

# CITY OF LOS ANGELES

CALIFORNIA



**ERIC GARCETTI**  
MAYOR

February 17, 2016

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—  
HYPERION TREATMENT PLANT  
12000 VISTA DEL MAR  
PLAYA DEL REY, CA 90293  
TEL: (310) 648-5000  
FAX: (310) 648-5539  
WWW.LACITYSAN.ORG

Lauren Fondahl  
Biosolids Coordinator  
U.S. EPA – Region IX (WTR-7)  
75 Hawthorne Street  
San Francisco, CA 94105-3901

Dear Ms. Fondahl:

## **CITY OF LOS ANGELES HYPERION TREATMENT PLANT – 2015 BIOSOLIDS ANNUAL REPORT**

Enclosed is the 2015 Biosolids Annual Report for Hyperion Treatment Plant. This report satisfies the generator reporting requirements in accordance with the U.S. EPA 40 CFR Part 503, Sewage Sludge Regulations.

If you have any questions, please contact Emmanuel Alloh of my staff at (310) 648-5211.

Sincerely,

Timeyin Dafeta, Hyperion Plant Manager  
Hyperion Treatment Plant  
LA Sanitation

TD/EA:ap

Attachment (1)

c: Enrique Zaldivar      Khalil Gharios  
Traci Minamide      Diane Gilbert  
Robert Irvin      Biosolids Management Group  
File

*zero waste • one water*

AN EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION EMPLOYER

Recyclable and made from recycled waste



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**USEPA 40 CFR, Part 503 Sewage Sludge  
2015 Biosolids Annual Report**

**February 5, 2016**

**City of Los Angeles**

Department of Public Works  
Bureau of Sanitation

**Hyperion Treatment Plant**

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**SECTION 1  
BACKGROUND INFORMATION**

The City of Los Angeles, Department of Public Works, Bureau of Sanitation operates four water reclamation facilities (Hyperion, Terminal Island, Donald C. Tillman and Los Angeles Glendale) within a 600 square mile service area that includes four million people and 29 contracting cities and agencies. The Hyperion Treatment Plant (HTP) receives and processes flow from its service area and from the two water reclamation plants while the Terminal Island Water Reclamation Plant (TIWRP) processes flow from its independent service area.

HTP, Donald C. Tillman, and Los Angeles Glendale facilities processed an average of 321 million gallons per day of wastewater and produced an average of 677 wet tons per day (174 dry metric tons per day) of biosolids during 2015. All of the biosolids were beneficially reused.

Thus, the City of Los Angeles must comply with the standards of the United States Environmental Protection Agency (USEPA) 40CFR Part 503 Sewage Sludge Regulations.

The following are the reporting requirements:

**Generator to Others:**

General information was provided to land appliers and composters as stated in Section 503.12 (d), (f) and (g).

**Generator to USEPA Region 9:**

Hyperion Treatment Plant is required to report the information in Section 503.18 as generator of biosolids. The information includes the submittal of information in Section 503.17(a)(4)(i)(A) through (D) for HTP from January 2015 through December 2015.

**Composters to USEPA Region 9:**

The Griffith Park Composting facility is required to report information in Section 503.17(a)(2)(i) through (iv) directly to USEPA Region 9.

Terra Renewal (Solid Solutions)/ South Kern County Industrial Center Compost Facility (SKIC) is required to report information in Section 503.17(a)(2)(i) through (iv) directly to USEPA Region 9.

**Beneficial Uses and Distribution of Biosolids**

From January through December of 2015, biosolids generated by HTP were 100% beneficially used as soil amendment to grow feed and fiber crops, as an organic ingredient in the production of compost, and deep well injection (for demonstration only). Table 1 presents the distribution of biosolids among its beneficial use options.

Refer to Appendix A for facility information for generator, composters, land applier, and deep well injector.

**Table 1: Percent Distribution of Biosolids to Beneficial Use Options in 2015**

<b>Beneficial Use Options</b>	<b>Wet Tons</b>	<b>Dry Tons</b>	<b>Dry Metric Tons</b>	<b>% Of Use</b>
Griffith Park Composting Facility	1,613	454	412	0.65
South Kern County Industrial Center, LLC	2,716	765	694	1.09

Nursery Products	22,136	6,275	5,694	8.98
Green Acre Farm Land Application	196,828	55,662	50,510	79.65
Robinson Farm, Merced Land Application	0	0	0	0
Baker Farm, Merced Land Application	0	0	0	0
Desert Ridge, Yuma, AZ Land Application	22,100	6,257	5,678	8.95
Deep Well Injection	1,679	469	425	0.67
<b>Total</b>	<b>247,073</b>	<b>69,881</b>	<b>63,413</b>	<b>100.00</b>

## SECTION 2

### 503 REPORTING REQUIREMENTS

#### Information Provided to Land Appliers, Composters, and Deep Well injector [503.12 (d), (f) and (g)]

All the information required under Sections 503.17 (a)(4)(i)(A) to (D) and 503.12 (g) were provided to the following composters:

1. Griffith Park Composting Facility of City of Los Angeles
2. Terra Renewal (Solid Solutions)/ South Kern County Industrial Center Compost facility (SKIC)
3. Nursery Products

All the information required under Sections 503.17 (a)(4)(i)(A) to (D) and 503.12 (d) were provided to the following land appliers:

1. Responsible Biosolids Management/Green Acres Farm
2. Terra Renewal (Solid Solutions)/Robinson Farm, Baker Farm, Merced, California and Desert Ridge at Yuma, Arizona.

All the information required under 40 CFR 146.13(d)(1) were provided to the following deep well injector.

1. GeoEnvironment Technologies LLC (Terralog Technologies USA Inc)

#### Pollutant Concentrations 503.17 (a)(4)(i)(A)

Section 503.16 requires Hyperion Treatment Plant to monitor pollutant concentrations in biosolids on a monthly basis. Ten metals are analyzed monthly.

The results are summarized as follows:

- All metals concentrations were below Table 1 ceiling concentration limits of Section 503.13.

- 
- All pollutant concentrations remained below Table 2 of Section 503.13.

Refer to Appendix B for the detailed, analytical test results and methods for pollutant concentrations.

The biosolids samples are prepared by the appropriate digestion and extraction procedures described in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, SW-846, 3rd edition, U.S. EPA, 1986 with Revisions up to 1996.

**Certification Statement, Pathogen Reduction (PR) and Vector Attraction Reduction (VAR) [503.17 (a)(4)(i)(B) to (D)]**

Refer to Appendix C for the certification statements containing descriptions of PR and VAR for biosolids.

All biosolids complied with Class A requirements for PR and VAR.

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## **APPENDIX A**

### **Facility Information for Generator, Composters, Land Applier, and Deep Well Injector**

#### **FACILITY INFORMATION**

##### **Generator of Biosolids:**

###### **HYPERION TREATMENT PLANT**

City of Los Angeles  
12000 Vista Del Mar  
Playa del Rey, CA 90293  
Tel. (310) 648 - 5000

##### **Composters:**

1. **GRIFFITH PARK COMPOSTING FACILITY**  
City of Los Angeles  
5400 Griffith Park Drive  
Los Angeles, CA 90027  
Tel. (818) 834 – 5115
2. **TERRA RENEWAL (SOLID SOLUTIONS), SOUTH KERN COUNTY INDUSTRIAL CENTER COMPOST FACILITY**  
2653 Santiago Road  
Taft, Ca 93268  
Tel. (661) 765-2200
3. **NURSERY PRODUCTS**  
14479 Cougar Road  
Helendale, CA 92342  
Tel. (760) 272-1224

##### **Land Appliers:**

1. **RESPONSIBLE BIOSOLIDS MANAGEMENT**  
P. O. Box 40109  
Santa Barbara, CA 93140 - 0109  
Tel. (805) 962 -5927
2. **TERRA RENEWAL, SOLID SOLUTIONS**  
12812 Valley View Street # 9  
Garden Grove, Ca 92845  
Tel # (714) 799-0801

##### **Deep Well Injector:**

1. **GEOENVIRONMENT TECHNOLOGIES LLC (TERRALOG TECHNOLOGIES USA INC).**  
103 E. Lemon Avenue, Suite 212  
Monrovia, CA 91016  
Tel. (626) 305-8460

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**APPENDIX B**

**Analytical Test Results of Biosolids Pollutant Concentration Per Table 1 and 2 of 503.1**

Table 1. BENEFICIAL USE ASSESSMENT OF BIOSOLIDS AT HYPERION TREATMENT PLANT

PAGE 1 OF 7

Sampling Date	pH	%TS	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	mg/kg dry weight					Nickel (Ni)	Selenium (Se)	Zinc (Zn)
							Molybdenum (Mo)	Lead (Pb)	Mercury (Hg)	Lead (Pb)	Molybdenum (Mo)			
Dec-15	8.2	26.9	ND	11.2	38.3	717	23.0	21.9	0.967	39.4	ND	1,180		
Nov-15	8.6	26.8	ND	11.2	44.4	765	29.1	21.3	1.13	42.2	ND	1,410		
Oct-15	8.5	26.2	ND	12.3	55.0	844	30.5	24.4	1.77	46.6	ND	1,570		
Sep-15	8.2	26.1	ND	12.8	50.2	816	29.1	21.8	0.985	40.6	ND	1,300		
Aug-15	8.6	27.3	ND	10.4	45.4	758	24.2	23.8	1.01	40.3	ND	1,200		
Jul-15	8.7	25.5	ND	11.2	47.8	780	23.5	23.5	1.53	42.7	ND	1,210		
Jun-15	8.8	27.2	0.735	11.8	57.4	750	19.9	24.6	1.61	43.4	ND	1,180		
May-15	8.7	26.6	0.752	11.8	70.3	767	20.7	29.7	1.32	45.9	ND	1,290		
Apr-15	8.0	27.8	1.98	13.6	70.5	791	19.6	30.9	1.53	48.2	6.12	1,370		
Mar-15	8.7	24.2	ND	11.8	56.2	802	19.4	26.3	1.71	46.3	3.55	1,240		
Feb-15	8.5	27.2	ND	17.8	50.4	688	18.1	23.5	1.81	36.0	5.22	1,040		
Jan-15	8.2	27.6	ND	8.15	45.7	728	17.2	22.1	1.16	37.7	4.46	942		
Average	8.5	26.6	0.289	12.0	52.6	767	22.9	24.5	1.38	42.4	1.61	1,250		
Maximum	8.8	27.8	1.98	17.8	70.5	844	30.5	30.9	1.81	48.2	6.12	1,570		
Minimum	8.0	24.2	ND	8.15	38.3	688	17.2	21.3	0.967	36.0	ND	942		
Ceiling Conc.*			75	85	***	4300	75	840	57	420	100	7500		
Pollutant Conc.**			41	39	***	1500	***	300	17	420	100	2800		

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WISARD - Biosolids Management - HTP TTP Biosolids

\* Ceiling concentration in Table 1 of EPA Part 503 Sludge Regulation.

\*\* Pollutant concentration in Table 3 of EPA Part 503 Sludge Regulation

\*\*\* Limit was deleted according to Federal Register Vol. 60, No. 206 of Oct. 25, 1995

Table 2. HTP BIOSOLIDS - NUTRIENTS AND MISC. METALS - EVALUATION FOR LOADING PURPOSES

Sampling Date	%TS	Aluminum (Al)	Calcium (Ca)	Iron (Fe)	Potassium (K)	Magnesium (Mg)	Nitrate-N (NO3-N)	Phosphorus (Tot-P)	Sodium (Na)	Ammonia-N (NH3-N)	Organic-N (Org-N)
Dec-15	26.9	4,400	38,700	39,400	1,150	6,170	7.43	29,300	1,780	3,750	41,600
Nov-15	26.8	4,400	34,000	41,800	1,280	5,560	11.2	26,900	1,410	7,130	39,200
Oct-15	26.2	4,800	36,800	43,900	2,160	6,150	11.5	28,200	1,520	9,690	39,300
Sep-15	26.1	4,500	39,500	36,000	1,730	6,320	11.5	28,500	1,560	7,700	40,600
Aug-15	27.3	4,100	41,400	28,900	1,090	6,590	25.6	27,200	1,540	7,910	45,400
Jul-15	25.5	4,500	37,800	38,500	2,350	7,100	23.5	27,800	1,660	10,000	39,000
Jun-15	27.2	4,300	38,200	34,900	1,220	6,760	29.4	30,600	1,380	7,460	39,700
May-15	26.6	4,700	42,100	35,200	1,380	5,790	15.0	27,000	1,320	7,140	40,600
Apr-15	27.8	4,400	46,400	43,200	1,770	7,810	10.8	24,800	1,430	6,800	34,300
Mar-15	24.2	4,100	47,100	43,800	1,490	8,060	8.26	31,800	1,560	8,260	51,700
Feb-15	27.2	3,800	44,900	39,300	1,320	7,280	18.4	27,500	1,330	9,040	45,600
Jan-15	27.6	3,800	40,600	43,100	1,570	7,170	18.1	28,600	1,160	7,610	39,100
Average	26.6	4,320	40,600	39,000	1,540	6,730	15.9	28,200	1,470	7,710	41,300
Maximum	27.8	4,800	47,100	43,900	2,350	8,060	29.4	31,800	1,780	10,000	51,700
Minimum	24.2	3,800	34,000	28,900	1,090	5,560	7.43	24,800	1,160	3,750	34,300

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WISARD - Biosolids Management - HTP TTP Biosolids

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**APPENDIX C**

**Pathogens and Vector Attraction Reduction Certification Statements**

**City of Los Angeles**  
**Hyperion Treatment Plant**  
**Biosolids Certification Statement – December 2015**  
**For Meeting Pathogens and Vector Attraction Reduction Requirements**

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

**503.17 (a)(1)(iii)** - A description of how the Class A pathogens requirement in 503.32 (a)(5) is met.

Class A – Alternative 3

- i. The density of fecal coliform in the sewage sludge is less than 1000 Most Probable Number per gram of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- ii. The density of salmonella sp. bacteria in the sewage sludge is less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iii. The density of enteric virus in the sewage sludge after pathogen treatment is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iv. The density of viable helminth ova in the sewage sludge after pathogen treatment is less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

**503.17 (a)(1)(iv)** - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.

During the month of December, the sludge was 100% thermophilically digested. The mass of volatile solids in the sewage sludge is reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1999:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	ND	41	75
Cadmium	11.2	39	85
Chromium	38.3	a	a
Copper	717	1500	4300
Molybdenum	23.0	b	75
Lead	21.9	300	840
Mercury	0.967	17	57
Nickel	39.4	420	420
Selenium	ND	100	100
Zinc	1,180	2800	7500
Nitrate-N	7.43	N/A	N/A
Ammonia-N	3,750	N/A	N/A
Organic-N	41,600	N/A	N/A
Percent Solids	26.9	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.

b EPA has temporarily removed molybdenum monthly average limit.

**503.17 (a)(1)(ii)** - Certification statement for meeting pathogens and vector attraction reduction requirements.

I certify, under penalty of law, that the class A pathogen requirements in 503.32 (a) and the vector attraction reduction requirement in 503.33 (b)(1) have been met. This determination has 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 pathogens 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.

By: *Timeyin Dafeta*  
**Timeyin Dafeta, Hyperion Treatment Plant Manager**

Date: 1-27-2016

**City of Los Angeles**  
**Hyperion Treatment Plant**  
**Biosolids Certification Statement – November 2015**  
**For Meeting Pathogens and Vector Attraction Reduction Requirements**

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

**503.17 (a)(1)(iii)** - A description of how the Class A pathogens requirement in 503.32 (a)(5) is met.

Class A – Alternative 3

- i. The density of fecal coliform in the sewage sludge is less than 1000 Most Probable Number per gram of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- ii. The density of salmonella sp. bacteria in the sewage sludge is less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iii. The density of enteric virus in the sewage sludge after pathogen treatment is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iv. The density of viable helminth ova in the sewage sludge after pathogen treatment is less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

**503.17 (a)(1)(iv)** - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.

During the month of November, the sludge was 100% thermophilically digested. The mass of volatile solids in the sewage sludge is reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1999:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	ND	41	75
Cadmium	11.2	39	85
Chromium	44.4	a	a
Copper	765	1500	4300
Molybdenum	29.1	b	75
Lead	21.3	300	840
Mercury	1.13	17	57
Nickel	42.2	420	420
Selenium	ND	100	100
Zinc	1,410	2800	7500
Nitrate-N	11.2	N/A	N/A
Ammonia-N	7,130	N/A	N/A
Organic-N	39,200	N/A	N/A
Percent Solids	26.8	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.

b EPA has temporarily removed molybdenum monthly average limit.

**503.17 (a)(1)(ii)** - Certification statement for meeting pathogens and vector attraction reduction requirements.

I certify, under penalty of law, that the class A pathogen requirements in 503.32 (a) and the vector attraction reduction requirement in 503.33 (b)(1) have been met. This determination has 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 pathogens 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.

By: Timeyin Dafeta  
 Timeyin Dafeta, Hyperion Treatment Plant Manager

Date: 12/29/15

**City of Los Angeles**  
**Hyperion Treatment Plant**  
**Biosolids Certification Statement – October 2015**  
**For Meeting Pathogens and Vector Attraction Reduction Requirements**

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

**503.17 (a)(1)(iii)** - A description of how the Class A pathogens requirement in 503.32 (a)(5) is met.

Class A – Alternative 3

- i. The density of fecal coliform in the sewage sludge is less than 1000 Most Probable Number per gram of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- ii. The density of salmonella sp. bacteria in the sewage sludge is less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iii. The density of enteric virus in the sewage sludge after pathogen treatment is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iv. The density of viable helminth ova in the sewage sludge after pathogen treatment is less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

**503.17 (a)(1)(iv)** - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.

During the month of October, the sludge was 100% thermophilically digested. The mass of volatile solids in the sewage sludge is reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1999:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	ND	41	75
Cadmium	12.3	39	85
Chromium	55.0	a	a
Copper	844	1500	4300
Molybdenum	30.5	b	75
Lead	24.4	300	840
Mercury	1.77	17	57
Nickel	46.6	420	420
Selenium	ND	100	100
Zinc	1,570	2800	7500
Nitrate-N	11.5	N/A	N/A
Ammonia-N	9,690	N/A	N/A
Organic-N	39,300	N/A	N/A
Percent Solids	26.2	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.

b EPA has temporarily removed molybdenum monthly average limit.

**503.17 (a)(1)(ii)** - Certification statement for meeting pathogens and vector attraction reduction requirements.

I certify, under penalty of law, that the class A pathogen requirements in 503.32 (a) and the vector attraction reduction requirement in 503.33 (b)(1) have been met. This determination has 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 pathogens 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.

By: Timeyin Dafeta  
 Timeyin Dafeta, Hyperion Treatment Plant Manager

Date: 12/3/15

**City of Los Angeles**  
**Hyperion Treatment Plant**  
**Biosolids Certification Statement – September 2015**  
**For Meeting Pathogens and Vector Attraction Reduction Requirements**

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

**503.17 (a)(1)(iii)** - A description of how the Class A pathogens requirement in 503.32 (a)(5) is met.  
 Class A – Alternative 3

- i. The density of fecal coliform in the sewage sludge is less than 1000 Most Probable Number per gram of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- ii. The density of salmonella sp. bacteria in the sewage sludge is less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iii. The density of enteric virus in the sewage sludge after pathogen treatment is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iv. The density of viable helminth ova in the sewage sludge after pathogen treatment is less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

**503.17 (a)(1)(iv)** - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.  
 During the month of September, the sludge was 100% thermophilically digested. The mass of volatile solids in the sewage sludge is reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1999:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	ND	41	75
Cadmium	12.8	39	85
Chromium	50.2	a	a
Copper	816	1500	4300
Molybdenum	29.1	b	75
Lead	21.8	300	840
Mercury	0.985	17	57
Nickel	40.6	420	420
Selenium	ND	100	100
Zinc	1,300	2800	7500
Nitrate-N	11.5	N/A	N/A
Ammonia-N	7,700	N/A	N/A
Organic-N	40,600	N/A	N/A
Percent Solids	26.1	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.

b EPA has temporarily removed molybdenum monthly average limit.

**503.17 (a)(1)(ii)** - Certification statement for meeting pathogens and vector attraction reduction requirements.

I certify, under penalty of law, that the class A pathogen requirements in 503.32 (a) and the vector attraction reduction requirement in 503.33 (b)(1) have been met. This determination has 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 pathogens 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.

By: Timeyin Dafeta  
 Timeyin Dafeta, Hyperion Treatment Plant Manager

Date: 10/28/15

**City of Los Angeles**  
**Hyperion Treatment Plant**  
**Biosolids Certification Statement – August 2015**  
**For Meeting Pathogens and Vector Attraction Reduction Requirements**

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

**503.17 (a)(1)(iii)** - A description of how the Class A pathogens requirement in 503.32 (a)(5) is met.

Class A – Alternative 3

- i. The density of fecal coliform in the sewage sludge is less than 1000 Most Probable Number per gram of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- ii. The density of salmonella sp. bacteria in the sewage sludge is less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iii. The density of enteric virus in the sewage sludge after pathogen treatment is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iv. The density of viable helminth ova in the sewage sludge after pathogen treatment is less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

**503.17 (a)(1)(iv)** - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.

During the month of August, the sludge was 100% thermophilically digested. The mass of volatile solids in the sewage sludge is reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1999:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	ND	41	75
Cadmium	10.4	39	85
Chromium	45.4	a	a
Copper	758	1500	4300
Molybdenum	24.2	b	75
Lead	23.8	300	840
Mercury	1.01	17	57
Nickel	40.3	420	420
Selenium	ND	100	100
Zinc	1200	2800	7500
Nitrate-N	25.6	N/A	N/A
Ammonia-N	7,910	N/A	N/A
Organic-N	45,400	N/A	N/A
Percent Solids	27.3	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.

b EPA has temporarily removed molybdenum monthly average limit.

**503.17 (a)(1)(ii)** - Certification statement for meeting pathogens and vector attraction reduction requirements.

I certify, under penalty of law, that the class A pathogen requirements in 503.32 (a) and the vector attraction reduction requirement in 503.33 (b)(1) have been met. This determination has 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 pathogens 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.

By: Timeyin Dafeta  
Timeyin Dafeta, Hyperion Treatment Plant Manager

Date: 9/17/15

**City of Los Angeles**  
**Hyperion Treatment Plant**  
**Biosolids Certification Statement – July 2015**  
**For Meeting Pathogens and Vector Attraction Reduction Requirements**

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

**503.17 (a)(1)(iii)** - A description of how the Class A pathogens requirement in 503.32 (a)(5) is met.

Class A – Alternative 3

- i. The density of fecal coliform in the sewage sludge is less than 1000 Most Probable Number per gram of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- ii. The density of salmonella sp. bacteria in the sewage sludge is less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iii. The density of enteric virus in the sewage sludge after pathogen treatment is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iv. The density of viable helminth ova in the sewage sludge after pathogen treatment is less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

**503.17 (a)(1)(iv)** - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.

During the month of July, the sludge was 100% thermophilically digested. The mass of volatile solids in the sewage sludge is reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1999:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	ND	41	75
Cadmium	11.2	39	85
Chromium	47.8	a	a
Copper	780	1500	4300
Molybdenum	23.5	b	75
Lead	23.5	300	840
Mercury	1.53	17	57
Nickel	42.7	420	420
Selenium	ND	100	100
Zinc	1,210	2800	7500
Nitrate-N	23.5	N/A	N/A
Ammonia-N	10,000	N/A	N/A
Organic-N	39,000	N/A	N/A
Percent Solids	25.5	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.

b EPA has temporarily removed molybdenum monthly average limit.

**503.17 (a)(1)(ii)** - Certification statement for meeting pathogens and vector attraction reduction requirements.

I certify, under penalty of law, that the class A pathogen requirements in 503.32 (a) and the vector attraction reduction requirement in 503.33 (b)(1) have been met. This determination has 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 pathogens 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.

By: Timeyin Dafeta  
 Timeyin Dafeta, Hyperion Treatment Plant Manager

Date: 8/24/15

**City of Los Angeles**  
**Hyperion Treatment Plant**  
**Biosolids Certification Statement – June 2015**  
**For Meeting Pathogens and Vector Attraction Reduction Requirements**

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

503.17 (a)(1)(iii) - A description of how the Class A pathogens requirement in 503.32 (a)(5) is met.

Class A – Alternative 3

- i. The density of fecal coliform in the sewage sludge is less than 1000 Most Probable Number per gram of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- ii. The density of salmonella sp. bacteria in the sewage sludge is less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iii. The density of enteric virus in the sewage sludge after pathogen treatment is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iv. The density of viable helminth ova in the sewage sludge after pathogen treatment is less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

503.17 (a)(1)(iv) - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.

During the month of June, the sludge was 100% thermophilically digested. The mass of volatile solids in the sewage sludge is reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1999:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	0.735	41	75
Cadmium	11.8	39	85
Chromium	57.4	a	a
Copper	750	1500	4300
Molybdenum	19.9	b	75
Lead	24.6	300	840
Mercury	1.61	17	57
Nickel	43.4	420	420
Selenium	ND	100	100
Zinc	1,180	2800	7500
Nitrate-N	29.4	N/A	N/A
Ammonia-N	7,460	N/A	N/A
Organic-N	39,700	N/A	N/A
Percent Solids	27.2	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.

b EPA has temporarily removed molybdenum monthly average limit.

503.17 (a)(1)(ii) - Certification statement for meeting pathogens and vector attraction reduction requirements.

I certify, under penalty of law, that the class A pathogen requirements in 503.32 (a) and the vector attraction reduction requirement in 503.33 (b)(1) have been met. This determination has 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 pathogens 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.

By: Timeyin Dafeta  
Timeyin Dafeta, Hyperion Treatment Plant Manager

Date: 7/16/15

**City of Los Angeles**  
**Hyperion Treatment Plant**  
**Biosolids Certification Statement – May 2015**  
**For Meeting Pathogens and Vector Attraction Reduction Requirements**

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

**503.17 (a)(1)(iii) - A description of how the Class A pathogens requirement in 503.32 (a)(5) is met.**

Class A – Alternative 3

- i. The density of fecal coliform in the sewage sludge is less than 1000 Most Probable Number per gram of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- ii. The density of salmonella sp. bacteria in the sewage sludge is less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iii. The density of enteric virus in the sewage sludge after pathogen treatment is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iv. The density of viable helminth ova in the sewage sludge after pathogen treatment is less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

**503.17 (a)(1)(iv) - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.**

During the month of May, the sludge was 100% thermophilically digested. The mass of volatile solids in the sewage sludge is reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1999:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	0.752	41	75
Cadmium	11.8	39	85
Chromium	70.3	a	a
Copper	767	1500	4300
Molybdenum	20.7	b	75
Lead	29.7	300	840
Mercury	1.32	17	57
Nickel	45.9	420	420
Selenium	ND	100	100
Zinc	1,290	2800	7500
Nitrate-N	15.0	N/A	N/A
Ammonia-N	7,140	N/A	N/A
Organic-N	40,600	N/A	N/A
Percent Solids	26.6	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.

b EPA has temporarily removed molybdenum monthly average limit.

**503.17 (a)(1)(ii) - Certification statement for meeting pathogens and vector attraction reduction requirements.**

I certify, under penalty of law, that the class A pathogen requirements in 503.32 (a) and the vector attraction reduction requirement in 503.33 (b)(1) have been met. This determination has 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 pathogens 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.

By: Timeyin Dafeta  
 Timeyin Dafeta, Hyperion Treatment Plant Manager

Date: 7/2/15

**City of Los Angeles**  
**Hyperion Treatment Plant**  
**Biosolids Certification Statement – April 2015**  
**For Meeting Pathogens and Vector Attraction Reduction Requirements**

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

**503.17 (a)(1)(iii)** - A description of how the Class A pathogens requirement in 503.32 (a)(5) is met.

Class A – Alternative 3

- i. The density of fecal coliform in the sewage sludge is less than 1000 Most Probable Number per gram of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- ii. The density of salmonella sp. bacteria in the sewage sludge is less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iii. The density of enteric virus in the sewage sludge after pathogen treatment is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iv. The density of viable helminth ova in the sewage sludge after pathogen treatment is less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

**503.17 (a)(1)(iv)** - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.

During the month of April, the sludge was 100% thermophilically digested. The mass of volatile solids in the sewage sludge is reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1999:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	1.98	41	75
Cadmium	13.6	39	85
Chromium	70.5	a	a
Copper	791	1500	4300
Molybdenum	19.6	b	75
Lead	30.9	300	840
Mercury	1.53	17	57
Nickel	48.2	420	420
Selenium	6.12	100	100
Zinc	1370	2800	7500
Nitrate-N	10.8	N/A	N/A
Ammonia-N	6,800	N/A	N/A
Organic-N	34,300	N/A	N/A
Percent Solids	27.8	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.

b EPA has temporarily removed molybdenum monthly average limit.

**503.17 (a)(1)(ii)** - Certification statement for meeting pathogens and vector attraction reduction requirements.

I certify, under penalty of law, that the class A pathogen requirements in 503.32 (a) and the vector attraction reduction requirement in 503.33 (b)(1) have been met. This determination has 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 pathogens 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.

By: Timeyin Dafeta  
Timeyin Dafeta, Hyperion Treatment Plant Manager

Date: 5/21/15

**City of Los Angeles**  
**Hyperion Treatment Plant**  
**Biosolids Certification Statement – March 2015**  
**For Meeting Pathogens and Vector Attraction Reduction Requirements**

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

**503.17 (a)(1)(iii)** - A description of how the Class A pathogens requirement in 503.32 (a)(5) is met.

Class A – Alternative 3

- i. The density of fecal coliform in the sewage sludge is less than 1000 Most Probable Number per gram of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- ii. The density of salmonella sp. bacteria in the sewage sludge is less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iii. The density of enteric virus in the sewage sludge after pathogen treatment is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iv. The density of viable helminth ova in the sewage sludge after pathogen treatment is less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

**503.17 (a)(1)(iv)** - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.

During the month of March, the sludge was 100% thermophilically digested. The mass of volatile solids in the sewage sludge is reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1999:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	ND	41	75
Cadmium	11.8	39	85
Chromium	56.2	a	a
Copper	802	1500	4300
Molybdenum	19.4	b	75
Lead	26.3	300	840
Mercury	1.71	17	57
Nickel	46.3	420	420
Selenium	3.55	100	100
Zinc	1,240	2800	7500
Nitrate-N	8.26	N/A	N/A
Ammonia-N	8,260	N/A	N/A
Organic-N	51,700	N/A	N/A
Percent Solids	24.2	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.

b EPA has temporarily removed molybdenum monthly average limit.

**503.17 (a)(1)(ii)** - Certification statement for meeting pathogens and vector attraction reduction requirements.

I certify, under penalty of law, that the class A pathogen requirements in 503.32 (a) and the vector attraction reduction requirement in 503.33 (b)(1) have been met. This determination has 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 pathogens 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.

By: Timeyin Dafeta  
**Timeyin Dafeta, Hyperion Treatment Plant Manager**

Date: 5/13/15

**City of Los Angeles**  
**Hyperion Treatment Plant**  
**Biosolids Certification Statement – February 2015**  
**For Meeting Pathogens and Vector Attraction Reduction Requirements**

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

**503.17 (a)(1)(iii)** - A description of how the Class A pathogens requirement in 503.32 (a)(5) is met.

Class A – Alternative 3

- i. The density of fecal coliform in the sewage sludge is less than 1000 Most Probable Number per gram of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- ii. The density of salmonella sp. bacteria in the sewage sludge is less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iii. The density of enteric virus in the sewage sludge after pathogen treatment is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time thesewage sludge is used or disposed.
- iv. The density of viable helminth ova in the sewage sludge after pathogen treatment is less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

**503.17 (a)(1)(iv)** - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.

During the month of February, the sludge was 100% thermophilically digested. The mass of volatile solids in the sewage sludge is reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1999:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	ND	41	75
Cadmium	17.8	39	85
Chromium	50.4	a	a
Copper	688	1500	4300
Molybdenum	18.1	b	75
Lead	23.5	300	840
Mercury	1.81	17	57
Nickel	36.0	420	420
Selenium	5.22	100	100
Zinc	1,040	2800	7500
Nitrate-N	18.4	N/A	N/A
Ammonia-N	9,040	N/A	N/A
Organic-N	45,600	N/A	N/A
Percent Solids	27.2	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.

b EPA has temporarily removed molybdenum monthly average limit.

**503.17 (a)(1)(ii)** - Certification statement for meeting pathogens and vector attraction reduction requirements.

I certify, under penalty of law, that the class A pathogens requirements in 503.32 (a) and the vector attraction reduction requirement in 503.33 (b)(1) have been met. This determination has 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 pathogens 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.

By: Timeyin Dafeta  
 Timeyin Dafeta, Hyperion Treatment Plant Manager

Date: 4/7/2015

**City of Los Angeles**  
**Hyperion Treatment Plant**  
**Biosolids Certification Statement – January 2015**  
**For Meeting Pathogens and Vector Attraction Reduction Requirements**

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

**503.17 (a)(1)(iii)** - A description of how the Class A pathogens requirement in 503.32 (a)(5) is met.

Class A – Alternative 3

- i. The density of fecal coliform in the sewage sludge is less than 1000 Most Probable Number per gram of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- ii. The density of salmonella sp. bacteria in the sewage sludge is less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iii. The density of enteric virus in the sewage sludge after pathogen treatment is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.
- iv. The density of viable helminth ova in the sewage sludge after pathogen treatment is less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

**503.17 (a)(1)(iv)** - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.

During the month of January, the sludge was 100% thermophilically digested. The mass of volatile solids in the sewage sludge is reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1999:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	ND	41	75
Cadmium	8.15	39	85
Chromium	45.7	a	a
Copper	728	1500	4300
Molybdenum	17.2	b	75
Lead	22.1	300	840
Mercury	1.16	17	57
Nickel	37.7	420	420
Selenium	4.46	100	100
Zinc	942	2800	7500
Nitrate-N	18.1	N/A	N/A
Ammonia-N	7610	N/A	N/A
Organic-N	39100	N/A	N/A
Percent Solids	27.60	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.

b EPA has temporarily removed molybdenum monthly average limit.

**503.17 (a)(1)(ii)** - Certification statement for meeting pathogens and vector attraction reduction requirements.

I certify, under penalty of law, that the class A pathogen requirements in 503.32 (a) and the vector attraction reduction requirement in 503.33 (b)(1) have been met. This determination has 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 pathogens 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.

By: Timeyin Dafeta  
**Timeyin Dafeta, Hyperion Treatment Plant Manager**

Date: 2/27/15

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**APPENDIX D**

**Class A Biosolids Pathogen Reduction Data**

Table 6. HTP BIOSOLIDS - CLASS A COMPLIANCE MONITORING DATA

Sampling Date	%TS	FECAL COLIFORM		SALMONELLA, sp.		HELMINTH OVA		ENTERIC VIRUS		
		MPN/gram TS (dry wt)		MPN/4 grams TS (dry wt)		Viable Helminth Ova/4 grams TS (dry wt)		PFU/4 grams TS (dry wt)		
		Silo#/Farm	Silo#/Farm	Silo#/Farm	Silo#/Farm	Raw Sludge	Silo#/Farm	Raw Sludge	Silo#/Farm	
December 8, 2015	27.0	Silo #1	<6.7	Silo #1	<1.5	3.0	Silo #1	2.2	Silo #1	<0.5
November 10, 2015	25.4	Silo	<7.1	Silo	<1.7	8.6	Silo	14.1	Silo	<0.5
October 6, 2015	26.8	Farm	<6.7	Farm	<1.6	10.1	Farm	22.6	Farm	<0.5
September 15, 2015	23.0	Silo	<7.8	Silo	<1.9	5.3	Silo	10.6	Silo	<0.5
August 4, 2015	26.2	Silo	<6.9	Silo	<1.5	3.4	Silo	8.8	Silo	<0.4
July 7, 2015	25.7	Farm	<7.0	Farm	<1.6	3.7	Farm	9.8	Farm	<0.5
June 9, 2015	26.5	Silo #3	<6.8	Silo #3	<1.7	4.7	Silo #3	9.9	Silo #3	<0.5
May 5, 2015	25.1	Silo	<7.2	Silo	<1.6	4.6	Silo	11.6	Silo	<0.5
April 7, 2015	24.6	Farm	8.1	Farm	<1.7	1.9	Farm	8.6	Farm	<0.5
March 10, 2015	26.8	Silo	7.5	Silo	<1.6	5.5	Silo	4.8	Silo	<0.4
February 10, 2015	26.3	Silo #3	103.4	Silo #3	<1.6	8.5	Silo #3	17.0	Silo #3	<0.5
January 6, 2015	26.8	Farm	<6.7	Farm	<1.5	6.3	Farm	6.0	Farm	<0.5
Requirement**			<1000		<3					<1

\* - EPA 40 CFR Part 503 Class A requirements  
 NA - Data not yet available from Biovir.  
 NS - No Sampling Required

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**APPENDIX E**

**Dioxin data per Kern County Biosolids Land Application Ordinance**

Table 5. CONCENTRATIONS OF DIOXIN AND PCBs IN HTP AND TIWRP BIOSOLIDS

Sampling Date	Dioxin 2,3,7,8-TCDD (ppb ng/g wet wt.)	PCBs**										Total PCBs*** ppm (mg/kg wet wt.)
		AR 1016	AR 1221	AR 1232	AR 1242	AR 1248	AR 1254	AR 1260				

HTP BIOSOLIDS											
Sampling Date	Dioxin 2,3,7,8-TCDD (ppb ng/g wet wt.)	AR 1016	AR 1221	AR 1232	AR 1242	AR 1248	AR 1254	AR 1260	Total PCBs*** ppm (mg/kg wet wt.)		
Dec-15	<0.50000 *	<0.00200	<0.03030	<0.01860	<0.01330	<0.00763	<0.00276	<0.00176	ND		
Nov-15	<0.50000 *	<0.00230	<0.00560	<0.00430	<0.01400	<0.00610	<0.00240	<0.00290	ND		
Oct-15	<0.50000 **	<0.00430	<0.02500	<0.02400	<0.00620	<0.00440	<0.00830	<0.00290	ND		
Sep-15	<0.50000 *	<0.00430	<0.02500	<0.02400	<0.00620	<0.00440	<0.00830	<0.00290	ND		
Aug-15	<0.50000 *	<0.00430	<0.02500	<0.02400	<0.00620	<0.00440	<0.00830	<0.00290	ND		
Jul-15	<0.00100 **	<0.00430	<0.02500	<0.02400	<0.00620	<0.00440	<0.00830	<0.00290	ND		
Jun-15	<0.50000 *	<0.00430	<0.02500	<0.02400	<0.00620	<0.00440	<0.00830	<0.00290	ND		
May-15	<0.50000 *	<0.00430	<0.02500	<0.02400	<0.00620	<0.00440	<0.00830	<0.00290	ND		
Apr-15	<0.00100 **	<0.00430	<0.02500	<0.02400	<0.00620	<0.00440	<0.00830	<0.00290	ND		
Mar-15	<0.50000 *	<0.00430	<0.02500	<0.02400	<0.00620	<0.00440	<0.00830	<0.00290	ND		
Feb-15	<0.50000 *	<0.00430	<0.02500	<0.02400	<0.00620	<0.00440	<0.00830	<0.00290	ND		
Jan-15	<0.00100 **	<0.00300	<0.01100	<0.00630	<0.00320	<0.00670	<0.00640	<0.00440	ND		

TIWRP BIOSOLIDS / DIGESTED SLUDGE @, #											
Sampling Date	Dioxin 2,3,7,8-TCDD (ppb ng/g wet wt.)	AR 1016	AR 1221	AR 1232	AR 1242	AR 1248	AR 1254	AR 1260	Total PCBs*** ppm (mg/kg wet wt.)		
Dec-15	NS	NS	NS	NS	NS	NS	NS	NS	NS		
Nov-15	<0.50000 *	<0.00230	<0.00560	<0.00430	<0.01400	<0.00610	<0.00240	<0.00290	ND		
Oct-15	<0.00100 **	<0.00430	<0.02500	<0.02400	<0.00620	<0.00440	<0.00830	<0.00290	ND		
Sep-15	<0.50000 *	<0.00430	<0.02500	<0.02400	<0.00620	<0.00440	<0.00830	<0.00290	ND		
Aug-15	NS	NS	NS	NS	NS	NS	NS	NS	NS		
Jul-15	<0.00100 **	<0.00430	<0.02500	<0.02400	<0.00620	<0.00440	<0.00830	<0.00290	ND		
Jun-15	NS	NS	NS	NS	NS	NS	NS	NS	NS		
May-15	<0.50000 *	<0.00430	<0.02500	<0.02400	<0.00620	<0.00440	<0.00830	<0.00290	ND		
Apr-15	<0.00100 **	<0.00430	<0.02500	<0.02400	<0.00620	<0.00440	<0.00830	<0.00290	ND		
Mar-15	<0.50000 *	<0.00430	<0.02500	<0.02400	<0.00620	<0.00440	<0.00830	<0.00290	ND		
Feb-15	NS	NS	NS	NS	NS	NS	NS	NS	NS		
Jan-15	<0.00100 **	<0.00300	<0.01100	<0.00630	<0.00320	<0.00670	<0.00640	<0.00440	ND		

Generated by RVALENZU at 01/12/2016 01:58:19 PM using the Production Database and WISARD V2.0  
**WISARD - Biosolids Management - HTP TIWP Biosolids**

\* Low Resolution 2,3,7,8-TCDD analysis by method EPA 8280A.  
 \*\* High resolution 2,3,7,8-TCDD analysis by method EPA 1613B.  
 \*\*\* Sum of AR 1016, AR 1221, AR 1232, AR 1242, AR 1248, AR 1254, AR 1260

NA Data not yet available  
 ND Not Detected  
 NS No Sampling Required  
 @ Sampling frequency for TIWRP is 6 months/year. The sampling months are: Jan, Mar, May, Jul, Sep and Nov.  
 # TIWRP changed from analyzing Biosolids to analyzing Digested Sludge in July 2010

Note: California Title 22 lists 10 ppb for Dioxin and 50 ppm for PCBs as the Total Threshold Limit Concentration (TTL) for hazardous waste

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**APPENDIX F**

**Batch Operating Data**

### 2015 BATCH OPERATING DATA

MONTH	Average Batch Digester Temperature (Degree F)	Average Detention Time (Hours)	Total Volatile Solids In (K lbs)	Total Volatile Solids Out (K lbs)	Volatile Solids Destruction (%)
January-15	127.0	17.9	883	296	64.4
February-15	127.3	20.1	1109	286	66.0
March-15	129.9	19.7	781	289	62.8
April-15	126.7	19.7	767	269	63.8
May-15	126.6	18.4	808	267	66.2
June-15	125.7	20.0	863	306	63.3
July-15	127.9	19.3	705	293	56.2
August-15	128.5	19.9	679	276	57.5
September-15	129.6	19.9	657	308	52.5
October-15	129.7	19.8	764	275	61.1
November-15	128.9	18.4	798	285	62.8
December-15	128.2	18.1	823	295	62.0

Average

61.6

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**APPENDIX G**

**Biosolids Sample Evaluation Report**

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

HYPERION TREATMENT PLANT - CLASS A COMPLIANCE  
FECAL COLIFORM ANALYSIS  
2015

LOG-IN #	DATE	LOCATION	DILUTION FACTOR	RAW VALUE MPN TABLE	% TOTAL SOLIDS	FECAL COLIFORMS MPN/GDW	COMPLIANCE (<1000 MPN/GDW)
HT201501-37	6-Jan	Farm	100	< 1.8	26.8	< 6.7	Pass
HT201502-63	10-Feb	Silo	100	27.0	26.1	103.4	Pass
HT201503-30	10-Mar	Silo	100	2.0	26.8	7.5	Pass
HT201504-37	7-Apr	Farm	100	2.0	24.6	8.1	Pass
HT201505-57	5-May	Silo	100	< 1.8	25.1	< 7.2	Pass
HT201506-29	9-Jun	Silo #3	100	< 1.8	26.5	< 6.8	Pass
HT201507-37	7-Jul	Farm	100	< 1.8	25.7	< 7.0	Pass
HT201508-63	4-Aug	SILO	100	< 1.8	26.2	< 6.9	Pass
HT201509-30	15-Sep	SILO	100	< 1.8	23.0	< 7.8	Pass
HT201510-37	6-Oct	Farm	100	< 1.8	26.8	< 6.7	Pass
HT201511-57	10-Nov	SILO	100	< 1.8	25.4	< 7.1	Pass
HT201512-29	8-Dec	SILO #1	100	< 1.8	27.0	< 6.7	Pass

Note: Samples analyzed by Standard Methods 9221 E.1. (APHA, 22<sup>nd</sup> Ed. 2012)

ENVIRONMENTAL MONITORING DIVISION  
 BIOLOGY SECTION - MICROBIOLOGY UNIT  
 HYPERION TREATMENT PLANT - CLASS A BIOSOLIDS COMPLIANCE  
 SALMONELLA ANALYSIS  
 2015

LOG-IN #	DATE	LOCATION	SAMPLE WEIGHT (grams)	%TS	MPN/100mL	MPN/4 dry gm**	COMPLIANCE (<3MPN/4 dry gm)
HT201501-37	6-Jan	Farm	21.3	26.8	< 2.2	< 1.5	Pass
HT201502-97	17-Feb	Silo #3	21.2	26.3	< 2.2	< 1.6	Pass
HT201503-30	10-Mar	Silo	20.1	26.8	< 2.2	< 1.6	Pass
HT201504-37	7-Apr	Farm	21.5	24.6	< 2.2	< 1.7	Pass
HT201505-57	5-May	Silo	21.5	25.1	< 2.2	< 1.6	Pass
HT201506-29	9-Jun	Silo #3	20.1	26.5	< 2.2	< 1.7	Pass
HT201507-37	7-Jul	Farm	21.5	25.7	< 2.2	< 1.6	Pass
HT201508-63	4-Aug	SILO	21.8	26.2	< 2.2	< 1.5	Pass
HT201509-30	15-Sep	SILO	20.2	23.0	< 2.2	< 1.9	Pass
HT201510-37	6-Oct	Farm	20.7	26.8	< 2.2	< 1.6	Pass
HT201511-57	10-Nov	SILO	20.9	25.4	< 2.2	< 1.7	Pass
HT201512-29	8-Dec	SILO #1	21.1	27.0	< 2.2	< 1.5	Pass

\* Conversion Factor:  $\frac{4}{\text{TS}} \times \frac{1}{\text{Sample Amount}}$

\*\* MPN/4 dry gm = MPN/100mL x Conversion Factor

Samples analyzed by the Kenner and Clark Method (EPA/625/R-92/013).

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT  
HYPERION TREATMENT PLANT - CLASS A BIOSOLIDS COMPLIANCE  
*Helminth Ova*  
2015

Log-In #	Date	Location	Sample Amount (grams)	%TS	Total Ova / Sample Weight	Total Ova/4 dry gm**	Unembryonated Ova / Sample Weight	Unembryonated Ova/4 dry gm**	Embryonated Ova / Sample Weight	Embryonated Ova/4 dry gm**	Compliance (<1 Embryonated ova/4 dry gm)
HT201501-37	6-Jan	Farm	32.30	26.8	64	29.6	64	29.6	< 1	< 0.5	Pass
HT201501-56	6-Jan	PSPS	309.80	3.30	112	43.8	96	37.6	16	6.3	N/A
HT201502-63	10-Feb	SILO	32.78	26.1	30	14.0	30	14.0	< 1	< 0.5	Pass
HT201502-65	10-Feb	PSPS	304.60	2.79	93	43.8	75	35.3	18	8.5	N/A
HT201503-30	10-Mar	SILO	31.47	26.8	72	34.1	72	34.1	< 1	< 0.5	Pass
HT201503-48	10-Mar	PSPS	294.80	3.22	124	52.3	111	46.8	13	5.5	N/A
HT201504-37	7-Apr	Farm	32.30	24.6	40	20.1	40	20.1	< 1	< 0.5	Pass
HT201504-65	7-Apr	PSPS	304.10	3.47	77	29.2	72	27.3	5	1.9	N/A
HT201505-57	5-May	SILO	30.15	25.1	46	24.3	46	24.3	< 1	< 0.5	Pass
HT201505-59	5-May	PSPS	306.07	3.42	114	43.6	102	39.0	12	4.6	N/A
HT201506-29	9-Jun	SILO #3	30.31	26.5	113	56.3	113	56.3	< 1	< 0.5	Pass
HT201506-47	9-Jun	PSPS	310.51	3.80	141	47.8	127	43.1	14	4.7	N/A
HT201507-37	7-Jul	Farm	32.10	25.7	80	38.8	80	38.8	< 1	< 0.5	Pass
HT201507-55	7-Jul	PSPS	312.90	3.48	110	40.4	100	36.7	10	3.7	N/A
HT201508-63	4-Aug	SILO	31.52	26.2	27	13.1	27	13.1	< 1	< 0.5	Pass
HT201508-65	4-Aug	PSPS	306.08	3.1	68	28.7	60	25.3	8	3.4	N/A
HT201509-30	15-Sep	SILO	32.60	23.0	172	91.8	172	91.8	< 1	< 0.5	Pass
HT201509-48	15-Sep	PSPS	301.20	3.26	161	65.6	148	60.3	13	5.3	N/A
HT201510-37	6-Oct	Farm	33.80	26.8	72	31.8	72	31.8	< 1	< 0.4	Pass
HT201510-65	6-Oct	PSPS	312.50	2.02	96	60.8	80	50.7	16	10.1	N/A
HT201511-57	10-Nov	SILO	31.05	25.4	92	46.7	92	46.7	< 1	< 0.5	Pass
HT201511-59	10-Nov	PSPS	309.62	3.02	185	79.1	165	70.6	20	8.6	N/A
HT201512-29	8-Dec	SILO #1	30.32	27.00	176	86.0	176	86.0	< 1	< 0.5	Pass
HT201512-47	8-Dec	PSPS	301.47	3.57	165	61.3	157	58.4	8	3.0	N/A

\* Conversion Factor:  $\frac{4}{TS}$   
Sample Amount

\*\* Ova/4 dry gm = Viable ova x Conversion Factor

Samples analyzed by EPA Method (EPA/625/R-92/013).

ENVIRONMENTAL MONITORING DIVISION  
 BIOLOGY SECTION - MICROBIOLOGY UNIT  
 HYPERION TREATMENT PLANT - CLASS A BIOSOLIDS COMPLIANCE  
 Enteric Virus  
 2015

Log-in #	Date	Location	Sample Amount (grams)	%TS	PFU / Sample Weight	PFU/4 dry gm**	Compliance (<1PFU/4 dry gm)
HT201501-37	6-Jan	Farm	33.10	26.8	< 1	< 0.5	Pass
HT201501-56	6-Jan	PSPS	101.05	3.30	5	6.0	N/A
HT201502-63	10-Feb	SILO	31.07	26.1	< 1	< 0.5	Pass
HT201502-65	10-Feb	PSPS	109.61	2.79	13	17.0	N/A
HT201503-30	10-Mar	SILO	34.10	26.8	< 1	< 0.4	Pass
HT201503-48	10-Mar	PSPS	104.00	3.22	4	4.8	N/A
HT201504-37	7-Apr	Farm	31.65	24.6	< 1	< 0.5	Pass
HT201504-65	7-Apr	PSPS	106.88	3.47	8	8.6	N/A
HT201505-57	5-May	SILO	33.05	25.1	< 1	< 0.5	Pass
HT201505-59	5-May	PSPS	110.73	3.42	11	11.6	N/A
HT201506-29	9-Jun	SILO #3	33.2	26.5	< 1	< 0.5	Pass
HT201506-47	9-Jun	PSPS	117.2	3.80	11	9.9	N/A
HT201507-37	7-Jul	Farm	32.65	25.7	< 1	< 0.5	Pass
HT201507-55	7-Jul	PSPS	105.16	3.48	9	9.8	N/A
HT201508-63	4-Aug	SILO	34.23	26.2	< 1	< 0.4	Pass
HT201508-65	4-Aug	PSPS	102.88	3.1	7	8.8	N/A
HT201509-30	15-Sep	SILO	34.8	23.0	< 1	< 0.5	Pass
HT201509-48	15-Sep	PSPS	104.1	3.26	9	10.6	N/A
HT201510-37	6-Oct	Farm	30.58	26.8	< 1	< 0.5	Pass
HT201510-65	6-Oct	PSPS	105.05	2.02	12	22.6	N/A
HT201511-57	10-Nov	SILO	33.12	25.4	< 1	< 0.5	Pass
HT201511-59	10-Nov	PSPS	103.20	3.02	11	14.1	N/A
HT201512-29	8-Dec	SILO #1	32.1	27.00	< 1	< 0.5	Pass
HT201512-47	8-Dec	PSPS	102.1	3.57	2	2.2	N/A

\* Conversion Factor:  $\frac{4}{\%TS} \div \text{Sample Amount}$

\*\* Ova/4 dry gm = Viable ova x Conversion Factor

Samples analyzed by EPA Method (EPA/625/R-92/013).

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## **APPENDIX H**

### **Agronomic Calculation**



**RESPONSIBLE BIOSOLIDS MANAGEMENT, INC.**

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04/27/15

Total Number of Pages, including this one: 31

From: Steve Stockton, Technical Services  
3333 Erica Place, Lompoc, CA 93436  
(805) 733-1053 (805) 733-0683 fax

**Please deliver to:**

Warren Gross  
California Regional Water Quality  
Control Board-Central Valley Region  
1685 "E" Street  
Fresno, CA 93760  
Ph: (559) 445-5128

Janis St. Marie  
Seed, Mackall  
Fax: (805) 962-1404  
Ph: (805) 963-0669

Timeyin Dafeta  
City of Los Angeles  
Hyperion Treatment Plant  
Fax: (310) 648-5539  
Ph: (310) 648-5221

Arturo Perez  
City of Los Angeles  
Hyperion Treatment Plant  
Fax: (310) 648-5070  
Ph: (310) 648-5319

Dear Mr. Aghazeynali

Submission of Pre-application report for field 17-02.

Soil Analysis

Biosolids Analysis

Water Analysis

If there are any questions please call.

Sincerely,

J R Stockton  
661-303-3845

# Land Application of Biosolids Pre-application Report

Green Acres Farm  
14301 Union Road, Bakersfield, CA 93311  
Kern County

Land Owner:  
City of Los Angeles, Bureau of Sanitation  
Contact: Mark Starr  
12000 Vista del Mar  
Playa del Rey, CA 90293  
(310) 648-5801

Applicant:  
Responsible Biosolids Management, Inc.  
3333 Erica Place  
Lompoc CA 93436  
Phone: 805-733-1053  
805-291-3391

---

Field #:	17-02	WDR Order No.:	<u>94-286</u>	Identifier No.:	<u>BVV7-2A</u>
Size:	77.00 acres	Latitude	<u>35.23080</u>	Longitude	<u>119.21667</u>
Crop:	Wheat silage				
Estimated dates of application:	<u>04/29/15</u>	through	<u>05/03/15</u>		

---

This report has been prepared in compliance with Waste Discharge Requirements #94-286 and #95-140, as well as USEPA 40 CFR Part 503 prior to the land application of biosolids on the specified field. Biosolids will be applied at the estimated rate that will provide the amount of nitrogen required to support crop growth without creating unreasonable risk of contamination of groundwater. The calculations are included in the body of this report and include the best available estimate of the amount of nitrogen required for the specific crop selected. We use data from monthly analysis of the biosolids to be applied, irrigation water and agronomic analysis of each field prior to every application of biosolids. Nitrogen requirements for each field and crop are based on production history and expectations, recommendations of the farm's agronomist, private consultants, and from the *Western Fertilizer Handbook, 7th edition, 1985*, published by the California Fertilizer Association.

Ammonia and nitrate- nitrogen are considered to be 100% available for plant use although 50% of ammonia may be lost to the atmosphere when surface applied, and organic nitrogen is assumed to become available at the rate of 20% the 1st year, 10% the 2nd year, and 5% the 3rd year after application.

Experience at this farm has shown that as much as 50% or more of calculated PAN is lost to demineralization in wet, heavy soils.

The following buffer zones are observed where biosolids will not be applied:

Property lines	25'
Domestic water wells	500'
Irrigation water wells	100'
Public roads	50'
Residence	500'
Surface waters	100'
Ag drainage	100'

Only biosolids that meet USEPA 40 CFR Part 503 Class A and exceptional quality are applied at Green Acres Farm. Those standards and how they are achieved are found in the attached Monthly Biosolids Analysis.

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the 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"

Applicants Signature



Date

04/27/15

Name Printed/Typed


J R Stockton

# Land Application of Biosolids Pre-application Report

FIELD NUMBER: 17-02    Crop: Corn silage    250 lbs/a    DATE: 04/27/15

NH4+ - N = NH4+-N content of biosolids in kg/mt (dry weight basis)  
 Kv = Volatilization factor estimating ammonium nitrogen remaining after atmospheric losses  
 Org-N = Organic nitrogen content of biosolids in kg/mt (dry weight basis)  
 NO-3-N = Nitrate nitrogen content of biosolids in kg/mt (dry weight basis)  
 FO-1 = Mineralization rate of the sewage sludge during the first year of application, in percent of organic nitrogen expressed as a fraction e.g., 20% = 0.2  
 Conversions:    mg/kg = lb/ton X 500                      kg/ha = tons/acre X 2242  
                     kg/ha = lbs/acre X 1.12                      mt/ha = tons/acre X 2.24

1.	Total nitrogen available from biosolids:	Source:	Hyperion
	a. Ammonium nitrogen		<u>9.04</u> kg/mt
	b. Mineralized organic nitrogen		<u>9.12</u> kg/mt
	c. Nitrate nitrogen		<u>0.02</u> kg/mt
	d. Total nitrogen		<u>18.18</u> kg/mt
	e. Total plant available nitrogen from biosolids		<u>9.09</u> kg/mt
	Multiply d. by 0.5		
2.	Available nitrogen in soil.		
	a. Soil test results of background Nitrate-N in soil to 3 feet		<u>71.68</u> kg/ha
3.	Nitrogen supplied from other sources		
	a. Nitrogen from supplemental fertilizers		_____ kg/ha
	b. Nitrogen from irrigation water    sample result = <u>10.00</u> ppm		<u>75.70</u> kg/ha
	c. Nitrogen from previous crop (unless based on soil testing)		_____ kg/ha
	d. Other (specify):		_____ kg/ha
	e. Total (add a, b, c, d, if available)		<u>75.70</u> kg/ha
4.	Total nitrogen available from existing sources. add 2 and 3.e.		<u>147.38</u> kg/ha
5.	Available nitrogen lost to denitrification		<u>73.69</u> kg/ha
6.	Adjusted nitrogen available subtract 5 from 4		<u>73.69</u> kg/ha
7.	Estimated PAN Required By Crop		<u>280.00</u> kg/ha
8.	Nitrogen from other biosolids source	_____	_____ kg/ha
9.	Supplemental nitrogen needed from biosolids. subtract 6 and 8 from 7		<u>206.31</u> kg/ha
10.	Agronomic loading rate Divide 8 by 1		<u>22.70</u> mt/ha
11.	Agronomic loading rate in wet tons per acre		<u>37.25</u> T/a

Agronomist Signature   
 Name Printed/Typed J R Stockton

Date 04/27/15

# Land Application of Biosolids Pre-application Report

## Biosolids Evaluation

**Date:** Feb15

**Source:** Hyperion

See Worksheet for calculation of Plant Available Nitrogen ( PAN ) and the Agronomic Loading Rate.

Metals loading at agronomic rate= conc mg/Kg/10000\*%solids\*biosolids loading rate

### Agronomic Analysis of Biosolids

<b>% Solids</b>	<b>NO3</b>	<b>NH3</b>	<b>N-org</b>	<b>PAN/MTd</b>	<b>PAN/Tw</b>
27.20	18.4	9040	45600	9.09	2.47
		<b>kg/ha</b>	<b>mt/Ha</b>		<b>Ag rate Tw/a</b>
<b>Supplemntal N needed :</b>		206.31	22.70		37.25

Metals	Conc. mg/KG	Limit mg/Kg <sup>1</sup>	Loading at Agronomic Rate Kg/Ha	Maximum Annual Loading Rates Kg/Ha <sup>2</sup>	Cumulative Loading Rates Kg/Ha <sup>3</sup>	Site Lifetime In Years
<b>As</b>	ND	75	0.000	2.00	41	?
<b>Cd</b>	17.8	85	0.404	1.90	39	107
<b>Cr</b>	50.4	3000	1.144	150.00	3000	2904
<b>Cu</b>	688	4300	15.617	75.00	1500	106
<b>Pb</b>	23.5	840	0.533	15.00	300	623
<b>Hg</b>	1.81	57	0.041	0.85	17	458
<b>Mo*</b>	18.1	75	0.411	0.90	18	49
<b>Ni</b>	36.0	420	0.817	21.00	420	569
<b>Se</b>	5.22	100	0.118	5.00	100	934
<b>Zn</b>	1040	7500	23.606	140.00	2800	131
<b>Cu : Mo Ratio</b>	38.01					

\* Currently being re-evaluated by the USEPA





Table 1. BENEFICIAL USE ASSESSMENT OF BIOSOLIDS AT HYPERION TREATMENT PLANT

PAGE 1 OF 7

Sampling Date	pH	%TS	mg/kg dry weight									
			Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Molybdenum (Mo)	Lead (Pb)	Mercury (Hg)	Nickel (Ni)	Selenium (Se)	Zinc (Zn)
Feb-15	8.5	27.2	ND	17.8	50.4	688	18.1	23.5	1.81	36.0	5.22	1,040
Jan-15	8.2	27.6	ND	8.15	45.7	728	17.2	22.1	1.16	37.7	4.46	942
Dec-14	8.3	26.7	ND	11.1	40.4	794	21.6	22.8	1.56	39.3	5.58	996
Nov-14	8.3	28.0	ND	4.75	41.4	864	15.3	12.5	1.71	35.6	ND	1,060
Oct-14	8.6	27.1	^	8.12	47.6	893	26.8	24.4	1.44	35.4	3.76	1,050
Sep-14	8.1	33.2	ND	8.19	39.8	741	20.3	19.4	1.05	30.7	2.77	907
Aug-14	8.2	26.6	ND	9.32	55.3	868	25.0	22.4	1.62	33.3	3.46	1,110
Jul-14	8.4	27.3	1.06	10.3	44.0	802	18.5	27.0	1.72	37.0	ND	1,110
Jun-14	8.4	25.8	1.74	11.4	52.3	899	20.3	28.7	1.63	35.5	ND	1,310
May-14	8.5	27.4	ND	11.0	52.6	880	19.1	26.6	1.58	38.0	ND	1,380
Apr-14	8.2	28.6	ND	10.2	47.9	748	18.1	23.9	2.01	36.4	ND	1,230
Mar-14	8.4	29.2	ND	8.60	51.7	791	18.9	28.2	1.35	41.1	ND	1,360
Average	8.3	27.9	0.234	9.91	47.4	808	19.9	23.5	1.55	36.3	2.10	1,120
Maximum	8.6	33.2	1.74	17.8	55.3	899	26.8	28.7	2.01	41.1	5.58	1,380
Minimum	8.1	25.8	ND	4.75	39.8	688	15.3	12.5	1.05	30.7	ND	907
Ceiling Conc.*			75	85	***	4300	75	840	57	420	100	7500
Pollutant Conc.**			41	39	***	1500	***	300	17	420	100	2800

Generated by JWHOANG at 03/10/2015 07:44:21 AM using the Production Database and WISARD V2.0  
WISARD - Biosolids Management - HTP TTP Biosolids

^ The value represents the average of two %TS analysis performed for the month  
\* Ceiling concentration in Table 1 of EPA Part 503 Sludge Regulation.  
\*\* Pollutant concentration in Table 3 of EPA Part 503 Sludge Regulation  
\*\*\* Limit was deleted according to Federal Register Vol. 60, No. 206 of Oct. 25, 1995

Table 2. HTP BIOSOLIDS - NUTRIENTS AND MISC. METALS - EVALUATION FOR LOADING PURPOSES

Sampling Date	%TS	Aluminum (Al)	Calcium (Ca)	Iron (Fe)	Potassium (K)	Magnesium (Mg)	Nitrate-N (NO3-N)	Phosphorus (Tot-P)	Sodium (Na)	Ammonia-N (NH3-N)	Organic-N (Org-N)
Feb-15	27.2	3,800	44,900	39,300	1,320	7,280	18.4	27,500	1,330	9,040	45,600
Jan-15	27.6	3,800	40,600	43,100	1,570	7,170	18.1	28,600	1,160	7,610	39,100
Dec-14	26.7	4,500	43,400	42,700	1,920	6,930	22.5	29,100	1,460	7,870	37,200
Nov-14	28.0	4,400	42,500	39,300	1,080	7,000	10.7	28,600	1,350	7,680	41,100
Oct-14	27.1	4,300	40,600	44,600	1,310	7,120	18.5	31,800	1,340	8,410	39,900
Sep-14	33.2	3,700	34,600	37,300	1,340	5,930	6.02	23,000	1,170	6,900	32,200
Aug-14	26.6	4,500	37,600	49,600	1,710	6,390	22.6	28,100	1,560	7,260	46,600
Jul-14	27.3	4,000	36,100	45,100	1,320	5,860	14.7	28,200	1,220	8,530	48,400
Jun-14	25.8	4,400	41,500	45,000	1,450	6,670	11.6	25,600	1,500	8,640	40,300
May-14	27.4	5,100	42,300	43,800	1,750	6,820	7.30	25,200	1,530	8,250	39,400
Apr-14	28.6	4,600	36,700	42,300	1,170	5,700	17.5	26,700	1,070	8,040	45,100
Mar-14	29.2	5,000	40,400	40,800	1,490	6,230	27.4	25,300	1,170	7,120	42,500
Average	27.9	4,340	40,100	42,700	1,450	6,590	16.3	27,300	1,320	7,950	41,500
Maximum	33.2	5,100	44,900	49,600	1,920	7,280	27.4	31,800	1,560	9,040	48,400
Minimum	25.8	3,700	34,600	37,300	1,080	5,700	6.02	23,000	1,070	6,900	32,200

mg/kg dry weight



ZALCO LABORATORIES, INC.  
Analytical & Consulting Services

4309 Armour Avenue  
Bakersfield, California 93308

(661) 395-0539  
FAX (661) 395-3069

January 16, 2015

Steve Stockton  
Responsible Bio Solids Mgmt  
3333 Erica Way  
Lompoc, CA 93436

TEL: (805) 733-1053  
FAX: (805) 733-0683

Project ID:  
RE: 1501043

Dear Steve Stockton:

Zalco Laboratories, Inc. received 1 samples on 1/6/2015 for the analyses presented in the following report.

We appreciate your business and look forward to serving you in the future. Please feel free to call our office if you have any questions regarding these test results.

Sincerely,

Juan Magana  
Project Manager  
CC:

NSS: Non Sufficient Sample H: Exceeds Analysis Hold Time TTLC: Total Threshold Limit Concentration STLC: Soluble Threshold Limit Concentration TCLP: Toxicity Characteristic  
Leaching Procedure MCL: Maximum Contaminant Level \*: See Case Narrative  
The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Note: Samples analyzed for regulatory purposes should be put on ice immediately after sampling and received by the laboratory at temperatures between 0-6°C.  
Microbiological analysis requires samples to be at least 4-10°C when received at the laboratory. For additional information regarding the limitations of the method(s) referred to, please call us at 661-395-0539.



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Responsible Bio Solids Mgmt 3333 Erica Way Lompoc, CA 93436	Project: Water Project #: Attention: Steve Stockton	Work Order No.: 1501043 Reported: 01/16/2015 Received: 01/06/2015 12:25
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Lab Sample ID: 1501043-01	Collected By: Jeremiah Johnson
Client Sample ID: Bakersfield Canal North East Inlet	Date Collected: 1/6/2015 10:45:00AM

Analyte	Results	PQL	Units	Flag	Method	Date Prepared	Date Analyzed	Init.
<b>CAM, Corrosivity</b>								
<i>22 CCR Limit</i>								
pH	7.290							
		2 or less, 12.5 or greater	pH Units		SW846 9040C	1/7/15	1/7/15	HG
<b>CAM, Toxicity (17 Metals)</b>								
<i>TTLC Limits</i>								
Antimony	<0.20	0.20	500	mg/L	SW846 8010B	1/6/15	1/7/15	SS
Arsenic	<0.020	0.020	500	mg/L	SW846 6010B	1/6/15	1/7/15	SS
Barium	<0.10	0.10	10000	mg/L	SW846 6010B	1/6/15	1/7/15	SS
Beryllium	<0.010	0.010	75	mg/L	SW846 6010B	1/6/15	1/7/15	SS
Cadmium	<0.010	0.010	100	mg/L	SW846 6010B	1/6/15	1/7/15	SS
Chromium	<0.050	0.050	2500	mg/L	SW846 6010B	1/6/15	1/7/15	SS
Cobalt	<0.10	0.10	8000	mg/L	SW846 6010B	1/6/15	1/7/15	SS
Copper	<0.050	0.050	2500	mg/L	SW846 6010B	1/6/15	1/7/15	SS
Lead	<0.050	0.050	1000	mg/L	SW846 6010B	1/6/15	1/7/15	SS
Mercury	<0.0020	0.0020	20	mg/L	SW846 7470A	1/6/15	1/9/15	SS
Molybdenum	<0.10	0.10	3500	mg/L	SW846 6010B	1/6/15	1/7/15	SS
Nickel	<0.050	0.050	2000	mg/L	SW846 6010B	1/6/15	1/7/15	SS
Selenium	<0.05	0.05	100	mg/L	SW846 6010B	1/6/15	1/7/15	SS
Silver	<0.020	0.020	500	mg/L	SW846 6010B	1/6/15	1/7/15	SS
Thallium	<0.50	0.50	700	mg/L	SW846 6010B	1/6/15	1/7/15	SS
Vanadium	<0.10	0.10	2400	mg/L	SW846 6010B	1/6/15	1/7/15	SS
Zinc	<0.050	0.050	5000	mg/L	SW846 6010B	1/6/15	1/7/15	SS
<b>General Chemistry</b>								
<i>MCL Limits</i>								
Total Kjeldahl Nitrogen	<0.80	0.80		mg/L	SM4500NH3D	1/14/15	1/14/15	SAM
Nitrate as N	10	0.50		mg/L	EPA 300.0	1/6/15	1/6/15	MSS
Nitrite as Nitrogen (N)	<400	400		ug/L	EPA 300.0	1/6/15	1/6/15	MSS

NSS: Non Sufficient Sample H: Exceeds Analysis Hold Time TTLC: Total Threshold Limit Concentration STLC: Soluble Threshold Limit Concentration TCLP: Toxicity Characteristic Leaching Procedure MCL: Maximum Contaminant Level \*: See Case Narrative  
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