

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: January 20, 2020

Subject: NERT – GWETS Operation Monthly Report – December 2020

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 December 2020.

Summary of GWETS Operation

Envirogen Technologies, Inc. (ETI) mechanically operated the GWETS and ion exchange (IX) system normally in December 2020. 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 178 gallons per minute (gpm). The flow rate to the FBR plant averaged approximately 1,027 gpm during December 2020. At the end of the month, the 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 water volume stored in the GW-11 Pond did not change from the end of November 2020. 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 0.21 mg/L for the month. The influent perchlorate concentration to the FBR plant averaged 59 mg/L for the month, with a maximum concentration of 76 mg/L. In comparison, the influent perchlorate concentration to the FBRs for the month of November 2020 averaged 56 mg/L, with a maximum concentration of 62 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 December.

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

- Influent diversion to GW-11 occurred on December 3, 2020 from 11:32am to 11:48am due to
 maintenance activities on the compressed air system throughout the plant. Maintenance was
 completed and the plant was brought back online. Approx. 17,000 gallons of water were diverted
 to GW-11.
- Well Field Shutdown of Seep Well Field (SWF) occurred on December 3, 2020 from 2:48pm to December 4, 2020 6:35am due to a loss of electrical power supply from the utility provider (NV Energy). Power was restored and the well field was brought back online.
- Effluent diversion to GW-11 occurred on December 4, 2020 from 3:34am to December 4, 2020 1:41pm due to low GW-11 pond level. Approximately 589,000 gallons of water were diverted to GW-11.
- Influent diversion to GW-11 occurred on December 4, 2020 from 7:09am to 7:29am due to maintenance activities on the compressed air system throughout the plant. Maintenance was completed and the plant was brought back online. Approx. 21,000 gallons of water were diverted to GW-11.
- Well Shutdown of IWF occurred intermittently on December 6, 2020 from 5:25am to 5:10am, 8:04am to 8:08am, on December 7, 2020 from 7:40am to 7:44am, on December 12, 2020 from 4:43pm to 4:48pm, on December 17, 2020 from 7:48pm to 7:52pm, on December 22, 2020 from 6:24am to 6:28am, on December 25, 2020 from 6:00am to 6:06am due to ongoing maintenance activities on the PID settings for pump P-1A. Previous maintenance that consisted of bypassing the Degassifier tank changed the flow characteristics for the GWTP. Adjustments were made and the well field was brought back online.
- Well Field Shutdown of Seep Well Field (SWF) occurred on December 17, 2020 from 6:32am to 6:59am due to a fault alarm on the turbine pump at Lift Station 1. Maintenance was conducted, the fault was cleared, and the well field was brought back online.
- Well Shutdown of Seep well PC-133 occurred on December 21, 2020 from 9:14am to 10:32am due
 to maintenance efforts on the level transducer and pump motor. Maintenance was completed and
 the well was brought back online.
- Well Shutdown of Seep well PC-120 occurred on December 21, 2020 from 10:38am to 12:02pm due to a vehicle collision with the well vault. Maintenance was completed and the well was brought back online.
- Well Shutdown of Interceptor well I-B occurred on December 22, 2020 from 8:51am to 9:52am due to electrical connectivity issues in the panel. Maintenance was completed and the well was brought

back online.

- Effluent diversion to GW-11 occurred on December 24, 2020 from 11:31pm to December 25, 2020 5:40am due to low GW-11 pond level. Approximately 391,000 gallons of water were diverted to GW-11
- Effluent diversion to GW-11 occurred on December 2, 2020 from 11:29pm to December 25, 2020 5:30am due to low GW-11 pond level. Approximately 393,000 gallons of water were diverted to GW-11.

3. Spills

There were no reportable spills in the month of December.

4. Maintenance

- Major maintenance performed by ETI in the reporting month included:
 - I. Filled in the erosion gulley of the west side of GW-11 dam wall.
 - II. Replaced the flex coupling on the Kaeser air compressor.
- III. Installed a new Phosphoric Acid line from the tote to the feed pumps.
- IV. Pulled PC-133 and replaced the 1.5hp motor and cleared away the weeds from the piping.
- V. Installed a new .5 hp motor, pump, and piping on E1-1.
- VI. Replaced the flex coupling on the North DAF pressure pump.
- VII. Installed an external Air Conditioning unit on the MCC for the Lift Station 1 turbine cabinet.
- VIII. Rebuilt the media return pump for FBR 1/2 and flushed out the discharge piping.
- IX. Replaced the worn fitting on the DAF pressure tank air system.
- X. Installed a new desiccant on the FBR 3 feed positioner.
- Preventative Maintenance completed or being performed by ETI in the reporting month included:
 - I. Insulated the chemical lines for cold weather damage.
 - II. Flushed the ORP's.
 - III. Greased the bio-filter blower.
- IV. Changed the oil on the turbines at the lift stations.
- V. Repaired the chemical signs at the chemical storage area.
- VI. Tightened the loose brackets on the conduit around the plant.
- VII. Flushed the media return pumps.
- VIII. Performed the infrared Preventative Maintenance around the plant.
- IX. Inspected the motor flex guards on the recycle pumps and motors.
- X. Pulled and inspected the GW-11 level probe and checked for proper function.

GWETS Upgrades and Facility Projects

Unit 4 Chromium Water Treatment Plant – Envirogen received comments regarding the deliverable documents that were submitted to the Trust in July 2019 for this project. The revised documents dealing with the Controls Specification, Process Drawings, and Mechanical Details were re-submitted to the Trust in September. Envirogen is awaiting further direction from the Trust regarding this matter. The Trust has advised Envirogen that this project is on hold pending finalization and approval of the forthcoming Unit 4

Nevada Division of Environmental Protection Nevada Environmental Response Trust

Source Area In-Situ Bioremediation Work Plan.

GWETS Extension—The signed Work Authorization for engineering and fabrication of the GWETS Extension was returned to the Trust on January 28, 2020. Orders were placed for the major equipment for the GWETS Extension earlier this year, and several deliveries have been made with the balance of equipment delayed due to COVID-19 and expected to be received by February 2021. Envirogen is currently awaiting Trust comment on the O&M Work Authorization proposal for the GWETS Extension.

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 Groundwater Extraction and Treatment System 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	730³	7.8	0.0013	0.0022						
AWF Total Extraction ¹	457³	78	0.14	0.14						
IWF Total Extraction ¹	61³	454	7.1	6.3						
AP Area Total Extraction ¹	7.6 ³	686	0.16	0.15						
GWTP Effluent ²	62	449	0.52	ND						
GW-11 Influent ¹	0.2	57	0.07	0.030						
FBR Influent ²	1,027	59	0.021	0.026						

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 Tru	st Groundwater Extraction and Trea	atment System I Monthly Stakehold	er Metrics
Location ID	Perchlorate (lbs/month) ¹	Chromium (TR) (lbs/month) ¹	Chromium (VI) (lbs/month) ¹
SWF Total Extraction	2,122	0.34	0.60
AWF Total Extraction	13,275	23	24
IWF Total Extraction	10,258	160	142
AP Area Total Extraction	1,935	0.45	0.42
GWTP Effluent	10,346	12	ND
GW-11 Influent	4	0.00	0.002
FBR Influent ¹	22,590	8.1	9.9

Notes:

Table Updated: 1/15/2021

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 12/31/2020

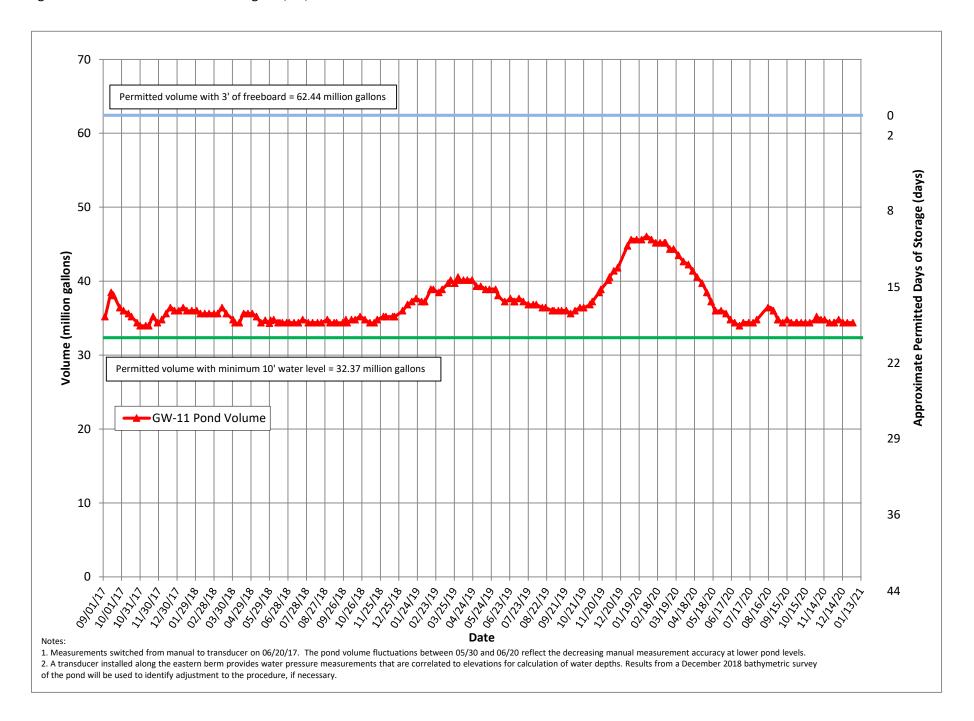
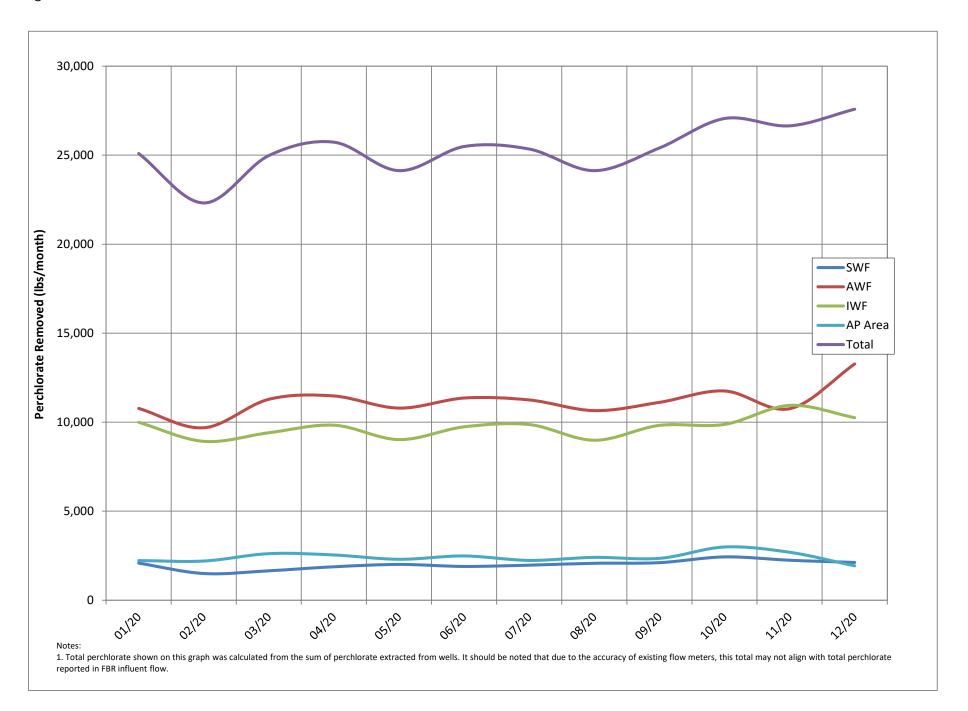


Figure 2 - Historical Perchlorate Mass Removed From Environment



Attachment A

NPDES Tracking Sheet (Prepared by Ramboll)

WORKING TRACKING SPREADSHEET NPDES Permit NV0023060 - Analytes with Numerical Discharge Limits DRAFT - NOT TO BE SUBMITTED TO AGENCY

										Tro	ated Effluent at Ou	tfall 001					
	Conti	nuous	Daily Samples, con	nposited weekly						116	Weekly Grab					Weekly, collected separate	ly Quarterl
	Flow	Flow Rate		prate	р	н	Hexavalent Chromium	Total Chromium	Manganese	Total Iron	Total Inorganic Nitrogen (TIN)	Total Susper (TS		Total Ammonia as N	Total Phosphorus as P	BOD _S (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)	e 30-Day Avg. (lbs/day)	30-Day Avg. (Ibs/day)	30-Day Avg. (Ibs/day)	30-Day Avg. Daily Max. Av (mg/L) (mg/L) (lbs/	Day Daily Max
	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 5	
lanuary 2020	1.82	1.89	3	0.04	6.6	6.9	1.1	19	290	540	0.85	5.0	80	6	3.3	1.3 2.1 2	0
February 2020	1.85	1.91	ND (<2.5)	0.019	6.7	6.9	ND (<0.25)	7.6	170	980	1.1	4.9	70	2.3	1.6	ND (<2.0) ND (<2.0) 1	6 4,100
March 2020	1.86	1.91	ND (<2.5)	0.019	6.6	7.1	0.36	5.4	220	1,100	ND (<0.50)	7	110	1.3	1.7	ND (<2.0) ND (<2.0) 1	5
April 2020	1.85	1.88	ND (<2.5)	0.019	6.6	7.1	ND (<0.25)	6.4	160	1,300	ND (<0.50)	12	180	1.0	1.3	1.6 2.6 2	4
May 2020	1.81	1.91	ND (<2.5)	0.019	6.5	7.0	ND (<0.25)	7.4	160	830	11	9	130	10	2.4	1.6 3.3 2	4 4,500
lune 2020	1.73	1.88	ND (<2.5)	0.018	6.7	7.0	ND (<0.25)	7.5	160	820	1.1	8	120	4.5	1.3	2.0 4.0 2	7
uly 2020	1.62	1.87	ND (<2.5)	0.017	6.5	7.1	ND (<0.25)	5.8	150	930	1.6	7	80	8	2.0	1.9 3.8 2	9
August 2020	1.65	1.85	ND (<2.5)	0.017	6.7	7.3	ND (<0.25)	17	100	1,000	6.4	8	90	7	1.3	ND (<2.0) ND (<2.0) 1	3 4,100
September 2020	1.74	1.90	1.7	0.025	6.7	7.2	ND (<0.25)	7.0	120	1,100	2.1	8	120	1.4	1.5	2.5 ND (<5.0) 3	5
October 2020	1.73	1.85	0.6	0.008	6.7	7.3	ND (<0.25)	22	120	970	0.46	16	210	1.9	4.3	ND (<5.0) ND (<5.0) 3	
November 2020	1.81	1.87	1.5	0.023	6.6	7.1	1.8	2.4	92	940	0.55	16	250	3.1	5.3	ND (<5.0) ND (<5.0) 3	8 4,400
December 2020 (month to date)	1.78	1.90	0.5	0.0067	6.5	6.9	ND (<0.25)	9.6	65	1,100	0.36	13	200	2.9	5.9	9 27 8	0

:)	1.78	1.90	0.5		0.0067		6.5 6.	9 ND (<0.25)	9.6	65	1,100	0.36	13	200		2.9			5.9			9	27	80		
	Daily Grab	Composite		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/I	L	lbs/day	Sample	mg/L
	mple Dates	Sample Date																							Date	
	12/29 - 1/4	1/4/2020	4.4	4.4	0.063	12/30/2019	6.6	ND (<0.25)	4.6	300	63	4.5	14	196		4.5	63		0.27	3.8	12/30/2019		1.0	14		
	1/5 - 1/11	1/11/2020	12, <0.079	6	0.09	1/6/2020	6.6	ND (<0.25)	2.7 19	290	58	0.85	4.9	70		0.85	12		0.22	3.1	1/8/2020	ND (<2.0)	1.0	15		
	1/12 - 1/18	1/18/2020	ND (<2.5)	1.3	0.019	1/13/2020	6.6	ND (<0.25)	5.8	210	66	ND (<0.50)	3.2	49		0.25	3.8	ND(<0.025)	0.013	0.19	1/15/2020	ND (<2.0) 2.1	1.0	16		
	1/19 - 1/25 1/26 - 2/1	1/25/2020 2/1/2020	ND (<2.5) ND (<2.5)	1.3	0.019	1/20/2020 1/27/2020	6.9 6.8	ND (<0.25) 1.1	ND (<2.5)	210 200	140 540	ND (<0.50) ND (<0.50)	9.2 2.7	142 41	-	0.16	2.5 5.4		0.12	1.9 7.8	1/22/2020	ND (<2.0)	1.0	32 15		
_			ND (<2.5) ND (<2.5)	1.3	0.019	2/3/2020	6.9			150	980	,	6.7	103					0.093	1.4		ND (<2.0)	1.0		- / - /	4400
	2/2 - 2/8	2/8/2020						ND (<0.25)	3.3° 3.0 7.6			1.1				0.11	1.7				2/6/2020			16	2/4/2020	4,100
	2/9 - 2/15	2/15/2020	ND (<2.5)	1.3	0.019	2/10/2020	6.7	ND (<0.25)	4.5	170	820	ND (<0.50)	6.4	97		0.18	2.7		0.095	1.4	2/12/2020	ND (<2.0)	1.0	15		
	2/16 - 2/22 2/23 - 2/29	2/22/2020 2/29/2020	ND (<2.5) ND (<2.5)	1.3	0.019	2/17/2020 2/24/2020	6.9 6.8	ND (<0.25) ND (<0.25)	3.6	160 140	510 770	ND (<0.50) ND (<0.50)	3.0 3.5	46 54		0.15	2.3		0.12	1.8		ND (<2.0) ND (<2.0)	1.0	15 16		
			ND (<2.5) ND (<2.5)	1.3	0.020	3/2/2020	7.0		4.8				5.8			0.17**	2.6		_	2.0			1.0			
	3/1 - 3/7	3/7/2020						ND (<0.25)		190	920	ND (<0.50)		91	-			-	0.13		3/4/2020	ND (<2.0)		15		
	3/8 - 3/14	3/14/2020	ND (<2.5)	1.3	0.019	3/9/2020	6.6	ND (<0.25)	4.7	220	890	ND (<0.50)	6.1	96		0.12**	1.9	-	0.11	1.7		ND (<2.0)	1.0	15		
3	3/15 - 3/21	3/21/2020	ND (<2.5)	1.3	0.019	3/16/2020	7.1	ND (<0.25)	5.4	190	1,100	ND (<0.50)	11	173	ND (<0.10)	0.05**	0.79		0.077	1.2	3/18/2020	ND (<2.0)	1.0	16		
	3/22 - 3/28	3/28/2020	ND (<2.5)	1.3	0.019	3/23/2020	6.7	ND (<0.25)	3.6	220	1,000	ND (<0.50)	6.2	97		0.14**	1.5		0.13	2.0	3/25/2020	ND (<2.0)	1.0	15		
	3/29 - 4/4	4/4/2020	ND (<2.5)	1.3	0.019	3/30/2020	6.6	0.36	3.5	140	740	ND (<0.50)	5.5	86	ND (<0.10)	0.05**	0.76		0.082	1.3	4/1/2020	ND (<2.0)	1.0	15		
	4/5 - 4/11	4/11/2020	ND (<2.5)	1.3	0.019	4/6/2020	7.1	ND (<0.25)	6.2	160	1,200	ND (<0.50)	12	187		0.19**	1.9	-	0.12	1.9	4/8/2020	2.6		41		
	1/12 - 4/18	4/18/2020	ND (<2.5)	1.3	0.019	4/13/2020	7.1	ND (<0.25)	6.4	110	1,300	ND (<0.50)	14	217	ND (<0.10)	0.05**	0.77		0.063	1.0	4/15/2020	2.2		34		
	1/19 - 4/25	4/25/2020	ND (<2.5)	1.3	0.020	4/20/2020	6.9	ND (<0.25)	5.6	150	1.200	ND (<0.50)	13	203	ND (<0.10)	0.05**	0.78		0.084	1.3		ND (<2.0)	1.0	16		
	4/26 - 5/2	5/2/2020	ND (<2.5)	1.3	0.019	4/27/2020	6.6	ND (<0.25)	3.3	130	860	ND (<0.50)	8.4	129	ND (<0.10)	0.05**	0.77		0.074	1.1	4/29/2020	ND (<2.0)	1.0	15		
	5/3 - 5/9	5/9/2020	ND (<2.5)	1.3	0.019	5/4/2020	7.0	ND (<0.25)	7.4* 4.0	160	440	ND (<0.50)	5.1	81	(ND (ND.10)	0.05	10.1		0.083	1.3	5/6/2020	ND (<2.0)	1.0	16	5/7/2020	4.500
	5/3 - 5/9	5/9/2020	ND (<2.5)	1.3	0.020	5/11/2020	6.5	ND (<0.25)	6.8	150	690	ND (<0.50)	9.4	146		0.13	2.2	-	0.083	1.9		ND (<2.0)	1.0	16	3/1/2020	4,500
	5/10 - 5/16	5/23/2020	ND (<2.5)	1.3	0.020	5/18/2020	7.0	ND (<0.25)	4.6	140	600	1.9	6.1	94		1.9	2.2		0.20	3.1	5/20/2020	ND (<2.0) ND (<2.0)	1.0	15		
	5/24 - 5/30	5/30/2020	ND (<2.5)	1.3	0.013	5/26/2020	7.0	ND (<0.25)	6.6	120	830	11	14	208		0.51	7.6		0.20	3.3	5/27/2020	3.3	2.0	50		
	5/31 - 6/6	6/6/2020	ND (<2.5)	1.3	0.017	6/1/2020	6.8	ND (<0.25)	7.5	110	740	0.58	11	162		0.58	8.5		0.12	1.8	6/3/2020	2.1		32		
	6/7 - 6/13	6/13/2020	ND (<2.5)	1.3	0.018	6/9/2020	6.7	ND (<0.25)	3.8	110	410	ND (<0.50)	4.6	69		0.18	2.7		0.073	1.1		ND (<2.0)	1.0	15		
	5/14 - 6/20	6/20/2020	ND (<2.5)	1.3	0.019	6/15/2020	6.9	ND (<0.25)	5.3	150	820	1.1	7.8	117		0.16	2.4		0.013	0.19	6/17/2020	ND (<2.0)	1.0	15		
	6/21 - 6/27	6/27/2020	ND (<2.5)	1.3	0.017	6/22/2020	6.9	ND (<0.25)	7.3	160	780	ND (<0.50)	8.4	125		0.26	3.9		0.12	1.8	6/24/2020	4.0		44		
	6/28 - 7/4	7/4/2020	ND (<2.5)	1.3	0.017	6/29/2020	7.0	ND (<0.25)	5.9	99	710	ND (<0.50)	9.9	145		0.33	4.8		0.12	1.8	7/1/2020	ND (<2.0)	1.0	15		
	7/5 - 7/11	7/11/2020	ND (<2.5)	1.3	0.017	7/6/2020	7.0	ND (<0.25)	5.8	87	930	1.6	12	146		1.6	20		0.25	3.1	7/8/2020	ND (<2.0)	1.0	15		
	7/12 - 7/18	7/18/2020	ND (<2.5)	1.3	0.017	7/13/2020	6.5	ND (<0.25)	4.1	120	680	ND (<0.50)	7.2	84		0.30	3.5		0.089	1.04	7/15/2020	2.5		38		
	7/19 - 7/25	7/25/2020	ND (<2.5)	1.3	0.016	7/20/2020	7.1	ND (<0.25)	4.7	110	470	0.51	3.9	60		0.51	7.8		0.096	1.5	7/22/2020	3.8		59		
	7/26 - 8/1	8/1/2020	ND (<2.5)	1.3	0.017	7/27/2020	7.1	ND (<0.25)	ND (<2.5)	150	510	ND (<0.50)	3.2	48		0.16	2.4		0.150	2.2	7/29/2020	ND (<2.0)	1.0	15		
	8/2 - 8/8	8/8/2020	ND (<2.5)	1.3	0.015	8/3/2020	6.7	ND (<0.25)	3.6	94	730	ND (<0.50)	8.1	98		0.20	2.4		0.077	0.93	8/5/2020	ND (<2.0)	1.0	12		
	8/9 - 8/15	8/15/2020	ND (<2.5)	1.3	0.016	8/10/2020	6.9	ND (<0.25)	6.0* 9.6	100	1,000	6.4	19	170		6.4**	57		0.35	3.1	8/12/2020	ND (<2.0)	1.0	10	8/10/2020	4,100
	8/16 - 8/22	8/22/2020	ND (<2.5)	1.3	0.019	8/17/2020	7.3	ND (<0.25)	17	85	88	ND (<0.50)	2.8	43		0.38**	5.8		0.11	1.7	8/19/2020	ND (<2.0)	1.0	15		
	3/23 - 8/29	8/29/2020	ND (<2.5)	1.3	0.018	8/24/2020	6.8	ND (<0.25)	6.0	57	350	1.1	3.9	60	ND (<0.10)	0.05**	0.77		0.039	0.60	8/26/2020	ND (<2.0)	1.0	15		
	8/30 - 9/5	9/5/2020	ND (<2.5)	1.3	0.019	8/31/2020	6.9	ND (<0.25)	4.4	81	610	1.2	6.3	96		0.13**	2.0	ND(<0.025)	0.013	0.19	9/2/2020	4.3		66		
	9/6 - 9/12	9/12/2020	1.2	1.2	0.016	9/9/2020	6.7	ND (<0.25)	4.0	110	530	2.1	6.6	72		0.15	1.6	ND(<0.025)	0.013	0.14	9/9/2020	ND (<2.0)	1.0	11		
	9/13 - 9/19	9/19/2020	3.9	3.9	0.059	9/14/2020	6.8	ND (<0.25)	5.4	100	810	ND (<0.50)	7.1	108		0.11	1.7	140(<0.023)	0.13	2.0	9/16/2020	2.4		36		
	0/20 - 9/26	9/26/2020	1.5	1.5	0.022	9/21/2020	6.9	ND (<0.25)	7.0	120	1,100	ND (<0.50)	12	186		0.11	1.6		0.13	2.0	9/23/2020	ND (<2.0)	1.0	15		
)/27 - 10/3	10/3/2020	ND (<1.0)	0.5	0.0074	9/28/2020	7.2	ND (<0.25)	4.5	110	670	ND (<0.50)	6.2	95	ND (<0.10)	0.05	0.77		0.12	1.8	9/30/2020	4.0		48		
	0/4 - 10/10	10/10/2020	0.76	0.76	0.011	10/5/2020	7.0	ND (<0.25)	3.0	88	700	0.30	22	270		0.11	1.3		0.27	3.3	10/7/2020	ND (<5.0)	2.5	38		
)/11 - 10/17	10/17/2020	ND (<1.0)	0.5	0.0073	10/12/2020	7.3	ND (<0.25)	0.49	97	780	0.30	12	184		0.15	2.3		0.34	5.2	10/14/2020	ND (<5.0)	2.5	39		
)/18 - 10/24	10/24/2020	ND (<1.0)	0.5	0.0075	10/19/2020	6.7	ND (<0.25)	22	120	540	0.21	ND(<10) 5	75		0.080	1.2		0.29	4.4		ND (<5.0)	2.5	38		
10)/25 - 10/31	10/31/2020	ND (<1.0)	0.5	0.0068	10/26/2020	6.8	ND (<0.25)	1.6	78	970	0.46	26	301		0.24	2.8		0.36	4.2	10/28/2020	ND (<5.0)	2.5	38		
	11/1 - 11/7	11/7/2020	4.3	4.3	0.065	11/2/2020	7.1	ND (<0.25)	0.95* 0.98	92	920	0.55	13	187		0.20	2.9		0.30	4.3	11/4/2020	ND (<5.0)	2.5	39	10/5/2020	4,400
1	1/8 - 11/14	11/14/2020	ND (<1.0)	0.5	0.0077	11/9/2020	6.7	1.8	ND (<0.85)	72	940	0.42	12	187		0.32	5.0		0.26	4.0	11/11/2020	ND (<5.0)	2.5	38		
1:	1/15 - 11/21	11/21/2020	ND (<1.0)	0.5	0.0076	11/16/2020	6.7	ND (<0.25)	ND (<0.85)	58	750	0.44	21	318		0.25	3.8		0.35	5.3	11/18/2020	ND (<5.0)	2.5	38		
	/22 - 11/28	11/28/2020	0.86	0.86	0.0128	11/23/2020	6.6	ND (<0.25)	ND (<0.85)	44	570	0.089	20	306		0.089	1.4		0.31	4.7	11/25/2020	ND (<5.0)	2.5	38		
	1/29 - 12/5	12/5/2020	ND (<1.0)	0.5	0.0066	11/30/2020	7.1	ND (<0.25)	2.4	39	140	0.37	15	227		0.18	2.7		0.55	8.3	12/4/2020	27		188		
	2/6 - 12/12	12/12/2020	0.32	0.32	0.0049	12/7/2020	6.7	ND (<0.25)	2.3	38	490	0.36	21	321		0.27	4.1		0.39	6.0		ND (<5.0)	2.5	39		
	2/13 - 12/19	12/19/2020	ND (<1.0)	0.5	0.0076	12/14/2020	6.6	ND (<0.25)	3.6	56	670	0.35	10	150		0.20	3.0		0.35	5.3		ND (<5.0)	2.5	38		
	2/20 - 12/26	12/26/2020	ND (<1.0)	0.5	0.0078	12/21/2020	6.5	ND (<0.25)	9.6	65	1,100	0.30	17	256		0.15	2.3		0.44	6.6		ND (<5.0)	2.5	39		
i	12/27 - 1/2	1/2/2021	NA	NA	NA	12/28/2020	6.9	ND (<0.25)	2.2	43	690	0.29	ND(<10) 5	79		0.14	2.2		0.37	5.9	12/30/2020	NA NA		NA		
						1/4/2021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1/6/2021	NA		NA		

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

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**Additional Outsterts unamice collected this week.

**Additional capterts unamice collected and analyzed for ammonia during this week and results were included in the 30-day average loading calculation.

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)

J = Result is less than the reporting limit bug rester than or equal to the method detection limit and the concentration is an approximate value.

= 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: January 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		2	Pulled PC-133 the clear the roots from the piping and the pump and motor. Replaced the 1.5hp motor.
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		4	Replaced the A/C on the turbine MCC with an external unit.
2		Athens Road Wells and Lift Station 3				
2.01		Athens Road Well Field, 9 wells	Running		2	Had a communication loss on the wells. The VFD's were reset. The Profibus connections were tightened. The antenna was also re-aligned.
2.02		Lift Station 3 Lift Pump A	Standby			
2.03		Lift Station 3 Lift Pump B	Running			
2.04		Area in and around Lift Station 3	Running			
3		Lift Station 2 and Transmission Pipelines				
3.01		Influent Pipeline	In operation			
3.02		Effluent Pipeline	Running			
3.03		Lift Station 2 Lift Pump A	Running		3	Switched the pumps and changed the oil on the turbine motor.
3.04		Lift Station 2 Lift Pump B	•			
3.05		Area in and around Lift Station 2	Running			
4		Interceptor Wells and Cr Treatment Plant				
4.01		IWF Well Field, 30 wells	Running		4	Reset the configuration on the flowmeter on I-R. Replaced the piping, .5 hp motor, and pump on E1-1.
4.02		Ferrous Sulfate Feed System	Running			
4.03		Polymer Feed System	Running		3	Replaced the connections on the pump tubing.
4.04			In operation			
4.05		Filter Press				
4.06		GWTP Effluent Tank	In operation			
4.07		Interceptor Booster Pump A	•			
4.08		Interceptor Booster Pump B	Standby			
4.09		Area In And Around GWTP	Running		3	The back up air compressor was hooked up while the other was being worked on for an oil leak.
5		Equalization Area and GW-11 Pond				
5.01	PID10A	Pond GW-11	In operation		4	Repaired the washed out swells on the west side of the GW-11 berm.
5.02	PID10A	Pond Water Pump - P101A	Running			

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Sub- System	P&ID	Description	Status ¹	Checked	Criticality ²	Notes
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			
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				
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		Running			
6.07	PID02A		Running			
6.08	PID01A	First Stage Separator Tank - T2011	Running			
6.09	PID01A	Media Return Pump - P2011	Running		3	Rebuilt the pump and flushed the piping.
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				
6.14	PID07A	FBR 1 pH Feed Pump - P711				
6.15	PID07A	FBR 2 pH Feed Pump - P712	Off			
6.16	PID07A	FBR A Nutrient (Urea) Feed Pump - P72A				
6.17	PID07A	FBR 1 Nutrient (Urea) Feed Pump - P721				
6.18	PID07A	FBR 2 Nutrient (Urea) Feed Pump - P722				
6.19	PID15	, , ,	Running			
6.20	PID15	, , ,	Running			
6.21	PID15	, , ,	Ŭ			
6.22	PID07B	· · · · · · · · · · · · · · · · · · ·				
6.23	PID07B					
6.24	PID07B	FBR 2 Electron Donor Assembly Pump - P732	Running			
7		First Stage FBRs 3 & 4				
7.01	PID01B	FBR 3	Running			

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Sub- System	P&ID	Description	Status ¹	Checked	Criticality ²	Notes
7.02	PID01B	FBR 4	Running		3	Rebuilt the bed height pump that had a blown diaphragm.
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			
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		4	Tightened the strap that is used to seal off the old pH probe.
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		_	

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Sub- System	P&ID	Description	Status ¹	Checked	Criticality ²	Notes
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			
10		Aeration and DAF System				
10.01	PID04					
10.02	PID04	1.0.000001 = 1011				
10.03	PID04		In operation			
10.04	PID04	Nutrient Solution	Running			
10.05	PID04	=10 11101 001111				
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					
10.11	PID05	DAF Vessel - D501	Running			
10.12	PID05	DAF Pressure Pump - P501	Running			
10.13	PID05	= : : : : : : : : : : : : : : : : : : :				
10.14	PID05		Ū			
10.15	PID05	DAF Pressure Pump - P551	Running		2	Replaced the flex coupling joining the pump and motor
10.16	PID05	DAF Float Pump - P552	Running			
10.17	PID05	Screw Conveyer Drive	Standby			
10.18	PID05	Skimmer Drive	Running		2	The N.DAF was taken offline to align the skimmer system on the sprockets
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	Standby			
12		Sand Filter System				
12.01	PID17					
12.02	PID17	,				
12.03	PID17	, ,				
12.04	PID17	, ,	Running			
13		Effluent Tank and Pumping				
13.01	PID10C	UV Effluent Tank	Running			

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Sub- System	P&ID	Description	Status ¹	Checked	Criticality ²	Notes
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			
14		Solids Collection and Pressing System				
14.01	PID16	Sludge Storage Tank				
14.02	PID16	Solids Storage Effluent Pump - P1601				
14.03	PID16	Solids Cond. Tank	In operation			
14.04	PID09	Sludge Mixer	Running			
14.05	PID09	Filter Press Pump - P901	Running		3	This pump was changed out due to a blown diaphragm
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)				
23	PID07C	Ferric Chloride	In operation			
24	PID07B	Polymer Systems - DAF	In operation		4	A new air flush port was installed on the drawdown column
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		2	The motor coupling was replaced on the unit.

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Criticality Codes

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3 = Moderate - Work needs to be performed, but plant can still operate with redundancy that is in place

4 = Low - Minor repairs that in no way alter the performance of the plant

Sub- System	P&ID	Description	Status ¹	Checked	Criticality ²	Notes
26.02	PID08	East Compressor	Running			
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			
27	PID16	Oxygen System	In operation			
28		GWETS Plant Controls/ Siemens Controls	In operation			
29		Well Control System/ Allen Bradley Controls				
30		MCC FBR Pad				
31		MCC in D-1				
32		MCC in EQ area	In operation			
		Miscellaneous Systems				
33		Operations Office/Network				
34		Laboratory Analyzers				
35		Security Systems				
		Shelf Spares				
		Media Return Pump Rebuild Kit				
		pH Feed Pump				
		Nutrient Feed Pump	In stock			
		Electron Donor Feed Pump				
		Phosphoric Acid Feed Pump				
		Interceptor Well Pumps (4 each)				
		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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