



**BEAR VALLEY
WATER DISTRICT**
P.O. Box 5027
Bear Valley, CA 95223
(209) 753-2112

BOARD OF DIRECTORS:
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21 November 2011

Mary Boyd
CVRWQCB
11020 Sun Center Drive #200
Rancho Cordova, CA 95670-6114

Subject: Order 5-01-208, Discharge Monitoring Report (DMR), October 2011

Dear Ms. Boyd:

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 October 2011. No effluent was discharged to Bloods Creek during this reporting period.

During this reporting period the following significant events occurred:

- The Main Pump Station Flood Control Project progressed;
- The third tri-annual groundwater monitoring event occurred on 20 October;
- Land application ended 31 October.

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

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The daily and total influent and Bloods Creek discharge flow totals and routine influent monitoring results from the influent composite sampler are presented, as well as routine Bloods Creek and Treatment Pond monitoring data.

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0.609 MG of Treatment Pond effluent was transferred to the Polishing Reservoir during October. Total volume transferred this season (October 2010-present) is 41.710 MG. That volume represents 39.3% of total reservoir volume of 106 MG. However, on 10 July 2011, the 2-foot freeboard margin had been exceeded by 1.5 feet and peak reservoir volume was then estimated to be 116.5 MG, which represented 110% of capacity.

Following peak volume, as we have been drawing down the reservoir, an additional 3.538 MG was transferred in; so, during this land application season, the total effluent volume we have been managing is 120.038 MG. So, ultimately, Treatment Pond effluent comprised 34.7% of total effluent for disposal, with a total influx volume of 78.328 MG. This amazing proportion of reservoir influx is due to the fact we experienced a greater than 1 in 100 return precipitation year. The total precipitation between 10/1/2010 9/30/2011 was 90.21 inches; at our location the 1-100 return level is 82.3 inches.

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Routine Polishing Reservoir monitoring data is presented. On 31 October approximately 40.7 MG was estimated to remain in the reservoir; as of that date 62.677 MG had been land applied. As above noted, the total effluent volume thus far this season is calculated to be 120.038 MG, consequently reservoir volume has been reduced by 79.338 MG, or an additional 16.661 MG than has been discharged to land.

It is recognized that reservoir volume estimates are based on original design drawings that have not been independently verified since 1974. It was the District's intent to perform an aerial survey of the reservoir this Fall to validate or revise our estimates, and, in the process, to install an engineered measuring device to improve the accuracy of our measurements. Unfortunately, due to the circumstance of this 1-100 return precipitation year, it was not possible to empty the reservoir to complete these tasks.

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Loadings to all land application fields for the reporting period are presented. The Land Application Maximization Report submitted recently contains detailed information on loadings to individual fields for the entire season.

Land application activities ended on 31 October. Although we had hoped to continue application into November, a storm hit on 3 November and put an end to the season.

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

enclosure

BEAR VALLEY WASTE WATER TREATMENT FACILITY

Monitoring and Reporting Program No. 5-01-208

Alpine County

Month: **October** Year: **2011**

INFLUENT MONITORING												NPDES BLOODS CREEK				TREATMENT POND			
Day	Daily Flow (MGD)	BOD ₅ (mg/L)	pH Avg (SU)	pH Max (SU)	pH Min (SU)	E C (umhos/cm)	TSS (mg/L)	BOD ₅ (lbs/day)	TSS (lbs/day)	Daily Precipitation (Inches)	Snow Water Content (Inches)	Discharge to Bloods Creek (MGD)	Bloods Creek Flow (MGD)	Dissolved Oxygen (mg/L)	pH (SU)	Dissolved Oxygen (mg/L)	pH (SU)	Freeboard (0.1 ft)	
1	0.023		7.0	8.3	6.0					0.00	0.00	0.000	<0.300					2.5	
2	0.018		7.2	8.5	6.2					0.00	0.00	0.000	<0.300					2.5	
3	0.018		6.8	8.2	6.3					0.00	0.00	0.000	<0.300					2.4	
4	0.018	248	6.8	8.0	6.3	523	206	36	30	0.38	0.00	0.000	<0.300					2.4	
5	0.013		6.2	6.7	6.0					2.89	0.47	0.000	<0.300					2.3	
6	0.010		5.9	6.1	5.7					0.15	1.43	0.000	<0.300					2.2	
7	0.015		6.8	8.0	6.1					0.00	1.55	0.000	<0.300	5.91	6.98	2.9	11.5	2.2	
8	0.023		6.9	8.3	6.1					0.00	1.43	0.000	<0.300					2.2	
9	0.030		6.7	8.4	6.2					0.00	1.43	0.000	<0.300					2.1	
10	0.035		6.5	7.7	6.2					0.70	1.19	0.000	<0.300					2.1	
11	0.015		6.5	8.7	5.7					0.28	0.71	0.000	<0.300					1.9	
12	0.015		6.8	7.7	6.7					0.00	0.35	0.000	<0.300					1.9	
13	0.015		7.0	10.7	6.7					0.00	0.23	0.000	<0.300	6.53	5.63			2.5	
14	0.015		6.5	8.0	6.5					0.00	0.23	0.000	<0.300					2.5	
15	0.025		7.0	8.3	6.3					0.00	0.23	0.000	<0.300			7.4	7.5	2.5	
16	0.023		6.7	8.5	6.1					0.04	0.23	0.000	<0.300					2.4	
17	0.010		6.7	7.2	6.0					0.00	0.23	0.000	<0.300					2.4	
18	0.013		6.8	7.8	6.0					0.00	0.23	0.000	<0.300					2.4	
19	0.010		6.8	7.8	5.6					0.00	0.23	0.000	<0.300					2.4	
20	0.015		6.8	8.1	6.3					0.00	0.23	0.000	<0.300					2.4	
21	0.013		6.9	8.0	6.3					0.00	0.23	0.000	<0.300					2.4	
22	0.018		6.6	7.8	6.2					0.00	0.23	0.000	<0.300	6.63	5.81	7.3	7.5	2.4	
23	0.015		6.5	8.3	6.2					0.00	0.11	0.000	<0.300					2.3	
24	0.013		6.4	7.5	6.1					0.00	0.11	0.000	<0.300					2.3	
25	0.010		6.7	7.9	6.1					0.00	0.11	0.000	<0.300					2.3	
26	0.015		6.8	7.7	6.3					0.00	0.11	0.000	<0.300					2.3	
27	0.010		7.0	8.2	6.4					0.00	0.11	0.000	<0.300					2.3	
28	0.013		6.9	7.2	6.7					0.00	0.11	0.000	<0.300	6.43	6.60	7.8	7.5	2.3	
29	0.015		6.6	7.6	6.0					0.00	0.11	0.000	<0.300					2.3	
30	0.018		6.3	7.8	5.9					0.00	0.11	0.000	<0.300					2.3	
31	0.013		6.7	8.3	6.1					0.00	0.11	0.000	<0.300					2.3	
Total	0.505									4.44		0.000	<0.300						
Max	0.035	248	7.2	10.7	6.7	523	206	36	30	2.89	1.55	0.000	<0.300	6.6	6.98	7.8	11.5	2.5	
Min	0.010	248	5.9	6.1	5.6	523	206	36	30	0.00	0.00	0.000	<0.300	5.9	5.63	2.9	7.5	1.9	
Avg	0.016	248	6.7	8.0	6.2	523	206	36	30	0.14	0.38	0.000	<0.300	6.4	6.26	6.3	8.5	2.3	

BEAR VALLEY WASTEWATER TREATMENT FACILITY

Monitoring and Reporting Program No. 5-01-208

Alpine County

Month: **October** Year: **2011**

Treatment Pond Effluent Monitoring															
Day	Flow (MGD)	BOD (mg/L)	BOD ₅ (lbs/day)	Settleable Solids (ml/L/hr)	TSS (mg/L)	TSS (lbs/day)	Total Coliform Organisms (MPN/100 ml)	Total Kjeldahl Nitrogen (mg/L)	Ammonia-Nitrogen (mg/L)	Nitrate-Nitrogen (mg/L)	TDS (mg/L)	Turbidity (NTU)	Total Chlorine Residual (mg/L)	Contact Time (mg/minutes)	Chlorine Used (lbs)
1	0.000														
2	0.000														
3	0.000														
4	0.000														
5	0.000														
6	0.000														
7	0.000											3.11			
8	0.000														
9	0.000														
10	0.000														
11	0.000														
12	0.000														
13	0.572	2	9.5	<0.1	2.2	10		16	13	0.21	139		1.4	42	8
14	0.000														
15	0.000											5.97			
16	0.000														
17	0.000														
18	0.000														
19	0.015	5.9	0.7	<0.1	5.9	0.7	22						2.0	2363	1
20	0.000														
21	0.000														
22	0.000											5.04			
23	0.000														
24	0.000														
25	0.000														
26	0.000														
27	0.000														
28	0.000											4.27			
29	0.000														
30	0.000														
31	0.022						<2						4.7	3657	2
Total	0.609														
Max	0.572	5.9	9.5	<0.1	5.9	10.5	22.0	16.0	13.0	0.210	139	6.0	4.7	3657	8
Min	0.000	2.0	0.7	<0.1	2.2	0.7	<2	16.0	13.0	0.210	139	3.1	1.4	42	1
Avg	0.020	4.0	5.1	<0.1	4.1	5.6	<12	16.0	13.0	0.210	139	4.6	2.7	2021	4

BEAR VALLEY WASTEWATER TREATMENT FACILITY

Monitoring and Reporting Program No. 5-01-208

Alpine County

Month: October		Reservoir Surface			Polishing Reservoir Sample Tap						
Year: 2011	Freeboard (Feet) Total Depth: 23.5 ft	DO (mg/L)	pH (SU)	Turbidity (NTU)	NH3-N (mg/L)	TKN (mg/L)	NO3-N (mg/L)	Total Nitrogen (mg/L)	TDS (mg/L)	BOD (mg/L)	TSS (mg/L)
1	12.9										
2	13.2										
3	13.4										
4	13.6										
5	13.6										
6	13.5										
7	13.4	8.9	9.1	2.4							
8	13.4										
9	13.4										
10	13.4										
11	13.3										
12	13.3										
13	13.1										
14	13.2										
15	13.4	10.3	9.5	1.66							
16	13.6										
17	13.7										
18	13.9										
19	14.1				0.78	3.0	0.15	3.15	52		
20	14.2										
21	14.4										
22	14.6	10.1	9.4	2.79							
23	14.7										
24	14.9										
25	15.2										
26	15.3										
27	15.5										
28	15.5	10.1	9.9	2.10							
29	15.5										
30	15.5										
31	15.5										
Total											
Max	15.5	10.3	9.9	2.790	0.8	3.0	0.150	3.2	52.0	0.0	0.0
Min	12.9	8.9	9.1	1.660	0.8	3.0	0.150	3.2	52.0	0.0	0.0
Avg	14.1	9.8	9.5	2.238	0.8	3.0	0.150	3.2	52.0	#DIV/0!	#DIV/0!

BEAR VALLEY WASTEWATER TREATMENT FACILITY

Monitoring and Reporting Program No. 5-01-208

Alpine County

Month: **October**

Year: **2011**

Disposal Area Monitoring							
DATE	FLOW (MGD)	Rainfall (Inches)	Acreage Applied (Acres)	Total Nitrogen (mg/L)	Nitrogen Application Rate (lbs/acre)	Total Dissolved Solids (TDS) (mg/L)	TDS Application Rate (lbs/acre)
1	0.743	0.00	80.0		0.24		4.0
2	0.810	0.00	80.0		0.27		4.4
3	0.904	0.00	80.0		0.30		4.9
4	0.576	0.38	80.0		0.19		3.1
5	0.000	2.89	80.0		0.00		0.0
6	0.000	0.15	80.0		0.00		0.0
7	0.000	0.00	80.0		0.00		0.0
8	0.000	0.00	80.0		0.00		0.0
9	0.000	0.00	80.0		0.00		0.0
10	0.000	0.70	80.0		0.00		0.0
11	0.000	0.28	80.0		0.00		0.0
12	0.000	0.00	80.0		0.00		0.0
13	0.322	0.00	80.0		0.11		1.7
14	0.726	0.00	80.0		0.24		3.9
15	0.457	0.00	80.0		0.15		2.5
16	0.516	0.04	80.0		0.17		2.8
17	0.460	0.00	80.0		0.15		2.5
18	0.463	0.00	80.0		0.15		2.5
19	0.690	0.00	80.0	3.15	0.23	52	3.7
20	0.476	0.00	80.0		0.16		2.6
21	0.557	0.00	80.0		0.18		3.0
22	0.516	0.00	80.0		0.17		2.8
23	0.583	0.00	80.0		0.19		3.2
24	0.573	0.00	80.0		0.19		3.1
25	0.474	0.00	80.0		0.16		2.6
26	0.617	0.00	80.0		0.20		3.3
27	0.110	0.00	80.0		0.04		0.6
28	0.357	0.00	80.0		0.12		1.9
29	0.238	0.00	80.0		0.08		1.3
30	0.279	0.00	80.0		0.09		1.5
31	0.551	0.00	80.0		0.18		3.0
Total MG:	11.999	4.44	Total Inches	Total lbs N/acre:	3.94	Total lbs TDS/acre:	65
Avg	0.387	0.278		3.15	0.13	52	2.1
Max	0.904	2.89		3.15	0.30	52	4.9
Min	0.000	0.00		3.15	0.00	52	0.0

MG/acre: 0.180