To:	Nevada Division of Environmental Protection Nevada Environmental Response Trust
Cc:	Nevada Environmental Response Trust Stakeholders
From:	Ryan Sullivan, Vice President Service and O&M
Date:	Sept 20, 2021
Subject:	NERT – GWETS Operation Monthly Report – August 2021

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 August 2021.

Summary of GWETS Operation

Envirogen Technologies, Inc. (ETI) mechanically operated the GWETS and ion exchange (IX) system normally in August 2021. Flow from PC-119, PC-120, PC-121, and PC-133 was routed to the IX system, bypassing all flow meters associated with the FBR plant. The flow rate to the IX system averaged approximately 194 gallons per minute (gpm). The flow rate to the FBR plant averaged approximately 1,063 gpm during August 2021. At the end of the month, the available GW-11 Pond volume was at 34.8 million gallons (MG), which would allow 19.2 days of available additional storage in the event of an emergency FBR plant shutdown with continued well field pumping. The available water volume stored in the GW-11 Pond decreased since the end of July 2021; 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 0.17 mg/L for the month. The influent perchlorate concentration to the FBR plant averaged 62 mg/L for the month, with a maximum concentration of 67 mg/L. In comparison, the influent perchlorate concentration to the FBRs for the month of July 2021 averaged 62 mg/L, with a maximum concentration of 69 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 August.

2. Biological Plant

There were influent / effluent diversions during the reporting period generally associated with GW-11 pond level maintenance as well as extraction well short-term shutdown events. Below is a description of the events that occurred:

Diversion Events / Well Shutdowns

- Well Field Shutdown of the Seep Well Field (SWF) occurred on August 3, 2021 from 6:30am to 10:00am due to a maintenance activities at the IX electrical fuse boxes. Maintenance was completed and the well field was brought back online.
- Effluent diversion to GW-11 occurred on August 3, 2021 from 12:08pm to 2:04pm as a precautionary measure due to high effluent turbidity. Adjustments were made to the solids removal process and the effluent was returned to the outfall. Approximately 130,000 gallons of water were diverted to GW-11.
- Effluent diversion to GW-11 occurred on August 11, 2021 from 12:37am to 4:45am due to low GW-11 pond level. Approximately 260,000 gallons of water were diverted to GW-11.
- Effluent diversion to GW-11 occurred on August 13, 2021 from 11:30pm to August 14, 2021 at 5:20am due to low GW-11 pond level. Approximately 318,000 gallons of water were diverted to GW-11.
- Effluent diversion to GW-11 occurred on August 16, 2021 from 11:00pm to August 17, 2021 at 4:00am due to low GW-11 pond level. Approximately 314,000 gallons of water were diverted to GW-11.
- Effluent diversion to GW-11 occurred on August 17, 2021 from 11:20pm to August 18, 2021 at 3:15am due to low GW-11 pond level. Approximately 247,000 gallons of water were diverted to GW-11.
- Well Field Shutdown of the Athens Well Field (AWF) occurred on August 18, 2021 from 9:40am to 10:20am due to a maintenance activities at the main electrical fuse connectors. Maintenance was completed and the well field was brought back online.
- Effluent diversion to GW-11 occurred on August 19, 2021 from 11:30pm to August 20, 2021 at 4:25am due to low GW-11 pond level. Approximately 300,000 gallons of water were diverted to GW-11.
- Effluent diversion to GW-11 occurred on August 21, 2021 from 11:32pm to August 22, 2021 at 4:50am due to low GW-11 pond level. Approximately 345,000 gallons of water were diverted to GW-11.
- Effluent diversion to GW-11 occurred on August 25, 2021 from 11:34pm to August 26, 2021 at 4:00am due to low GW-11 pond level. Approximately 289,000 gallons of water were diverted to GW-11.
- Influent diversion to GW-11 occurred on August 26, 2021 from 8:37am to 8:54am due to a maintenance activities at effluent pump check valve. Maintenance was completed and the treatment plant was brought back online.

- Effluent diversion to GW-11 occurred on August 26, 2021 from 11:50am to 8:00pm due to low GW-11 pond level. Approximately 492,000 gallons of water were diverted to GW-11.
- Influent diversion to GW-11 occurred on August 28, 2021 from 9:43am to 11:03am due to a malfunctioning recycle pump at the FBR 6 pump skid. Maintenance was completed and the treatment plant was brought back online.
- Effluent diversion to GW-11 occurred on August 28, 2021 from 10:17am to 12:20pm as a precautionary measure due to high effluent turbidity. Adjustments were made to the solids removal process and the effluent was returned to the outfall. Approximately 129,000 gallons of water were diverted to GW-11.

3. Spills

There were no reportable spills in the month of August.

4. Maintenance

- Major maintenance performed by ETI in the reporting month included:

I. Changed the signal receivers for the feed valve positioners for FBRs 3 and 4.
II. Welded a new strainer for the suction of the south vertical turbine at LS1.
III. Replaced the fuses for the run command that controls the ART wells at LS3.
IV. Installed new air ends on the GWTP filter press pump.
V. Installed a new cylinder on the GWTP filter press.
VI. Re-spliced the wires for the AP-5 auto dialer.
VII. Changed the belts on the South DAF sludge pump.
VIII. Rebuilt the pump for media return #2.
IX. Installed a new feed pump for the DAF turbidity meter.
X. Replaced the limit switch wires for the front gate.
XI. Installed a new lid for AP Area extraction well E2-3.

- Preventative maintenance performed by ETI in the reporting month included:

I. Cleaned the air filters around the plant for the feed valves.
II. Greased the motors around the plant.
III. Cleaned the suction strainer for the south turbine at LS1.
IV. Cleaned the plot 2 leak sensors in the AP-5 well field.
V. Calibrated the flowmeter on IWF extraction well I-AR.
VI. Cleaned out the pump head of the east DAF polymer feed system.
VII. Removed solids from separator 1.
VIII. Built spare airlifts for the sand filter.
IX. Removed solids from the reject tank and cleaned the tank.
X. Cleaned the level sensors on the dry polymer transfer tote.

GWETS Upgrades and Facility Projects

Unit 4 Chromium Water Treatment Plant – Envirogen participated in a meeting with the Trust in April 2021 to discuss moving this project forward. Envirogen received notification at the end of May that the Trust will be repurposing one of the AP tanks to support the Unit 4 Source Area In-situ Bioremediation Treatability Study. Groundwater extracted as part of this treatability study will be conveyed to this tank via tanker truck where it will be stored and subsequently routed to the treatment plants for processing. Envirogen will take over responsibility for operating this tank for the duration of treatability study. Envirogen will work with the Trust in the coming months to establish a scope of work for this activity.

GWETS Extension – The signed Work Authorization for engineering and fabrication of the GWETS Extension was returned to the Trust on January 28, 2020. As a result of comments received from Clark County that prohibit the use of shipping containers as structures, Envirogen submitted a Work Authorization to the Trust for: re-designing the pump system containers to independent skids; modifying the electrical control panels; and providing 3-sided canopies to house sun sensitive equipment. The Work Authorization was signed by Envirogen and the Trust in March 2021. Components of the system have arrived onsite and are being stored until construction begins. Envirogen received comments from the Trust regarding the GWETS O&M Work Authorization (Contract Amendment 8) and provided a response in March 2021. The Authorization has not been completed, Envirogen is waiting to receive the final version of the Contract Amendment.

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).

Tables

Operational Metrics

Nevada Environmental Response Trust I Groundwater Extraction and Treatment System I Monthly Stakeholder Metrics				
Location ID	**Average Flow Rate (gpm)**	**Perchlorate (mg/L)[4 5]**	**Chromium (TR) (mg/L)[4 5]**	**Chromium(VI) (mg/L)[4 5]**
SWF Total Extraction[1]	748 [3]	10.4	0.00132	0.0021
AWF Total Extraction[1]	448 [3]	69	0.13	0.13
IWF Total Extraction[1]	56 [3]	435	6.0	6.2
AP Area Total Extraction[1]	9.9 [3]	810	0.15	0.19
GWTP Effluent[2]	58	457	0.22	ND
GW-11 Influent[1]	0.24	58	0.09	0.0260
FBR Influent[2]	1,063	62	0.020	0.025

Notes:

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

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.

5: ND analytical values are treated as zero values in the flow weighted average calculations.

Nevada Environmental Response Trust I Groundwater Extraction and Treatment System I Monthly Stakeholder Metrics			
Location ID	**Perchlorate (lbs/month)[1]**	**Chromium (TR) (lbs/month)[1]**	**Chromium (VI) (lbs/month)[1]**
SWF Total Extraction	2,904	0.367	44,422
AWF Total Extraction	11,586	21	22
IWF Total Extraction	9,022	125	130
AP Area Total Extraction	2,979	0.57	0.71
GWTP Effluent	9,823	4.7	ND
GW-11 Influent	5.1	0.0078	0.00229
FBR Influent[1]	24,655	9.6	12.0

Notes:

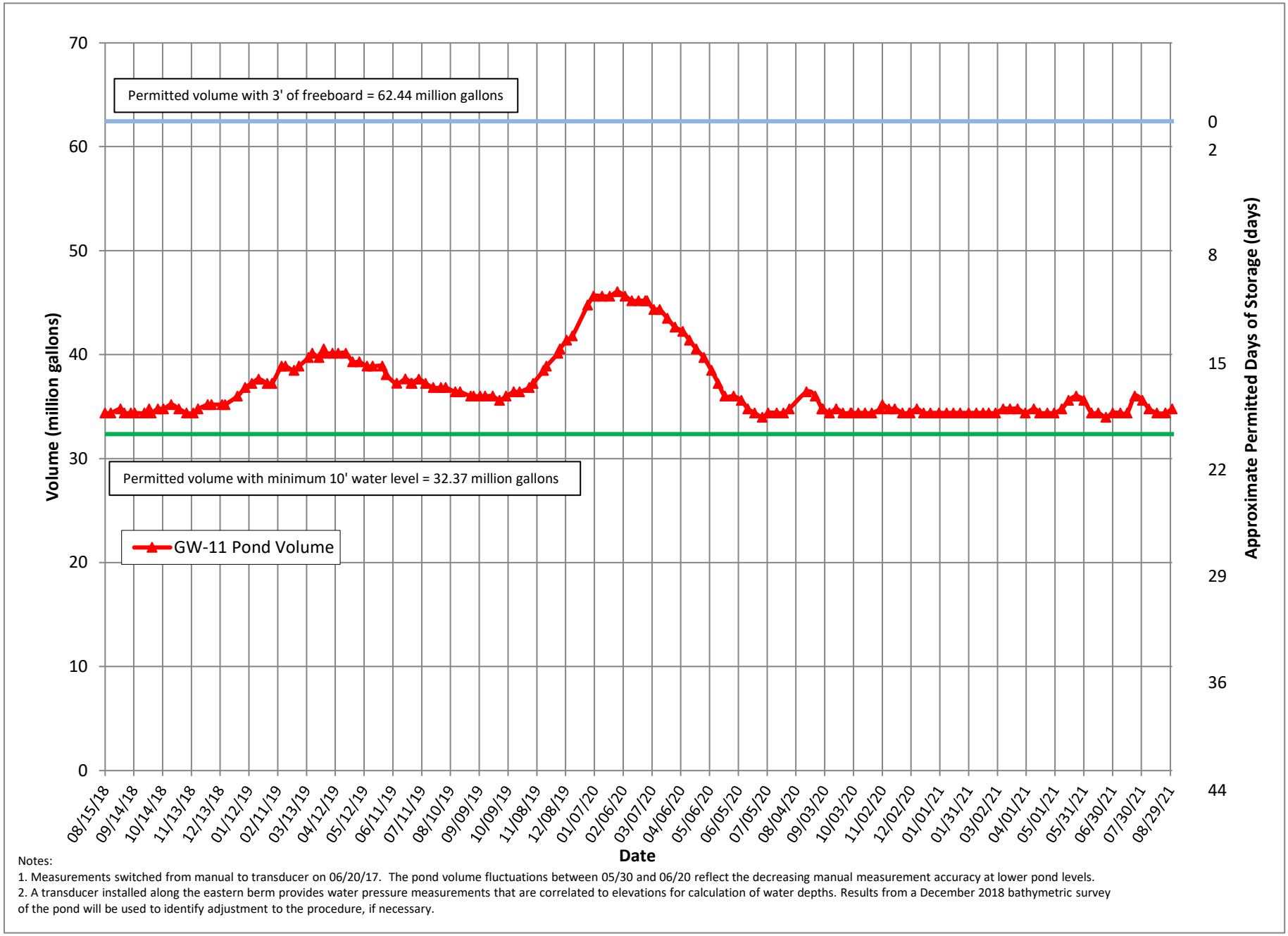
TR = Total Recoverable; NA = Not Analyzed.

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

Figures

Operational Metrics

Figure 1 - GW-11 Pond Volume Through 8/31/2021

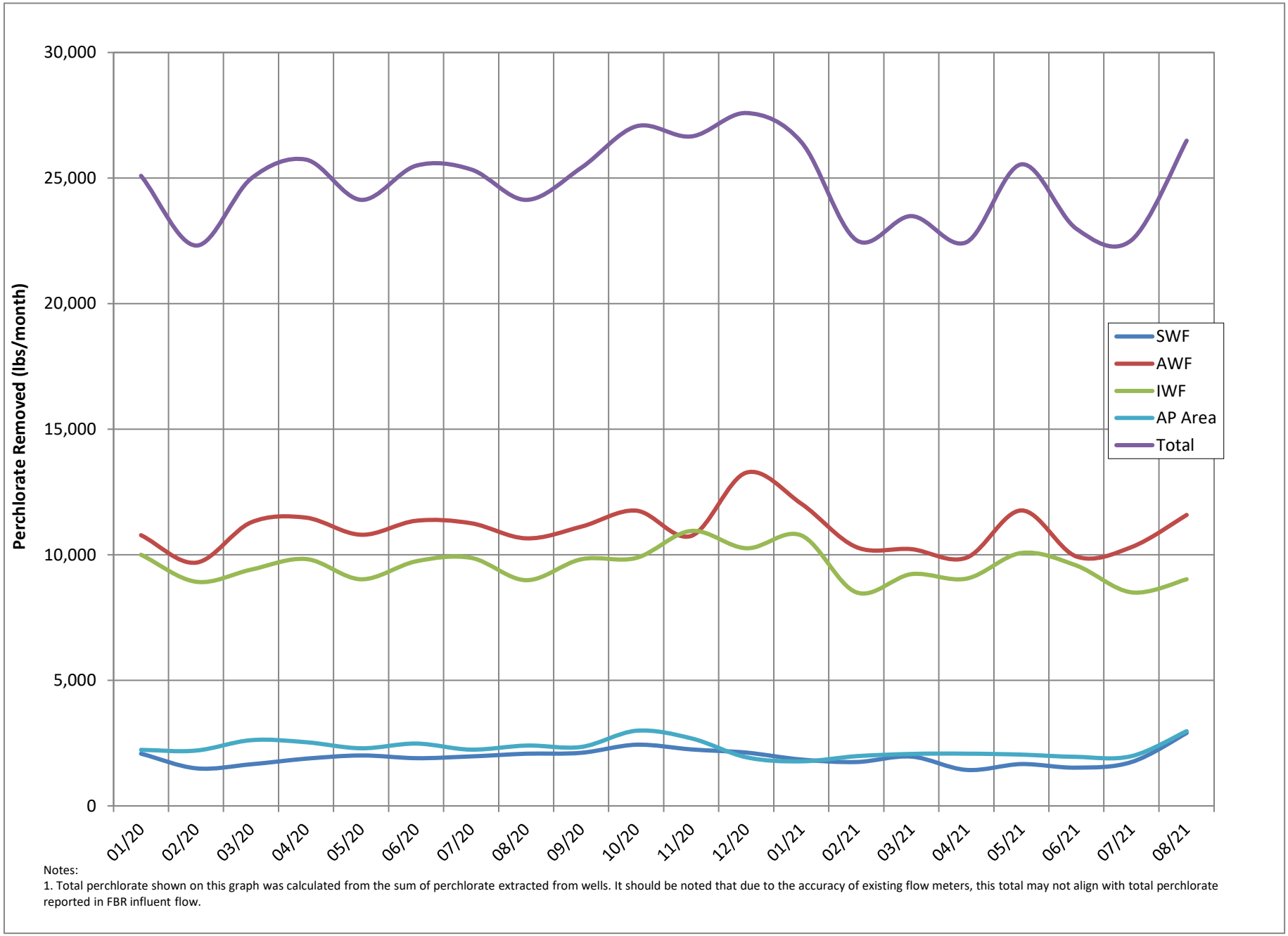


Notes:

1. Measurements switched from manual to transducer on 06/20/17. The pond volume fluctuations between 05/30 and 06/20 reflect the decreasing manual measurement accuracy at lower pond levels.
2. A transducer installed along the eastern berm provides water pressure measurements that are correlated to elevations for calculation of water depths. Results from a December 2018 bathymetric survey of the pond will be used to identify adjustment to the procedure, if necessary.

Figure Updated: 9/7/2021

Figure 2 - Historical Perchlorate Mass Removed From Environment



Notes:
1. Total perchlorate shown on this graph was calculated from the sum of perchlorate extracted from wells. It should be noted that due to the accuracy of existing flow meters, this total may not align with total perchlorate reported in FBR influent flow.

Figure Updated: 9/15/2021

Attachment A

NPDES Tracking Sheet (Prepared by Ramboll)

NPDES Permit NV0023060 - Analytes with Numerical Discharge Limits

WORKING TRACKING SPREADSHEET
DRAFT - NOT TO BE SUBMITTED TO AGENCY

	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_5 (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 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)	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 2021	1.80	1.90	0.6	0.009	6.6	6.8	ND (<0.25)	12	100	1,300	1.0	19	290	4	7	ND (<5.0)	ND (<5.0)	38	
Feburary 2021	1.76	1.85	0.55	0.008	6.5	6.7	ND (<0.25)	5.6	100	1,200	10	21	320	6	6.1	11	38	170	3,900
March 2021	1.76	1.84	ND (<0.31)	0.0023	6.5	6.9	ND (<0.25)	2.2	110	1,100	1.4	15	220	2.6	6.6	5	15	80	
April 2021	1.72	1.82	9	0.12	6.6	7.2	ND (<0.25)	1.2	72	940	0.29	7	100	2.2	5.2	ND (<5.0)	ND (<5.0)	37	
May 2021	1.65	1.84	0.16	0.0021	6.5	6.9	ND (<4.0)	4.7	100	1,700	0.56	16	220	2.8	3.2	ND (<5.0)	ND (<5.0)	34	3,600
June 2021	1.72	1.82	0.16	0.0022	6.5	6.6	ND (<0.25)	2.1	78	990	0.69	15	230	1.7	5.7	ND (<5.0)	ND (<5.0)	35	
July 2021	1.62	1.86	0.16	0.0021	6.6	7.0	ND (<0.25)	14	100	1,500	0.50	20	210	1.0	4.4	ND (<5.0)	ND (<5.0)	37	
August 2021	1.69	1.84	0.16	0.0022	6.5	6.7	ND (<0.20)	3.7	110	1,900	0.67	17	250	3.1	6	ND (<4.3)	ND (<5.0)	30	3,600
September 2021 (month to date)	1.74	1.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (<5.0)	ND (<5.0)	37	

Daily Grab Sample Dates	Composite Sample Date	Perchlorate	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
1/3 - 1/9	1/9/2021	ND (<0.31)	0.16	0.0023	1/4/2021	6.6		ND (<0.25)	2.2	100	650	0.16	24		367	--	0.064	1.0	--	0.38	5.8	1/6/2021	ND (<5.0)	2.5	38		
1/10 - 1/16	1/16/2021	ND (<0.31)	0.16	0.0023	1/12/2021	6.7		ND (<0.25)	2.9	82	720	0.32	21		319	--	0.14	2.1	--	0.36	5.5	1/13/2021	ND (<5.0)	2.5	38		
1/17 - 1/23	1/23/2021	1.8	1.8	0.027	1/18/2021	6.8		ND (<0.25)	3.6	83	1,300	1.0	18		278	--	0.87	13	--	0.68	10	1/20/2021	ND (<5.0)	2.5	38		
1/24 - 1/30	1/30/2021	ND (<0.31)	0.16	0.0023	1/25/2021	6.6		ND (<0.25)	12	64	940	0.21	14		215	--	0.095	1.5	--	0.39	6.0	1/27/2021	ND (<5.0)	2.5	39		
1/31 - 2/6	2/6/2021	ND (<0.31)	0.16	0.0023	2/1/2021	6.7		ND (<0.25)	5.3 5.6+	49	880	1.1	13		198	--	0.99	15	--	0.43	6.6	2/3/2021	ND (<5.0)	2.5	38	2/2/2021	3,900
2/7 - 2/13	2/13/2021	0.92 J	0.92	0.014	2/8/2021	6.6		ND (<0.25)	4.4	57	1,100	10	28		429	--	0.25	3.8	--	0.45	6.9	2/10/2021	ND (<5.0)	2.5	36		
2/14 - 2/20	2/20/2021	ND (<0.31)	0.16	0.0023	2/15/2021	6.5		ND (<0.25)	2.9	76	930	0.16	22		330	--	0.16	2.4	--	0.38	5.7	2/17/2021	38		569		
2/21 - 2/27	2/27/2021	0.96 J	0.96	0.0140	2/22/2021	6.7		ND (<0.25)	ND (<0.85)	100	1,200	0.19	21		316	--	0.16	2.4	--	0.34	5.1	2/24/2021	ND (<5.0)	2.5	37		
2/28 - 3/6	3/6/2021	ND (<0.31)	0.16	0.0022	3/2/2021	6.6		ND (<0.25)	1.1	96	570	1.4	11		155	--	0.30	4.2	--	0.34	4.8	3/4/2021	ND (<5.0)	2.5	38		
2/7 - 3/13	3/13/2021	ND (<0.31)	0.16	0.0023	3/8/2021	6.6		ND (<0.25)	2.2	110	760	0.21	20		286	--	0.21	3.0	--	0.37	5.3	3/10/2021	ND (<5.0)	2.5	37		
3/14 - 3/20	3/20/2021	ND (<0.31)	0.16	0.0023	3/15/2021	6.5		ND (<0.25)	ND (<0.85)	78	700	0.46	21		316	--	0.22	3.3	--	0.63	9.5	3/17/2021	ND (<5.0)	2.5	37		
3/21 - 3/27	3/27/2021	ND (<0.31)	0.16	0.0023	3/22/2021	6.9		ND (<0.25)	ND (<0.85)	53	1,100	ND (<0.050)	18		271	ND(<0.039)	0.020	0.29	--	0.55	8.3	3/24/2021	15		228		
3/28 - 4/3	4/3/2021	ND (<0.31)	0.16	0.0023	3/29/2021	6.6		ND (<0.25)	ND (<0.85)	61	840	0.25	ND(<10)	5	74	--	0.13	1.9	--	0.34	5.0	3/31/2021	ND (<5.0)	2.5	37		
4/4 - 4/10	4/10/2021	10	10	0.14	4/5/2021	6.6		ND (<0.25)	1.1	38	880	0.22	ND(<10)	5	74	--	0.16	2.4	--	0.37	5.5	4/7/2021	ND (<5.0)	2.5	37		
4/11 - 4/17	4/17/2021	ND (<0.31)	0.16	0.0023	4/12/2021	7.0	7.0+	ND (<0.25)	ND (<0.85)	30	920	0.24	13		194	--	0.14	2.1	--	0.33	4.9	4/14/2021	ND (<5.0)	2.5	37		
4/18 - 4/24	4/24/2021	ND (<0.31)	0.16	0.0022	4/19/2021	7.0		ND (<0.25)	1.2	49	940	0.29	ND(<10)	5	75	--	0.15	2.2	--	0.33	4.9	4/21/2021	ND (<5.0)	2.5	37		
4/25 - 5/1	5/1/2021	24	24	0.35	4/27/2021	7.2		ND (<0.25)	ND (<0.85)	72	790	0.23	ND(<10)	5	75	--	0.15	2.3	--	0.35	5.3	4/28/2021	ND (<5.0)	2.5	38		
5/2 - 5/8	5/8/2021	ND (<0.31)	0.16	0.0020	5/3/2021	6.8		ND (<4.0)	ND (<0.85)	54	950	0.33	ND(<10)	5	59	--	0.19	2.3	--	0.31	3.7	5/5/2021	ND (<5.0)	2.5	25		
5/9 - 5/15	5/15/2021	ND (<0.31)	0.16	0.0021	5/11/2021	6.7		ND (<0.25)	<0.85 <0.85	72	970	0.56	15		217	--	0.44	6.4	--	0.38	5.5	5/12/2021	ND (<5.0)	2.5	37	5/12/2021	3,600
5/16 - 5/22	5/22/2021	ND (<0.31)	0.16	0.0021	5/17/2021	6.9		ND (<0.25)	3.7	100	1,700	0.14	23		301	--	0.11	1.4	--	0.079	1.0	5/19/2021	ND (<5.0)++	2.5	37		
5/23 - 5/29	5/29/2021	ND (<0.31)	0.16	0.0023	5/24/2021	6.5		ND (<0.25)	4.7	98	790	0.21	20		295	--	0.090	1.3	--	0.17	2.5	5/26/2021	ND (<5.0)	2.5	37		
5/30 - 6/5	6/5/2021	ND (<0.31)	0.16	0.0023	6/1/2021	6.6		ND (<0.25)	2.1	77	690	0.33	12		180	--	0.15	2.2	--	0.41	6.1	6/2/2021	ND (<5.0)+	2.5	37		
6/6 - 6/12	6/12/2021	ND (<0.31)	0.16	0.0023	6/7/2021	6.6		ND (<0.20)	1.6	78	990	0.22	16		237	--	0.065	1.0	--	0.10	1.5	6/9/2021	ND (<5.0)	2.5	37		
6/13 - 6/19	6/19/2021	ND (<0.31)	0.16	0.0022	6/14/2021	6.6		ND (<0.20)	1.7	61	960	0.69	23		343	--	0.11	1.6	--	0.53	7.9	6/16/2021	ND (<5.0)	2.5	35		
6/20 - 6/26	6/26/2021	ND (<0.31)	0.16	0.0021	6/21/2021	6.5		ND (<0.20)	ND (<0.85)	50	530	0.35	15		222	--	0.12	1.8	--	0.36	5.3	6/23/2021	ND (<5.0)	2.5	30		
6/27 - 7/3	7/3/2021	ND (<0.31)	0.16	0.0022	6/28/2021	6.5		ND (<0.20)	1.4	54	860	0.52	11		164	--	0.12	1.8	--	0.52	7.8	6/30/2021	ND (<5.0)	2.5	30		
7/4 - 7/10	7/10/2021	ND (<0.31)	0.16	0.0022	7/6/2021	6.7		ND (<0.20)	1.9	55	630	0.27	20		205	--	0.084	0.86	--	0.31	3.2	7/7/2021	ND (<5.0)	2.5	37		
7/11 - 7/17	7/17/2021	ND (<0.31)	0.16	0.0021	7/12/2021	6.6		ND (<0.20)	0.94	45	750	0.22	ND(<10)	5	66	--	0.058	0.76	--	0.28	3.7	7/14/2021	ND (<5.0)	2.5	37		
7/18 - 7/24	7/24/2021	ND (<0.31)	0.16	0.0017	7/20/2021	6.6		ND (<0.20)	14	100	1,500	0.50	45		404	--	0.22	2.0	--	0.45	4.0	7/21/2021	ND (<5.0)	2.5	34		
7/25 - 7/31	7/31/2021	ND (<0.31)	0.16	0.0024	7/27/2021	7.0		ND (<0.25)	2.7	50	1,100	ND (<0.050)	11		171	ND(<0.039)	0.020	0.30	--	0.43	6.7	7/28/2021	ND (<5.0)	2.5	38		
8/1 - 8/7	8/7/2021	ND (<0.31)	0.16	0.0023	8/2/2021	6.5		ND (<0.20)	1.2	36	1,900	0.67	29		445	--	0.40	6.1	--	0.88	14	8/4/2021	ND (<5.0)	2.5	37		
8/8 - 8/14	8/14/2021	ND (<0.31)	0.16	0.0022	8/9/2021	6.5		ND (<0.20)	2.5	91	730	0.50	16		238	--	0.14	2.1	--	0.42	6.3	8/11/2021	ND (<5.0)	2.5	31		
8/15 - 8/21	8/21/2021	ND (<0.31)	0.16	0.0022	8/17/2021	6.5		ND (<0.20)	1.8	110	860	0.39	ND(<10)	5	60	--	0.17	2.0	--	0.33	4.0	8/18/2021	ND (<2.0)	1.0	13	8/17/2021	3,600
8/22 - 8/28	8/28/2021	ND (<0.31)	0.16	0.0020	8/23/2021	6.5		ND (<0.20)	3.7	99	530	0.27	12		175	--	0.21	3.1	--	0.32	4.7	8/25/2021	ND (<5.0)	2.5	37		
8/29 - 9/4	9/4/2021	NA	NA	NA	8/30/2021	6.7		ND (<0.20)	ND (<0.85)	100	640	0.32	21		313	--	0.13	1.9	--	0.23	3.4	9/1/2021	ND (<5.0)	2.5	37		
					9/6/2021	NA		NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	9/8/2021	NA		NA		

Note: All analytical responsibilities are performed by TestAmerica Laboratories, Inc. (TestAmerica) in Irvine, California, unless otherwise indicated.
+ An additional sample was collected this week.
++ Sample result has quality control (QC) qualifiers. CBOD was detected in the control blank and therefore the laboratory control sample (LCS) is outside acceptance limits.
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)
-- = Analyte detected; see column adjacent to right
* Total phosphorus discharge limitation of 10 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.
Last Updated: September 10, 2021

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		3	Replaced the transducer on PC 99R3
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			
2		**Athens Road Wells and Lift Station** 3				
2.01		*Athens Road Well Field, 9 wells*	Running			
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		1	Shut off power to the main cabinet to replace the fuses for the run command to the wells. Changed out the I/O card on the PLC rack.
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		3	Replaced the fuse for the run command on I-V. Reset the auto dialer for the AP-5 wells. Cleaned off the sensors for the plot 2 leak detection.
4.02		*Ferrous Sulfate Feed System*	Running			
4.03		*Polymer Feed System*	Running			
4.04		*Clarifier*	In operation			
4.05		*Filter Press*	Running		3	Installed new air ends on the pump. Changed out the press cylinder.
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			
5		**Equalization Area and GW-11 Pond**				
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			

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Sub-System	P&ID	Description	Status[1]	Checked	Criticality[2]	Notes
5.05	PID10A	*Area in and Around EQ*	In operation			
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*	Running			
5.10	PID10B	*Carbon Absorber - LGAC 201B*	Running			
5.11	PID10B	*Carbon Absorber - LGAC 201C*	Running			
6		**First Stage FBRs A, 1** *& 2*				
6.01	PID14	*FBR A*			3	Replaced the air fitting on the air supply that goes to the top of the FBR's.
6.02	PID14	*Separator Tank - 1401*				
6.03	PID14	*Media Return Pump - P 1401*				
6.04	PID14	*P1401A*				
6.05	PID01A	*P1401B*				
6.06	PID01A	*FBR 1*	Running			
6.07	PID02A	*FBR 2*	Running			
6.08	PID01A	*First Stage Separator Tank - T2011*	Running		3	Set up the 3" AOD to transfer the solids from the separator to FBR1.
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			
6.20	PID15	*FBR 1 Nutrient (Phos Acid) Feed Pump - P1521*	Running			
6.21	PID15	*FBR 2 Nutrient (Phos Acid) Feed Pump - P1522*	Running			
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			
7		**First Stage FBRs 3** *& 4*				
7.01	PID01B	*FBR 3*	Running		2	Replaced the I/P on the positioner for the feed valve.
7.02	PID01B	*FBR 4*	Running		2	Replaced the I/P on the positioner for the feed valve.

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Sub-System	P&ID	Description	Status[1]	Checked	Criticality[2]	Notes
7.03	PID02B	*First Stage Separator Tank - T2012*	Running			
7.04	PID01B	*Media Return Pump - P2012*	Running		3	Changed out the pump for faulty check flaps.
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*				
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			
8		**Second Stage FBRs 5** & 6				
8.01	PID03A	*FBR 5*	Running			
8.02	PID03A	*FBR 6*	Running			
8.03	PID03C	*Second Stage Separator Tank - T3011*	Running			
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			
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*	Running			
9.08	PID07A	*FBR 7 pH Feed Pump - P717*	Off			
9.09	PID07A	*FBR 8 pH Feed Pump - P718*	Off			

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Sub-System	P&ID	Description	Status[1]	Checked	Criticality[2]	Notes
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	*Bio filter*	In operation			
10.04	PID04	*Nutrient Solution*	Running			
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		1	Welded a patch on the piping coming off the pressure tank to the sight glass.
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			
10.17	PID05	*Screw Conveyer Drive*	Standby			
10.18	PID05	*Skimmer Drive*	Running			
11		**Pumping System (Old Effluent)**				
11.01	PID06	*Effluent Tank 601*	In operation			
11.02	PID06	*Effluent Pump - P601*	Running		4	Installed new shims on the new pump and motor to level the connection to the pump end.
11.03	PID06	*Effluent Pump - P602*				
12		**Sand Filter System**				
12.01	PID17	*Sand Filter*			3	Replaced 2 airlifts with rebuilt ones.
12.02	PID17	*Filter Reject Tank*	In operation		2	Bypassed the sand filter to remove solids from the reject tank and put the sand back in the sand filter.
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			

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Sub-System	P&ID	Description	Status[1]	Checked	Criticality[2]	Notes
13.03	PID10C	*Effluent Booster Pump - P1302B*	Standby			
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*				
14.07	PID09	*West Press*	Standby		1	The press is offline to pressure wash and make repairs.
14.08	PID09	*East Press*	Running			
14.09	PID09	*Filtrate Tank*	In operation			
14.10	PID09	*Filtrate Tank Effluent (recycle) Pump - P903*	Running			
		Chemical Systems				
15		**Electron Donor System**				
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			
18	PID07C	*Hydrogen Peroxide System*	In operation		2	Replaced the suction hose on the tote that feeds the pump.
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		3	Cleared solids from the pump head of the east pump.
25	PID09	*Polymer System - Solids Dewatering (2 tanks, 2 centrifugal pumps, mixer, volumetric feeder)*	In operation		3	Reset the transfer pump and got it running in auto.
		Utility Systems				
26		**Compressed Air System**				
26.01	PID08	*West Compressor*	Running			
26.02	PID08	*East Compressor*	Running		2	The compressor is offline to make repairs to the oil cooler system.

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26.03	PID08	*O2 Compressor*	Running			
26.04	PID08	*Compressed Air Receiver Tank*	In operation			
26.05	PID08	*Air Dryer*	Running		3	The air dryer was bypassed to replace the air filter on the suction of the dryer.
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			
		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			

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