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**To:** Nevada Division of Environmental Protection  
Nevada Environmental Response Trust

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**Cc:** Nevada Environmental Response Trust Stakeholders

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**From:** Michael Del Vecchio, Director Engineering and Project Management

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**Date:** July 20, 2023

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**Subject:** NERT – GWETS Operation Monthly Report – June 2023

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At the request of the Nevada Environmental Response Trust (Trust), Envirogen Technologies, Inc. (ETI) is providing this summary of the groundwater extraction and treatment system (GWETS) operation and performance during June 2022.

### Summary of GWETS Operation

Envirogen Technologies, Inc. (ETI) mechanically operated the GWETS and ion exchange (IX) system normally in June 2023. Flow from PC-118, PC-119, PC-120, PC-121, and PC-133 were routed to the IX system, bypassing all flow meters associated with the FBR plant for the month of June. The flow rate to the IX system averaged approximately 250 gallons per minute (gpm). The flow rate to the FBR plant averaged approximately 946 gpm. At the end of the month, the filled GW-11 Pond volume was at 48.6 million gallons (MG), which would allow 9.6 days of available additional storage in the event of an emergency FBR plant shutdown with continued well field pumping. The water volume stored in the GW-11 Pond increased since the end of May 2023; Figure 1 in this report depicts the actual GW-11 pond volumes and additional storage available.

The influent perchlorate concentration to the IX system averaged 0.78 mg/L for the month. The influent perchlorate concentration to the FBR plant averaged 57 mg/L for the month, with a maximum concentration of 60 mg/L. In comparison, the influent perchlorate concentration to the FBRs for the month of May 2023 averaged 57 mg/L, with a maximum concentration of 60 mg/L.

### Enhanced Operational Metrics

Tables 1 and 2 provide a summary of the current GWETS operational metrics data for flow rates, perchlorate and chromium concentrations, and mass removal. Figure 2 graphically presents historical perchlorate and chromium mass flux information. Attachment A provides a summary of the NPDES permit analytes with numerical discharge limits.

## Operational Issues

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

### 1. GW-11

There were no operational issues with GW-11 in the month of June.

### 2. Biological Plant

There were influent / effluent diversions during the reporting period generally associated with maintenance activities as well as extraction well short-term shutdown events. Below is a description of the events that occurred:

#### Diversion Events / Well Shutdowns

- Extraction wellfield shutdown of the SWF occurred on June 1, 2023 from 6:42am to 11:50am due to preparation efforts for the power source switch to a temporary generator. Activities were completed and the well field was brought back online.
- Effluent diversion occurred on June 2, 2023 from 2:13am to 4:30am as a precautionary measure due to high levels of perchlorate in the effluent. Adjustments were made to the process and the effluent was returned to the outfall. Approximately 232,000 gallons of water were added to GW-11.
- Influent diversion occurred on June 11, 2023 from 2:04pm to 9:07pm as a precautionary measure due to high perchlorate results in the FBRs. Adjustments were made to the process and the plant was brought back online with the effluent returned to the outfall. Approximately 243,000 gallons of water were added to GW-11.
- Effluent diversion occurred on June 11, 2023 from 10:00pm to June 12, 2023 at 2:51am as a precautionary measure due to high levels of perchlorate in the effluent. Adjustments were made to the process and the effluent was returned to the outfall. Approximately 246,000 gallons of water were added to GW-11.
- Extraction wellfield shutdown of the SWF occurred on June 14, 2023 from 10:46m to 3:02pm due to a communication signal error. The communication signal was reestablished and the well field was brought back online.
- Influent diversion occurred on June 17, 2023 from 8:06pm to June 18, 2023 at 10:07am due to a damaged airline at the air compressor. A temporary airline was installed and the plant was brought back online. Approximately 740,000 gallons of water were added to GW-11.
- Effluent diversion occurred on June 18, 2023 from 6:20pm to June 19, 2023 at 8:44am as a precautionary measure due to high levels of perchlorate in the effluent as a result of the loss of air pressure from the previous day. Adjustments were made to the process and the effluent was returned to the outfall. Approximately 800,000 gallons of water were added to GW-11.
- Extraction wellfield shutdown of the SWF occurred on June 20, 2023 from 12:04pm to 12:43pm due to a malfunctioning air conditioning unit. The air conditioning unit was reset and the well field was brought back online.
- Influent diversion occurred on June 22, 2023 from 11:52am to 1:20pm as a precautionary measure due to high sulfide results. Adjustments were made to the plant and the plant was brought back

online. Approximately 75,000 gallons of water were added to GW-11.

- Effluent diversion occurred on June 26, 2023 from 4:20pm to 5:35pm as a precautionary measure due to high levels of perchlorate in the effluent. Adjustments were made to the process and the effluent was returned to the outfall. Approximately 127,000 gallons of water were added to GW-11.
- Effluent diversion occurred on June 27, 2023 from 12:41am to 7:26am as a precautionary measure due to high levels of perchlorate in the effluent. Adjustments were made to the process and the effluent was returned to the outfall. Approximately 369,000 gallons of water were added to GW-11.

### **3. IX Treatment Plant**

During the month of February 2022, flooding conditions were observed adjacent to the SWF as a result of the City of Henderson's (CoH's) use of inactive Birding Ponds 10 through 13. The discharge to these ponds resulted in an increase in groundwater elevation adjacent to the SWF by approximately 5 feet. This increase in groundwater elevation caused flooding adjacent to the SWF extraction wells and within four extraction well vaults. ETI temporarily increased the pumping rate of extraction wells PC-120 and PC-121 to reduce flooding with the well vaults. Additionally, the concentration of perchlorate in shallow groundwater increased resulting in increased loading to the IX treatment plant. The CoH ceased discharging water to Birding Ponds 10 through 13 in February 2022. The groundwater elevation adjacent to the SWF is no longer elevated but perchlorate concentrations are still elevated, although decreasing, in shallow groundwater adjacent to wells PC-118, PC-119, PC-120, and PC-121.

### **4. Spills**

There were no reportable spills in the Month of June.

### **5. Maintenance**

- Major maintenance performed by ETI in the reporting month included:
  - I. Changed out the sludge pump on the south DAF.
  - II. Cleaned out the air end of the 3" air diaphragm pump for the filter press.
  - III. Installed a new head on the phosphoric acid feed pump for FBR 3.
  - IV. Installed a new actuator on the Influent feed control valve for FBR 5.
  - V. Installed new transducers on the level control valves for the separators.
  - VI. Installed a new 5 hp motor on the pump for SWF extraction well PC-120.
  - VII. Installed a new discharge hose on IWF extraction well I-V.
  - VIII. Changed out the discharge fitting on the media return pump for separator 2.
  - IX. Installed new roto-meters on the sand filter air lifts.
  - X. Re-installed the safety guard on P-1302B pump.
- Preventative maintenance performed by ETI in the reporting month included:
  - I. Cleaned the filters on the air conditioners.
  - II. Calibrated all of the pH and ORP probes.
  - III. Inspected the MCC's for loose wire connections.
  - IV. Greased the aeration blower.

- V. Changed the oil on the lift station motors.
- VI. Cleaned and inspected the sump pits.
- VII. Verified the level sensors on all chemical totes.
- VIII. Inspected and added water to the golf cart batteries.
- IX. Tested all safety showers.
- X. Cycled all the backstage feed valves.

Attachment B contains a summary of all maintenance activities completed during the reporting period.

## 6. Treatment System Extension

The Treatment System Extension (TSE) began treating perchlorate-impacted groundwater extraction on the TIMET site on May 25, 2023 with the initial feed flow from the Timet lift station. During June 2023, the flow rate to the TSE averaged approximately 44 gpm. The influent perchlorate concentration to the TSE averaged 8.07 mg/L for the month, with a maximum concentration of 8.8 mg/L. Beginning in the July 2023 monthly report, Table 1 will include the perchlorate and chromium concentrations of the influent to the TSE and Table 2 will include the perchlorate and chromium mass of the influent.

## Facility Projects

1. Facility Repair/Replacement Items – Envirogen and the Trust have finalized a list of facility items to be addressed in connection with Amendment 8 to the O&M Agreement. All work with the exception of the replacement of the DAF have been completed. Specific details on in-progress items are provided below:
  - I. (WA 23-03) Dissolved Air Floatation (DAF) Vessel replacement–
    1. DAF work authorization signed by ETI.
2. Improved Biological Treatment Plant Efficiency – Consistent with Attachment D to the December 2021 GWETS Operation Monthly Report, Envirogen plans to take five FBRs out of service and maintain them in working condition should they be needed in the future. This action will reduce the use of electricity and water and still maintain sufficient treatment capacity to address current groundwater extracted from the IWF, AWF, and the SWF as well as groundwater to be extracted as part of the Unit 4 Source Area In-Situ Bioremediation Treatability Study. FBR A was placed into Offline mode on April 13, 2022. The electrical and mechanical components of the pump skid were inspected and removed when applicable. The removal of the sand media is complete. Final inspection of all internal components is also complete. The remaining FBRs scheduled to be taken out of service will be addressed in the 4<sup>th</sup> quarter of 2023.
3. GWETS Pipeline Realignment – ETI was made aware of at least three locations approximately 1.75 miles from the site which will require the modification of the influent and effluent pipelines due to conflicts with ongoing development in the area. The Trust has authorized Tetra Tech to engage with the required property owners to design and build the new sections of pipeline. ETI continues to work with both Tetra Tech and the Trust to verify plans are acceptable and plant downtime is kept to a minimum during the construction efforts. In December, the first pipeline realignment project immediately north of Galleria Drive was completed. The second pipeline

realignment located further north of Galleria Drive was determined to be unnecessary as the vertical separation between the GWETS pipelines and the stormwater culvert under construction did not place an unacceptable load on the pipelines at this location. The third pipeline realignment is located in the vicinity to Pabco Road and Galleria Road and is expected to be completed in 3<sup>rd</sup> quarter of 2023. ETI is currently supporting the Trust as required on this project while the Trust finalizes project design with the property owners.

4. Water Reuse – Consistent with the Trust's efforts to reduce its water consumption and acknowledgment of best management practices, accelerated by the Basic Water Company (BWC) bankruptcy filing, the Trust has actively pursued multiple options to become independent of the BWC water distribution system. To that end, it is the objective of the Trust to replace the water currently distributed by BWC through implementation of an effluent filtration system (EFS) to allow for reuse of the GWETS effluent. The filtered effluent can only be used within treatment operations. The filtration system was delivered to the NERT Site in May 2023 and equipment integration began in June 2023 following receipt of NDEP's approval of the 100 percent design on June 6, 2023. The system is expected to be fully operational in early July 2023. A second identical filtration unit is currently under construction and will be integrated into the EFS in the fall. Following integration of the second filtration unit the two filtration units will be operated in a lead-lag configuration.

# Tables

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*Operational Metrics*

Nevada Environmental Response Trust   Groundwater Extraction and Treatment System   Monthly Stakeholder Metrics				
Location ID	Average Flow Rate (gpm)	Perchlorate (mg/L) <sup>4</sup>	Chromium (TR) (mg/L) <sup>4</sup>	Chromium(VI) (mg/L) <sup>4</sup>
SWF Total Extraction <sup>1</sup>	719 <sup>3</sup>	9.0	0.0019	0.0028
AWF Total Extraction <sup>1</sup>	444 <sup>3</sup>	49	0.12	0.11
IWF Total Extraction <sup>1</sup>	47 <sup>3</sup>	372	5.9	5.3
AP Area Total Extraction <sup>1</sup>	8.7 <sup>3</sup>	572	0.21	0.19
GWTP Effluent <sup>2</sup>	60	411	0.75	0.000059
GW-11 Influent <sup>1</sup>	14	45	0.21	0.057
FBR Influent <sup>2</sup>	946	57	0.153	0.045

Notes:

TR = Total Recoverable.

1: Perchlorate and chromium TR sampled monthly, values reported from Eurofins TestAmerica.

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

3: Sum of daily average flow for individual wells.

4: All concentrations reported are monthly flow weighted averages.

Nevada Environmental Response Trust   Groundwater Extraction and Treatment System   Monthly Stakeholder Metrics			
Location ID	Perchlorate (lbs/month) <sup>1</sup>	Chromium (TR) (lbs/month) <sup>1</sup>	Chromium (VI) (lbs/month) <sup>1</sup>
SWF Total Extraction	1,936	0.41	0.59
AWF Total Extraction	7,791	18	18
IWF Total Extraction	6,322	101	90
AP Area Total Extraction	1,795	0.65	0.59
GWTP Effluent	8,840	16	0.0013
GW-11 Influent	235	1.1	0.30
FBR Influent <sup>1</sup>	19,385	52	16

Notes:

TR = Total Recoverable.

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



# Figures

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*Operational Metrics*

Figure 1 - GW-11 Pond Volume Through 06/30/2023

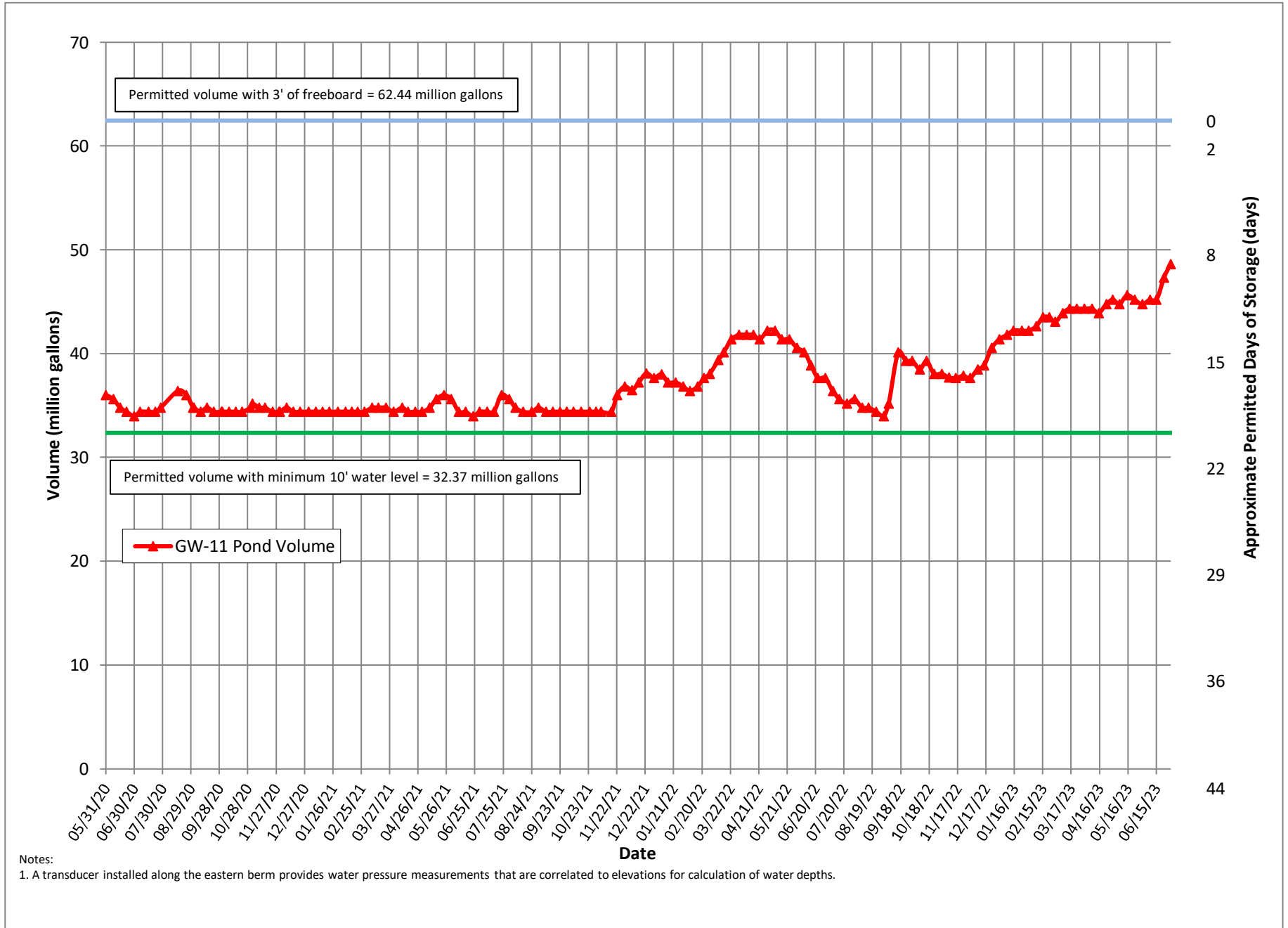
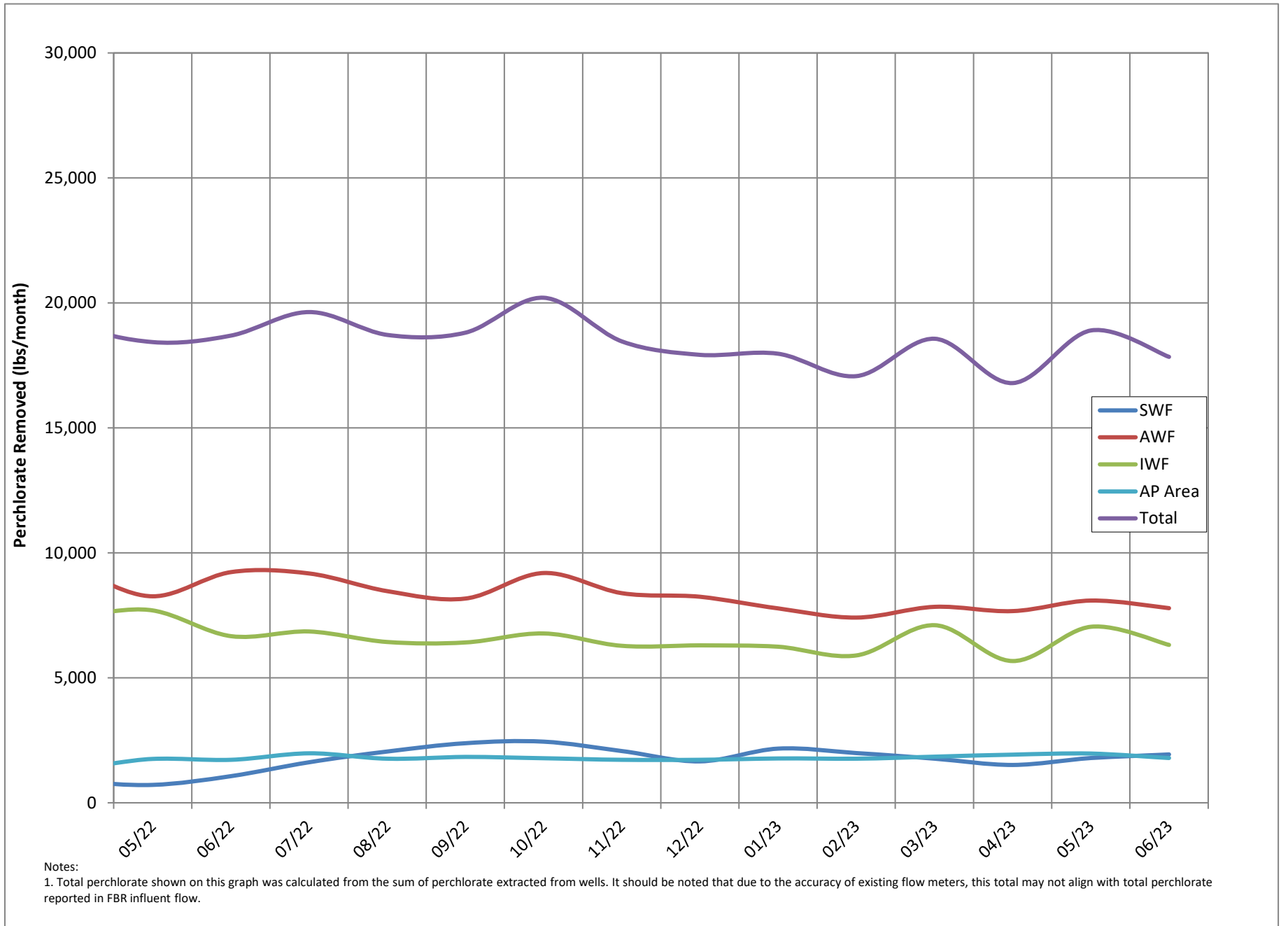


Figure 2 - Historical Perchlorate Mass Removed From Environment



# Attachment A

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*NPDES Tracking Sheet (Prepared by Ramboll)*

Treated Effluent at Outfall 001																					
Continuous		Daily Samples, composited weekly				Weekly Grab Samples										Weekly, collected separately			Quarterly		
Flow Rate		Perchlorate				pH	Hexavalent Chromium	Total Chromium	Manganese	Total Iron	Total Inorganic Nitrogen (TIN)	Total Suspended Solids (TSS)		Total Ammonia as N		Total Phosphorus as P		BOD <sub>5</sub> (inhibited)			Total Dissolved Solids (TDS)
30-Day Avg. (MGD)	Daily Maximum (MGD)	30-Day Avg. (µg/L)	30-Day Avg. (lbs/day)	Daily Min. (S.U.)	Daily Max. (S.U.)	Daily Max. (µg/L)	Daily Max. (µg/L)	Daily Max. (µg/L)	Daily Max. (µg/L)	Daily Max. (mg/L)	Daily Max. (mg/L)	Daily Average (mg/L)	30-Day Avg. (lbs/day)	30-Day Avg. (lbs/day)	30-Day Avg. (lbs/day)	30-Day Avg. (mg/L)	Daily Max. (mg/L)	30-Day Avg. (lbs/day)	30-Day Avg. (mg/L)	Daily Max. (mg/L)	
2.52	2.88	18	0.38	6.5	9.0	10	100	5,000	10,000	20	135	2,839	20*		10*	25	40	525		8,000	
January 2023	1.70	1.76	ND (<1.6)	0.011	6.6	6.9	ND (<0.150)	26	390	1,100	0.96	13	190	1.9	5.1	ND (<5.0)	ND (<5.0)	36			
February 2023	1.69	1.75	1.1	0.015	6.8	7.1	ND (<0.150)	41	340	1,300	1.3	22	310	4.2	7.2	ND (<5.0)	ND (<5.0)	35		3,900	
March 2023	1.67	1.78	2.3	0.033	7.1	7.4	ND (<0.150)	13	320	1,100	1.3	20	270	3.6	5.6	ND (<5.0)	ND (<5.0)	35			
April 2023	1.63	1.75	1.6	0.021	6.8	7.1	ND (<0.150)	35	390	940	0.82	15	200	2.5	4.6	4.7	8.8	65			
May 2023	1.68	1.79	3.8	0.052	7.0	7.2	ND (<0.150)	20	720	3,400	1.1	15	216	2.7	5.7	ND (<5.0)	ND (<5.0)	35		3,800	
June 2023	1.47	1.72	ND (<1.6)	0.010	6.6	6.6	ND (<0.150)	9.0	460	1,300	0.75	12	158	1.8	3.7	ND (<5.0)	ND (<5.0)	34			
July 2023 (month to date)	1.55	1.57	NA	NA	6.5	6.5	0.177	NA	NA	NA	0.67	14	NA	NA	NA	NA	NA	NA	NA	NA	

Daily Grab Sample Dates	Composite Sample Date	µg/L	lbs/day	Sample Date	S.U.	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	Sample Date	mg/L	lbs/day	Sample Date	mg/L			
1/1 - 1/7	1/7/2023	ND (<1.6)	0.8	0.011	1/4/2023	6.6	ND (<0.150)	10	340	830	0.87	ND(<10)	5	70	--	0.090	1.3	--	0.43	6.0	1/4/2023	ND (<5.0)	2.5	35
1/8 - 1/14	1/14/2023	ND (<1.6)	0.8	0.011	1/11/2023	6.8	ND (<0.150)	22	280	690	0.80	--	10	142	--	0.044	0.63	--	0.30	4.3	1/11/2023	ND (<5.0)	2.5	36
1/15 - 1/21	1/21/2023	ND (<1.6)	0.8	0.012	1/18/2023	6.8	ND (<0.150)	15	350	1100	0.80	--	19	275	--	0.16	2.3	--	0.40	5.8	1/18/2023	ND (<5.0)	2.5	36
1/22 - 1/28	1/28/2023	ND (<1.6)	0.8	0.012	1/25/2023	6.9	ND (<0.150)	26	390	760	0.96	--	19	277	--	0.24	3.5	--	0.31	4.5	1/25/2023	ND (<5.0)	2.5	36
1/29 - 2/4	2/4/2023	ND (<1.6)	0.8	0.011	2/1/2023	7.1	ND (<0.150)	7.6	340	620	0.80	--	20	281	--	0.16	2.3	--	0.32	4.5	2/1/2023	ND (<5.0)	2.5	35
2/5 - 2/11	2/11/2023	ND (<1.6)	0.8	0.011	2/8/2023	6.8	ND (<0.150)	41	290	1100	0.87	--	24	349	--	0.19	2.8	--	0.31	4.5	2/8/2023	ND (<5.0)	2.5	36
2/12 - 2/18	2/18/2023	2.0	2.0	0.027	2/15/2023	6.8	ND (<0.150)	3.8	280	970	0.75	--	20	282	--	0.15	2.1	--	0.49	6.9	2/15/2023	ND (<5.0)	2.5	35
2/19 - 2/25	2/25/2023	ND (<1.6)	0.8	0.011	2/22/2023	7.0	ND (<0.150)	25	260	1300	1.3	--	24	335	--	0.69	9.6	--	0.91	12.7	2/22/2023	ND (<5.0)	2.5	35
2/26 - 3/4	3/4/2023	ND (<1.6)	0.8	0.012	3/1/2023	7.2	ND (<0.150)	13	320	1100	0.22	--	12	174	--	0.20	2.9	--	0.49	7.1	3/1/2023	ND (<5.0)	2.5	36
3/5 - 3/11	3/11/2023	ND (<1.6)	0.8	0.011	3/8/2023	7.1	ND (<0.150)	9.5	300	620	1.0	--	14	196	--	0.23	3.2	--	0.30	4.2	3/8/2023	ND (<5.0)	2.5	35
3/12 - 3/18	3/18/2023	ND (<1.6)	0.8	0.011	3/15/2023	7.2	ND (<0.150)	11	290	860	1.3	--	22	284	--	0.33	4.3	--	0.40	5.2	3/15/2023	ND (<5.0)	2.5	32
3/19 - 3/25	3/25/2023	ND (<1.6)	0.8	0.011	3/22/2023	7.1	ND (<0.150)	5.3	240	710	0.71	--	21	298	--	0.18	2.6	--	0.33	4.7	3/22/2023	ND (<5.0)	2.5	35
3/26 - 4/1	4/1/2023	8.4	8.4	0.120	3/29/2023	7.4	ND (<0.150) <sup>1</sup>	4.8	260	620	1.1	--	29	413	--	0.35	5.0	--	0.49	7.0	3/29/2023	ND (<5.0)	2.5	36
4/2 - 4/8	4/8/2023	ND (<1.6)	0.8	0.011	4/5/2023	6.8	ND (<0.150)	0.87	260	210	0.79	--	16	223	--	0.16	2.2	--	0.32	4.5	4/5/2023	ND (<5.0)	2.5	35
4/9 - 4/15	4/15/2023	ND (<1.6)	0.8	0.011	4/12/2023	7.0	ND (<0.150)	35	390	540	0.75	--	19	268	--	0.17	2.4	--	0.31	4.4	4/12/2023	5.0	5.0	71
4/16 - 4/22	4/22/2023	3.9	3.9	0.053	4/19/2023	6.8	ND (<0.150)	6.6	260	370	0.82	--	18	237	--	0.21	2.8	--	0.30	4.0	4/19/2023	ND (<5.0)	2.5	33
4/23 - 4/29	4/29/2023	ND (<1.6)	0.8	0.011	4/26/2023	7.1	ND (<0.150)	6.9	290	940	0.82	ND(<10)	5	69	--	0.18	2.5	--	0.41	5.7	4/26/2023	8.8	8.8	121
4/30 - 5/6	5/6/2023	ND (<1.6)	0.8	0.011	5/3/2023	7.0	ND (<0.150)	4.4	360	280	1.1	--	15	205	--	0.34	4.6	--	0.46	6.3	5/3/2023	ND (<5.0)	2.5	34
5/7 - 5/13	5/13/2023	ND (<1.6)	0.8	0.011	5/10/2023	7.2	ND (<0.150)	20	280	3400	0.82	--	33	450	--	0.12	1.6	--	0.58	7.9	5/10/2023	ND (<5.0)	2.5	34
5/14 - 5/20	5/20/2023	ND (<1.6)	0.8	0.011	5/17/2023	7.0	ND (<0.150)	4.8	340	570	0.77	--	14	206	--	0.17	2.5	--	0.34	5.0	5/17/2023	ND (<5.0)	2.5	37
5/21 - 5/27	5/27/2023	ND (<1.6)	0.8	0.012	5/24/2023	7.1	ND (<0.150)	2.1	290	470	0.85	--	10	149	--	0.16	2.4	--	0.36	5.3	5/24/2023	ND (<5.0)	2.5	37
5/28 - 6/3	6/3/2023	16	16	0.216	5/30/2023	7.2	ND (<0.150)	2.6	720	300	0.85	ND(<10)	5	68	--	0.18	2.5	--	0.29	3.9	5/30/2023	ND (<5.0)	2.5	34
6/4 - 6/10	6/10/2023	ND (<1.6)	0.8	0.011	6/7/2023	6.6	ND (<0.150)	5.2	310	680	0.63	--	13	185	--	0.065	0.9	--	0.23	3.3	6/7/2023	ND (<5.0)	2.5	35
6/11 - 6/17	6/17/2023	ND (<1.6)	0.8	0.010	6/14/2023	6.6	ND (<0.150)	6.5	460	600	0.75	--	10	126	--	0.28	3.5	--	0.31	3.9	6/14/2023	ND (<5.0)	2.5	32
6/18 - 6/24	6/24/2023	ND (<1.6)	0.8	0.009	6/21/2023	6.6	ND (<0.150)	4.0	450	480	0.59	--	11	151	--	0.15	2.1	--	0.19	2.6	6/21/2023	ND (<5.0)	2.5	34
6/25 - 7/1	7/1/2023	ND (<1.6)	0.8	0.009	6/28/2023	6.6	ND (<0.150)	9.0	380	1300	0.50	--	13	170	--	0.061	0.8	--	0.37	4.8	6/28/2023	ND (<5.0)	2.5	33
					7/5/2023	6.5	ND (<0.150)	NA	NA	NA	0.67	--	14	NA	--	0.16	NA	NA	NA	NA	7/5/2023	ND (<5.0)	2.5	NA
					7/13/2023		0.177														7/13/2023	NA	NA	NA

Note: Analytical responsibilities are performed by Eurofins Environment Testing (Eurofins) in Phoenix, Arizona, and hexavalent chromium is analyzed by Pace Analytical (Pace) in Las Vegas, Nevada, unless otherwise indicated.  
<sup>1</sup> Additional samples were collected this week.  
 NA = Not Available To Date  
 ND = Not Detected above laboratory reporting limit; concentration in adjacent cell to right is one-half the reporting limit (per Permit condition)  
 NS = Not Sampled or Not Analyzed  
 -- = Analyte detected; see column adjacent to right  
<sup>\*</sup> Total phosphorus discharge limitation of 30 lbs/day applies between March 1 and October 31; Ammonia discharge limitation of 20 lbs/day applies between April 1 and September 30; no limits apply the rest of the year.  
<sup>1</sup> Pace Hexavalent Chromium sample taken 03/31/2023; original sample taken 03/29/2023 (L1599378) went over hold time and needed resampling.  
 Last Updated: July 14, 2023

# Attachment B

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Equipment Tracking Form

Sub-System	P&ID	Description	Status <sup>1</sup>	Checked	Criticality <sup>2</sup>	Notes
<b>Main Plant Equipment</b>						
<b>1</b>		<b>Seep Wells and Lift Station 1</b>				
1.01		Seep Well Field, 9 wells	Running		3	Replaced the 5 hp motor on PC-120.
1.02		Lift Station 1 Lift Pump A	Running			
1.03		Lift Station 1 Lift Pump B	Standby			
1.04		Area in and around Lift Station 1	Running		1	Switched power to the Generator.
<b>2</b>		<b>Athens Road Wells and Lift Station 3</b>				
2.01		Athens Road Well Field, 9 wells	Running		2	Changed out the motor on ART-4.
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			
<b>3</b>		<b>Lift Station 2 and Transmission Pipelines</b>				
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			
<b>4</b>		<b>Interceptor Wells and Cr Treatment Plant</b>				
4.01		IWF Well Field, 30 wells	Running		2	Replaced the discharge hose on I-V. Installed a new .5 hp motor on I-F.
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	Running			
4.08		Interceptor Booster Pump B	Standby			
4.09		Area In And Around GWTP	Running			
<b>5</b>		<b>Equalization Area and GW-11 Pond</b>				
5.01	PID10A	Pond GW-11	In operation			
5.02	PID10A	Pond Water Pump - P101A	Running			
5.03	PID10A	Pond Water Pump - P101B	Standby			
5.04	PID10A	Equalization Tanks	In operation			
5.05	PID10A	Area in and Around EQ	In operation		2	Replaced the Profibus connections on the PLC racks.
5.06	PID10A	Raw Water Feed Pump - P102A				
5.07	PID10A	Raw Water Feed Pump - P102B				
5.08	PID10A	F-101 Filters	Running			
5.09	PID10B	Carbon Absorber - LGAC 201A				

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5.10	PID10B	Carbon Absorber - LGAC 201B				
5.11	PID10B	Carbon Absorber - LGAC 201C				
<b>6</b>		<b>First Stage FBRs A, 1 &amp; 2</b>				
6.01	PID14	FBR A				EQUIPMENT OFFLINE
6.02	PID14	Separator Tank - 1401				EQUIPMENT OFFLINE
6.03	PID14	Media Return Pump - P 1401				EQUIPMENT OFFLINE
6.04	PID14	P1401A				EQUIPMENT OFFLINE
6.05	PID01A	P1401B				EQUIPMENT OFFLINE
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				
6.12	PID01A	First Stage FRB Pump - P101A	Running			
6.13	PID07A	FBR A pH Feed Pump - P71A	Off			
6.14	PID07A	FBR 1 pH Feed Pump - P711	Off			
6.15	PID07A	FBR 2 pH Feed Pump - P712	Off			
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			Equipment offline
6.20	PID15	FBR 1 Nutrient (Phos Acid) Feed Pump - P1521	Running			
6.21	PID15	FBR 2 Nutrient (Phos Acid) Feed Pump - P1522	Running		3	Replaced the discharge tubing fittings.
6.22	PID07B	FBR A Electron Donor Assembly Pump - P73A	Running			
6.23	PID07B	FBR 1 Electron Donor Assembly Pump - P731	Running			
6.24	PID07B	FBR 2 Electron Donor Assembly Pump - P732	Running			
<b>7</b>		<b>First Stage FBRs 3 &amp; 4</b>				
7.01	PID01B	FBR 3	Running			
7.02	PID01B	FBR 4	Running			
7.03	PID02B	First Stage Separator Tank - T2012	Running		3	Replaced the transducer on the level control valve.
7.04	PID01B	Media Return Pump - P2012	Running			
7.05	PID01B	First Stage FBR Pump - P1013	Running			
7.06	PID01B	First Stage FRB Pump - P1014	Running			
7.07	PID01B	First Stage FBR Pump - P102A	Running			
7.08	PID07A	FBR 3 pH Feed Pump - P713	Running			
7.09	PID07A	FBR 4 pH Feed Pump - P714	Running			
7.10	PID07A	FBR 3 Nutrient (Urea) Feed Pump - P723				

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7.11	PID07A	FBR 4 Nutrient (Urea) Feed Pump - P 724	Off			
7.12	PID15	FBR 3 Nutrient (Phos Acid) Feed Pump - P1523	Running			
7.13	PID15	FBR 4 Nutrient (Phos Acid) Feed Pump - P1524	Running			
7.14	PID07B	FBR 3 Electron Donor Assembly Pump - P733	Running			
7.15	PID07B	FBR 4 Electron Donor Assembly Pump - P734	Running			
<b>8</b>		<b>Second Stage FBRs 5 &amp; 6</b>				
8.01	PID03A	FBR 5	Running		3	Replaced the actuator on the feed valve.
8.02	PID03A	FBR 6	Running			
8.03	PID03C	Second Stage Separator Tank - T3011	Running		3	Replaced the transducer on the level control valve.
8.04	PID03A	Media Return Pump - P3011	Running			
8.05	PID03A	Second Stage FBR Pump - P3015	Running			
8.06	PID03A	Second Stage FBR Pump - P3016	Standby			
8.07	PID03A	Second Stage FBR Pump - P301A	Running			
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	Running			
8.13	PID07B	FBR 6 Electron Donor Assembly Pump - P736	Running			
<b>9</b>		<b>Second Stage FBRs 7 &amp; 8</b>				
9.01	PID03B	FBR 7	Running			
9.02	PID03B	FBR 8	Running			
9.03	PID03D	Second Stage Separator Tank - T3012	Running		3	Replaced the transducer on the level control valve.
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	Running			
9.08	PID07A	FBR 7 pH Feed Pump - P717	Off			
9.09	PID07A	FBR 8 pH Feed Pump - P718	Off			
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			
<b>10</b>		<b>Aeration and DAF System</b>				
10.01	PID04	Aeration Tank	In operation			
10.02	PID04	Aeration Blower - B401	Running			
10.03	PID04	Bio filter	In operation			
10.04	PID04	Nutrient Solution	Running			

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10.05	PID04	Bio filter Sump				
10.06	PID04	Nutrient Pump - P401	Running			
10.07	PID04	Bio filter Sump Pump - P402A	Standby			
10.09	PID04	Bio filter 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			
10.16	PID05	DAF Float Pump - P552	Running		4	Removed the damaged belt guard. Waiting for the new one to arrive.
10.17	PID05	Screw Conveyer Drive	Standby			
10.18	PID05	Skimmer Drive	Running			
<b>11</b>		<b>Pumping System (Old Effluent)</b>				
11.01	PID06	Effluent Tank 601	In operation		4	Calibrated the level control valve.
11.02	PID06	Effluent Pump - P601	Running			
11.03	PID06	Effluent Pump - P602				
<b>12</b>		<b>Sand Filter System</b>				
12.01	PID17	Sand Filter			3	Cleared the sand cleaners on all of the air lifts.
12.02	PID17	Filter Reject Tank	In operation			
12.03	PID17	Filter Reject Pump - P1701A	Standby			
12.04	PID17	Filter Reject Pump - P1701B	Running			
<b>13</b>		<b>Effluent Tank and Pumping</b>				
13.01	PID10C	UV Effluent Tank	Running			
13.02	PID10C	Effluent Booster Pump - P1302A	Running			
13.03	PID10C	Effluent Booster Pump - P1302B	Standby			
13.04	PID10C	Area Around Effluent and North D-1	Running			
<b>14</b>		<b>Solids Collection and Pressing System</b>				
14.01	PID16	Sludge Storage Tank	In operation			
14.02	PID16	Solids Storage Effluent Pump - P1601	Running		2	Changed out the pump with a temporary pump until the new seal arrives.
14.03	PID16	Solids Cond. Tank	In operation			
14.04	PID09	Sludge Mixer	Running			
14.05	PID09	Filter Press Pump - P901	Running		3	Cleaned out the air end to get the pump running.
14.06	PID09	Filter Press Pump - P902				
14.07	PID09	West Press	Standby			
14.08	PID09	East Press	Running			

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14.09	PID09	Filtrate Tank	In operation			
14.10	PID09	Filtrate Tank Effluent (recycle) Pump - P903	Running			
<b>Chemical Systems</b>						
15		<b>Electron Donor System</b>				
15.01	PID07B	Electron Donor Tank	In operation			
15.02	PID07B	Booster Pump P739A	Running			
15.03	PID07B	Booster Pump P739B	Standby			
17	PID07C	Micro Nutrient System	In operation		3	Replaced the tubing on the discharge hose.
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	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			
<b>Utility Systems</b>						
26		<b>Compressed Air System</b>				
26.01	PID08	West Compressor	Running			
26.02	PID08	East Compressor	Running			
26.03	PID08	O2 Compressor	Running			
26.04	PID08	Compressed Air Receiver Tank	In operation		1	The piping had to be repaired when the fitting failed.
26.05	PID08	Air Dryer	Running		3	Installed the new evap drain line.
26.06	PID08	Oil Removal Filter	In operation			
26.07	PID08	Particulate Filter	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			
<b>Miscellaneous Systems</b>						
33		Operations Office/Network	In operation			

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34		Laboratory Analyzers	In operation			
35		Security Systems	In operation			
<b>Shelf Spares</b>						
		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			

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