

MEMO

To: Nevada Division of Environmental Protection
Nevada Environmental Response Trust

Cc: Nevada Environmental Response Trust Stakeholders

From: Andrew Harley/Tt

Date: September 20, 2015

Subject: NERT – GWETS Operation Monthly Report – August 2015

At the request of the Nevada Environmental Response Trust (Trust), Tetra Tech, Inc. (Tetra Tech) provides this summary of the groundwater extraction and treatment system (GWETS) operation and oversight tasks performed during August 2015.

Summary of GWETS Operation

Envirogen Technologies, Inc. (ETI) reports that the GWETS mechanically operated normally in August 2015 with the exception of an effluent diversion on August 13th that is described in more detail below. The flow rate to the plant averaged approximately 866 gallons per minute (gpm) during August 2015. At the end of the month, the GW-11 Pond volume was 46.8 million gallons (MG), which would allow 10.9 days of available additional storage in event of an emergency plant shutdown with continued well field pumping. The water volume stored in the GW-11 Pond increased approximately 0.4 MG from the end of July.

Figure 1 in this report depicts the actual and projected GW-11 pond volumes and additional storage available. The Trust continues to work with ETI on an Ion Exchange (IX) treatment system to be installed at or near Lift Station 1 to treat a portion of the groundwater captured by the Seep Well Field as a tool to control the GW-11 pond volume. The Trust currently anticipates this system coming online no earlier than January 2016. Tetra Tech and Ramboll Environ are working with the Trust on permitting requirements associated with IX system.

The influent perchlorate concentration to the Fluidized Bed Reactor (FBR) plant averaged 87 mg/L for the month, with a maximum concentration of 93 mg/L.

Analytical data indicate that the permitted effluent discharges at GWETS Outfall 001 were within the NPDES permitted numerical discharge limits (Please see Attachment A, prepared by ENVIRON).

Enhanced Operational Metrics

Tetra Tech continues to move forward with the approved Enhanced Operational Metrics program to add instruments, controls, data acquisition systems, along with various other technical upgrades to improve the efficiency of GWETS data collection and reporting. An implementation schedule is presented in more detail under the GWETS Upgrades and Facility Projects section below.

Tables 1 and 2 provide a summary of the current GWETS operational metrics that provide data for flow rates, perchlorate and chromium concentrations, and mass removal. Figure 2 presents historical perchlorate and chromium mass flux.

Operational Issues

All routine plant repairs conducted by ETI were performed in accordance with the NERT Perchlorate Treatment System Henderson, Nevada Operations Manual. The following is a list of operational issues and major repairs and/or equipment replaced during this reporting period.

1. GW-11 Pond

- GW-11 Pond Leak Detection System: On August 4, 2015, Tetra Tech performed a downhole camera survey of the NE and NW sumps. In both sumps, debris and gravel was observed within the riser pipe. Additionally, deformation and bulging was observed in both sumps at the approximate depth of the pumps, possibly due to hydrostatic pressure. Tetra Tech is presently evaluating the data from this survey and identifying options for managing the sumps in GW-11.
- Diversions:
 - i. An unscheduled effluent diversion of approximately 55,000 gallons occurred on August 13th when communication issues with the FBR A communication loop resulted in an increased concentration of sulfides in the effluent. Effluent was diverted for 1.5 hours to GW-11 until the communication issues were resolved by replacing a SST profibus card for the FBR A communication loop.

2. Maintenance

- Major maintenance that was performed or completed in the month included:
 - i. Ingersoll Rand installed a new motor on the west air compressor.
- Preventative Maintenance completed or being performed during the month included:
 - i. ETI set up ART-7B as the lead well and ART-7A as the lag well.
 - ii. ETI installed a new motor on ART-7B.
 - iii. ETI piped air lines for the pressure tank and removed temporary hoses for the DAF Pressure Pump P551.
 - iv. ETI installed the new Effluent Booster Pump P1302B and motor.

- v. ETI installed a new Filtrate Effluent Pump P903 and it is now running in automatic mode controlled by the high and low level sensors in the filtrate tank.
 - vi. ETI switched to Effluent Pump P1001B to repair the 2-inch valve on the discharge side of Effluent Pump P1001.
 - vii. Motion Industries has Raw Water Feed Pump P102B for repair and is waiting for replacement parts to move forward with pump repair.
3. Outstanding maintenance and repairs from the previous month are outlined below:
- ETI continues the rehabilitation process on FBR 6. Rehabilitation on FBR 5 is complete. ETI expects to return these units to operation when the processing of the AP-5 slurry begins in 2016.

GWETS Upgrades and Facility Projects

The following is a summary of initiatives in-progress during the reporting period at the direction of the Trust:

1. AP-5 Solids Removal
No change in status from the last report.
2. Enhanced Operational Metrics
Budget increase was approved and a revised Work Authorization was received. The remaining procurement activities were resumed and the PLC Panel, Trench and Conduit, and Final Installation work authorizations were issued. Trench and Conduit work started at IWF site on August 24th and continued through the end of the month. Pre-mobilization submittals from the electrical instrumentation subcontractor were received (HASP, procured item submittals, etc.) and reviewed. Work on site will start in early September. Construction permits were received from City of Henderson and Clark County. PLC Panel delivery remains on schedule. Current schedule is for installation and commissioning to be complete by mid-November, with data available for the November period.
3. NERT GWETS Spare Components
The Trust and ETI prepared a letter recommending that additional standby electrical components be purchased and kept on site. The letter was submitted to NDEP on August 25, 2015. NDEP agreed with the recommendation and the Trust will begin procuring the standby equipment. Once on site, Tetra Tech will confirm ETI adds this equipment to the tracking sheets described in the next section.

Equipment Availability Tracking

ETI operators continue to update the equipment tracking form on a weekly basis at a minimum, or whenever there is a change in the status of key equipment. During regular site visits, Tetra Tech field

personnel continue to verify the entries on the form, including both the operating status and confirming the inventory of required shelf spares. The equipment tracking form submitted by ETI to Tetra Tech on August 31, 2015, is attached (Please see Attachment B).

GWETS Staffing

ETI continues with 24-hour staffing of the GWETS at the direction of the Trust and continues to follow the security procedures in the Standard Operating Procedures (SOP).

GWETS Security

During weekly calls, ETI notifies Tetra Tech of any issues with GWETS security. There were no GWETS security issues reported during the month of July.

Tetra Tech Activities

Tetra Tech conducted calls with ETI to review operation of the GWETS on August 6th, 13th, 20th, and 27th. Becki Dano, CEM, performed visits to the GWETS on August 6th and 13th. A third visit was made on September 4th to review the last two weeks of paperwork from August because Ms. Dano was on vacation. Ms. Dano also reviewed permit and sampling forms for the entire month to ensure each was correct and up-to-date, checked equipment status, and verified shelf spare inventory.

Summary

Based on our review of available and relevant information, Tetra Tech concurs with ETI's management of the GWETS during the reporting period. No additional involvement from either the Trust or Tetra Tech is recommended at this time.

Tables

Operational Metrics

| Nevada Environmental Response Trust Groundwater Extraction and Treatment System Monthly Stakeholder Metrics | | | | |
|---|-------------------------|---------------------------------|---------------------------------|------------------------------------|
| Location ID | Average Flow Rate (gpm) | Perchlorate (mg/L) ² | Chromium TR (mg/L) ² | Chromium(VI) (mg/L) ^{2,8} |
| SWF Total Extraction ⁵ | 548 ¹ | 11 | 0.000 | Future Metric |
| AWF Total Extraction ⁵ | 275 ¹ | 115 | 0.20 | Future Metric |
| IWF Total Extraction ⁶ | 63 ¹ | 802 | 8.33 | Future Metric |
| GWTP Effluent ⁷ | 60 | 781 | 0.38 | ND |
| GW-11 Influent ⁴ | 866 ³ | Future Metric | Future Metric | Future Metric |
| GW-11 Effluent/ FBR Influent ⁷ | 866 | 87 | 0.01 | 0 |

Notes:

TR = Total Recoverable; NA = Not Available; ND = not detectable above laboratory method detection limit (Chromium (VI) = 0.25 ug/L).

1: Sum of daily average flow for individual wells .

2: All concentrations reported are monthly flow weighted averages.

3: Flow has historically been a calculated metric, but Tetra Tech transitioned to flow meter measurement beginning on April 27, 2015.

4: Following contractual amendment agreements, ETI will begin collecting analytical samples at the GW-11 influent sample tap.

5: Perchlorate sampled monthly, chromium TR sampled quarterly, values reported from TestAmerica.

6: Perchlorate and chromium TR sampled quarterly, values reported from TestAmerica.

7: Perchlorate, chromium TR and chromium (VI) sampled weekly, values reported from TestAmerica.

8: Hexavalent chromium will be analyzed and reported monthly as part of the Enhanced Operational Metrics project.

| Nevada Environmental Response Trust Groundwater Extraction and Treatment System Monthly Stakeholder Metrics | | |
|---|--------------------------------------|--------------------------------------|
| Location ID | Perchlorate (lbs/month) ¹ | Chromium TR (lbs/month) ¹ |
| SWF Total Extraction | 2,248 | 0.09 |
| AWF Total Extraction | 11,778 | 21 |
| IWF Total Extraction | 18,714 | 194 |
| GWTP Effluent | 17,514 | 8 |
| GW-11 Influent ² | Future Metric | Future Metric |
| GW-11 Effluent/FBR Influent | 28,031 | 3 |

Notes:

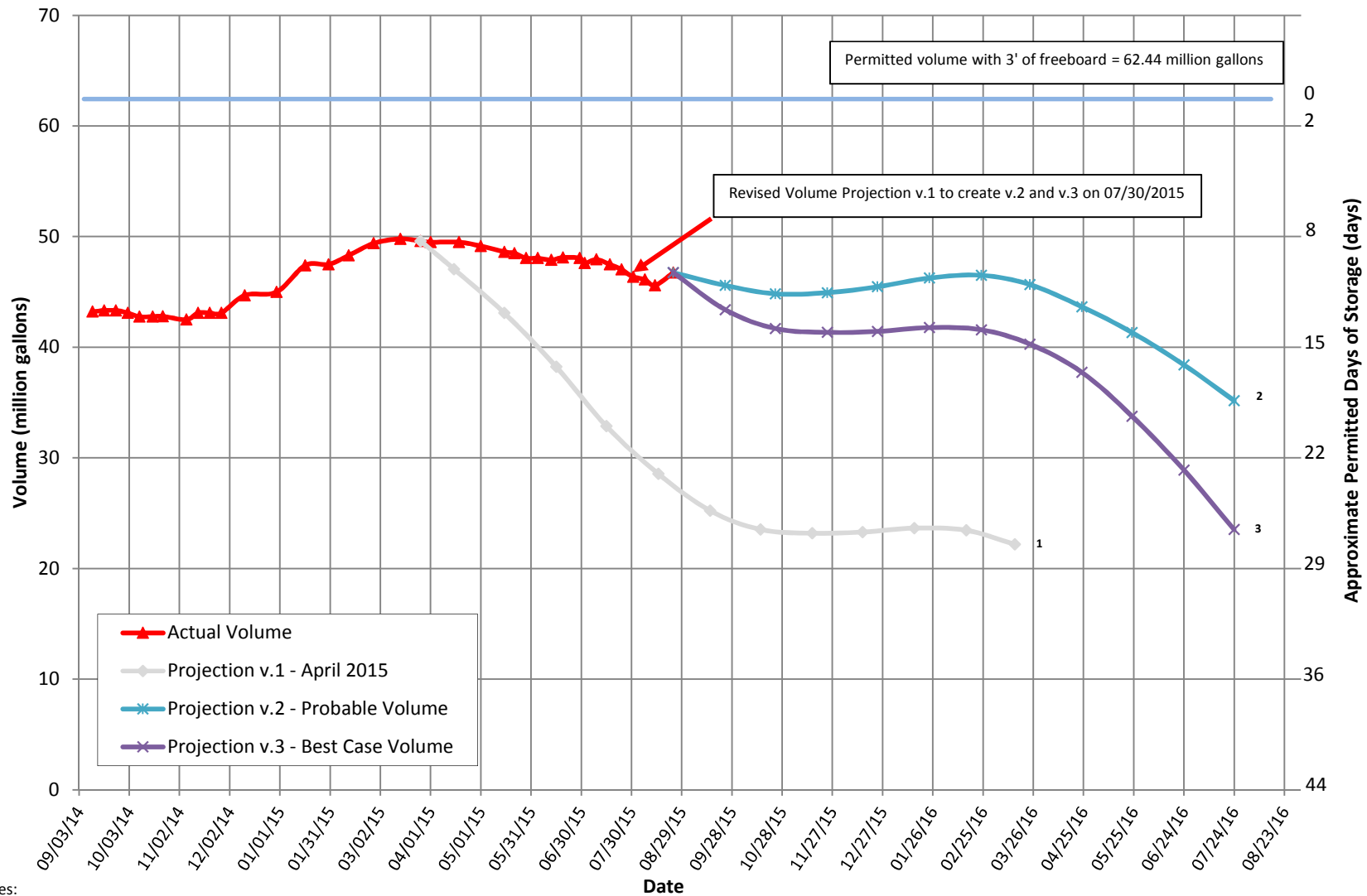
TR = Total Recoverable; NA = Not Available.

1: Total lbs extracted is calculated from flow weighted average concentration and average flow (see Table 1).

2: Following contractual amendment agreements, ETI will begin collecting analytical samples at the GW-11 influent sample tap.

Figures

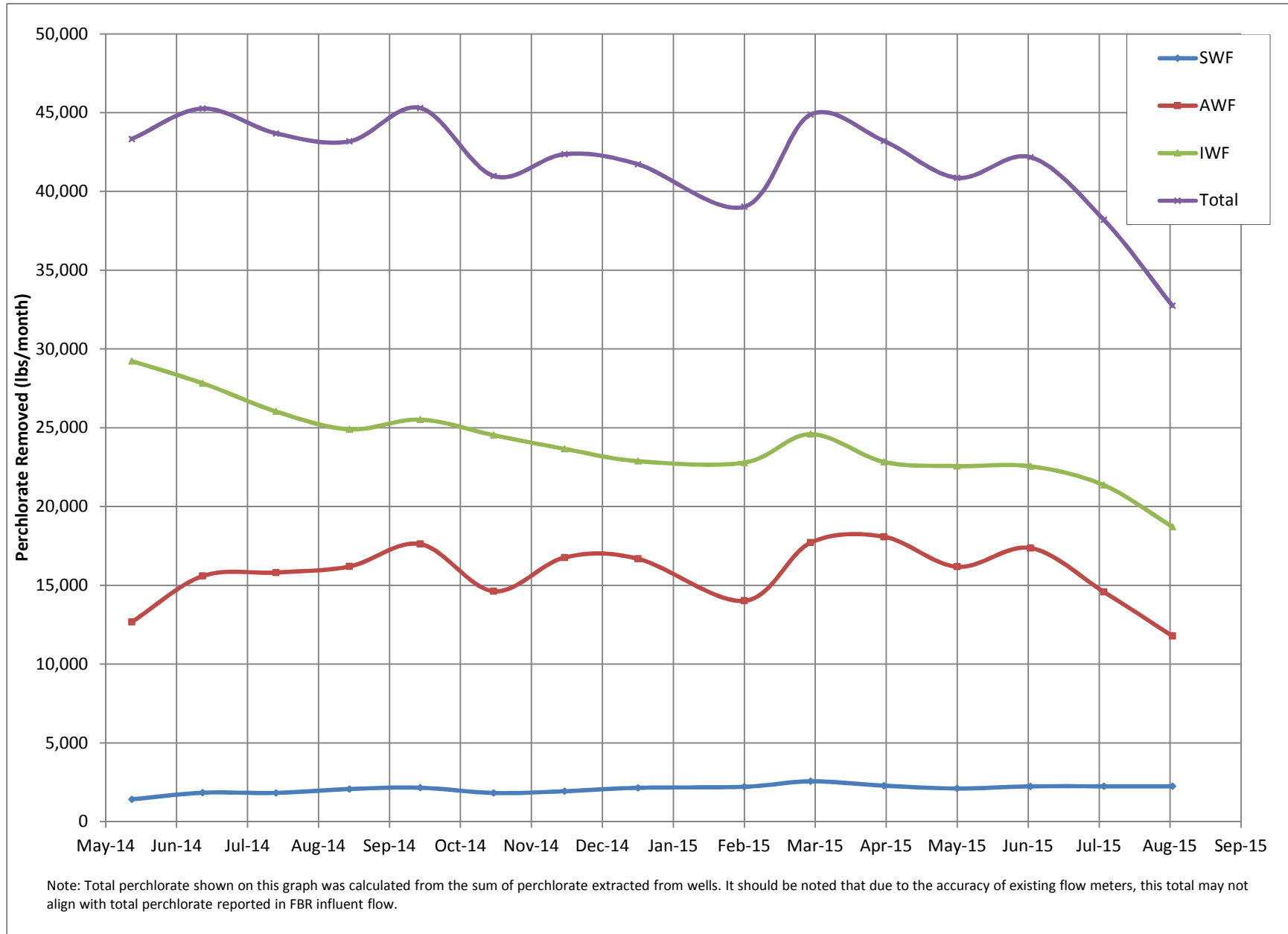
Operational Metrics



Notes:

- 1: Monthly GW-11 withdrawals exceed influent flows by approximately 50 gpm.
- 2: Monthly GW-11 withdrawals exceed influent flows by approximately 20 gpm with seasonally changing influent additions each month (ie.- higher GAC backwash volume in summer).
- 3: Monthly GW-11 withdrawals exceed influent flows by approximately 50 gpm with an assumed 2.8 million gallons of influent additions each month.
- 4: Monthly evaporation was calculated using Shevenell, 1996. Statewide Potential Evapotranspiration Maps for Nevada. Nevada Bureau of Mines and Geology Report 48. University of Nevada Reno.
- 5: Average monthly rainfall was estimated from rain gage 4774 data on TIMET property.

Figure 2 - Historical Perchlorate Mass Flux



Attachment A

NPDES Tracking Sheet (Prepared by ENVIRON)

| Continuous | | Daily samples, composited weekly | |
|-------------------|---------------------|----------------------------------|-----------------------|
| Flow Rate | | Perchlorate | |
| 30-Day Avg. (MGD) | Daily Maximum (MGD) | 30-Day Avg. (ug/L) | 30-Day Avg. (lbs/day) |
| 1.45 | 1.75 | 18 | 0.22 |

| Weekly samples | | | | | | | | |
|--------------------|---------------------|-------------------|------------------------------|-----------------------|--------------------|-----------------------|-----------------------|-----------------------|
| pH | Hexavalent Chromium | Total Chromium | Total Suspended Solids (TSS) | | Total Iron | | Total Ammonia as N | Total Phosphorus as P |
| 30-Day Avg. (S.U.) | Daily Max. (mg/L) | Daily Max. (mg/L) | 30-Day Avg. (mg/L) | 30-Day Avg. (lbs/day) | 30-Day Avg. (mg/L) | 30-Day Avg. (lbs/day) | 30-Day Avg. (lbs/day) | 30-Day Avg. (lbs/day) |
| 6.5 to 9.0 | 0.01 | 0.1 | 135 | 1,634 | 10 | 121.03 | 40 | 20 |

| Weekly samples, collected separately | | | Quarterly sample | |
|--------------------------------------|-------------------|-----------------------|--------------------|-----------------------|
| BOD ₅ (inhibited) | | | Manganese | |
| 30-Day Avg. (mg/L) | Daily Max. (mg/L) | 30-Day Avg. (lbs/day) | 30-Day Avg. (mg/L) | 30-Day Avg. (lbs/day) |
| 25 | 40 | 254 | 5 | 60.52 |

| | | | | | | | | | | | | | | | | | | |
|-----------------------------|------|------|-----|-------|------|---------|--------|----|-----|-----|----|-----|-----|-----|-----|-----|-------|------|
| January 2015 | 1.20 | 1.39 | 1.3 | 0.013 | 6.59 | 0.00013 | 0.021 | 25 | 250 | 4.1 | 40 | 2.6 | 1.5 | 3.7 | 6.0 | 37 | 0.20 | 2.1 |
| February 2015 | 1.34 | 1.42 | 1.3 | 0.014 | 6.85 | 0.00013 | 0.029 | 21 | 230 | 3.3 | 37 | 2.5 | 1.6 | 6 | 13 | 69 | | |
| March 2015 | 1.32 | 1.38 | 1.3 | 0.014 | 6.71 | 0.00013 | 0.043 | 26 | 280 | 4.9 | 54 | 7.4 | 2.0 | 4.6 | 9.2 | 49 | | |
| April 2015 | 1.30 | 1.34 | 1.3 | 0.014 | 6.83 | 0.00013 | 0.0080 | 13 | 140 | 3.4 | 36 | 3.4 | 1.4 | 1.9 | 2.9 | 21 | 0.090 | 0.93 |
| May 2015 | 1.23 | 1.29 | 1.3 | 0.013 | 6.52 | 0.00034 | 0.0060 | 13 | 130 | 3.6 | 37 | 2.4 | 0.7 | 0.6 | 1.1 | 6.4 | | |
| June 2015 | 1.21 | 1.32 | 1.3 | 0.012 | 6.84 | 0.00013 | 0.013 | 17 | 170 | 4.1 | 41 | 4.0 | 2.0 | 2.3 | 2.6 | 23 | | |
| July 2015 | 1.24 | 1.37 | 1.3 | 0.013 | 6.72 | 0.00013 | 0.0049 | 13 | 132 | 3.2 | 32 | 2.1 | 1.0 | 1.4 | 1.8 | 14 | 0.14 | 1.5 |
| August 2015 (month to date) | 1.31 | 1.38 | 1.3 | 0.014 | 7.05 | 0.00013 | 0.011 | 20 | 212 | 4.0 | 43 | 2.4 | 2.3 | 3.9 | 5.9 | 42 | | |

| Daily Grab Sample Dates | Composite Sample Date | ug/L | lbs/day | Sample Date | S.U. | mg/L | mg/L | mg/L | lbs/day | mg/L | lbs/day | mg/L | lbs/day | mg/L | lbs/day | Sample Date | mg/L | lbs/day | mg/L | lbs/day | | | |
|-------------------------|-----------------------|-----------|---------|-------------|-----------|------|---------------|--------------|---------|------|---------|------|------------|-------|---------|-------------|-------|---------|-----------|------------|------|-------|------|
| 1/4 - 1/10 | 1/10/2015 | ND (<2.5) | 1.3 | 0.010 | 1/5/2015 | 6.53 | ND (<0.00025) | 0.021 | 24 | 201 | 4.8 | 40 | -- | 0.94 | 7.9 | -- | 0.083 | 0.69 | 1/7/2015 | 3.1 | 26 | 0.20 | 2.1 |
| 1/11 - 1/17 | 1/17/2015 | ND (<2.5) | 1.3 | 0.013 | 1/12/2015 | 6.64 | ND (<0.00025) | 0.019 | 19 | 192 | 3.9 | 39 | ND (<0.10) | 0.05 | 0.51 | -- | 0.16 | 1.6 | 1/14/2015 | 3.9 | 39 | | |
| 1/18 - 1/24 | 1/24/2015 | ND (<2.5) | 1.3 | 0.014 | 1/19/2015 | 6.65 | ND (<0.00025) | 0.018 | 25 | 276 | 3.4 | 38 | -- | 0.13 | 1.4 | -- | 0.16 | 1.8 | 1/21/2015 | 1.8 | 20 | | |
| 1/25 - 1/31 | 1/31/2015 | ND (<2.5) | 1.3 | 0.013 | 1/26/2015 | 6.54 | ND (<0.00025) | 0.019 | 30 | 316 | 4.1 | 43 | ND (<0.10) | 0.05 | 0.53 | -- | 0.17 | 1.8 | 1/28/2015 | 6.0 | 63 | | |
| 2/1 - 2/7 | 2/7/2015 | ND (<2.5) | 1.3 | 0.014 | 2/2/2015 | 6.90 | ND (<0.00025) | 0.010 | 11 | 121 | 1.6 | 18 | -- | 0.20 | 2.2 | -- | 0.12 | 1.3 | 2/4/2015 | 4.5 | 49 | | |
| 2/8 - 2/14 | 2/14/2015 | ND (<2.5) | 1.3 | 0.014 | 2/9/2015 | 6.67 | ND (<0.00025) | 0.024 | 17 | 196 | 0.66 | 7.6 | -- | 0.33 | 3.8 | -- | 0.27 | 3.1 | 2/11/2015 | 5.7 | 66 | | |
| 2/15 - 2/21 | 2/21/2015 | ND (<2.5) | 1.3 | 0.014 | 2/17/2015 | 6.97 | ND (<0.00025) | 0.0064 | 19 | 212 | 3.9 | 44 | -- | 0.21 | 2.3 | -- | 0.067 | 0.75 | 2/18/2015 | 1.5 | 17 | | |
| 2/22 - 2/28 | 2/28/2015 | ND (<2.5) | 1.3 | 0.014 | 2/23/2015 | 6.85 | ND (<0.00025) | 0.029 | 36 | 401 | 7.1 | 79 | -- | 0.16 | 1.8 | -- | 0.12 | 1.3 | 2/25/2015 | 13 | 145 | | |
| 3/1 - 3/7 | 3/7/2015 | ND (<2.5) | 1.3 | 0.013 | 3/2/2015 | 6.82 | ND (<0.00025) | 0.043 | 42 | 441 | 4.9 | 51 | -- | 0.22 | 2.3 | -- | 0.25 | 2.6 | 3/5/2015 | 9.2 | 97 | | |
| 3/8 - 3/14 | 3/14/2015 | ND (<2.5) | 1.3 | 0.014 | 3/9/2015 | 6.89 | ND (<0.00025) | 0.011 | 26 | 296 | 4.8 | 55 | -- | 0.44 | 5.0 | -- | 0.46 | 5.2 | 3/11/2015 | 2.6 | 30 | | |
| 3/15 - 3/21 | 3/21/2015 | ND (<2.5) | 1.3 | 0.014 | 3/16/2015 | 6.64 | ND (<0.00025) | 0.0071 | 23 | 257 | 5.0 | 56 | -- | 0.69 | 7.7 | -- | 0.066 | 0.74 | 3/18/2015 | 2.2 | 25 | | |
| 3/22 - 3/28 | 3/28/2015 | ND (<2.5) | 1.3 | 0.014 | 3/23/2015 | 6.64 | ND (<0.00025) | 0.013 | 19 | 211 | 4.8 | 53 | -- | 0.71 | 7.9 | -- | 0.11 | 1.2 | 3/25/2015 | 4.2 | 47 | | |
| 3/29 - 4/4 | 4/4/2015 | ND (<2.5) | 1.3 | 0.014 | 3/30/2015 | 6.55 | ND (<0.00025) | 0.0074 | 20 | 219 | 4.9 | 54 | -- | 1.3 | 14 | ND (<0.025) | 0.013 | 0.14 | 4/1/2015 | 2.7 | 30 | | |
| 4/5 - 4/11 | 4/11/2015 | ND (<2.5) | 1.3 | 0.013 | 4/6/2015 | 6.96 | ND (<0.00025) | 0.0057 | 18 | 193 | 4.7 | 50 | -- | 0.27 | 2.9 | -- | 0.13 | 1.4 | 4/8/2015 | 2.9 | 31 | | |
| 4/12 - 4/18 | 4/18/2015 | ND (<2.5) | 1.3 | 0.014 | 4/13/2015 | 7.04 | ND (<0.00025) | 0.0080 | 4.7 | 52 | 0.38 | 4.2 | -- | 0.37 | 4.1 | -- | 0.28 | 3.1 | 4/15/2015 | 1.9 | 21 | 0.090 | 0.93 |
| 4/19 - 4/25 | 4/25/2015 | ND (<2.5) | 1.3 | 0.013 | 4/20/2015 | 6.62 | ND (<0.00025) | 0.0046 | 17 | 183 | 4.2 | 45 | -- | 0.55 | 5.9 | -- | 0.064 | 0.69 | 4/22/2015 | 0.85 | 9.1 | | |
| 4/26 - 5/2 | 5/2/2015 | ND (<2.5) | 1.3 | 0.013 | 4/27/2015 | 6.69 | ND (<0.00025) | 0.0040 | 14 | 149 | 4.3 | 46 | ND (<0.10) | 0.050 | 0.53 | -- | 0.044 | 0.47 | 4/29/2015 | 1.2 | 13 | | |
| 5/3 - 5/9 | 5/9/2015 | ND (<2.5) | 1.3 | 0.012 | 5/4/2015 | 6.61 | ND (<0.00025) | 0.0046 | 8.0 | 77 | 3.7 | 36 | -- | 0.22 | 2.1 | -- | 0.041 | 0.39 | 5/6/2015 | ND (<0.50) | 0.25 | 2.4 | |
| 5/10 - 5/16 | 5/16/2015 | ND (<2.5) | 1.3 | 0.013 | 5/12/2015 | 6.62 | ND (<0.00025) | 0.0046 | 12 | 127 | 3.9 | 41 | -- | 0.39 | 4.1 | -- | 0.098 | 1.0 | 5/13/2015 | 0.57 | 6.0 | | |
| 5/17 - 5/23 | 5/23/2015 | ND (<2.5) | 1.3 | 0.013 | 5/18/2015 | 6.42 | 0.00034 | 0.0060 | 13 | 138 | 3.7 | 39 | -- | 0.11 | 1.2 | -- | 0.030 | 0.32 | 5/20/2015 | 1.1 | 12 | | |
| 5/24 - 5/30 | 5/30/2015 | ND (<2.5) | 1.3 | 0.013 | 5/26/2015 | 6.44 | ND (<0.00025) | 0.0046 | 18 | 187 | 3.0 | 31 | -- | 0.23 | 2.4 | -- | 0.088 | 0.92 | 5/27/2015 | 0.52 | 5.4 | | |
| 5/31 - 6/6 | 6/6/2015 | ND (<2.5) | 1.3 | 0.012 | 6/1/2015 | 6.57 | ND (<0.00025) | ND (<0.013) | 10 | 95 | 3.8 | 36 | -- | 0.24 | 2.3 | -- | 0.070 | 0.66 | 6/3/2015 | 2.6 | 25 | | |
| 6/7 - 6/13 | 6/13/2015 | ND (<2.5) | 1.3 | 0.013 | 6/8/2015 | 6.74 | ND (<0.00025) | 0.013 | 21 | 211 | 6.9 | 69 | -- | 0.91 | 9.1 | -- | 0.26 | 2.6 | 6/10/2015 | 1.6 | 16 | | |
| 6/14 - 6/20 | 6/20/2015 | ND (<2.5) | 1.3 | 0.013 | 6/15/2015 | 7.21 | ND (<0.00025) | 0.0088 | 9.5 | 98 | 2.0 | 21 | -- | 0.27 | 2.8 | -- | 0.26 | 2.7 | 6/17/2015 | 2.6 | 27 | | |
| 6/21 - 6/27 | 6/27/2015 | ND (<2.5) | 1.3 | 0.013 | 6/22/2015 | 6.98 | ND (<0.00025) | 0.0068 | 22 | 224 | 4.2 | 43 | -- | 0.18 | 1.8 | -- | 0.17 | 1.7 | 6/24/2015 | 2.3 | 23 | | |
| 6/28 - 7/4 | 7/4/2015 | ND (<2.5) | 1.3 | 0.013 | 6/29/2015 | 6.70 | ND (<0.00025) | 0.0061 | 23 | 240 | 3.6 | 38 | -- | 0.39 | 4.1 | -- | 0.22 | 2.3 | 7/1/2015 | 1.5 | 16 | | |
| 7/5 - 7/11 | 7/11/2015 | ND (<2.5) | 1.3 | 0.011 | 7/6/2015 | 6.79 | ND (<0.00025) | 0.0049 | 14 | 126 | 3.5 | 32 | -- | 0.20 | 1.8 | -- | 0.11 | 1.0 | 7/9/2015 | 0.93 | 8.4 | 0.14 | 1.5 |
| 7/12 - 7/18 | 7/18/2015 | ND (<2.5) | 1.3 | 0.014 | 7/14/2015 | 6.92 | ND (<0.00025) | ND (<0.0025) | 13 | 143 | 2.5 | 27 | -- | 0.19 | 2.1 | -- | 0.066 | 0.73 | 7/15/2015 | 1.5 | 16 | | |
| 7/19 - 7/25 | 7/25/2015 | ND (<2.5) | 1.3 | 0.014 | 7/20/2015 | 6.48 | ND (<0.00025) | ND (<0.0025) | 9.4 | 105 | 2.7 | 30 | -- | 0.27 | 3.0 | -- | 0.063 | 0.70 | 7/22/2015 | 1.2 | 13 | | |
| 7/26 - 8/1 | 8/1/2015 | ND (<2.5) | 1.3 | 0.013 | 7/27/2015 | 6.68 | ND (<0.00025) | 0.0046 | 15 | 154 | 3.9 | 40 | -- | 0.13 | 1.3 | -- | 0.16 | 1.6 | 7/29/2015 | 1.8 | 19 | | |
| 8/2 - 8/8 | 8/8/2015 | ND (<2.5) | 1.3 | 0.014 | 8/3/2015 | 7.65 | ND (<0.00025) | 0.0048 | 18 | 202 | 3.7 | 42 | -- | 0.21 | 2.4 | -- | 0.13 | 1.5 | 8/5/2015 | 2.7 | 30 | | |
| 8/9 - 8/15 | 8/15/2015 | ND (<2.5) | 1.3 | 0.013 | 8/11/2015 | 6.83 | ND (<0.00025) | 0.011 | 26 | 276 | 5.0 | 53 | -- | 0.25 | 2.7 | -- | 0.17 | 1.8 | 8/12/2015 | 5.9 | 63 | | |
| 8/16 - 8/22 | 8/22/2015 | NA | NA | NA | 8/17/2015 | 6.66 | ND (<0.00025) | 0.0062 | 15 | 159 | 3.2 | 34 | -- | 0.20 | 2.1 | -- | 0.33 | 3.5 | 8/19/2015 | 3.1 | 33 | | |
| | | | | | 8/24/2015 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 8/26/2015 | NA | NA | | |

Note: All analytical responsibilities are performed by TestAmerica Laboratories, Inc. (TestAmerica) in Irvine, California, unless otherwise indicated.

NA = Not Available To Date

NS = No Sample

ND = Not Detected above laboratory reporting limit; concentration in adjacent cell to right is one-half the reporting limit (per Permit condition)

-- = Analyte detected; see column adjacent to right

Last Updated: September 4, 2015

Attachment B

Equipment Tracking Form

| Sub-System | P&ID | Description | Status ¹ | Checked | Criticality ² | Notes |
|------------|------|--|---------------------|---------|--------------------------|---|
| | | Main Plant Equipment | | | | |
| 1 | | Seep Wells and Lift Station 1 | | | | |
| 1.01 | | Seep Well Field, 9 wells | Running | | | |
| 1.02 | | Lift Station 1 Lift Pump A | Standby | | | |
| 1.03 | | Lift Station 1 Lift Pump B | Running | | | |
| 1.04 | | Area in and around Lift Station 1 | Running | | | |
| 2 | | Athens Road Wells and Lift Station 3 | | | | |
| 2.01 | | Athens Road Well Field, 9 wells | Running | | 3 | ETI set up ART-7B as the lead pump and ART-7A as the lag pump. ETI installed a new motor on ART-7B. |
| 2.02 | | Lift Station 3 Lift Pump A | Standby | | | |
| 2.03 | | Lift Station 3 Lift Pump B | Running | | | |
| 2.04 | | Area in and around Lift Station 3 | Running | | | |
| 3 | | Lift Station 2 and Transmission Pipelines | | | | |
| 3.01 | | Influent Pipeline | In operation | | | |
| 3.02 | | Effluent Pipeline | Running | | | |
| 3.03 | | Lift Station 2 Lift Pump A | Running | | | |
| 3.04 | | Lift Station 2 Lift Pump B | Standby | | | |
| 3.05 | | Area in and around Lift Station 2 | Running | | | |
| 4 | | Interceptor Wells and Cr Treatment Plant | | | | |
| 4.01 | | IWF Well Field, 30 wells | Running | | | |
| 4.02 | | Ferrous Sulfate Feed System | Running | | | |
| 4.03 | | Polymer Feed System | Running | | | |
| 4.04 | | Clarifier | In operation | | | |
| 4.05 | | Filter Press | Running | | | |
| 4.06 | | GWTP Effluent Tank | In operation | | | |
| 4.07 | | Interceptor Booster Pump A | Standby | | | |
| 4.08 | | Interceptor Booster Pump B | Running | | | |
| 4.09 | | Area In And Around GWTP | Running | | 3 | ETI switched to Effluent Pump P1001B to replace the 2-inch valve on the discharge of P1001. |

¹Status Codes

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Maintenance - Out of service for maintenance

Off - Not currently needed for use, but can be placed in service

| Sub-System | P&ID | Description | Status ¹ | Checked | Criticality ² | Notes |
|------------|--------|---|---------------------|---------|--------------------------|---|
| 5 | | Equalization Area and GW-11 Pond | | | | |
| 5.01 | PID10A | Pond GW-11 | In operation | | | |
| 5.02 | PID10A | Pond Water Pump - P101A | Standby | | | |
| 5.03 | PID10A | Pond Water Pump - P101B | Running | | | |
| 5.04 | PID10A | Equalization Tanks | In operation | | | |
| 5.05 | PID10A | Area in and Around EQ | In operation | | | |
| 5.06 | PID10A | Raw Water Feed Pump - P102A | Running | | | |
| 5.07 | PID10A | Raw Water Feed Pump - P102B | Maintenance | | 3 | Motion Industries has the pump at its repair facility and is waiting on replacement parts to move forward in pump repair. |
| 5.08 | PID10B | Carbon Absorber - LGAC 201A | Running | | | |
| 5.09 | PID10B | Carbon Absorber - LGAC 201B | Running | | | |
| 5.10 | PID10B | Carbon Absorber - LGAC 201C | Running | | | |
| 6 | | First Stage FBRs A, 1 & 2 | | | | |
| 6.01 | PID14 | FBR A | Running | | | |
| 6.02 | PID14 | Separator Tank - 1401 | Running | | | |
| 6.03 | PID14 | Media Return Pump - P 1401 | Running | | | |
| 6.04 | PID14 | P1401A | Running | | | |
| 6.05 | PID01A | P1401B | Standby | | | |
| 6.06 | PID01A | FBR 1 | Running | | | |
| 6.07 | PID02A | FBR 2 | Running | | | |
| 6.08 | PID01A | First Stage Separator Tank - T2011 | Running | | | |
| 6.09 | PID01A | Media Return Pump - P2011 | Running | | | |
| 6.10 | PID01A | First Stage FBR Pump - P1011 | Standby | | | |
| 6.11 | PID01A | First Stage FBR Pump - P1012 | Running | | | |
| 6.12 | PID01A | First Stage FRB Pump - P101A | Running | | | |
| 6.13 | PID07A | FBR A pH Feed Pump - P71A | Standby | | | |
| 6.14 | PID07A | FBR 1 pH Feed Pump - P711 | Standby | | | |
| 6.15 | PID07A | FBR 2 pH Feed Pump - P712 | Standby | | | |
| 6.16 | PID07A | FBR A Nutrient (Urea) Feed Pump - P72A | Off | | | |
| 6.17 | PID07A | FBR 1 Nutrient (Urea) Feed Pump - P721 | Off | | | |
| 6.18 | PID07A | FBR 2 Nutrient (Urea) Feed Pump - P722 | Off | | | |
| 6.19 | PID15 | FBR A Nutrient (Phos Acid) Feed Pump - P1520A | Running | | | |
| 6.20 | PID15 | FBR 1 Nutrient (Phos Acid) Feed Pump - P1521 | Running | | | |

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| Sub-System | P&ID | Description | Status ¹ | Checked | Criticality ² | Notes |
|------------|--------|---|---------------------|---------|--------------------------|-------|
| 6.21 | PID15 | <i>FBR 2 Nutrient (Phos Acid) Feed Pump - P1522</i> | Running | | | |
| 6.22 | PID07B | <i>FBR A Electron Donor Assembly Pump - P73A</i> | Running | | | |
| 6.23 | PID07B | <i>FBR 1 Electron Donor Assembly Pump - P731</i> | Running | | | |
| 6.24 | PID07B | <i>FBR 2 Electron Donor Assembly Pump - P732</i> | Running | | | |

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| Sub-System | P&ID | Description | Status ¹ | Checked | Criticality ² | Notes |
|------------|--------|--|---------------------|---------|--------------------------|--|
| 7 | | First Stage FBRs 3 & 4 | | | | |
| 7.01 | PID01B | FBR 3 | Off | | | |
| 7.02 | PID01B | FBR 4 | Off | | | |
| 7.03 | PID02B | First Stage Separator Tank - T2012 | Off | | | |
| 7.04 | PID01B | Media Return Pump - P2012 | Off | | | |
| 7.05 | PID01B | First Stage FBR Pump - P1013 | Off | | | |
| 7.06 | PID01B | First Stage FRB Pump - P1014 | Off | | | |
| 7.07 | PID01B | First Stage FBR Pump - P102A | Off | | | |
| 7.08 | PID07A | FBR 3 pH Feed Pump - P713 | Off | | | |
| 7.09 | PID07A | FBR 4 pH Feed Pump - P714 | Off | | | |
| 7.10 | PID07A | FBR 3 Nutrient (Urea) Feed Pump - P723 | Off | | | |
| 7.11 | PID07A | FBR 4 Nutrient (Urea) Feed Pump - P 724 | Off | | | |
| 7.12 | PID15 | FBR 3 Nutrient (Phos Acid) Feed Pump - P1523 | Off | | | |
| 7.13 | PID15 | FBR 4 Nutrient (Phos Acid) Feed Pump - P1524 | Off | | | |
| 7.14 | PID07B | FBR 3 Electron Donor Assembly Pump - P733 | Off | | | |
| 7.15 | PID07B | FBR 4 Electron Donor Assembly Pump - P734 | Off | | | |
| 8 | | Second Stage FBRs 5 & 6 | | | | |
| 8.01 | PID03A | FBR 5 | Off | | | |
| 8.02 | PID03A | FBR 6 | Off | | 4 | FBR 6 laterals have been removed and cleaned by ETI. |
| 8.03 | PID03C | Second Stage Separator Tank - T3011 | Off | | | |
| 8.04 | PID03A | Media Return Pump - P3011 | Off | | | |
| 8.05 | PID03A | Second Stage FBR Pump - P3015 | Off | | | |
| 8.06 | PID03A | Second Stage FBR Pump - P3016 | Off | | | |
| 8.07 | PID03A | Second Stage FBR Pump - P301A | Off | | | |
| 8.08 | PID07A | FBR 5 pH Feed Pump - P715 | Off | | | |
| 8.09 | PID07A | FBR 6 pH Feed Pump - P716 | Off | | | |
| 8.1 | PID07A | FBR 5 Nutrient (Urea) Feed Pump - P725 | Off | | | |
| 8.11 | PID07A | FBR 6 Nutrient (Urea) Feed Pump - P726 | Off | | | |
| 8.12 | PID07B | FBR 5 Electron Donor Assembly Pump - P735 | Off | | | |
| 8.13 | PID07B | FBR 6 Electron Donor Assembly Pump - P736 | Off | | | |

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| Sub-System | P&ID | Description | Status ¹ | Checked | Criticality ² | Notes |
|------------|--------|---|---------------------|---------|--------------------------|---|
| 9 | | Second Stage FBRs 7 & 8 | | | | |
| 9.01 | PID03B | FBR 7 | Running | | | |
| 9.02 | PID03B | FBR 8 | Running | | | |
| 9.03 | PID03D | Second Stage Separator Tank - T3012 | Running | | | |
| 9.04 | PID03B | Media Return Pump - P3012 | Running | | | |
| 9.05 | PID03B | Second Stage FBR Pump - P3017 | Running | | | |
| 9.06 | PID03B | Second Stage FBR Pump - P3018 | Running | | | |
| 9.07 | PID03B | Second Stage FBR Pump - P302A | Standby | | | |
| 9.08 | PID07A | FBR 7 pH Feed Pump - P717 | Standby | | | |
| 9.09 | PID07A | FBR 8 pH Feed Pump - P718 | Standby | | | |
| 9.10 | PID07A | FBR 7 Nutrient (Urea) Feed Pump - P727 | Off | | | |
| 9.11 | PID07A | FBR 8 Nutrient (Urea) Feed Pump - P728 | Off | | | |
| 9.12 | PID07B | FBR 7 Electron Donor Assembly Pump - P737 | Running | | | |
| 9.13 | PID07B | FBR 8 Electron Donor Assembly Pump - P738 | Running | | | |
| 10 | | Aeration and DAF System | | | | |
| 10.01 | PID04 | Aeration Tank | In operation | | | |
| 10.02 | PID04 | Aeration Blower - B401 | Running | | | |
| 10.03 | PID04 | Biofilter | In operation | | | |
| 10.04 | PID04 | Nutrient Solution | Running | | | |
| 10.05 | PID04 | Biofilter Sump | Running | | | |
| 10.06 | PID04 | Nutrient Pump - P401 | Running | | | |
| 10.07 | PID04 | Biofilter Sump Pump - P402A | Standby | | | |
| 10.09 | PID04 | Biofilter Blower | Running | | | |
| 10.10 | PID05 | DAF Pressure Tanks | In operation | | | |
| 10.11 | PID05 | DAF Vessel - D501 | Running | | | |
| 10.12 | PID05 | DAF Pressure Pump - P501 | Running | | | |
| 10.13 | PID05 | DAF Float Pump - P502 | Running | | | |
| 10.14 | PID05 | DAF Vessel - D551 | Running | | | |
| 10.15 | PID05 | DAF Pressure Pump - P551 | Running | | 3 | ETI piped airlines for the pressure tank and removed temporary hoses. |
| 10.16 | PID05 | DAF Float Pump - P552 | Running | | | |
| 10.17 | PID05 | Screw Conveyer Drive | Standby | | | |
| 10.18 | PID05 | Skimmer Drive | Running | | | |

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| Sub-System | P&ID | Description | Status ¹ | Checked | Criticality ² | Notes |
|------------|--------|--|---------------------|---------|--------------------------|---|
| 11 | | Pumping System (Old Effluent) | | | | |
| 11.01 | PID06 | Effluent Tank 601 | In operation | | | |
| 11.02 | PID06 | Effluent Pump - P601 | Standby | | | |
| 11.03 | PID06 | Effluent Pump - P602 | Running | | | |
| 12 | | Sand Filter System | | | | |
| 12.01 | PID17 | Sand Filter | Running | | | |
| 12.02 | PID17 | Filter Reject Tank | In operation | | | |
| 12.03 | PID17 | Filter Reject Pump - P1701A | Standby | | | |
| 12.04 | PID17 | Filter Reject Pump - P1701B | Running | | | |
| 13 | | Effluent Tank and Pumping | | | | |
| 13.01 | PID10C | UV Effluent Tank | Running | | | |
| 13.02 | PID10C | Effluent Booster Pump - P1302A | Running | | | |
| 13.03 | PID10C | Effluent Booster Pump - P1302B | Running | | 2 | ETI installed the pump and motor. |
| 13.04 | PID10C | Area Around Effluent and North D-1 | Running | | | |
| 14 | | Solids Collection and Pressing System | | | | |
| 14.01 | PID16 | Sludge Storage Tank | In operation | | | |
| 14.02 | PID16 | Solids Storage Effluent Pump - P1601 | Running | | | |
| 14.03 | PID16 | Solids Cond. Tank | In operation | | | |
| 14.04 | PID09 | Sludge Mixer | Running | | | |
| 14.05 | PID09 | Filter Press Pump - P901 | Running | | | |
| 14.06 | PID09 | Filter Press Pump - P902 | Running | | | |
| 14.07 | PID09 | West Press | Standby | | | |
| 14.08 | PID09 | East Press | Running | | | |
| 14.09 | PID09 | Filtrate Tank | In operation | | 3 | High and low level sensors are in operation and the new P903 pump is working in automatic mode. |
| 14.10 | PID09 | Filtrate Tank Effluent (recycle) Pump - P903 | Running | | 3 | A new, larger pump was installed and is running in automatic mode. |

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| Sub-System | P&ID | Description | Status ¹ | Checked | Criticality ² | Notes |
|-------------------------|--------|---|---------------------|---------|--------------------------|----------------------------|
| Chemical Systems | | | | | | |
| 15 | | Electron Donor System | | | | |
| 15.01 | PID07B | <i>Electron Donor Tank</i> | In operation | | | |
| 15.02 | PID07B | <i>Booster Pump P739A</i> | Running | | | |
| 15.03 | PID07B | <i>Booster Pump P739B</i> | Standby | | | |
| 17 | PID07C | Micro Nutrient System | In operation | | | |
| 18 | PID07C | Hydrogen Peroxide System | In operation | | | |
| 19 | PID07C | De-Foam System | In operation | | | |
| 20 | PID15 | Nutrient (Phosphoric Acid) System (Tank only - pumps included in FBRs) | In operation | | | |
| 21 | PID07A | Nutrient (Urea) System (Tank only - pumps included in FBRs) | In operation | | | |
| 22 | PID07A | pH System (Tank and effluent pH feed pump only - other pumps included in FBRs) | In operation | | | |
| 23 | PID07C | Ferric Chloride System | In operation | | | |
| 24 | PID07B | Polymer Systems - DAF | In operation | | | |
| 25 | PID09 | Polymer System - Solids Dewatering (2 tanks, 2 centrifugal pumps, mixer, volumetric feeder) | In operation | | | |
| Utility Systems | | | | | | |
| 26 | | Compressed Air System | | | | |
| 26.01 | PID08 | <i>West Compressor</i> | Running | | 2 | ETI installed a new motor. |
| 26.02 | PID08 | <i>East Compressor</i> | Running | | | |
| 26.03 | PID08 | <i>O2 Compressor</i> | Running | | | |
| 26.04 | PID08 | <i>Compressed Air Receiver Tank</i> | In operation | | | |
| 26.05 | PID08 | <i>Air Dryer</i> | Running | | | |
| 26.06 | PID08 | <i>Oil Removal Filter</i> | In operation | | | |
| 26.07 | PID08 | <i>Particulate Filter</i> | In operation | | | |
| 27 | PID16 | Oxygen System | In operation | | | |
| 28 | | GWETS Plant Controls/ Siemens Controls | In operation | | | |
| 29 | | Well Control System/ Allen Bradley Controls | In operation | | | |
| 30 | | MCC FBR Pad | In operation | | | |
| 31 | | MCC in D-1 | In operation | | | |
| 32 | | MCC in EQ area | In operation | | | |

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Maintenance - Out of service for maintenance

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| Sub-System | P&ID | Description | Status ¹ | Checked | Criticality ² | Notes |
|------------------------------|------|---|---------------------|---------|--------------------------|-------|
| Miscellaneous Systems | | | | | | |
| 33 | | Operations Office/Network | In operation | | | |
| 34 | | Laboratory Analyzers | In operation | | | |
| 35 | | Security Systems | In operation | | | |
| Shelf Spares | | | | | | |
| | | Media Return Pump Rebuild Kit | In stock | | | |
| | | pH Feed Pump | In stock | | | |
| | | Nutrient Feed Pump | In stock | | | |
| | | Electron Donor Feed Pump | In stock | | | |
| | | Phosphoric Acid Feed Pump | In stock | | | |
| | | Interceptor Well Pumps (4 each) | In stock | | | |
| | | Seep Well Pump (1 each, same as Athens so total of 2) | In stock | | | |
| | | Athens Road Well Pump (1 each, same as Seep so total of 2) | In stock | | | |

¹ Status Codes

Equipment

Running Unit is in operation
 Standby Duplicate or installed spare, not currently operating
 Maintenance Out for repairs or maintenance
 Off Not currently needed, but available

¹ Criticality Codes

1 = Critical Cannot continue with operation until repairs made
 2 = Important Can still operate safely and in compliance with permits, but risks are increased
 3 = Moderate Work needs to be performed, but plant can still operate with redundancy that is in place
 - Tasks performed to either improve the existing equipment (i.e., testing new options)
 4 = Low - Minor repairs that in no way alter the performance of the plant

Tanks, Pipelines, Ponds

In operation
 Out of service

Spares

In stock

¹ Status Codes

Running - Unit is in operation
 Standby - Spare or duplicate, not currently in operation
 Maintenance - Out of service for maintenance
 Off - Not currently needed for use, but can be placed in service