COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (562) 699-7411, FAX: (562) 699-5422
www.lacsd.org

GRACE ROBINSON HYDE
Chief Engineer and General Manager

November 6, 2017
File No. 31-320.10

Mr. Chris Marks
Denali Water Solutions
2001 West Key Street
Colton, CA 92324

Dear Mr. Marks:

Transmittal of LACSD JWPCP Biosolids Monitoring Report

Attached please find the LACSD JWPCP Biosolids Monitoring Report for September 2017. The Report includes the following data for your files:

Biosolids
- total and soluble metals
- digester performance
- detected priority pollutants
- miscellaneous constituents

I certify, under penalty of law, that the Class B pathogen reduction requirements in 503.32(b)(3) and the vector attraction reduction requirements in 503.33(b)(1) have been met. These determinations have been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

I certify, under penalty of law, that the biosolids are non-hazardous in accordance with Title 22, California Code of Regulations (CCR), Division 4.5, Chapter 11, Article 3, Section 66261.24(a)(2)(A) Table II (Priority Pollutant Metals).

Attached are the analytical test results in accordance with Title 22, California Code of Regulations (CCR), Division 4.5, Chapter 11, Article 3, Section 66261.24(a)(2)(A) Table II (Priority Pollutant Metals).

Should you have any further questions or require additional information, please contact Tom C. Fang at (562) 908-4288, extension 2825.

Very truly yours,

Melissa Fischer
Supervising Engineer
Reuse and Compliance Section

MF:TF:GS:nm
Attachments

#4078680

Notice and Necessary Information

To be Completed by Preparers of Class B Biosolids

Facility Name: Joint Water Pollution Control Plant (JWPCP) Monitoring Period: 09/01/2017 to 09/30/2017

1. Pollutant and Nitrogen concentrations (report results in mg/kg on a 100% dry weight basis. Attach lab analyses).

	As	Cd	Cu	Pb	Hg	Mo	Ni	Se	Zn	Org-N	NH_3-N	% solids
Result	7.99	5.2	324	18.5	1.13	25.7	44.4	32.2	781	46,300	5,760	29.6
Table 3	41	39	1500	300	17	na	420	100	2800	na	na	na
Table 1	75	85	4300	840	57	75	420	100	7500	na	na	na

Sampling date(s): 09/06/17 Sample Number(s): 17090600103

2. Class B Pathogen Reduction: (Check off and fill in applicable portion)

√ anaerobic for 20 days at 35.6 °C (96.2 °F) (range for past month)
Class B: either 15 days at 35°C to 55°C or 60 days at 20°C
___ aerobic digestion for ____to ____ days at _____to ____ degrees F / C (range for past month)
Class B: time (days) ≥ 20 - 15(temp, degrees C) for times between 40 and 60 days
___ drying beds for ____to_____ months (attach records of dates in and out)
Class B: time > 3 months; 2 months > 0 degrees C
___ fecal coliform: geometric mean of seven samples = _____ (attach lab results)
Class B: geometric mean of seven samples is < 2,000,000 mpn
___ lime stabilization: pH at 2 hours after addition = _____
Class B: pH 2 hours after addition of lime is ≥ 12

3. Vector Attraction Reduction:

√ Option 1: % VS_{in} = 75 % VS_{out} = 59 % VSR = 53 % per Van Kleeck method
VAR: VSR > 38%
____ Option 2/3: Bench scale test: % VSR = _____ after ____ days
VAR: additional VSR < 17% after 40 days (anaerobic), < 15% after 30 days (aerobic)
____ Option 4: SOUR = _____
VAR: SOUR < 1.5 mg O_2/hr/gram (dry weight)
____ Option 5: Composted _____ days at temps of _____ to _____degrees F/C (attach times/temps)
VAR: temp > 40 degrees C for 14 days, w/5 days > 45 degrees C
____ Option 6: time alkali added: _____ pH after 2 hours = ___ pH after 22 hours = ___
VAR: pH ≥ 12 for 2 hours after alkali addition, ≥ 11.5 for additional 22 hrs
____ Option 7: % solids = _____ Stabilization method: _____
VAR: stabilized solids > 75%
____ Option 8: % solids = _____
VAR: unstabilized solids > 90%
____ Option 9/10: Applier will inject/incorporate within _____ hours
VAR: injection within 1 hour, incorporation within 6 hours

Certification: I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or the persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and Official Title: Melissa Fischer - Supervising Engineer

Phone: (562) 908-4288 Extension 2824 E-mail: mfischer@lacsd.org

Prepared By: G. Salva GS Reviewed By: T. Fang TCF

Signature: _____ Date: 6 Nov 17

DENALI_005157

September 2017 BIOSOLIDS MANAGEMENT PROGRAM
JWPCP Biosolids Cake -Total Metals Concentrations
mg/kg Dry Weight

Sample No.	Date	% TS	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	Al
17010400198	1/3/2017	28.8	9.09	4.0	64.3	341	18.1	0.87	22.5	36.9	26.0	805	6,510
17020800151	2/7/2017	30.2	8.86	5.4	63.7	339	20.1	1.28	19.7	39.8	27.3	818	-
17030800165	3/7/2017	28.3	8.55	4.9	114	315	19.0	1.20	20.2	40.4	27.3	828	-
17040500179	4/4/2017	28.8	8.63	4.6	100	333	17.1	1.19	20.1	42.8	29.6	740	9,800
17050300216	5/2/2017	28.3	7.90	4.5	74.2	330	15.7	1.43	20.3	40.1	31.4	769	-
17060700201	6/6/2017	28.4	7.20	4.2	77.7	331	17.3	0.85	23.5	39.4	23.8	794	-
17071200223	7/11/2017	29.0	7.06	13.1	72.9	313	14.8	0.73	20.5	38.6	29.5	739	6,380
17080200149	8/1/2017	28.6	7.28	8.1	71.5	300	18.2	0.88	23.6	38.9	31.2	756	-
17090600103	9/5/2017	29.6	7.99	5.2	76.9	324	18.5	1.13	25.7	44.4	32.2	781	-
MEAN		**28.9**	**8.06**	**6.0**	**79.5**	**325**	**17.6**	**1.06**	**21.8**	**40.1**	**28.7**	**781**	**7,560**
MAX			**9.09**	**13.1**	**114**	**341**	**20.1**	**1.43**	**25.7**	**44.4**	**32.2**	**828**	**9,800**
TABLE 1 LIMITS		****	**75**	**85**	****	**4,300**	**840**	**57**	**75**	**420**	**100**	**7,500**	****
TABLE 3 LIMITS		****	**41**	**39**	****	**1,500**	**300**	**17**	****	**420**	**100**	**2,800**	****

Sample No.	Date	% TS	Sb	Ba	Be	Co	Fe	Mn	K	Ag	Tl	Sn	V
17010400198	1/3/2017	28.8	5.1	1,120	0.065	5.50	96,800	237	1,020	3.2	< 0.10	45.3	37.6
17020800151	2/7/2017	30.2	-	-	-	-	-	-	-	-	-	-	-
17030800165	3/7/2017	28.3	-	-	-	-	-	-	-	-	-	-	-
17040500179	4/4/2017	28.8	2.9	1,120	0.078	5.29	85,100	262	967	3.4	< 0.10	58.6	38.0
17050300216	5/2/2017	28.3	-	-	-	-	-	-	-	-	-	-	-
17060700201	6/6/2017	28.4	-	-	-	-	-	-	-	-	-	-	-
17071200223	7/11/2017	29.0	3.0	1,130	0.069	5.29	93,100	255	918	2.9	< 0.10	39.6	36.7
17080200149	8/1/2017	28.6	-	-	-	-	-	-	-	-	-	-	-
17090600103	9/5/2017	29.6	-	-	-	-	-	-	-	-	-	-	-
MEAN		**28.9**	**3.7**	**1,123**	**0.071**	**5.36**	**91,700**	**251**	**968**	**3.2**	**ND**	**47.8**	**37.4**
MAX			**5.1**	**1,130**	**0.078**	**5.50**	**96,800**	**262**	**1,020**	**3.4**	**ND**	**58.6**	**38.0**

\ = No limit
ND = Not Detected
-- = No Sample
Statistics use detected values only

September 2017 BIOSOLIDS MANAGEMENT PROGRAM
JWPCP Biosolids Cake - Nutrients and Miscellaneous Constituents
mg/kg Dry Weight (or as indicated)

Sample No.	Date	% TS	Sulfur	PO_4	NH_3-N	Org-N	NO_3-N	NO_2-N	Boron	Paint FilterTest (ml/100 g)	pH
17010400198	1/3/2017	28.8	31,900	78,300	6,230	49,000	< 138	3.88	24.5	< 1.0	8.3
17020800151	2/7/2017	30.2	28,700	-	5,860	47,300	< 131	4.56	-	-	-
17030800165	3/7/2017	28.3	28,400	-	6,900	47,400	< 141	3.78	-	-	-
17040500179	4/4/2017	28.8	30,200	86,800	9,380	44,200	< 139	3.80	27.5	< 1.0	8.2
17050300216	5/2/2017	28.3	30,900	-	6,050	47,200	< 141	< 3.53	-	-	-
17060700201	6/6/2017	28.4	28,500	-	7,390	48,500	< 140	4.22	-	-	-
17071200223	7/11/2017	29.0	34,500	87,200	8,400	48,800	< 137	< 3.42	25.8	< 1.0	8.1
17080200149	8/1/2017	28.6	30,200	-	8,090	45,700	< 139	< 3.47	-	-	-
17090600103	9/6/2017	29.6	35,000	-	5,760	46,300	< 135	< 3.38	-	-	-
MEAN		**28.9**	**30,900**	**84,100**	**7,120**	**47,200**	**ND**	**4.05**	**25.9**	**ND**	**8.2**
MAX			**35,000**	**87,200**	**9,380**	**49,000**	**ND**	**4.56**	**27.5**	**ND**	**8.3**

ND = Not Detected
- = No Sample
Statistics use detected values only.

3rd Quarter 2017 BIOSOLIDS MANAGEMENT PROGRAM
JWPCP Biosolids Cake - Soluble Metals Concentrations - mg/L
Analyzed by California Title 22 Waste Extraction Test

Sample No.	Date	Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe
17010400199	1/3/2017	132	0.06	0.15	24	< 0.010	< 0.005	0.88	0.076	< 0.10	2,290
17040500178	4/4/2017	209	0.04	0.09	21	< 0.010	< 0.005	1.09	0.071	< 0.10	2,070
17071200226	7/11/2017	142	0.03	< 0.05	49	< 0.010	< 0.005	0.97	0.075	< 0.10	2,180
MEAN		**161**	**0.04**	**0.12**	**31**	**ND**	**ND**	**0.98**	**0.07**	**ND**	**2,180**
MAX		**209**	**0.06**	**0.15**	**49**	**ND**	**ND**	**1.09**	**0.08**	**ND**	**2,290**
TITLE 22 STLCs		****	**15**	**5.0**	**100**	**0.75**	**1**	**5**	**80**	**25**	****

Sample No.	Date	Pb	Hg	Mo	Ni	K	Se	Ag	Tl	Sn	V	Zn
17010400199	1/3/2017	0.06	< 0.0005	0.29	< 1.0	< 50.0	0.02	< 0.02	< 0.04	< 0.04	0.70	10.9
17040500178	4/4/2017	0.02	< 0.0005	0.22	< 1.0	< 50.0	0.02	< 0.02	< 0.04	< 0.04	0.71	7.26
17071200226	7/11/2017	< 0.010	< 0.0005	0.18	< 1.0	< 50.0	0.02	< 0.02	< 0.04	< 0.04	0.73	27.9
MEAN		**0.04**	**ND**	**0.23**	**ND**	**ND**	**0.02**	**ND**	**ND**	**ND**	**0.71**	**15.4**
MAX		**0.06**	**ND**	**0.29**	**ND**	**ND**	**0.02**	**ND**	**ND**	**ND**	**0.73**	**27.9**
TITLE 22 STLCs		**5.0**	**0.2**	**350**	**20**	****	**1.0**	**5**	**7.0**	****	**24**	**250**

ND = Not Detected
\ = No Limit
Statistics use detected values only.

2017 BIOSOLIDS MANAGEMENT PROGRAM

JWPCP Digester Performance

Month	Temp (°F)	Detention Time (Days)	VSD (%)
January	96.1	19	51
February	96.2	20	55
March	96.2	17	52
April	96.3	19	54
May	96.1	18	54
June	96.2	18	51
July	96.2	20	55
August	96.1	21	52
September	96.2	20	53
MEAN	**96.2**	**19**	**53**
MIN	**96.1**	**17**	**51**

Semi-Annual JWPCP Biosolids Cake Detected Priority Pollutants mg/kg on a Dry Weight Basis

Date	1/3/17	7/11/17
Sample Numbers	17010400198	17071200223
	17010400199	17071200224
Constituent	**Result (mg/kg)**	**Result (mg/kg)**
Arsenic	9.09	7.06
Cadmium	4.0	13.1
Chromium	64.3	72.9
Copper	341	313
Lead	18.1	14.8
Mercury	0.87	0.73
Nickel	36.9	38.6
Selenium	26.0	29.5
Silver	3.2	2.9
Zinc	805	739
Antimony	5.1	3.0
Cyanide	3.89	4.19
Beryllium	0.065	0.069
Total Cyanide	3.89	4.19
Diethylhexyl Phthalate	66.1	65.7