03/20 12:25	11/05/20 13:15	7440-70-2	
Chromium	**0.062U**	mg/L	0.10	0.062	100	11/03/20 12:25	11/05/20 13:15	7440-47-3	
Cobalt	**0.0060U**	mg/L	0.10	0.0060	100	11/03/20 12:25	11/05/20 13:15	7440-48-4	
Lead	**0.0070U**	mg/L	0.10	0.0070	100	11/03/20 12:25	11/05/20 13:15	7439-92-1	
Lithium	**0.049U**	mg/L	0.10	0.049	100	11/03/20 12:25	11/05/20 13:15	7439-93-2	
Molybdenum	**0.061U**	mg/L	0.30	0.061	100	11/03/20 12:25	11/05/20 13:15	7439-98-7	
Selenium	**0.037U**	mg/L	0.10	0.037	100	11/03/20 12:25	11/05/20 13:15	7782-49-2	
Thallium	**0.0080U**	mg/L	0.050	0.0080	100	11/03/20 12:25	11/05/20 13:15	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - New Orleans								
Mercury	**0.000064U**	mg/L	0.00020	0.000064	1	11/03/20 10:20	11/03/20 16:40	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - New Orleans								
Total Dissolved Solids	**10200**	mg/L	10.0	10.0	1		11/03/20 15:06		
EPA 300.0	Analytical Method: EPA 300.0 Pace Analytical Gulf Coast								
Fluoride	**1.00U**	mg/L	4.00	1.00	20		11/18/20 00:04	16984-48-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - New Orleans								
Chloride	**3810**	mg/L	100	79.0	100		11/03/20 12:39	16887-00-6	
ASTM D516-9002 Sulfate Water	Analytical Method: ASTM D516-90,02 Pace Analytical Services - New Orleans								
Sulfate	**2380**	mg/L	100	96.0	100		11/03/20 12:31	14808-79-8	



REPORT OF LABORATORY ANALYSIS

ANALYTICAL RESULTS

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Sample: AES-FB-102720 **Lab ID: 20177741007** Collected: 10/27/20 16:10 Received: 10/28/20 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - New Orleans								
Antimony	**0.00063U**	mg/L	0.0010	0.00063	1	11/03/20 12:25	11/04/20 15:01	7440-36-0	
Arsenic	**0.00020U**	mg/L	0.0010	0.00020	1	11/03/20 12:25	11/04/20 15:01	7440-38-2	
Barium	**0.00036U**	mg/L	0.0010	0.00036	1	11/03/20 12:25	11/04/20 15:01	7440-39-3	
Beryllium	**0.00012U**	mg/L	0.0010	0.00012	1	11/03/20 12:25	11/04/20 15:01	7440-41-7	
Boron	**0.0049U**	mg/L	0.0050	0.0049	1	11/03/20 12:25	11/05/20 12:34	7440-42-8	
Cadmium	**0.000080U**	mg/L	0.0010	0.000080	1	11/03/20 12:25	11/04/20 15:01	7440-43-9	
Calcium	**0.084U**	mg/L	0.10	0.084	1	11/03/20 12:25	11/05/20 12:34	7440-70-2	
Chromium	**0.00062U**	mg/L	0.0010	0.00062	1	11/03/20 12:25	11/04/20 15:01	7440-47-3	
Cobalt	**0.000060U**	mg/L	0.0010	0.000060	1	11/03/20 12:25	11/04/20 15:01	7440-48-4	
Lead	**0.000070U**	mg/L	0.0010	0.000070	1	11/03/20 12:25	11/04/20 15:01	7439-92-1	
Lithium	**0.00049J**	mg/L	0.0010	0.00049	1	11/03/20 12:25	11/04/20 15:01	7439-93-2	
Molybdenum	**0.0017J**	mg/L	0.0030	0.00061	1	11/03/20 12:25	11/04/20 15:01	7439-98-7	
Selenium	**0.00056J**	mg/L	0.0010	0.00037	1	11/03/20 12:25	11/04/20 15:01	7782-49-2	
Thallium	**0.000080U**	mg/L	0.00050	0.000080	1	11/03/20 12:25	11/04/20 15:01	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - New Orleans								
Mercury	**0.000064U**	mg/L	0.00020	0.000064	1	11/03/20 10:20	11/03/20 16:42	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - New Orleans								
Total Dissolved Solids	**10.0**	mg/L	10.0	10.0	1		11/03/20 15:06		
EPA 300.0	Analytical Method: EPA 300.0 Pace Analytical Gulf Coast								
Fluoride	**0.050U**	mg/L	0.200	0.050	1		11/18/20 00:22	16984-48-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - New Orleans								
Chloride	**6.1**	mg/L	1.0	0.79	1		11/03/20 10:50	16887-00-6	
ASTM D516-9002 Sulfate Water	Analytical Method: ASTM D516-90,02 Pace Analytical Services - New Orleans								
Sulfate	**13.0**	mg/L	1.0	0.96	1		11/03/20 10:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

QC Batch: 205785
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - New Orleans
Associated Lab Samples: 20177741001, 20177741002, 20177741003, 20177741004, 20177741005, 20177741006, 20177741007

METHOD BLANK: 962444 Matrix: Water
Associated Lab Samples: 20177741001, 20177741002, 20177741003, 20177741004, 20177741005, 20177741006, 20177741007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	0.000064U	0.00020	0.000064	11/03/20 16:13	

LABORATORY CONTROL SAMPLE: 962445

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.001	0.0010	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 962446 962447

Parameter	Units	20177741002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	0.000064 U	0.001	0.001	0.00097	0.0010	97	102	75-125	5	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

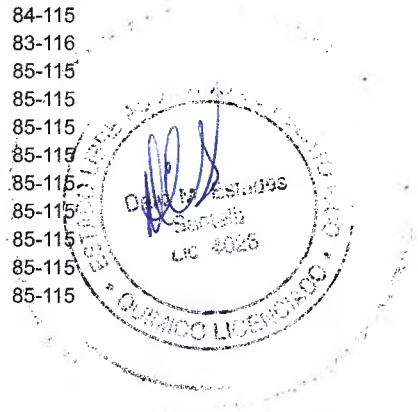
QC Batch: 205780
QC Batch Method: EPA 3010
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - New Orleans
Associated Lab Samples: 20177741001, 20177741002, 20177741003, 20177741004, 20177741005, 20177741006, 20177741007

METHOD BLANK: 962420 Matrix: Water
Associated Lab Samples: 20177741001, 20177741002, 20177741003, 20177741004, 20177741005, 20177741006, 20177741007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	0.00063U	0.0010	0.00063	11/04/20 12:09	
Arsenic	mg/L	0.00020U	0.0010	0.00020	11/04/20 12:09	
Barium	mg/L	0.00036U	0.0010	0.00036	11/04/20 12:09	
Beryllium	mg/L	0.00012U	0.0010	0.00012	11/04/20 12:09	
Boron	mg/L	0.0049U	0.0050	0.0049	11/04/20 12:09	
Cadmium	mg/L	0.000080U	0.0010	0.000080	11/04/20 12:09	
Calcium	mg/L	0.084U	0.10	0.084	11/04/20 12:09	
Chromium	mg/L	0.00062U	0.0010	0.00062	11/04/20 12:09	
Cobalt	mg/L	0.000060U	0.0010	0.000060	11/04/20 12:09	
Lead	mg/L	0.000070U	0.0010	0.000070	11/04/20 12:09	
Lithium	mg/L	0.00049U	0.0010	0.00049	11/04/20 12:09	
Molybdenum	mg/L	0.00061U	0.0030	0.00061	11/04/20 12:09	
Selenium	mg/L	0.00037U	0.0010	0.00037	11/04/20 12:09	
Thallium	mg/L	0.000080U	0.00050	0.000080	11/04/20 12:09	

LABORATORY CONTROL SAMPLE: 962421

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.06	0.059	99	85-115	
Arsenic	mg/L	0.06	0.058	96	85-115	
Barium	mg/L	0.06	0.060	100	85-115	
Beryllium	mg/L	0.06	0.060	99	84-115	
Boron	mg/L	0.06	0.060	100	83-116	
Cadmium	mg/L	0.06	0.059	98	85-115	
Calcium	mg/L	6	6.1	102	85-115	
Chromium	mg/L	0.06	0.061	101	85-115	
Cobalt	mg/L	0.06	0.060	101	85-115	
Lead	mg/L	0.06	0.064	106	85-115	
Lithium	mg/L	0.06	0.061	102	85-115	
Molybdenum	mg/L	0.06	0.061	101	85-115	
Selenium	mg/L	0.06	0.056	93	85-115	
Thallium	mg/L	0.06	0.061	101	85-115	



Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 962422 962423

Parameter	Units	20177741002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	0.00063U	0.06	0.06	0.060	0.060	100	101	80-120	1	20	
Arsenic	mg/L	0.00083J	0.06	0.06	0.059	0.059	96	97	80-120	1	20	
Barium	mg/L	0.097	0.06	0.06	0.16	0.16	102	97	80-120	2	20	
Beryllium	mg/L	0.00012U	0.06	0.06	0.060	0.059	100	99	80-120	1	20	
Boron	mg/L	0.15	0.06	0.06	0.22	0.22	126	124	75-125	1	20	M6
Cadmium	mg/L	0.000080 U	0.06	0.06	0.058	0.058	97	97	80-120	0	20	
Calcium	mg/L	79.4	6	6	109	107	490	455	80-120	2	20	M6
Chromium	mg/L	0.00062U	0.06	0.06	0.061	0.061	101	101	80-120	0	20	
Cobalt	mg/L	0.00028J	0.06	0.06	0.060	0.059	99	99	80-120	0	20	
Lead	mg/L	0.000070 U	0.06	0.06	0.065	0.066	109	109	80-120	0	20	
Lithium	mg/L	0.00049U	0.06	0.06	0.063	0.061	104	101	80-120	3	20	
Molybdenum	mg/L	0.00085J	0.06	0.06	0.063	0.063	103	104	80-120	1	20	
Selenium	mg/L	0.0025	0.06	0.06	0.058	0.058	92	92	80-120	0	20	
Thallium	mg/L	0.000080 U	0.06	0.06	0.063	0.063	105	105	80-120	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

QC Batch: 205857
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - New Orleans

Associated Lab Samples: 20177741001

METHOD BLANK: 962791 Matrix: Water
Associated Lab Samples: 20177741001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	10.0U	10.0	10.0	11/03/20 16:15	

LABORATORY CONTROL SAMPLE: 962792

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	100	84.0	84	80-120	

SAMPLE DUPLICATE: 962793

Parameter	Units	20177386001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	240	225	6	20	

SAMPLE DUPLICATE: 962794

Parameter	Units	20177739002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	50.0	45.0	11	20	

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REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

QC Batch: 205858
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - New Orleans
Associated Lab Samples: 20177741002, 20177741003, 20177741004, 20177741005, 20177741006, 20177741007

METHOD BLANK: 962795 Matrix: Water
Associated Lab Samples: 20177741002, 20177741003, 20177741004, 20177741005, 20177741006, 20177741007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	10.0U	10.0	10.0	11/03/20 15:01	

LABORATORY CONTROL SAMPLE: 962796

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	100	86.0	86	80-120	

SAMPLE DUPLICATE: 962797

Parameter	Units	20177741002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	250	305	20	20	

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REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

QC Batch: 697539
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: EPA 300.0 Inorganic Anions
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 20177741001, 20177741002, 20177741003, 20177741004, 20177741005, 20177741006, 20177741007

METHOD BLANK: 2112136 Matrix: Water
Associated Lab Samples: 20177741001, 20177741002, 20177741003, 20177741004, 20177741005, 20177741006, 20177741007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	0.050U	0.200	0.050	11/17/20 23:28	

LABORATORY CONTROL SAMPLE: 2112137

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.50	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2110244 2110245

Parameter	Units	20177741002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.728	2.5	2.5	3.20	3.20	99	99	80-120	0	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

QC Batch: 205773
QC Batch Method: SM 4500-Cl-E
Analysis Method: SM 4500-Cl-E
Analysis Description: 4500 Chloride
Laboratory: Pace Analytical Services - New Orleans
Associated Lab Samples: 20177741001, 20177741002, 20177741003, 20177741004, 20177741005, 20177741006, 20177741007

METHOD BLANK: 962386 Matrix: Water
Associated Lab Samples: 20177741001, 20177741002, 20177741003, 20177741004, 20177741005, 20177741006, 20177741007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.79U	1.0	0.79	11/03/20 11:02	

LABORATORY CONTROL SAMPLE: 962387

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	80.2	77.4	96	90-110	

MATRIX SPIKE SAMPLE: 962389

Parameter	Units	20177741002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	48.0	100	154	106	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 962907 962908

Parameter	Units	20178053001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	123	100	100	205	207	82	84	75-125	1	20	

SAMPLE DUPLICATE: 962388

Parameter	Units	20177741002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	48.0	48.9	2	20	

SAMPLE DUPLICATE: 962906

Parameter	Units	20178053001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	123	122	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

QC Batch: 699381
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: EPA 300.0 Inorganic Anions
Laboratory: Pace Analytical Gulf Coast

Associated Lab Samples: 20177741004, 20177741005

METHOD BLANK: 2122602 Matrix: Water

Associated Lab Samples: 20177741004, 20177741005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	0.050U	0.200	0.050	12/10/20 14:58	

LABORATORY CONTROL SAMPLE: 2122603

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.41	96	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

QC Batch: 205776
QC Batch Method: ASTM D516-90,02
Analysis Method: ASTM D516-90,02
Analysis Description: ASTM D516-9002 Sulfate Water
Laboratory: Pace Analytical Services - New Orleans
Associated Lab Samples: 20177741001, 20177741002, 20177741003, 20177741004, 20177741005, 20177741006, 20177741007

METHOD BLANK: 962399 Matrix: Water
Associated Lab Samples: 20177741001, 20177741002, 20177741003, 20177741004, 20177741005, 20177741006, 20177741007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	0.96U	1.0	0.96	11/03/20 10:58	

LABORATORY CONTROL SAMPLE: 962400

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	19.8	99	90-110	

MATRIX SPIKE SAMPLE: 962402

Parameter	Units	20177741002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	17.9	10	25.7	78	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 962913 962914

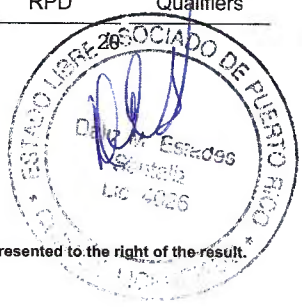
Parameter	Units	20178053001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	12.3	10	10	20.4	20.5	81	83	75-125	1		

SAMPLE DUPLICATE: 962401

Parameter	Units	20177741002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	17.9	17.0	5	20	

SAMPLE DUPLICATE: 962912

Parameter	Units	20178053001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	12.3	12.6	3	20	



Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

QUALIFIERS

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

WORKORDER QUALIFIERS

WO: 20177741

[1] In the EPA 300.0 analysis for analytical batch 699381, samples AES-MW4-102720 and AES-MW4-DUP-102720 were re-analyzed at a lower dilution outside holding time.

[2] See special project narrative on page 35.

[3] Results reported for sample 20177741006 have been revised to report 1:100 dilution for EPA 6020 analyses.

ANALYTE QUALIFIERS

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
20177741001	**AES-MW1-102720**				
20177741002	**AES-MW2-102720**				
20177741003	**AES-MW3-102720**				
20177741004	**AES-MW4-102720**				
20177741006	**AES-MW5-102720**				
20177741001	**AES-MW1-102720**	EPA 3010	205780	EPA 6020	205873
20177741002	**AES-MW2-102720**	EPA 3010	205780	EPA 6020	205873
20177741003	**AES-MW3-102720**	EPA 3010	205780	EPA 6020	205873
20177741004	**AES-MW4-102720**	EPA 3010	205780	EPA 6020	205873
20177741005	**AES-MW4-DUP-102720**	EPA 3010	205780	EPA 6020	205873
20177741006	**AES-MW5-102720**	EPA 3010	205780	EPA 6020	205873
20177741007	**AES-FB-102720**	EPA 3010	205780	EPA 6020	205873
20177741001	**AES-MW1-102720**	EPA 7470	205785	EPA 7470	205802
20177741002	**AES-MW2-102720**	EPA 7470	205785	EPA 7470	205802
20177741003	**AES-MW3-102720**	EPA 7470	205785	EPA 7470	205802
20177741004	**AES-MW4-102720**	EPA 7470	205785	EPA 7470	205802
20177741005	**AES-MW4-DUP-102720**	EPA 7470	205785	EPA 7470	205802
20177741006	**AES-MW5-102720**	EPA 7470	205785	EPA 7470	205802
20177741007	**AES-FB-102720**	EPA 7470	205785	EPA 7470	205802
20177741001	**AES-MW1-102720**	SM 2540C	205857		
20177741002	**AES-MW2-102720**	SM 2540C	205858		
20177741003	**AES-MW3-102720**	SM 2540C	205858		
20177741004	**AES-MW4-102720**	SM 2540C	205858		
20177741005	**AES-MW4-DUP-102720**	SM 2540C	205858		
20177741006	**AES-MW5-102720**	SM 2540C	205858		
20177741007	**AES-FB-102720**	SM 2540C	205858		
20177741001	**AES-MW1-102720**	EPA 300.0	697539		
20177741002	**AES-MW2-102720**	EPA 300.0	697539		
20177741003	**AES-MW3-102720**	EPA 300.0	697539		
20177741004	**AES-MW4-102720**	EPA 300.0	697539		
20177741004	**AES-MW4-102720**	EPA 300.0	699381		
20177741005	**AES-MW4-DUP-102720**	EPA 300.0	697539		
20177741005	**AES-MW4-DUP-102720**	EPA 300.0	699381		
20177741006	**AES-MW5-102720**	EPA 300.0	697539		
20177741007	**AES-FB-102720**	EPA 300.0	697539		
20177741001	**AES-MW1-102720**	SM 4500-Cl-E	205773		
20177741002	**AES-MW2-102720**	SM 4500-Cl-E	205773		
20177741003	**AES-MW3-102720**	SM 4500-Cl-E	205773		
20177741004	**AES-MW4-102720**	SM 4500-Cl-E	205773		
20177741005	**AES-MW4-DUP-102720**	SM 4500-Cl-E	205773		
20177741006	**AES-MW5-102720**	SM 4500-Cl-E	205773		
20177741007	**AES-FB-102720**	SM 4500-Cl-E	205773		
20177741001	**AES-MW1-102720**	ASTM D516-90,02	205776		

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR GW MONITORING AES-PR
Pace Project No.: 20177741

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
20177741002	**AES-MW2-102720**	ASTM D516-90,02	205776		
20177741003	**AES-MW3-102720**	ASTM D516-90,02	205776		
20177741004	**AES-MW4-102720**	ASTM D516-90,02	205776		
20177741005	**AES-MW4-DUP-102720**	ASTM D516-90,02	205776		
20177741006	**AES-MW5-102720**	ASTM D516-90,02	205776		
20177741007	**AES-FB-102720**	ASTM D516-90,02	205776		

WO# : 20177741

20177741

Order Number or MTJL Log-In Number Here

CHAIN-OF-CUSTODY Analytical Request Document

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ALL SHADED AREAS are for LAB USE ONLY

Company: DNA-Environment, LLC	**Billing Information:** DNA-Environment, LLC (same address)
Address: 35 Calle Juan C Borbon, STE 67-227, Guaynabo, PR 00969-5375	
Report To: Alberto Melendez	**Email To:** alberto.melendez@dnaenv.com
Copy To:	**Site Collection Info/Address:** AES Puerto Rico LP, Guayama, PR
Customer Project Name/Number: CCR Groundwater Monitoring, AES Puerto Rico LP, Guayama, PR	State: PR / County/City: Guayama / Time Zone Collected: PT MT CT ET (Zone = Atlantic Time)
Phone: 787-209-6386 **Email:** alberto.melendez@dnaenv.com	Site/Facility ID #
Collected by (print): VICENTE PORTER	Purchase Order #
Collected by (signature):	Quote #
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	**Turnaround Date Required:** Regular TAT
	RUSH: Next Day 2 Day 3 Day Same Day 4 Day 5 Day (Expedite Charges Apply)
	Compliance Monitoring? [ ] Yes [ ] No
	DW PWS ID #:
	DW Location Code #:
	Immediately Packed on Ice? [X] Yes [ ] No
	Field Filtered (if applicable): [ ] Yes [X] No
	Analysis: _____

Container Preservative Type **: U, 1

Lab Project Manager: Juan Redondo

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	SM4500_Cl_E-Chloride, Field pH, EPA_300- Fluoride, ASTM_D516-Sulfate, SM2540C-TDS	EPA 6020, EPA 7470- Total Metals (Sb,As,Ba,Be,B,Cd,Ca,Cr,Co,Pb,Li,Mo,Se,Ti; 7470-Hg)	Analyses	Field pH (SU):	↓ LAB USE ONLY: ↓ Sample # / Comments	Lab
AES-MW1-102720	GW	G	10/27/20	1005				2	X	X				
AES-MW2-102720	GW	G	10/27/20	1116				2	X	X		pH = 7.36		
AES-MW2-102720 MS	GW	G	10/27/20	1135				2	X	X		pH = 7.08		
AES-MW2-102720 MSD	GW	G	10/27/20	1154				2	X	X		—		
AES-MW3-102720	GW	G	10/27/20	1254				2	X	X		—		
AES-MW4-102720	GW	G	10/27/20	1453				2	X	X		pH = 7.45		
AES-MW4-DUP-102720	GW	G	10/27/20	1518				2	X	X		pH = 7.61		
AES-MW5-102720	GW	G	10/27/20	1607				2	X	X		—		
AES-FB-102720	Water	G	10/27/20	1610				2	X	X		pH = 6.90		
												—		

LAB Profile/Line: 14607 #1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	Y	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

Customer Remarks/ Special Conditions/ Possible Hazards: Temp @ SC 0.8°C

Type of Ice Used: Wet [ ] Blue [ ] Dry [ ] None [ ]

Packing Material Used:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

SHORT HOLDS PRESENT (< 72 hours): Y N N/A

LAB Tracking #:

Samples received via: [ ] FEDEX [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier

Relinquished by/Company : (Signature)	Date/Time: 10/28/20 10:30	Received by/Company : (Signature) PACE	Date/Time: 10/28/2010:30
Relinquished by/Company : (Signature)	Date/Time: 10/29/20 13:25	Received by/Company : (Signature) FedEx	Date/Time: 10/29/2020
Relinquished by/Company : (Signature) Fed Ex 10/31/2020 8:40	Date/Time:	Received by/Company : (Signature) 10/31/20 09:40	Date/Time:

MTJL LAB USE ONLY

Table #: _____

ACCT #: _____

Template: _____

Prelogin: _____

PM: _____

PB: _____

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID #: 10 05 1.6

Cooler 1 Temp Upon Receipt _____ oC

Cooler 1 Therm Corr. Factor _____ oC

Cooler 1 Corrected Temp _____ oC

Comments: _____

Trip Blank Received: Y N N/A

HCL MeOH TSP Other

NonConformance(s): YES / NO

Page _____ of _____

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Receipt

WO#: 20177741

PM: JAR1 Due Date: 11/11/

CLIENT: 98-DNAENVIRO

Project #: [illegible]

Courier: ☐ Pace Courier ☐ Hired Courier ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals intact:** ☑ Yes ☐ No

Therometer Used: ☐ Therm Fisher IR 7 ☑ Therm Fisher IR 10

Type of Ice: ~~Wet~~ Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 11/2/10

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☑ Yes	☐ No	☐ N/A	1
Chain of Custody Present:	☑ Yes	☐ No	☐ N/A	2
Chain of Custody Complete:	☑ Yes	☐ No	☐ N/A	3
Chain of Custody Relinquished:	☑ Yes	☐ No	☐ N/A	4
Sampler Name & Signature on COC:	☑ Yes	☐ No	☐ N/A	5
Samples Arrived within Hold Time:	☑ Yes	☐ No	☐ N/A	6
Sufficient Volume:	☑ Yes	☐ No	☐ N/A	7
Correct Containers Used:	☑ Yes	☐ No	☐ N/A	8
Filtered vol. Rec. for Diss. tests	☐ Yes	☐ No	☑ N/A	9
Sample Labels match COC:	☑ Yes	☐ No	☐ N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑ Yes	☐ No	☐ N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☑ Yes	☐ No	☐ N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☑ Yes	☐ No	☐ N/A	13 If No, was preserative added? ☐ Yes ☐ No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	☐ Yes	☐ No	☑ N/A	14
Trip Blank Present:	☐ Yes	☑ No		15

Client Notification/ Resolution:

Person Contacted: _____

Comments/ Resolution: _____ Date/Time: _____

Pace Analytical

Urb. Jardines de Guaynabo
Calle Virginia B-6 A-10
Guaynabo, PR 00969

Sample Condition Upon Receipt

Project #:

WO#: 20177741

PM: JAR1 **Due Date: 11/11/20**

CLIENT: 98-DNAENVIRO

Courier: ☐ Pace Courier ☐ Hired Courier ☐ Fed X ☐ UPS ☐ DHL ☐ USPS ☑ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] Custody Seals intact: ☐Yes ☐No

Therometer Used: ☑ Therm Fisher IR 4 #9 ☐ Therm Fisher IR 6 ☐ Therm Fisher IR 7

Type of Ice: (Wet) Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC] 0.8°C

Temp should be above freezing to 6°C

Date and initials of person examining contents: 10/28/2020 PJP/Pace

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☑Yes	☐No	☐N/A	1
Chain of Custody Present:	☑Yes	☐No	☐N/A	2
Chain of Custody Complete:	☑Yes	☐No	☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	6
Sufficient Volume:	☑Yes	☐No	☐N/A	7
Correct Containers Used:	☑Yes	☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☑N/A	9
Sample Labels match COC:	☑Yes	☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes	☐No	☐N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☑Yes	☐No	☐N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	14
Trip Blank Present:	☐Yes	☑No		15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

ALLC003rev.08, 15Feb2013pr SCUR Form - mod

PROJECT NARRATIVE

Samples 20177741004 (AES-MW4-102720) and 20177741005 (AES-MW4-DUP-102720) were analyzed for fluoride at a dilution factor of 100 due to high dissolved solids concentrations. Samples dilution resulted in reporting and detection limits above the comparison criterion. Reanalysis was performed at a dilution factor of 50, beyond the samples' holding time. Both the original and reanalysis results are reported.

December 24, 2020

Alberto Meléndez
DNA-ENVIRONMENT, LLC
35 Calle Juan C. Borbón STE 67
Guaynabo, PR 009695375

RE: Project: CCR GW MONITORING, AES-PR
Pace Project No.: 20177717

Dear Alberto Meléndez:

Enclosed are the analytical results for sample(s) received by the laboratory on October 28, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

This is a revised report. Total Radium data corrected due to high bias on Ra -228 result for sample 006.

Revision 2 - This report replaces the December 22, 2020 report. This project was revised on December 23, 2020 update the Radium Sum calculation for sample 006.

Revision 1 - This report replaces the December 3, 2020 report. This project was revised on December 22, 2020 to reanalyze the Ra-228. The original result was elevated due to the presence of radon daughters during the count which falsely elevate the beta count rate, and caused a high bias in the Ra-228 result. (Greensburg, PA)

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Juan Redondo
juan.redondo@pacelabs.com
(787)720-0319
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

CERTIFICATIONS

Project: CCR GW MONITORING, AES-PR
Pace Project No.: 20177717

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

SAMPLE SUMMARY

Project: CCR GW MONITORING, AES-PR
Pace Project No.: 20177717

Lab ID	Sample ID	Matrix	Date Collected	Date Received
20177717001	**AES-MW1-102720**	Water	10/27/20 10:05	10/28/20 10:30
20177717002	**AES-MW2-102720**	Water	10/27/20 11:16	10/28/20 10:30
20177717003	**AES-MW3-102720**	Water	10/27/20 12:54	10/28/20 10:30
20177717004	**AES-MW4-102720**	Water	10/27/20 14:53	10/28/20 10:30
20177717005	**AES-MW4-DUP-102720**	Water	10/27/20 15:18	10/28/20 10:30
20177717006	**AES-MW5-102720**	Water	10/27/20 16:07	10/28/20 10:30
20177717007	**AES-FB-102720**	Water	10/27/20 16:10	10/28/20 10:30
20177717008	**AES-MW2-102720 MS**	Water	10/27/20 11:35	10/28/20 10:30
20177717009	**AES-MW2-102720 MSD**	Water	10/27/20 11:54	10/28/20 10:30

SAMPLE ANALYTE COUNT

Project: CCR GW MONITORING, AES-PR
Pace Project No.: 20177717

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
20177717001	**AES-MW1-102720**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
20177717002	**AES-MW2-102720**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
20177717003	**AES-MW3-102720**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
20177717004	**AES-MW4-102720**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
20177717005	**AES-MW4-DUP-102720**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
20177717006	**AES-MW5-102720**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
20177717007	**AES-FB-102720**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
20177717008	**AES-MW2-102720 MS**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
20177717009	**AES-MW2-102720 MSD**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

PROJECT NARRATIVE

Project: CCR GW MONITORING, AES-PR
Pace Project No.: 20177717

Method: **EPA 9315**
Description: 9315 Total Radium
Client: DNA-ENVIRONMENT, LLC
Date: December 24, 2020

General Information:
9 samples were analyzed for EPA 9315 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: CCR GW MONITORING, AES-PR
Pace Project No.: 20177717

Method: **EPA 9320**
Description: 9320 Radium 228
Client: DNA-ENVIRONMENT, LLC
Date: December 24, 2020

General Information:
9 samples were analyzed for EPA 9320 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: CCR GW MONITORING, AES-PR
Pace Project No.: 20177717

Method: **Total Radium Calculation**
Description: Total Radium 228+226
Client: DNA-ENVIRONMENT, LLC
Date: December 24, 2020

General Information:
7 samples were analyzed for Total Radium Calculation by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR GW MONITORING, AES-PR
Pace Project No.: 20177717

Sample: AES-MW1-102720 **Lab ID: 20177717001** Collected: 10/27/20 10:05 Received: 10/28/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0360U ± 0.0835 (0.198) C:90% T:NA**	pCi/L	12/03/20 07:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.401U ± 0.619 (1.34) C:51% T:78%**	pCi/L	11/16/20 15:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.437U ± 0.703 (1.54)**	pCi/L	12/03/20 10:19	7440-14-4	

Sample: AES-MW2-102720 **Lab ID: 20177717002** Collected: 10/27/20 11:16 Received: 10/28/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.176U ± 0.148 (0.288) C:81% T:NA**	pCi/L	12/03/20 07:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.663U ± 0.592 (1.20) C:51% T:80%**	pCi/L	11/16/20 15:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.839U ± 0.740 (1.49)**	pCi/L	12/03/20 10:19	7440-14-4	

Sample: AES-MW3-102720 **Lab ID: 20177717003** Collected: 10/27/20 12:54 Received: 10/28/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0348U ± 0.0932 (0.224) C:85% T:NA**	pCi/L	12/03/20 07:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.46U ± 0.832 (1.58) C:58% T:76%**	pCi/L	11/16/20 15:13	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.49U ± 0.925 (1.80)**	pCi/L	12/03/20 10:19	7440-14-4	

REPORT OF LABORATORY ANALYSIS

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR GW MONITORING, AES-PR
Pace Project No.: 20177717

Sample: AES-MW4-102720 **Lab ID: 20177717004** Collected: 10/27/20 14:53 Received: 10/28/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.00755U ± 0.0582 (0.155) C:92% T:NA**	pCi/L	12/03/20 07:28	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.11U ± 0.638 (1.20) C:61% T:84%**	pCi/L	11/16/20 15:13	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.12U ± 0.696 (1.36)**	pCi/L	12/03/20 10:19	7440-14-4	

Sample: AES-MW4-DUP-102720 **Lab ID: 20177717005** Collected: 10/27/20 15:18 Received: 10/28/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**-0.00410U ± 0.0643 (0.179) C:94% T:NA**	pCi/L	12/03/20 07:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.629U ± 0.601 (1.25) C:62% T:84%**	pCi/L	11/16/20 15:13	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.629U ± 0.665 (1.43)**	pCi/L	12/03/20 10:19	7440-14-4	

Sample: AES-MW5-102720 **Lab ID: 20177717006** Collected: 10/27/20 16:07 Received: 10/28/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**-0.0308U ± 0.0691 (0.214) C:82% T:NA**	pCi/L	12/03/20 07:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.182U ± 0.439 (0.973) C:77% T:77%**	pCi/L	12/16/20 11:20	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.182U ± 0.508 (1.19)**	pCi/L	12/23/20 10:29	7440-14-4	

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CCR GW MONITORING, AES-PR
Pace Project No.: 20177717

Sample: AES-FB-102720 **Lab ID: 20177717007** Collected: 10/27/20 16:10 Received: 10/28/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0668U ± 0.111 (0.250) C:84% T:NA**	pCi/L	12/03/20 07:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.378U ± 0.545 (1.17) C:58% T:82%**	pCi/L	11/16/20 12:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.445U ± 0.656 (1.42)**	pCi/L	12/03/20 10:19	7440-14-4	

Sample: AES-MW2-102720 MS **Lab ID: 20177717008** Collected: 10/27/20 11:35 Received: 10/28/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**97.45 %REC ± NA (NA) C:NA T:NA**	pCi/L	12/03/20 08:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**110.57 %REC ± NA (NA) C:NA T:NA**	pCi/L	11/16/20 12:41	15262-20-1	

Sample: AES-MW2-102720 MSD **Lab ID: 20177717009** Collected: 10/27/20 11:54 Received: 10/28/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**94.05 %REC 3.55RPD ± NA (NA) C:NA T:NA**	pCi/L	12/03/20 08:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**120.05 %REC 8.22 RPD ± NA (NA) C:NA T:NA**	pCi/L	11/16/20 15:04	15262-20-1	

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL - RADIOCHEMISTRY

Project: CCR GW MONITORING, AES-PR
Pace Project No.: 20177717

QC Batch: 421607
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 20177717001, 20177717002, 20177717003, 20177717004, 20177717005, 20177717006, 20177717007, 20177717008, 20177717009

METHOD BLANK: 2037883 Matrix: Water
Associated Lab Samples: 20177717001, 20177717002, 20177717003, 20177717004, 20177717005, 20177717006, 20177717007, 20177717008, 20177717009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.160 ± 0.307 (0.760) C:61% T:88%	pCi/L	11/16/20 12:03	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL - RADIOCHEMISTRY

Project: CCR GW MONITORING, AES-PR
Pace Project No.: 20177717

QC Batch: 422400 | Analysis Method: EPA 9315
QC Batch Method: EPA 9315 | Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 20177717001, 20177717002, 20177717003, 20177717004, 20177717005, 20177717006, 20177717007, 20177717008, 20177717009

METHOD BLANK: 2041744 Matrix: Water
Associated Lab Samples: 20177717001, 20177717002, 20177717003, 20177717004, 20177717005, 20177717006, 20177717007, 20177717008, 20177717009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.323 ± 0.355 (0.739) C:94% T:NA	pCi/L	11/13/20 07:06	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

QUALIFIERS

Project: CCR GW MONITORING, AES-PR
Pace Project No.: 20177717

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR GW MONITORING, AES-PR
Pace Project No.: 20177717

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
20177717001	**AES-MW1-102720**	EPA 9315	422400		
20177717002	**AES-MW2-102720**	EPA 9315	422400		
20177717003	**AES-MW3-102720**	EPA 9315	422400		
20177717004	**AES-MW4-102720**	EPA 9315	422400		
20177717005	**AES-MW4-DUP-102720**	EPA 9315	422400		
20177717006	**AES-MW5-102720**	EPA 9315	422400		
20177717007	**AES-FB-102720**	EPA 9315	422400		
20177717008	**AES-MW2-102720 MS**	EPA 9315	422400		
20177717009	**AES-MW2-102720 MSD**	EPA 9315	422400		
20177717001	**AES-MW1-102720**	EPA 9320	421607		
20177717002	**AES-MW2-102720**	EPA 9320	421607		
20177717003	**AES-MW3-102720**	EPA 9320	421607		
20177717004	**AES-MW4-102720**	EPA 9320	421607		
20177717005	**AES-MW4-DUP-102720**	EPA 9320	421607		
20177717006	**AES-MW5-102720**	EPA 9320	421607		
20177717007	**AES-FB-102720**	EPA 9320	421607		
20177717008	**AES-MW2-102720 MS**	EPA 9320	421607		
20177717009	**AES-MW2-102720 MSD**	EPA 9320	421607		
20177717001	**AES-MW1-102720**	Total Radium Calculation	425616		
20177717002	**AES-MW2-102720**	Total Radium Calculation	425616		
20177717003	**AES-MW3-102720**	Total Radium Calculation	425616		
20177717004	**AES-MW4-102720**	Total Radium Calculation	425616		
20177717005	**AES-MW4-DUP-102720**	Total Radium Calculation	425616		
20177717006	**AES-MW5-102720**	Total Radium Calculation	428426		
20177717007	**AES-FB-102720**	Total Radium Calculation	425616		

WO# : 20177717

20177717

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

Chain-of-Custody is a LEGAL DOCUMENT. Complete all relevant fields.

Number or MTJL Log-in Number Here

ALL SHADED AREAS are for LAB USE ONLY

Company: DNA-Environment, LLC	**Billing Information:** DNA-Environment, LLC (same address)
Address: 35 Calle Juan C Borbon, STE 67-227, Guaynabo, PR 00969-5375	
Report To: Alberto Melendez	**Email To:** alberto.melendez@dnaenv.com
Copy To:	**Site Collection Info/Address:** AES Puerto Rico LP, Guayama, PR
Customer Project Name/Number: CCR Groundwater Monitoring, AES Puerto Rico LP, Guayama, PR	**State** PR / **County/City** Guayama / PT **Time Zone Collected** MT CT ET (Zone = Atlantic Time)
Phone: 787-209-6386 **Email:** alberto.melendez@dnaenv.com	**Site/Facility ID #**
Collected by (print): Vicente Perez	**Purchase Order #**
Collected by (signature):	**Quote #**
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	**Turnaround Date Required:** 21-day TAT
	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)
	Compliance Monitoring? [ ] Yes [ ] No
	DW PWS ID #:
	DW Location Code #:
	Immediately Packed on Ice? [X] Yes [ ] No
	Field Filtered (if applicable): [ ] Yes [X] No
	Analysis: _____

Container Preservative Type **: 1

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (E) Unpreserved, (O) Other _____

Lab Project Manager: Juan Redondo

Analyses

LAB Pestel Line: 14687 #1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volumes	Y	N	NA
Samples received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	Y	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

* Matrix Codes (insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Cntrs	8315_Ra226, 9320_Ra228, and Radium-228 combined								Field pH (SU):	Lab Sample # / Comments
AES-MW1-102720	GW	G	10/27/20	1005				2	X								pH = 7.36	
AES-MW2-102720	GW	G	10/27/20	1116				2	X								pH = 7.08	
AES-MW2-102720 MS	GW	G	10/27/20	1135				2	X								—	
AES-MW2-102720 MSD	GW	G	10/27/20	1154				2	X								—	
AES-MW3-102720	GW	G	10/27/20	1254				2	X								pH = 7.45	
AES-MW4-102720	GW	G	10/27/20	1453				2	X								pH = 7.61	
AES-MW4-DUP-102720	GW	G	10/27/20	1518				2	X								—	
AES-MW5-102720	GW	G	10/27/20	1607				2	X								pH = 6.90	
AES-FB-102720	Water	G	10/27/20	1610				2	X								—	

Customer Remarks/ Special Conditions/ Possible Hazards: Temps 5(2.8-3°C)

Type of Ice Used: Wet [ ] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y N N/A

Packing Material Used:

LAB Tracking #:

Radiochem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: [ ] FEDEX [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier

MTJL LAB USE ONLY

Table #: _____

ACCT #: _____

Template: _____

Prelogin: _____

PM: _____

PB: _____

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID #: _____

Cooler 1 Temp Upon Receipt _____ oC

Cooler 1 Therm Corr. Factor _____ oC

Cooler 1 Corrected Temp _____ oC

Comments: _____

Trip Blank Received: Y N N/A

HCL MeOH TSP Other

Non-Conformance(s): YES / NO

Page _____ of _____

Relinquished by/Company : (Signature)	Date/Time: 10/28/20 10:30	Received by/Company : (Signature) PACE	Date/Time: 10/28/20 10:30
Relinquished by/Company : (Signature)	Date/Time: 11/2/2020 1320	Received by/Company : (Signature) FedEx	Date/Time: 11/2/2020 1340
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

Pace Analytical

Urb. Jardines de Guaynabo
Calle Miguel B c A-10
Guaynabo, PR - 00969

Sample Condition Upon Recei

Project

WO#: 20177717

PM: JAR1 **Due Date: 11/11/20**

CLIENT: 98-DNAENVIRO

Courier: ☐ Pace Courier ☐ Hired Courier ☐ Fed X ☐ UPS ☐ DHL ☐ USPS ☑ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] Custody Seals intact: ☐Yes ☐No

Therometer Used: ☑ Therm Fisher IR 4 #9 ☐ Therm Fisher IR 6 ☐ Therm Fisher IR 7

Type of Ice: (Wet) Blue None

Samples on ice: [see COC]

Date and Initials of person examining contents: 10-26-2020 PMP/Pace

Cooler Temperature: [see COC] 2.4-2.8 pr

Temp should be above freezing to 6°C

Temp must be measured from Temperature blank when present

			Comments:
Temperature Blank Present"?	☑Yes ☐No ☐N/A	1	
Chain of Custody Present:	☑Yes ☐No ☐N/A	2	
Chain of Custody Complete:	☑Yes ☐No ☐N/A	3	
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	4	
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	5	
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	6	
Sufficient Volume:	☑Yes ☐No ☐N/A	7	
Correct Containers Used:	☑Yes ☐No ☐N/A	8	
Filtered vol. Rec. for Diss. tests	☐Yes ☐No ☑N/A	9	
Sample Labels match COC:	☑Yes ☐No ☐N/A	10	
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes ☐No ☐N/A	11	
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☑Yes ☐No ☐N/A	12	
All containers preservation checked found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	13	If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	14	
Trip Blank Present:	☐Yes ☑No	15	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Internal Transfer Chain of Custody

WO# : 30390666

30390666

Page 17 of 18

☐ Samples Pre-Logged into eCOC.

Cert. Needed: ☐ Yes

Workorder: 20177717 Workorder Name: CCR GROUNDWATER MONITORING Owner Received Date: 10/28/2020 Results Requested By: 11/11/2020

Report To	Subcontract To
Juan Redondo Pace PR Service Center Urb. Jardines de Guaynabo Calle Marginal Blq A-10 Guayanbo, PR 00969 Phone (787)720-0319	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	RADs 9315/9320	LAB USE ONLY
1	AES-MW1-102720	PS	10/27/2020 10:05	20177717001	Water	2	X	001
2	AES-MW2-102720	PS	10/27/2020 11:16	20177717002	Water	2	X	002
3	AES-MW3-102720	PS	10/27/2020 12:54	20177717003	Water	2	X	003
4	AES-MW4-102720	PS	10/27/2020 14:53	20177717004	Water	2	X	004
5	AES-MW4-DUP-102720	PS	10/27/2020 15:18	20177717005	Water	2	X	005
6	AES-MW5-102720	PS	10/27/2020 16:07	20177717006	Water	2	X	006
7	AES-FB-102720	PS	10/27/2020 16:10	20177717007	Water	2	X	007
8	AES-MW2-102720 MS	PS	10/27/2020 11:35	20177717008	Water	2	X	008
9	AES-MW2-102720 MSD	PS	10/27/2020 11:54	20177717009	Water	2	X	009

Transfers	Released By	Date/Time	Received By	Date/Time
1	PACE	11/2/20 1700		11/3 1030
2				
3				

Comments

methods 9315/9320
use profile # 13600

Cooler Temperature on Receipt ___ °C | **Custody Seal** Y or (N) | **Received on Ice** Y or (N) | **Samples Intact** (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical Client Name: Pace PA Project # # 30390666

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Label OSM
LIMS Login JSM

Tracking #: 9371 9140 0585

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Thermometer Used — Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

pH paper Lot# 10100401 Date and Initials of person examining contents: OSM 11/4/2020

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC:	✓			5.
-Includes date/time/ID Matrix: WT				
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:		✓		
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. pH<2
All containers meet method preservation requirements.	✓			Initial when completed: OSM Date/time of preservation:
				Lot # of added preservative:
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:			✓	18.
Trip Blank Custody Seals Present			✓	
Rad Samples Screened < 0.5 mrem/hr	✓			Initial when completed: OSM Date: 11/4/2020

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

J:\QAQC\Master\Document Management\Sample Mgt\Sample Condition Upon Receipt Pittsburgh (C056-8 5April2019)

APPENDIX B
Field Data Sheets

LOW FLOW SAMPLING DATA SHEET

DNA-ENVIRONMENT, LLC

SHEET 1 OF 1

SITE: AES Puerto Rico, LP in Guayama, Puerto Rico
PROJECT NAME: CCR Groundwater Monitoring
DATE: 5/18/20
FIELD PERSONNEL:
WEATHER Sunny

MONITORING WELL: MW-1
WELL DEPTH: 26.0
SCREENED/OPEN INTERVAL:
LOCATION:
WELL DIAMETER: 2 Inches

PID/FID READINGS (ppm): BACKGROUND: NA
BENEATH OUTER CAP: NA
BENEATH INNER CAP: NA
PUMP INTAKE DEPTH: _____ ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.48 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units)		CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
8:53			7.13	NA	4.076	NA	-30.2	NA	1.90	NA	69.73	NA	29.88	NA	150	14.49
8:58			7.14		3.730		-35.4		1.24		67.95		29.96		150	14.49
9:03			7.18		3.618		-33.6		1.23		55.45		30.06		150	14.49
9:08			7.24		3.576		-56.1		1.26		33.74		30.02		150	14.49
9:13			7.20		3.553		-66.6		1.27		18.90		29.98		150	14.50
9:18			7.18		3.525		-44.9		1.36		12.88		29.89		150	14.50
9:23			7.19		3.515		-49.8		1.34		12.28		29.88		150	14.50
9:28			7.14		3.509		-63.5		1.39		13.45		29.87		150	14.52
9:33			7.13		3.502		-68.5		1.43		12.12		29.85		150	14.52

COMMENTS: Sample AES-MW1-05-18-20 @ 9:45

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

DNA-ENVIRONMENT, LLC

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: AES Puerto Rico, LP in Guayama, Puerto Rico
PROJECT NAME: CCR Groundwater Monitoring
DATE: 5/18/20
FIELD PERSONNEL: A. Melendez / V. Perez / R. Diaz
WEATHER: Sunny

MONITORING WELL: MW-2
WELL DEPTH: 22.90
SCREENED/OPEN INTERVAL:
LOCATION:
WELL DIAMETER: 2 Inches

PID/FID READINGS (ppm): BACKGROUND: NA
BENEATH OUTER CAP: NA
BENEATH INNER CAP: NA
PUMP INTAKE DEPTH: _____ ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.42 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	CONDUCTIVITY (mS/cm) READING	CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
10:21			7.35	NA	1.577	NA	-59.3	NA	2.20	NA	60.04	NA	30.28	NA	150	14.42
10:26			7.24		1.554		-61.3		2.16		74.76		30.27		150	14.43
10:31			7.18		1.554		-68.2		2.30		43.99		30.31		150	14.42
10:36			7.18		1.551		-57.9		2.39		21.79		30.28		150	14.42
10:41			7.16		1.545		-62.0		2.46		13.46		30.27		150	14.42
10:46			7.16		1.545		-60.0		2.53		9.90		30.23		150	14.42
10:51			7.13		1.540		-56.6		2.52		8.66		30.26		150	14.42

COMMENTS: Samples: AES-MW2-05-18-20 @11:05
AES-MW2-05.18.20MS 11:18
AES-MW2-05.18.20MSD @11:32

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

DNA-ENVIRONMENT, LLC

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 2

SITE: AES Puerto Rico, LP in Guayama, Puerto Rico
PROJECT NAME: CCR Groundwater Monitoring
DATE: 5/18/22
FIELD PERSONNEL: A. Melendez / V. Perez / R. Diaz
WEATHER: Sunny

MONITORING WELL: MW-3
WELL DEPTH: 27.05
LOCATION:
WELL DIAMETER: 2 Inches
SCREENED/OPEN INTERVAL:

PID/FID READINGS (ppm):
BACKGROUND: NA
BENEATH OUTER CAP: NA
BENEATH INNER CAP: NA
PUMP INTAKE DEPTH: _____ ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 15.52 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	CONDUCTIVITY (mS/cm) READING	CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
12:15			7.47	NA	18.38	NA	-67.3	NA	1.84	NA	83.36	NA	31.20	NA	150	15.63
12:20			7.33		17.57		-91.2		1.76		69.34		31.17		150	15.62
12:25			7.35		16.80		-79.1		1.81		46.03		31.04		150	15.64
12:30			7.37		16.27		-90.9		1.87		34.58		30.95		150	15.63
12:35			7.38		15.84		-111.9		1.92		27.53		30.92		150	15.63
12:40			7.37		15.58		-116.8		1.90		22.35		31.00		150	15.63
12:45			7.38		15.41		-118.8		1.95		17.69		31.02		150	15.63
12:50			7.33		15.31		-75.1		1.97		17.08		30.97		150	15.63
12:55			7.30		15.15		-90.2		1.99		16.10		31.00		150	15.63
13:00			7.26		15.08		-101.5		2.04		14.30		30.98		150	15.63
13:05			7.29		15.03		-100.8		2.05		14.79		31.02		150	15.63

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

LOW FLOW SAMPLING DATA SHEET

DNA-ENVIRONMENT, LLC

SHEET 2 OF 2

SITE: AES Puerto Rico, LP in Guayama, Puerto Rico
PROJECT NAME: CCR Groundwater Monitoring
DATE: 5/18/20
FIELD PERSONNEL: A. Melendez / V. Perez / R. Diaz
WEATHER: Sunny

MONITORING WELL: MW-3
WELL DEPTH: 27.05
SCREENED/OPEN INTERVAL:
LOCATION:
WELL DIAMETER: 2 Inches

PID/FID READINGS (ppm):
BACKGROUND: NA
BENEATH OUTER CAP: NA
BENEATH INNER CAP: NA

PUMP INTAKE DEPTH: _____ ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 15.52 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	CONDUCTIVITY (mS/cm) READING	CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
13:10			7.08	NA	14.99	NA	102.9	NA	2.08	NA	12.03	NA	30.93	NA	150	15.63
13:15																

COMMENTS: Sample AES-MW3-5-18-20 @ 13:27

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

DNA-ENVIRONMENT, LLC

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: AES Puerto Rico, LP in Guayama, Puerto Rico
PROJECT NAME: CCR Groundwater Monitoring
DATE: 5/18/20
FIELD PERSONNEL: A. Melendez / V. Perez / R. Díaz
WEATHER: Sunny

MONITORING WELL: MW-4
WELL DEPTH: 28.60
SCREENED/OPEN INTERVAL:
LOCATION:
WELL DIAMETER: 2 Inches

PID/FID READINGS (ppm): BACKGROUND: NA
BENEATH OUTER CAP: NA
BENEATH INNER CAP: NA
PUMP INTAKE DEPTH: _____ ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.21 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	CONDUCTIVITY (mS/cm) READING	CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
14:10			7.50	NA	56.31	NA	-615.6	NA	1.36	NA	36.30	NA	33.52	NA	154	14.67
14:15			7.46		57.08		-631.2		1.15		30.88		33.59		154	14.72
14:20			7.46		57.36		-628.9		1.14		26.04		33.63		154	14.75
14:25			7.45		57.46		-644.4		1.13		20.07		33.62		154	14.76
14:30			7.44		57.44		-643.4		1.17		23.58		33.59		154	14.78
14:35			7.42		57.46		-644.6		1.19		16.25		33.65		154	14.78
14:40			7.43		57.46		-640.1		1.22		18.47		33.60		154	14.78
14:45			7.42		57.47		-634.1		1.26		20.64		33.64		154	14.78
14:50			7.43		57.47		-640.6		1.27		19.78		33.60		154	14.80
14:55																

COMMENTS: Sample AES-MW4-05.18.20 @15:07
AES-MW4-05.18.20-Dup @15:24

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

LOW FLOW SAMPLING DATA SHEET

DNA-ENVIRONMENT, LLC

SHEET 1 OF 2

SITE: AES Puerto Rico, LP in Guayama, Puerto Rico
PROJECT NAME: CCR Groundwater Monitoring
DATE: 5/18/22
FIELD PERSONNEL: A. Melendez / V. Perez / R. Díaz
WEATHER: Sunny

MONITORING WELL: MW-5
WELL DEPTH: 27.60
SCREENED/OPEN INTERVAL:
LOCATION:
WELL DIAMETER: 2 Inches

PID/FID READINGS (ppm): BACKGROUND: NA
BENEATH OUTER CAP: NA
BENEATH INNER CAP: NA
PUMP INTAKE DEPTH: _____ ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 15.56 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	CONDUCTIVITY (mS/cm) READING	CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
15:57			7.81	NA	22.27	NA	-17.3	NA	4.10	NA	172.1	NA	30.07	NA	150	15.77
16:02			7.51		22.00		-44.3		3.40		132.7		30.02		150	15.78
16:07			7.37		21.62		-50.6		3.56		107.9		30.03		150	15.80
16:12			7.35		21.29		-37.2		3.62		87.87		29.91		150	15.80
16:17			7.30		21.06		-44.5		3.60		71.82		29.76		150	15.80
16:22			7.27		20.84		-59.0		3.62		60.76		29.65		150	15.80
16:27			7.23		20.68		-53.7		3.62		54.02		29.61		150	15.84
16:32			7.21		20.55		-63.4		3.58		47.55		29.55		150	15.84
16:37			7.19		20.48		-66.0		3.58		46.18		29.51		150	15.80
16:42			7.16		20.44		-64.2		3.58		37.73		29.41		150	15.80
16:47			7.15		20.30		-55.3		3.65		33.12		29.42		150	15.80

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

DNA-ENVIRONMENT, LLC

LOW FLOW SAMPLING DATA SHEET

SITE: AES Puerto Rico, LP in Guayama, Puerto Rico
PROJECT NAME: CCR Groundwater Monitoring
DATE: 5/18/20
FIELD PERSONNEL: A. Melendez / V. Perez / R. Diaz
WEATHER: Sunny

MONITORING WELL: MW-5
WELL DEPTH: 27.60
SCREENED/OPEN INTERVAL:
LOCATION:
WELL DIAMETER: 2 Inches

PID/FID READINGS (ppm):
BACKGROUND: NA
BENEATH OUTER CAP: NA
BENEATH INNER CAP: NA
PUMP INTAKE DEPTH: _____ ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 15.56 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	CONDUCTIVITY (mS/cm) READING	CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
16:52			7.14	NA	20.21	NA	-56.9	NA	3.60	NA	30.13	NA	29.30	NA	150	15.80
16:57			7.14		20.15		-58.6		3.57		27.80		29.41		120	15.81
17:02			7.07		20.11		-55.2		3.59		26.77		29.37		120	15.76
17:07																
17:12																

COMMENTS: Sample AES-MW5-05.18.20 @ 17:27

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Date of Calibration: 5/18/20 Technician: A. Diaz

Instrument Serial Number:_____ Software Revision:_____ Cable Model Number:_____

Temperature Reading 30.21 Temperature Accurate: (Y) N

DO Sensor in use: Polarographic Galvanic Sensor notated in Sensor menu? (Y) N

DO membrane changed? Y (N) Color of Membrane Blue Color notated in Sensor menu? (Y) N

Record the following calibration values:

	Pre Cal	After Cal
Conductivity	.920	1.404
ORP	692	220
DO	93.0	100.8

True Barometric Pressure at time of calibration 30.15

	Pre Cal		
pH 7	-1.19	pH mV value_____	Range 0 mV ± 50 mV
pH 4	4.96	pH mV value_____	Range +165 to +180 from 7 buffer mV value
pH 10	15.53	pH mV value_____	Range -165 to -180 from 7 buffer mV value

NOTE: See pH Cal tips section for additional information. Span between pH 4 and 7 and 7 and 10 mV values should be ≈ 165 to 180 mV. 177 is the ideal distance or 59 mV per pH unit.

Ammonium
- 1st point (1 mg/L) _____ NH4 mV value_____ Range: 0 mV +/- 20 mV (new sensor only)
- 2nd point (100 mg/L)_____ NH4 mV value_____ Range: 90 to 130 mV > 1 mg/L mV value

Nitrate
- 1st point (1 mg/L) _____ NO3 mV value_____ Range: 200 mV +/- 20 mV (new sensor only)
- 2nd point (100 mg/L)_____ NO3 mV value_____ Range: 90 to 130 mV < 1 mg/L mV value

Chloride
- 1st point (10 mg/L) _____ Cl mV value _____ Range: 225 mV +/- 20 mV (new sensor only)
- 2nd point (1000mg/L)_____ Cl mV value _____ Range: 80 to 130 < 10 mg/L mV value

Record the following diagnostic numbers **after** calibration, by viewing the .glp file and reading the values for the day's calibration

Conductivity Cal Cell Constant _____ Range 5.0 +/- 1.0 acceptable

DO Sensor Value (uA) _____ (Membrane dependent, see DO Cal Tips)

pH Slope _____ (≈ 55 to 60 mV/pH, 59 ideal)

pH Slope % of ideal _____

Turbidity Meter was calibrated at 6:45 AM

LOW FLOW SAMPLING DATA SHEET

DNA-ENVIRONMENT, LLC

SHEET 1 OF 1

SITE: AES Puerto Rico, LP in Guayama, Puerto Rico
PROJECT NAME: CCR Groundwater Monitoring
DATE: 10/27/20
FIELD PERSONNEL: A. Melendez / V. Perez / R. Diaz
WEATHER: Cloudy

MONITORING WELL: MW-1
WELL DEPTH: 26.20
SCREENED/OPEN INTERVAL:
LOCATION: AES
WELL DIAMETER: 2 Inches

PID/FID READINGS (ppm): BACKGROUND: NA
BENEATH OUTER CAP: NA
BENEATH INNER CAP: NA
PUMP INTAKE DEPTH: ____ ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 15.23 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	CONDUCTIVITY (mS/cm) READING	CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
9:00			6.63	NA	2.504	NA	150	NA	2.97	NA		NA	28.5	NA	100	15.24
9:05			6.95		2.503		147		2.41				29.10		106	15.24
9:10			7.07		2.498		149		2.22				29.20		106	15.24
9:15			7.18		2.496		152		2.04		22.0		29.35		106	15.24
9:20			7.27		2.497		154		2.07				29.52		106	15.24
9:25			7.29		2.499		157		2.01				29.60		106	15.24
9:30			7.36		2.501		161		1.84		7.74		29.59		106	15.24

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

LOW FLOW SAMPLING DATA SHEET

DNA-ENVIRONMENT, LLC

SHEET 1 OF 1

SITE: AES Puerto Rico, LP in Guayama, Puerto Rico
PROJECT NAME: CCR Groundwater Monitoring
DATE: 10/27/20
FIELD PERSONNEL: A. Melander / V. Perez / R. Diaz
WEATHER: Cloudy

MONITORING WELL: MW-2
WELL DEPTH: 22.80
SCREENED/OPEN INTERVAL:
LOCATION:
WELL DIAMETER: 2 Inches

PID/FID READINGS (ppm): BACKGROUND: NA
BENEATH OUTER CAP: NA
BENEATH INNER CAP: NA
PUMP INTAKE DEPTH: _____ ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 15.27 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	CONDUCTIVITY (mS/cm) READING	CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
10:20			6.58	NA	1.058	NA	200	NA	1.97	NA	20.2	NA	29.96	NA	126	15.29
10:25			6.96		.949		155		1.30		13.3		29.95		126	15.29
10:30			6.99		.879		162		1.39		7.68		30.05		126	15.29
10:35			7.01		.852		168		1.33		7.44		30.14		126	15.29
10:40			7.02		.832		171		1.46		5.79		30.16		126	15.29
10:45			7.02		.829		173		1.40		5.02		30.24		126	15.29
10:50			7.04		.830		189		1.46		5.46		30.31		126	15.29
10:55			7.08		.830		179		1.50		5.10		30.32		126	15.29

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

LOW FLOW SAMPLING DATA SHEET

DNA-ENVIRONMENT, LLC

SHEET 1 OF 1

SITE: AES Puerto Rico, LP in Guayama, Puerto Rico
PROJECT NAME: CCR Groundwater Monitoring
DATE: 10/27/22
FIELD PERSONNEL: A. Melendez / V. Perez / R. Diaz
WEATHER: Cloudy

MONITORING WELL: MW-3
WELL DEPTH: 27.15
SCREENED/OPEN INTERVAL:
LOCATION: AES
WELL DIAMETER: 2 Inches

PID/FID READINGS (ppm): BACKGROUND: NA
BENEATH OUTER CAP: NA
BENEATH INNER CAP: NA
PUMP INTAKE DEPTH: _____ ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 13.94 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	CONDUCTIVITY (mS/cm) READING	CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
11:36			7.08	NA	12.80	NA	~~200~~	NA	262	NA	12.90	NA	30.79	NA	146	14.24
11:41			7.32		15.35		168		1.90		13.1		30.95		146	14.22
11:46			7.33		15.63		162		.46		18.4		30.99		146	14.22
11:51			7.32		15.52		42		.45		19.2		31.05		96	14.10
11:56			7.36		15.07		26		.42		15.9		31.04		96	14.10
12:01			7.34		14.70		13		.44		15.7		31.10		96	14.10
12:06			7.32		14.33		-28		.40		20.8		31.20		96	14.09
12:11			7.35		14.08		-22		.47		12.5		31.41		96	14.09
12:16			7.39		13.80		-43		.45		11.3		31.51		96	14.09
12:21			7.41		13.71		-43		.44		11.6		31.68		96	14.09
12:26			7.45		13.63		-43		.48		12.1		31.68		96	14.09

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

LOW FLOW SAMPLING DATA SHEET

DNA-ENVIRONMENT, LLC

SHEET 1 OF 2

SITE: AES Puerto Rico, LP in Guayama, Puerto Rico
PROJECT NAME: CCR Groundwater Monitoring
DATE: 10/27/20
FIELD PERSONNEL: A. Melendez / V. Perez / R. Diaz
WEATHER: Sunny

MONITORING WELL: MW-4
WELL DEPTH: 28.78
SCREENED/OPEN INTERVAL:
LOCATION:
WELL DIAMETER: Inches

PID/FID READINGS (ppm):
BACKGROUND: NA
BENEATH OUTER CAP: NA
BENEATH INNER CAP: NA
PUMP INTAKE DEPTH: _____ ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 13.76 (13.76) ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	CONDUCTIVITY (mS/cm) READING	CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
				NA		NA		NA		NA		NA		NA		
1325			7.69		42.40		142		0.49		88.3		33.38		122	14.11
13:30			7.50		42.34		92		0.39		133		33.37		98	14.10
13:35			7.50		42.28		17		.31		106		33.35		98	14.09
13:40			7.50		42.21		-7		.28		100		33.29		98	14.09
13:45			7.60		42.12		-30		.30		97.8		33.30		98	14.09
13:50			7.61		42.06		-34		.27		89.4		33.27		98	14.09
13:55			7.60		42.02		-46		.25		67.0		33.21		98	14.09
14:00			7.61		41.94		-53		.24		63.9		33.20		98	14.09
14:05			7.64		41.88		-60		.24		57.3		33.20		98	14.09
14:10			7.60		41.83		-71		.22		48.0		33.19		98	14.09

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

LOW FLOW SAMPLING DATA SHEET

DNA-ENVIRONMENT, LLC

SITE: AES Puerto Rico, LP in Guayama, Puerto Rico
PROJECT NAME: CCR Groundwater Monitoring
DATE: 10/27/20
FIELD PERSONNEL: A. Melander / V. Perez / B. Diaz
WEATHER Sunny

MONITORING WELL: MW-4
WELL DEPTH: 28.78
SCREENED/OPEN INTERVAL:
LOCATION:
WELL DIAMETER: 2 Inches

PID/FID READINGS (ppm):
BACKGROUND: NA
BENEATH OUTER CAP: NA
BENEATH INNER CAP: NA
PUMP INTAKE DEPTH: _____ ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 13.76 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units)		CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
				NA		NA		NA		NA		NA		NA		
14:15			7.62		41.79		-64		.22		55.40		33.9		98	14.09
14:20			7.61		41.77		-76		.21		41.7		33.17		98	14.09
14:25			7.61		41.71		-81		.20		47.4		33.22		98	14.09
14:30																

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

LOW FLOW SAMPLING DATA SHEET

DNA-ENVIRONMENT, LLC

SHEET 1 OF 1

SITE: AES Puerto Rico, LP in Guayama, Puerto Rico
PROJECT NAME: CCR Groundwater Monitoring
DATE: 10/27/20
FIELD PERSONNEL: A. Molander / V. Perez / R. Diaz
WEATHER: Sunny

MONITORING WELL: MW-5
WELL DEPTH: 27.22
SCREENED/OPEN INTERVAL:
LOCATION: AES
WELL DIAMETER: 2 Inches

PID/FID READINGS (ppm): BACKGROUND: NA
BENEATH OUTER CAP: NA
BENEATH INNER CAP: NA
PUMP INTAKE DEPTH: _____ ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 13.92 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units)		CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
15:15			6.82	NA	14.60	NA	-43	NA	1.18	NA	18.7	NA	29.86	NA	146	14.04
15:20			6.83		14.52		-42		.73		18.0		29.82		104	14.04
15:25			6.90		14.48		-43		.56		19.8		29.78		104	14.04
15:30			6.93		14.44		-51		.46		13.8		29.72		104	14.04
15:35			6.96		14.41		-53		.41		11.8		29.72		104	14.04
15:40			6.90		14.39		-53		.38		10.7		29.82		104	14.04
15:45																
15:50																
15:55																

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Date of Calibration: 10/27/20 Technician: R. Díaz

Instrument Serial Number:_____ Software Revision:_____ Cable Model Number:_____

Temperature Reading 28.32 Temperature Accurate: (Y) N

DO Sensor in use: Polarographic Galvanic Sensor notated in Sensor menu? (Y) N

DO membrane changed? Y (N) Color of Membrane Blue Color notated in Sensor menu? (Y) N

Record the following calibration values:

	Pre Cal	After Cal
Conductivity	1.444	1.413
ORP	22.2	238.0
DO	96.6	100.5

True Barometric Pressure at time of calibration 30.07 in Hg

	Pre Cal		
pH 7	18.31	pH mV value_____	Range 0 mV ± 50 mV
pH 4	1.15	pH mV value_____	Range +165 to +180 from 7 buffer mV value
pH 10	7.42	pH mV value_____	Range -165 to -180 from 7 buffer mV value

NOTE: See pH Cal tips section for additional information. Span between pH 4 and 7 and 7 and 10 mV values should be ≈ 165 to 180 mV. 177 is the ideal distance or 59 mV per pH unit.

Ammonium
1st point (1 mg/L) _____ NH4 mV value_____ Range: 0 mV +/- 20 mV (new sensor only)

2nd point (100 mg/L)_____ NH4 mV value_____ Range: 90 to 130 mV > 1 mg/L mV value

Nitrate
1st point (1 mg/L) _____ NO3 mV value_____ Range: 200 mV +/- 20 mV (new sensor only)

2nd point (100 mg/L)_____ NO3 mV value_____ Range: 90 to 130 mV < 1 mg/L mV value

Chloride
1st point (10 mg/L) _____ Cl mV value _____ Range: 225 mV +/- 20 mV (new sensor only)

2nd point (1000mg/L)_____ Cl mV value _____ Range: 80 to 130 < 10 mg/L mV value

Record the following diagnostic numbers **after** calibration, by viewing the .glp file and reading the values for the day's calibration

Conductivity Cal Cell Constant _____ Range 5.0 +/- 1.0 acceptable

DO Sensor Value (uA) _____ (Membrane dependent, see DO Cal Tips)

pH Slope _____ (≈ 55 to 60 mV/pH, 59 ideal)

pH Slope % of ideal _____

APPENDIX C
Statistical Analysis Reports

Originally provided in the Addendum to the 2021 CCR Annual Groundwater Monitoring and Corrective Action Report, AES Puerto Rico LP, Guayama, Puerto Rico.

Statistical Evaluation Results

May 2020 Event

Descriptive Statistics

Attachment 1 provides the Sanitas™ output for all available data through May 2020, showing a summary of descriptive statistics (*e.g.*, mean, standard deviation, median, %ND) from box plot analysis for all background and downgradient wells. Additional statistics (*e.g.*, sample distribution, significance level) are provided under the pertinent statistical test output file.

Outlier and Trend Evaluation

The outlier analyses performed on all available pooled upgradient well data through May 2020 identified one selenium data point from well MW-1 as an outlier. **Attachment 2** provides the Sanitas™ output files showing a summary of the outlier analysis results. The identified outlier data point was flagged and deselected from the background dataset so as not be included when updating the background level for this constituent during subsequent background data evaluations.

A statistically significant increasing trend was identified for fluoride in well MW-2. Well MW-1 also showed an increasing trend, although not statistically significant. **Attachment 3** provides a summary of the trend test results. Handling of these data is discussed below under the October 2020 evaluation of background levels.

Background Levels

Background levels were not updated following the May 2020 sampling event as four new groundwater results are the minimum required per the Unified Guidance before background levels could be updated. Given that two new background groundwater results were obtained from the May 2020 event, background levels remained as established at the end of 2019 (**Attachment 4)**.

Groundwater Protection Standards

Attachment 4 provides a summary of the GWPS determined for all available data through May 2020.

Confidence Intervals

Attachment 5 provides a comparison of the Lower Confidence Limit (LCL) for each downgradient-well/constituent pair to the associated GWPS (*i.e.*, "Compliance" limit). Based on this statistical comparison, the following SSL were identified:

- Lithium: MW-4
- Molybdenum: MW-3 and MW-4
- Selenium: MW-3

ATTACHMENT 1

BOX PLOT SUMMARY: ALL CCR WELLS (MAY 2020)

Box & Whiskers Plot

AES Puerto Rico Client: AES Puerto Rico, LP Data: 2020_Statistics_AES.mdb Printed 8/24/2020, 10:01 AM

Constituent	Well	N	Mean	Std. Dev.	Std. Err.	Median	Min.	Max.	%NDs
Antimony (mg/L)	MW-1 (bg)	12	0.002375	0.000433	0.000125	0.0025	0.001	0.0025	100
Antimony (mg/L)	MW-2 (bg)	12	0.002375	0.000433	0.000125	0.0025	0.001	0.0025	100
Antimony (mg/L)	MW-3	12	0.002133	0.0005726	0.0001653	0.0025	0.001	0.0025	75
Antimony (mg/L)	MW-4	12	0.002175	0.0005362	0.0001548	0.0025	0.001	0.0025	66.67
Antimony (mg/L)	MW-5	12	0.002575	0.0008497	0.0002453	0.0025	0.001	0.0049	91.67
Arsenic (mg/L)	MW-1 (bg)	13	0.000...	0.000391	0.0001084	0.00087	0.00043	0.0013	46.15
Arsenic (mg/L)	MW-2 (bg)	13	0.001011	0.0004215	0.0001169	0.0013	0.00031	0.0014	53.85
Arsenic (mg/L)	MW-3	13	0.002731	0.0007364	0.0002042	0.0029	0.0016	0.0038	0
Arsenic (mg/L)	MW-4	13	0.003538	0.001117	0.0003098	0.0035	0.0021	0.0059	0
Arsenic (mg/L)	MW-5	13	0.005931	0.003575	0.0009915	0.006	0.0018	0.015	0
Barium (mg/L)	MW-1 (bg)	13	0.04823	0.01316	0.00365	0.055	0.019	0.063	0
Barium (mg/L)	MW-2 (bg)	13	0.1148	0.01834	0.005085	0.11	0.089	0.15	0
Barium (mg/L)	MW-3	13	0.27	0.1323	0.03669	0.23	0.16	0.66	0
Barium (mg/L)	MW-4	13	0.05169	0.00844	0.002341	0.056	0.035	0.061	0
Barium (mg/L)	MW-5	13	0.03554	0.003799	0.001054	0.034	0.03	0.043	0
Beryllium (mg/L)	MW-1 (bg)	11	0.002364	0.0004523	0.0001364	0.0025	0.001	0.0025	100
Beryllium (mg/L)	MW-2 (bg)	11	0.002364	0.0004523	0.0001364	0.0025	0.001	0.0025	100
Beryllium (mg/L)	MW-3	11	0.002364	0.0004523	0.0001364	0.0025	0.001	0.0025	100
Beryllium (mg/L)	MW-4	11	0.002364	0.0004523	0.0001364	0.0025	0.001	0.0025	100
Beryllium (mg/L)	MW-5	11	0.002364	0.0004523	0.0001364	0.0025	0.001	0.0025	100
Cadmium (mg/L)	MW-1 (bg)	12	0.002375	0.000433	0.000125	0.0025	0.001	0.0025	100
Cadmium (mg/L)	MW-2 (bg)	12	0.002375	0.000433	0.000125	0.0025	0.001	0.0025	100
Cadmium (mg/L)	MW-3	12	0.001882	0.0009214	0.000266	0.0025	0.00042	0.0025	75
Cadmium (mg/L)	MW-4	12	0.001607	0.001106	0.0003193	0.0025	0.00018	0.0025	58.33
Cadmium (mg/L)	MW-5	12	0.002299	0.0006954	0.0002007	0.0025	0.000091	0.0025	91.67
Chromium (mg/L)	MW-1 (bg)	11	0.002345	0.0004503	0.0001358	0.0025	0.001	0.0025	90.91
Chromium (mg/L)	MW-2 (bg)	11	0.002491	0.0006488	0.0001956	0.0025	0.001	0.0039	90.91
Chromium (mg/L)	MW-3	11	0.004945	0.008653	0.002609	0.0025	0.001	0.031	81.82
Chromium (mg/L)	MW-4	11	0.002336	0.0006816	0.0002055	0.0025	0.001	0.0035	81.82
Chromium (mg/L)	MW-5	11	0.002364	0.0004523	0.0001364	0.0025	0.001	0.0025	100
Cobalt (mg/L)	MW-1 (bg)	13	0.000...	0.0006982	0.0001936	0.00069	0.00046	0.0025	15.38
Cobalt (mg/L)	MW-2 (bg)	13	0.001896	0.0009456	0.0002622	0.0025	0.00033	0.0025	69.23
Cobalt (mg/L)	MW-3	13	0.002465	0.000792	0.0002197	0.0023	0.00085	0.004	0
Cobalt (mg/L)	MW-4	13	0.00153	0.0003532	0.0000...	0.0017	0.00083	0.0018	0
Cobalt (mg/L)	MW-5	13	0.003123	0.0002862	0.0000...	0.003	0.0027	0.0036	0
Combined Radium 226 + 228 (pCi/L)	MW-1 (bg)	13	0.3014	0.2151	0.05967	0.333	-0.168	0.62	0
Combined Radium 226 + 228 (pCi/L)	MW-2 (bg)	13	0.266	0.2463	0.0683	0.23	-0.0965	0.675	0
Combined Radium 226 + 228 (pCi/L)	MW-3	13	0.368	0.2795	0.07752	0.374	-0.0595	1.07	0
Combined Radium 226 + 228 (pCi/L)	MW-4	13	0.3013	0.2629	0.07293	0.341	-0.0815	0.723	0
Combined Radium 226 + 228 (pCi/L)	MW-5	13	0.3702	0.2256	0.06256	0.391	-0.0397	0.723	0
Fluoride (mg/L)	MW-1 (bg)	13	0.5738	0.09631	0.02671	0.58	0.4	0.75	0
Fluoride (mg/L)	MW-2 (bg)	13	0.4838	0.1323	0.03668	0.42	0.35	0.71	0
Fluoride (mg/L)	MW-3	13	1.798	0.36	0.09983	1.8	0.87	2.3	0
Fluoride (mg/L)	MW-4	13	0.6669	0.1844	0.05115	0.65	0.23	1	0
Fluoride (mg/L)	MW-5	13	0.4208	0.1254	0.03478	0.46	0.05	0.52	7.692
Lead (mg/L)	MW-1 (bg)	11	0.001225	0.0001756	0.0000...	0.0013	0.00077	0.0013	90.91
Lead (mg/L)	MW-2 (bg)	11	0.001273	0.0000...	0.0000...	0.0013	0.001	0.0013	100
Lead (mg/L)	MW-3	11	0.001273	0.0000...	0.0000...	0.0013	0.001	0.0013	100
Lead (mg/L)	MW-4	11	0.001112	0.0003568	0.0001076	0.0013	0.00036	0.0013	81.82
Lead (mg/L)	MW-5	11	0.001273	0.0000...	0.0000...	0.0013	0.001	0.0013	100

Box & Whiskers Plot

AES Puerto Rico Client: AES Puerto Rico, LP Data: 2020_Statistics_AES.mdb Printed 8/24/2020, 10:01 AM

Constituent	Well	N	Mean	Std. Dev.	Std. Err.	Median	Min.	Max.	%NDs
Lithium (mg/L)	MW-1 (bg)	13	0.003526	0.001961	0.000544	0.005	0.00054	0.005	69.23
Lithium (mg/L)	MW-2 (bg)	13	0.0036	0.001861	0.000516	0.005	0.001	0.005	69.23
Lithium (mg/L)	MW-3	13	0.009954	0.008642	0.002397	0.0075	0.0014	0.034	0
Lithium (mg/L)	MW-4	13	0.7277	0.2494	0.06917	0.75	0.28	1.1	0
Lithium (mg/L)	MW-5	13	0.004292	0.001302	0.0003612	0.0043	0.0014	0.0067	7.692
Mercury (mg/L)	MW-1 (bg)	11	0.0002	0	0	0.0002	0.0002	0.0002	100
Mercury (mg/L)	MW-2 (bg)	11	0.0002	0	0	0.0002	0.0002	0.0002	100
Mercury (mg/L)	MW-3	11	0.0002	0	0	0.0002	0.0002	0.0002	100
Mercury (mg/L)	MW-4	11	0.0002	0	0	0.0002	0.0002	0.0002	100
Mercury (mg/L)	MW-5	11	0.0002	0	0	0.0002	0.0002	0.0002	100
Molybdenum (mg/L)	MW-1 (bg)	13	0.008043	0.006721	0.001864	0.0028	0.00076	0.015	46.15
Molybdenum (mg/L)	MW-2 (bg)	13	0.008757	0.007028	0.001949	0.015	0.00094	0.015	53.85
Molybdenum (mg/L)	MW-3	13	0.2369	0.1297	0.03598	0.22	0.064	0.53	0
Molybdenum (mg/L)	MW-4	13	0.4746	0.1155	0.03204	0.44	0.35	0.74	0
Molybdenum (mg/L)	MW-5	13	0.005054	0.002091	0.0005801	0.0053	0.0022	0.0086	0
Selenium (mg/L)	MW-1 (bg)	13	0.007538	0.00616	0.001708	0.0059	0.0014	0.025	0
Selenium (mg/L)	MW-2 (bg)	13	0.000...	0.0008062	0.0002236	0.00065	0.00035	0.0034	38.46
Selenium (mg/L)	MW-3	13	0.1982	0.151	0.04187	0.14	0.026	0.57	0
Selenium (mg/L)	MW-4	13	0.006715	0.00353	0.0009791	0.006	0.0012	0.013	0
Selenium (mg/L)	MW-5	13	0.005343	0.004804	0.001333	0.0038	0.00046	0.014	15.38
Thallium (mg/L)	MW-1 (bg)	11	0.0005	0	0	0.0005	0.0005	0.0005	100
Thallium (mg/L)	MW-2 (bg)	11	0.0005	0	0	0.0005	0.0005	0.0005	100
Thallium (mg/L)	MW-3	11	0.0005	0	0	0.0005	0.0005	0.0005	100
Thallium (mg/L)	MW-4	11	0.0005	0	0	0.0005	0.0005	0.0005	100
Thallium (mg/L)	MW-5	11	0.0005	0	0	0.0005	0.0005	0.0005	100

ATTACHMENT 2

OUTLIER ANALYSIS SUMMARY: BACKGROUND WELLS (MAY 2020)

Outlier Analysis - Significant Results

AES Puerto Rico Client: AES Puerto Rico, LP Data: 2020_Statistics_AES.mdb Printed 8/24/2020, 10:01 AM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Selenium (mg/L)	**MW-1,MW-2**	**Yes**	**0.025**	**n/a w/combined bg**	**NP**	**NaN**	**26**	**0.004314**	**0.005416**	**normal**	**ShapiroWilk**

Outlier Analysis - All Results

AES Puerto Rico Client: AES Puerto Rico, LP Data: 2020_Statistics_AES.mdb Printed 8/24/2020, 10:01 AM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Antimony (mg/L)	MW-1,MW-2	n/a	n/a	n/a w/combined bg	NP	NaN	24	0.002375	0.0004235	unknown	ShapiroWilk
Arsenic (mg/L)	MW-1,MW-2	No	n/a	n/a w/combined bg	NP	NaN	26	0.0009608	0.0004016	normal	ShapiroWilk
Barium (mg/L)	MW-1,MW-2	No	n/a	n/a w/combined bg	NP	NaN	26	0.0815	0.03736	normal	ShapiroWilk
Beryllium (mg/L)	MW-1,MW-2	n/a	n/a	n/a w/combined bg	NP	NaN	22	0.002364	0.0004414	unknown	ShapiroWilk
Cadmium (mg/L)	MW-1,MW-2	n/a	n/a	n/a w/combined bg	NP	NaN	24	0.002375	0.0004235	unknown	ShapiroWilk
Chromium (mg/L)	MW-1,MW-2	n/a	n/a	n/a w/combined bg	NP	NaN	22	0.002418	0.00055	unknown	ShapiroWilk
Cobalt (mg/L)	MW-1,MW-2	No	n/a	n/a w/combined bg	NP	NaN	26	0.001439	0.0009382	normal	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-1,MW-2	No	n/a	n/a w/combined bg	NP	NaN	26	0.2837	0.2273	normal	ShapiroWilk
Fluoride (mg/L)	MW-1,MW-2	No	n/a	n/a w/combined bg	NP	NaN	26	0.5288	0.1223	normal	ShapiroWilk
Lead (mg/L)	MW-1,MW-2	n/a	n/a	n/a w/combined bg	NP	NaN	22	0.001249	0.0001385	unknown	ShapiroWilk
Lithium (mg/L)	MW-1,MW-2	No	n/a	n/a w/combined bg	NP	NaN	26	0.003563	0.001873	normal	ShapiroWilk
Mercury (mg/L)	MW-1,MW-2	n/a	n/a	n/a w/combined bg	NP	NaN	22	0.0002	0	unknown	ShapiroWilk
Molybdenum (mg/L)	MW-1,MW-2	No	n/a	n/a w/combined bg	NP	NaN	26	0.0084	0.006747	normal	ShapiroWilk
Selenium (mg/L)	**MW-1,MW-2**	**Yes**	**0.025**	**n/a w/combined bg**	**NP**	**NaN**	**26**	**0.004314**	**0.005416**	**normal**	**ShapiroWilk**
Thallium (mg/L)	MW-1,MW-2	n/a	n/a	n/a w/combined bg	NP	NaN	22	0.0005	0	unknown	ShapiroWilk

ATTACHMENT 3

TREND TEST SUMMARY: BACKGROUND WELLS (MAY 2020)

Trend Test - Significant Results

AES Puerto Rico Client: AES Puerto Rico, LP Data: 2020_Statistics_AES.mdb Printed 8/24/2020, 10:01 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Fluoride (mg/L)	**MW-2 (bg)**	**0.1478**	**48**	**43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**

Trend Test - All Results

AES Puerto Rico Client: AES Puerto Rico, LP Data: 2020_Statistics_AES.mdb Printed 8/24/2020, 10:01 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Antimony (mg/L)	MW-1 (bg)	0	-11	-38	No	12	100	n/a	n/a	0.01	NP
Antimony (mg/L)	MW-2 (bg)	0	-11	-38	No	12	100	n/a	n/a	0.01	NP
Arsenic (mg/L)	MW-1 (bg)	0	-9	-43	No	13	46.15	n/a	n/a	0.01	NP
Arsenic (mg/L)	MW-2 (bg)	0	-12	-43	No	13	53.85	n/a	n/a	0.01	NP
Barium (mg/L)	MW-1 (bg)	-0.009818	-23	-43	No	13	0	n/a	n/a	0.01	NP
Barium (mg/L)	MW-2 (bg)	0.01107	24	43	No	13	0	n/a	n/a	0.01	NP
Beryllium (mg/L)	MW-1 (bg)	0	-10	-34	No	11	100	n/a	n/a	0.01	NP
Beryllium (mg/L)	MW-2 (bg)	0	-10	-34	No	11	100	n/a	n/a	0.01	NP
Cadmium (mg/L)	MW-1 (bg)	0	-11	-38	No	12	100	n/a	n/a	0.01	NP
Cadmium (mg/L)	MW-2 (bg)	0	-11	-38	No	12	100	n/a	n/a	0.01	NP
Chromium (mg/L)	MW-1 (bg)	0	-13	-34	No	11	90.91	n/a	n/a	0.01	NP
Chromium (mg/L)	MW-2 (bg)	0	-5	-34	No	11	90.91	n/a	n/a	0.01	NP
Cobalt (mg/L)	MW-1 (bg)	0.00103	17	43	No	13	15.38	n/a	n/a	0.01	NP
Cobalt (mg/L)	MW-2 (bg)	-0.00004513	-38	-43	No	13	69.23	n/a	n/a	0.01	NP
Combined Radium 226 + 228 (pCi/L)	MW-1 (bg)	-0.04139	-12	-43	No	13	0	n/a	n/a	0.01	NP
Combined Radium 226 + 228 (pCi/L)	MW-2 (bg)	0.03922	10	43	No	13	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-1 (bg)	0.09368	32	43	No	13	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	**MW-2 (bg)**	**0.1478**	**48**	**43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Lead (mg/L)	MW-1 (bg)	0	-15	-34	No	11	90.91	n/a	n/a	0.01	NP
Lead (mg/L)	MW-2 (bg)	0	-10	-34	No	11	100	n/a	n/a	0.01	NP
Lithium (mg/L)	MW-1 (bg)	0	-14	-43	No	13	69.23	n/a	n/a	0.01	NP
Lithium (mg/L)	MW-2 (bg)	0	0	43	No	13	69.23	n/a	n/a	0.01	NP
Mercury (mg/L)	MW-1 (bg)	0	0	34	No	11	100	n/a	n/a	0.01	NP
Mercury (mg/L)	MW-2 (bg)	0	0	34	No	11	100	n/a	n/a	0.01	NP
Molybdenum (mg/L)	MW-1 (bg)	0	9	43	No	13	46.15	n/a	n/a	0.01	NP
Molybdenum (mg/L)	MW-2 (bg)	0	10	43	No	13	53.85	n/a	n/a	0.01	NP
Selenium (mg/L)	MW-1 (bg)	-0.001801	-23	-38	No	12	0	n/a	n/a	0.01	NP
Selenium (mg/L)	MW-2 (bg)	0.0002035	22	43	No	13	38.46	n/a	n/a	0.01	NP
Thallium (mg/L)	MW-1 (bg)	0	0	34	No	11	100	n/a	n/a	0.01	NP
Thallium (mg/L)	MW-2 (bg)	0	0	34	No	11	100	n/a	n/a	0.01	NP

ATTACHMENT 4

BACKGROUND LEVELS AND GROUNDWATER PROTECTION STANDARDS (MAY 2020)

Background Levels and Groundwater Protection Stantands Corresponding to the May 2020 Sampling Event
AES Puerto Rico LP, Guayama, Puerto Rico

Constituent	Units	MCL	CCR-Rule Specified Criteria[1]	Background Level[2]	GWPS
Antimony	mg/L	0.006		0.0025	0.006
Arsenic	mg/L	0.010		0.0014	0.010
Barium	mg/L	2		0.1678	2
Beryllium	mg/L	0.004		0.0025	0.004
Cadmium	mg/L	0.005		0.0025	0.005
Chromium	mg/L	0.1		0.0039	0.1
Cobalt	mg/L		0.006	0.0025	0.006
Fluoride	mg/L	4.0		0.8187	4.0
Lead	mg/L		0.015	0.0013	0.015
Lithium	mg/L	0.040		0.005	0.040
Mercury	mg/L	0.002		0.0002	0.002
Molybdenum	mg/L		0.100	0.015	0.100
Selenium	mg/L	0.05		0.02144	0.05
Thallium	mg/L	0.002		0.0005	0.002
Radium 266 and 228 combined	pCi/L	5		0.8099	5

Notes:
mg/L = milligram per Liter
MCL = Maximum Contaminant Level
GWPS = Groundwater Protection Standard
[1] *See* Federal Register/Vol. 83, No. 146/Monday, July 30, 2018/Rules and Regulations.
[2] Background levels correspond to the 2019 update.

ATTACHMENT 5

CONFIDENCE INTERVAL SUMMARY (MAY 2020):

DETERMINATION OF STATISTICALLY SIGNIFICANT LEVEL

Confidence Interval - Significant Results

AES Puerto Rico Client: AES Puerto Rico, LP Data: 2020_Statistics_AES.mdb Printed 8/24/2020, 10:58 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Lithium (mg/L)	**MW-4**	**0.851**	**0.6044**	**0.04**	**Yes**	**13**	**0.7277**	**0.2494**	**0**	**None**	**No**	**0.05**	**Param.**
Molybdenum (mg/L)	**MW-3**	**0.3011**	**0.1728**	**0.1**	**Yes**	**13**	**0.2369**	**0.1297**	**0**	**None**	**No**	**0.05**	**Param.**
Molybdenum (mg/L)	**MW-4**	**0.5242**	**0.4164**	**0.1**	**Yes**	**13**	**0.4746**	**0.1155**	**0**	**None**	**sqrt(x)**	**0.05**	**Param.**
Selenium (mg/L)	**MW-3**	**0.2728**	**0.1235**	**0.05**	**Yes**	**13**	**0.1982**	**0.151**	**0**	**None**	**No**	**0.05**	**Param.**

Confidence Interval - All Results

AES Puerto Rico Client: AES Puerto Rico, LP Data: 2020_Statistics_AES.mdb Printed 8/24/2020, 10:58 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	MW-3	0.0025	0.0017	0.006	No	12	0.002133	0.0005726	75	None	No	0.05	NP (NDs)
Antimony (mg/L)	MW-4	0.0025	0.0019	0.006	No	12	0.002175	0.0005362	66.67	None	No	0.05	NP (NDs)
Antimony (mg/L)	MW-5	0.0049	0.001	0.006	No	12	0.002575	0.0008497	91.67	None	No	0.05	NP (NDs)
Arsenic (mg/L)	MW-3	0.003095	0.002367	0.01	No	13	0.002731	0.0007364	0	None	No	0.05	Param.
Arsenic (mg/L)	MW-4	0.004091	0.002986	0.01	No	13	0.003538	0.001117	0	None	No	0.05	Param.
Arsenic (mg/L)	MW-5	0.007698	0.004164	0.01	No	13	0.005931	0.003575	0	None	No	0.05	Param.
Barium (mg/L)	MW-3	0.3015	0.2067	2	No	13	0.27	0.1323	0	None	ln(x)	0.05	Param.
Barium (mg/L)	MW-4	0.05586	0.04752	2	No	13	0.05169	0.00844	0	None	No	0.05	Param.
Barium (mg/L)	MW-5	0.03742	0.03366	2	No	13	0.03554	0.003799	0	None	No	0.05	Param.
Beryllium (mg/L)	MW-3	0.0025	0.0025	0.004	No	11	0.002364	0.0004523	100	None	No	0.006	NP (NDs)
Beryllium (mg/L)	MW-4	0.0025	0.0025	0.004	No	11	0.002364	0.0004523	100	None	No	0.006	NP (NDs)
Beryllium (mg/L)	MW-5	0.0025	0.0025	0.004	No	11	0.002364	0.0004523	100	None	No	0.006	NP (NDs)
Cadmium (mg/L)	MW-3	0.0025	0.00063	0.005	No	12	0.001882	0.0009214	75	None	No	0.05	NP (NDs)
Cadmium (mg/L)	MW-4	0.0025	0.00034	0.005	No	12	0.001607	0.001106	58.33	None	No	0.05	NP (NDs)
Cadmium (mg/L)	MW-5	0.0025	0.000091	0.005	No	12	0.002299	0.0006954	91.67	None	No	0.05	NP (NDs)
Chromium (mg/L)	MW-3	0.0025	0.0024	0.1	No	11	0.004945	0.008653	81.82	None	No	0.006	NP (NDs)
Chromium (mg/L)	MW-4	0.0025	0.0012	0.1	No	11	0.002336	0.0006816	81.82	None	No	0.006	NP (NDs)
Chromium (mg/L)	MW-5	0.0025	0.0025	0.1	No	11	0.002364	0.0004523	100	None	No	0.006	NP (NDs)
Cobalt (mg/L)	MW-3	0.002857	0.002074	0.006	No	13	0.002465	0.000792	0	None	No	0.05	Param.
Cobalt (mg/L)	MW-4	0.0018	0.0011	0.006	No	13	0.00153	0.0003532	0	None	No	0.05	NP (normality)
Cobalt (mg/L)	MW-5	0.003265	0.002982	0.006	No	13	0.003123	0.0002862	0	None	No	0.05	Param.
Combined Radium 226 + 228 (pCi/L)	MW-3	0.5061	0.2298	5	No	13	0.368	0.2795	0	None	No	0.05	Param.
Combined Radium 226 + 228 (pCi/L)	MW-4	0.4313	0.1713	5	No	13	0.3013	0.2629	0	None	No	0.05	Param.
Combined Radium 226 + 228 (pCi/L)	MW-5	0.4817	0.2587	5	No	13	0.3702	0.2256	0	None	No	0.05	Param.
Fluoride (mg/L)	MW-3	1.976	1.62	4	No	13	1.798	0.36	0	None	No	0.05	Param.
Fluoride (mg/L)	MW-4	0.68	0.63	4	No	13	0.6669	0.1844	0	None	No	0.05	NP (normality)
Fluoride (mg/L)	MW-5	0.4771	0.4107	4	No	13	0.4208	0.1254	7.692	None	x^3	0.05	Param.
Lead (mg/L)	MW-3	0.0013	0.0013	0.015	No	11	0.001273	0.00009045	100	None	No	0.006	NP (NDs)
Lead (mg/L)	MW-4	0.0013	0.00047	0.015	No	11	0.001112	0.0003568	81.82	None	No	0.006	NP (NDs)
Lead (mg/L)	MW-5	0.0013	0.0013	0.015	No	11	0.001273	0.00009045	100	None	No	0.006	NP (NDs)
Lithium (mg/L)	MW-3	0.01244	0.005574	0.04	No	13	0.009954	0.008642	0	None	sqrt(x)	0.05	Param.
Lithium (mg/L)	**MW-4**	**0.851**	**0.6044**	**0.04**	**Yes**	**13**	**0.7277**	**0.2494**	**0**	**None**	**No**	**0.05**	**Param.**
Lithium (mg/L)	MW-5	0.004778	0.003422	0.04	No	13	0.0041	0.001372	7.692	None	No	0.05	Param.
Mercury (mg/L)	MW-3	0.0002	0.0002	0.002	No	11	0.0002	0	100	None	No	0.006	NP (NDs)
Mercury (mg/L)	MW-4	0.0002	0.0002	0.002	No	11	0.0002	0	100	None	No	0.006	NP (NDs)
Mercury (mg/L)	MW-5	0.0002	0.0002	0.002	No	11	0.0002	0	100	None	No	0.006	NP (NDs)
Molybdenum (mg/L)	**MW-3**	**0.3011**	**0.1728**	**0.1**	**Yes**	**13**	**0.2369**	**0.1297**	**0**	**None**	**No**	**0.05**	**Param.**
Molybdenum (mg/L)	**MW-4**	**0.5242**	**0.4164**	**0.1**	**Yes**	**13**	**0.4746**	**0.1155**	**0**	**None**	**sqrt(x)**	**0.05**	**Param.**
Molybdenum (mg/L)	MW-5	0.006088	0.00402	0.1	No	13	0.005054	0.002091	0	None	No	0.05	Param.
Selenium (mg/L)	**MW-3**	**0.2728**	**0.1235**	**0.05**	**Yes**	**13**	**0.1982**	**0.151**	**0**	**None**	**No**	**0.05**	**Param.**
Selenium (mg/L)	MW-4	0.00846	0.00497	0.05	No	13	0.006715	0.00353	0	None	No	0.05	Param.
Selenium (mg/L)	MW-5	0.007611	0.003017	0.05	No	13	0.005343	0.004804	15.38	Kaplan-Meier	No	0.05	Param.
Thallium (mg/L)	MW-3	0.0005	0.0005	0.002	No	11	0.0005	0	100	None	No	0.006	NP (NDs)
Thallium (mg/L)	MW-4	0.0005	0.0005	0.002	No	11	0.0005	0	100	None	No	0.006	NP (NDs)
Thallium (mg/L)	MW-5	0.0005	0.0005	0.002	No	11	0.0005	0	100	None	No	0.006	NP (NDs)

October 2020 Event

Descriptive Statistics

Attachment 6 provides the Sanitas™ output for all available data through October 2020, showing a summary of descriptive statistics (*e.g.*, mean, standard deviation, median, %ND) from box plot analysis for all background and downgradient wells. Additional statistics (*e.g.*, sample distribution, significance level) are provided under the pertinent statistical test output file.

Outlier and Trend Evaluation

The outlier analyses performed on all available pooled background data through the October 2020 sampling event did not identify additional data outliers to those identified and excluded in the dataset from previous sampling events (**Attachment 7**).

A statistically significant increasing trend was identified for fluoride in well MW-2. Well MW-1 also showed an increasing trend, although not statistically significant. For the updating of the site background levels, all fluoride results were used given the similarities in temporal concentration patterns of fluoride in both background wells, which may be indicative of natural variation in groundwater quality (updating of background levels is discussed below). A statistically decreasing trend was observed for cobalt in MW-2. However, all cobalt concentrations were below the practical quantitation limit (*i.e.*, estimated trace concentrations or non-detects). Therefore, all data were considered in updating the site background level for cobalt. **Attachment 8** provides a summary of the trend test results.

Updating Background Levels

As described in the statistical methods section above, background levels were computed as the Upper Tolerance Limit from the pooled background well dataset, less previously identified outliers. A summary of the Upper Tolerance Limits for all Appendix IV constituents is presented in **Attachment 9**.

Groundwater Protection Standards

Attachment 10 provides a summary of the background levels and GWPS determined for all available data through October 2020.

Confidence Intervals

Attachment 11 provides a comparison of the Lower Confidence Limit (LCL) for each downgradient-well/constituent pair to the associated GWPS (*i.e.*, "Compliance" limit). Based on this statistical comparison, the following SSL were identified:

- Lithium: MW-4
- Molybdenum: MW-3 and MW-4
- Selenium: MW-3

ATTACHMENT 6

BOX PLOT SUMMARY: ALL CCR WELLS (OCTOBER 2020)

Box & Whiskers Plot

AES Puerto Rico Client: AES Puerto Rico, LP Data: 2020_Statistics_AES.mdb Printed 2/25/2021, 8:17 AM

Constituent	Well	N	Mean	Std. Dev.	Std. Err.	Median	Min.	Max.	%NDs
Antimony (mg/L)	MW-1 (bg)	13	0.002269	0.0005633	0.0001562	0.0025	0.001	0.0025	100
Antimony (mg/L)	MW-2 (bg)	13	0.002269	0.0005633	0.0001562	0.0025	0.001	0.0025	100
Antimony (mg/L)	MW-3	13	0.002046	0.0006319	0.0001753	0.0025	0.001	0.0025	76.92
Antimony (mg/L)	MW-4	13	0.002085	0.0006081	0.0001686	0.0025	0.001	0.0025	69.23
Antimony (mg/L)	MW-5	13	0.01007	0.02703	0.007498	0.0025	0.001	0.1	92.31
Arsenic (mg/L)	MW-1 (bg)	14	0.0009743	0.0004445	0.0001188	0.001085	0.00043	0.0018	42.86
Arsenic (mg/L)	MW-2 (bg)	14	0.0009979	0.0004079	0.000109	0.0013	0.00031	0.0014	50
Arsenic (mg/L)	MW-3	14	0.002643	0.0007803	0.0002085	0.00265	0.0015	0.0038	0
Arsenic (mg/L)	MW-4	14	0.003436	0.00114	0.0003047	0.0034	0.0021	0.0059	0
Arsenic (mg/L)	MW-5	14	0.007079	0.005499	0.00147	0.006	0.0018	0.022	0
Barium (mg/L)	MW-1 (bg)	14	0.04807	0.01266	0.003383	0.0525	0.019	0.063	0
Barium (mg/L)	MW-2 (bg)	14	0.1135	0.01825	0.004876	0.11	0.089	0.15	0
Barium (mg/L)	MW-3	14	0.27	0.1271	0.03397	0.235	0.16	0.66	0
Barium (mg/L)	MW-4	14	0.05129	0.00825	0.002205	0.0555	0.035	0.061	0
Barium (mg/L)	MW-5	14	0.03657	0.005316	0.001421	0.035	0.03	0.05	7.143
Beryllium (mg/L)	MW-1 (bg)	12	0.00225	0.0005839	0.0001685	0.0025	0.001	0.0025	100
Beryllium (mg/L)	MW-2 (bg)	12	0.00225	0.0005839	0.0001685	0.0025	0.001	0.0025	100
Beryllium (mg/L)	MW-3	12	0.002191	0.0007378	0.000213	0.0025	0.00029	0.0025	91.67
Beryllium (mg/L)	MW-4	12	0.002308	0.0004719	0.0001362	0.0025	0.001	0.0025	91.67
Beryllium (mg/L)	MW-5	12	0.0105	0.02819	0.008137	0.0025	0.001	0.1	100
Cadmium (mg/L)	MW-1 (bg)	13	0.002269	0.0005633	0.0001562	0.0025	0.001	0.0025	100
Cadmium (mg/L)	MW-2 (bg)	13	0.002269	0.0005633	0.0001562	0.0025	0.001	0.0025	100
Cadmium (mg/L)	MW-3	13	0.001758	0.0009891	0.0002743	0.0025	0.00027	0.0025	69.23
Cadmium (mg/L)	MW-4	13	0.001531	0.001095	0.0003036	0.0025	0.00018	0.0025	53.85
Cadmium (mg/L)	MW-5	13	0.009815	0.02711	0.007518	0.0025	0.000091	0.1	92.31
Chromium (mg/L)	MW-1 (bg)	12	0.002208	0.0006403	0.0001848	0.0025	0.0007	0.0025	83.33
Chromium (mg/L)	MW-2 (bg)	12	0.002367	0.0007536	0.0002175	0.0025	0.001	0.0039	91.67
Chromium (mg/L)	MW-3	12	0.004617	0.008328	0.002404	0.0025	0.001	0.031	83.33
Chromium (mg/L)	MW-4	12	0.002225	0.0007557	0.0002182	0.0025	0.001	0.0035	83.33
Chromium (mg/L)	MW-5	12	0.0105	0.02819	0.008137	0.0025	0.001	0.1	100
Cobalt (mg/L)	MW-1 (bg)	14	0.0009736	0.0006716	0.0001795	0.00072	0.00046	0.0025	14.29
Cobalt (mg/L)	MW-2 (bg)	14	0.001781	0.001006	0.0002688	0.0025	0.00028	0.0025	64.29
Cobalt (mg/L)	MW-3	14	0.002411	0.0007879	0.0002106	0.0023	0.00085	0.004	0
Cobalt (mg/L)	MW-4	14	0.001499	0.0003583	0.00009575	0.0017	0.00083	0.0018	0
Cobalt (mg/L)	MW-5	14	0.01004	0.02589	0.00692	0.0031	0.0027	0.1	7.143
Combined Radium 226 + 228 (pCi/L)	MW-1 (bg)	14	0.3111	0.2099	0.05609	0.341	-0.168	0.62	0
Combined Radium 226 + 228 (pCi/L)	MW-2 (bg)	14	0.307	0.2818	0.07532	0.2715	-0.0965	0.839	0
Combined Radium 226 + 228 (pCi/L)	MW-3	14	0.4481	0.4025	0.1076	0.3955	-0.0595	1.49	0
Combined Radium 226 + 228 (pCi/L)	MW-4	14	0.3598	0.3342	0.08932	0.351	-0.0815	1.12	0
Combined Radium 226 + 228 (pCi/L)	MW-5	14	0.3567	0.2225	0.05946	0.3585	-0.0397	0.723	0
Fluoride (mg/L)	MW-1 (bg)	14	0.5979	0.129	0.03447	0.58	0.4	0.91	0
Fluoride (mg/L)	MW-2 (bg)	14	0.5013	0.1428	0.03818	0.425	0.35	0.728	0
Fluoride (mg/L)	MW-3	14	1.76	0.3735	0.09982	1.8	0.87	2.3	0
Fluoride (mg/L)	MW-4	14	1.334	2.501	0.6683	0.655	0.23	10	7.143
Fluoride (mg/L)	MW-5	14	0.5336	0.4389	0.1173	0.465	0.05	2	14.29
Lead (mg/L)	MW-1 (bg)	12	0.001206	0.0001795	0.00005182	0.0013	0.00077	0.0013	91.67
Lead (mg/L)	MW-2 (bg)	12	0.00125	0.0001168	0.00003371	0.0013	0.001	0.0013	100
Lead (mg/L)	MW-3	12	0.00125	0.0001168	0.00003371	0.0013	0.001	0.0013	100
Lead (mg/L)	MW-4	12	0.001103	0.0003417	0.00009864	0.0013	0.00036	0.0013	83.33
Lead (mg/L)	MW-5	12	0.0095	0.0285	0.008227	0.0013	0.001	0.1	100

Box & Whiskers Plot

AES Puerto Rico Client: AES Puerto Rico, LP Data: 2020_Statistics_AES.mdb Printed 2/25/2021, 8:17 AM

Constituent	Well	N	Mean	Std. Dev.	Std. Err.	Median	Min.	Max.	%NDs
Lithium (mg/L)	MW-1 (bg)	14	0.003321	0.002035	0.0005439	0.005	0.00054	0.005	64.29
Lithium (mg/L)	MW-2 (bg)	14	0.003414	0.001918	0.0005126	0.005	0.001	0.005	71.43
Lithium (mg/L)	MW-3	14	0.009464	0.008503	0.002272	0.0074	0.0014	0.034	0
Lithium (mg/L)	MW-4	14	0.7543	0.2595	0.06934	0.76	0.28	1.1	0
Lithium (mg/L)	MW-5	14	0.01113	0.02561	0.006844	0.00435	0.0014	0.1	14.29
Mercury (mg/L)	MW-1 (bg)	12	0.0002	0	0	0.0002	0.0002	0.0002	100
Mercury (mg/L)	MW-2 (bg)	12	0.0002	0	0	0.0002	0.0002	0.0002	100
Mercury (mg/L)	MW-3	12	0.0002	0	0	0.0002	0.0002	0.0002	100
Mercury (mg/L)	MW-4	12	0.0002	0	0	0.0002	0.0002	0.0002	100
Mercury (mg/L)	MW-5	12	0.0002	0	0	0.0002	0.0002	0.0002	100
Molybdenum (mg/L)	MW-1 (bg)	14	0.007683	0.006597	0.001763	0.0029	0.00076	0.015	50
Molybdenum (mg/L)	MW-2 (bg)	14	0.008192	0.007075	0.001891	0.00865	0.00085	0.015	50
Molybdenum (mg/L)	MW-3	14	0.2286	0.1285	0.03435	0.21	0.064	0.53	0
Molybdenum (mg/L)	MW-4	14	0.4743	0.111	0.02966	0.44	0.35	0.74	0
Molybdenum (mg/L)	MW-5	14	0.02612	0.07885	0.02107	0.0053	0.0022	0.3	7.143
Selenium (mg/L)	MW-1 (bg)	13	0.006108	0.003229	0.0008955	0.0059	0.0014	0.015	0
Selenium (mg/L)	MW-2 (bg)	14	0.0009686	0.0008912	0.0002382	0.00065	0.00035	0.0034	35.71
Selenium (mg/L)	MW-3	14	0.1886	0.1494	0.03992	0.135	0.026	0.57	0
Selenium (mg/L)	MW-4	14	0.006671	0.003396	0.0009075	0.00605	0.0012	0.013	0
Selenium (mg/L)	MW-5	14	0.008533	0.0128	0.00342	0.00435	0.00046	0.05	21.43
Thallium (mg/L)	MW-1 (bg)	12	0.0005	0	0	0.0005	0.0005	0.0005	100
Thallium (mg/L)	MW-2 (bg)	12	0.0005	0	0	0.0005	0.0005	0.0005	100
Thallium (mg/L)	MW-3	12	0.0005	0	0	0.0005	0.0005	0.0005	100
Thallium (mg/L)	MW-4	12	0.0005	0	0	0.0005	0.0005	0.0005	100
Thallium (mg/L)	MW-5	12	0.004625	0.01429	0.004125	0.0005	0.0005	0.05	100

ATTACHMENT 7

OUTLIER ANALYSIS SUMMARY: BACKGROUND WELLS (OCTOBER 2020)

Outlier Analysis - All Results

AES Puerto Rico Client: AES Puerto Rico, LP Data: 2020_Statistics_AES.mdb Printed 2/25/2021, 8:42 AM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality...
Antimony (mg/L)	MW-1,MW-2	n/a	n/a	n/a w/combined bg	NP	NaN	26	0.002269	0.0005519	unknown	ShapiroWilk
Arsenic (mg/L)	MW-1,MW-2	No	n/a	n/a w/combined bg	NP	NaN	28	0.0009861	0.0004188	normal	ShapiroWilk
Barium (mg/L)	MW-1,MW-2	No	n/a	n/a w/combined bg	NP	NaN	28	0.08079	0.03671	normal	ShapiroWilk
Beryllium (mg/L)	MW-1,MW-2	n/a	n/a	n/a w/combined bg	NP	NaN	24	0.00225	0.000571	unknown	ShapiroWilk
Cadmium (mg/L)	MW-1,MW-2	n/a	n/a	n/a w/combined bg	NP	NaN	26	0.002269	0.0005519	unknown	ShapiroWilk
Chromium (mg/L)	MW-1,MW-2	n/a	n/a	n/a w/combined bg	NP	NaN	24	0.002287	0.0006886	unknown	ShapiroWilk
Cobalt (mg/L)	MW-1,MW-2	No	n/a	n/a w/combined bg	NP	NaN	28	0.001377	0.0009345	normal	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-1,MW-2	No	n/a	n/a w/combined bg	NP	NaN	28	0.309	0.2438	normal	ShapiroWilk
Fluoride (mg/L)	MW-1,MW-2	No	n/a	n/a w/combined bg	NP	NaN	28	0.5496	0.1423	normal	ShapiroWilk
Lead (mg/L)	MW-1,MW-2	n/a	n/a	n/a w/combined bg	NP	NaN	24	0.001228	0.0001498	unknown	ShapiroWilk
Lithium (mg/L)	MW-1,MW-2	No	n/a	n/a w/combined bg	NP	NaN	28	0.003367	0.001941	normal	ShapiroWilk
Mercury (mg/L)	MW-1,MW-2	n/a	n/a	n/a w/combined bg	NP	NaN	24	0.0002	0	unknown	ShapiroWilk
Molybdenum (mg/L)	MW-1,MW-2	No	n/a	n/a w/combined bg	NP	NaN	28	0.007937	0.006717	normal	ShapiroWilk
Selenium (mg/L)	MW-1,MW-2	No	n/a	n/a w/combined bg	NP	NaN	27	0.003558	0.003383	normal	ShapiroWilk
Thallium (mg/L)	MW-1,MW-2	n/a	n/a	n/a w/combined bg	NP	NaN	24	0.0005	0	unknown	ShapiroWilk

ATTACHMENT 8

TREND TEST SUMMARY: BACKGROUND WELLS (OCTOBER 2020)

Trend Test - Significant Results

AES Puerto Rico Client: AES Puerto Rico, LP Data: 2020_Statistics_AES.mdb Printed 2/25/2021, 8:47 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Cobalt (mg/L)	**MW-2 (bg)**	**-0.0002646**	**-51**	**-48**	**Yes**	**14**	**64.29**	**n/a**	**n/a**	**0.01**	**NP**
Fluoride (mg/L)	**MW-2 (bg)**	**0.1244**	**61**	**48**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.01**	**NP**

Trend Test - All Results

AES Puerto Rico Client: AES Puerto Rico, LP Data: 2020_Statistics_AES.mdb Printed 2/25/2021, 8:51 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Antimony (mg/L)	MW-1 (bg)	0	-22	-43	No	13	100	n/a	n/a	0.01	NP
Antimony (mg/L)	MW-2 (bg)	0	-22	-43	No	13	100	n/a	n/a	0.01	NP
Arsenic (mg/L)	MW-1 (bg)	0	4	48	No	14	42.86	n/a	n/a	0.01	NP
Arsenic (mg/L)	MW-2 (bg)	0	-17	-48	No	14	50	n/a	n/a	0.01	NP
Barium (mg/L)	MW-1 (bg)	-0.004015	-28	-48	No	14	0	n/a	n/a	0.01	NP
Barium (mg/L)	MW-2 (bg)	0.00365	15	48	No	14	0	n/a	n/a	0.01	NP
Beryllium (mg/L)	MW-1 (bg)	0	-20	-38	No	12	100	n/a	n/a	0.01	NP
Beryllium (mg/L)	MW-2 (bg)	0	-20	-38	No	12	100	n/a	n/a	0.01	NP
Cadmium (mg/L)	MW-1 (bg)	0	-22	-43	No	13	100	n/a	n/a	0.01	NP
Cadmium (mg/L)	MW-2 (bg)	0	-22	-43	No	13	100	n/a	n/a	0.01	NP
Chromium (mg/L)	MW-1 (bg)	0	-24	-38	No	12	83.33	n/a	n/a	0.01	NP
Chromium (mg/L)	MW-2 (bg)	0	-15	-38	No	12	91.67	n/a	n/a	0.01	NP
Cobalt (mg/L)	MW-1 (bg)	0.0001551	20	48	No	14	14.29	n/a	n/a	0.01	NP
Cobalt (mg/L)	**MW-2 (bg)**	**-0.0002646**	**-51**	**-48**	**Yes**	**14**	**64.29**	**n/a**	**n/a**	**0.01**	**NP**
Combined Radium 226 + 228 (pCi/L)	MW-1 (bg)	-0.03015	-7	-48	No	14	0	n/a	n/a	0.01	NP
Combined Radium 226 + 228 (pCi/L)	MW-2 (bg)	0.1204	23	48	No	14	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-1 (bg)	0.1056	45	48	No	14	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	**MW-2 (bg)**	**0.1244**	**61**	**48**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Lead (mg/L)	MW-1 (bg)	0	-23	-38	No	12	91.67	n/a	n/a	0.01	NP
Lead (mg/L)	MW-2 (bg)	0	-20	-38	No	12	100	n/a	n/a	0.01	NP
Lithium (mg/L)	MW-1 (bg)	0	-25	-48	No	14	64.29	n/a	n/a	0.01	NP
Lithium (mg/L)	MW-2 (bg)	0	-12	-48	No	14	71.43	n/a	n/a	0.01	NP
Mercury (mg/L)	MW-1 (bg)	0	0	38	No	12	100	n/a	n/a	0.01	NP
Mercury (mg/L)	MW-2 (bg)	0	0	38	No	12	100	n/a	n/a	0.01	NP
Molybdenum (mg/L)	MW-1 (bg)	0	10	48	No	14	50	n/a	n/a	0.01	NP
Molybdenum (mg/L)	MW-2 (bg)	0	-3	-48	No	14	50	n/a	n/a	0.01	NP
Selenium (mg/L)	MW-1 (bg)	-0.001357	-19	-43	No	13	0	n/a	n/a	0.01	NP
Selenium (mg/L)	MW-2 (bg)	0.0003747	33	48	No	14	35.71	n/a	n/a	0.01	NP
Thallium (mg/L)	MW-1 (bg)	0	0	38	No	12	100	n/a	n/a	0.01	NP
Thallium (mg/L)	MW-2 (bg)	0	0	38	No	12	100	n/a	n/a	0.01	NP

ATTACHMENT 9

UPPER TOLERANCE LIMIT SUMMARY (OCTOBER 2020):

BACKGROUND LEVELS UPDATE

Tolerance Limit

AES Puerto Rico Client: AES Puerto Rico, LP Data: 2020_Statistics_AES.mdb Printed 2/25/2021, 9:10 AM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Antimony (mg/L)	n/a	0.001	n/a	n/a	n/a	26	100	n/a	0.2635	NP Inter(NDs)
Arsenic (mg/L)	n/a	0.0018	n/a	n/a	n/a	28	46.43	n/a	0.2378	NP Inter(normality)
Barium (mg/L)	n/a	0.1633	n/a	n/a	n/a	28	0	No	0.05	Inter
Beryllium (mg/L)	n/a	0.001	n/a	n/a	n/a	24	100	n/a	0.292	NP Inter(NDs)
Cadmium (mg/L)	n/a	0.001	n/a	n/a	n/a	26	100	n/a	0.2635	NP Inter(NDs)
Chromium (mg/L)	n/a	0.0039	n/a	n/a	n/a	24	87.5	n/a	0.292	NP Inter(NDs)
Cobalt (mg/L)	n/a	0.0025	n/a	n/a	n/a	28	39.29	n/a	0.2378	NP Inter(normality)
Combined Radium 226 + 228 (pCi/L)	n/a	0.8573	n/a	n/a	n/a	28	0	No	0.05	Inter
Fluoride (mg/L)	n/a	0.8696	n/a	n/a	n/a	28	0	No	0.05	Inter
Lead (mg/L)	n/a	0.0013	n/a	n/a	n/a	24	95.83	n/a	0.292	NP Inter(NDs)
Lithium (mg/L)	n/a	0.005	n/a	n/a	n/a	28	67.86	n/a	0.2378	NP Inter(NDs)
Mercury (mg/L)	n/a	0.0002	n/a	n/a	n/a	24	100	n/a	0.292	NP Inter(NDs)
Molybdenum (mg/L)	n/a	0.015	n/a	n/a	n/a	28	50	n/a	0.2378	NP Inter(normality)
Selenium (mg/L)	n/a	0.013	n/a	n/a	n/a	27	18.52	sqrt(x)	0.05	Inter
Thallium (mg/L)	n/a	0.0005	n/a	n/a	n/a	24	100	n/a	0.292	NP Inter(NDs)

ATTACHMENT 10

BACKGROUND LEVELS AND GROUNDWATER PROTECTION STANDARDS (OCTOBER 2020)

Background Levels and Groundwater Protection Stantands Corresponding to the October 2020 Sampling Event
AES Puerto Rico LP, Guayama, Puerto Rico

Constituent	Units	MCL	CCR-Rule Specified Criteria[1]	Background Level[2]	GWPS
Antimony	mg/L	0.006		0.001	0.006
Arsenic	mg/L	0.010		0.0018	0.010
Barium	mg/L	2		0.1633	2
Beryllium	mg/L	0.004		0.001	0.004
Cadmium	mg/L	0.005		0.001	0.005
Chromium	mg/L	0.1		0.0039	0.1
Cobalt	mg/L		0.006	0.0025	0.006
Fluoride	mg/L	4.0		0.8696	4.0
Lead	mg/L		0.015	0.0013	0.015
Lithium	mg/L	0.040		0.005	0.040
Mercury	mg/L	0.002		0.0002	0.002
Molybdenum	mg/L		0.100	0.015	0.100
Selenium	mg/L	0.05		0.013	0.05
Thallium	mg/L	0.002		0.0005	0.002
Radium 266 and 228 combined	pCi/L	5		0.8573	5

Notes:

mg/L = milligram per Liter

MCL = Maximum Contaminant Level

GWPS = Groundwater Protection Standard

[1] *See* Federal Register/Vol. 83, No. 146/Monday, July 30, 2018/Rules and Regulations.

[2] Background levels were computed as the Upper Tolerance Limit from the pooled background dataset.

ATTACHMENT 11

CONFIDENCE INTERVAL SUMMARY (OCTOBER 2020):

DETERMINATION OF STATISTICALLY SIGNIFICANT LEVEL

Confidence Interval - Significant Results

AES Puerto Rico Client: AES Puerto Rico, LP Data: 2020_Statistics_AES.mdb Printed 2/25/2021, 9:21 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Lithium (mg/L)	**MW-4**	**0.8771**	**0.6315**	**0.04**	**Yes**	**14**	**0.7543**	**0.2595**	**0**	**None**	**No**	**0.05**	**Param.**
Molybdenum (mg/L)	**MW-3**	**0.2894**	**0.1677**	**0.1**	**Yes**	**14**	**0.2286**	**0.1285**	**0**	**None**	**No**	**0.05**	**Param.**
Molybdenum (mg/L)	**MW-4**	**0.5197**	**0.4206**	**0.1**	**Yes**	**14**	**0.4743**	**0.111**	**0**	**None**	**sqrt(x)**	**0.05**	**Param.**
Selenium (mg/L)	**MW-3**	**0.2323**	**0.1083**	**0.05**	**Yes**	**14**	**0.1886**	**0.1494**	**0**	**None**	**sqrt(x)**	**0.05**	**Param.**

Confidence Interval - All Results

AES Puerto Rico Client: AES Puerto Rico, LP Data: 2020_Statistics_AES.mdb Printed 2/25/2021, 9:23 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	MW-3	0.0025	0.0012	0.006	No	13	0.002046	0.0006319	76.92	None	No	0.05	NP (NDs)
Antimony (mg/L)	MW-4	0.0025	0.0019	0.006	No	13	0.002085	0.0006081	69.23	None	No	0.05	NP (NDs)
Antimony (mg/L)	MW-5	0.0049	0.001	0.006	No	13	0.01007	0.02703	92.31	None	No	0.05	NP (NDs)
Arsenic (mg/L)	MW-3	0.003012	0.002274	0.01	No	14	0.002643	0.0007803	0	None	No	0.05	Param.
Arsenic (mg/L)	MW-4	0.003975	0.002896	0.01	No	14	0.003436	0.00114	0	None	No	0.05	Param.
Arsenic (mg/L)	MW-5	0.008673	0.004272	0.01	No	14	0.007079	0.005499	0	None	sqrt(x)	0.05	Param.
Barium (mg/L)	MW-3	0.2987	0.211	2	No	14	0.27	0.1271	0	None	ln(x)	0.05	Param.
Barium (mg/L)	MW-4	0.05519	0.04738	2	No	14	0.05129	0.00825	0	None	No	0.05	Param.
Barium (mg/L)	MW-5	0.03909	0.03406	2	No	14	0.03657	0.005316	7.143	None	No	0.05	Param.
Beryllium (mg/L)	MW-3	0.0025	0.001	0.004	No	12	0.002191	0.0007378	91.67	None	No	0.05	NP (NDs)
Beryllium (mg/L)	MW-4	0.0025	0.0017	0.004	No	12	0.002308	0.0004719	91.67	None	No	0.05	NP (NDs)
Beryllium (mg/L)	MW-5	0.1	0.001	0.004	No	12	0.0105	0.02819	100	None	No	0.05	NP (NDs)
Cadmium (mg/L)	MW-3	0.0025	0.00063	0.005	No	13	0.001758	0.0009891	69.23	None	No	0.05	NP (NDs)
Cadmium (mg/L)	MW-4	0.0025	0.00036	0.005	No	13	0.001531	0.001095	53.85	None	No	0.05	NP (NDs)
Cadmium (mg/L)	MW-5	0.1	0.000091	0.005	No	13	0.009815	0.02711	92.31	None	No	0.05	NP (NDs)
Chromium (mg/L)	MW-3	0.031	0.0024	0.1	No	12	0.004617	0.008328	83.33	None	No	0.05	NP (NDs)
Chromium (mg/L)	MW-4	0.0035	0.0012	0.1	No	12	0.002225	0.0007557	83.33	None	No	0.05	NP (NDs)
Chromium (mg/L)	MW-5	0.1	0.001	0.1	No	12	0.0105	0.02819	100	None	No	0.05	NP (NDs)
Cobalt (mg/L)	MW-3	0.002784	0.002038	0.006	No	14	0.002411	0.0007879	0	None	No	0.05	Param.
Cobalt (mg/L)	MW-4	0.0018	0.0011	0.006	No	14	0.001499	0.0003583	0	None	No	0.05	NP (normality)
Cobalt (mg/L)	MW-5	0.0034	0.0029	0.006	No	14	0.006471	0.01253	7.143	None	No	0.05	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MW-3	0.511	0.253	5	No	14	0.4481	0.4025	0	None	No	0.05	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MW-4	0.5179	0.2016	5	No	14	0.3598	0.3342	0	None	No	0.05	Param.
Combined Radium 226 + 228 (pCi/L)	MW-5	0.462	0.2514	5	No	14	0.3567	0.2225	0	None	No	0.05	Param.
Fluoride (mg/L)	MW-3	1.937	1.583	4	No	14	1.76	0.3735	0	None	No	0.05	Param.
Fluoride (mg/L)	MW-4	0.76	0.63	4	No	14	1.334	2.501	7.143	None	No	0.05	NP (normality)
Fluoride (mg/L)	MW-5	0.49	0.42	4	No	14	0.5336	0.4389	14.29	None	No	0.05	NP (normality)
Lead (mg/L)	MW-3	0.0013	0.001	0.015	No	12	0.00125	0.0001168	100	None	No	0.05	NP (NDs)
Lead (mg/L)	MW-4	0.0013	0.001	0.015	No	12	0.001103	0.0003417	83.33	None	No	0.05	NP (NDs)
Lead (mg/L)	MW-5	0.1	0.001	0.015	No	12	0.0095	0.0285	100	None	No	0.05	NP (NDs)
Lithium (mg/L)	MW-3	0.01167	0.005302	0.04	No	14	0.009464	0.008503	0	None	sqrt(x)	0.05	Param.
Lithium (mg/L)	**MW-4**	**0.8771**	**0.6315**	**0.04**	**Yes**	**14**	**0.7543**	**0.2595**	**0**	**None**	**No**	**0.05**	**Param.**
Lithium (mg/L)	MW-5	0.0047	0.0038	0.04	No	14	0.007379	0.01234	14.29	None	No	0.05	NP (normality)
Mercury (mg/L)	MW-3	0.0002	0.0002	0.002	No	12	0.0002	0	100	None	No	0.05	NP (NDs)
Mercury (mg/L)	MW-4	0.0002	0.0002	0.002	No	12	0.0002	0	100	None	No	0.05	NP (NDs)
Mercury (mg/L)	MW-5	0.0002	0.0002	0.002	No	12	0.0002	0	100	None	No	0.05	NP (NDs)
Molybdenum (mg/L)	**MW-3**	**0.2894**	**0.1677**	**0.1**	**Yes**	**14**	**0.2286**	**0.1285**	**0**	**None**	**No**	**0.05**	**Param.**
Molybdenum (mg/L)	**MW-4**	**0.5197**	**0.4206**	**0.1**	**Yes**	**14**	**0.4743**	**0.111**	**0**	**None**	**sqrt(x)**	**0.05**	**Param.**
Molybdenum (mg/L)	MW-5	0.0076	0.0036	0.1	No	14	0.01541	0.03879	7.143	None	No	0.05	NP (normality)
Selenium (mg/L)	**MW-3**	**0.2323**	**0.1083**	**0.05**	**Yes**	**14**	**0.1886**	**0.1494**	**0**	**None**	**sqrt(x)**	**0.05**	**Param.**
Selenium (mg/L)	MW-4	0.008279	0.005064	0.05	No	14	0.006671	0.003396	0	None	No	0.05	Param.
Selenium (mg/L)	MW-5	0.006123	0.002137	0.05	No	14	0.008533	0.0128	21.43	Kaplan-Meier	x^(1/3)	0.05	Param.
Thallium (mg/L)	MW-3	0.0005	0.0005	0.002	No	12	0.0005	0	100	None	No	0.05	NP (NDs)
Thallium (mg/L)	MW-4	0.0005	0.0005	0.002	No	12	0.0005	0	100	None	No	0.05	NP (NDs)
Thallium (mg/L)	MW-5	0.05	0.0005	0.002	No	12	0.004625	0.01429	100	None	No	0.05	NP (NDs)