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.



DNA-ENVIRONMENT, LLC

SHEET / OF

| SITE: | _A | ES Puerto R | | uayama, Pu | erto Rico | | PROJEC | T NAME: | _0 | CCR Ground | | toring , | | | |
|---------|---------|-------------|---------|--|-----------|----------|---------------|----------------------|---------------|----------------------------|------------|------------|------------|----------|-------------------|
| DATE: | | 4/6 | /1 | | | | FIELD P | ERSONNEL | : <u>7</u> | 1. Maland | or/ U.F | erez/ | 14. Dia | <u> </u> | |
| WEATHE | :R | | San | my | | | | | | The contract of the second | , | | | | |
| MONITO | | | 1w-1 | WELL | | 26.20 | : | | | SCREEN | IED/OPEN I | NTERVAL: | | | |
| LOCATIO | ON: | A | ES-Guci | yana WELL I | DIAMETER: | | Inches | | | | | | | | |
| PID/FID | READ | INGS (ppm): | BACKGRO | OUND: | NA | | PUM | P INTAKE D | EPTH: | ft below | TOC | 111 | | | |
| | | | | OUTER CA | | | DEPT | TAW OT H | ER BEFORE | PUMP INST | TALLATION: | 17.22 ft 1 | elow TOC | | |
| | | | BENEATH | INNER CA | P: NA | | | _ | | | | | | | |
| | 9 | 2 | рН | CONDU | CTIVITY | 0.000.00 | DOX NTIAL | 34.54.54.54.54.54.54 | OLVED YGEN | TUD | BIDITY | TEMPE | RATURE | | |
| | PURGING | (pH | units) | The second secon | /cm) | | nv) | | ng/l) | | TU) | 9959 2004 | rees C) | PUMPING | DEPTH TO WATER |
| TIME | 2 3 | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | (ml/min) | (ft below TOC) |
| 8:58 | | 7.30 | NA | 2:454 | NA | 224.7 | NA | .78. | NA | 12.17 | NA | 29.2 | NA | 96 a | -96 14.23 |
| 9:00 | | 6.92 | | 2.442 | | 217.0 | | .82 | | 10.13 | | 28.4 | | 96 4 | -96 14.23 |
| 9:05 | 11 | 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 | | 25.5 | | 960 | 14.22 |
| 9:15 | Ш | 7.06 | | 2.443 | | 191.3 | | 2126 | | 6.94 | | 25.5 | | 99 | 14.22 |
| 9:20 | | 6.92 | | 2.440 | | 188.1 | | 2.46 | | 6.86 | | 29. | | 96 | 14.22 |
| 9:25 | | 7.07 | | 2.438 | | 183.6 | | 2.42 | | 7.07 | | 29.5 | | 960 | 14.22 |
| 9:30 | | 7.08 | | 2.434 | | 178.6 | | 2.35 | | 5.12 | | 29.5 | | 96 | 14.22 |
| | | - | | | | | | | | | | | | | |
| | - | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| COMME | NTS; | | | | | | | | | | | | P. 5863 Sh | - | |
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^{*}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

SHEET / OF /

| SITE: DATE: WEATHE | | ES Puerto R |) | uayama, Pu | erto Rico | | | T NAME: ERSONNEL | | CCR Ground | water Moni | toring Peyez/ | 7.8íaz | | |
|---|---------|-------------|-------------------------|--------------------------------|----------------------------|-------|-------------------------|---------------------|-----------------------------------|------------|--------------------------|------------------|------------------|-----------------------------|-------------------------------------|
| MONITO | | WELL: | 1410-2 | WELL I | | 2.91 | Inches | 1- | | SCREEN | IED/OPEN II | NTERVAL: | | | |
| PID/FID F | READI | NGS (ppm): | BENEATH | OUND: OUTER CA INNER CAF | | | PUMI DEP1 | P INTAKE D | EPTH: | ft below | TOC ALLATION: | 14.89 m | pelow TOC | | |
| TIME | PURGING | (pH | oH units) CHANGE* | | CTIVITY /cm) CHANGE* | POTE | NTIAL nv) CHANGE* | OX | OLVED (GEN ng/I) CHANGE* | | BIDITY TU) CHANGE* | | RATURE ees C) | PUMPING RATE (ml/min) | DEPTH TO WATER (ft below TOC) |
| 10:12 | | 6.19 | NA | 1.354 | NA | 190.3 | NA | 32 | NA NA | 28.9Y | NA | 30.5 | NA | 116 | 1408 |
| 12:17 659 1.356 176.2 1.40 30.18 30.4 116 14. | | | | | | | | | | | | | | 14-09 | |
| 10:22 | | 6.55 | | 1.359 | | 167.7 | 2000 | 1.93 | | 21.95 | | 30.5 | | 1160 | 14.09 |
| 10:27 | | 6.58 | | 1.34 | | 161.5 | | 2.18 | | 27.72 | | 30.8 | | 116 | 14.09 |
| 10132 | | 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 | | 304 | | 116 | 14.09 |
| 10:42 | | 6.44 | | 1.372 | | 150.3 | | 2.21 | | 22.39 | | 30.4 | | 116 | 14.09 |
| 10:47 | | 6.58 | | 1.374 | | 148.0 | | 2.18 | | 11.31 | | 30.7 | | 116 | 14.09 |
| 10:52 | | | | | | | | | | | | | | | |
| 10:57 | | | | | | | | | | | | | | | |
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| COMMEN | TS: | | | | | | | | | | | | | | |

^{*}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

SHEET OF Z

| SITE: | | | | | | | | | T NAME: | | CCR Ground | / | | X | | |
|-----------------|--|-----------|-----|--------------|--------------------|---------------------|------------|---------------------|------------|------------------------|------------|---------------|-------------------|------------------|-----------------|-------------------|
| DATE: WEATHE | R - | 4/6 | | Shary | | | | FIELD P | ERSONNEL | · | 4. Holand | 2/0.00 | 262/ K | Diaz | | |
| MONITO | RIN | G WELL: | | w-3 | WELL D | DEPTH: DIAMETER: | 27.20 Z | Inches | | | SCREEN | ED/OPEN II | NTERVAL: | | | |
| PID/FID F | REA | DINGS (pp | m): | BENEATH | OUND: OUTER CAI | | | | P INTAKE D | | ft below | | <u>/5.49</u> ft b | elow TOC | | |
| | PURGING | MPLING | | oH units) | | CTIVITY (cm) | POTE | DOX NTIAL nv) | OXY | OLVED YGEN ng/l) | | BIDITY TU) | | RATURE ees C) | PUMPING RATE | DEPTH TO WATER |
| TIME | 2 | READII | NG. | CHANGE* | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | (ml/min) | (ft below TOC) |
| 12:35 | | | | | | | | | | | | | | | | |
| 1):40 | 140 6.77 19.22 201.3 .22 6.00 30.5 104 15.78 | | | | | | | | | | | | | | | |
| 92:45 | | 6.6 | B | | 19.24 | | 192.2 | | . 22 | | 5.06 | | 305 | | 104 | 15.77 |
| /2:5D | | 6.7 | 4 | | 19.23 | | 185.1 | | .64 | | 5.50 | | 30.5 | | 104 | 15.74 |
| 12:55 | | 6.7 | 5 | | 19,20 | | 178.7 | | 1.06 | | 4.53 | | 30.4 | | 104 | 15.74 |
| 13:00 | | 6.6 | 8 | | 19.13 | | 171.6 | | 1.35 | | 535 | | 30.5 | | 104 | 15.74 |
| 13:05 | | 6.7 | 7 | | 19.64 | | 1460 | | 1.53 | | 4.60 | | 30.5 | | 102 | 15.70 |
| 13:10 | | 6.7 | 6 | | 18.69 | | 70.3 | | 1.7te | | 7.34 | | 30.4 | | 102 | 15.66 |
| 13:15 | | 6.7 | 5 | | 17.67 | | 12.2 | | 1.78 | | 6.78 | | 30.4 | | 102 | 15.66 |
| 13:20 | | 6.6 | | | 16.91 | | -7.0 | | 1.81 | | 4.14 | | 303 | | 102 | 15.66 |
| 13:25 | | 6.74 | > | | 16.72 | | -11.9 | | 1.88 | | 3.68 | | 30.3 | | 102 | 15.66 |
| COMMEN | TS: | | | | | | | | | • | • | | 1 | | | |
| <u> </u> | | | | | | | | | | | | | | | | |

^{*}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

SHEET 2 OF 2

| SITE: | | AE | | | uayama, Pu | erto Rico | | PROJEC | T NAME: | • | CR Ground | water Moni | toring | | | |
|-----------|---------|---------|------------|-----------------|--------------------|-----------------|------------|---------------------|-----------|------------------------|------------------|---------------|----------|------------------|-----------------|-------------------|
| DATE: | - | | 4/6/2 | | | | | FIELD PI | ERSONNEL: | | Melando | | | | | |
| WEATHE | R _ | | Juny | <i>,</i> | | | | | | _ | (5,00 | | | | | |
| LOCATIO | N: | | NELL: M | PW-3 Guagana | WELL D | | 27.20 | Inches | | | SCREEN | IED/OPEN II | NTERVAL: | | | |
| PID/FID R | | | NGS (ppm): | BENEATH | OUND: OUTER CAI | | | | | | ft below | | ft I | pelow TOC | | |
| TIME | PURGING | AMPLING | | H units) | (mS | CTIVITY /cm) | POTE (r | DOX NTIAL nv) | OXY (m | OLVED /GEN ng/l) | 56 8 90 90 90 90 | BIDITY TU) | | RATURE ees C) | PUMPING RATE | DEPTH TO WATER |
| | ۵ | S | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | (ml/min) | (ft below TOC) |
| 13:30 | | | 676 | NA | 16.35 | NA | -19.7 | NA | 1.90 | NA | 3.83 | NA | 30.3 | NA | 102 | 15.66 |
| 13:35 | | | 6.75 | | 16.00 | | -25.5 | | 1.91 | | 3.79 | | 304 | | 102 | 15.66 |
| | | | | | | | | | | | | | | | | |
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| COMMEN | ITS: | | | | | | | | | | | | • | | | |

^{*}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

SHEET $\frac{1}{2}$ of $\frac{\nu}{2}$

| SITE: | _ | | | co, LP in G | uayama, Pu | erto Rico | | PROJEC | T NAME: | (| CCR Groundy | vater Monit | oring | , , | | |
|--|---|----------|------------|-------------|------------|-----------------|---------|-------------|------------|---------------|-------------|--------------|------------|------------------|-----------------|-------------------|
| DATE: | _ | | 4/6/24 | | | | | FIELD PI | ERSONNEL: | 1 | 4. Hulond | V/V. | Perer | P. Die 7 | | |
| WEATHE | R | | | unuy | | | | | | _ | | / | | 200.0 | 60 (600) 0.0 | |
| MONITO | RIN | G V | VELL: L | 10-4 | WELL D | EPTH: | 28.80 | | | | SCREEN | ED/OPEN II | TERVAL: | | | |
| LOCATIO | | | | | WELL D | | 2 | Inches | | | OUNCEN | LD/OI LIV II | VIENVAL. | | | |
| DID/FID | - | DIA | | 7 | | | | | | | | | | | | |
| PID/FID | KEA | אוע | IGS (ppm): | DAUNONO | | NA | | | INTAKE D | | ft below | | 11/25 | | | |
| | | | | | OUTER CAI | | | DEPT | 'H TO WATE | R BEFORE | PUMP INST | ALLATION: | 14.30 ft b | elow TOC | | |
| | | | | RENEATH | INNER CAP | : <u>NA</u> | | | | | | | | | | |
| | <u>0</u> | NG | _ | u | CONDU | | | OOX | 1 | OLVED | 71100 | IDITY | TEMPE | DATURE | | |
| | 5 | PL | | H ınits) | (mS | CTIVITY (cm) | 100 | NTIAL v) | 1 | (GEN ig/l) | 1 | IDITY (U) | 0.04/98 | RATURE ees C) | PUMPING RATE | DEPTH TO WATER |
| TIME | PURGING | SAMPLING | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | (ml/min) | (ft below TOC) |
| 14:0 7.01 NA 42.92 NA -1881 NA .12 NA 143.0 NA 32.1 NA 110 14.75 | | | | | | | | | | | | | | | | |
| 14:55 | 4:55 7.03 42.93 -108.1 .12 154.1 32.2 110 14.73 | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 14.77 | | |
| 15:05 | | | 7.02 | | 42.87 | | -110.9 | | .11 | | 68.83 | | 32.3 | | 110 | 14.83 |
| 15:10 | 1 1 | | 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 | | 4266 | | -124.0 | | . 34 | | 5493 | | 32.3 | | 106 | 14.87 |
| ,5:25 | | | 7.03 | | 42.56 | | -127.1 | | .50 | | 47.20 | | 32.4 | | 1060 | 14.87 |
| 15:30 | | | 7.02 | | 42.49 | | -128.4 | | . 28 | | 32.05 | | 32.5 | | 106 | 14.88 |
| 15.36 | | | 7.04 | | 42.44 | | -130.2 | | .65 | | 33.37 | | 32.4 | | 106 | 14.89 |
| 15.40 | | | 7.05 | | 42.39 | | -130.4 | | .7/ | | 32.03 | | 32,4 | | 106 | 14.89 |
| COMME | NTS: | : | | | | | | | | | | | | | | |
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^{*}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

SHEET 2 OF 2

| SITE: DATE: WEATH | ER | AE | 4/10/1 | | uayama, Pu | erto Rico | 2000 | | T NAME: ERSONNEL: | - | CR Ground | water Monit | toring Tases | B. Siar | | |
|-------------------------|-------|----------|------------|--------------|--------------------|-------------------|------------|---------------------|----------------------|------------------------|-----------------------|------------------|-----------------------|------------------|-----------------------------|-------------------------------------|
| MONITO | | | VELL: | 1w-4 | WELL D | EPTH: JAMETER: | 28.80 | Inches | | | SCREEN | IED/OPEN II | NTERVAL: | | | |
| PID/FID | REA | DIN | IGS (ppm): | BENEATH | OUND: OUTER CAP | | | PUMI DEP1 | P INTAKE D | EPTH: ER BEFORE | ft below PUMP INST | TOC ALLATION: | /4.38 _{ft 1} | oelow TOC | | |
| | RGING | SAMPLING | (pH | oH units) | (mS | CTIVITY /cm) | POTE (n | DOX NTIAL nv) | OXO (m | OLVED (GEN og/l) | (N | BIDITY TU) | (degr | RATURE ees C) | PUMPING RATE (ml/min) | DEPTH TO WATER (ft below TOC) |
| 15:45 | | | 7.02 | CHANGE* | READING | CHANGE* | reading | CHANGE* | ·75 | CHANGE* | 22.5/ | NA | 32.4 | CHANGE* | 100 | 14.90 |
| | | | | | | | | | | | | | | | 4 | |
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| COMME | NTS | S: | | | | | | | | | * | | | | | |

^{*}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

SHEET OF

| SITE: | _ | AE | S Puerto Ri | co, LP in G | uayama, Pu | erto Rico | | _ PROJEC | T NAME: | | CR Ground | , , , , | | 100 | | |
|-----------|--|----------|-------------|-------------|------------|-----------|---|--------------|-------------|---------------|-----------|-----------|----------|----------|----------|--|
| DATE: | _ | | 4/06/2 | | | | | FIELD PE | ERSONNEL: | 4 | Maland | 1/1. | Do102/ | G. Siar | | |
| WEATHE | R _ | | '- < | " buy | | | | _ | | | | , | | | | |
| MONITO | RIN | G V | 4 | 14-3 | WELL D | | 27.20 | | | | SCREEN | ED/OPEN I | NTERVAL: | | | |
| LOCATIO | ON: | <u></u> | AES | Busya ma | WELL D | IAMETER: | 2 | _ Inches | | | | | | | | |
| PID/FID F | REA | DIN | IGS (ppm): | BACKGRO | UND: | NA | | PUME | NTAKE D | EPTH: | ft below | | 1-10 | | | |
| | | | | | OUTER CAL | | | DEPT | H TO WATE | R BEFORE | PUMP INST | ALLATION: | /3.72m | elow TOC | | and the state of t |
| | - | | | BENEATH | INNER CAP | : NA | | | | | | | | | г | |
| | 9 | SAMPLING | | н | CONDU | CTIVITY | | OOX NTIAL | | OLVED (GEN | TURE | BIDITY | TEMPE | RATURE | PUMPING | рертн то |
| | PURGING | APL. | | units) | (mS | | 100000000000000000000000000000000000000 | iv) | | ıg/l) | 1 | TU) | | ees C) | RATE | WATER |
| TIME | PUR | SAN | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | (ml/min) | (ft below TOC) |
| 16:18 | | | 6.4) | NA | 13.36 | NA | -35.0 | NA | .7 | 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 | | /3.33 | | -29.1 | | 1.97 | | 67.10 | | 29.3 | | 110 | 15.56 |
| 16:33 | | | 443 | | 13.31 | | -27.3 | | 2.20 | | 51.89 | | 25.4 | | 110 | 15.56 |
| 16:38 | | | 6.49 | 2 | 13.29 | · · | -26.4 | | 2.25 | | 47.99 | | 19.4 | | 110 | 15.56 |
| 16:43 | | | 6.43 | | 13.24 | | -25.0 | | 2.27 | | 41.64 | | 29.2 | | 110 | 15.56 |
| 16:48 | | | 6-41 | | 13.25 | | -23.8 | | 2.26 | | X0.1D | | 25.1 | | 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 | 15.54 |
| 17:03 | | | 6:44 | | 13:22 | | -22.5 | | 2.24 | | 29.45 | _ | 29.1 | | 110 | 15.56 |
| 17:08 | | | | | | | | | | | | | | | | |
| COMME | NTS | : | | | | 200 | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | |

^{*}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: 4/6/4 | Technician: K. Diaz |
|---|--|
| Instrument Serial Number: 205/02482 | Software Revision: 4.0.0 Cable Model Number: Pro 10102030 |
| Temperature Reading 25.8 | Temperature Accurate: Y N |
| DO Sensor in use: Polarographic Gal | vanic Sensor notated in Sensor menu? (Y) N |
| DO membrane changed? Y N Co | lor of Membrane 10/100 Color notated in Sensor menu? (Y) N |
| Record the following calibration values: | |
| Pre Cal After | Cal |
| Conductivity 1.463 1.4 | /3 |
| ORP 232.7 23 | |
| DO 97.2 99 | True Barometric Pressure at time of calibration 29.98 |
| Pre Cal | |
| pH 7 | value 3.7 Range $0 \text{ mV} \pm 50 \text{ mV}$ |
| pH 4 4./3 pH mV | value 170. Sange +165 to +180 from 7 buffer mV value |
| pH 10 pH mV | value -173.9 Range -165 to -180 from 7 buffer mV value |
| NOTE: See pH Cal tips section for addition 180 mV. 177 is the ideal distance or 59 mV | al information. Span between pH 4 and 7 and 7 and 10 mV values should be ≈ 165 to per pH unit. |
| Ammonium 1 st point (1 mg/L) NH4 m | V value Range: 0 mV +/- 20 mV (new sensor only) |
| 2 nd point (100 mg/L) NH4 m | V value Range: 90 to 130 mV > 1 mg/L mV value |
| Nitrate 1 st point (1 mg/L) NO3 m | V value Range: 200 mV +/- 20 mV (new sensor only) |
| 2 nd point (100 mg/L) NO3 m | V 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) |
| 2 nd point (1000mg/L) CI mV | value Range: 80 to 130 < 10 mg/L mV value |
| Record the following diagnostic numbers aft | er 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 | |

DNA-ENVIRONMENT, LLC

SHEET 1 OF

| SITE: DATE: WEATH | ER _ | | 10/04/2 | Cloudy | uayama, Pu | erto Rico | | | T NAME: ERSONNEL: | | CCR Ground | water Moni | toring Re2/R. | Diar/I. | Cardon | |
|-------------------------|---------|----------|------------|-------------------------|-------------------|-------------------|---------------|--------------------------------|----------------------|-----------------------------------|------------|-----------------|------------------|-------------------|-----------------------------|-------------------------------------|
| MONITO LOCATI | | | | MW-1 ES | WELL D | EPTH: NAMETER: | 26.15 | Inches | | | SCREEN | ED/OPEN I | NTERVAL: | | | |
| PID/FID | REA | AID | IGS (ppm): | | OUND: OUTER CA | | | PUM DEP1 | P INTAKE D | EPTH: 2 ER BEFORE | ft below | TOC ALLATION | 16.35 A I | elow TOC | | |
| TIME | PURGING | SAMPLING | | oH units) CHANGE* | CONDU M (#S | CTIVITY /cm) | POTE | DOX NTIAL 1V) CHANGE* | OXO | OLVED YGEN ng/l) CHANGE* | | IDITY (U) | | RATURE rees C) | PUMPING RATE (ml/min) | DEPTH TO WATER (ft below TOC) |
| 9:35 | 1 | | 6.94 | NA | 2048 | NA | 204 | NA | 374 | NA | 17.07 | NA | 30.0 | NA | 100 | 100 16.37 |
| 7:40 | | | 7.00 | | 1.984 | | 134.0 | | .79 | | 24.33 | | 30.1 | | 100 | 16.38 |
| 9045 | | | 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 | | 30x | | 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 | | 7.84 | | 30.2 | | 100 | 16.38 |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| COMME | NTS: | | | 5 | ingle | PH | 6 .99(| 6.99 | | | | | | <u> </u> | | 1 |

^{*}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

SHEET ___ OF ___

| SITE: DATE: WEATHE | : P | AE | 100 | | uayama, Pu | erto Rico | | | T NAME: ERSONNEL: | . 4 | CR Ground | water Monj | toring Doce = // | R. Siar | I. Cardon | a. |
|--------------------------|----------|----------|---------|--------------|-----------------------|------------------|------------|---------------------|----------------------|------------------------|-----------------------|---------------|---------------------|-------------------|-----------------|-------------------|
| MONITO | RI ON | l: | WELL: M | ES | | DIAMETER: | 22.90 | Inches | | | | IED/OPEN II | NTERVAL: | | | |
| | | | | BENEATH | OUTER CA INNER CAF | | | | | EPTH: ER BEFORE | ft below PUMP INST | ALLATION: | 1630A1 | elow TOC | | |
| TIME | PURGING | AMPLING | (1-1-1 | oH units) | (mS | CTIVITY 5/cm) | POTE (n | DOX NTIAL nv) | OX1 | OLVED YGEN 1g/l) | | BIDITY TU) | | RATURE rees C) | PUMPING RATE | DEPTH TO WATER |
| 10:40 | ī | SA | G.89 | CHANGE* | READING | NA NA | READING | CHANGE* | · 39 | CHANGE* | 17.53 | CHANGE* | READING | CHANGE* | (ml/min) | (ft below TOC) |
| 10:45 | | | 6.84 | | 1.15 | | 25.8 | | .21 | | 25.92 | | 30.9 | | <u> </u> | 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 |
| | | \vdash | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | <u></u> | |
| COMMEN | NTS | 3: | _ | Sangr | G P | H: 0 | 6.72 | | | | | | | | | |

^{*}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

SHEET ____OF ____

| DATE: WEATHE | R _ | (D/4/ Sun | 21 | | | | _ | T NAME: ERSONNEL: | | | water Monit | oring Grew/R. | Diar/I. | Pardma | |
|--------------------|--|--------------|-------------------------|--------------------------------|---------------------|-------|--------------------------------|----------------------|-----------------------------------|-----------------------|--------------------------|------------------|-----------------------------|-----------------------------|-------------------------------------|
| MONITOI LOCATIO | N: | | NW-3 | WELL D | DEPTH: DIAMETER: | 27.0 | Inches | | | SCREEN | IED/OPEN II | NTERVAL: | - | | |
| PID/FID R | EAC | PINGS (ppm): | BENEATH | OUND: OUTER CA INNER CAP | | | | | | ft below PUMP INST | TOC ALLATION: | 14.12m | elow TOC | | |
| TIME | PURGING | | oH units) CHANGE* | | CTIVITY (cm) | POTE | DOX NTIAL IV) CHANGE* | OXY | OLVED (GEN ig/l) CHANGE* | | BIDITY TU) CHANGE* | | RATURE ees C) CHANGE* | PUMPING RATE (ml/min) | DEPTH TO WATER (ft below TOC) |
| 11:46 | | | | | | | | | | | | | | | |
| 11:51 | 1:51 6.78 20.49 12.6 .24 5.06 31.1 102 14.45 | | | | | | | | | | | | | | |
| 11:56 | 1 | 6.79 | | 19.64 | | -25.9 | | .22 | | 7.30 | | 31.1 | | 102 | 14.45 |
| 12:01 | 1 | 6.79 | 14.7 | 19.24 | | -39./ | | .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 | 4 | 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 | | 3/./ | | 102 | 14.44 |
| 12:26 | \perp | 6.79 | | 15.78 | | -66.0 | | .17 | | 1.86 | | 36.1 | | 102 | 14.44 |
| 12:31 | _ | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| COMMEN | TS: | S | ange | G Pt | 4: G | .79 | 13: | :05 | | | | | | | |

^{*}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

SHEET / OF /

| SITE: DATE: WEATHE | | 10 | S Puerto Ri | ico, LP in Gı | uayama, Pu | erto Rico | | PROJEC FIELD PI | T NAME: ERSONNEL: | Z | CR Ground | water Moni | toring | Dier | T.Cardon | a. |
|--------------------------|--|----------|-------------|-------------------------|--------------------------------|----------------------------|-----------|---------------------|----------------------|------------------------|-----------------------|---------------|----------------|--|-----------------------------|-------------------------------------|
| MONITO | | G V | | W-4 ES | WELL D | EPTH: IAMETER: | 28.60 | Inches | | | SCREEN | IED/OPEN II | NTERVAL: | | | |
| PID/FID | REA | DIN | IGS (ppm): | BENEATH | UND: OUTER CAI INNER CAP | _ | | | | | ft below PUMP INST | | 14.71 14.71 | pelow TOC | | |
| TIME | PURGING | SAMPLING | 40 000 | oH units) CHANGE* | | CTIVITY /cm) CHANGE* | POTE | DOX NTIAL IV) | OXY (m | OLVED (GEN 19/1) | (N | BIDITY TU) | (degr | RATURE ees C) | PUMPING RATE (ml/min) | DEPTH TO WATER (ft below TOC) |
| | 14:20 7.02 NA 45.0 NA -130.5 NA 3.15 NA 100.1 NA 32.5 NA 100 14.85 | | | | | | | | | | | | | | | |
| 14:25 | 4:25 7.02 45.1 -136.6 2.18 79.34 33.0 120 14.93 | | | | | | | | | | | | | | | |
| 14:30 | 230 7.05 45.0 -1423 .15 26.92 33.3 120 14.98 | | | | | | | | | | | | | | | |
| 14:37 | | | 7.07 | | 44.7 | | -148.0 | | . 12 | | 15.63 | | 33.2 | | 120 | 15.02 |
| 14.40 | | | 7.04 | | 44.5 | | -151.2 | | -11 | | 13.92 | | 33.3 | | 120 | 15.06 |
| 14:47 | | | 7.05 | | 44.4 | | -152.8 | | -10 | | 7.86 | | 33.4 | | 120 | 15.08 |
| 14:50 | | | 7.05 | | 44.2 | | -1543 | | .10 | | 8.35 | | 33.5 | | 120 | 15.08 |
| 14:55 | | | 706 | | 44.0 | | -156.3 | | .10 | | 7.94 | | 33.4 | | 122 | 15-11 |
| 13100 | | | 7.07 | | 43.9 | | 158.7 | | .09 | | 6.20 | | 33.5 | | 120. | 15.12 |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| COMME | NTS: | : | 5 | omple | o Pt | 4, 7,0 | <i>07</i> | | | | | | | and the second s | | |

*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

SHEET _ OF _ 2

| SITE: AES Puerto Rico, LP in Guayama, Puerto Rico PROJECT NAME: CCR Groundwater Monitoring, PROJECT NAME: ALL Supplies of the Dian I Candon a PROJECT NAME: Supplies of the Dian I Candon a PROJECT NAME: ALL Supplies of the Dian I Candon a PROJEC | | | | | | | | | | | | | | | | |
|--|---|----|---------|--|---------|---------|--------------------|---------|----------------------------|---------|-----------------|-------------------|---------|---------|----------|----------------|
| MONITORING WELL: $HW-S$ 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: /3,88 ft below TOC BENEATH INNER CAP: NA | | | | | | | | | | | | | | | | |
| - | DU DU DH CONDUCTIVITY (mS/cm) READING CHANGE READING CHANGE RE | | POTE | REDOX DISSOLVED POTENTIAL OXYGEN (mv) (mg/l) | | | TURBIDITY (NTU) | | TEMPERATURE (degrees C) | | PUMPING RATE | DEPTH TO WATER | | | | |
| TIME | | SA | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | READING . 2.Co | CHANGE* | 168.9 | CHANGE* | READING | CHANGE* | (ml/min) | (ft below TOC) |
| 15:35 | +- | | 6.55 | | 15.08 | | -52.08 -55./ | | .17 | | 125.9 | | 30,4 | | 118 | 13.98 |
| 15:45 | - | | 6.51 | | 14.55 | | -566 | | 17 | | 119.6 | | 30.4 | | 118 | 14.00 |
| 15:50 | | | 6.51 | | 14.47 | | -57.5 | | . 15 | | 84.02 | | 30.4 | | 118 | 14.00 |
| 15:55 | | | 6.51 | | 14.41 | | -58.0 | | .15 | | 70.92 | | 30.3 | | 1/8 | 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 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

SHEET ZOF Z

| DATE: 10/4/2/ | | | | | | PROJECT NAME: FIELD PERSONNEL: | | 4. Helman V. Paren B. Dian II. Cardona | | | | | | | |
|---|-----------------|------------------|---------|----------------------|---------|-----------------------------------|---------|--|---------|--------------------|---------|----------------------------|---------|-----------------|-------------------|
| WEATHER | <u>ا</u> | 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: L' ft below TOC BENEATH OUTER CAP: NA DEPTH TO WATER BEFORE PUMP INSTALLATION: 380 ft below TOC BENEATH INNER CAP: NA | | | | | | | | | | | | | | | |
| PURGING | | pH (pH units) | | CONDUCTIVITY (mS/cm) | | REDOX POTENTIAL (mv) | | DISSOLVED OXYGEN (mg/l) | | TURBIDITY (NTU) | | TEMPERATURE (degrees C) | | PUMPING RATE | DEPTH TO WATER |
| TIME. | PURGING | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | READING | CHANGE* | (ml/min) | (ft below TOC) |
| 16:30 | | 6.51 | NA | 14.03 | NA | -63.8 | NA | .63 | NA | 27.56 | NA | 30.1 | NA | 118 | 14.02 |
| 16:35 | | 6.49 | | 14.01 | | -64.6 | 4 | .70 | | 24.27 | | 30.1 | | 118 | 14.02 |
| | | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | + | - | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| COMMEN | Sample PH: 6.49 | | | | | | | | | | | | | | |

^{*}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: 10/04 | 1/21 Technician: R. Dia- | 2 |
|---|---|---|
| Instrument Serial Number: | Software Revision: | Cable Model Number: /M 45L |
| Temperature Reading 26.5 | Temperature Accurate | N |
| DO Sensor in use: Polarographi | | Sensor notated in Sensor menu? Y N |
| DO membrane changed? Y | (N) Color of Membrane // llow | Color notated in Sensor menu? N |
| Record the following calibration v | alues: | |
| Pre Cal | After Cal | , |
| Conductivity 1453 | 1413 | |
| ORP 234.6 | 238 | |
| DO 95.6 | 79.8 True Barometric F | Pressure at time of calibration 30.025 |
| Pre Cal | | |
| pH7 6.83 | pH mV value -// Range 0 m | $V \pm 50 \text{ mV}$ |
| pH 4 4.08 | E | to +180 from 7 buffer mV value |
| pH 10 9.83 | pH mV value | to -180 from 7 buffer mV value |
| NOTE: See pH Cal tips section for 180 mV. 177 is the ideal distance | | 4 and 7 and 7 and 10 mV values should be ≈ 165 to |
| Ammonium 1st point (1 mg/L) | NH4 mV value Range: 0 mV + | -/- 20 mV (new sensor only) |
| 2 nd point (100 mg/L) | NH4 mV value Range: 90 to 13 | 0 mV > 1 mg/L mV value |
| Nitrate 1 st point (1 mg/L) | NO3 mV value Range: 200 mV | / +/- 20 mV (new sensor only) |
| 2 nd point (100 mg/L) | NO3 mV value Range: 90 to 13 | $30 \text{ mV} \le 1 \text{ mg/L mV}$ value |
| Chloride 1 st point (10 mg/L) | Cl mV value Range: 225 mV | 7 +/- 20 mV (new sensor only) |
| 2 nd point (1000mg/L) | Cl mV value Range: 80 to 13 | 30 < 10 mg/L mV value |
| Record the following diagnostic nu | mbers <u>after</u> calibration, by viewing the .glp | o file and reading the values for the day's calibration |
| Conductivity Cal Cell Constant | Range 5.0 +/- 1.0 accepta | ble |
| DO Sensor Value (uA) | (Membrane dependent, see | DO Cal Tips) |
| pH Slope | (≈ 55 to 60 mV/pH, 59 idea | 1) |
| pH Slope % of ideal | | |