To:	Nevada Division of Environmental Protection Nevada Environmental Response Trust
Cc:	Nevada Environmental Response Trust Stakeholders
From:	Michael Del Vecchio, Director Engineering and Project Management
Date:	Oct 20, 2021
Subject:	NERT – GWETS Operation Monthly Report – September 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 September 2021.

Summary of GWETS Operation

Envirogen Technologies, Inc. (ETI) mechanically operated the GWETS and ion exchange (IX) system normally in September 2021. Flow from PC-118, 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 263 gallons per minute (gpm). The flow rate to the FBR plant averaged approximately 954 gpm during September 2021. At the end of the month, the available GW-11 Pond volume was at 34.4 million gallons (MG), which would allow 19.5 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 increased since the end of August 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 0.54 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 87 mg/L. In comparison, the influent perchlorate concentration to the FBRs for the month of August 2021 averaged 62 mg/L, with a maximum concentration of 67 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 September.

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

- Effluent diversion to GW-11 occurred on September 5, 2021 from 11:50pm to September 6, 2021 at 5:21am due to low GW-11 pond level. Approximately 302,000 gallons of water were diverted to GW-11.
- Effluent diversion to GW-11 occurred on September 12, 2021 from 11:22pm to September 13, 2021 at 8:50am due to low GW-11 pond level. Approximately 550,000 gallons of water were diverted to GW-11.
- Effluent diversion to GW-11 occurred on September 18, 2021 from 11:31pm to September 19, 2021 at 4:05am due to low GW-11 pond level. Approximately 266,000 gallons of water were diverted to GW-11.
- Effluent diversion to GW-11 occurred on September 19, 2021 from 10:58pm to September 20, 2021 at 3:45am due to low GW-11 pond level. Approximately 258,000 gallons of water were diverted to GW-11.
- Effluent diversion to GW-11 occurred on September 22, 2021 from 11:15pm to September 23, 2021 at 4:05am due to low GW-11 pond level. Approximately 255,000 gallons of water were diverted to GW-11.
- Effluent diversion to GW-11 occurred on September 27, 2021 from 11:11pm to September 28, 2021 at 3:45am due to low GW-11 pond level. Approximately 219,000 gallons of water were diverted to GW-11.
- Effluent diversion to GW-11 occurred on September 28, 2021 from 11:19pm to September 29, 2021 at 3:45am due to low GW-11 pond level. Approximately 279,000 gallons of water were diverted to GW-11.

3. Spills

There were no reportable spills in the month of September.

4. Maintenance

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

I. Installed a temporary recycle pump for the South DAF pressure tank.
II. Replaced a damaged combo valve on the Effluent pipeline.
III. Rebuilt the air diaphragm pump for Separator 2.
IV. Installed new positioners and actuators on the FBR 7 and 8 feed valves.
V. Installed a new outlet and mixer for the GWTP polymer tote.
VI. Installed a new handle for the feed line on the west press.
VII. Installed a new pressure gauge for the Influent side of the GAC vessels.
VIII. Installed a new flowmeter on AP Area extraction well E2-4.
IX. Installed a new lid on AP Area extraction well E2-3.
X. Rebuilt the pump for the bed height control on FBR A.
XI. Flushed the Effluent discharge line of GWTP.

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

I. Flushed the sand in the sand filter.
II. Cleaned the air filters on the Air Conditioners at lift station 3.
III. Changed the belts on the biofilter blower.
IV. Greased the FBR recycle pumps that are online.
V. Changed the oil on the turbine pump at Lift Station 2.
VI. Flushed the ORP lines and inspected the probes.
VII. Flushed the turbidity meters.
VIII. Cleaned out the DAF polymer pumps.
IX. Pressure washed the outfall.
X. Cleaned out the PC well vaults.

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

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 has established a scope of work for this activity and is currently working on preliminary design.

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]	741 [3]	8.4	0.0011	0.0026
AWF Total Extraction[1]	454 [3]	65	0.12	0.14
IWF Total Extraction[1]	57 [3]	457	6.0	7.6
AP Area Total Extraction[1]	9.9 [3]	707	0.16	0.17
GWTP Effluent[2]	66	137	0.00	ND
GW-11 Influent[1]	0.1	78	0.07	0.003
FBR Influent[2]	954	62	0.015	0.019

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	2,236	0.29	0.68
AWF Total Extraction	10,613	20	22
IWF Total Extraction	9,457	123	158
AP Area Total Extraction	2,539	0.58	0.60
GWTP Effluent	3,254	0.00	ND
GW-11 Influent	3.7	0.00	0.000
FBR Influent[1]	21,452	5.3	6.4

Notes:

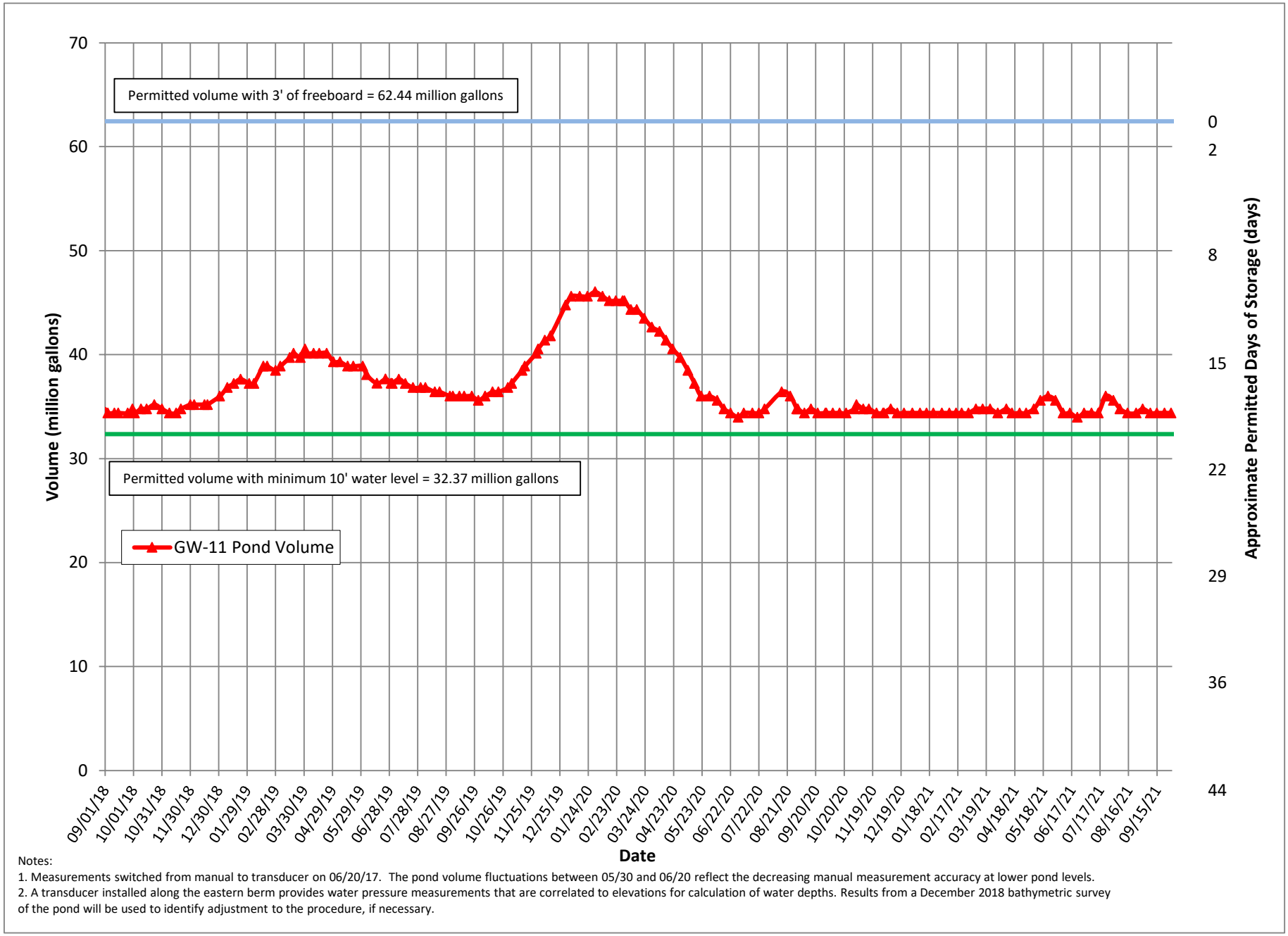
TR = Total Recoverable; NA = Not Analyzed.

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 9/30/2021

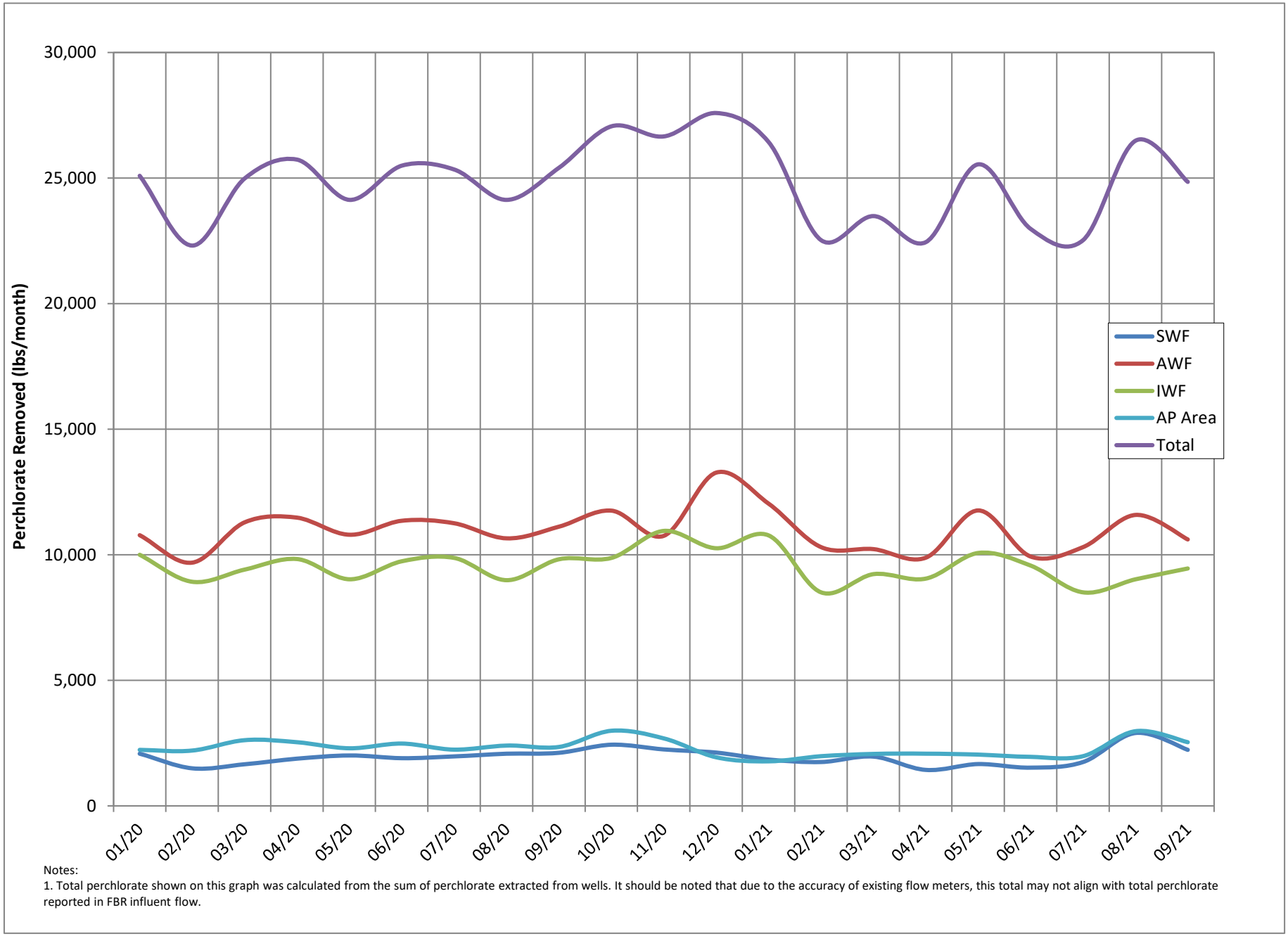


Notes:

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: 10/4/2021

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: 10/8/2021

Attachment A

NPDES Tracking Sheet (Prepared by Ramboll)

NPDES Permit NV0023060 - Analytes with Numerical Discharge Limits

Treated Effluent at Outfall 001

	Continuous: Flow Rate		Daily Samples, composited weekly: Perchlorate		Weekly Grab Samples: pH		Hexavalent Chromium	Total Chromium	Manganese	Total Iron	Total Inorganic Nitrogen (TIN)	Total Suspended Solids (TSS)		Total Ammonia as N	Total Phosphorus as P	Weekly, collected separately: BOD_5 (inhibited)			Quarterly: 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)	1.69	1.85	0.90	0.013	6.5	7.2	ND (<0.50)	ND (<0.85)	110	1,200	0.43	13	160	1.5	2.2	ND (<5.0)	ND (<5.0)	37	

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
1/3 - 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	0.97 J	0.97	0.014	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		
9/5 - 9/11	9/11/2021	0.93 J	0.93	0.013	9/7/2021	7.0	ND (<0.20)	ND (<0.85)	110	450	0.21	10	150	--	0.044	0.66	--	0.069	1.0	9/8/2021	ND (<5.0)	2.5	39		
9/12 - 9/18	9/18/2021	ND (<0.31)	0.16	0.0022	9/13/2021	6.6	ND (<0.50)	ND (<0.85)	95	1,200	0.36	25	254	--	0.20	2.0	--	0.31	3.2	9/15/2021	ND (<5.0)	2.5	37		
9/19 - 9/25	9/25/2021	ND (<0.31)	0.16	0.0021	9/20/2021	6.5	ND (<0.50)	ND (<0.85)	72	610	0.32	13	165	--	0.089	1.1	--	0.33	4.2	9/22/2021	ND (<5.0)	2.5	37		
9/26 - 10/2	10/2/2021	2.3	2.3	0.031	9/27/2021	7.2	ND (<0.50)	ND (<0.85)	62	810	0.43	ND(<10) 5	74	--	0.16	2.4	--	0.019	0.28	9/29/2021	ND (<5.0)	2.5	NA		
					10/4/2021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10/6/2021	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: October 8, 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			
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			
3		**Lift Station *2* and Transmission Pipelines**				
3.01		*Influent Pipeline*	In operation			
3.02		*Effluent Pipeline*	Running		3	Replaced a damaged combo valve.
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 a flowmeter on the AP-5 well E2-4. Installed a new lid on E2-3.
4.02		*Ferrous Sulfate Feed System*	Running			
4.03		*Polymer Feed System*	Running		3	Installed new tubing on the discharge of the pump. Set up a new mixer on the polymer tote.
4.04		*Clarifier*	In operation			
4.05		*Filter Press*	Running		3	Installed a rebuilt press feed pump.
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		2	Bypassed the EFF line of the plant to jet the pipeline.
5		**Equalization Area and GW-11 Pond**				
5.01	PID10A	*Pond GW-11*	In operation		3	Replaced the flowmeter on the SW pond corner. Replaced the electrical leads for the pump on the NW corner. Install all new fittings, pump and motor on the SW corner.
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		3	Replaced the pressure gauge on the INF side of the GAC's.

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Sub-System	P&ID	Description	Status[1]	Checked	Criticality[2]	Notes
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*				
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			
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			
7.02	PID01B	*FBR 4*	Running			
7.03	PID02B	*First Stage Separator Tank - T2012*	Running			
7.04	PID01B	*Media Return Pump - P2012*	Running			
7.05	PID01B	*First Stage FBR Pump - P1013*	Running			

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Sub-System	P&ID	Description	Status[1]	Checked	Criticality[2]	Notes
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		3	Replaced the belt on the pump.
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		3	Installed a new positioner and actuator on the feed valve.
9.02	PID03B	*FBR 8*	Running		3	Installed a new positioner and actuator on the feed valve.
9.03	PID03D	*Second Stage Separator Tank - T3012*	Running		4	Set up the 3" AOD to transfer any solids that were accumulated in the separator.
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			

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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			
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		3	Replaced 2 damaged links on the N.DAF skimmer system.
11		**Pumping System (Old Effluent)**				
11.01	PID06	*Effluent Tank 601*	In operation			
11.02	PID06	*Effluent Pump - P601*	Running			
11.03	PID06	*Effluent Pump - P602*				
12		**Sand Filter System**				
12.01	PID17	*Sand Filter*			1	Took the sand filter offline to flush and clean the sand.
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*	Standby		2	Replaced the discharge check valve.
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			

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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			
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			
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			
		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.
26.03	PID08	*O2 Compressor*	Running			
26.04	PID08	*Compressed Air Receiver Tank*	In operation			
26.05	PID08	*Air Dryer*	Running			
26.06	PID08	*Oil Removal Filter*	In operation			
26.07	PID08	*Particulate Filter*	In operation			

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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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