



**COUNTY OF PLACER  
FACILITY SERVICES DEPARTMENT**

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www.placer.ca.gov

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June 14, 2010

Diana C. Messina, Senior Engineer  
NPDES - Sacramento Watershed Unit  
Central Valley Water Quality Control Board  
11020 Sun Center Drive, Suite 200  
Rancho Cordova, CA 95670-6114

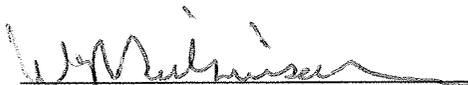
**RE: NEW ALUMINUM INFORMATION – PLACER COUNTY SEWER MAINTENANCE  
DISTRICT 1 WASTEWATER TREATMENT PLANT, NPDES CA0078956**

Dear Ms. Messina:

Placer County Department of Facility Services (County) is submitting the attached June 14, 2010 letter from Michael Bryan of RBI that includes additional new information related to permitting of Aluminum for the Sewer Maintenance District 1 (SMD 1) Wastewater Treatment Plant (WWTP). The letter includes updated hardness data, a new letter from Charles Delos dated June 10, 2010, and as a courtesy, the November 1, 2002 letter from Charles Delos that was presented at the May 27, 2010 Board Hearing. The County believes the attached letters and data provide sufficient information to justify the removal of the Aluminum effluent limitation from the Tentative NPDES permit and Cease and Desist Order based on no reasonable potential.

If you have any questions or concerns please contact David Atkinson of my staff at (530) 886-4968.

Sincerely,

  
Will Dickinson, Deputy Director

WD/KB

Attachment

June 14, 2010 Letter from Michael Bryan

T:\FAC\SPEC\_DIST(New)\9910 NPDES Permits\SMD 1\2010 Permit Negotiation\Final Draft 5-13-10\Aluminum\20100614\_cvr ltr.doc

11476 C Avenue Auburn CA 95603  
Entrance at 2855 2nd Street

Administration – Building Maintenance – Capital Improvements – Museums – Parks  
Property Management – Environmental Engineering - Utilities



June 14, 2010

**DELIVERED BY EMAIL**

Mr. Jim Durfee  
County of Placer – Dept. of Facility Services  
11478 C Avenue  
Auburn, CA 95603

**Re: Additional Information Pertaining to the Proper Permitting of Aluminum for the SMD1 Site**

Dear Mr. Durfee:

As you are aware, Robertson-Bryan, Inc. assisted the County of Placer (County) in developing and submitting to Central Valley Regional Water Quality Control Board (Regional Water Board) staff written comments on the preliminary draft and tentative NPDES permit and Cease and Desist Order (CDO) issued as part of renewing these Orders for the County's SMD1 Wastewater Treatment Plant (WWTP). A key comment in both submittals was that which addressed the applicable U.S. EPA recommended aluminum criteria for the SMD1 site, which is 750 µg/L, not the 87 µg/L criterion that Regional Water Board staff have used. I also provide oral testimony at the May 27, 2010 Regional Water Board Hearing that addressed the applicable aluminum criteria for the SMD1 WWTP. Due, in part, to the aluminum comments and testimony, the Board continued the SMD1 permit hearing, indicating that, among several other matters, they wanted to hear more on the aluminum issue to assure that it was being permitted properly for this facility.

As part of my oral testimony on this matter, I quoted from a letter I received on the aluminum issue (dated November 1, 2002) from Mr. Charles Delos of U.S. EPA Headquarters in Washington D.C., which I obtained and submitted to Regional Water Board staff during the previous permit renewal for SMD1. Mr. Charles Delos is in U.S. EPA's Office of Water, Criteria Division. He provides technical assistance nationally on matters of proper application of adopted and U.S. EPA recommended water quality criteria.

On Wednesday, June 9, 2010, I spoke with Mr. Delos and requested an update to his November 1, 2002 letter providing technical assistance on the proper permitting of aluminum for the County's SMD1 WWTP. He agreed to update his recommendation for the current NPDES permit renewal for SMD1, based on current site-specific hardness information. Thus, I sent him an Excel file containing updated hardness data for the effluent and receiving waters (Attachment 1).

On Thursday, June 10, 2010, I received U.S. EPA's updated recommendation for the proper permitting of aluminum at the SMD1 site (Attachment 2). Also attached, for your convenience, is U.S. EPA's 2002 letter (Attachment 3).

As stated in U.S. EPA's June 10, 2010 letter: "For SMD No. 1 a criterion of 750 µg/L is appropriate." When comparing the maximum effluent concentration (MEC) for aluminum of 162 µg/L to the applicable aquatic life criterion of 750 µg/L, one finds that no reasonable potential to cause an exceedance of the applicable criterion in the receiving water exists. Likewise, SMD1's aluminum MEC of 162 µg/L is less than the drinking water maximum contaminant level (MCL) of 200 µg/L, and thus no reasonable potential exists with respect to the MCL. Consequently, the effluent aluminum limitation should be removed from both the tentative permit and CDO because no reasonable potential exists for SMD1 discharges to cause applicable aquatic life or human health aluminum criteria to be exceeded in the receiving water. In such cases, no effluent limitation is required.

Please submit this letter and its attachments to Regional Water Board staff. I believe it will definitively clarify that: 1) 750 µg/L is the U.S. EPA recommended aluminum criterion applicable to the SMD1 site, and 2) the aluminum effluent limitation should be removed from the tentative permit and CDO on the basis that no reasonable potential exists for this constituent.

Sincerely,

**ROBERTSON-BRYAN, INC.**



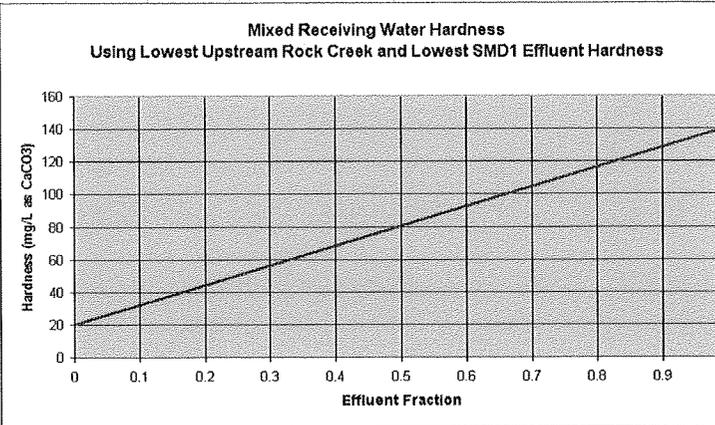
Michael D. Bryan, Ph.D.  
Partner/ Principal Scientist

Attachment 1: SMD1 Site Hardness Data  
Attachment 2: U.S. EPA's 2010 Letter for SMD1  
Attachment 3: U.S. EPA's 2002 Letter for SMD1

Cc. Kevin Bell, County of Placer  
Dave Atkinson, County of Placer  
Bill Zimmerman, County of Placer  
Roberta Larson, Somach, Simmons, and Dunn

**ATTACHMENT 1: SMD1 SITE HARDNESS DATA**

	Placer County SMD1 Effluent Hardness (as CaCO <sub>3</sub> ) (mg/L)	Upstream (R1) Rock Creek Hardness (as CaCO <sub>3</sub> ) (mg/L)	Upstream (R3) Dry Creek Hardness (as CaCO <sub>3</sub> ) (mg/L)
7/7/2005	210		
8/10/2005	190		
9/2/2005	180		
11/1/2005	230		
12/1/2005	270		
1/11/2006	160		
3/29/2006		256	230
3/31/2006		74	62
4/3/2006		66	60
4/5/2006		98	
4/7/2006		44	
4/10/2006		76	68
4/12/2006		78	70
4/14/2006		88	78
7/11/2006	244		
8/14/2006		44	70
8/16/2006		30	82
8/18/2006		38	86
8/23/2006		32	
10/2/2006		36	
10/4/2006		34	
10/6/2006		36	
10/16/2006		40	
10/18/2006		40	
10/26/2006	215		
11/15/2006	237		
12/14/2006	264		
1/10/2007	301		
3/6/2007	263		
3/19/2007		70	60
3/21/2007		74	98
3/23/2007		98	48
4/3/2007	268		
5/8/2007	230		
6/7/2007	250		
6/11/2007		20	82
6/13/2007		20	80
6/15/2007		20	78
8/6/2007		20	46
8/8/2007		20	54
8/10/2007		20	60
8/16/2007	291		
9/11/2007	274		
10/2/2007	286		
11/8/2007	238		
11/13/2007	237		
12/6/2007	233		
12/10/2007		48	
12/12/2007		40	
12/14/2007		30	
1/14/2008		78	
1/16/2008		58	
1/18/2008		62	
2/22/2008	230		
4/2/2008	195		
4/14/2008		48	
4/16/2008		48	
4/18/2008		50	
7/10/2008	157		
8/11/2008		26	62
8/13/2008		24	58
8/15/2008		30	56
10/6/2008		26	
10/8/2008	202	26	
10/10/2008		26	
12/8/2008	141		
1/6/2009	143		
1/16/2009	149		
1/26/2009		90	
1/28/2009		96	
1/30/2009		62	
4/9/2009	180		
6/8/2009		36	78
6/10/2009		34	88
6/12/2009		32	88
<b>High</b>	<b>301</b>	<b>256</b>	<b>230</b>
<b>Low</b>	<b>141</b>	<b>20</b>	<b>46</b>
<b>Mean</b>	<b>223</b>	<b>52</b>	<b>77</b>
For Plotting	1	0	



\* Downstream receiving water hardness would always be at or above the blue line.

**ATTACHMENT 2: U.S. EPA'S 2010 LETTER FOR SMD1**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
WATER

June 10, 2010

Michael Bryan, Ph.D.  
Robertson-Bryan, Inc.  
9888 Kent Street  
Elk Grove, CA 95624

Dear Dr. Bryan:

I have looked over the material you sent me on the hardness of the Placer County SMD No. 1 effluent, Rock Creek, and Dry Creek (SMD1 Hardness Data-6-9-2010 update.xls). I considered it with regard to setting limitations on the effluent aluminum. As I have discussed in a 2002 letter to you, the 87  $\mu\text{g/L}$  aluminum criterion is based on low pH and very low hardness conditions. Under more ordinary pH and hardness conditions, a chronic criterion of 750  $\mu\text{g/L}$ , such as applied by the States of Texas and Utah, is appropriate and protective of aquatic life.

The hardness of the SMD No. 1 effluent is high, and the upstream hardness of Rock Creek and Dry Creek is generally moderate. With respect to the aluminum discharged in the effluent, the critical condition for protection of aquatic life is the low dilution condition. For SMD No. 1 a criterion of 750  $\mu\text{g/L}$  is appropriate. Because the effluent aluminum would be diluted simultaneously with any dilution of effluent hardness, there is no basis for anticipating that the effluent aluminum would pose a toxicity problem during periods of higher dilution flow, when it allows attainment of the 750  $\mu\text{g/L}$  criterion in low-dilution situations.

If you have further questions, do not hesitate to ask.

Sincerely,

A handwritten signature in cursive script that reads "Charles Delos".

Charles Delos  
Environmental Scientist  
Health and Ecological Criteria Division  
Office of Science and Technology, Office of Water

**ATTACHMENT 3: U.S. EPA'S 2002 LETTER FOR SMD1**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
WATER

11/01/2002 04:45 PM

To: Michael Bryan <bryan@robertson-bryan.com>  
cc: Gary Wolinsky/R9/USEPA/US@EPA  
Subject: Aluminum criterion

Michael Bryan:

I have looked over the material you sent me (attached below) on the flow and quality of the Placer County SMD No. 1 effluent, Rock Creek, and Dry Creek, and considered it with regard to safe concentrations of aluminum. As I have discussed by phone and as Gary Wolinsky has pointed out in his note, the 87 ug/L aluminum criterion is based on low pH and very low hardness conditions, similar to what might occur in acid rain affected Adirondack lakes. Under more ordinary pH and hardness conditions, a chronic criterion of 750 ug/L, such as applied by the States of Texas and Utah, is appropriate.

The hardness of the SMD No. 1 effluent is high, and the upstream hardness of Rock Creek and Dry Creek is moderate. The downstream hardness would be much too high for aluminum to elicit effects at concentrations near in magnitude to 87 ug/L. Under the pH and hardness conditions described for the site, it appears that a criterion of 750 ug/L, would be appropriate.

Whether applying the 87 ug/L criterion or the 750 ug/L criterion, aluminum bound to clay particles (aluminum silicate) would not be included in determining attainment of the criterion.

EPA would in no way object to the state applying a criterion of 87 ug/L, since such a criterion would undoubtedly be protective. However, it should not be expected that any environmental benefit would accrue from its application in this situation.

If you have further questions, do not hesitate to ask.

Charles Delos  
Environmental Scientist  
Health and Ecological Criteria Division  
Office of Science and Technology, Office of Water

A handwritten signature in black ink that reads "C. Delos".