
November 15, 2024

An Annual Groundwater Monitoring and Corrective Action Report (Annual Report) documenting the activities completed in 2021 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, 2022, 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 2021 Annual Report. AES Puerto Rico is providing the 2021 Well Purging and Sampling and Field Data Sheets in the following pages.

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: 4/6/11 FIELD PERSONNEL: A. Maldonado / U. Perez / R. Diaz
 WEATHER: Sunny

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

PID/FID READINGS (ppm): BACKGROUND: NA PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: NA DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.22 ft below TOC
 BENEATH INNER CAP: NA

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*		
8:55			7.30	NA	2.454	NA	224.7	NA	.78	NA	12.17	NA	29.2	NA	96	14.23
9:00			6.92		2.442		217.0		.82		10.13		29.4		96	14.23
9:05			6.95		2.442		207.5		.70		10.72		29.6		96	14.23
9:10			6.90		2.444		200.6		.77		10.63		29.5		96	14.22
9:15			7.06		2.443		191.3		2.26		6.94		29.5		99	14.22
9:20			6.92		2.440		188.1		2.46		6.86		29.5		96	14.22
9:25			7.07		2.438		183.6		2.42		7.07		29.5		96	14.22
9:30			7.08		2.434		178.6		2.35		5.12		29.5		96	14.22

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED 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:	4/6/21	FIELD PERSONNEL:	A. Moten / V. Perez / R. Diaz
WEATHER:	Sunny		

MONITORING WELL:	WELL DEPTH:	SCREENED/OPEN INTERVAL:
LOCATION:	WELL DIAMETER:	
MW-2	22.97	
AES Guayama	2	Inches

PID/FID READINGS (ppm):	BACKGROUND:	PUMP INTAKE DEPTH:	ft below TOC
	NA		
	BENEATH OUTER CAP:	DEPTH TO WATER BEFORE PUMP INSTALLATION:	
	NA	14.09 ft below TOC	
	BENEATH INNER CAP:	NA	

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*		
10:12			6.19	NA	1.354	NA	190.3	NA	.32	NA	28.94	NA	30.5	NA	116	14.08
10:17			6.59		1.356		176.2		1.40		30.18		30.4		116	14.09
10:22			6.55		1.359		167.7		1.93		21.95		30.5		116	14.09
10:27			6.58		1.361		161.5		2.18		27.72		30.8		116	14.09
10:32			6.51		1.362		157.5		2.24		24.65		30.7		116	14.09
10:37			6.51		1.368		152.8		2.23		21.76		30.6		116	14.09
10:42			6.44		1.372		150.3		2.21		22.39		30.6		116	14.09
10:47			6.58		1.374		148.0		2.18		11.31		30.7		116	14.09
10:52																
10:57																

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED 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: 4/6/21 FIELD PERSONNEL: A. Melendez / U. Perez / R. Diaz
 WEATHER: Sunny

MONITORING WELL: MW-3 WELL DEPTH: 27.20 SCREENED/OPEN INTERVAL: _____
 LOCATION: _____ WELL DIAMETER: 2 Inches

PID/FID READINGS (ppm): BACKGROUND: NA PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: NA DEPTH TO WATER BEFORE PUMP INSTALLATION: 15.49 ft below TOC
 BENEATH INNER CAP: NA

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*		
12:35			6.70	NA	19.25	NA	211.1	NA	.19	NA	7.75	NA	30.5	NA	104	15.78
12:40			6.77		19.22		201.3		.22		6.00		30.5		104	15.78
12:45			6.68		19.24		192.2		.22		5.06		30.5		104	15.77
12:50			6.74		19.23		185.1		.64		5.50		30.5		104	15.74
12:55			6.75		19.20		178.7		1.06		4.59		30.4		104	15.74
13:00			6.68		19.13		171.6		1.35		5.35		30.5		104	15.74
13:05			6.77		19.04		146.0		1.53		4.60		30.5		102	15.70
13:10			6.76		18.69		70.3		1.76		7.36		30.4		102	15.66
13:15			6.75		17.67		12.2		1.78		6.78		30.4		102	15.66
13:20			6.65		16.91		-7.0		1.81		4.14		30.3		102	15.66
13:25			6.76		16.72		-11.9		1.88		3.68		30.3		102	15.66

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; $\pm 3\%$ for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and $\pm 10\%$ 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: 4/6/24 FIELD PERSONNEL: A. Melendez / V. Perez / R. Diaz
 WEATHER: Sunny

MONITORING WELL: MW-4 WELL DEPTH: 28.80 SCREENED/OPEN INTERVAL: _____
 LOCATION: AES-Guayama WELL DIAMETER: 2 Inches

PID/FID READINGS (ppm): BACKGROUND: NA PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: NA DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.38 ft below TOC
 BENEATH INNER CAP: NA

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*		
14:50			7.01	NA	42.92	NA	-108.1	NA	.12	NA	143.0	NA	32.1	NA	110	14.75
14:55			7.03		42.93		-108.1		.12		154.1		32.2		110	14.73
15:00			7.03		42.94		-111.9		.11		95.71		32.2		110	14.77
15:05			7.02		42.87		-110.9		.11		68.83		32.3		110	14.83
15:10			7.02		42.81		-120.1		.10		65.78		32.4		110	14.85
15:15			7.03		42.75		-124.1		.14		38.97		32.4		110	14.86
15:20			7.03		42.66		-124.0		.34		54.93		32.3		106	14.87
15:25			7.03		42.56		-127.1		.50		47.20		32.4		106	14.87
15:30			7.02		42.49		-128.4		.58		32.05		32.5		106	14.88
15:35			7.04		42.44		-130.2		.65		33.37		32.4		106	14.89
15:40			7.05		42.39		-130.4		.71		32.03		32.4		106	14.89

COMMENTS:

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

DNA-ENVIRONMENT, LLC

SITE: AES Puerto Rico, LP in Guayama, Puerto Rico

PROJECT NAME:

CCR Groundwater Monitoring

DATE:

FIELD PERSONNEL:

WEATHER

MONITORING WELL:

WELL DEPTH:

SCREENED/OPEN INTERVAL:

LOCATION:

WELL DIAMETER:

Inches

PID/FID READINGS (ppm):

BACKGROUND:

NA

PUMP INTAKE DEPTH: _____ ft below TOC

BENEATH OUTER CAP:

NA

DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.38 ft below TOC

BENEATH INNER CAP:

NA

COMMENTS:

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

LOW FLOW SAMPLING DATA SHEET

DNA-ENVIRONMENT, LLC

SHEET 1 OF 1

SITE: <u>AES Puerto Rico, LP in Guayama, Puerto Rico</u> DATE: <u>4/06/21</u> WEATHER: <u>Cloudy</u>	PROJECT NAME: <u>CCR Groundwater Monitoring</u> FIELD PERSONNEL: <u>A. Malander / V. Perez / R. Sian</u>	
MONITORING WELL: <u>MW-3</u> WELL DEPTH: <u>27.20</u> LOCATION: <u>AES Guayama</u> WELL DIAMETER: <u>2</u> Inches	SCREENED/OPEN INTERVAL: _____	
PID/FID READINGS (ppm): BACKGROUND: <u>NA</u> PUMP INTAKE DEPTH: _____ ft below TOC BENEATH OUTER CAP: <u>NA</u> DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>15.42</u> ft below TOC BENEATH INNER CAP: <u>NA</u>		

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*		
16:18			6.41	NA	13.36	NA	-35.0	NA	1.51	NA	78.13	NA	29.3	NA	130	15.54
16:23			6.44		13.42		-32.3		1.51		81.51		29.4		110	15.55
16:28			6.43		13.33		-29.1		1.97		62.10		29.3		110	15.56
16:33			6.43		13.31		-27.3		2.20		51.89		29.4		110	15.56
16:38			6.42		13.29		-26.4		2.25		47.99		29.4		110	15.56
16:43			6.43		13.26		-25.0		2.27		41.64		29.2		110	15.56
16:48			6.41		13.25		-23.8		2.26		36.10		29.1		110	15.56
16:53			6.43		13.24		-22.6		2.24		33.90		29.0		110	15.56
16:58			6.43		13.22		-22.7		2.24		29.13		29.1		110	15.56
17:03			6.44		13.22		-22.5		2.24		29.45		29.1		110	15.56
17:08																

COMMENTS:

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

Date of Calibration: 4/6/14 Technician: R. Diaz
 Instrument Serial Number: 205102482 ~~2388 AD~~ Software Revision: 4.0.0 Cable Model Number: PYD 10102030
 Temperature Reading 25.8 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 yellow Color notated in Sensor menu? (Y) N

Record the following calibration values:

	Pre Cal	After Cal	
Conductivity	<u>1.463</u>	<u>1.413</u>	
ORP	<u>232.7</u>	<u>238.0</u>	
DO	<u>97.2</u>	<u>99.8</u>	True Barometric Pressure at time of calibration <u>29.98</u>

	Pre Cal		
pH 7	<u>7.00</u>	pH mV value <u>3.7</u>	Range 0 mV \pm 50 mV
pH 4	<u>4.13</u>	pH mV value <u>170.5</u>	Range +165 to +180 from 7 buffer mV value
pH 10	<u>10.03</u>	pH mV value <u>-173.9</u>	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 \approx 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 \pm 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 \pm 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 \pm 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 \pm 1.0 acceptable
 DO Sensor Value (uA) _____ (Membrane dependent, see DO Cal Tips)
 pH Slope _____ (\approx 55 to 60 mV/pH, 59 ideal)
 pH Slope % of ideal _____

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: 10/04/21 FIELD PERSONNEL: A. Melendez / M. Perez / R. Diaz / J. Cardona
 WEATHER: Cloudy

MONITORING WELL: MW-1 WELL DEPTH: 26.15 SCREENED/OPEN INTERVAL: _____
 LOCATION: AES WELL DIAMETER: 2 Inches

PID/FID READINGS (ppm): BACKGROUND: NA PUMP INTAKE DEPTH: 21 ft below TOC
 BENEATH OUTER CAP: NA DEPTH TO WATER BEFORE PUMP INSTALLATION: 16.35 ft below TOC
 BENEATH INNER CAP: NA

TIME	PURGING	SAMPLING	pH (pH units)		CONDUCTIVITY (µS/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*		
9:35			6.94	NA	2048	NA	204	NA	3.76	NA	17.07	NA	30.0	NA	100	100 16.37
9:40			7.00		1.984		174.0		.79		24.33		30.1		100	16.38
9:45			6.99		1.97		76.6		.72		18.02		30.1		100	16.38
9:50			7.00		1.96		56.2		.60		11.45		30.1		100	16.38
9:55			6.99		1.96		48.7		.60		10.08		30.1		100	16.38
10:00			6.99		1.97		44.1		.58		7.86		30.2		100	16.38

COMMENTS: Sample PH 6.99 (6.99)

*INDICATOR PARAMETERS HAVE STABILIZED 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

SHEET 1 OF 1

SITE: AES Puerto Rico, LP in Guayama, Puerto Rico PROJECT NAME: CCR Groundwater Monitoring
 DATE: 10/01/21 FIELD PERSONNEL: A. Melendez / V. Doron / R. Diaz / J. Cardona
 WEATHER: Sunny

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

PID/FID READINGS (ppm): BACKGROUND: NA PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: NA DEPTH TO WATER BEFORE PUMP INSTALLATION: 16.30 ft below TOC
 BENEATH INNER CAP: NA 16.30

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*		
10:40			6.89	NA	1.18	NA	434	NA	.39	NA	17.53	NA	31.0	NA	114	16.35
10:45			6.84		1.15		25.8		.21		25.92		30.9		114	16.35
10:50			6.79		1.12		24.3		.25		17.31		30.9		114	16.34
10:55			6.76		1.10		25.0		.29		9.45		31.0		114	16.34
11:00			6.73		1.09		29.0		.26		6.49		31.0		114	16.34
11:05			6.72		1.08		29.1		.31		3.52		31.0		114	16.34

COMMENTS:

Sample pH: 6.72

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; $\pm 3\%$ for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and $\pm 10\%$ 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: 10/4/21 FIELD PERSONNEL: A. Melendez / V. Perez / R. Diaz / J. Cardona
 WEATHER: Sunny

MONITORING WELL: MW-3 WELL DEPTH: 27.02 SCREENED/OPEN INTERVAL: _____
 LOCATION: _____ WELL DIAMETER: 2 Inches

PID/FID READINGS (ppm): BACKGROUND: NA PUMP INTAKE DEPTH: 21 ft below TOC
 BENEATH OUTER CAP: NA DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.12 ft below TOC
 BENEATH INNER CAP: NA

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*		
11:46			6.75	NA	21.43	NA	72.3	NA	.33	NA	2.68	NA	31.2	NA	102	14.51
11:51			6.78		20.49		12.6		.24		5.06		31.1		102	14.45
11:56			6.79		19.64		-25.9		.22		7.36		31.1		102	14.45
12:01			6.79		19.24		-39.1		.18		4.06		31.1		102	14.45
12:06			6.79		18.56		-48.5		.16		3.69		31.1		102	14.45
12:11			6.79		17.71		-57.3		.15		3.53		31.1		102	14.45
12:16			6.80		17.00		-61.0		.17		2.69		31.1		102	14.44
12:21			6.80		16.34		-63.4		.17		2.14		31.1		102	14.44
12:26			6.79		15.78		-66.0		.17		1.86		31.1		102	14.44
12:31																

COMMENTS: Sample pH: 6.79 13:05

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; $\pm 3\%$ for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and $\pm 10\%$ 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: 10/04/21 FIELD PERSONNEL: A. Melander / V. Perez / B. Diaz / I. Cardona
 WEATHER: Sunny

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

PID/FID READINGS (ppm): BACKGROUND: NA PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: NA DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.71 ft below TOC
 BENEATH INNER CAP: NA 14.71

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*		
14:20			7.02	NA	45.0	NA	-130.5	NA	3.15	NA	100.1	NA	32.5	NA	120	14.85
14:25			7.02		45.1		-136.6		2.18		79.34		33.0		120	14.93
14:30			7.05		45.0		-142.3		.15		26.92		33.3		120	14.98
14:35			7.07		44.7		-148.0		.12		15.63		33.2		120	15.02
14:40			7.06		44.5		-151.2		.11		13.92		33.3		120	15.06
14:45			7.05		44.4		-152.8		.10		7.86		33.4		120	15.08
14:50			7.05		44.2		-154.3		.10		8.35		33.5		120	15.08
14:55			7.06		44.0		-156.3		.10		7.94		33.4		120	15.11
13:00			7.07		43.9		-158.7		.09		6.20		33.5		120	15.12

COMMENTS: Sample pH: 7.07

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; $\pm 3\%$ for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and $\pm 10\%$ 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: 10/4/21 FIELD PERSONNEL: A. Melander / V. Perez / R. Dav / I Cardona
 WEATHER: Sunny

MONITORING WELL: MW-5 WELL DEPTH: 27.20 SCREENED/OPEN INTERVAL: _____
 LOCATION: AES WELL DIAMETER: 2 Inches

PID/FID READINGS (ppm): BACKGROUND: NA PUMP INTAKE DEPTH: 2' ft below TOC
 BENEATH OUTER CAP: NA DEPTH TO WATER BEFORE PUMP INSTALLATION: 13.88 ft below TOC
 BENEATH INNER CAP: NA

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*		
15:35			6.60	NA	15.08	NA	-52.08	NA	.26	NA	168.9	NA	30.6	NA	118	13.98
15:40			6.55		14.70		-55.1		.17		125.9		30.4		118	13.98
15:45			6.51		14.55		-56.6		.17		119.6		30.4		118	14.00
15:50			6.51		14.49		-57.5		.15		84.02		30.4		118	14.00
15:55			6.51		14.41		-58.0		.15		70.92		30.3		118	14.01
16:00			6.49		14.35		-58.8		.17		65.47		30.3		118	14.00
16:05			6.49		14.29		-59.8		.21		58.50		30.2		118	14.01
16:10			6.52		14.21		-61.0		.27		53.54		30.2		118	14.01
16:15			6.52		14.14		-62.1		.37		35.00		30.2		118	14.02
16:20			6.50		14.10		-62.8		.46		37.70		30.2		118	14.01
16:25			6.50		14.05		-63.4		.56		31.32		30.2		118	14.01

COMMENTS:

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

DNA-ENVIRONMENT, LLC

SHEET 2 OF 2

[illegible]

Sample pH: 6.49

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

Date of Calibration: 10/04/21 Technician: R. Diaz
 Instrument Serial Number: _____ Software Revision: _____ Cable Model Number: 1M 451
 Temperature Reading 26.5 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 yellow Color notated in Sensor menu? ☒ Y ☐ N

Record the following calibration values:

	Pre Cal	After Cal	
Conductivity	<u>1453</u>	<u>1413</u>	
ORP	<u>234.6</u>	<u>238</u>	
DO	<u>99.6</u>	<u>99.8</u>	True Barometric Pressure at time of calibration <u>30.025</u>

	Pre Cal		
pH 7	<u>6.83</u>	pH mV value <u>-1.1</u>	Range 0 mV \pm 50 mV
pH 4	<u>4.08</u>	pH mV value <u>154.3</u>	Range +165 to +180 from 7 buffer mV value
pH 10	<u>9.83</u>	pH mV value <u>-171.6</u>	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 \approx 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 \pm 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 \pm 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 \pm 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 \pm 1.0 acceptable

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

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

pH Slope % of ideal _____