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

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**Cc:** Nevada Environmental Response Trust Stakeholders

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**From:** Frank Johns/Tt

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**Date:** November 5, 2014

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**Subject:** NERT – GWETS Operation Monthly Report – September 2014

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Tetra Tech is providing this monthly report to provide a summary of GWETS operation during September 2014 and oversight tasks performed by Tetra Tech.

### Summary of GWETS Operation

The groundwater extraction and treatment system (GWETS) operated normally in September, with the exception of GW-11. GW-11 is still being bypassed due to high suspended solids content, primarily insects and some algae, causing frequent plugging of the bag filters and increased the backwash frequency for the GAC. Envirogen Technologies, Inc. (ETI) has ordered automatic cleaning filters to replace the bag filters. The new filters are expected to be online with the pond taken out of bypass by early December.

Additionally, there was a brief period of effluent diversion to GW-11 on September 15. Due to a leak in the effluent line, ETI stopped discharging treated water down the effluent pipe and directed the effluent to GW-11. During the period of diversion, approximately 200,000 gallons of effluent was diverted to GW-11. There was no measurable increase in the pond level during this time. This incident was reported to the NDEP Spill Notification Line and the effluent pipe was repaired and returned to operation within 6 hours.

The flow rate to the plant averaged approximately 915 gpm during the month. At the end of the month, the GW-11 volume was 43.3 MG, equal to 13.3 days of available storage in event of an emergency. The volume increased approximately 2 MG from the end of August, due to the large rainfall events in September. The influent perchlorate concentration from the equalization tank to the FBR plant averaged 120 mg/L for the month, with a maximum concentration of 130 mg/L.

There were zero exceedances at the GWETS Outfall for perchlorate or any other constituent in excess of the NPDES permitted numerical discharge limits (Attachment A, prepared by ENVIRON).

### Operational Metrics

See attached Tables 1 through 5 for the GWETS operational metrics that are being or will be tracked for the GWETS. The metrics that do not require modification for the system to collect are being reported beginning with this September GWETS operation monthly report. Tetra Tech has received budgetary approval from the Trust and is implementing a program to track over 80 key GWETS operational metrics. Expected to come online in March 2015, this program will add instruments, controls, data acquisition systems, along with various other technical upgrades to improve the efficiency of data collection and reporting to the Trust.

The attached tables provide the available metrics and are presented as follows.

- Table 1 – Seep Well Field (SWF) Operational Metrics
- Table 2 – Athens Road Well Field (AWF) Operational Metrics
- Table 3 – Interceptor Well Field (IWF) Operational Metrics
- Table 4 – Treatment Plant Operational Metrics
- Table 5 – GW-11 Operational Metrics (see also Figure 1)
- Table 6 – Equivalent Load Estimates (see also Figure 2)

## Operational Issues

In addition to plant repairs conducted by ETI in accordance with their 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 continues to be bypassed due to the issue with insects and algae causing plugging of the bag filters ahead of the GAC units. ETI has ordered automatic cleaning filters to replace the bag filters and are scheduled for installation in late November.
2. A valve box that contains a combination air and vacuum valve on the effluent line near the crossing of Galleria Drive was struck and damaged. On September 15, 2014, ETI received a call from the City of Henderson to notify them that the effluent pipe appeared to be broken. ETI immediately stopped discharging treated water down the effluent pipe and directed the effluent to GW-11. ETI called their on-call pipeline contractor to evaluate the situation and complete the required repair. The repair was completed and ETI began discharging back to the Las Vegas Wash that afternoon. During the period of diversion, approximately 200,000 gallons of effluent was diverted to GW-11. There was no measurable increase in the pond level. The incident was reported to the NDEP Spill Notification Line.
3. Major maintenance being performed or completed in the month included:
  - Swing check valves replaced on the pumps at Lift Station #1.
  - Ferrous sulfate feed at GWTP – Replaced broken injection quill with check valve.
  - Filter press at GWTP – Replaced O-rings on plates.
  - Raw water feed pump – Pump P102B removed for maintenance in shop.
  - Replaced valves and expansion joints at the GAC process.
  - Continued rehabilitating FBR 5.
  - Media return pump for FBRs 7 and 8 taken out of service for belt replacement.
  - Repaired motor contacts on the DAF recycle pump.
  - DAF pressure pump – Replaced check flap and suction disk on pump.
  - DAF float pump – Replaced discharge disk and trunnions.
  - Effluent pump – Mechanical seal being rebuilt.
  - Filter reject pump – Replaced impellers and returned to service.
  - Filter press pump – Rebuilt one pump. Replacement kit ordered for second pump.
  - Phosphoric acid nutrient feed system – Leaking lines caused wiring to short out. Fed phosphoric acid directly from tote using peristaltic pump during repairs.

- DAF polymer feed system – Replaced check valve at injection point.
- East compressor – Repairs made by manufacturer.
- Performed maintenance on the motor control center at the main power feed. This maintenance required the power to the treatment plant to be shut down. During this time the wells continued to operate with the flow diverted to GW-11. Diversion to GW-11 occurred from the morning of September 10 through the afternoon of September 11.
- Computer in MCC on the FBR pad is not in service. This is a redundant monitoring location and not required for operation since monitoring is performed at main control room.
- Panel view for Siemens system sent in for repair and reinstalled.
- Level controllers at the equalization tanks were dropping out.
- Phone line for the plant had fallen off a pole and was laying on a power feed for Tronox. Century Link was called and repaired the line.
- Allen-Bradley computer for extraction wells and GWTP was down for a time with no visual indication of operation in control room. All wells and GWTP continued to operate with notification by auto-dialer.
- Ion chromatograph was damaged by power surge from lightning strike. Unit has been replaced.

### **GWETS Upgrades and Facility Projects**

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

#### **1. 2013 Optimization**

Construction for PC-150 and ART-7B will be completed in early October. Another round of flow optimization for the IWF will be initiated once these AWF wells are operational. Capture zone analyses for the IWF and AWF will be performed in November with a final report expected in January 2015.

#### **2. AP-5 Closure**

Tetra Tech has continued development of a work plan for closure of the pond. In early September, a hold was placed on the work plan project. The hold was released in early October and a draft work plan is scheduled to be submitted to the Trust by late October. Tetra Tech continues to coordinate with NDEP, ETI, and the Trust on this project. This will be a long-term project that will directly impact GWETS operations across multiple levels once implemented.

#### **3. Enhanced Operational Metrics**

Tetra Tech started design for the enhanced operational metrics project in September. A preliminary design meeting will be held with ETI in late October.

### **Equipment Availability Tracking**

ETI operators continue to update the equipment tracking form on a weekly basis at a minimum, or whenever there is a change in the status of key equipment. During regular site visits, Tetra Tech field personnel continue to verify the entries in the form, including both the operating status and the presence of the required shelf spares. The equipment tracking form submitted to Tetra Tech on October 2, 2014, is attached (Attachment B).

### **GWETS Security**

ETI continues to staff the GWETS using a single shift and follows the security procedure in the SOP dated April 30, 2014. During weekly calls, ETI notifies Tetra Tech of any issues with GWETS security. There were no issues reported in September.

### **Tetra Tech Activities**

Tetra Tech conducted weekly calls with ETI to review operation of the GWETS on September 4, 11, 18, and 25, and October 2. Becki Dano, CEM, of Tetra Tech, performed visits to the GWETS on September 4, 12, 18, and 25. She checked permit and sampling forms to ensure each was correct and up-to-date, checked equipment status, and viewed shelf spare inventory.

### **Summary**

Upon review of available and relevant information, Tetra Tech concurs with the management of the GWETS at this time. No additional involvement from either the Trust or Tetra Tech is recommended at this time.

# Tables

## Operational Metrics

Nevada Environmental Response Trust   Groundwater Extraction and Treatment System   Enhanced Operational Metrics																
Date	IS #1 Flow (gpm)	East Well (PC-116R) Flow (gpm) Level (ft)	Center Well (PC99R2/99R3) Flow (gpm) Level (ft)	West Well (PC-115R) Flow (gpm) Level (ft)	PC 117 Flow (gpm) Level (ft)	PC 118 Flow (gpm) Level (ft)	PC 119 Flow (gpm) Level (ft)	PC 120 Flow (gpm) Level (ft)	PC 121 Flow (gpm) Level (ft)	PC 133 Flow (gpm) Level (ft)						
09/01/14	618	136	58	103	90	75	66	1	0	4						
09/02/14	613	136	59	102	91	75	65	1	0	4						
09/03/14	587	136	59	101	91	72	67	2	0	4						
09/04/14	595	136	59	101	92	74	65	1	0	4						
09/05/14	615	134	58	101	87	73	65	1	0	4						
09/06/14	601	134	58	100	92	71	66	3	0	4						
09/07/14	585	135	60	103	90	72	66	1	0	4						
09/08/14	608	135	59	100	93	73	67	1	0	4						
09/09/14	600	136	59	102	93	71	67	1	0	4						
09/10/14	588	134	57	103	90	73	69	2	0	4						
09/11/14	611	135	58	101	89	73	67	3	0	4						
09/12/14	612	137	59	102	89	74	65	2	0	4						
09/13/14	587	135	59	102	93	74	66	1	0	4						
09/14/14	587	136	58	100	91	74	66	1	0	4						
09/15/14	588	136	59	102	91	73	67	3	0	4						
09/16/14	587	134	58	102	91	73	65	2	0	4						
09/17/14	586	136	60	100	93	74	66	0	0	4						
09/18/14	622	135	59	101	92	76	68	2	0	4						
09/19/14	590	134	58	103	91	75	65	1	0	4						
09/20/14	589	137	59	101	90	73	66	2	0	4						
09/21/14	590	138	57	101	88	74	67	2	0	4						
09/22/14	609	135	60	100	88	74	66	2	0	4						
09/23/14	609	133	58	100	90	74	64	0	0	4						
09/24/14	602	137	59	102	90	74	65	0	0	4						
09/25/14	615	136	59	102	90	74	66	1	0	4						
09/26/14	587	136	58	100	91	74	66	1	0	4						
09/27/14	594	137	57	103	91	72	67	1	0	4						
09/28/14	622	133	58	102	92	73	67	2	0	4						
09/29/14	586	134	57	101	90	74	64	1	0	4						
09/30/14	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>						
Monthly Average	599	135	58	101	91	73	66	1	0	4						
Analytical <sup>2</sup>	Conc (mg/L) Date		Conc (mg/L) Date		Conc (mg/L) Date		Conc (mg/L) Date		Conc (mg/L) Date		Conc (mg/L) Date		Conc (mg/L) Date			
Perchlorate	18	09/03/0214	20	09/03/0214	11	09/03/0214	11	09/03/0214	0.38	09/03/0214	0.17	09/03/0214	0.31	09/03/0214	6	09/03/0214

Notes:  
 1: Computer outage; flow and hours between readings adjusted while totalizer readings manually collected mid-day Oct 1  
 2: Analytical results are reported from TestAmerica  
 Flow reported as gpm is a daily average calculated from the totalizer reading

Nevada Environmental Response Trust   Groundwater Extraction and Treatment System   Enhanced Operational Metrics																												
Date	LS #3 Flow (gpm)	ART 1		ART 2		ART 3		ART 4		ART 6 / ART 9		ART 6		ART 9		ART 7		ART 8										
		Flow (gpm)	Level (ft)	Flow (gpm)	Level (ft)	Flow (gpm)	Level (ft)	Flow (gpm)	Level (ft)	Flow (gpm)	Level (ft)	Flow (gpm)	Level (ft)	Flow (gpm)	Level (ft)	Flow (gpm)	Level (ft)	Flow (gpm)	Level (ft)									
09/01/14	288	25		59		23		15		50						31		64										
09/02/14	289	25		60		26		16		50						31		64										
09/03/14	289	25		59		24		14		50						31		64										
09/04/14	290	25		59		24		15		50						31		64										
09/05/14	289	25		59		26		16		49						31		64										
09/06/14	289	25		58		25		15		50						31		64										
09/07/14	289	25		59		24		15		50						31		64										
09/08/14	NA <sup>2</sup>	25	Future Metric - Enhanced Operations	59	Future Metric - Enhanced Operations	25	Future Metric - Enhanced Operations	16	Future Metric - Enhanced Operations	49	Future Metric - Enhanced Operations		Future Metric - Enhanced Operations		Future Metric - Enhanced Operations	31	Future Metric - Enhanced Operations	64	Future Metric - Enhanced Operations									
09/09/14	287	25		60		25		15		50		32		65														
09/10/14	288	25		60		23		16		49		32		64														
09/11/14	288	25		61		23		16		50		32		64														
09/12/14	289	25		60		25		15		49		32		64														
09/13/14	289	25		60		26		16		49		31		64														
09/14/14	290	25		61		23		16		49		31		64														
09/15/14	291	25		61		24		16		49		31		63														
09/16/14	289	25		60		26		17		50		31		64														
09/17/14	291	25		61		25		17		49		31		64														
09/18/14	288	25		61		24		16		49		31		64														
09/19/14	290	25		61		25		15		49		31		64														
09/20/14	323	25		61		23		16		50		32		64														
09/21/14	NA <sup>2</sup>	25		61		26		16		50		31		63														
09/22/14	291	25		61		25		15		49		31		64														
09/23/14	291	25		60		26		15		49		31		64														
09/24/14	292	25		61		24		17		49		32		64														
09/25/14	291	25		61		23		15		50		31		64														
09/26/14	293	25		60		24		15		50		31		64														
09/27/14	293	25		60		25		15		50		31		63														
09/28/14	292	25		60		26		15		50		31		64														
09/29/14	293	25		61		25		17		50		32		64														
09/30/14	NA <sup>1</sup>	NA <sup>1</sup>		NA <sup>1</sup>		NA <sup>1</sup>		NA <sup>1</sup>		NA <sup>1</sup>		NA <sup>1</sup>		NA <sup>1</sup>		NA <sup>1</sup>		NA <sup>1</sup>		NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>
Monthly Average	291	25				60				25				16				50							31		64	
Analytical <sup>3</sup>		Conc (mg/L)		Date		Conc (mg/L)		Date		Conc (mg/L)		Date		Conc (mg/L)		Date		Conc (mg/L)		Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date
Perchlorate		17		9/3/2014		47		9/3/2014		230		9/3/2014		309		9/3/2014		51		240	9/3/2014	130	9/3/2014	159	9/3/2014			
Total Chromium <sup>4</sup>		0.018		8/4/2014		0.056		8/4/2014		0.42		8/4/2014		0.59		8/4/2014		0.27		0.98	8/4/2014	0.68	8/4/2014	0.19	8/4/2014			

Notes:

- 1: Computer outage; flow and hours between readings adjusted while totalizer readings manually collected mid-day Oct 1
  - 2: Moisture from storm caused problems with the flow meter
  - 3: Analytical results are reported from TestAmerica
  - 4: Quarterly results, most recent sampling concentration listed (Samples will be transitioned to monthly reporting in the future)
- Flow reported as gpm is a daily average calculated from the totalizer reading

Nevada Environmental Response Trust   Groundwater Extraction and Treatment System   Enhanced Operational Metrics																				
Date	I-AR		I-AA		I-AB		I-AC		I-AD		I-B		I-C		I-D		I-E		I-F	
	Flow (gpm)	Level (ft)	Flow (gpm)	Level (ft)	Flow (gpm)	Level (ft)	Flow (gpm)	Level (ft)	Flow (gpm)	Level (ft)	Flow (gpm)	Level (ft)	Flow (gpm)	Level (ft)	Flow (gpm)	Level (ft)	Flow (gpm)	Level (ft)	Flow (gpm)	Level (ft)
09/01/14	0.83		1.38		0		0		0		1.22		5.94		1.94		1.36		4.44	
09/02/14	0.83		1.37		0		0		0		1.21		5.92		1.91		1.34		4.32	
09/03/14	0.82		1.37		0.01		0		0		1.16		5.98		1.93		1.35		4.31	
09/04/14	0.83		1.37		0		0		0		1.18		5.95		1.93		1.35		4.23	
09/05/14	0.82		1.36		0		0		0		1.22		5.91		1.93		1.33		4.22	
09/06/14	0.81		1.35		0		0		0		1.21		5.85		1.91		1.33		4.19	
09/07/14	0.85		1.39		0		0		0		1.17		5.93		1.95		1.34		4.26	
09/08/14	0.85		1.37		0		0		0		1.26		6.07		1.94		1.33		4.19	
09/09/14	0.84		1.36		0		0		0		1.17		6.11		1.91		1.33		4.11	
09/10/14	0.80		0.96		0		0		0		0.89		4.08		1.27		0.89		3.02	
09/11/14	0.86		1.37		0		0		0		1.16		5.98		1.92		1.30		4.51	
09/12/14	0.86		1.36		0		0		0		1.12		5.97		1.91		1.28		4.43	
09/13/14	0.85		1.36		0		0		0		1.17		5.95		1.91		1.38		4.31	
09/14/14	0.87		1.38		0		0		0		1.06		5.97		1.90		1.08		4.23	
09/15/14	0.83		1.36		0		0		0		1.16		5.92		1.90		1.27		4.13	
09/16/14	0.82		1.37		0		0		0		1.16		5.95		1.91		1.26		4.17	
09/17/14	0.82		1.36		0		0		0		1.18		5.94		1.90		1.27		4.15	
09/18/14	0.81		1.37		0		0		0		1.11		5.93		1.89		1.27		4.08	
09/19/14	0.82		1.36		0		0		0		1.18		5.97		1.90		1.26		4.12	
09/20/14	0.82		1.32		0		0		0		1.08		5.76		1.84		1.25		4.01	
09/21/14	0.80		1.38		0		0		0		1.11		5.78		1.89		1.26		4.13	
09/22/14	0.82		1.37		0		0		0		1.09		5.93		1.93		1.29		4.22	
09/23/14	0.81		1.37		0		0		0		1.05		5.81		1.87		1.26		4.06	
09/24/14	0.81		1.35		0		0		0		1.07		5.82		1.87		1.24		3.99	
09/25/14	0.81		1.36		0		0		0		1.11		5.87		1.90		1.26		4.11	
09/26/14	0.81		1.37		0		0		0		1.07		5.86		1.89		1.26		4.09	
09/27/14	0.79		1.37		0		0		0		1.13		5.86		1.89		1.25		4.06	
09/28/14	0.80		1.38		0		0		0		1.06		5.87		1.88		1.23		4.09	
09/29/14	0.79		1.37		0		0		0		1.06		5.89		1.89		1.25		4.01	
09/30/14	0.79		1.37		0		0		0		1.10		5.88		1.88		1.25		4.07	
Monthly Average	0.82		1.35		0		0		0		1.13		5.86		1.88		1.27		4.14	
Analytical <sup>4</sup>	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date
Perchlorate <sup>1</sup>	2000	8/11/2014	120	8/11/2014	NA <sup>2</sup>	NA <sup>2</sup>	NA <sup>2</sup>	NA <sup>2</sup>	130	8/14/2014	1300	8/11/2014	1100	8/11/2014	680	8/11/2014	1000	8/11/2014	1500	8/11/2014
Total Chromium <sup>1</sup>	0.47	8/11/2014	0.77	8/11/2014	NA <sup>3</sup>	NA <sup>3</sup>	NA <sup>3</sup>	NA <sup>3</sup>	1.4	8/14/2014	0.16	8/11/2014	2.7	8/11/2014	6.9	8/11/2014	7.9	8/11/2014	16	8/11/2014

Notes:  
 1: Quarterly results, most recent sampling concentrations listed (Samples will be transitioned to monthly reporting in the future)  
 2: No data recorded on chain of custody log  
 3: No data reported from Test America  
 4: Analytical results are reported from TestAmerica  
 Flow reported as gpm is a daily average calculated from the totalizer reading



Nevada Environmental Response Trust   Groundwater Extraction and Treatment System   Enhanced Operational Metrics																				
Date	I-G		I-H		I-I		I-J		I-K		I-L		I-M		I-N		I-O		I-P	
	(gpm)	(ft)	(gpm)	(ft)	(gpm)	(ft)	(gpm)	(ft)	(gpm)	(ft)	(gpm)	(ft)	(gpm)	(ft)	(gpm)	(ft)	(gpm)	(ft)	(gpm)	(ft)
09/01/14	0.18		1.45		4.71		2.64		5.20		2.33		3.01		3.11		2.46		3.97	
09/02/14	0.18		1.45		4.82		2.66		5.23		2.30		3.00		3.09		2.45		3.95	
09/03/14	0.16		1.46		4.75		2.63		5.23		2.28		3.01		3.10		2.45		3.97	
09/04/14	0.16		1.44		4.77		2.65		5.24		2.28		2.99		2.87		2.45		3.96	
09/05/14	0.17		1.44		4.61		2.66		5.23		2.25		2.99		3.24		2.45		3.90	
09/06/14	0.17		1.44		3.13		2.60		5.10		2.23		2.99		3.06		2.44		3.92	
09/07/14	0.16		1.44		4.80		2.67		5.24		2.27		3.02		3.08		2.45		3.91	
09/08/14	0.17		1.43		4.78		2.67		5.21		2.25		3.00		3.06		2.45		3.90	
09/09/14	0.14		1.44		4.75		2.66		5.17		2.24		2.99		3.04		2.45		3.91	
09/10/14	0.09		1.07		3.23		1.79		3.58		1.76		1.98		2.03		1.84		3.14	
09/11/14	0.12		1.54		4.32		2.62		5.17		2.41		2.98		3.09		2.78		4.34	
09/12/14	0.12		1.50		4.84		2.67		5.22		2.33		2.95		3.08		2.78		4.14	
09/13/14	0.14		1.48		4.62		2.36		4.97		2.26		2.81		3.06		2.79		4.06	
09/14/14	0.13		1.47		5.07		3.08		5.45		2.27		2.50		3.06		2.75		3.96	
09/15/14	0.14		1.46		4.78		2.63		5.12		2.22		2.49		3.05		2.76		3.94	
09/16/14	0.15		1.46		4.84		2.65		5.19		2.24		2.50		3.06		2.78		3.94	
09/17/14	0.18		1.45		4.80		2.63		5.17		2.22		2.51		3.04		2.76		3.91	
09/18/14	0.17		1.45		4.79		2.63		5.17		2.22		2.50		3.04		2.77		4.11	
09/19/14	0.16		1.45		4.79		2.62		5.14		2.21		2.50		3.04		2.76		3.71	
09/20/14	0.18		1.43		4.67		2.56		5.04		2.17		2.41		2.95		2.70		3.82	
09/21/14	0.17		1.44		4.81		2.61		5.19		2.26		2.46		3.02		2.75		3.91	
09/22/14	0.18		1.48		4.73		2.59		5.10		2.29		2.52		3.08		2.82		3.96	
09/23/14	0.18		1.44		4.83		2.63		5.20		2.20		2.50		3.03		2.78		3.88	
09/24/14	0.20		1.42		4.88		2.67		5.30		2.20		2.48		3.02		2.72		3.82	
09/25/14	0.22		1.45		4.84		2.63		5.23		2.22		2.53		3.07		2.79		3.90	
09/26/14	0.21		1.45		4.83		2.63		5.25		2.23		2.52		3.05		2.77		3.90	
09/27/14	0.18		1.45		4.82		2.63		5.25		2.21		2.50		3.04		2.78		3.92	
09/28/14	0.19		1.43		4.75		2.60		5.16		2.20		2.48		3.02		2.73		3.84	
09/29/14	0.18		1.44		4.81		2.63		5.24		2.20		2.50		3.03		2.77		3.87	
09/30/14	0.18		1.45		4.81		2.63		5.23		2.21		2.52		3.03		2.77		3.88	
Monthly Average	0.17		1.44		4.67		2.61		5.14		2.23		2.67		3.02		2.64		3.91	
Analytical <sup>1</sup>	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date
Perchlorate <sup>1</sup>	1600	8/11/2014	1700	8/11/2014	950	8/14/2014	260	8/14/2014	210	8/14/2014	810	8/11/2014	670	8/11/2014	1100	8/11/2014	1300	8/11/2014	1800	8/11/2014
Total Chromium <sup>1</sup>	22	8/11/2014	20	8/11/2014	13	8/14/2014	4.4	8/14/2014	2.2	8/14/2014	0.94	8/11/2014	7.6	8/11/2014	8.9	8/11/2014	13	8/11/2014	17	8/11/2014

Notes:  
 1: Quarterly results, most recent sampling concentrations listed (Samples will be transitioned to monthly reporting in the future)  
 4: Analytical results are reported from TestAmerica  
 Flow reported as gpm is a daily average calculated from the totalizer reading

Nevada Environmental Response Trust   Groundwater Extraction and Treatment System   Enhanced Operational Metrics																				
Date	I-Q		I-R		I-S		I-T		I-U		I-V		I-W		I-X		I-Y		I-Z	
	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level
09/01/14	0.49		2.67		5.14		0.47		0.87		5.81		1.14		3.18		2.16		2.73	
09/02/14	0.49		2.63		5.11		0.52		0.86		5.83		1.14		3.16		0.60		2.76	
09/03/14	0.49		2.62		5.11		0.45		0.86		5.82		1.16		3.17		1.37		2.75	
09/04/14	0.49		2.65		5.09		0.49		0.87		5.83		1.19		3.14		1.38		2.76	
09/05/14	0.48		2.65		5.07		0.49		0.86		5.83		1.20		3.15		1.35		2.77	
09/06/14	0.48		2.63		5.03		0.48		0.86		5.68		1.20		3.12		1.35		2.70	
09/07/14	0.48		2.67		5.15		0.48		0.87		5.81		1.22		3.15		1.37		2.78	
09/08/14	0.48		2.66		4.90		0.49		0.87		5.77		1.24		3.14		1.38		2.75	
09/09/14	0.48		2.65		4.90		0.51		0.87		5.73		1.25		3.13		1.36		2.74	
09/10/14	0.36		1.95		3.48		0.34		0.63		3.88		0.77		2.41		1.01		1.84	
09/11/14	0.51		2.69		5.12		0.48		0.90		5.70		1.18		3.39		0.74		2.71	
09/12/14	0.50		2.68		5.10		0.47		0.90		5.81		1.17		3.27		1.97		2.76	
09/13/14	0.49		2.65		5.08		0.49		0.87		5.52		1.18		3.21		1.38		2.63	
09/14/14	0.49		2.67		5.13		0.48		0.92		6.05		1.18		3.19		1.88		2.9	
09/15/14	0.48		2.62		5.09		0.51		0.88		5.75		1.18		3.15		1.01		2.74	
09/16/14	0.49		2.63		5.10		0.48		0.89		5.81		1.20		3.17		1.37		2.77	
09/17/14	0.48		2.64		5.06		0.48		0.88		5.78		1.20		3.15		1.38		2.75	
09/18/14	0.48		2.65		5.05		0.48		0.88		5.77		1.20		3.15		1.36		2.75	
09/19/14	0.48		2.67		5.06		0.53		0.88		5.72		1.21		3.13		1.38		2.74	
09/20/14	0.47		2.62		4.89		0.43		0.88		5.54		1.15		3.08		1.35		2.67	
09/21/14	0.48		2.67		5.25		Reset		0.88		5.67		1.02		3.15		1.38		2.73	
09/22/14	0.48		2.71		5.34		0.41		0.90		5.60		1.05		3.20		1.39		2.70	
09/23/14	0.48		2.71		5.28		0.49		0.89		5.71		1.03		3.13		1.37		2.75	
09/24/14	0.47		2.67		5.24		0.50		0.88		5.77		1.01		3.09		1.38		2.78	
09/25/14	0.47		2.68		5.30		0.49		0.89		5.74		1.02		3.12		1.39		2.76	
09/26/14	0.48		2.65		5.28		0.47		0.88		5.74		1.00		3.13		1.38		2.75	
09/27/14	0.47		2.62		5.28		0.45		0.89		5.75		1.05		3.12		1.38		2.76	
09/28/14	0.47		2.61		5.28		0.53		0.88		5.67		1.05		3.10		1.39		2.71	
09/29/14	0.48		2.61		5.32		0.49		0.89		5.74		1.06		3.13		1.38		2.75	
09/30/14	0.48		2.59		5.28		0.48		0.90		5.71		1.06		3.11		1.39		2.74	
Monthly Average	0.48		2.63		5.08		0.48		0.87		5.68		1.12		3.13		1.37		2.71	
Analytical <sup>1</sup>	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date	Conc (mg/L)	Date
Perchlorate <sup>1</sup>	1400	8/11/2014	1300	8/11/2014	790	8/11/2014	1500	8/11/2014	1400	8/11/2014	1100	8/14/2014	1500	8/11/2014	1700	8/11/2014	970	8/11/2014	630	8/14/2014
Total Chromium <sup>1</sup>	21	8/11/2014	0.55	8/11/2014	1.5	8/11/2014	23	8/11/2014	23	8/11/2014	23	8/14/2014	14	8/11/2014	11	8/11/2014	0.83	8/11/2014	8.1	8/14/2014

Notes:  
 1: Quarterly results, most recent sampling concentrations listed (Samples will be transitioned to monthly reporting in the future)  
 4: Analytical results are reported from TestAmerica  
 Flow reported as gpm is a daily average calculated from the totalizer reading

Nevada Environmental Response Trust   Groundwater Extraction and Treatment System   Enhanced Operational Metrics															
Date	LS #2 Flow (gpm)	GWTP Effluent Flow (gpm)	GW-11 Influent		Flow (gpm)	FBR Plant Influent <sup>2</sup>					1st Stage FBR Influent				
			Flow (gpm)	ClO <sub>4</sub> (mg/L)		TA - ClO <sub>4</sub> (mg/L)	ETI - ClO <sub>4</sub> (mg/L)	TA - ClO <sub>3</sub> (mg/L)	TA - SO <sub>4</sub> (mg/L)	TA - NO <sub>3</sub> - N (mg/L)	Flow (gpm)	pH (s.u.)	ORP (mV)		
09/01/14	855	57	912				119					6.0	-402		
09/02/14	858	60	918				119	200	1600			6.0	-388		
09/03/14	858	59	917				116					6.0	-341		
09/04/14	857	59	916				110				11	5.9	-358		
09/05/14	856	62	918				119					6.0	-367		
09/06/14	857	57	914			130	119					5.9	-370		
09/07/14	855	61	916				108					6.8	-373		
09/08/14	857	61	918				103				11	6.3	-365		
09/09/14	858	51	909	Future Metric - Enhanced Operations	Future Metric - Enhanced Operations		121					6.0	-363		
09/10/14	856	49	905				NA <sup>3</sup>						6.7	-333	
09/11/14	854	59	913				121						6.5	-261	
09/12/14	854	56	910				119						6.9	-296	
09/13/14	855	69	924				117	110					6.5	-323	
09/14/14	856	55	911				113						6.5	-332	
09/15/14	856	58	914				124					11	6.5	-297	
09/16/14	856	61	917				115						6.4	-312	
09/17/14	856	60	916				114						6.3	-283	
09/18/14	856	58	914				116						6.3	-280	
09/19/14	856	61	917				104						6.3	-350	
09/20/14	856	57	913				102	120					8.1	-356	
09/21/14	856	60	916				104						6.2	-356	
09/22/14	856	57	913				116					10	6.2	-365	
09/23/14	855	59	914				116						6.2	-369	
09/24/14	857	58	915				119						6.1	-371	
09/25/14	854	57	911				118						6.1	-378	
09/26/14	852	60	912				114						6.1	-371	
09/27/14	852	60	912				119	120					7.0	-368	
09/28/14	856	58	914				115						6.1	-374	
09/29/14	852	58	910				114					11	6.1	-373	
09/30/14	NA <sup>1</sup>	58	NA <sup>1</sup>				106						3.7	-245	
Monthly Average	856	58	914					120	114	200	1600	11		6.3	-340

Notes:

1: Computer outage; flow and hours between readings adjusted while totalizer readings manually collected mid-day Oct 1

2: ETI = Envirogen internal process control data, TA = TestAmerica data

3: No data collected

Flow reported as gpm is a daily average calculated from the totalizer reading

Nevada Environmental Response Trust   Groundwater Extraction and Treatment System   Enhanced Operational Metrics										
Date	2nd Stage FBR Influent			FBR Plant Effluent <sup>2</sup>						
	Flow (gpm)	pH (s.u.)	ORP (mV)	Flow (gpm)	TA - ClO <sub>4</sub> (mg/L)	ETI - ClO <sub>4</sub> (mg/L)	TA - ClO <sub>3</sub> (mg/L)	TA - SO <sub>4</sub> (mg/L)	TA - NO <sub>3</sub> - N (mg/L)	ETI - Turbidity (NTU)
09/01/14		6.5	-377	888		ND				7
09/02/14		6.5	-371	906		ND	ND	1400		11
09/03/14		6.6	-354	911		ND			0.66	7
09/04/14		6.4	-356	914		ND				8
09/05/14		6.5	-359	909		ND				7
09/06/14		6.5	-360	892	ND	ND				17
09/07/14		6.6	-364	867		ND				6
09/08/14		6.5	-361	900		ND			ND	7
09/09/14		6.5	-353	912		ND				7
09/10/14		7.1	-341	291		ND				NA <sup>3</sup>
09/11/14		7.0	-361	758		ND				0
09/12/14		6.8	-368	801		ND				1
09/13/14		6.9	-375	800	ND	ND				10
09/14/14		6.8	-359	792		ND				14
09/15/14		6.7	-359	800		ND			ND	11
09/16/14		6.8	-378	808		ND				0
09/17/14		6.7	-357	846		ND				9
09/18/14		6.7	-360	818		ND				6
09/19/14		6.5	-379	815		ND				7
09/20/14		6.7	-387	857	ND	ND				0
09/21/14		6.5	-380	845		ND				0
09/22/14		6.5	-370	831		ND			ND	0
09/23/14		6.6	-372	844		ND				14
09/24/14		6.6	-373	776		ND				6
09/25/14		6.6	-379	859		ND				11
09/26/14		6.6	-378	824		ND				4
09/27/14		6.6	-378	834	ND	ND				18
09/28/14		6.6	-376	850		ND				8
09/29/14		6.6	-373	850		ND			1.7	6
09/30/14		6.6	-375	834		ND				11
Monthly Average		6.6	-368	828	ND	ND	ND	1400	1.2	7

Notes:

- 1: Computer outage; flow and hours between readings adjusted while totalizer readings manually collected mid-day Oct 1
  - 2: ETI = Envirogen internal process control data, TA = TestAmerica data
  - 3: No data collected
- ND = Not detected above laboratory detection limit (ClO<sub>4</sub> = 0.5 ug/L; ClO<sub>3</sub> = 10 ug/L; NO<sub>3</sub> = 0.055 mg/L)  
 Flow reported as gpm is a daily average calculated from the totalizer reading

## GW-11 Level Monitoring

Date	GW-11	
	Level (ft)	Volume (MG)
9/4/2014	14.6	41.4
9/11/2014	13.4	43.2
9/18/2014	13.3	43.3
9/25/2014	13.3	43.3

## GW-11 Leak Detection Monitoring

Date	Amount Pumped (gallons)
9/1/2014	0
9/11/2014	0

## GW-11 Composite Sample

Collected: 9/4/2014

Analytes	Concentration	Units
Perchlorate	100	mg/L
Chlorate	140	mg/L
Ammonia as N	2.6	mg/L
Total Phosphorus	0.11	mg/L
Total Dissolved Solids (TDS)	6000	mg/L
Total Suspended Solids (TSS)	43	mg/L
pH	8.27	s.u.
Calcium	360	mg/L
Iron	0.37	mg/L
Chromium (total)	0.016	mg/L
Chromium VI	ND	mg/L
Chloride	1800	mg/L
Nitrate as N	4.4	mg/L
Sulfate	1700	mg/L

Notes:

ND = Not detected above laboratory detection limit (CrVI = 0.25 ug/L)

Nevada Environmental Response Trust   Groundwater Extraction and Treatment System   Enhanced Operational Metrics						
Date	FBR Influent Concentration				Influent Function Load <sup>1</sup> (lbs/day)	6 Month Rolling Average (lbs/day)
	Flow (gpm)	ClO <sub>4</sub> (mg/L)	NO <sub>3</sub> as N (mg/L)	ClO <sub>3</sub> (mg/L)		
Oct 2013	971	117	11.5	230	821	750
Nov 2013	891	112	12.5	250	790	760
Dec 2013	905	101	12.2	230	741	759
Jan 2014	932	120	11.7	210	759	776
Feb 2014	950	113	12.0	210	762	778
Mar 2014	958	106	9.8	210	732	768
Apr 2014	966	56	4.0	110	376	693
May 2014	951	84	8.9	170	594	660
June 2014	906	123	9.0	220	735	660
July 2014	786	123	8.8	220	636	639
Aug 2014	880	116	10.6	190	663	623
Sept 2014	828	120	10.8	200	649	609

## Notes:

1: FBR loading calculated as  $[0.9 \cdot \text{NO}_3 \text{ as N} + 0.17 \cdot \text{ClO}_3 + 0.18 \cdot \text{ClO}_4 \cdot \text{Flow} \cdot 1440 / 1000000 \cdot 8.34]$

Concentrations and flow are presented as monthly average

# Figures

## Operational Metrics

Figure 1 - GW-11 Pond Volume and Perchlorate Concentration

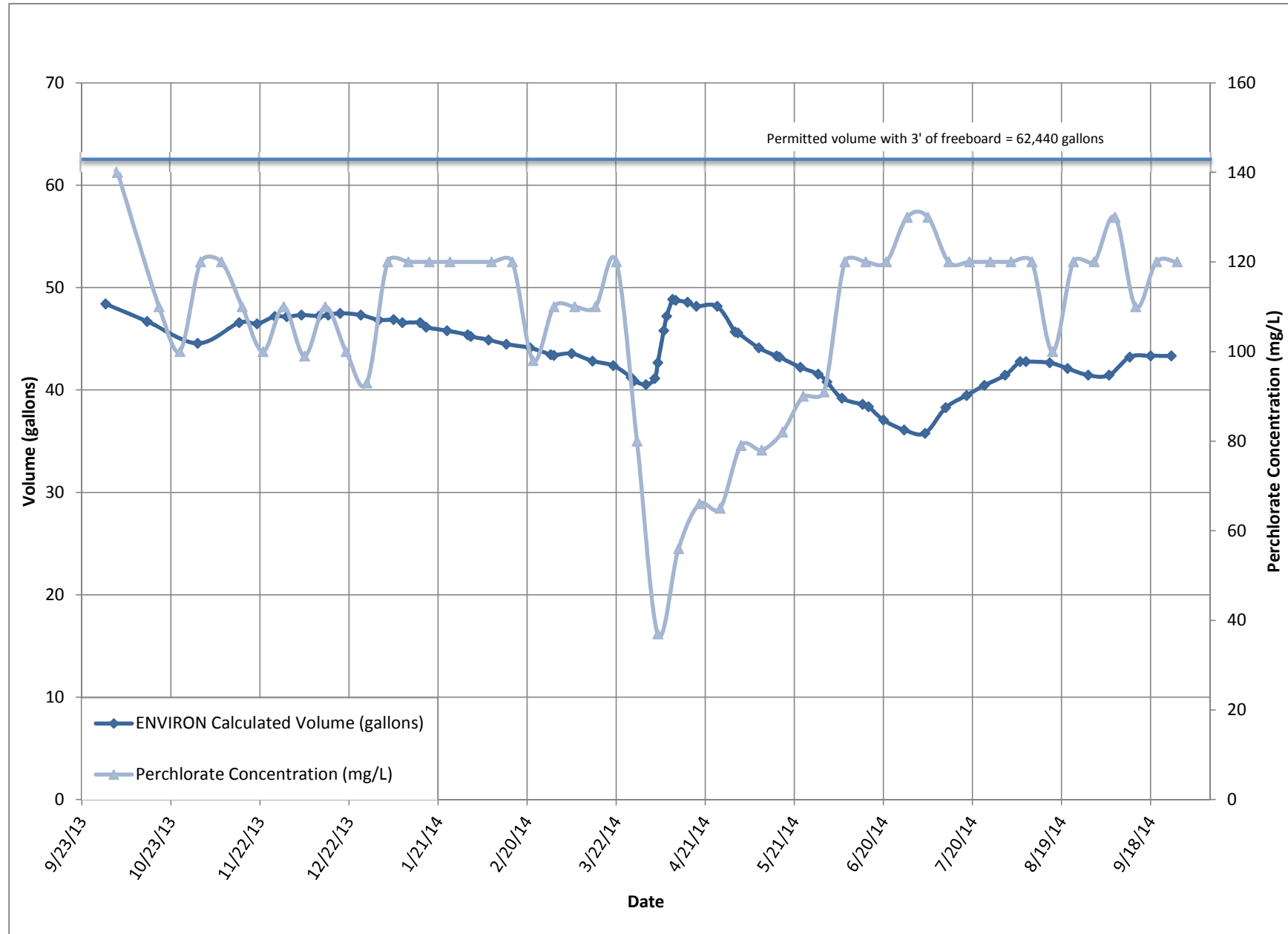
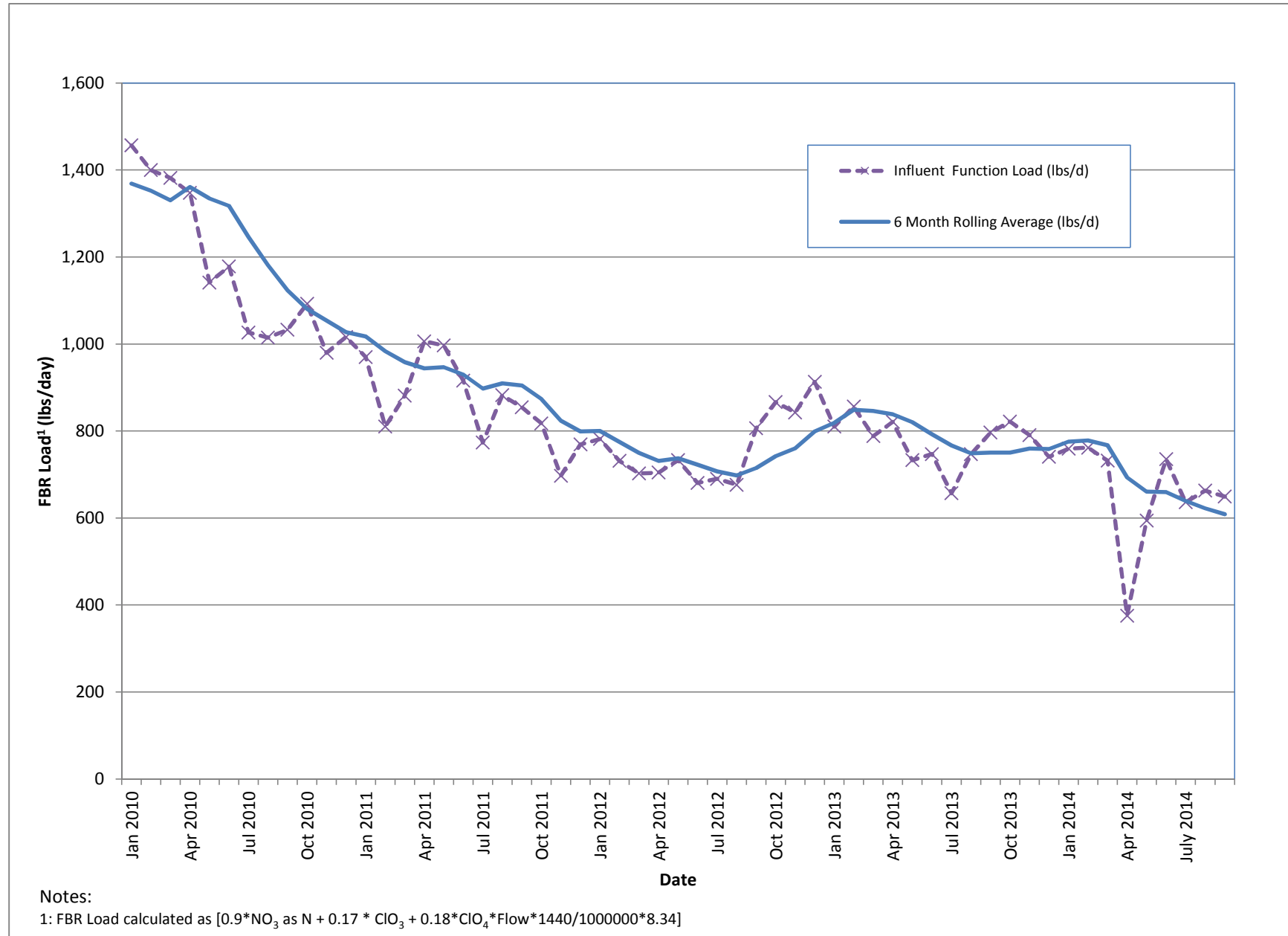




Figure 2 - FBR Loading



# Attachment A

NPDES Tracking Sheet (Prepared by ENVIRON)



# Attachment B

## Equipment Tracking Form

Sub-System	P&ID	Description	Status <sup>1</sup>	Checked	Notes
<b>Main Plant Equipment</b>					
<b>1</b>		<b>Seep Wells and Lift Station 1</b>			
1.01		Seep Well Field, 9 wells	Running	X	All 9 wells in operation
1.02		Lift Station 1 Lift Pump A	Running	X	
1.03		Lift Station 1 Lift Pump B	Standby	X	
<b>2</b>		<b>Athens Road Wells and Lift Station 3</b>			
2.01		Athens Road Well Field, 9 wells	Running	X	All 9 wells in operation
2.02		Lift Station 3 Lift Pump A	Standby	X	
2.03		Lift Station 3 Lift Pump B	Running	X	
<b>3</b>		<b>Lift Station 2 and Transmission Pipelines</b>			
3.01		Influent Pipeline	In operation	X	
3.02		Effluent Pipeline	Running	X	
3.03		Lift Station 2 Lift Pump A	Running	X	
3.04		Lift Station 2 Lift Pump B	Standby	X	
<b>4</b>		<b>Interceptor Wells and Cr Treatment Plant</b>			
4.01		IWF Well Field, 30 wells	Running	X	27 wells online
4.02		Ferrous Sulfate Feed System	Running	X	Replaced broken injection quill with check valve.
4.03		Polymer Feed System	Running	X	
4.04		Clarifier	In operation	X	
4.05		Filter Press	Running	X	Replaced O-rings on plates
4.06		GWTP Effluent Tank	In operation	X	
4.07		Interceptor Booster Pump A	Standby	X	
4.08		Interceptor Booster Pump B	Running	X	
<b>5</b>		<b>Equalization Area and GW-11 Pond</b>			
5.01	PID10A	Pond GW-11	In operation	X	
5.02	PID10A	Pond Water Pump - P101A	Off	X	
5.03	PID10A	Pond Water Pump - P101B	Off	X	
5.04	PID10A	Equalization Tanks	In operation	X	
5.05	PID10A	Raw Water Feed Pump - P102A	Running	X	
5.06	PID10A	Raw Water Feed Pump - P102B	Standby	X	Motor/pump in shop being worked on. 2.5 weeks out/ seal ordered

<sup>1</sup>Status Codes

Running - Unit is in operation

Standby - Spare or duplicate, not currently in operation

Maintenance - Out of service for maintenance

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

<b>Sub-System</b>	<b>P&amp;ID</b>	<b>Description</b>	<b>Status<sup>1</sup></b>	<b>Checked</b>	<b>Notes</b>
5.07	PID10B	<i>Carbon Absorber - LGAC 201A</i>	Running	X	
5.08	PID10B	<i>Carbon Absorber - LGAC 201B</i>	Running	X	
5.09	PID10B	<i>Carbon Absorber - LGAC 201C</i>	Standby	X	

<sup>1</sup>Status Codes

Running - Unit is in operation

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Sub-System	P&ID	Description	Status <sup>1</sup>	Checked	Notes
6		First Stage FBRs A, 1 & 2			
6.01	PID14	FBR A	Running	X	
6.02	PID14	Separator Tank - 1401	Running	X	
6.03	PID14	Media Return Pump - P 1401	Running	X	
6.04	PID14	P1401A	Standby	X	
6.05	PID01A	P1401B	Running	X	
6.06	PID01A	FBR 1	Running	X	
6.07	PID02A	FBR 2	Running	X	
6.08	PID01A	First Stage Separator Tank - T2011	Running	X	
6.09	PID01A	Media Return Pump - P2011	Running	X	
6.10	PID01A	First Stage FBR Pump - P1011	Standby	X	
6.11	PID01A	First Stage FBR Pump - P1012	Running	X	
6.12	PID01A	First Stage FRB Pump - P101A	Running	X	
6.13	PID07A	FBR A pH Feed Pump - P71A	Standby	X	
6.14	PID07A	FBR 1 pH Feed Pump - P711	Standby	X	
6.15	PID07A	FBR 2 pH Feed Pump - P712	Standby	X	
6.16	PID07A	FBR A Nutrient (Urea) Feed Pump - P72A	Off	X	
6.17	PID07A	FBR 1 Nutrient (Urea) Feed Pump - P721	Off	X	
6.18	PID07A	FBR 2 Nutrient (Urea) Feed Pump - P722	Off	X	
6.19	PID15	FBR A Nutrient (Phos Acid) Feed Pump - P1520A	Running	X	
6.20	PID15	FBR 1 Nutrient (Phos Acid) Feed Pump - P1521	Running	X	
6.21	PID15	FBR 2 Nutrient (Phos Acid) Feed Pump - P1522	Running	X	
6.22	PID07B	FBR A Electron Donor Assembly Pump - P73A	Running	X	
6.23	PID07B	FBR 1 Electron Donor Assembly Pump - P731	Running	X	
6.24	PID07B	FBR 2 Electron Donor Assembly Pump - P732	Running	X	

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

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<b>9</b>		<b>Second Stage FBRs 7 &amp; 8</b>			
9.01	PID03B	FBR 7	Running	X	
9.02	PID03B	FBR 8	Running	X	
9.03	PID03D	Second Stage Separator Tank - T3012	Running	X	
9.04	PID03B	Media Return Pump - P3012	Maintenance	X	Belt needs to be replaced.
9.05	PID03B	Second Stage FBR Pump - P3017	Standby	X	
9.06	PID03B	Second Stage FBR Pump - P3018	Running	X	
9.07	PID03B	Second Stage FBR Pump - P302A	Running	X	
9.08	PID07A	FBR 7 pH Feed Pump - P717	Standby	X	
9.09	PID07A	FBR 8 pH Feed Pump - P718	Standby	X	
9.10	PID07A	FBR 7 Nutrient (Urea) Feed Pump - P727	Off	X	
9.11	PID07A	FBR 8 Nutrient (Urea) Feed Pump - P728	Off	X	
9.12	PID07B	FBR 7 Electron Donor Assembly Pump - P737	Running	X	
9.13	PID07B	FBR 8 Electron Donor Assembly Pump - P738	Running	X	
<b>10</b>		<b>Aeration and DAF System</b>			
10.01	PID04	Aeration Tank	In operation	X	
10.02	PID04	Aeration Blower - B401	Running	X	
10.03	PID04	Biofilter	In operation	X	
10.04	PID04	Nutrient Solution	Running	X	
10.05	PID04	Biofilter Sump	Running	X	
10.06	PID04	Nutrient Pump - P401	Running	X	
10.07	PID04	Biofilter Sump Pump - P402A	Standby	X	
10.08	PID04	Biofilter Sump Pump - P402B	Off	X	Only one pump in place
10.09	PID04	Biofilter Blower	Running	X	
10.10	PID05	DAF Pressure Tanks	In operation	X	
10.11	PID05	DAF Vessel - D501	Running	X	
10.12	PID05	DAF Pressure Pump - P501	Running	X	
10.13	PID05	DAF Float Pump - P502	Running	X	
10.14	PID05	DAF Vessel - D551	Running	X	
10.15	PID05	DAF Pressure Pump - P551	Running	X	
10.16	PID05	DAF Float Pump - P552	Running	X	

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Sub-System	P&ID	Description	Status <sup>1</sup>	Checked	Notes
10.17	PID05	<i>Screw Conveyer Drive</i>	Standby	X	
10.18	PID05	<i>Skimmer Drive</i>	Running	X	

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Sub-System	P&ID	Description	Status <sup>1</sup>	Checked	Notes
<b>11</b>		<b>Pumping System (Old Effluent)</b>			
11.01	PID06	Effluent Tank 601	In operation	X	
11.02	PID06	Effluent Pump - P601	Maintenance	X	New mechanical seal being ordered.
11.03	PID06	Effluent Pump - P602	Running	X	
<b>12</b>		<b>Sand Filter System</b>			
12.01	PID17	Sand Filter	Running	X	Adjusted weirs and unclogging jammed airlifts.
12.02	PID17	Filter Reject Tank	In operation	X	New positioner being ordered
12.03	PID17	Filter Reject Pump - P1701A	Running	X	
12.04	PID17	Filter Reject Pump - P1701B	Standby	X	
<b>13</b>		<b>Effluent Tank and Pumping</b>			
13.01	PID10C	UV Effluent Tank	Running	X	
13.02	PID10C	Effluent Booster Pump - P1302A	Running	X	
13.03	PID10C	Effluent Booster Pump - P1302B	Standby	X	
<b>14</b>		<b>Solids Collection and Pressing System</b>			
14.01	PID16	Sludge Storage Tank	In operation	X	
14.02	PID16	Solids Storage Effluent Pump - P1601	Running	X	
14.03	PID16	Solids Cond. Tank	In operation	X	
14.04	PID09	Sludge Mixer	Running	X	
14.05	PID09	Filter Press Pump - P901	Running	X	
14.06	PID09	Filter Press Pump - P902	Standby	X	Replacement kits on order
14.07	PID09	West Press	Off	X	
14.08	PID09	East Press	Running	X	
14.09	PID09	Filtrate Tank	In operation	X	
14.10	PID09	Filtrate Tank Effluent (recycle) Pump - P903	Running	X	

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<b>Chemical Systems</b>					
<b>15</b>		<b>Electron Donor System</b>			
15.01	PID07B	<i>Electron Donor Tank</i>	In operation	X	
15.02	PID07B	<i>Booster Pump P739A</i>	Running	X	
15.03	PID07B	<i>Booster Pump P739B</i>	Standby	X	
<b>17</b>	PID07C	<b>Micro Nutrient System</b>	In operation	X	
<b>18</b>	PID07C	<b>Hydrogen Peroxide System</b>	In operation	X	
<b>19</b>	PID07C	<b>De-Foam System</b>	In operation	X	
<b>20</b>	PID15	<b>Nutrient (Phosphoric Acid) System</b> (Tank only - pumps included in FBRs)	In operation	X	
<b>21</b>	PID07A	<b>Nutrient (Urea) System</b> (Tank only - pumps included in FBRs)	In operation	X	
<b>22</b>	PID07A	<b>pH System</b> (Tank and effluent pH feed pump only - other pumps included in FBRs)	In operation	X	New feed line for effluent feed needs to be replaced.
<b>23</b>	PID07C	<b>Ferric Chloride System</b>	In operation	X	
<b>24</b>	PID07B	<b>Polymer Systems - DAF</b>	In operation	X	Replaced new check ball at injection point.
<b>25</b>	PID09	<b>Polymer System - Solids Dewatering</b> (2 tanks, 2 centrifugal pumps, mixer, volumetric feeder)	In operation	X	

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<b>Utility Systems</b>					
<b>26</b>		<b>Compressed Air System</b>			
26.01	PID08	West Compressor	Running	X	
26.02	PID08	East Compressor	Running	X	
26.03	PID08	O2 Compressor	Running	X	
26.04	PID08	Compressed Air Receiver Tank	In operation	X	
26.05	PID08	Air Dryer	Running	X	
26.06	PID08	Oil Removal Filter	In operation	X	
26.07	PID08	Particulate Filter	In operation	X	
27	PID16	<b>Oxygen System</b>	In operation	X	
28		<b>GWETS Plant Controls/ Siemens Controls</b>	In operation	X	Panel veiw installed. Not operational yet.
29		<b>Well Control System/ Allen Bradley Controls</b>	In operation	X	Computer sent to Matrix for repairs.
30		<b>MCC FBR Pad</b>	In operation	X	
31		<b>MCC in D-1</b>	In operation	X	
32		<b>MCC in EQ area</b>	In operation	X	
<b>Miscellaneous Systems</b>					
33		<b>Operations Office/Network</b>	In operation	X	
34		<b>Laboratory Analyzers</b>	In operation	X	IC repaired. New board installed.
35		<b>Security Systems</b>	In operation	X	
<b>Shelf Spares</b>					
		<b>Media Return Pump Rebuild Kit</b>	In stock	X	New suction and discharge disks for the 3" double disk pumps on
		<b>pH Feed Pump</b>	In stock	X	
		<b>Nutrient Feed Pump</b>	In stock	X	
		<b>Electron Donor Feed Pump</b>	In stock	X	
		<b>Phosphoric Acid Feed Pump</b>	In stock	X	
		<b>Interceptor Well Pumps (4 each)</b>	In stock	X	
		<b>Seep Well Pump (1 each, same as Athens so total of 2)</b>	In stock	X	
		<b>Athens Road Well Pump (1 each, same as Seep so total of 2)</b>	In stock	X	

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