HYPERION TREATMENT PLANT
HARRY PREGERSON BUILDING
12000 VISTA DEL MAR
PLAYA DEL REY, CA 90293
TEL: (310) 648 - 5000
FAX: (310) 648 - 5539

February 5, 2015

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 WASTEWATER TREATMENT PLANT – 2014 BIOSOLIDS ANNUAL REPORT

Enclosed is the 2014 Biosolids Annual Report for Hyperion Wastewater Treatment Plant. This 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

Timeyin Dafeta, Plant Manager
Hyperion Treatment Plant
LA Sanitation

TD/EA:ap

Attachment (1)

c: Enrique Zaldivar, LASAN
Traci Minamide, LASAN
Varouj Abkian, LASAN
Khalil Gharios, LASAN
Diane Gilbert, LASAN
Biosolids Management Group
File

USEPA 40 CFR, Part 503 Sewage Sludge
2014 Biosolids Annual Report

February 4, 2015

City of Los Angeles

Department of Public Works
Bureau of Sanitation

Hyperion Treatment Plant

TABLE OF CONTENTS

SECTION 1
BACKGROUND INFORMATION

The City of Los Angeles, Department of Public Works, Bureau of Sanitation operates four wastewater 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 339 million gallons per day of wastewater and produced an average of 674 wet tons per day (172 dry metric tons per day) of biosolids during 2014. 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 2014 through December 2014.

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 2014, 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 2014

Beneficial Use Options	Wet Tons	Dry Tons	Dry Metric Tons	% Of Use
Griffith Park Composting Facility	1,707	482	437	0.70
South Kern County Industrial Center, LLC	5,846	1,648	1495	2.38

Nursery Products	21,776	6,131	5,564	8.85
Green Acre Farm Land Application	192,253	54,156	49,143	78.21
Robinson Farm, Merced Land Application	50	14	13	0.02
Baker Farm, Merced Land Application	0	0	0	0
Desert Ridge, Yuma, AZ Land Application	4,261	1198	1,087	1.73
Deep Well Injection	19,842	5,615	5,095	8.11
Total	245,835	69,244	62,835	100.00

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 applier:

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.

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 INDUSTIAL 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 Applier:

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).**
   332 East Foothill Bvld, Suite B
   Arcadia, Ca 91006
   Tel. (626) 305-8460

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

Sampling Date	pH	%TS	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Molybdenum (Mo)	Lead (Pb)	Mercury (Hg)	Nickel (Ni)	Selenium (Se)	Zinc (Zn)
	mg/kg dry weight											
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 ^	ND	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
Feb-14	8.5	28.1	ND	10.6	56.2	811	15.9	36.3	1.27	44.5	ND	1,410
Jan-14	8.2	28.7	ND	10.6	53.3	801	16.7	46.0	1.39	36.6	ND	1,330
Average	8.3	28.1	0.234	9.51	48.5	824	19.7	26.5	1.53	36.9	1.30	1,190
Maximum	8.6	33.2	1.74	11.4	56.2	899	26.8	46.0	2.01	44.5	5.58	1,410
Minimum	8.1	25.8	ND	4.75	39.8	741	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

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WISARD - Biosolids Management - HTP TITP 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)
	mg/kg dry weight										
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
Feb-14	28.1	4,800	40,900	42,700	1,280	6,410	17.8	26,300	1,210	8,330	36,300
Jan-14	28.7	4,500	40,400	38,000	1,620	6,410	20.9	27,200	1,190	9,480	34,300
Average	28.1	4,480	39,800	42,600	1,450	6,460	16.4	27,100	1,310	8,040	40,300
Maximum	33.2	5,100	43,400	49,600	1,920	7,120	27.4	31,800	1,560	9,480	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

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WISARD - Biosolids Management - HTP TITP Biosolids

^ The value represents the average of two %TS analysis performed for the month

APPENDIX C

Pathogens and Vector Attraction Reduction Certification Statements

City of Los Angeles
Hyperion Treatment Plant
Biosolids Certification Statement – December 2014
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	11.1	39	85
Chromium	40.4	a	a
Copper	794	1500	4300
Molybdenum	21.6	b	75
Lead	22.8	300	840
Mercury	1.56	17	57
Nickel	39.3	420	420
Selenium	5.58	100	100
Zinc	996	2800	7500
Nitrate-N	22.5	N/A	N/A
Ammonia-N	7870	N/A	N/A
Organic-N	37200	N/A	N/A
Percent Solids	26.70	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 _____ **Date:** 1/27/15

Timeyin Dafeta, Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant
Biosolids Certification Statement – November 2014
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	4.75	39	85
Chromium	41.4	a	a
Copper	864	1500	4300
Molybdenum	15.3	b	75
Lead	12.5	300	840
Mercury	1.71	17	57
Nickel	35.6	420	420
Selenium	ND	100	100
Zinc	1060	2800	7500
Nitrate-N	10.7	N/A	N/A
Ammonia-N	7680	N/A	N/A
Organic-N	41100	N/A	N/A
Percent Solids	28.0	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 _____ **Date:** 12/30/14 _____
Timeyin Dafeta, Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant
Biosolids Certification Statement – October 2014
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	8.12	39	85
Chromium	47.6	a	a
Copper	893	1500	4300
Molybdenum	26.8	b	75
Lead	24.4	300	840
Mercury	1.44	17	57
Nickel	35.4	420	420
Selenium	3.76	100	100
Zinc	1050	2800	7500
Nitrate-N	18.5	N/A	N/A
Ammonia-N	8410	N/A	N/A
Organic-N	39900	N/A	N/A
Percent Solids	27.1	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: 12/5/14

City of Los Angeles
Hyperion Treatment Plant
Biosolids Certification Statement – September 2014
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	8.19	39	85
Chromium	39.8	a	a
Copper	741	1500	4300
Molybdenum	.20.3	b	75
Lead	19.4	300	840
Mercury	1.05	17	57
Nickel	30.7	420	420
Selenium	2.77	100	100
Zinc	907	2800	7500
Nitrate-N	6.02	N/A	N/A
Ammonia-N	6,900	N/A	N/A
Organic-N	32,200	N/A	N/A
Percent Solids	33.2	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 _____ **Date:** 10/30/14

Timeyin Dafeta, Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant
Biosolids Certification Statement – August 2014
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	9.32	39	85
Chromium	55.3	a	a
Copper	868	1500	4300
Molybdenum	25.0	b	75
Lead	22.4	300	840
Mercury	1.62	17	57
Nickel	33.3	420	420
Selenium	3.46	100	100
Zinc	1,110	2800	7500
Nitrate-N	22.6	N/A	N/A
Ammonia-N	7,260	N/A	N/A
Organic-N	46,600	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 **Date:** 9/25/14

Timeyin Dafeta, Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant
Biosolids Certification Statement – July 2014
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	1.06	41	75
Cadmium	10.3	39	85
Chromium	44.0	a	a
Copper	802	1500	4300
Molybdenum	18.5	b	75
Lead	27.0	300	840
Mercury	1.72	17	57
Nickel	37.0	420	420
Selenium	ND	100	100
Zinc	1,110	2800	7500
Nitrate-N	14.7	N/A	N/A
Ammonia-N	8,530	N/A	N/A
Organic-N	39,900	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 **Date:** 9/5/14

Timeyin Dafeta, Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant
Biosolids Certification Statement – June 2014
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	1.74	41	75
Cadmium	11.4	39	85
Chromium	52.3	a	a
Copper	899	1500	4300
Molybdenum	20.3	b	75
Lead	28.7	300	840
Mercury	1.63	17	57
Nickel	35.5	420	420
Selenium	ND	100	100
Zinc	1,310	2800	7500
Nitrate-N	11.6	N/A	N/A
Ammonia-N	8,640	N/A	N/A
Organic-N	40,300	N/A	N/A
Percent Solids	25.8	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 **Date:** 7/21/2014
Timeyin Dafeta, Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant
Biosolids Certification Statement – May 2014
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	ND	41	75
Cadmium	11.0	39	85
Chromium	52.6	a	a
Copper	880	1500	4300
Molybdenum	19.1	b	75
Lead	26.6	300	840
Mercury	1.58	17	57
Nickel	38.0	420	420
Selenium	ND	100	100
Zinc	1,380	2800	7500
Nitrate-N	7.30	N/A	N/A
Ammonia-N	8,250	N/A	N/A
Organic-N	39,400	N/A	N/A
Percent Solids	27.4	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 _____ **Date:** 6/20/14

Timeyin Dafeta, Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant
Biosolids Certification Statement – April 2014
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	ND	41	75
Cadmium	10.2	39	85
Chromium	47.9	a	a
Copper	748	1500	4300
Molybdenum	18.1	b	75
Lead	23.9	300	840
Mercury	2.01	17	57
Nickel	36.4	420	420
Selenium	ND	100	100
Zinc	1230	2800	7500
Nitrate-N	17.5	N/A	N/A
Ammonia-N	8,040	N/A	N/A
Organic-N	45,100	N/A	N/A
Percent Solids	28.6	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 **Date:** 5/22/2014

Timeyin Dafeta, Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant
Biosolids Certification Statement – March 2014
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	8.6	39	85
Chromium	51.7	a	a
Copper	791	1500	4300
Lead	28.2	300	840
Mercury	1.35	17	57
Molybdenum	18.9	b	75
Nickel	41.1	420	420
Selenium	ND	100	100
Zinc	1,360	2800	7500
Organic-N	42,500	N/A	N/A
Ammonia-N	7,120	N/A	N/A
Nitrate-N	27.4	N/A	N/A
Percent Solids	29.2	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 **Date:** 5/15/14

Timeyin Dafeta, Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant
Biosolids Certification Statement – February 2014
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 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	10.6	39	85
Chromium	56.4	a	a
Copper	814	1500	4300
Lead	36.4	300	840
Mercury	1.28	17	57
Molybdenum	15.9	b	75
Nickel	44.6	420	420
Selenium	ND	100	100
Zinc	1,420	2800	7500
Organic-N	36,300	N/A	N/A
Ammonia-N	8,360	N/A	N/A
Nitrate-N	17.9	N/A	N/A
Percent Solids	28.0	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 **Date:** 5/15/14

Timeyin Dafeta, Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant
Biosolids Certification Statement – January 2014
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	10.6	39	85
Chromium	53.3	a	a
Copper	801	1500	4300
Lead	46	300	840
Mercury	1.39	17	57
Molybdenum	16.7	b	75
Nickel	36.6	420	420
Selenium	ND	100	100
Zinc	1,330	2800	7500
Organic-N	34,300	N/A	N/A
Ammonia-N	9,480	N/A	N/A
Nitrate-N	20.9	N/A	N/A
Percent Solids	28.7	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 **Date:** 5/15/14

Timeyin Dafeta, Hyperion Treatment Plant Manager

APPENDIX D

Class A Biosolids Pathogen Reduction Data

Table 6. HTP BIOSOLIDS - CLASS A COMPLIANCE MONITORING DATA

Sampling Date	%TS	FECAL COLIFORM MPN/gram TS (dry wt) Silo#/Farm		SALMONELLA, sp. MPN/4 grams TS (dry wt) Silo#/Farm		HELMINTH OVA Viable Helminth Ova/4 grams TS (dry wt) Raw Sludge	Silo#/Farm		ENTERIC VIRUS PFU/4 grams TS (dry wt) Raw Sludge	Silo#/Farm	
December 9, 2014	27.1	Silo #2	16.6	Silo #2	<1.5	5.5	Silo #2	<0.5	8.2	Silo #2	<0.5
November 4, 2014	25.9	Silo #2	<6.9	Silo #2	<1.6	6.0	Silo #2	<0.5	15.2	Silo #2	<0.5
October 7, 2014	26.4	Farm	<6.8	Farm	<1.6	9.4	Farm	<0.5	13.2	Farm	<0.5
September 9, 2014	26.6	Silo #2	<6.8	Silo #2	<1.3	7.5	Silo #2	<0.5	5.4	Silo #2	<0.5
August 5, 2014	26.7	Silo #2	<6.7	Silo #2	<1.6	11.7	Silo #2	<0.5	28.9	Silo #2	<0.5
July 8, 2014	25.6	Farm	<7.8	Farm	<1.7	4.4	Farm	<0.5	24.8	Farm	<0.5
June 3, 2014	25.4	Silo	<7.9	Silo	<1.7	4.7	Silo	<0.5	14.7	Silo	<0.5
May 6, 2014	27.8	Silo #5	<7.2	Silo #5	<1.5	6.4	Silo #5	<0.5	14.8	Silo #5	<0.5
April 8, 2014	27.8	Farm	<7.2	Farm	<1.5	6.9	Farm	<0.5	21.6	Farm	<0.5
March 4, 2014	28.3	Silo #5	<7.1	Silo #5	<1.4	6.8	Silo #5	<0.4	20.3	Silo #5	<0.5
February 4, 2014	27.8	Silo #5	14.4	Silo #5	<1.5	8.9	Silo #5	<0.5	32.9	Silo #5	<0.4
January 13, 2014	25.3	Farm	<7.9	Farm	<1.5	5.2	Farm	<0.5	23.5	Farm	<0.5
Requirement**			<1000		<3			<1			<1

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

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** AR 1016	AR 1221	AR 1232	AR 1242	AR 1248	AR 1254	AR 1260	Total PCBs*** ppm (mg/kg wet wt.)
		ppm (mg/kg) wet weight							
HTP BIOSOLIDS									
Dec-14	<0.50000 *	<0.01700	<0.03000	<0.02100	<0.02400	<0.03800	<0.02600	<0.00130	ND
Nov-14	<0.50000 *	<0.01700	<0.03000	<0.02100	<0.02400	<0.03800	<0.02600	<0.00130	ND
Oct-14	<0.00100 ^^	<0.01700	<0.03000	<0.02100	<0.02400	<0.03800	<0.02600	<0.00130	ND
Sep-14	<0.50000 *	<0.02000	<0.03000	<0.02000	<0.02000	<0.04000	<0.02000	<0.00400	ND
Aug-14	<0.50000 *	<0.02000	<0.03000	<0.02000	<0.02000	<0.04000	<0.02000	<0.00400	ND
Jul-14	<0.00100 ^^	<0.02000	<0.03000	<0.02000	<0.02000	<0.04000	<0.02000	<0.00400	ND
Jun-14	<0.50000 *	<0.00300	<0.01100	<0.00630	<0.00320	<0.00670	<0.00640	<0.00440	ND
May-14	<0.50000 *	<0.00300	<0.01100	<0.00630	<0.00320	<0.00670	<0.00640	<0.00440	ND
Apr-14	<0.00100 ^^	<0.00300	<0.01100	<0.00630	<0.00320	<0.00670	<0.00640	<0.00440	ND
Mar-14	<0.50000 *	<0.00126	<0.02100	<0.01600	<0.00987	<0.00787	<0.00741	<0.00349	ND
Feb-14	<0.50000 *	<0.00300	<0.01100	<0.00630	<0.00320	<0.00670	<0.00640	<0.00440	ND
Jan-14	<0.00100 ^^	<0.00300	<0.01100	<0.00630	<0.00320	<0.00670	<0.00640	<0.00440	ND
TIWRP BIOSOLIDS / DIGESTED SLUDGE @, #									
Dec-14	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nov-14	<0.50000 *	<0.01700	<0.03000	<0.02100	<0.02400	<0.03800	<0.02600	<0.00130	ND
Oct-14	<0.00100 ^^	<0.01700	<0.03000	<0.02100	<0.02400	<0.03800	<0.02600	<0.00130	ND
Sep-14	<0.50000 *	<0.02000	<0.03000	<0.02000	<0.02000	<0.04000	<0.02000	<0.00400	ND
Aug-14	NS	NS	NS	NS	NS	NS	NS	NS	NS
Jul-14	<0.00100 ^^	<0.02000	<0.03000	<0.02000	<0.02000	<0.04000	<0.02000	<0.00400	ND
Jun-14	NS	NS	NS	NS	NS	NS	NS	NS	NS
May-14	<0.50000 *	<0.00300	<0.01100	<0.00630	<0.00320	<0.00670	<0.00640	<0.00440	ND
Apr-14	<0.00100 ^^	<0.00300	<0.01100	<0.00630	<0.00320	<0.00670	<0.00640	<0.00440	ND
Mar-14	<0.50000 *	<0.00126	<0.02100	<0.01600	<0.00987	<0.00787	<0.00741	<0.00349	ND
Feb-14	NS	NS	NS	NS	NS	NS	NS	NS	NS
Jan-14	<0.00100 ^^	<0.00300	<0.01100	<0.00630	<0.00320	<0.00670	<0.00640	<0.00440	ND

Generated by JVHOANG at 01/13/2015 09:27:26 AM using the Production Database and WISARD V2.0
WISARD - Biosolids Management - HTP TITP 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.
** Polychlorinated biphenyls (Arochlors)
*** Sum of AR 1016, AR 1221, AR 1232, AR 1242, AR 1248, AR 1254, AR 1260

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 (TTLC) for hazardous waste

APPENDIX F

Batch Operating Data

2014 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-14	127.7	18.8	785	288	62.20
February-14	128.0	19.1	829	282	64.90
March-14	132.5	18.5	806	292	63.50
April-14	127.6	18.0	805	286	63.50
May-14	130.9	18.8	792	305	60.70
June-14	127.9	21.2	749	288	61.30
July-14	128.4	20.3	734	269	62.20
August-14	127.7	19.2	712	306	55.90
September-14	128.1	22.9	763	295	59.80
October-14	128.6	20.1	814	294	62.60
November-14	128.4	18.3	784	300	61.30
December-14	127.1	19.0	764	294	61.30
Average					61.40

APPENDIX G

Biosolids Sample Evaluation Report

ENVIRONMENTAL MONITORING DIVISION
BIOLOGY SECTION - MICROBIOLOGY UNIT

HYPERION TREATMENT PLANT - CLASS A COMPLIANCE
FECAL COLIFORM ANALYSIS
2014

LOG-IN #	DATE	LOCATION	DILUTION FACTOR	RAW VALUE MPN TABLE	% TOTAL SOLIDS	FECAL COLIFORMS MPN/GDW	COMPLIANCE (<1000 MPN/GDW)
HT189000-37	7-Jan	FARM	100	< 2	25.3	< 7.9	Pass
HT190300-63	4-Feb	Silo #5	100	4	27.8	14.4	Pass
HT191511-30	4-Mar	Silo #5	100	< 2	28.3	< 7.1	Pass
HT192222-37	8-Apr	FARM	100	< 2	27.8	< 7.2	Pass
HT193333-57	6-May	Silo #5	100	< 2	27.8	< 7.2	Pass
HT194444-29	3-Jun	Silo	100	< 2	25.4	< 7.9	Pass
HT195500-37	8-Jul	FARM	100	< 2	25.6	< 7.8	Pass
HT196600-63	5-Aug	Silo #2	100	< 1.8	26.7	< 6.7	Pass
HT197500-30	9-Sep	Silo #2	100	< 1.8	26.6	< 6.8	Pass
HT198515-37	7-Oct	FARM	100	< 1.8	26.4	< 6.8	Pass
HT199501-57	4-Nov	Silo #2	100	< 1.8	25.9	< 6.9	Pass
HT200000-29	9-Dec	Silo #2	100	4.5	27.1	16.6	Pass

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

ENVIRONMENTAL MONITORING DIVISION
BIOLOGY SECTION - MICROBIOLOGY UNIT

HYPERION TREATMENT PLANT - CLASS A COMPLIANCE
***SALMONELLA* ANALYSIS**
2014

LOG-IN #	DATE	LOCATION	SAMPLE WEIGHT (grams)	%TS	MPN/100mL	MPN/4 dry gm**	COMPLIANCE (<3MPN/4 dry gm)
HT189000-37	7-Jan	FARM	22.7	25.3	< 2.2	< 1.5	Pass
HT190300-63	4-Feb	Silo #5	21.3	27.8	< 2.2	< 1.5	Pass
HT191511-30	4-Mar	Silo #5	22.6	28.3	< 2.2	< 1.4	Pass
HT192222-37	8-Apr	FARM	20.7	27.8	< 2.2	< 1.5	Pass
HT193333-57	6-May	Silo #5	21.4	27.8	< 2.2	< 1.5	Pass
HT194444-29	3-Jun	Silo	20.3	25.4	< 2.2	< 1.7	Pass
HT195500-37	8-Jul	FARM	20.8	25.6	< 2.2	< 1.7	Pass
HT196600-63	5-Aug	Silo #2	20.1	26.7	< 2.2	< 1.6	Pass
HT197500-30	9-Sep	Silo #2	26.0	26.6	< 2.2	< 1.3	Pass
HT197500-48	9-Sep	PSPS	276.5	3.5	9.2	3.8	N/A
HT198515-37	7-Oct	FARM	21.1	26.4	< 2.2	< 1.6	Pass
HT199501-57	4-Nov	Silo #2	21.3	25.9	< 2.2	< 1.6	Pass
HT200000-29	9-Dec	Silo #2	21.3	27.1	< 2.2	< 1.5	Pass

Note: PSPS was tested for QA purposes only

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

** 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 COMPLIANCE
Helminth Ova
2014

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)
HT189000-37	7-Jan	FARM	31.60	25.3	40	20.0	40	20.0	< 1	< 0.5	Pass
HT189000-56	7-Jan	PSPS	301.40	3.06	54	23.4	42	18.2	12	5.2	N/A
HT190300-63	4-Feb	SILO #5	31.95	27.8	16	7.2	16	7.2	< 1	< 0.5	Pass
HT190300-65	4-Feb	PSPS	310.70	3.20	94	37.8	72	29.0	22	8.9	N/A
HT191511-30	4-Mar	SILO #5	33.60	28.3	48	20.2	48	20.2	< 1	< 0.4	Pass
HT191511-48	4-Mar	PSPS	307.90	3.06	80	34.0	64	27.2	16	6.8	N/A
HT192222-37	8-Apr	FARM	30.15	27.8	26	12.4	26	12.4	< 1	< 0.5	Pass
HT192222-65	8-Apr	PSPS	300.20	3.49	98	37.4	80	30.5	18	6.9	N/A
HT193333-57	6-May	SILO #5	30.40	27.8	64	30.3	64	30.3	< 1	< 0.5	Pass
HT193333-59	6-May	PSPS	315.10	3.18	128	51.1	112	44.7	16	6.4	N/A
HT194444-29	3-Jun	Silo	30.56	25.4	74	38.1	74	38.1	< 1	< 0.5	Pass
HT194444-47	3-Jun	PSPS	300.75	3.66	97	35.2	84	30.5	13	4.7	N/A
HT195500-37	8-Jul	FARM	31.25	25.6	50	25.0	50	25.0	< 1	< 0.5	Pass
HT195500-55	8-Jul	PSPS	302.70	3.58	110	40.6	98	36.2	12	4.4	N/A
HT196600-63	5-Aug	SILO #2	32.50	26.7	64	29.5	64	29.5	< 1	< 0.5	Pass
HT196600-65	5-Aug	PSPS	304.60	1.8	80	58.7	64	47.0	16	11.7	N/A
HT197500-30	9-Sep	SILO #2	30.90	26.6	44	21.4	44	21.4	< 1	< 0.5	Pass
HT197500-48	9-Sep	PSPS	300.08	3.54	96	36.1	76	28.6	20	7.5	N/A
HT198515-37	7-Oct	FARM	31.85	26.4	67	31.9	67	31.9	< 1	< 0.5	Pass
HT198515-65	7-Oct	PSPS	301.09	2.41	104	57.3	87	48.0	17	9.4	N/A
HT199501-57	4-Nov	SILO #2	32.60	25.9	56	26.5	56	26.5	< 1	< 0.5	Pass
HT199501-59	4-Nov	PSPS	312.10	3.41	88	33.1	72	27.1	16	6.0	N/A
HT200000-29	9-Dec	Silo #2	32.28	27.10	49	22.4	49	22.4	< 1	< 0.5	Pass
HT200000-47	9-Dec	PSPS	307.13	3.30	107	42.2	93	36.7	14	5.5	N/A

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

** 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 COMPLIANCE
Enteric Virus
2014

Log-In #	Date	Location	Sample Amount (grams)	%TS	PFU / Sample Weight	PFU/4 dry gm**	Compliance (<1PFU/4 dry gm)
HT189000-37	7-Jan	FARM	30.03	25.3	< 1	< 0.5	Pass
HT189000-56	7-Jan	PSPS	100.06	3.06	18	23.5	N/A
HT190300-63	4-Feb	SILO #5	33.85	27.8	< 1	< 0.4	Pass
HT190300-65	4-Feb	PSPS	102.68	3.20	27	32.9	N/A
HT191511-30	4-Mar	SILO #5	30.12	28.3	< 1	< 0.5	Pass
HT191511-48	4-Mar	PSPS	103.02	3.06	16	20.3	N/A
HT192222-37	8-Apr	FARM	31.24	27.8	< 1	< 0.5	Pass
HT192222-65	8-Apr	PSPS	106.00	3.49	20	21.6	N/A
HT193333-57	6-May	SILO #5	31.40	27.8	< 1	< 0.5	Pass
HT193333-59	6-May	PSPS	102.15	3.18	12	14.8	N/A
HT194444-29	3-Jun	Silo	31.0	25.4	< 1	< 0.5	Pass
HT194444-47	3-Jun	PSPS	104.2	3.66	14	14.7	N/A
HT195500-37	8-Jul	FARM	33.00	25.6	< 1	< 0.5	Pass
HT195500-55	8-Jul	PSPS	103.60	3.58	23	24.8	N/A
HT196600-63	5-Aug	SILO #2	32.70	26.7	< 1	< 0.5	Pass
HT196600-65	5-Aug	PSPS	100.48	1.8	13	28.9	N/A
HT197500-30	9-Sep	SILO #2	31.60	26.6	< 1	< 0.5	Pass
HT197500-48	9-Sep	PSPS	105.10	3.54	5	5.4	N/A
HT198515-37	7-Oct	FARM	30.12	26.4	< 1	< 0.5	Pass
HT198515-65	7-Oct	PSPS	100.85	2.41	8	13.2	N/A
HT199501-57	4-Nov	SILO #2	33.65	25.9	< 1	< 0.5	Pass
HT199501-59	4-Nov	PSPS	100.53	3.41	13	15.2	N/A
HT200000-29	9-Dec	Silo #2	32.16	27.10	< 1	< 0.5	Pass
HT200000-47	9-Dec	PSPS	103.05	3.30	7	8.2	N/A

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

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

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

APPENDIX H

Agronomic Calculation

RESPONSIBLE BIOSOLIDS MANAGEMENT, INC.

07/28/14 Total Number of Pages, including this one: 30

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

Please deliver to:

Hoss Aghazeynali
California Regional Water Quality
Control Board-Central Valley Region
1685 "E" Street
Fresno, CA 93760
Ph: (559) 445-6194

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 08-05.

Soil Analysis

Biosolids Analysis

Water Analysis

If there are any questions please call.

Sincerely,

J R Stockton

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 #:	08-05		WDR Order No.:	94-286		Identifier No.:	BVV7-2A
Size:	130.00	acres	Latitude	35.35046		Longitude	119.14798
Crop:	Sudan						
Estimated dates of application:			08/01/14	through	08/12/14		

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 J R Stockton **Date** 07/28/14

Name Printed/Typed J R Stockton

Land Application of Biosolids Pre-application Report

FIELD NUMBER: 08-05 **Crop:** Sudan 325 lbs/acre **DATE:** 07/28/14

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 = Nitate nitrogen content of biosolids in kg/mt (dry weight basis)
F0-1 = 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

		Source: Hyperion	
1.	**Total nitrogen available from biosolids:**		
a.	Ammonium nitrogen	8.64	kg/mt
b.	Mineralized organic nitrogen	8.06	kg/mt
c.	Nitrate nitrogen	0.01	kg/mt
d.	Total nitrogen	16.71	kg/mt
e.	Total plant available nitrogen from biosolids Multiply d. by 0.5	8.36	kg/mt
2.	**Available nitrogen in soil.**		
a.	Soil test results of background Nitrate-N in soil to 3 feet	182.56	kg/ha
3.	**Nitrogen supplied from other sources**		
a.	Nitrogen from supplemental fertilizers		kg/ha
b.	Nitrogen from irrigation water sample result = 5.90 ppm	44.66	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)	44.66	kg/ha
4.	**Total nitrogen available from existing sources.** add 2 and 3.e.	227.22	kg/ha
5.	**Available nitrogen lost to denitrification**	113.61	kg/ha
6.	**Adjusted nitrogen available** subtact 5 from 4	113.61	kg/ha
7.	**Estimated PAN Required By Crop**	364.00	kg/ha
8.	**Nitrogen from other biosolids source** _____		kg/ha
9.	**Supplemental nitrogen needed from biosolids.** subtract 6 and 8 from 7	250.39	kg/ha
10.	**Agronomic loading rate** Divide 8 by 1	29.97	mt/ha
11.	**Agronomic loading rate in wet tons per acre**	51.85	T/a

Agronomist Signature J R Stockton Date 07/28/14

Name Printed/Typed J R Stockton

Land Application of Biosolids Pre-application Report

Biosolids Evaluation

Date: Jun14

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

% Solids	NO3	NH3	N-org	PAN/MTd	PAN/Tw
25.80	11.6	8640	40300	8.36	2.16

	kg/ha	mt/Ha	Ag rate Tw/a
Supplemntal N needed :	250.39	29.97	51.85

Metals	Conc. mg/KG	Limit mg/Kg[1]	Loading at Agronomic Rate Kg/Ha	Maximum Annual Loading Rates Kg/Ha[2]	Cumulative Loading Rates Kg/Ha[3]	Site Lifetime In Years
As	1.74	75	0.052	2.00	41	802
Cd	11.4	85	0.342	1.90	39	116
Cr	52.3	3000	1.567	150.00	3000	1953
Cu	899	4300	26.939	75.00	1500	57
Pb	28.7	840	0.860	15.00	300	356
Hg	1.63	57	0.049	0.85	17	355
Mo*	20.3	75	0.608	0.90	18	30
Ni	35.5	420	1.064	21.00	420	403
Se	0	100	0.000	5.00	100	?
Zn	1310	7500	39.255	140.00	2800	73

Cu : Mo Ratio 44.29

* Currently being re-evaluated by the USEPA

AGRISERVE INC.

"Know More to Grow More"

Reported To : RBM INC.
Submitted By : STEVE STOCKTON/JAY STOCKTON+
Identification : COLA 805 NORTH CENTER SOUTH

Laboratory No. 41978
Date Submitted: 7/22/14
Date Reported: 7/25/14

SOIL ANALYSIS

DESCRIPTION	SP	pH	EC	Ca	Mg	Na	LIME	SAR	ESP	B	NO3N	PO4P	K	Zn	Fe	Mn	Cu	S	ORG	CL
	%			*	EPM	EPM	T/A			PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	EPM
COLA 805N 1'	47	5.6	2.5	48.7	2.9	9.8	0	3.6	3.9	0.8	34.0	82	138	39.5	344	102	72.1	266	4.2	2.7
COLA 805N 2'	46	6.8	1.4	37.4	1.1	8.0	4	4.4	5.0	0.7	30.0	59	120	4.7	88	131	9.5	111	4.1	1.2
COLA 805N 3'	36	7.3	1.1	30.9	0.6	6.9	6	5.0	5.7	0.5	39.0	15	87	0.6	11	49	2.2	76	3.2	0.7
COLA 805N C 1'	46	5.2	1.4	41.3	1.4	6.9	0	3.6	3.9	0.5	41.0	83	100	39.9	359	78	70.4	126	4.1	0.4
COLA 805N C 2'	36	7.1	1.6	39.4	1.2	8.7	5	4.5	5.0	0.8	40.0	57	102	4.3	50	81	8.3	125	3.2	1.6
COLA 805N C 3'	42	7.5	1.8	24.5	0.9	12.5	7	7.7	9.2	1.5	23.0	9	85	0.5	17	69	3.1	145	3.7	1.0
COLA 805 S 1'	47	5.2	1.6	37.5	1.6	8.2	0	4.2	4.8	0.4	46.0	83	79	37.8	352	84	61.3	96	4.2	8.4
COLA 805 S 2'	39	7.7	0.8	13.7	0.3	6.4	8	7.7	9.2	0.4	12.0	51	124	2.5	38	27	4.9	42	3.5	0.6
COLA 805 S 3'	30	9.2	0.9	5.3	0.2	8.0	10	14.2	16.5	0.8	22.0	17	81	0.7	2	17	0.6	29	2.7	0.4
COLA 805 SC 1'	40	5.2	1.2	31.9	0.9	7.1	0	4.6	5.3	0.6	42.0	82	63	36.5	368	57	52.8	83	3.6	0.8
COLA 805 SC 2'	36	7.1	0.8	22.5	0.4	5.5	5	5.4	6.3	0.4	19.0	80	134	8.0	65	83	10.5	38	3.2	0.5
COLA 805 SC 3'	43	7.9	0.8	18.8	0.3	6.5	9	6.7	7.9	0.5	25.0	23	138	1.2	9	70	2.5	41	3.8	0.6

Average value	41	7	1	29	1	8	5	6	7	1	31	53	104	15	142	71	25	98	4	2
Average is :	OK	OK	LOW	LOW	LOW	HIGH	OK	HIGH	HIGH	OK	HIGH	HIGH	LOW	HIGH	HIGH	OK	HIGH	LOW	OK	OK
PREFERRED (MIN) :	30	6.0	1.5	55	1.0	0.5	1	0.1	0.1	0.2	4.0	20	400	5.0	50	30	5	100	0.5	0.1
PREFERRED (MAX) :	45	7.0	2.5	85	3.0	2.0	5	2.0	2.0	1.0	25.0	40	800	10.0	100	80	15	600	4.5	3.0

* CALCIUM VALUE IS IN PERCENT OF SOLUBLE CATIONS

PPM IS PARTS PER MILLION

EPM IS EQUIVALENTS PER MILLION

High and Low values of the 'AVERAGE' are discussed ON NEXT SHEET.

'OK' values are ignored

Michael L. Carr, Lab Mngr
phone(661)831-4868 fax(661)831-4044

FORM GEN. 160 (Rev. 6-80)

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

Date: July 16, 2014

To: Timeyin Dafeta, Plant Manager
Hyperion Treatment Plant

Roshanak Aflaki, Plant Manager
Terminal Island Water Reclamation Plant

From: Masahiro Dojiri, Division Manager
Environmental Monitoring Division

Subject: **ASSESSMENT OF BIOSOLIDS FOR JUNE 2014**

This report contains data from the analysis of composite biosolids and digested sludge samples collected in June 2014 at the Hyperion Treatment Plant and Terminal Island Water Reclamation Plant, respectively. The samples were tested in accordance with EPA's Part 503 Sewage Sludge Regulations, Tables 1 and 3, to furnish a beneficial use assessment. Analyses were also performed to determine if pathogen and vector control requirements of Part 503 were met.

Hyperion Treatment Plant

The metals and nutrient analyses data are presented in Tables 1 and 2 of this report. All metals detected in the composite sample were below their respective ceiling and pollutant concentration limits listed in EPA 40 CFR 503.13, Tables 1 and 3. Also for June, fecal coliform and *Salmonella* results were below the EPA 40 CFR Part 503 limit for Class A biosolids (Table 6). The June helminth ova and enteric virus results were below the limits for Class A biosolids. The June dioxin and polychlorinated biphenyl results were non-detect (Table 5).

Terminal Island Water Reclamation Plant

No TIWRP biosolids analyses were required in June per the sampling schedule.

Graphs of the concentrations of selected metals in HTP and TIWRP biosolids and digested sludge over the past 24 months are shown in Figures 1 through 10.

If you have any questions about this report, please contact Kay Yamamoto of my staff at (310) 648-5727.

MAD:JVH

Attachment: Appendix 1- Arizona ELAP-Certified Monthly Biosolids Monitoring Report with Class A and B Microbiological Requirements.

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Emmanuel Alloh (HTP)
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Lance Thibodeaux (TIWRP)

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

Sampling Date	pH	%TS	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Molybdenum (Mo)	Lead (Pb)	Mercury (Hg)	Nickel (Ni)	Selenium (Se)	Zinc (Zn)
	mg/kg dry weight											
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
Feb-14	8.5	28.1	ND	10.6	56.2	811	15.9	36.3	1.27	44.5	ND	1,410
Jan-14	8.2	28.7	ND	10.6	53.3	801	16.7	46.0	1.39	36.6	ND	1,330
Dec-13	8.4	27.7	1.30	10.2	53.8	895	17.9	22.0	1.52	36.0	ND	1,360
Nov-13	8.5	28.0	1.57	7.93	55.0	943	19.4	24.8	1.78	52.1	ND	1,290
Oct-13	8.4	26.9	1.67	10.8	47.6	877	21.3	23.8	1.40	42.8	ND	1,300
Sep-13	8.4	27.0	ND	11.0	48.5	970	23.8	25.6	1.46	42.6	ND	1,440
Aug-13	8.4	26.7	1.27	9.25	52.1	981	20.2	32.6	1.32	39.3	ND	1,480
Jul-13	8.5	26.9	ND	9.74	50.6	926	19.7	26.2	1.47	38.7	ND	1,440
Average	8.4	27.6	0.630	10.1	51.8	877	19.3	28.7	1.51	40.3	ND	1,360
Maximum	8.5	29.2	1.74	11.4	56.2	981	23.8	46.0	2.01	52.1	ND	1,480
Minimum	8.2	25.8	ND	7.93	47.6	748	15.9	22.0	1.27	35.5	ND	1,230
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 TITP 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)
	mg/kg dry weight										
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
Feb-14	28.1	4,800	40,900	42,700	1,280	6,410	17.8	26,300	1,210	8,330	36,300
Jan-14	28.7	4,500	40,400	38,000	1,620	6,410	20.9	27,200	1,190	9,480	34,300
Dec-13	27.7	5,200	41,900	43,700	1,350	6,390	57.8	27,200	1,210	7,580	37,900
Nov-13	28.0	4,600	40,700	43,600	1,350	6,790	50.0	26,000	1,150	6,320	37,500
Oct-13	26.9	4,700	40,100	39,800	1,550	6,990	33.5	27,600	860	9,670	46,800
Sep-13	27.0	4,800	40,400	43,000	1,140	6,670	25.9	29,000	1,170	8,220	38,500
Aug-13	26.7	5,000	43,400	40,400	1,510	6,850	41.2	27,000	1,340	8,090	40,800
Jul-13	26.9	5,200	43,500	38,300	1,710	6,770	29.7	29,200	1,280	7,360	41,300
Average	27.6	4,830	41,000	41,800	1,450	6,560	28.4	26,900	1,220	8,090	40,100
Maximum	29.2	5,200	43,500	45,000	1,750	6,990	57.8	29,200	1,530	9,670	46,800
Minimum	25.8	4,400	36,700	38,000	1,140	5,700	7.30	25,200	860	6,320	34,300

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WISARD - Biosolids Management - HTP TITP Biosolids

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** AR 1016	AR 1221	AR 1232	AR 1242	AR 1248	AR 1254	AR 1260	Total PCBs*** ppm (mg/kg wet wt.)
		ppm (mg/kg) wet weight							
HTP BIOSOLIDS									
Jun-14	<0.5000 *	<0.003	<0.011	<0.006	<0.003	<0.007	<0.006	<0.004	ND
May-14	<0.5000 *	<0.003	<0.011	<0.006	<0.003	<0.007	<0.006	<0.004	ND
Apr-14	<0.0010 ^^	<0.003	<0.011	<0.006	<0.003	<0.007	<0.006	<0.004	ND
Mar-14	<0.5000 *	<0.001	<0.021	<0.016	<0.010	<0.008	<0.007	<0.003	ND
Feb-14	<0.5000 *	<0.003	<0.011	<0.006	<0.003	<0.007	<0.006	<0.004	ND
Jan-14	<0.0010 ^^	<0.003	<0.011	<0.006	<0.003	<0.007	<0.006	<0.004	ND
Dec-13	<0.5000 *	<0.003	<0.011	<0.006	<0.003	<0.007	<0.006	<0.004	ND
Nov-13	<0.0002 *	<0.003	<0.011	<0.006	<0.003	<0.007	<0.006	<0.004	ND
Oct-13	<0.0005 ^^	<0.003	<0.011	<0.006	<0.003	<0.007	<0.006	<0.004	ND
Sep-13	<0.5000 *	<0.003	<0.011	<0.006	<0.003	<0.007	<0.006	<0.004	ND
Aug-13	<0.5000 *	<0.003	<0.011	<0.006	<0.003	<0.007	<0.006	<0.004	ND
Jul-13	<0.0010 ^^	<0.003	<0.011	<0.006	<0.003	<0.007	<0.006	<0.004	ND
TIWRP BIOSOLIDS / DIGESTED SLUDGE @, #									
Jun-14	NS	NS	NS	NS	NS	NS	NS	NS	NS
May-14	<0.5000 *	<0.003	<0.011	<0.006	<0.003	<0.007	<0.006	<0.004	ND
Apr-14	<0.0010 ^^	<0.003	<0.011	<0.006	<0.003	<0.007	<0.006	<0.004	ND
Mar-14	<0.5000 *	<0.001	<0.021	<0.016	<0.010	<0.008	<0.007	<0.003	ND
Feb-14	NS	NS	NS	NS	NS	NS	NS	NS	NS
Jan-14	<0.0010 ^^	<0.003	<0.011	<0.006	<0.003	<0.007	<0.006	<0.004	ND
Dec-13	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nov-13	<0.0000 *	<0.003	<0.011	<0.006	<0.003	<0.007	<0.006	<0.004	ND
Oct-13	<0.0000 ^^	<0.003	<0.011	<0.006	<0.003	<0.007	<0.006	<0.004	ND
Sep-13	<0.5000 *	<0.003	<0.011	<0.006	<0.003	<0.007	<0.006	<0.004	ND
Aug-13	NS	NS	NS	NS	NS	NS	NS	NS	NS
Jul-13	<0.0010 ^^	<0.003	<0.011	<0.006	<0.003	<0.007	<0.006	<0.004	ND

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

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 (TTLC) for hazardous waste

Table 6. HTP BIOSOLIDS - CLASS A COMPLIANCE MONITORING DATA

Sampling Date	%TS	FECAL COLIFORM MPN/gram TS (dry wt) Silo#/Farm		SALMONELLA, sp. MPN/4 grams TS (dry wt) Silo#/Farm		HELMINTH OVA Viable Helminth Ova/4 grams TS (dry wt)			ENTERIC VIRUS PFU/4 grams TS (dry wt)		
						Raw Sludge	Silo#/Farm		Raw Sludge	Silo#/Farm	
June 3, 2014	25.4	Silo	<7.9	Silo	<1.7	4.7	Silo	<0.5	14.7	Silo	<0.5
May 6, 2014	27.8	Silo #5	<7.2	Silo #5	<1.5	6.4	Silo #5	<0.5	14.8	Silo #5	<0.5
April 8, 2014	27.8	Farm	<7.2	Farm	<1.5	6.9	Farm	<0.5	21.6	Farm	<0.5
March 4, 2014	28.3	Silo #5	<7.1	Silo #5	<1.4	6.8	Silo #5	<0.4	20.3	Silo #5	<0.5
February 4, 2014	27.8	Silo #5	14.4	Silo #5	<1.5	8.9	Silo #5	<0.5	32.9	Silo #5	<0.4
January 13, 2014	25.3	Farm	<7.9	Farm	<1.5	5.2	Farm	<0.5	23.5	Farm	<0.5
December 10, 2013	27	Silo #5	<7.4	Silo #5	<1.6	7.6	Silo #5	<0.5	15.8	Silo #5	<0.5
November 5, 2013	28.4	Silo	<7.0	Silo	<1.5	6	Silo	<0.5	28	Silo	<0.4
October 8, 2013	26.0	Farm	<7.7	Farm	<1.7	4	Farm	<0.5	26	Farm	<0.4
September 10, 2013	26.7	Silo #1	<7.5	Silo #1	<1.5	6	Silo #1	<0.5	25	Silo #1	<0.5
August 13, 2013	26.5	Silo #5	<7.5	Silo #5	<1.7	9	Silo #5	<0.5	14	Silo #5	<0.8
July 1, 2013	26	Farm	<7.7	Farm	<1.6	8.3	Farm	<0.5	62.8	Farm	<0.8
Requirement**			<1000		<3			<1			<1

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

ZALCO LABORATORIES, INC.
Analytical & Consulting Services

4309 Armour Avenue
Bakersfield, California 93308

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

July 17, 2014

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

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

Project ID:
RE: 1407099

Dear Steve Stockton:

Zalco Laboratories, Inc. received 1 samples on 7/8/2014 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.

ZALCO LABORATORIES, INC.
Analytical & Consulting Services

4309 Armour Avenue
Bakersfield, California 93308

(661) 395-0539
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Responsible Bio Solids Mgmt	Project: Water	Work Order No.: **1407099**
3333 Erica Way	Project #:	Reported: 07/17/2014
Lompoc, CA 93436	Attention: Steve Stockton	Received: 07/08/2014 13:35

Lab Sample ID: **1407099-01**	Collected By: Jeremiah Johnson
Client Sample ID: Bakersfield City Canal	Date Collected: 7/8/2014 11:53:00AM

Analyte	Results	PQL		Units	Flag	Method	Date Prepared	Date Analyzed	Init.
CAM, Corrosivity			*22 CCR Limit*						
pH	7.410		*2 or less, 12.5 or greater*	pH Units		SW846 9040C	7/8/14	7/8/14	HG
CAM, Toxicity (17 Metals)			*TTLC Limits*						
Antimony	<0.20	0.20	*500*	mg/L		SW846 6010B	7/9/14	7/9/14	SS
Arsenic	<0.020	0.020	*500*	mg/L		SW846 6010B	7/9/14	7/9/14	SS
Barium	<0.10	0.10	*10000*	mg/L		SW846 6010B	7/9/14	7/9/14	SS
Beryllium	<0.010	0.010	*75*	mg/L		SW846 6010B	7/9/14	7/9/14	SS
Cadmium	<0.010	0.010	*100*	mg/L		SW846 6010B	7/9/14	7/9/14	SS
Chromium	<0.050	0.050	*2500*	mg/L		SW846 6010B	7/9/14	7/9/14	SS
Cobalt	<0.10	0.10	*8000*	mg/L		SW846 6010B	7/9/14	7/9/14	SS
Copper	<0.050	0.050	*2500*	mg/L		SW846 6010B	7/9/14	7/9/14	SS
Lead	<0.050	0.050	*1000*	mg/L		SW846 6010B	7/9/14	7/9/14	SS
Mercury	<0.0020	0.0020	*20*	mg/L		SW846 7470A	7/10/14	7/10/14	SS
Molybdenum	<0.10	0.10	*3500*	mg/L		SW846 6010B	7/9/14	7/9/14	SS
Nickel	<0.050	0.050	*2000*	mg/L		SW846 6010B	7/9/14	7/9/14	SS
Selenium	<0.05	0.05	*100*	mg/L		SW846 6010B	7/9/14	7/9/14	SS
Silver	<0.020	0.020	*500*	mg/L		SW846 6010B	7/9/14	7/9/14	SS
Thallium	<0.50	0.50	*700*	mg/L		SW846 6010B	7/9/14	7/9/14	SS
Vanadium	<0.10	0.10	*2400*	mg/L		SW846 6010B	7/9/14	7/9/14	SS
Zinc	<0.050	0.050	*5000*	mg/L		SW846 6010B	7/9/14	7/9/14	SS
General Chemistry			*MCL Limits*						
Total Kjeldahl Nitrogen	1.1	0.80		mg/L		SM4500NH3D	7/16/14	7/16/14	SAM
Total Nitrogen	7.03	1.00		mg/L		SM 4500-N C	7/17/14	7/17/14	MSS
Nitrate as N	5.9	0.50		mg/L		EPA 300.0	7/8/14	7/8/14	MSS
Nitrite as Nitrogen (N)	<400	400		ug/L		EPA 300.0	7/8/14	7/8/14	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
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.

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2186 Eastman Avenue, Suite 103, Ventura, CA 93003, (805) 477-0114, Fax (805) 477-0125
www.zalcolabs.com

CHAIN OF CUSTODY, ID#

Client PO:
Project ID:
Quote ID:

ANALYSIS REQUESTED 1407099

COMPANY: Responsable Biosolids Management
CONTACT: Steve Stockton
PHONE: (805) 733-1053 FAX:
ADDRESS: 3333 Eric Way
Lompoc CA 93436
E-MAIL:
SAMPLER (SIGNATURE): Jeremiah Johnson

LAB #	SAMPLE DESCRIPTION	DATE	TIME	TYPE *	# OF CONTAINERS	pH	Total Nitrogen	Cam 17 Metals	TEMPERATURE (C°)	Notes
1	Bakersfield City Canal	7/8/2014	11:53	AQ	3	X	X	X		28.7°C

COMMENTS
Turnaround Time:
Routine (# working days) X
Rush By ___ Working Days
EDT
State Form
EMAIL

Relinquished By:	Company	Date	Time	Received By:	Company:
JJohnson	Zalco labs	07/08/14	1335	Jeremiah Johnson	Zalco

NOTE: Samples Discarded 30 days after results unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.

* Sample Type Key: Aq-Aqueous; BS-Biosolid; DW-Drinking Water; GW-Groundwater; G-Gas LPG-Liquid Petroleum Gas; OL-Oil; P-Petroleum; S-Solid/Soil; ST-Storm water WW-Wastewater