GOLETA SANITARY DISTRICT

A PUBLIC AGENCY
www.goletasanitary.org

February 16, 2016

Lauren Fondahl
US EPA WTR-5
75 Hawthorne Street
San Francisco, CA 94105-3901

SUBJECT: BIOSOLIDS ANNUAL REPORT FOR 2015

Dear Ms. Fondahl:

Enclosed is the Goleta Sanitary District's *Biosolids Annual Report for 2015*. The report was prepared as required for compliance with 40 CFR Part 503 Sludge Regulations. It documents the Goleta Sanitary District's monitoring, distribution, and record keeping regarding biosolids quality.

We have included copies of the original laboratory reports without the QA/QC pages and by request, for your general information, copies of the original laboratory results of the priority pollutant analyses, performed on our biosolids in October of 2015. These laboratory reports can be found in Appendix A of this report. It is our understanding that the results of the priority pollutant analyses are not required under 40 CFR Part 503 and that the results of these analyses do not affect our biosolids distribution program.

It is hopeful this report complies with the annual reporting requirements of the 40 CFR 503 regulations. Should you have any questions, and/or if our above understanding is incorrect please contact me as soon as possible.

Yours very truly,

Steve Wagner

GOLETA SANITARY DISTRICT

Steve D. Wagner, P.E.
General Manager / District Engineer
Enclosure

TABLE OF CONTENTS

BIOSOLIDS ANNUAL REPORT

I. GENERAL

1.	**Name of Generator:**	Goleta Sanitary District
2.	**Permit No.:** **Order No.:**	CA 0048160 R3-2010-0012
3.	**Location:**	1 William Moffett Place Goleta, CA 93117
4.	**Mailing Address:**	1 William Moffett Place Goleta, CA 93117
5.	**Contact Person:**	Robert Hidalgo, Plant Superintendent
6.	**Telephone:**	(805) 967-4519
7.	**Influent Flow:**	4.2 MGD 2015 Average Daily Flow
8.	**Sludge Treatment Process:**	

The Goleta Sanitary District (GSD) completed a major treatment plant upgrading project in December 2013. The main purpose of the construction project was to upgrade the partial secondary treatment portion of the facility to be able to treat 100% of the inflow to the full secondary level. The solids treatment portion of the facility was also upgraded as part of the project. Two of the five sludge drying beds were demolished to make room for a new solids handling building. The solids handling building contains two screw presses, two secondary sludge thickeners, pumping equipment, a chemical storage area, a conveyor belt for loading biosolids trucks and a sludge holding tank.

Settleable solids and floatable materials are skimmed from the three primary clarifiers and transferred to one of the three anaerobic digesters. Secondary solids are mechanically thickened also using polymer and fed to the anaerobic digesters. The raw sludge is digested in the three heated anaerobic digesters for an average of 33 days at an annual average temperature of 96.7°F (36.0°C). Anaerobic digestion decomposes organic material, which produces digester gas composed primarily of methane. The digester gas is circulated to the boilers where it is used as fuel to heat the sludge in the digesters. Sludge from the digesters is pumped on a daily basis into one of two stabilization basins (lagoons) where the sludge is allowed to settle and continue to decompose.

As the stabilization basins fill, stabilized sludge is dredged from the bottom of these basins and is dewatered by a screw press and thickened by the addition of polymer to enhance coagulation. The resultant sludge is compressed to approximately 19 percent solids. This method is used to generate Class B biosolids.

The sludge, which is air dried in the sludge drying beds, is made available to the local community as a Class A exceptional quality biosolids product for use as a soil amendment in home lawns and gardens. Prior to distribution, this material is tested to ensure that it meets all requirements for a Class A biosolids as stated in 40 CFR Part 503 Regulations.

9. Biosolids Distribution Programs:

A small amount of Class A exceptional quality biosolids produced by extended air drying in the sludge drying beds was available to the local community for use as a soil amendment in home lawns and gardens during 2015.

Western Express Inc. is currently hauling the District's Class B biosolids to Liberty Composting Inc. located at 12421 Holloway Road, Lost Hills, CA 93249. The administrative office for Western Express Inc., is located at 1533 E. Shields Ave., Suite F, Fresno, CA 93607. Copies of the agreement with Liberty Composting and the agreement with Western Express are available upon request. The annual biosolids report submitted by Liberty Composting Inc., is herewith incorporated by reference.

10. Summary

In September of 2010 the Goleta Sanitary District's NPDES permit became effective. The Goleta Sanitary District operates under NPDES Permit No. CA0048160 and Waste Discharge Requirements (WDR) Order No. R3-2010-0012. This permit contains a sludge-monitoring program requiring the District to analyze its sludge for various constituents on either an annual or quarterly basis depending on the constituent. The District's NPDES permit also stipulates that the District's biosolids must meet all of the regulations contained in 40 CFR Part 503.

All of the District's quarterly and annual biosolids sampling involved collecting biosolids samples from the screw press. Pollutants identified in Tables 1 through 4 of 40 CFR Part 503.13 are measured on a quarterly basis while the other priority pollutants such as, grease and oils, asbestos, dioxin, PCBs, organochlorine pesticides, etc, are monitored annually, in October. Frequency requirements for vector attraction reduction and pathogen classification monitoring follow the criteria set forth in 40 CFR 503 Regulations.

All biosolids currently being produced and distributed by GSD are released in bulk form as "Pollutant Concentration (PC) Biosolids, Class B", and, as such, they meet 40 CFR Part 503 sections 503.12 and 503.14, General Requirements and Management

Practices. During 2015, a total of 1,125 dry metric tons of bulk biosolids were produced by the Goleta Sanitary District.

A small amount of Class A biosolids were produced. Biosolids dredged from the stabilization basins and solar dried in the sludge drying beds are tested and given away as "Class A Biosolids of Exceptional Quality". These biosolids are to be used in home lawns and gardens, and as such, they are exempt from the General Requirements and Management Practices of 40 CFR Part 503 Sections 503.12 and 503.14, respectively. Throughout 2015 a total of 4.5 cubic yards (1.6 dry metric tons) of biosolids were distributed to the local community.

A very small amount of biosolids screenings were taken to the Tajiguas Landfill in Santa Barbara County for disposal after digester #2 was taken offline for cleaning and structural inspection on May 11, 2015.

II. LAND APPLIED BIOSOLIDS

1. Volume:

From January 2015 to December 2015, the Goleta Sanitary District distributed a total of 1,125 dry metric tons of biosolids. According to *40 CFR 503.8(b)(4)* and *Table E-12 Amount of Biosolids and Frequency of Analysis* this amount of biosolids is required to be monitored quarterly.

Table 1 summarizes the total amount of biosolids in wet tonnage distributed on a monthly basis. The values in Table 1 are not reported on a dry weight basis, however the annual totals in the final rows are reported on a dry weight basis.

Table 1. Monthly Biosolids Distribution 2015, Wet Tons

Month	Liberty Composting Inc. Class B
January	539.32
February	480.51
March	401.23
April	560.94
May	511.50
June	646.96
July	707.88
August	612.60
September	544.32
October	391.08
November	437.97
December	786.02
Wet Ton Total	
Class A	**Liberty Composting**
2.6	**6,620.33**

Dry Metric Ton Total	
Class A	Liberty Composting
1.6	1,123

2. Priority Pollutants:

Based on the amount of biosolids distributed from January 2015 to December 2015 the District was required to monitor 503.13 priority pollutant concentrations at a frequency of once per quarter as stated in Table 1 of 40 CFR part 503.16, *Frequency of Monitoring-Land Application*. The quarterly priority pollutant monitoring occurred in January, April, July, and October, and also fulfilled the sludge monitoring requirements of the District's NPDES permit.

Trace Metals

The results of the trace metal priority pollutants are tabulated below in TABLE 2. Not all metals were analyzed for all samples every quarter. An analysis that was not performed on a specific sample is denoted by the letters "NA". Samples listed as NA – not analyzed - are analyzed, on an annual basis in October only. All laboratory results indicate that the District's biosolids meet all of the metal pollutant limits found in TABLE 3 of 503.13 for the "Exceptional Quality" and "Pollutant Concentration" designations.

Class B results in Table 2 are reported in mg/dry Kg. Percent moisture at the time of sampling is also recorded. Laboratory reports can be found in Appendix A.

Table 2. PRIORITY POLLUTANTS BIOSOLIDS 2015, mg/dry Kg

POLLUTANT	POLLUTANT LIMITS Part 503 Table 3, Sec 503.13	January 2015 Screw Press 1/7/2015	April 2015 Screw Press 4/24/2015	July 2015 Screw Press 7/8/2015	October 2015 Screw Press 10/14/2015
Total Coliform (MPN/g)	NL	148,000	NA	28,400	NA
Fecal Coliform (MPN/g)	NL	27,800	NA	7,390	NA
Antimony	NL	7.01	NA	< 2.1	< 1.9
Arsenic	41	< 1.9	4.86	< 1.2	< 1.1
Barium	NL	949	NA	542	NA
Beryllium	NL	<1.3	NA	< 0.80	< 0.71
Cadmium	39	3.50	2.30	2.38	1.89
Chromium	* (1)	110	49.8	42.2	40.7
Chromium $^{6+}$	NL	< 0.10	NA	< 0.12	NA
Cobalt	NL	12.8	NA	6.79	NA
Copper	1,500	1,580	1,030	982	1,130
Lead	300	38.5	20.3	17.6	20.2
Mercury	17	0.378	1.38	0.212	1.38
Molybdenum*(2)	75	32.8	17.6	20.1	22.0
Nickel	420	65.8	36.4	30.1	31.3
Phosphorus	NL	50,900	35,200	37,500	31,900
Selenium	100	18.5	11.2	10.2	8.57
Silver	NL	91.2	NA	10.0	10.5
Thallium	NL	<3	NA	< 1.8	< 1.6
Zinc	2,800	1,760	1,210	1,050	1,040
pH	NL	7.67	NA	6.91	7.95
Oil & Grease	NL	NA	NA	NA	1.2
% Moisture	NL	89.2	83.1	82.4	80.2
Nitrate	NL	21.3	10.2	<5.6	< 4.9
Organic Nitrogen	NL	70,260	33,600	38,300	37,460
Kjeldahl Nitrogen	NL	79,100	38,000	32,990	41,600
Ammonia	NL	8,840	4,440	5,310	4,140

NL = No Limit. NA = Not Analyzed.

*(1) On October 25, 1995 the EPA amended Part 503 to delete chromium standards from Tables 1 through 4 of Subpart B, Land Application.

*(2) The EPA amended Part 503 on February 25, 1994 to delete temporarily the Table 3 molybdenum limits. However, the ceiling limit of 75 mg/Kg from Table 1 has been retained and must be met.

The January 2015 sample was also analyzed by the STLC method which was required by Liberty Farms as a result of the high copper value. The STLC copper result was acceptable with a result of 2.84 mg/L.

Organic Nitrogen

Each batch of biosolids was analyzed individually for both total kjeldahl nitrogen and ammonia nitrogen. *Standard Methods for the Examination of Water and Wastewater, 18th Edition*, Method 4500-N $_{org}$ B states that "Should kjeldahl nitrogen and ammonia nitrogen be determined individually, "organic nitrogen" can be obtained by difference." The organic nitrogen concentrations that are summarized in Table 2 were determined in this manner.

Pesticides and Organics

As part of the annual October sampling requirement, biosolids samples were collected by District personnel and analyzed by FGL Environmental Lab, for organochlorine pesticides and organic chemicals as defined by EPA methods 8081A, 8260B, 8270C. Of the over 170 compounds analyzed nine compounds were detected. No limits for these compounds are specified by 40 CFR Part 503. The concentrations of the priority pollutants detected in this sample were reported on a dry weight basis and are summarized in Table 3. The results page from the laboratory report can be found in Appendix A.

Table 3. DETECTED PARAMETERS, BIOSOLIDS, October 2015

Parameter, concentration unit	Concentration
Acetone, ug/kg	3,960
Bromoform, ug/kg	173
Toluene, ug/kg	105
Bis(2-ethylhexly)phthalate, mg/kg	27.6
3-and 4-Methylphenol, mg/kg	24.1
2-Nitroanaline, mg/kg	1.49
3-Nitroanaline, mg/kg	1.68
4-Nitrophenol, mg/kg	2.17
TCDD Equivalents, pg/g	7.15

Dioxin

The October 2015 biosolids sample was analyzed for all dioxin isomers using EPA Method HR EPA 8290 Full List. Thirteen of the seventeen dioxin isomers were detected by this method in the sample this year. Six isomer results were flagged to indicate that the amount detected was below the Low Calibration Limit. All flagged results

even those reported as estimates were used in the final calculation for TCDD equivalents. The resulting TCDD equivalence is 7.15 pg/g. The laboratory results are available in Appendix A.

3. Class B

Bulk Distribution – General Requirements

To fulfill the bulk distribution general requirements as specified by 40 CFR Part 503.12, the Goleta Sanitary District provided copies of analytical laboratory results of testing performed on the District's screw pressed biosolids to Liberty Composting Inc.

Bulk Distribution – Management Practices

The bulk biosolids were used by Liberty Composting, Inc. Liberty Composting operates a 162-acre composting facility located in Lost Hills, CA. Liberty Composting employs both windrow composting and aerated static pile composting for attainment of Class A sewage sludge in accordance with provisions of the Federal Part 503 Regulations – Standards for the Use or Disposal of Sewage Sludge, 503.32(a)(1), *Sewage Sludge Class A*.

Pathogen Classification

The bulk biosolids prepared at the Goleta Sanitary District for land application meet Class B requirements of 40 CFR Part 503.32(b)(3), Class B-Alternative 2. This alternative states that the Class B requirements can be met if the sewage sludge is treated in one of the Processes to Significantly Reduce Pathogens as described in Appendix B to Part 503-Pathogen Treatment Processes.

The sewage sludge at the Goleta Sanitary District is treated in anaerobic digesters in the absence of air for an average of approximately 33 days at 36.0 degrees Celsius. This process meets the mean cell residence time and temperature of 15 days at 35 to 55 degrees Celsius described in Appendix B to Part 503.

Class B - Vector Attraction Reduction

Biosolids prepared at the Goleta Sanitary District meet the vector attraction reduction requirement listed in 503.33(b)(1) which states that "the mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38%." The fractional volatile solids reduction (FVSR) was calculated using the Van Kleeck Equation as found in EPA/625/R-92/013, "Control of Pathogens and Vector Attraction in Sewage Sludge, December 1992, p. 89. Results are summarized below in TABLE 4.

Table 4. VOLATILE SOLIDS REDUCTION

Belt Pressed Biosolids	Fractional Volatile Solids of Feed Sludge	Fractional Volatile Solids of Biosolids	Fractional Volatile Solids Reduction*	Percent Volatile Solids Reduction
2015 Averages	0.814	0.660	0.557	56%

*FVSR is calculated using the Van Kleeck Equation as found in EPA/625/R-92/013, "Control of Pathogens and Vector Attraction in Sewage Sludge, December 1992, p. 89.

4. Class A

Priority Pollutants – Trace Metals

The Class A trace metal priority pollutant results are tabulated below in TABLE 5. Percent moisture at the time of sampling is also recorded. Laboratory reports can be found in Appendix A.

Table 5. PRIORITY POLLUTANTS BIOSOLIDS 2015, mg/dry Kg

POLLUTANT	POLLUTANT LIMITS Part 503 Table 3, Sec 503.13	April 2015 Screw Press 4/24/2015
Arsenic	41	8.46
Cadmium	39	28.76
Chromium	* (1)	57.87
Copper	1,500	1,106.60
Lead	300	30.29
Mercury	17	1.52
Molybdenum*(2)	75	20.30
Nickel	420	48.73
Selenium	100	10.15
Zinc	2,800	1,211.51
% Moisture	NL	40.9

NL = No Limit. *(1) & *(2) footnotes can be found below Table 2.

Pathogen Classification

Biosolids dredged from the stabilization basins into the sludge drying beds for solar/air drying in March 2015 and identified as batch # 1, was distributed to the community beginning in July 2015.

Another batch of sludge, in October, was dredged from the stabilization basins into the sludge drying beds for air/solar drying. The October batch (batch#2) was processed and tested but has not been released for public distribution during 2015. The batches were mixed and will be released for distribution during 2016.

The Class A production and distribution program at GSD was discontinued during the facility upgrade project. Now that the upgrade is complete the distribution program is anticipated to increase during 2016.

Fecal Coliform

At the time of distribution all Class A biosolids had undetected or very low concentrations of fecal coliform. Fecal coliform was analyzed according to Standard Method 9221 E.; the multiple tube fermentation technique. Solid biosolids samples were prepared via the method described in EPA/625/R-92/013 Environmental Regulations and Technology: Control of Pathogens and Vector Attraction, Appendix F, page 104. The MPN value was calculated using Thomas' formula shown as equation 1 and found in Standard Method 9221 C. Estimation of Bacterial Density.

$$MPN/100mL = \frac{\text{no. of positive tubes X 100}}{\text{(grams of sample in negative tubes x grams of sample in all tubes)}^{1/2} \text{ X \% solids}}$$

The sample collected and sent to BioVir Laboratories on 3/23/15 had a high fecal coliform result. After further processing the biosolids were resampled for fecal coliform and analyzed at the certified in-house laboratory. The results are summarized below in TABLE 6. All laboratory reports can be found in Appendix A.

TABLE 6. BIOSOLIDS PATHOGENS - Fecal Coliform

Biosolids Batch	Testing Date: 03/24/15	Testing Date: 06/10/15
1	> 2.7 e3 MPN per gram total solids	< 1.8 MPN per gram total solids

Batch #1 met the PATHOGEN REDUCTION REQUIREMENTS of Part 503, Section 503.32(a)(6)-Alternative 4 < 1,000 MPN per gram total solids.

Enteric Virus and Helminth Ova

All enteric virus and helminth ova concentrations were below the method detection limits. The enteric virus and helminth ova results from BioVir Laboratory from the batches of biosolids distributed in 2015 are summarized below in Table 6. Complete laboratory reports can be found in Appendix A.

TABLE 7. BIOSOLIDS PATHOGENS - Enteric Virus and Helminth Ova

PATHOGEN	PATHOGEN REDUCTION REQUIREMENTS Part 503, Section 503.32(a)(6)-Alternative 4	Biosolids Batch 1 Test Date: 03/24/15
Enteric Virus	< 1 PFU per 4 grams total solids	<1 PFU per 4 grams total solids
Helminth Ova	< 1 viable Helminth Ova per 4 grams total solids	<1 viable Helminth Ova per 4 grams total solids

Vector Attraction Reduction

The Class A biosolids prepared at the Goleta Sanitary District meets the vector attraction reduction requirement listed in 503.33(b)(1), which states that "the mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38%." The fractional volatile solids reduction (FVSR) was calculated using the Van Kleeck Equation as found in EPA/625/R-92/013, "Control of Pathogens and Vector Attraction in Sewage Sludge, December 1992, p. 89. The average volatile solids reduction for the Class A biosolids distributed in 2015 was 88%. Results of testing from batch #1 of biosolids distributed during 2015 are summarized below in TABLE 8.

TABLE 8. VOLATILE SOLIDS REDUCTION

Biosolids Batch #s	Fractional Volatile Solids of Feed Sludge	Fractional Volatile Solids of Biosolids	Fractional Volatile Solids Reduction*	Percent Volatile Solids Reduction
1	0.814	0.351	0.877	88 %

*FVSR is calculated using the Van Kleeck Equation as found in EPA/625/R-92/013, "Control of Pathogens and Vector Attraction in Sewage Sludge, December 1992, p. 89.

5. Certification Statement – Class A

" I certify, under penalty of law, that the information that will be used to determine compliance with the pathogen requirements in 503.32(a) and the vector attraction reduction requirement in 503.33(b)(1) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Robert Hidalgo

Robert Hidalgo
Plant Superintendent
Goleta Sanitary District

FEB 16, 2016

Date

6. Certification Statement – Class B

" I certify, under penalty of law, that the information that will be used to determine compliance with the pathogen requirements in 503.32(b) and the vector attraction reduction requirement in 503.33(b)(1) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Robert Hidalgo

Robert Hidalgo
Plant Superintendent
Goleta Sanitary District

FEB 16, 2016

Date

APPENDIX A

Laboratory Results

January 16, 2015

Goleta Sanitary District
Attn: Lena Cox
1 William Moffett Place
Goleta, CA 93117

SP 1500182:1 **COLIFORM BACTERIA ANALYSIS**
Customer ID : 2-16138

System Number :
Project Name : Quarterly Biosolids Monitoring

Sample Handling Information

ID	Sample Number	Sample Description	Sample Type/Reason	Sampled By	Employed By	Sampled	Started	Finished
1	SP 1500182-001	Biosolids	Waste-Other	Lena Cox	Not Available	01/07/2015 11:25	01/07/2015 17:40 LM	01/10/2015 LM

Analytical Results

ID	Sample Description	Chlorine Total/Free	Temp °C	Method	Units	Total	Fecal	E. Coli	Person Notified ‡	Date ‡ Notified	Time ‡ Notified	Foot Note
1	Biosolids	---	---	SM 9221B	MPN/g	148000	27800	---	N/R			

N/R Not Required. MPN Most Probable Number A/P Absence/Presence

‡ Client Notification details.

Analyses were performed using Standard Methods 22nd edition. If you have any questions regarding your results, please call.

RRH:SMH

Reviewed and Approved By **Raquel R. Harvey** Digitally signed by Raquel R. Harvey
Title: Tech Director Microbiology
Date: 2015-01-16

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

Client Name: FGL Environmental, Inc.
Contact: Cindy Aguirre
Address: 853 Corporation Street
Santa Paula, CA 93060

Report Date: 02-Feb-2015

Project Name: No Project

Project Number: SP 1500182 - (2-16138)

Work Order Number: B5A2025

Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
B5A2025-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SP 1500182 - (2-16138) 1 Biosolids	Solid	01/07/15 11:25	01/21/15 8:35

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Metals and Metalloids; EPA SW846 Series							
Hexavalent Chromium	ND	0.10	mg/kg	EPA 7196A	01/29/15 17:25	ams	

February 26, 2015

Lab ID : SP 1500182-001
Customer ID : 2-16138

Goleta Sanitary District
Attn: Lena Cox
1 William Moffett Place
Goleta, CA 93117

Sampled On : January 7, 2015-11:25
Sampled By : Lena Cox
Received On : January 7, 2015-15:15
Matrix : Sludge

Description : Biosolids
Project : Quarterly Biosolids Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	MDL	Units	Dilution	DQF	Sample Preparation Method	Sample Preparation ID	Sample Preparation Time	Sample Analysis Method	Sample Analysis ID	Sample Analysis Time
Metals, STLC [G:1]												
Chromium	0.137	1	0.00058	mg/L	10	P	RCRA	202132	02/23/15 12:30	200.7	202861-IT203	02/23/15-14:25AC
Copper	2.84	1	0.0019	mg/L	10	P	RCRA	202132	02/23/15 12:30	200.7	202861-IT203	02/23/15-14:25AC
Selenium	0.244	2	0.0030	mg/L	10	P	RCRA	202132	02/23/15 12:30	200.7	202861-IT203	02/23/15-14:25AC
Silver	0.0321	1	0.00063	mg/L	10	JP	RCRA	202132	02/23/15 12:30	200.7	202861-IT203	02/23/15-14:25AC
Metals, Total [G:1]												
Antimony	7.01	4.6	3.4	mg/kg	1		3050	200421	01/14/15 05:00	200.7	200720-IT203	01/15/15-12:30AC
Arsenic	ND	4.6	1.9	mg/kg	1	U	3050	200421	01/14/15 05:00	200.7	200720-IT203	01/15/15-12:30AC
Barium	949	2.8	0.78	mg/kg	1	P	3050	200421	01/14/15 05:00	200.7	201034-IT203	01/21/15-19:29AC
Beryllium	ND	2.8	1.3	mg/kg	1	U	3050	200421	01/14/15 05:00	200.7	200720-IT203	01/15/15-12:30AC
Cadmium	3.50	2.8	1.3	mg/kg	1		3050	200421	01/14/15 05:00	200.7	200720-IT203	01/15/15-12:30AC
Chromium	110	4.6	1.2	mg/kg	1		3050	200421	01/14/15 05:00	200.7	200720-IT203	01/15/15-12:30AC
Cobalt	12.8	4.6	0.69	mg/kg	1		3050	200421	01/14/15 05:00	200.7	200720-IT203	01/15/15-12:30AC
Copper	1580	4.6	0.92	mg/kg	1	P	3050	200421	01/14/15 05:00	200.7	200720-IT203	01/15/15-12:30AC
Lead	38.5	4.6	1.9	mg/kg	1		3050	200421	01/14/15 05:00	200.7	200720-IT203	01/15/15-12:30AC
Mercury	0.378	0.28	0	mg/kg	1		7471	200522	01/15/15 08:00	245.1	200765-HG204	01/15/15-16:26AC
Molybdenum	32.8	9.3	0.54	mg/kg	1		3050	200421	01/14/15 05:00	200.7	200720-IT203	01/15/15-12:30AC
Nickel	65.8	4.6	0.78	mg/kg	1		3050	200421	01/14/15 05:00	200.7	200720-IT203	01/15/15-12:30AC
Phosphorus	50900	46	3.1	mg/kg	1	P	3050	200421	01/14/15 05:00	200.7	200720-IT203	01/15/15-12:30AC
Selenium	18.5	4.6	3.1	mg/kg	1		3050	200421	01/14/15 05:00	200.7	200720-IT203	01/15/15-12:30AC
Silver	91.2	4.6	1.3	mg/kg	1		3050	200421	01/14/15 05:00	200.7	201262-IT203	01/26/15-13:44AC

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

Sample Result - Inorganic

Constituent	Result	PQL	MDL	Units	Dilution	DQF	Sample Preparation Method	Sample Preparation ID	Sample Preparation Time	Sample Analysis Method	Sample Analysis ID	Sample Analysis Time
Metals, Total [G:1]												
Thallium	ND	4.6	3	mg/kg	1	Ul	3050	200421	01/14/15 05:00	200.7	200720-IT203	01/15/15-12:30AC
Vanadium	34.7	4.6	1.4	mg/kg	1	h	3050	200421	01/14/15 05:00	200.7	200720-IT203	01/15/15-12:30AC
Zinc	1760	9.3	1.3	mg/kg	1	P	3050	200421	01/14/15 05:00	200.7	200720-IT203	01/15/15-12:30AC
Wet Chemistry [G:1]												
Ammonia Nitrogen	8840	360	3.0	mg/kg	48.544	b	4500NH3B	200560	01/16/15 10:46	4500NH3G	201275-FI206	01/27/15-09:30AMB
% Moisture	89.2	0.092	0.03	%	0.92295	b	2540G	200176	01/07/15 18:43	2540B	200257-WT215	01/08/15-09:49AMM
Nitrate	21.3	37	9.1	mg/kg	0.99602	Jbl	300	200341	01/12/15 13:00	300.0	200642-IC207	01/14/15-11:04KD
Nitrogen, Total Kjeldahl	79100	3900	280	mg/kg	8.3333		351.2	200945	01/27/15 07:19	EPA351.2	201446-FI206	01/29/15-09:41AMB
pH	7.67	--	0	units	0.9985		9045C	200364	01/12/15 16:30	4500HB	200507-PH201	01/12/15-17:16CJJ
Solids, Total Dissolved (TDS)	52500	1900	0	mg/kg	0.98425	b	2540 C	200448	01/14/15 09:57	2540C	200610-WT219	01/15/15-10:04CTL

DQF Flags Definition:

b	The Blank was positive for constituent but less than the PQL
h	The MS/MSD did not meet QC criteria.
l	The MS/MSD did not meet QC criteria.
U	Constituent results were non-detect.
J	To indicate that result is estimated in cases where result less than PQL; or estimated due to RPD failure.
P	Post Digestion Spike (PDS) not within Acceptance Range (AR).

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (G) Glass Jar Preservatives: N/A

May 26, 2015

Goleta Sanitary District
Attn: Lena Cox
1 William Moffett Place
Goleta, CA 93117

Description : Biosolids
Project : Quarterly Biosolids Monitoring

Lab ID : SP 1504499-001
Customer ID : 2-16138

Sampled On : April 24, 2015-08:40
Sampled By : Lena Cox
Received On : April 24, 2015-14:50
Matrix : Sludge

Sample Result - Inorganic

Constituent	Result	PQL	MDL	Units	Dilution	DQF	Sample Preparation Method	Sample Preparation ID	Sample Preparation Time	Sample Analysis Method	Sample Analysis ID	Sample Analysis Time
Metals, Total G:1												
Arsenic	4.86	1.2	0.083	mg/kg	2		3050	205712	05/18/15 04:00	6020	207379-IX202	05/18/15-14:35AC
Cadmium	2.30	1.8	0.83	mg/kg	1		3050	205179	05/05/15 06:00	200.7	206856-IT203	05/07/15-12:01AC
Chromium	49.8	1.2	0.17	mg/kg	2	P	3050	205712	05/18/15 04:00	6020	207379-IX202	05/18/15-14:35AC
Copper	1030	3	0.59	mg/kg	1	P	3050	205179	05/05/15 06:00	200.7	206856-IT203	05/07/15-12:01AC
Lead	20.3	3	1.2	mg/kg	1	P	3050	205179	05/05/15 06:00	200.7	206856-IT203	05/07/15-12:01AC
Mercury	1.38	0.18	0.0	mg/kg	1	1	7471	205687	05/15/15 07:45	245.1	207271-HG204	05/15/15-15:08AC
Molybdenum	17.6	3	0.095	mg/kg	2		3050	205712	05/18/15 04:00	6020	207379-IX202	05/18/15-14:35AC
Nickel	36.4	3	0.50	mg/kg	1	P	3050	205179	05/05/15 06:00	200.7	206856-IT203	05/07/15-12:01AC
Phosphorus	35200	30	2.0	mg/kg	1	P	3050	205179	05/05/15 06:00	200.7	206856-IT203	05/07/15-12:01AC
Selenium	11.2	3	2.0	mg/kg	1		3050	205179	05/05/15 06:00	200.7	206856-IT203	05/07/15-12:01AC
Zinc	1210	5.9	0.83	mg/kg	1	P	3050	205179	05/05/15 06:00	200.7	206856-IT203	05/07/15-12:01AC
Wet Chemistry G:1												
Ammonia Nitrogen	4440	180	1.9	mg/kg	38.835	b	4500NH3B	205208	05/08/15 12:55	4500NH3G	206902-FI206	05/11/15-08:09AMB
% Moisture	83.1	0.1	0.030	%	0.99944	b	2540G	204911	04/28/15 12:42	2540B	206369-WT215	04/29/15-12:03JMG
Nitrate	10.2	24	5.8	mg/kg	0.99404	Jb	300	205566	05/13/15 11:00	300.0	207259-IC207	05/14/15-04:05KD
Nitrogen, Total Kjeldahl	38000	2400	180	mg/kg	8.0645	b	351.2	205274	05/07/15 06:18	EPA351.2	206825-FI206	05/08/15-06:10AMB

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 4, 2015

Goleta Sanitary District
Attn: Lena Cox
1 William Moffett Place
Goleta, CA 93117

Description : Class A Biosolids
Project : Class A Biosolids

Lab ID : SP 1504501-001
Customer ID : 2-16138

Sampled On : April 24, 2015-08:35
Sampled By : Lena Cox
Received On : April 24, 2015-14:50
Matrix : Solid

Sample Result - Inorganic

Constituent	Result	PQL	MDL	Units	Dilution	DQF	Sample Preparation Method	Sample Preparation ID	Sample Preparation Time	Sample Analysis Method	Sample Analysis ID	Sample Analysis Time
Metals, Total [G:1]												
Arsenic	ND	5		mg/kg	10	J	3050	205646	05/15/15 04:00	200.7	207496-IT203	05/20/15-14:34AC
Cadmium	1.7	0.3		mg/kg	1		3050	205646	05/15/15 04:00	200.7	207371-IT203	05/18/15-14:15AC
Chromium	34.2	0.5		mg/kg	1		3050	205646	05/15/15 04:00	200.7	207371-IT203	05/18/15-14:15AC
Copper	654	0.5		mg/kg	1	P	3050	205646	05/15/15 04:00	200.7	207371-IT203	05/18/15-14:15AC
Lead	17.9	0.5		mg/kg	1		3050	205646	05/15/15 04:00	200.7	207371-IT203	05/18/15-14:15AC
Mercury	0.90	0.03		mg/kg	1	1	7471	205687	05/15/15 07:45	245.1	207271-HG204	05/15/15-15:09AC
Molybdenum	12	1		mg/kg	1		3050	205646	05/15/15 04:00	200.7	207371-IT203	05/18/15-14:15AC
Nickel	28.8	0.5		mg/kg	1		3050	205646	05/15/15 04:00	200.7	207371-IT203	05/18/15-14:15AC
Phosphorus	25600	25		mg/kg	5	P	3050	205646	05/15/15 04:00	200.7	207465-IT203	05/19/15-17:29AC
Selenium	6.0	0.5		mg/kg	1		3050	205646	05/15/15 04:00	200.7	207371-IT203	05/18/15-14:15AC
Zinc	716	1		mg/kg	1		3050	205646	05/15/15 04:00	200.7	207371-IT203	05/18/15-14:15AC

DQF Flags Definition:

1	The MS/MSD did not meet QC criteria.
J	To indicate that result is estimated in cases where result less than PQL; or estimated due to RPD failure.
P	Post Digestion Spike (PDS) not within Acceptance Range (AR).

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (G) Glass Jar Preservatives: N/A

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

Class A Biosolids Conversion Wet to Dry
Sample Collected 4/24/15

Metal	Wet Conc.	Dry Conc.
As	5	8.46
Cd	17	28.76
Cr	34.2	57.87
Cu	654	1106.60
Pb	17.9	30.29
Hg	0.9	1.52
Mo	12	20.30
Ni	28.8	48.73
Se	6	10.15
Zn	716	1211.51

% Solids = 59.1

BioVir Laboratories

EPA ID# 01401, CA-ELAP #1795

685 Stone Road, Unit 6 • Benicia, CA 94510 • (707) 747-5906 • 1-800-GIARDIA • FAX (707) 747-1751 • WEB: www.biovir.com

REPORT NO.: 150414
PAGE NO.: 1 of 2
CLIENT: GOLETA SANITARY DISTRICT
ADDRESS Kathleen Werner
P.O. Box 906
Goleta, CA 93116
CLIENT NO GOL003 **CLIENT PO:** A15172

ASSAY RESULTS:

Test: Coliform, Fecal **Method: EPA 1681**

BioVir #	Sample ID	Site	Analyte	Result	Units
150414-001	Class A Biosolids	Drying Bed GSD	Coliform, Fecal	>2.7e3	MPN/1 g Total Solids

Collector: Lena Cox CollectDate: 3/23/2015 CollectTime: 2:00:00 PM
ReceiveDate: 3/24/2015 9:25:00 AM Matrix: Biosolids Temp: 9.8C
Volume: 1126.91g Analysis Start Date: 3/24/2015 Analysis Start Time: 1038
Analyst: JTruscott Analysis End: 3/25/2015

Comment: Client provided T.S. =59.1%

Test: Enteric Virus **Method: ASTM D 4994-89**

BioVir #	Sample ID	Site	Analyte	Result	Units
150414-001	Class A Biosolids	Drying Bed GSD	Enteric Virus	<1	pfu/4 g TS

Collector: Lena Cox CollectDate: 3/23/2015 CollectTime: 2:00:00 PM
ReceiveDate: 3/24/2015 9:25:00 AM Matrix: Biosoilds Temp: 9.8C
Volume: 1126.91g Analysis Start Date: 3/27/2015 Analysis Start Time: 09:45
Analyst: ValentinaL Analysis End: 3/30/2015

Comment: Client provided T.S. =59.1%

Test: Helminth Ova **Method:**

BioVir #	Sample ID	Site	Analyte	Result	Units

REPORT NO.:	150414
PAGE NO.:	2 of 2
CLIENT:	GOLETA SANITARY DISTRICT
ADDRESS	Kathleen Werner P.O. Box 906 Goleta, CA 93116
CLIENT NO	GOL003 **CLIENT PO:** A15172

ASSAY RESULTS:

Test: Helminth Ova **Method:**

BioVir #	Sample ID	Site	Analyte	Result	Units
150414-001	Class A Biosolids	Drying Bed GSD	Viable Helminth Ova	<1	Viable Ova /4 g TS

Collector: Lena Cox CollectDate: 3/23/2015 CollectTime: 2:00:00 PM
ReceiveDate: 3/24/2015 9:25:00 AM Matrix: Biosoilds Temp: 9.8C
Volume: 1126.91g Analysis Start Date: Analysis Start Time:
Analyst: SMullaney Analysis End: 4/28/2015

Comment: Client provided T.S. =59.1%

SAMPLE EVALUATION PERFORMANCE CRITERIA: The precise rates of recovery of organisms from environmental samples cannot be determined. B ioVir Laboratories has analyzed your sample(s) in accordance with the method described with each analyte above, however, due to inherent limitations of these methods organisms may avoid detection. For additional information regarding the limitations of the method(s) referred to above please call us at 1-800-GIARDIA.
COMPANY IS NOT AN INSURER: BioVir Laboratories is not an insurer or guarantor of the quality and/or purity of water, wastewater, biosolid or other material from which the sample was taken. BioVir offers no express or implied warranties whatsoever concerning the quality or purity of any water, wastewater, biosolid or other material which is ultimately consumed, distributed, applied or disposed.
MAINTENANCE OF RECORDS: BioVir Laboratories, Inc. shall maintain records pertaining to the historical reconstruction of client's data for a minimum of five years from the date of issuance of the final report. Records m ay be destroyed after that date unless a written client's request for records transfer is received by BioVir which requests otherwise. Records transfer or storage charges may apply after the 5 year period. THIS REPORT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF BIOVIR LABORATORIES, INC.

4/28/2015
Date:

Richard E Daniel
Signature

Quality Checked: EMoran

GOLETA SANITARY DISTRICT
ELAP Certified Wastewater Laboratory #1374
One William Moffett Place, Goleta CA 93117
(805) 967-4519

Date: February 12, 2016

SAMPLE DESCRIPTION: Class A Biosolids Pile #1

Sampled By: Lena Cox

Date/Time Sampled: 6/10/15 13:25 P.M.

Date Received: 6/10/15

REPORT OF ANALYTICAL RESULTS

Constituent	Result	Units	RDL*	Method	Date of Analysis	By
Fecal Coliform	<1.8	MPN/g	1.8	SM 9221 E	6/10/15	LC

Lena Cox
Laboratory Supervisor

*REPORTING DETECTION LIMIT, GSD ASSIGNED LIMIT BASED ON METHOD DETECTION LIMITS (MDLs) DETERMINED USING EPA GUIDELINES.

August 27, 2015

Goleta Sanitary District
Attn: Lena Cox
1 William Moffett Place
Goleta, CA 93117

Description : Biosolids
Project : Quarterly Biosolids Monitoring

Lab ID : SP 1507560-001
Customer ID : 2-16138

Sampled On : July 8, 2015-09:30
Sampled By : Lena
Received On : July 8, 2015-15:30
Matrix : Sludge

Sample Result - Inorganic

Constituent	Result	PQL	MDL	Units	Dilution	DQF	Sample Preparation Method	Sample Preparation ID	Sample Preparation Time	Sample Analysis Method	Sample Analysis ID	Sample Analysis Time
Metals, STLC [G:1]												
Copper	0.200	0.25	0.0019	mg/L	5		RCRA	209252	08/10/15 15:00	200.7	211682-IT203	08/10/15-15:50AC
Metals, Total [G:1]												
Antimony	ND	2.8	2.1	mg/kg	1	U	3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Arsenic	ND	14	1.2	mg/kg	5	U	3050	208370	07/21/15 04:00	200.7	210705-IT203	07/22/15-21:30AC
Barium	542	5.7	0.48	mg/kg	1		3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Beryllium	ND	1.7	0.80	mg/kg	1	U	3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Cadmium	2.38	1.7	0.80	mg/kg	1		3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Chromium	42.2	2.8	0.74	mg/kg	1	h	3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Cobalt	6.79	2.8	0.42	mg/kg	1		3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Copper	982	14	0.56	mg/kg	5		3050	208370	07/21/15 04:00	200.7	210705-IT203	07/22/15-21:30AC
Lead	17.6	2.8	1.2	mg/kg	1		3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Mercury	0.212	0.17	0.0	mg/kg	1		7471	208126	07/13/15 12:00	245.1	210391-HG204	07/16/15-10:29AC
Molybdenum	20.1	5.7	0.33	mg/kg	1	h	3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Nickel	30.1	2.8	0.48	mg/kg	1		3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Phosphorus	37500	570	1.9	mg/kg	20	P	3050	208370	07/21/15 04:00	200.7	210784-IT203	07/23/15-13:27AC
Selenium	10.2	2.8	1.9	mg/kg	1		3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Silver	10.0	2.8	0.80	mg/kg	1		3050	208370	07/21/15 04:00	200.7	212594-IT203	08/26/15-09:06AC
Thallium	ND	2.8	1.8	mg/kg	1	U	3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Vanadium	16.9	2.8	0.85	mg/kg	1		3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Zinc	1050	5.7	0.80	mg/kg	1	hP	3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

Sample Result - Inorganic

Constituent	Result	PQL	MDL	Units	Dilution	DQF	Sample Preparation			Sample Analysis		
							Method	ID	Time	Method	ID	Time
Wet Chemistry [G:1]												
Ammonia Nitrogen	5310	220	1.8	mg/kg	47.619	b	4500NH3B	208069	07/13/15 15:38	4500NH3G	210298-FI206	07/15/15-07:15AMB
% Moisture	82.4	0.1	0.030	%	0.99957	b	2540G	207913	07/09/15 10:00	2540B	210184-WT215	07/13/15-13:57JMG
Nitrate	ND	540	5.6	mg/kg	4.9505	Ub	300	207735	07/13/15 11:20	300.0	210276-IC207	07/14/15-05:45KD
Nitrogen, Total Kjeldahl	38300	4700	170	mg/kg	16.667		351.2	208257	07/17/15 05:51	EPA351.2	210502-FI206	07/20/15-06:14AMB
pH	6.91	--	0.0	units	1		9045C	207992	07/10/15 16:44	4500HB	210079-PH203	07/10/15-16:50JBA
Solids, Total Dissolved (TDS)	3970	200	58	mg/kg	1		2540 C	207897	07/09/15 09:04	2540C	210042-WT219	07/10/15-09:22JMG

DQF Flags Definition:

b	The Blank was positive for constituent but less than the PQL
h	The MS/MSD did not meet QC criteria.
U	Constituent results were non-detect.
P	Post Digestion Spike (PDS) not within Acceptance Range (AR).

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (G) Glass Jar Preservatives: N/A

July 22, 2015

Goleta Sanitary District
Attn: Lena Cox
1 William Moffett Place
Goleta, CA 93117

SP 1507560:1 **COLIFORM BACTERIA ANALYSIS**
Customer ID : 2-16138

System Number :
Project Name : Quarterly Biosolids Monitoring

Sample Handling Information

ID	Sample Number	Sample Description	Sample Type/Reason	Sampled By	Employed By	Sampled	Started	Finished
1	SP 1507560-001	Biosolids	Waste-Other	Lena	Goleta Sanitary Dist	07/08/2015 09:30	07/08/2015 16:29 LM	07/10/2015 LM

Analytical Results

ID	Sample Description	Chlorine Total/Free	Temp °C	Method	Units	Total	Fecal	E. Coli	Person Notified ‡	Date ‡ Notified	Time ‡ Notified	Foot Note
1	Biosolids	---	---	SM 9221B	MPN/g	28400	7390	---	N/R			

N/R Not Required. MPN Most Probable Number A/P Absence/Presence Results in Dry Weight Basis. ‡ Client Notification details.

Analyses were performed using Standard Methods 22nd edition. If you have any questions regarding your results, please call.

RRH:SMH

Reviewed and Approved By **Raquel R. Harvey** FGL Digitally signed by Raquel R. Harvey
Title: Tech Director Microbiology
Date: 2015-07-22

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

August 3, 2015

Goleta Sanitary District
Attn: Lena Cox
1 William Moffett Place
Goleta, CA 93117

Description : Biosolids
Project : Quarterly Biosolids Monitoring

Lab ID : SP 1507560-001
Customer ID : 2-16138

Sampled On : July 8, 2015-09:30
Sampled By : Lena
Received On : July 8, 2015-15:30
Matrix : Sludge

Sample Result - Inorganic

Constituent	Result	PQL	MDL	Units	Dilution	DQF	Sample Preparation Method	Sample Preparation ID	Sample Preparation Time	Sample Analysis Method	Sample Analysis ID	Sample Analysis Time
Metals, Total [G:1]												
Antimony	ND	2.8	2.1	mg/kg	1	U	3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Arsenic	ND	14	1.2	mg/kg	5	U	3050	208370	07/21/15 04:00	200.7	210705-IT203	07/22/15-21:30AC
Barium	542	5.7	0.48	mg/kg	1		3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Beryllium	ND	1.7	0.80	mg/kg	1	U	3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Cadmium	2.38	1.7	0.80	mg/kg	1		3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Chromium	42.2	2.8	0.74	mg/kg	1	h	3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Cobalt	6.79	2.8	0.42	mg/kg	1		3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Copper	982	14	0.56	mg/kg	5		3050	208370	07/21/15 04:00	200.7	210705-IT203	07/22/15-21:30AC
Lead	17.6	2.8	1.2	mg/kg	1		3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Mercury	0.212	0.17	0.0	mg/kg	1		7471	208126	07/13/15 12:00	245.1	210391-HG204	07/16/15-10:29AC
Molybdenum	20.1	5.7	0.33	mg/kg	1	h	3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Nickel	30.1	2.8	0.48	mg/kg	1		3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Phosphorus	37500	570	1.9	mg/kg	20	P	3050	208370	07/21/15 04:00	200.7	210784-IT203	07/23/15-13:27AC
Selenium	10.2	2.8	1.9	mg/kg	1		3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Thallium	ND	2.8	1.8	mg/kg	1	U	3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Vanadium	16.9	2.8	0.85	mg/kg	1		3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Zinc	1050	5.7	0.80	mg/kg	1	hP	3050	208370	07/21/15 04:00	200.7	210658-IT203	07/21/15-16:27AC
Wet Chemistry [G:1]												
Ammonia Nitrogen	5310	220	1.8	mg/kg	47.619	b	4500NH3B	208069	07/13/15 15:38	4500NH3G	210298-FI206	07/15/15-07:15AMB
% Moisture	82.4	0.1	0.030	%	0.99957	b	2540G	207913	07/09/15 10:00	2540B	210184-WT215	07/13/15-13:57JMG

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

Sample Result - Inorganic

Constituent	Result	PQL	MDL	Units	Dilution	DQF	Sample Preparation Method	Sample Preparation ID	Sample Preparation Time	Sample Analysis Method	Sample Analysis ID	Sample Analysis Time
Wet Chemistry [G:1]												
Nitrate	ND	540	5.6	mg/kg	4.9505	Ub	300	207735	07/13/15 11:20	300.0	210276-IC207	07/14/15-05:45KD
Nitrogen, Total Kjeldahl	38300	4700	170	mg/kg	16.667		351.2	208257	07/17/15 05:51	EPA351.2	210502-FI206	07/20/15-06:14AMB
pH	6.91	--	0.0	units	1		9045C	207992	07/10/15 16:44	4500HB	210079-PH203	07/10/15-16:50JBA
Solids, Total Dissolved (TDS)	3970	200	58	mg/kg	1		2540 C	207897	07/09/15 09:04	2540C	210042-WT219	07/10/15-09:22JMG

DQF Flags Definition:

b	The Blank was positive for constituent but less than the PQL
h	The MS/MSD did not meet QC criteria.
U	Constituent results were non-detect.
P	Post Digestion Spike (PDS) not within Acceptance Range (AR).

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (G) Glass Jar Preservatives: N/A

BABCOCK Laboratories, Inc.
The Standard of Excellence for Over 100 Years

Client Name: FGL Environmental, Inc.
Contact: Cindy Aguirre
Address: 853 Corporation Street
Santa Paula, CA 93060

Report Date: 31-Jul-2015

Project Name: No Project

Project Number: SP 1507560- (2-16138)

Work Order Number: B5G1168

Received on Ice (Y/N): Yes Temp: 6 °C

Laboratory Reference Number
B5G1168-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SP 1507560 - (2-16138) 1 Biosolids	Sludge	07/08/15 09:30	07/10/15 10:03

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Solids							
Total Solids	17	0.10	%	SM 2540G	07/13/15 11:45	cdcs	
Metals and Metalloids; EPA SW846 Series							
Hexavalent Chromium	ND	0.12	mg/kg dry dry	EPA 7199	07/24/15 16:36	dcb	N_WEX

December 1, 2015

Goleta Sanitary District
Attn: Lena Cox
1 William Moffett Place
Goleta, CA 93117

Description : Biosolids
Project : Biosolids Monitoring

Lab ID : SP 1511528-001
Customer ID : 2-16138

Sampled On : October 14, 2015-10:20
Sampled By : Lena Cox
Received On : October 14, 2015-15:15
Matrix : Sludge

Sample Result - Inorganic

Constituent	Result	PQL	MDL	Units	Dilution	DQF	Sample Preparation Method	Sample Preparation ID	Sample Preparation Time	Sample Analysis Method	Sample Analysis ID	Sample Analysis Time
Metals, Total G:1												
Antimony	ND	2.5	1.9	mg/kg	1	U	3050	212178	10/20/15 09:00	200.7	215452-IT203	10/21/15-16:39RS
Arsenic	ND	13	1.1	mg/kg	5	U	3050	212178	10/20/15 09:00	200.7	215592-IT203	10/24/15-16:50AC
Beryllium	ND	1.5	0.71	mg/kg	1	U	3050	212178	10/20/15 09:00	200.7	215452-IT203	10/21/15-16:39RS
Cadmium	1.89	1.5	0.71	mg/kg	1		3050	212178	10/20/15 09:00	200.7	215452-IT203	10/21/15-16:39RS
Chromium	40.7	2.5	0.66	mg/kg	1		3050	212178	10/20/15 09:00	200.7	215452-IT203	10/21/15-16:39RS
Copper	1130	13	0.50	mg/kg	5		3050	212178	10/20/15 09:00	200.7	215592-IT203	10/24/15-16:50AC
Lead	20.2	2.5	1.1	mg/kg	1		3050	212178	10/20/15 09:00	200.7	215452-IT203	10/21/15-16:39RS
Mercury	1.38	0.15	0.0	mg/kg	1		7471	212581	10/28/15 07:00	245.1	215759-HG204	10/28/15-11:48AC
Molybdenum	22.0	5.1	0.29	mg/kg	1		3050	212178	10/20/15 09:00	200.7	215452-IT203	10/21/15-16:39RS
Nickel	31.3	2.5	0.42	mg/kg	1		3050	212178	10/20/15 09:00	200.7	215452-IT203	10/21/15-16:39RS
Phosphorus	31900	630	1.7	mg/kg	25	P	3050	212178	10/20/15 09:00	200.7	215592-IT203	10/24/15-16:53AC
Selenium	8.57	2.5	1.7	mg/kg	1		3050	212178	10/20/15 09:00	200.7	215452-IT203	10/21/15-16:39RS
Silver	10.5	2.5	0.71	mg/kg	1		3050	212178	10/20/15 09:00	200.7	215452-IT203	10/21/15-16:39RS
Thallium	ND	2.5	1.6	mg/kg	1	Ul	3050	212178	10/20/15 09:00	200.7	215452-IT203	10/21/15-16:39RS
Zinc	1040	5.1	0.71	mg/kg	1	P	3050	212178	10/20/15 09:00	200.7	215452-IT203	10/21/15-16:39RS
Wet Chemistry G:1												
Ammonia Nitrogen	4140	200	1.6	mg/kg	48.544	b	4500NH3B	212203	10/19/15 12:35	4500NH3G	215619-FI206	10/26/15-11:43AMB
Cyanide, Total	ND	0.51	0.22	mg/kg	1	Ub	9010B	212583	10/28/15 12:22	4500CNCE	215792-UV205	10/28/15-17:49AMM
% Moisture	80.2	0.1	0.030	%	0.99944	b	2540G	212135	10/16/15 13:26	2540B	215231-WT215	10/19/15-09:26JMG
Nitrate	ND	20	4.9	mg/kg	1.002	U	300	213217	11/11/15 14:20	300.0	216575-IC207	11/12/15-10:58KD

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

Sample Result - Inorganic

Constituent	Result	PQL	MDL	Units	Dilution	DQF	Sample Preparation Method	Sample Preparation ID	Sample Preparation Time	Sample Analysis Method	Sample Analysis ID	Sample Analysis Time
Wet Chemistry [G:1]												
Nitrogen, Total Kjeldahl	41600	4400	150	mg/kg	17.241	b	351.2	212101	10/16/15 08:45	EPA351.2	215207-FI206	10/19/15-05:47AMB
pH	7.95	--	0.0	units	1		9045C	212094	10/15/15 19:30	4500HB	215123-PH203	10/15/15-19:37JBA

DQF Flags Definition:

b	The Blank was positive for constituent but less than the PQL
l	The MS/MSD did not meet QC criteria.
U	Constituent results were non-detect.
P	Post Digestion Spike (PDS) not within Acceptance Range (AR).

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (G) Glass Jar Preservatives: N/A

December 1, 2015

Goleta Sanitary District
Attn: Lena Cox
1 William Moffett Place
Goleta, CA 93117

Description : Biosolids
Project : Biosolids Monitoring

Lab ID : SP 1511528-001
Customer ID : 2-16138

Sampled On : October 14, 2015-10:20
Sampled By : Lena Cox
Received On : October 14, 2015-15:15
Matrix : Sludge

Sample Result - Organic

Constituent	Result	PQL	MDL	Units	Dilution	DQF	Sample Preparation Method	Sample Preparation ID	Sample Preparation Time	Sample Analysis Method	Sample Analysis ID	Sample Analysis Time
EPA 8260 G:1												
4-Bromofluorobenzene‡	70.8	75-146		%	30.964	L	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
Dibromofluoromethane‡	37.8	59-166		%	61.927	L	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
Toluene-d8‡	33.4	78-119		%	61.927	L	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
Acetone	3960	31000	35	ug/kg	61.927	J	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
Acrolein	ND	31000	150	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
Acrylonitrile	ND	31000	130	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
Benzene	ND	780	0.51	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
Bromobenzene	ND	780	0.76	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
Bromochloromethane	ND	1600	1.5	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
Bromodichloromethane	ND	780	0.50	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
Bromoform	173	1600	0.56	ug/kg	61.927	J	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
Bromomethane	ND	3100	20	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
2-Butanone (MEK)	ND	7800	37	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
n-Butylbenzene	ND	780	0.76	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
sec-Butylbenzene	ND	780	0.76	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
tert-Butylbenzene	ND	780	0.71	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
Carbon Disulfide	ND	7800	7.1	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
Carbon Tetrachloride	ND	780	0.96	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
Chlorobenzene	ND	1600	1.4	ug/kg	61.927	UH	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
Chloroethane	ND	3100	6.6	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

Sample Result - Organic

Constituent	Result	PQL	MDL	Units	Dilution	DQF	Sample Preparation			Sample Analysis		
							Method	ID	Time	Method	ID	Time
EPA 8260 [G:1]												
Chloroform	ND	1600	0.66	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
Chloromethane	ND	3100	1.2	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
2-Chlorotoluene	ND	780	0.86	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
4-Chlorotoluene	ND	780	0.76	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
1,2-Dibromo-3-chloropropane	ND	780	14	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
Dibromochloromethane	ND	1600	0.44	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
1,2-Dibromoethane (EDB)	ND	1600	0.71	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
Dibromomethane	ND	780	1.1	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
1,2-Dichlorobenzene	ND	780	0.76	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
1,3-Dichlorobenzene	ND	780	0.86	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
1,4-Dichlorobenzene	ND	780	1.0	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
Dichlorodifluoromethane	ND	3100	0.91	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
1,1-Dichloroethane	ND	1600	0.56	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
1,2-Dichloroethane	ND	780	0.81	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
1,1-Dichloroethylene	ND	1600	2.7	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
cis-1,2-Dichloroethylene	ND	1600	0.81	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
trans-1,2-Dichloroethylene	ND	1600	0.76	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
1,2-Dichloropropane	ND	780	0.91	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
1,3-Dichloropropane	ND	1600	0.45	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
2,2-Dichloropropane	ND	1600	0.86	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
1,1-Dichloropropene	ND	780	0.91	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
cis-1,3-Dichloropropene	ND	780	0.66	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
trans-1,3-Dichloropropene	ND	780	0.61	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
Ethyl Benzene	ND	1600	1.3	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
Hexachlorobutadiene	ND	780	1.5	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
2-Hexanone	ND	7800	19	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
Isopropylbenzene	ND	780	0.42	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
p-Isopropyltoluene	ND	780	0.61	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
4-Methyl-2-pentanone (MIBK)	ND	3900	21	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
Methylene Chloride	ND	1600	0.91	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG

Sample Result - Organic

Constituent	Result	PQL	MDL	Units	Dilution	DQF	Sample Preparation Method	Sample Preparation ID	Sample Preparation Time	Sample Analysis Method	Sample Analysis ID	Sample Analysis Time
EPA 8260 [G:1]												
Naphthalene	ND	3100	0.40	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
n-Propylbenzene	ND	780	0.76	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
Styrene	ND	1600	0.76	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
1,1,1,2-Tetrachloroethane	ND	1600	0.76	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
1,1,2,2-Tetrachloroethane	ND	780	1.8	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
Tetrachloroethylene	ND	1600	1.8	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
Toluene	105	1600	0.66	ug/kg	61.927	J	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
1,2,3-Trichlorobenzene	ND	1600	0.96	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
1,2,4-Trichlorobenzene	ND	780	0.76	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
1,1,1-Trichloroethane	ND	1600	0.28	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
1,1,2-Trichloroethane	ND	780	1.5	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
Trichloroethylene	ND	780	3.1	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
Trichlorofluoromethane	ND	3100	1.7	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
1,2,3-Trichloropropane	ND	780	1.4	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
1,2,4-Trimethylbenzene	ND	780	0.81	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
1,3,5-Trimethylbenzene	ND	780	1.4	ug/kg	30.964	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-14:45VRG
Vinyl Acetate	ND	9400	20	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
Vinyl Chloride	ND	3100	0.48	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
Xylenes	ND	1600	2.4	ug/kg	61.927	U	5030B	211874	10/16/15 06:00	8260B	215629-GM214	10/16/15-19:21VRG
EPA 8270 [G:1]												
2-Fluorobiphenyl‡	51.3	0-106		%	0.99453		8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
2-Fluorophenol‡	55.1	0-115		%	0.99453		8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Nitrobenzene-d5‡	44.3	0-151		%	0.99453		8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Phenol-d6‡	50.6	0-124		%	0.99453		8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
p-Terphenyl-d14‡	57.5	0-101		%	0.99453		8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
2,4,6-Tribromophenol‡	61.3	0-129		%	0.99453		8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Acenaphthene	ND	5.1	0.34	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Acenaphthylene	ND	5.1	0.32	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Aniline	ND	25	0.47	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Anthracene	ND	5.1	0.39	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL

Sample Result - Organic

Constituent	Result	PQL	MDL	Units	Dilution	DQF	Sample Preparation			Sample Analysis		
							Method	ID	Time	Method	ID	Time
EPA 8270 [G:1]												
1,2-Diphenylhydrazine	ND	25	0.33	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Benzidine	ND	25	1.2	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Benzo(a)anthracene	ND	5.1	0.38	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Benzo(b)fluoranthene	ND	5.1	0.45	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Benzo(k)fluoranthene	ND	5.1	1.1	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Benzo(g,h,i)perylene	ND	5.1	0.51	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Benzo(a)pyrene	ND	5.1	0.37	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Benzoic Acid	ND	25	0.51	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Benzylalcohol	ND	9.9	0.76	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
4-Bromophenylphenylether	ND	5.1	0.33	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Butylbenzylphthalate	ND	5.1	0.38	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
bis(2-Chloroethoxy)methane	ND	25	0.31	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
bis(2-Chloroethyl)ether	ND	30	0.30	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
bis(2-Chloroisopropyl)ether	ND	25	0.30	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
bis(2-Ethylhexyl)phthalate	27.6	5.1	0.50	mg/kg	0.99453		8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
4-Chloroaniline	ND	25	0.25	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
4-Chloro-3-methylphenol	ND	9.9	1.3	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
2-Chloronaphthalene	ND	5.1	0.40	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
2-Chlorophenol	ND	5.1	0.61	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
4-Chlorophenylphenylether	ND	5.1	0.41	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Chrysene	ND	5.1	0.44	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Dibenzo(a,h)anthracene	ND	5.1	0.41	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Dibenzofuran	ND	5.1	0.71	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Di-n-butylphthalate	ND	5.1	0.47	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
1,2-Dichlorobenzene	ND	25	0.30	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
1,3-Dichlorobenzene	ND	25	0.30	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
1,4-Dichlorobenzene	ND	25	0.31	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
3,3'-Dichlorobenzidine	ND	9.9	0.51	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
2,4-Dichlorophenol	ND	5.1	0.61	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Diethylphthalate	ND	5.1	0.48	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL

Sample Result - Organic

Constituent	Result	PQL	MDL	Units	Dilution	DQF	Sample Preparation			Sample Analysis		
							Method	ID	Time	Method	ID	Time
EPA 8270 [G1]												
2,4-Dimethylphenol	ND	5.1	0.81	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Dimethylphthalate	ND	5.1	0.41	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
4,6-Dinitro-2-methylphenol	ND	25	0.56	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
2,4-Dinitrophenol	2.64	25	0.36	mg/kg	0.99453	J	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
2,4-Dinitrotoluene	ND	5.1	0.33	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
2,6-Dinitrotoluene	ND	5.1	0.31	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Di-n-octylphthalate	ND	5.1	0.51	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Fluoranthene	ND	5.1	0.48	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Fluorene	ND	5.1	0.43	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Hexachlorobenzene	ND	5.1	0.39	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Hexachlorobutadiene	ND	5.1	0.38	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Hexachlorocyclopentadiene	ND	5.1	0.24	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Hexachloroethane	ND	5.1	0.34	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Indeno(1,2,3-c,d)pyrene	ND	5.1	0.49	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Isophorone	ND	5.1	0.35	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
2-Methylnaphthalene	ND	5.1	0.81	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
2-Methylphenol	ND	5.1	0.45	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
3- and 4-Methylphenol	24.1	5.1	0.66	mg/kg	0.99453		8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Naphthalene	ND	5.1	0.41	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
2-Nitroanaline	1.49	25	0.66	mg/kg	0.99453	J	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
3-Nitroanaline	1.68	25	0.61	mg/kg	0.99453	J	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
4-Nitroanaline	ND	25	0.61	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Nitrobenzene	ND	5.1	0.33	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
2-Nitrophenol	ND	5.1	0.61	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
4-Nitrophenol	2.17	25	0.86	mg/kg	0.99453	J	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
N-Nitrosodimethylamine	ND	5.1	0.32	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
N-Nitrosodiphenylamine	ND	5.1	0.86	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
N-Nitrosodi-n-propylamine	ND	9.9	0.86	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Pentachlorophenol	ND	25	0.71	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Phenanthrene	ND	5.1	0.44	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL

Sample Result - Organic

Constituent	Result	PQL	MDL	Units	Dilution	DQF	Sample Preparation Method	Sample Preparation ID	Sample Preparation Time	Sample Analysis Method	Sample Analysis ID	Sample Analysis Time
EPA 8270 [G:1]												
Phenol	ND	5.1	0.71	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
Pyrene	ND	5.1	0.45	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
1,2,4-Trichlorobenzene	ND	5.1	0.31	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
2,4,5-Trichlorophenol	ND	5.1	0.61	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL
2,4,6-Trichlorophenol	ND	5.1	0.66	mg/kg	0.99453	U	8270C	212540	10/27/15 14:17	8270C	216499-GM207	11/10/15-17:19SBL

DQF Flags Definition:

H	The preparation QC spike and/or CCV recoveries did not meet QC acceptance criteria.
L	The preparation QC spike and/or CCV recoveries did not meet QC acceptance criteria.
U	Constituent results were non-detect.
J	To indicate that result is estimated in cases where result less than PQL; or estimated due to RPD failure.

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (G) Glass Jar Preservatives: N/A ‡Surrogate.

EMS LABORATORIES INC.
117 W. Bellevue Drive, Pasadena, CA 91105-2548 626-568-4065

National Institute of Standards and Technology (NIST) NVLAP Lab Code 101218-0
California Department of Health Services Environmental Testing Laboratory ELAP 1119
County Sanitation Districts of Los Angeles County ID No. 10120
AIHA Laboratory Accreditation Programs, LLC 101634

CUSTOMER:	FGL Environmental	PAGE #:	1 of 1
	853 Corporation Street	REPORT #:	0167656
	Santa Paula CA 93060	PROJECT:	PLM ANALYSIS
CONTACT:	Cindy Aguirre	DATE COLLECTED:	10/14/2015
REFERENCE:	SP 1511528-(2-16138)	COLLECTED BY:	Lena Cox
METHOD:	EPA 600/R-93/116	DATE RECEIVED:	10/15/2015
		ANALYSIS DATE:	10/23/2015

BULK SAMPLE ANALYSIS FOR ASBESTOS CONTENT BY POLARIZED LIGHT MICROSCOPY

Laboratory ID - Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
0167656-001						
1	Brown, Homogeneous, Soft, acid, friable Note: 24°C	LAYER 1 100%	None Detected		Non-Fibrous Material	100%

Analyst - MEGHAN SWEENEY

Approved Signatory Laboratory Director

The EPA method is a semi-quantitative procedure. The detection limit is between 0.1-1% by area and dependent upon the size of the asbestos fibers, the means of sampling and the matrix of the sampled material. The test results reported are for the sample(s) delivered to us and may not represent the entire material from which the sample was taken. The EPA recommends three samples or more be taken from a "homogeneous sampling area" before friable material is considered non-asbestos-containing. Negative floor tile samples may contain significant amounts (>1%) of very thin fibers which cannot be detected by PLM. Confirmation by TEM is recommended by the EPA (Federal Register Vol.59, No.146). Asbestos fibers bound in a non-friable organic matrix may not be detected by PLM. Alternative preparation methods are recommended. This report, from a NIST-accredited laboratory through NVLAP, must not be used by the client to claim product endorsement by NVLAP or any agencyof the U.S. government. This report shall not be reproduced, except in full, without the written approval of EMS Laboratories, Inc. Samples were received in good condition unless otherwise noted.

NVLAP®
NVLAP Lab Code: 101218-0

Sample ID: Biosolids

EPA Method 8290

Client Data
Name: FGL Environmental, Inc.
Project: SP 1511528-(2-16138)
Date Collected: 14-Oct-2015 10:20

Sample Data
Matrix: Sludge
Sample Size: 22.9 g
% Solids: 21.8

Laboratory Data
Lab Sample: 1501008-01 Date Received: 16-Oct-2015 10:57
QC Batch: B5J0110 Date Extracted: 22-Oct-2015 11:07
Date Analyzed : 30-Oct-15 22:20 Column: ZB-5MS Analyst: WJL

Analyte	Conc. (pg/g)	RL	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	0.999	0.181		
1,2,3,7,8-PeCDD	ND	5.00		1.84	
1,2,3,4,7,8-HxCDD	ND	5.00		0.753	
1,2,3,6,7,8-HxCDD	16.9	5.00			
1,2,3,7,8,9-HxCDD	5.68	5.00			
1,2,3,4,6,7,8-HpCDD	214	5.00			
OCDD	1180	9.99			B
2,3,7,8-TCDF	1.66	0.999			
1,2,3,7,8-PeCDF	0.826	5.00			J
2,3,4,7,8-PeCDF	1.17	5.00			J
1,2,3,4,7,8-HxCDF	1.36	5.00			J
1,2,3,6,7,8-HxCDF	1.86	5.00			J
2,3,4,6,7,8-HxCDF	1.43	5.00			J
1,2,3,7,8,9-HxCDF	0.416	5.00			J
1,2,3,4,6,7,8-HpCDF	22.0	5.00			
1,2,3,4,7,8,9-HpCDF	ND	5.00	0.593		
OCDF	56.6	9.99			

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	86.9	40 - 135	
	13C-1,2,3,7,8-PeCDD	82.4	40 - 135	
	13C-1,2,3,4,7,8-HxCDD	96.9	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	88.2	40 - 135	
	13C-1,2,3,7,8,9-HxCDD	91.9	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	91.7	40 - 135	
	13C-OCDD	75.8	40 - 135	
	13C-2,3,7,8-TCDF	85.0	40 - 135	
	13C-1,2,3,7,8-PeCDF	82.0	40 - 135	
	13C-2,3,4,7,8-PeCDF	86.1	40 - 135	
	13C-1,2,3,4,7,8-HxCDF	85.5	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	80.6	40 - 135	
	13C-2,3,4,6,7,8-HxCDF	89.9	40 - 135	
	13C-1,2,3,7,8,9-HxCDF	85.2	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	79.8	40 - 135	
	13C-1,2,3,4,7,8,9-HpCDF	92.8	40 - 135	
	13C-OCDF	73.0	40 - 135	
CRS	37Cl-2,3,7,8-TCDD	80.9	40 - 135	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin 6.04

TOTALS

Total TCDD	76.3	77.1
Total PeCDD	611	614
Total HxCDD	83.6	84.4
Total HpCDD	390	
Total TCDF	18.8	24.0
Total PeCDF	28.6	30.8
Total HxCDF	21.7	
Total HpCDF	40.3	

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
RL - Reporting limit
LCL-UCL- Lower control limit - upper control limit
The results are reported in dry weight. The sample size is reported in wet weight.
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Client Name: FGL Environmental, Inc.
Contact: Cindy Aguirre
Address: 853 Corporation Street
Santa Paula, CA 93060

Report Date: 09-Nov-2015

Analytical Report: Page 2 of 9
Project Name: No Project

Project Number: SP1511528-(2-16138)

Work Order Number: B5J1732

Received on Ice (Y/N): Yes Temp: 4 °C

Laboratory Reference Number
B5J1732-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SP1511528-(2-16138) Biosolids	Sludge	10/14/15 10:20	10/16/15 10:00

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Solids							
Total Solids	20	0.10	%	SM 2540G	10/19/15 09:26	CLN	
Aggregate Organic Compounds							
Oil & Grease (HEM)	1.2	0.51	% dry	EPA 9071B	11/04/15 12:45	slp	
Organochlorine Pesticides and PCBs by EPA 8000 Series							
4,4'-DDD	ND	1100	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
4,4'-DDE	ND	810	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
4,4'-DDT	ND	1200	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
a-BHC	ND	1000	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
Aldrin	ND	610	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
b-BHC	ND	1000	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
Chlordane	ND	7600	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
d-BHC	ND	2000	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
Dieldrin	ND	810	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
Endosulfan I	ND	810	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
Endosulfan II	ND	1200	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
Endosulfan Sulfate	ND	2900	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
Endrin	ND	810	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
Endrin Aldehyde	ND	2000	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
Heptachlor	ND	710	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
Heptachlor Epoxide	ND	810	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
Hexachlorobenzene	ND	10000	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
Lindane	ND	1300	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
Methoxychlor	ND	8000	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
Toxaphene	ND	25000	ug/kg dry	EPA 8081A	10/31/15 00:54	acw	
Aroclor 1016	ND	5100	ug/kg dry	EPA 8082	10/30/15 21:00	acw	
Aroclor 1221	ND	5100	ug/kg dry	EPA 8082	10/30/15 21:00	acw	
Aroclor 1232	ND	5100	ug/kg dry	EPA 8082	10/30/15 21:00	acw	
Aroclor 1242	ND	5100	ug/kg dry	EPA 8082	10/30/15 21:00	acw	
Aroclor 1248	ND	5100	ug/kg dry	EPA 8082	10/30/15 21:00	acw	
Aroclor 1254	ND	5100	ug/kg dry	EPA 8082	10/30/15 21:00	acw	
Aroclor 1260	ND	5100	ug/kg dry	EPA 8082	10/30/15 21:00	acw	
Surrogate: Decachlorobiphenyl	140	% 10-158		EPA 8081A	10/31/15 00:54	acw	