



**BEAR VALLEY  
WATER DISTRICT**

P.O. Box 5027  
Bear Valley, CA 95223  
(209) 753-2112

**BOARD OF DIRECTORS:**  
DAVID B. RITCHIE  
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**15 February 2010**

**Victor Vasquez**

CVRWQCB

11020 Sun Center Drive #200

Rancho Cordova, CA 95670-6114

Subject: Order R5-2005-0139, Self-Monitoring Report, January 2010

Dear Mr. Vasquez:

**Monthly Report, Waste Discharge Requirements, Order 5-01-208**

Enclosed please find tabular summaries of monitoring data from the Bear Valley Wastewater Treatment Facility for the month of January 2010. No effluent was discharged to Bloods Creek, or to the Storage/Polishing Reservoir during this reporting period. In addition to the standard data tables we enclose for your convenience a data summary and photo log of recently performed sampling of the Storage/Polishing Reservoir and of Bloods Creek.

For your convenience, we discuss each of the attachment pages separately.

**Page 1**

The daily and total influent and Bloods Creek flow totals and routine influent monitoring results from the composite sampler are noted. Analysis of electrical conductivity on influent was not performed during January due to an inadvertent oversight. Two samples for electrical conductivity will be analyzed during February to compensate. During January we were unable to access the Treatment Pond surface to report dissolved oxygen level in the top one foot of the impoundment. The transfer pipe that conveys effluent from the Treatment Pond to the Storage/Polishing Reservoir was reassembled and the new flowmeter was installed during this reporting period. Pursuant historical practice when the pond surface is frozen, no samples were analyzed for dissolved oxygen or pH during this reporting period. During February it is anticipated that effluent will be transferred out of the Treatment Pond. When that happens, we will commence collecting samples from the outfall sample point, which is fed from the outfall intake located approximately four feet above the Treatment Pond floor. Consequently, we will not be sampling within one foot of the surface, but dissolved oxygen concentrations will likely be lower at the bottom of the pond than at the surface, so we believe the data will be relevant to compliance evaluation.

**Page 2**

There was no effluent transferred to the Storage/Polishing Reservoir during January.

The Reservoir surface was frozen during January, precluding routine sample collection from the surface. However, as described in last month's report, the sample tap on the outfall line that is accessible inside the Equipment House was placed in service during December and then used during this reporting period to collect samples for pH and dissolved oxygen (DO) as well as other parameters. As further described last month, and again in this report, a special project to collect samples from the surface of the Storage/Polishing Reservoir, and Bloods Creek, was conducted 15 January. The nitrogen and TDS analyses reported on Page 2 are from the sample collected from the surface of the reservoir.

### **Pages 3 & 4**

The summary table on page 3, in addition to a Bloods Creek sample, compares data from samples collected 15 January through the sample tap with a samples collected from the Storage/Polishing Reservoir surface the same date. The most significant variances we note are for Iron, Manganese, TSS, BOD and Total Coliform levels. Iron concentrations are an order of magnitude higher from the sample tap than from the surface of the reservoir. As discussed last month, this variance may result either from microbial substrate activity on the approximately 50-foot section of ductile iron and/or 300-foot section of ACP in the outfall piping, from solids scouring off the Reservoir bottom, or a combination of both these factors. The increased concentrations of TSS and Total Coliform may likewise be related to either of these factors. We note that BOD levels are less markedly elevated in the sample from the sample tap. It appears that the current conditions render samples from the sample tap as unrepresentative for parameters other than pH and dissolved oxygen. As the Reservoir gains volume thus lifting the outfall intake up away from the bottom, and further nitrification/denitrification proceeds via the combination of natural processes and snowmelt augmentation, it is anticipated that samples from the sample tap will become more representative.

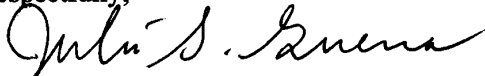
Page 4 also depicts sampling conducted 15 January from Bloods Creek. Iron and Manganese concentrations reported from the Bloods Creek sample are quite elevated. Due to the presence of snow and ice in the creek bed, flow is restricted. Consequently, we submit that the potential for the development of strong reducing conditions at this time, at this particular location, in Bloods Creek is therefore high and that the elevated Iron/Manganese concentrations are a result of ionic mobilization, a natural process.

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Order R5-2005-0139  
SMR January 2010  
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Please do not hesitate to contact me at (209) 753-2112 if there are any questions.

**I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.**

Respectfully,



Julio S. Guerra  
General Manager

cc: Board of Directors  
Gary Ghio, District Engineer

Enclosures

**BEAR VALLEY WASTE WATER TREATMENT FACILITY**

Monitoring and Reporting Program No. 5-01-208 & R5-2005-0139  
Alpine County

Month: **January**  
Year: **2010**

INFLUENT MONITORING						NPDES	TREATMENT POND		
Day	Daily Flow (MGD)	BOD <sub>5</sub> (mg/L)	pH (SU)	Electrical Conductivity (umhos/cm)	Total Suspended Solids (mg/L)	Discharge to Bloods Creek (MGD)	Dissolved Oxygen (mg/L)	pH (SU)	Freeboard (0.1 ft)
1	0.112		8.2			0.000	F R O N Z E N		7.9
2	0.089		7.7			0.000			7.9
3	0.051		8.1			0.000			7.8
4	0.033		8.3			0.000			7.8
5	0.030	915	8.2		1110	0.000			7.7
6	0.031		7.1			0.000			7.7
7	0.030		7.3			0.000			7.6
8	0.036		8.1			0.000			7.6
9	0.049		8.3			0.000			7.5
10	0.043		8.5			0.000			7.4
11	0.030		7.5			0.000			7.4
12	0.026	264	7.5		256	0.000			7.3
13	0.031		7.2			0.000			7.3
14	0.029		7.1			0.000			7.2
15	0.040		8.2			0.000			7.2
16	0.070		8.4			0.000			7.1
17	0.075		8.4			0.000			7.1
18	0.043		7.2			0.000			7.0
19	0.028	162	8.6		157	0.000			6.9
20	0.026		7.3			0.000			6.9
21	0.025		7.6			0.000			6.8
22	0.034		7.9			0.000			6.8
23	0.063		8.6			0.000			6.7
24	0.051		8.7			0.000			6.7
25	0.031		8.3			0.000			6.6
26	0.034	271	8.0		203	0.000			6.6
27	0.037		6.9			0.000			6.5
28	0.036		8.3			0.000			6.3
29	0.038		8.2			0.000			6.2
30	0.066		8.5			0.000			6.0
31	0.053		8.6			0.000			5.7
Total	1.368					0.000			
Max	0.112	915	8.7	0	1110	0.000			7.9
Min	0.025	162	6.9	0	157	0.000			5.7
Avg	0.044	403	8.0	#DIV/0!	432	0.000			7.1

**BEAR VALLEY WASTEWATER TREATMENT FACILITY**

Monitoring and Reporting Program No. 5-01-208 & R5-2005-0139

Alpine County

Month: **January**

Year: **2010**

Treatment Pond Effluent Monitoring									Storage Pond						
Day	Flow (MGD)	BOD (mg/L)	Settleable Solids (ml/L/hr)	Total Suspended Solids (mg/L)	Total Coliform Organisms (MPN/100 ml)	Total Kjeldahl Nitrogen (mg/L)	Nitrate-Nitrogen (mg/L)	Total Dissolved Solids (mg/L)	Dissolved Oxygen <sup>2</sup> (mg/L)	pH <sup>2</sup> (SU)	Total Kjeldahl Nitrogen <sup>1</sup> (mg/L)	Nitrate-Nitrogen <sup>1</sup> (mg/L)	Total Nitrogen <sup>1</sup> (mg/L)	Total Dissolved Solids <sup>1</sup> (mg/L)	Freeboard (Feet) Total Depth: 23.5 ft
1	0.000														
2	0.000														
3	0.000														
4	0.000														
5	0.000														19.8
6	0.000							4.7	6.92						
7	0.000														
8	0.000														
9	0.000														
10	0.000														
11	0.000														
12	0.000							4.8	6.86						19.8
13	0.000														
14	0.000														
15	0.000									3.6	3.2	6.8	170		
16	0.000														
17	0.000														
18	0.000														
19	0.000														
20	0.000							4.7	6.64						19.3
21	0.000														
22	0.000														
23	0.000														
24	0.000														
25	0.000														
26	0.000														
27	0.000							5.2	6.61						19.3
28	0.000														
29	0.000														
30	0.000														
31	0.000														
Total	0.000														
Max	0.000	-	-	-	-	-	-	5.2	6.9	3.6	3.2	6.8	170.0	19.8	
Min	0.000	-	-	-	-	-	-	4.7	6.6	3.6	3.2	6.8	170.0	19.25	
Avg	0.000	-	-	-	-	-	-	4.9	6.8	3.6	3.2	6.8	170.0	20	

**NO EFFLUENT DURING JANUARY**

<sup>1</sup> Total Nitrogen and TDS shall only be conducted in those months when application to disposal area occurs

<sup>2</sup> Reservoir surface frozen, samples from outfall sample tap

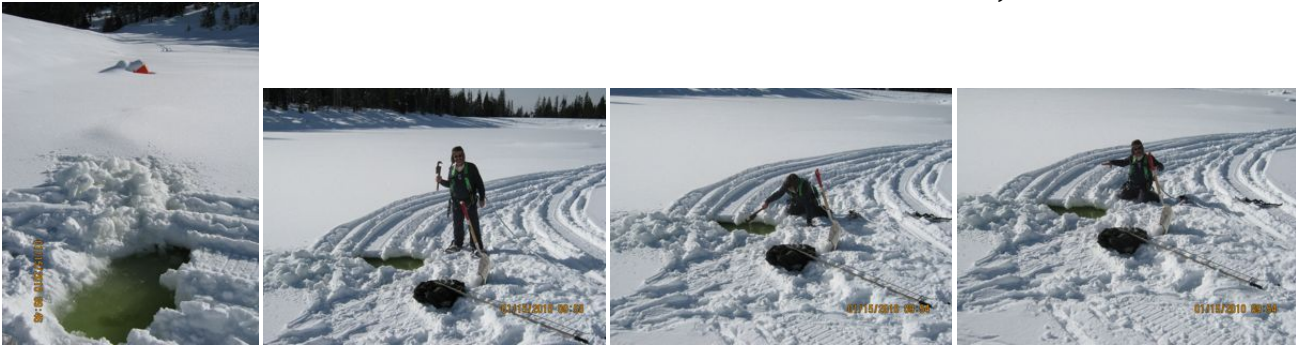
# BEAR VALLEY WATER DISTRICT

## STORAGE RESERVOIR, BLOODS CREEK SAMPLES

### JANUARY 2010

	STORAGE RESERVOIR SURFACE	STORAGE RESERVOIR SAMPLE TAP	BLOODS CREEK UNDER BRIDGE
<b>Parameter</b>	<b>1/15/10</b>	<b>1/15/10</b>	<b>1/15/10</b>
Aluminum (mg/L)	0.078	0.167	<0.050
Copper (mg/L)	0.003	0.0044	<0.003
Copper, Dissolved (mg/L)	0.0032	<0.003	<0.003
Iron (mg/L)	0.195	7.03	19.1
Iron, Dissolved (mg/L)	0.109	2.37	18.0
Manganese (mg/L)	0.138	0.647	4.28
Manganese, Dissolved (mg/L)	0.101	0.531	4.27
BOD (mg/L)	4.2	16	-
CBOD (mg/L)	1.5	15	-
TSS (mg/L)	<5.0	66	-
Na (mg/L)	13	29	6.9
Cl (mg/L)	10	20	8.6
Fl (mg/L)	<0.10	<0.10	<0.10
TKN (mg/L)	3.6	16	<1.0
NO3-N (mg/L)	3.2	<0.050	<0.050
NH3-N (mg/L)	1.4	11	0.67
TDS (mg/L)	170	185	142
EC (umho/CM)	126	341	251
TC-15 (MPN/100 ml)	4	23	300
FC-15 (MPN/100 ml)	<2	<2	<2
Hardness (mg/L)	28	63	91
Turbidity (NTU)	4.6	40	18

**BVWD**  
**PHOTO LOG, SAMPLE COLLECTION**  
**SURFACE OF STORAGE RESERVOIR AND BLOODS CREEK 15 JANUARY 2010**



Pictured Above is first reconnaissance hole. Reservoir water depth only 21 inches at this location, not suitable for sample.

To right is float attached to intake of 12-inch outfall hose with a four-foot length of chain. The float appears to be resting on reservoir bottom at edge of withdrawal sump.



Above and to left is pictured the access hole utilized to collect samples. This is at the withdrawal sump (note location relative to orange float) and water depth was measured to be approximately 5'7". With outfall hose four feet below float, it is likely that water flowing through outfall to sample tap is affected by proximity to reservoir floor.



To left sampling is being conducted from the surface of Bloods Creek under the bridge at the outfall location.