

Victor Valley Wastewater Reclamation Authority
A Joint Powers Authority and Public Agency of the State of California
Administrative Offices
15776 Main Street, Suite 3, Hesperia, CA 92345
Telephone: (760) 948-9849
Fax: (760) 948-9897
E-mail: mail@vwwra.com

February 6, 2014

Ms. Lauren Fondahl
U. S. EPA – Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

RE: 2013 Annual Biosolids Monitoring Report

Dear Ms. Fondahl:

Enclosed is the annual biosolids monitoring report for calendar year 2013, as required by 40 CFR Part 503. Biosolids generated in 2013 at Victor Valley Wastewater Reclamation Authority (VWVRA) were stored on the plant site. In 2013, 4,614.35 dry tons were removed from the storage pad, American Organics, formerly Organic Express, Inc., a subsidiary of California Bio-Mass, Inc. hauled the biosolids to Martinez and Pettigrew Farms in Lucerne Valley, California for land application.

Although there are currently no reporting requirements for the land application of Class A EQ biosolids, VWVRA does maintain records on the disposal of its Class A EQ biosolids. If Class A requirements are not met on a particular sample, the biosolids are held and retested until Class A requirements are met.

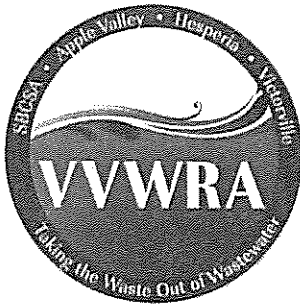
I certify under penalty of law that the vector attraction reduction requirements in 503.33(b)(7) and the pathogen reduction requirements in 503.32(a)(6) were met. These determinations have been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

Sincerely,

Logan Olds
General Manager

Enclosures

cc: SWRCB Discharge Monitoring Report Processing Center
Patty Z. Kouyoumdjian, Executive Officer, Lahontan Regional Water Quality Control Board



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ANNUAL BIOSOLIDS MONITORING REPORT - 2013

1. GENERAL INFORMATION

Name of Generator: Victor Valley Wastewater Reclamation Authority
Facility Address: 20131 Shay Road, Victorville, CA 92394
Mailing Address: 15776 Main Street, Suite 3, Hesperia CA 92345
Contact Person: Logan Olds, General Manager
Telephone: (760) 246-8638

2. FACILITY INFORMATION

Name: Victor Valley Wastewater Reclamation Authority
Location: 20131 Shay Road, Victorville, Ca 92394
Telephone: (760) 246-8638
NPDES Number: CA 0102822
Influent Flow: 12.41 MGD (2013 annual average daily flow rate)

3. BIOSOLIDS INFORMATION

Treatment: Biosolids at the Victor Valley Wastewater Reclamation Authority, which are generated as primary and waste activated sludge, are thickened by dissolved air flotation, anaerobically digested, conditioned in liquid sludge storage lagoons and/or pumped to dry in soil-cement lined solar drying beds, then removed from the beds and stored on site until they achieve Class A quality. In 2013, 4614.35 dry tons were delivered to Martinez and Pettigrew Farms for land application.

Quantity Generated 5,887 dry tons in 2013.

Quantity in Storage 9,008 dry tons as of December 31, 2013, including 310 dry tons in the storage lagoons, 1,240 dry tons class A in the solar drying beds, 4,076 dry tons class A in solar drying bed #4, and 3,382 dry tons on the dried sludge storage pad.

Monitoring & Frequency Pathogen reduction is monitored by testing for Fecal Coliform, Helminth Ova and Enteric Virus. Each drying bed is monitored by sampling analysis, confirmed by receipt acceptable results or re-sampling before transferring to storage pad. This ensures biosolids have met 40 CFR 503 regulations before giving clearance to transfer to the facility storage pad where biosolids are clear for disposal. Biosolids that do not meet 40 CFR 503 regulations are stored in drying bed #4 where re-sampling is performed to give final clearance for disposal once regulations are met.

Sampling and testing for 40 CFR 503 Table B pollutant concentrations was performed to each individual drying bed before relocating to disposal staging area.

Once lab results are confirmed to have met 40 CFR 503 regulations

biosolids are then moved to storage pad for disposal.

Annual samples were collected August 28th 2013. Results are included within the attached laboratory results.

Sample Type Solar drying bed dewatered cake.

Quality Class A EQ in accord with 40 CFR 503.10(c)(1).

4. LAND APPLICATION INFORMATION

Volume Land Applied = 1,869 dry tons.

VVWRA produces biosolids that generally meet Class A EQ requirements. Currently there are no rules or regulations that require record keeping or monitoring of Class A EQ materials once they leave the site. VVWRA does maintain records of off-site reuse, and VVWRA does conduct field audits of the service provider and disposal site when such reuse occurs.

5. DISPOSAL INFORMATION

Volume Disposed = 4,614.35 Dry Tons. All biosolids not disposed of during 2013 were held within the WWTP site on a concrete curbed pad designed for biosolids storage. American Organics, formerly Organic Express, Inc., a subsidiary of California Bio-Mass, Inc. hauled 4,613.66 tons to Martinez and Pettigrew Farms in Lucerne Valley, California for land application.

<u>Month</u>	<u>Volume</u>	<u>Hauler</u>	<u>Disposal Site</u>	<u>Purpose</u>
3/2013	1,195.69	Guillory Trucking	Martinez Farms Lucern, CA 92356	Land Application
4/2013	1,162.87	Guillory Trucking	Pettigrew Farms Lucern, CA 92356	Land Application
5/2013	1,137.98	Guillory Trucking	Pettigrew Farms Lucern, CA 92356	Land Application
6/2013	1,117.81	Guillory Trucking	Martinez Farms Lucern, CA 92356	Land Application

6. LABORATORY DATA

See Table B Compliance Summary attached.

Table B

	Jul	Jul	Jul	Jul	Jul	Jul		Annual Average	Annual Maximum	Applicable 503 Criteria ²	
DB-drying bed STP-Storage Pad	STP	DB	DB	DB	DB	DB					
DB#		#2	#5	#5	#6	#9					
1 Biosolids Pollutant Concentrations (mg/kg) ⁽¹⁾											
Arsenic	ND	ND	ND	ND	ND	ND		ND	ND	75	
Cadmium	ND	ND	ND	ND	ND	ND		ND	ND	85	
Copper	190	180	170	210	210	100		177	210	4,300	
Lead	12	11	13	11	10	ND		11	13	840	
Mercury	1.3	1.2	1.3	1.3	1.2	ND		1.3	1.3	57	
Molybdenum	ND	ND	ND	ND	ND	ND		ND	ND	75	
Nickel	11	11	14	13	13	ND		12	14	420	
Selenium	ND	ND	ND	ND	ND	ND		ND	ND	100	
Zinc	550	510	510	660	690	260		530	690	7,500	
-1	per 40 CFR 503.13(b)(3), Pollutant Concentrations. If multiple samples were tested in a given month maximum results are reported.										
-2	per 40 CFR 503.13(b)(1), Ceiling Concentrations										
2 Pathogens											
Hel Ova ⁽³⁾	<1	<1	<1	<1	<1	<1		<1	<1	<1	
PFU ⁽⁴⁾	<1	<1	<1	<1	<1	<1		<1	<1	<1	
MPN ⁽⁵⁾	1.8	0.8	1.4	2.6	13.7	48.1		11	48.1	<1,000	
-3	Helminth Ova per 4 grams.										
-4	Plaque-forming Unit Enteric Virus per 4 grams.										
-5	Most Probable Number of Fecal Coliform per gram of total solids.										
3 Vector Attraction Reduction											
Solids Concentration	95	96	95	94	95	95		95	96	Solids>=90%	
	*Vector Attraction Reduction (VAR) is achieved by drying stabilized solids to 90% or more before mixing with other materials.										

Note - Biosolids that did not pass all testing requirements were held on Bed #4 and will be re-sampled in accordance with Rule 503 regulations. No biosolids are moved to the Storage Pad until all Rule 503 requirements are met



E.S.BABCOCK & Sons, Inc.
 Environmental Laboratories *est 1906*

Client Name: Victor Valley Reclamation Authority
 Contact: Gina Cloutier
 Address: 15776 Main St. Suite 3
 Hesperia, CA 92345

Analytical Report: Page 1 of 10
 Project Name: VVWRA-Biosolids Sample - Anr
 Project Number: [none]

Report Date: 09-Aug-2013

Work Order Number: B3G1384
 Received on Ice (Y/N): Yes Temp: 8 °C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department.

Sample Identification

<u>Lab Sample #</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>By</u>	<u>Date Submitted</u>	<u>By</u>
B3G1384-01	130711-19 Storage Pad Biosolids (6 Grab - Composite) Composite	Solid	07/11/13 12:21	Bobby H.	07/12/13 11:30	Courier (J. Mendez)
B3G1384-02	130711-19 Storage Pad Biosolids (6 Grab - Composite) Composite	Solid	07/11/13 12:21	Bobby H.	07/12/13 11:30	Courier (J. Mendez)
B3G1384-03	130711-20 Drying Bed #4 - 2 Transfer 02/19/13 Biosolids (6 Grab - Composite) Composite	Solid	07/11/13 11:54	Bobby H.	07/12/13 11:30	Courier (J. Mendez)
B3G1384-04	130711-21 Drying Bed #4 - 5 Transfer Biosolids 03/07/13 (6 Grab - Composite) Composite	Solid	07/11/13 12:03	Bobby H.	07/12/13 11:30	Courier (J. Mendez)
B3G1384-05	130711-22 Drying Bed #4 - 5 Old Transfer Biosolids (6 Grab - Composite) Composite	Solid	07/11/13 12:17	Bobby H.	07/12/13 11:30	Courier (J. Mendez)
B3G1384-06	130711-23 Drying Bed #4 - 6 Transfer 01/16/13 Biosolids (6 Grab - Composite) Composite	Solid	07/11/13 12:09	Bobby H.	07/12/13 11:30	Courier (J. Mendez)
B3G1384-07	130711-24 Drying Bed #4 - 9 Transfer 01/16/13 Biosolids (6 Grab - Composite) Composite	Solid	07/11/13 12:13	Bobby H.	07/12/13 11:30	Courier (J. Mendez)

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 P.O. Box 432
 Riverside, CA 92502-0432

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 6100 Quail Valley Court
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NELAP no. 02101CA
 CA Elap no. 2698
 EPA no. CA00102



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Client Name: Victor Valley Reclamation Authority
Contact: Gina Cloutier
Address: 15776 Main St. Suite 3
Hesperia, CA 92345

Analytical Report: Page 2 of 10
Project Name: VVWRA-Biosolids Sample - Anr
Project Number: [none]

Report Date: 09-Aug-2013

Work Order Number: B3G1384

Received on Ice (Y/N): Yes Temp: 8 °C

Laboratory Reference Number

B3G1384-01

Sample Description: 130711-19 Storage Pad Biosolids (6 Grab - Composite)
Matrix Solid
Sampled Date/Time: 07/11/13 12:21
Received Date/Time: 07/12/13 11:30

Table with 9 columns: Analyte(s), Result, RDL, Units, Method, Analysis Date, Analyst, Flag. Rows include Anions (Nitrate as N), Nutrients (Nitrite as N, Ammonia-Nitrogen, Kjeldahl Nitrogen, Total Phosphorus), and Metals and Metalloids (EPA SW846 Series) such as Antimony, Arsenic, Barium, Beryllium, Cadmium, Total Chromium, Cobalt, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc.

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CA Elap no. 2698
EPA no. CA00102



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Client Name: Victor Valley Reclamation Authority
Contact: Gina Cloutier
Address: 15776 Main St. Suite 3
Hesperia, CA 92345

Analytical Report: Page 3 of 10
Project Name: VVWRA-Biosolids Sample - Anr
Project Number: [none]

Report Date: 09-Aug-2013

Work Order Number: B3G1384
Received on Ice (Y/N): Yes Temp: 8 °C

Laboratory Reference Number

B3G1384-02

Sample Description: 130711-19 Storage Pad Biosolids (6 Grab - Composite)
Matrix: Solid
Sampled Date/Time: 07/11/13 12:21
Received Date/Time: 07/12/13 11:30

Table with columns: Analyte(s), Result, RDL, Units, Method, Analysis Date, Analyst, Flag. Contains data for California Waste Extraction Test (Inorganics and Pesticides).

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Address: 15776 Main St. Suite 3
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Analytical Report: Page 4 of 10
Project Name: VVWRA-Biosolids Sample - Anr
Project Number: [none]

Report Date: 09-Aug-2013

Work Order Number: **B3G1384**
Received on Ice (Y/N): Yes Temp: 8 °C

Laboratory Reference Number
B3G1384-02

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
130711-19 Storage Pad Biosolids (6 Grab - Composite)	Solid	07/11/13 12:21	07/12/13 11:30

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
California Waste Extraction Test (Title 22 sec. 66261 Apx II); PCBs							
Aroclor 1016	ND	0.50	mg/L	EPA 8082	07/31/13 11:31	sbart	
Aroclor 1221	ND	0.50	mg/L	EPA 8082	07/31/13 11:31	sbart	
Aroclor 1232	ND	0.50	mg/L	EPA 8082	07/31/13 11:31	sbart	
Aroclor 1242	ND	0.50	mg/L	EPA 8082	07/31/13 11:31	sbart	
Aroclor 1248	ND	0.50	mg/L	EPA 8082	07/31/13 11:31	sbart	
Aroclor 1254	ND	0.50	mg/L	EPA 8082	07/31/13 11:31	sbart	
Aroclor 1260	ND	0.50	mg/L	EPA 8082	07/31/13 11:31	sbart	
Surrogate: Decachlorobiphenyl	34.5	% 10-158		EPA 8082	07/31/13 11:31	sbart	
California Waste Extraction Test (Title 22 sec. 66261 Apx II); Herbicides							
2,4-D	ND	4.0	mg/L	EPA 8151A	07/31/13 22:22	sbart	
2,4,5-TP Silvex	ND	0.40	mg/L	EPA 8151A	07/31/13 22:22	sbart	
Surrogate: DCAA	106	% 15.2-134		EPA 8151A	07/31/13 22:22	sbart	
California Waste Extraction Test (Title 22 sec. 66261 Apx II); Volatiles							
Trichloroethene	ND	8000	mg/L	EPA 8260B	07/22/13 18:27	jes	
Surrogate: 1,2-Dichloroethane-d4	100	% 75-120		EPA 8260B	07/22/13 18:27	jes	
Surrogate: Bromofluorobenzene	107	% 83-120		EPA 8260B	07/22/13 18:27	jes	
Surrogate: Toluene-d8	98.7	% 80-125		EPA 8260B	07/22/13 18:27	jes	
California Waste Extraction Test (Title 22 sec. 66261 Apx II); BNAs							
Kepone	ND	0.21	mg/L	EPA 8270C	08/07/13 18:27	DIS	
Mirex	ND	0.21	mg/L	EPA 8270C	08/07/13 18:27	DIS	
Pentachlorophenol	ND	0.17	mg/L	EPA 8270C	08/07/13 18:27	DIS	
2,3,7,8-TCDD (scan)	ND	0.00010	mg/L	EPA 8270C	08/07/13 18:27	DIS	
Surrogate: 2,4,6-Tribromophenol	56.0	% 32-94		EPA 8270C	08/07/13 18:27	DIS	
Surrogate: 2-Fluorobiphenyl	50.5	% 24-89		EPA 8270C	08/07/13 18:27	DIS	
Surrogate: 2-Fluorophenol	31.7	% 19-78		EPA 8270C	08/07/13 18:27	DIS	
Surrogate: 4-Terphenyl-d14	47.7	% 62-103		EPA 8270C	08/07/13 18:27	DIS	NSlo
Surrogate: Nitrobenzene-d5	68.1	% 20-83		EPA 8270C	08/07/13 18:27	DIS	
Surrogate: Phenol-d6	24.1	% 24-85		EPA 8270C	08/07/13 18:27	DIS	

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Analytical Report: Page 5 of 10
 Project Name: VVWRA-Biosolids Sample - Anr
 Project Number: [none]

Work Order Number: B3G1384

Report Date: 09-Aug-2013

Received on Ice (Y/N): Yes Temp: 8 °C

Laboratory Reference Number
B3G1384-03

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
130711-20 Drying Bed #4 - 2 Transfer 02/19/13 Biosolids (6 Grab - Composite)	Solid	07/11/13 11:54	07/12/13 11:30

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Nitrate as N	410	4.0	mg/kg	EPA 300.0	07/19/13 19:49	aed	N_WEX
Nutrients							
Nitrite as N	43	5.0	mg/kg	SM 4500NO2 B	07/18/13 10:16	jma	
Ammonia-Nitrogen	1500	100	mg/Kg*	SM4500NH3H	07/16/13 12:33	sll	N_WEX
Kjeldahl Nitrogen	32000	2000	mg/kg	EPA 351.2	07/23/13 09:11	sll	
Total Phosphorus	26000	50	mg/Kg*	EPA 6020	07/23/13 15:09	ERA	
Metals and Metalloids; EPA SW846 Series							
Antimony	ND	10	mg/kg	EPA 6020	07/23/13 16:06	AP	
Arsenic	ND	10	mg/kg	EPA 6020	07/23/13 16:06	AP	
Barium	210	10	mg/kg	EPA 6020	07/23/13 16:06	AP	
Beryllium	ND	5.0	mg/kg	EPA 6020	07/23/13 16:06	AP	
Cadmium	ND	5.0	mg/kg	EPA 6020	07/23/13 16:06	AP	
Total Chromium	33	10	mg/kg	EPA 6020	07/23/13 16:06	AP	
Cobalt	ND	10	mg/kg	EPA 6020	07/23/13 16:06	AP	
Copper	180	10	mg/kg	EPA 6020	07/23/13 16:06	AP	
Lead	11	10	mg/kg	EPA 6020	07/23/13 16:06	AP	
Mercury	1.2	1.0	mg/kg	EPA 7471A	07/19/13 11:52	ams	
Molybdenum	ND	10	mg/kg	EPA 6020	07/23/13 16:06	AP	
Nickel	11	10	mg/kg	EPA 6020	07/23/13 16:06	AP	
Selenium	ND	10	mg/kg	EPA 6020	07/23/13 16:06	AP	
Silver	ND	10	mg/kg	EPA 6020	07/23/13 16:06	AP	
Thallium	ND	50	mg/kg	EPA 6020	07/23/13 16:06	AP	
Vanadium	68	10	mg/kg	EPA 6020	07/23/13 16:06	AP	
Zinc	510	10	mg/kg	EPA 6020	07/23/13 16:06	AP	



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Analytical Report: Page 6 of 10
Project Name: VVWRA-Biosolids Sample - Anr
Project Number: [none]

Report Date: 09-Aug-2013

Work Order Number: B3G1384
Received on Ice (Y/N): Yes Temp: 8 °C

Laboratory Reference Number
B3G1384-04

Sample Description: 130711-21 Drying Bed #4 - 5 Transfer Biosolids
Matrix: Solid
Sampled Date/Time: 07/11/13 12:03
Received Date/Time: 07/12/13 11:30

Table with 8 columns: Analyte(s), Result, RDL, Units, Method, Analysis Date, Analyst, Flag. Rows include Anions (Nitrate as N), Nutrients (Nitrite as N, Ammonia-Nitrogen, Kjeldahl Nitrogen, Total Phosphorus), and Metals and Metalloids (Antimony, Arsenic, Barium, Beryllium, Cadmium, Total Chromium, Cobalt, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc).

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Analytical Report: Page 7 of 10
 Project Name: VVWRA-Biosolids Sample - Anr
 Project Number: [none]

Report Date: 09-Aug-2013

Work Order Number: B3G1384
 Received on Ice (Y/N): Yes Temp: 8 °C

Laboratory Reference Number
B3G1384-05

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
130711-22 Drying Bed #4 - 5 Old Transfer Biosolids (6 Grab - Composite)	Solid	07/11/13 12:17	07/12/13 11:30

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Nitrate as N	2.7	2.0	mg/kg	EPA 300.0	07/17/13 04:30	aed	N_WEX
Nutrients							
Nitrite as N	30	5.0	mg/kg	SM 4500NO2 B	07/18/13 10:16	jma	
Ammonia-Nitrogen	2300	200	mg/Kg*	SM4500NH3H	07/16/13 13:18	sll	N_WEX
Kjeldahl Nitrogen	40000	2000	mg/kg	EPA 351.2	07/23/13 09:17	sll	
Total Phosphorus	28000	50	mg/Kg*	EPA 6020	07/23/13 15:12	ERA	
Metals and Metalloids; EPA SW846 Series							
Antimony	ND	10	mg/kg	EPA 6020	07/23/13 16:10	AP	
Arsenic	ND	10	mg/kg	EPA 6020	07/23/13 16:10	AP	
Barium	240	10	mg/kg	EPA 6020	07/23/13 16:10	AP	
Beryllium	ND	5.0	mg/kg	EPA 6020	07/23/13 16:10	AP	
Cadmium	ND	5.0	mg/kg	EPA 6020	07/23/13 16:10	AP	
Total Chromium	36	10	mg/kg	EPA 6020	07/23/13 16:10	AP	
Cobalt	ND	10	mg/kg	EPA 6020	07/23/13 16:10	AP	
Copper	210	10	mg/kg	EPA 6020	07/23/13 16:10	AP	
Lead	11	10	mg/kg	EPA 6020	07/23/13 16:10	AP	
Mercury	1.3	1.0	mg/kg	EPA 7471A	07/19/13 11:59	ams	
Mercury	1.4	1.0	mg/kg	EPA 7471A	07/25/13 11:04	ams	
Molybdenum	ND	10	mg/kg	EPA 6020	07/23/13 16:10	AP	
Nickel	13	10	mg/kg	EPA 6020	07/23/13 16:10	AP	
Selenium	ND	10	mg/kg	EPA 6020	07/23/13 16:10	AP	
Silver	ND	10	mg/kg	EPA 6020	07/23/13 16:10	AP	
Thallium	ND	50	mg/kg	EPA 6020	07/23/13 16:10	AP	
Vanadium	78	10	mg/kg	EPA 6020	07/23/13 16:10	AP	
Zinc	660	25	mg/kg	EPA 6020	07/24/13 20:36	ERA	

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 CA Elap no. 2698
 EPA no. CA00102



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Environmental Laboratories est 1906

Client Name: Victor Valley Reclamation Authority
Contact: Gina Cloutier
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Hesperia, CA 92345

Analytical Report: Page 8 of 10
Project Name: VVWRA-Biosolids Sample - Anr
Project Number: [none]

Report Date: 09-Aug-2013

Work Order Number: B3G1384
Received on Ice (Y/N): Yes Temp: 8 °C

Laboratory Reference Number
B3G1384-06

Sample Description: 130711-23 Drying Bed #4 - 6 Transfer 01/16/13
Matrix: Solid
Sampled Date/Time: 07/11/13 12:09
Received Date/Time: 07/12/13 11:30

Table with 8 columns: Analyte(s), Result, RDL, Units, Method, Analysis Date, Analyst, Flag. Rows include Anions (Nitrate as N), Nutrients (Nitrite as N, Ammonia-Nitrogen, Kjeldahl Nitrogen, Total Phosphorus), and Metals and Metalloids (EPA SW846 Series) such as Antimony, Arsenic, Barium, Beryllium, Cadmium, Total Chromium, Cobalt, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc.

mailing
P.O. Box 432
Riverside, CA 92502-0432

location
6100 Quail Valley Court
Riverside, CA 92507-0704

P 951 653 3351
F 951 653 1662
www.babcocklabs.com

NELAP no. 02101CA
CA Elap no. 2698
EPA no. CA00102



E.S.BABCOCK & Sons, Inc.
Environmental Laboratories *est. 1906*

Client Name: Victor Valley Reclamation Authority
Contact: Gina Cloutier
Address: 15776 Main St. Suite 3
Hesperia, CA 92345

Analytical Report: Page 9 of 10
Project Name: VVWRA-Biosolids Sample - Anr
Project Number: [none]

Report Date: 09-Aug-2013

Work Order Number: B3G1384
Received on Ice (Y/N): Yes Temp: 8 °C

Laboratory Reference Number
B3G1384-07

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
130711-24 Drying Bed #4 - 9 Transfer 01/16/13 Biosolids (6 Grab - Composite)	Solid	07/11/13 12:13	07/12/13 11:30

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Nitrate as N	ND	2.0	mg/kg	EPA 300.0	07/17/13 04:52	aed	N_WEX
Nutrients							
Nitrite as N	17	1.0	mg/kg	SM 4500NO2 B	07/18/13 10:16	jma	
Ammonia-Nitrogen	1400	100	mg/Kg*	SM4500NH3H	07/16/13 12:43	sll	N_WEX
Kjeldahl Nitrogen	40000	2000	mg/kg	EPA 351.2	07/23/13 09:20	sll	
Total Phosphorus	14000	50	mg/Kg*	EPA 6020	07/23/13 15:23	ERA	
Metals and Metalloids; EPA SW846 Series							
Antimony	ND	10	mg/kg	EPA 6020	07/23/13 14:37	AP	
Arsenic	ND	10	mg/kg	EPA 6020	07/23/13 14:37	AP	
Barium	120	10	mg/kg	EPA 6020	07/23/13 14:37	AP	
Beryllium	ND	5.0	mg/kg	EPA 6020	07/23/13 14:37	AP	
Cadmium	ND	5.0	mg/kg	EPA 6020	07/23/13 14:37	AP	
Total Chromium	21	10	mg/kg	EPA 6020	07/23/13 14:37	AP	
Cobalt	ND	10	mg/kg	EPA 6020	07/23/13 14:37	AP	
Copper	100	10	mg/kg	EPA 6020	07/23/13 14:37	AP	
Lead	ND	10	mg/kg	EPA 6020	07/23/13 14:37	AP	
Mercury	ND	0.20	mg/kg	EPA 7471A	07/19/13 12:03	ams	
Molybdenum	ND	10	mg/kg	EPA 6020	07/23/13 14:37	AP	
Nickel	ND	10	mg/kg	EPA 6020	07/23/13 14:37	AP	
Selenium	ND	10	mg/kg	EPA 6020	07/23/13 14:37	AP	
Silver	ND	10	mg/kg	EPA 6020	07/23/13 14:37	AP	
Thallium	ND	50	mg/kg	EPA 6020	07/23/13 14:37	AP	
Vanadium	45	10	mg/kg	EPA 6020	07/23/13 14:37	AP	
Zinc	260	10	mg/kg	EPA 6020	07/23/13 14:37	AP	

* NELAP does not offer accreditation for this analyte/method/matrix combination

mailing
P.O. Box 432
Riverside, CA 92502-0432

location
6100 Quail Valley Court
Riverside, CA 92507-0704

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NELAP no. 02101CA
CA Elap no. 2698
EPA no. CA00102



E.S.BABCOCK&Sons,Inc.
Environmental Laboratories *est 1906*

Client Name: Victor Valley Reclamation Authority
Contact: Gina Cloutier
Address: 15776 Main St. Suite 3
Hesperia, CA 92345

Analytical Report: Page 10 of 10
Project Name: VVWRA-Biosolids Sample - Anr
Project Number: [none]

Report Date: 09-Aug-2013

Work Order Number: **B3G1384**
Received on Ice (Y/N): Yes Temp: 8 °C

Notes and Definitions

- N_RLm Due to sample matrix, the reporting limit has been raised.
- N_WEX Analyte determined on a 1:10 water extract from the sample.
- Nconf Result(s) confirmed by re-analysis.
- NMint Due to matrix interference, the matrix spike and/or matrix spike duplicate performed on this sample did not meet laboratory acceptance criteria.
- NSlo The surrogate recovery for this sample was below laboratory acceptance limits.
- ND: Analyte NOT DETECTED at or above the Method Detection Limit (if MDL is reported), otherwise at or above the Reportable Detection Limit (RDL)
- NR: Not Reported
- RDL: Reportable Detection Limit
- MDL: Method Detection Limit
- * / '': NELAP does not offer accreditation for this analyte/method/matrix combination

Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted. Babcock Laboratories and its officers and employees assume no responsibility and make no warranty, express or implied, for uses or interpretations made by any recipients, intended or unintended, of this report.

Taylor Cariaga
CN = Taylor Cariaga C = US O = Babcock
Laboratories, Inc. OU = Project Manager Assistant
2013.08.15 15:54:16 -08'00'

cc:

e-Short No Alias

mailing
P.O. Box 432
Riverside, CA 92502-0432

location
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Riverside, CA 92507-0704

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www.babcocklabs.com

NELAP no. 02101CA
CA Elap no. 2698
EPA no. CA00102



BIOSOLIDS SAMPLE DATA SHEET

(Please fill out applicable areas, sign and return to BioVir with the sample.)

Phone: 1-800-GIARDIA Fax: 707-747-1751 WEB: www.biovir.com
 Note: Please print clearly using waterproof ink.

LAB USE ONLY:
 LIMS #: 950-1
 Client #: 111001
 Date Rec'd: 7/12/13
 Time Rec'd: 08:30
 Temp Rec'd: 7.6°C

COMPANY NAME & ADDRESS Victor Valley Wastewater Reclamation Authority 15776 Main Street Suite #3 Azusa, CA 91705 Contact Name: <u>Gina Cloutier</u> Tel: <u>760-246-2638-216</u>	DATE OF SAMPLING: <u>7/11/13</u>
NAME OF SAMPLER: <u>Bobby Hesse</u>	TIME OF SAMPLING: <u>1221</u>
LOCATION OF SAMPLING: <u>Storage Pail Biosolids</u>	SAMPLE ID: <u>130711-19</u>
TREATMENT CHARACTERISTICS <u>Class A - Anaerobic Digested</u>	TYPE OF SAMPLE: <u>(6) GRAB COMPOSITE</u>
SAMPLE VOLUME (WET WEIGHT): <u>~ 300 grams</u>	TOTAL SOLIDS PERCENTAGE: % (MUST BE INCLUDED IN ORDER TO BEGIN ANALYSIS)

HOLD TIMES (Store and ship cold)	ENTERIC VIRUS	HELMINTH OVA	SALMONELLA	FECAL COLIFORM
	2 Weeks	1 Month	6 Hours*	6 Hours*

396.99

* Per 40 CFR Parts 136 and 503 (Monday, March 26, 2007) Guidelines Establishing Test Procedures for the Analysis of Pollutants, Analytical Methods for Biological Pollutants in Wastewater and Sewage Sludge, Final Rule Table II (Table 1A) establishes a holding time of 6 hours for Coliform, total, fecal and E. coli, Fecal Streptococci, Enterococci, and Salmonella. For fecal coliform samples for sewage sludge (biosolids) only, the holding time is extended to 24 hours for Class A composted, Class B aerobically digested and Class B anaerobic digested biosolids using EPA Method 1690 (1, TB-EC) or EPA Method 1691 (A-1).

A holding time variance is allowed from your Regional Administrator under Section 136.3(e). Please refer to the Final Rule for details.

<input checked="" type="checkbox"/> OK TO RUN PAST 6 HOUR HOLD TIME	Print Name: <u>Gina Cloutier</u>	<u>7/11/13</u>
<input type="checkbox"/> SAMPLE COMPRISED OF CLASS A COMPOSTED, CLASS B AEROBICALLY OR ANAEROBICALLY DIGESTED BIOSOLIDS (FECAL COLIFORM TEST ONLY)	Signature: <u>Gina Cloutier</u>	Date:

ASSAY(S) TO BE PERFORMED - (PLEASE CHECK)					
ANALYTICAL STANDARD	ENTERIC VIRUS ASTM D 4994-89	HELMINTH OVA EPA 625/R-92/013	SALMONELLA EPA 1682	FECAL COLIFORM EPA 1681	TOTAL SOLIDS EPA 1684
CLASS "A"	X	X	X	X	X
CLASS "B"					

COMMENTS

RELINQUISHED BY (SIGNED)	RECEIVED BY (SIGNED)	DATE	TIME
<u>Gina Cloutier</u>	<u>[Signature]</u>	<u>7/12/13</u>	<u>08:30</u>

SHIPPING ADDRESS: BIOVIR LABORATORIES, INC., 685 STONE ROAD, UNIT 6, BENICIA CALIFORNIA 94510



BIOSOLIDS SAMPLE DATA SHEET

(Please fill out applicable areas, sign and return to BioVir with the sample.)

Phone: 1-800-GIARDIA Fax: 707-747-1751 WEB: www.biovir.com

Note: Please print clearly using waterproof ink.

LAB USE ONLY:	
LIMS #	9502
Client #	111001
Date Rec'd	7/12/13
Time Rec'd	08:30
Temp Rec'd	26°C

COMPANY NAME & ADDRESS: Victor Valley Wastewater Reclamation Authority 15776 Main Street Suite #3 Hesperia, CA 92345 Contact Name: GINA Cloutier Tel: 760-246-8638-216	DATE OF SAMPLING: 7/11/13 TIME OF SAMPLING: 1154 SAMPLE ID: 130711-20 TYPE OF SAMPLE: <input checked="" type="checkbox"/> GRAB <input type="checkbox"/> COMPOSITE TOTAL SOLIDS PERCENTAGE: _____ % <small>(MUST BE INCLUDED IN ORDER TO BEGIN ANALYSIS)</small>
NAME OF SAMPLER: Bobby Hesse LOCATION OF SAMPLING: Drying Bed #4-2 Transfer 02 19-13 Biosolids TREATMENT CHARACTERISTICS: Class A - Anaerobic Digested SAMPLE VOLUME (WET WEIGHT): ~ 300 grams	

HOLD TIMES (Store and ship cold)	ENTERIC VIRUS	HELMINTH OVA	SALMONELLA	FECAL COLIFORM
	2 Weeks	1 Month	6 Hours*	6 Hours*

347.299

* Per 40 CFR Parts 136 and 503 (Monday, March 26, 2007) Guidelines Establishing Test Procedures for the Analysis of Pollutants, Analytical Methods for Biological Pollutants in Wastewater and Sewage Sludge, Final Rule Table II (Table 1A) establishes a holding time of 6 hours for Coliform, total, fecal and F. col, Fecal Streptococci, Enterococci, and Salmonella. For fecal coliform samples for sewage sludge (biosolids) only, the holding time is extended to 24 hours for Class A composted, Class B aerobically digested and Class B anaerobic digested biosolids using EPA Method 1690 (LTB-EC) or EPA Method 1681 (A-1).

A holding time variance is allowed from your Regional Administrator under Section 136.3(e). Please refer to the Final Rule for details.

<input checked="" type="checkbox"/> OK TO RUN PAST 6 HOUR HOLD TIME <input type="checkbox"/> SAMPLE COMPRISED OF CLASS A COMPOSTED, CLASS B AEROBICALLY OR ANAEROBICALLY DIGESTED BIOSOLIDS (FECAL COLIFORM TEST ONLY)	Print Name: Gina Cloutier Signature: <i>Gina Cloutier</i> Date: 7/11/13
---	---

ASSAY(S) TO BE PERFORMED - (PLEASE CHECK)					
ANALYTICAL STANDARD	ENTERIC VIRUS ASTM D 4994-89	HELMINTH OVA EPA 625/R-92/013	SALMONELLA EPA 1682	FECAL COLIFORM EPA 1681	TOTAL SOLIDS EPA 1684
CLASS "A"	X	X	X	X	X
CLASS "B"					

COMMENTS:

RELINQUISHED BY (SIGNED)	RECEIVED BY (SIGNED)	DATE	TIME
<i>Gina Cloutier</i>	<i>JMC</i>	7/12/13	08:30

SHIPPING ADDRESS: BIOVIR LABORATORIES, INC., 685 STONE ROAD, UNIT 6, BENICIA CALIFORNIA 94510



BIOSOLIDS SAMPLE DATA SHEET

(Please fill out applicable areas, sign and return to BioVir with the sample)

Phone: 1-800-GIARDIA Fax: 707-747-1751 WEB: www.biovir.com
 Note: Please print clearly using waterproof ink.

LAB USE ONLY:
 LIMS #: 950.3
 Client #: 111001
 Date Rec'd: 7/12/13
 Time Rec'd: 08:30
 Temp Rec'd: 7.6°C

COMPANY NAME & ADDRESS: Victor Valley Wastewater Reclamation Authority 15976 Main Street Suite #3 Hesperia, CA 92345 Contact Name: GINA Cloutier Tel: 760-246-8125-316	DATE OF SAMPLING: 07/11/13
NAME OF SAMPLER: Bobby Hesse	TIME OF SAMPLING: 1203
LOCATION OF SAMPLING: Drying Bed #4-5 Transfer 03-07-13 Biosolids	SAMPLE ID: 130711-21
TREATMENT CHARACTERISTICS: Class A - Anaerobic Digested	TYPE OF SAMPLE: <u>6</u> GRAB COMPOSITE
SAMPLE VOLUME (WET WEIGHT): ~ 300 grams	TOTAL SOLIDS PERCENTAGE: % (MUST BE INCLUDED IN ORDER TO BEGIN ANALYSIS)

HOLD TIMES (Store and ship cold)	ENTERIC VIRUS	HELMINTH OVA	SALMONELLA	FECAL COLIFORM
	2 Weeks	1 Month	6 Hours*	6 Hours*

354.38 g

* Per 40 CFR Parts 136 and 503 (Monday, March 26, 2007) Guidelines Establishing Test Procedures for the Analysis of Pollutants, Analytical Methods for Biological Pollutants in Wastewater and Sewage Sludge, Final Rule Table II (Table 1A) establishes a holding time of 6 hours for Coliform, total, fecal and E. coli, Fecal Streptococci, Enterococci, and Salmonella. For fecal coliform samples for sewage sludge (biosolids) only, the holding time is extended to 24 hours for Class A composted, Class B aerobically digested and Class B anaerobic digested biosolids using EPA Method 1600 (LTB-EC) or EPA Method 1681 (A-1).

A holding time variance is allowed from your Regional Administrator under Section 136.3(e). Please refer to the Final Rule for details.

<input checked="" type="checkbox"/> OK TO RUN PAST 6 HOUR HOLD TIME	Print Name: Gina Cloutier	7/11/13
<input type="checkbox"/> SAMPLE COMPRISED OF CLASS A COMPOSTED, CLASS B AEROBICALLY OR ANAEROBICALLY DIGESTED BIOSOLIDS (FECAL COLIFORM TEST ONLY)	Signature: <i>Gina Cloutier</i>	Date

ASSAY(S) TO BE PERFORMED - (PLEASE CHECK)

ANALYTICAL STANDARD	ENTERIC VIRUS ASTM D 4994-89	HELMINTH OVA EPA 625/R-92/013	SALMONELLA EPA 1682	FECAL COLIFORM EPA 1681	TOTAL SOLIDS EPA 1684
CLASS "A"	X	X	X	X	X
CLASS "B"					

COMMENTS

RELINQUISHED BY (SIGNED)	RECEIVED BY (SIGNED)	DATE	TIME
<i>Gina Cloutier</i>	<i>Jm</i>	7/12/13	08:30

SHIPPING ADDRESS: BIOVIR LABORATORIES, INC., 885 STONE ROAD, UNIT 6, BENICIA CALIFORNIA 94510



BIOSOLIDS SAMPLE DATA SHEET

(Please fill out applicable areas, sign and return to BioVir with the sample.)

Phone: 1-800-GIARDIA Fax: 707-747-1751 WEB: www.biovir.com
 Note: Please print clearly using waterproof ink.

LAB USE ONLY:	
LIMS #	950-4
Client #	411001
Date Rec'd	7/12/13
Time Rec'd	08:30
Temp Rec'd	7.6°C

COMPANY NAME & ADDRESS: Victor Valley Wastewater Reclamation Authority 15776 Main Street Suite #3 Hesperia, CA 92345 Contact Name: GINA Cloutier Tel: 760-246-8638-216	DATE OF SAMPLING:	07/11/13
	TIME OF SAMPLING:	12:17
NAME OF SAMPLER: Bobby Hesse	SAMPLE ID:	130711-22
LOCATION OF SAMPLING: Drying Bed #4-5 Old Transfer Biosolids	TYPE OF SAMPLE:	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> COMPOSITE
TREATMENT CHARACTERISTICS: Class A - Anaerobic Digested	TOTAL SOLIDS PERCENTAGE:	% (MUST BE INCLUDED IN ORDER TO BEGIN ANALYSIS)
SAMPLE VOLUME (WET WEIGHT): ~ 300 grams		

HOLD TIMES (Store and ship cold)	ENTERIC VIRUS	HELMINTH OVA	SALMONELLA	FECAL COLIFORM
	2 Weeks	1 Month	6 Hours*	6 Hours*

333.11 g

* Per 40 CFR Parts 136 and 503 (Monday, March 26, 2007) Guidelines Establishing Test Procedures for the Analysis of Pollutants, Analytical Methods for Biological Pollutants in Wastewater and Sewage Sludge, Final Rule, Table II (Table 1A) establishes a holding time of 6 hours for Coliform, total, fecal and E. coli, Fecal Streptococci, Enterococci, and Salmonella. For fecal coliform samples for sewage sludge (biosolids) only, the holding time is extended to 24 hours for Class A composted, Class B aerobically digested and Class B anaerobic digested biosolids using EPA Method 1600 (LTB-EC) or EPA Method 1681 (A-1).

A holding time variance is allowed from your Regional Administrator under Section 136.3(e). Please refer to the Final Rule for details.

<input checked="" type="checkbox"/> OK TO RUN PAST 6 HOUR HOLD TIME <input type="checkbox"/> SAMPLE COMPRISED OF CLASS A COMPOSTED, CLASS B AEROBICALLY OR ANAEROBICALLY DIGESTED BIOSOLIDS (FECAL COLIFORM TEST ONLY)	Print Name:	Gina Cloutier	7/11/13
	Signature:	<i>[Signature]</i>	Date

ASSAY(S) TO BE PERFORMED - (PLEASE CHECK)

ANALYTICAL STANDARD	ENTERIC VIRUS ASTM D 4994-89	HELMINTH OVA EPA 625/R-92/013	SALMONELLA EPA 1662	FECAL COLIFORM EPA 1681	TOTAL SOLIDS EPA 1684
CLASS 'A'	X	X	X	X	X
CLASS 'B'					

COMMENTS:

RELINQUISHED BY (SIGNED)	RECEIVED BY (SIGNED)	DATE	TIME
<i>[Signature]</i>	<i>[Signature]</i>	7/12/13	08:30

SHIPPING ADDRESS: BIOVIR LABORATORIES, INC., 685 STONE ROAD, UNIT 6, BENICIA CALIFORNIA 94510



BIOSOLIDS SAMPLE DATA SHEET

(Please fill out applicable areas, sign and return to BioVir with the sample.)

Phone: 1-800-GIARDIA Fax: 707-747-1751 WEB: www.biovir.com
 Note: Please print clearly using waterproof ink.

LAB USE ONLY:
LIMS # 950-5
Client # 111001
Date Rec'd 7/12/13
Time Rec'd 08:30
Temp Rec'd 76°C

COMPANY NAME & ADDRESS: Victor Valley Wastewater Reclamation Authority 15976 Main Street Suite #3 Hesperia, CA 92345 Contact Name: GINA CLACTIER Tel: 760-246-8138-216	DATE OF SAMPLING: 07/11/13
	TIME OF SAMPLING: 1209
NAME OF SAMPLER: Bobby Hess-e	SAMPLE ID: 130711-23
LOCATION OF SAMPLING: Drying Bed #4-6 Transfer 01-16-12 Biosolids	TYPE OF SAMPLE: (6 GRAB COMPOSITE)
TREATMENT CHARACTERISTICS: Class A - Anaerobic Digested	TOTAL SOLIDS PERCENTAGE: % (MUST BE INCLUDED IN ORDER TO BEGIN ANALYSIS)
SAMPLE VOLUME (WET WEIGHT): ~300 grams	

HOLD TIMES (Store and ship cold)	ENTERIC VIRUS	HELMINTH OVA	SALMONELLA	FECAL COLIFORM
	2 Weeks	1 Month	6 Hours*	6 Hours*

304.76 g

* Per 40 CFR Parts 136 and 503 (Monday, March 26, 2007) Guidelines Establishing Test Procedures for the Analysis of Pollutants, Analytical Methods for Biological Pollutants in Wastewater and Sewage Sludge, Final Rule Table II (Table 1A) establishes a holding time of 6 hours for Coliform, total, fecal and E. coli, Fecal Streptococci, Enterococci, and Salmonella. For fecal coliform samples for sewage sludge (biosolids) only, the holding time is extended to 24 hours for Class A composted, Class B aerobically digested and Class B anaerobic digested biosolids using EPA Method 1600 (LTB-EC) or EPA Method 1681 (A-1).

A holding time variance is allowed from your Regional Administrator under Section 136.3(e). Please refer to the Final Rule for details.

<input checked="" type="checkbox"/> OK TO RUN PAST 6 HOUR HOLD TIME	Print Name: Gina Clactier	07/11/13
<input type="checkbox"/> SAMPLE COMPRISED OF CLASS A COMPOSTED, CLASS B AEROBICALLY OR ANAEROBICALLY DIGESTED BIOSOLIDS (FECAL COLIFORM TEST ONLY)	Signature: <i>[Signature]</i>	Date

ASSAY(S) TO BE PERFORMED - (PLEASE CHECK)

ANALYTICAL STANDARD	ENTERIC VIRUS ASTM D 4394-89	HELMINTH OVA EPA 625/R-92/013	SALMONELLA EPA 1682	FECAL COLIFORM EPA 1681	TOTAL SOLIDS EPA 1684
CLASS "A"	X	X	X	X	X
CLASS "B"					

COMMENTS:

RELINQUISHED BY (SIGNED)	RECEIVED BY (SIGNED)	DATE	TIME
<i>[Signature]</i>	<i>[Signature]</i>	7/12/13	08:30

SHIPPING ADDRESS: BIOVIR LABORATORIES, INC., 685 STONE ROAD, UNIT 6, BENICIA CALIFORNIA 94510



BIOSOLIDS SAMPLE DATA SHEET

(Please fill out applicable areas, sign and return to BioVir with the sample.)

Phone: 1-800-GIARDIA Fax: 707-747-1751 WEB: www.biovir.com
 Note: Please print clearly using waterproof ink.

LAB USE ONLY:
LIMS # 950-6
Client # 111001
Date Rec'd: 7/12/13
Time Rec'd: 08:30
Temp Rec'd: 7.6°C

COMPANY NAME & ADDRESS: Victor Valley Wastewater Reclamation Authority 15476 Main Street Suite #3 Hesperia, CA 92345 Contact Name: GINA CLOUTIER Tel: 760-246-9638-316	DATE OF SAMPLING: 7/11/13
NAME OF SAMPLER: Bobby Hesse	TIME OF SAMPLING: 1213
LOCATION OF SAMPLING: Drying Bed #4-9 transfer 01-16-13 Biosolids	SAMPLE ID: 130711-24
TREATMENT CHARACTERISTICS: Class A - Anaerobic Digested	TYPE OF SAMPLE: (6) GRAB COMPOSITE
SAMPLE VOLUME (WET WEIGHT): ~ 300 grams	TOTAL SOLIDS PERCENTAGE: % (MUST BE INCLUDED IN ORDER TO BEGIN ANALYSIS)

HOLD TIMES (Store and ship cold)	ENTERIC VIRUS	HELMINTH OVA	SALMONELLA	FECAL COLIFORM
	2 Weeks	1 Month	6 Hours*	6 Hours*

425.25g

* Per 40 CFR Parts 136 and 503 (Monday, March 26, 2007) Guidelines Establishing Test Procedures for the Analysis of Pollutants, Analytical Methods for Biological Pollutants in Wastewater and Sewage Sludge, Final Rule Table II (Table 1A) establishes a holding time of 6 hours for Coliform, total fecal and E. coli, Fecal Streptococci, Enterococci, and Salmonella. For fecal coliform samples for sewage sludge (biosolids) only, the holding time is extended to 24 hours for Class A composted, Class B aerobically digested and Class B anaerobic digested biosolids using EPA Method 1690 (LTB-EC) or EPA Method 1681 (A-1).

A holding time variance is allowed from your Regional Administrator under Section 136.3(e). Please refer to the Final Rule for details.

<input checked="" type="checkbox"/> OK TO RUN PAST 6 HOUR HOLD TIME	Print Name: Gina Cloutier	7/11/13
<input type="checkbox"/> SAMPLE COMPRISED OF CLASS A COMPOSTED, CLASS B AEROBICALLY OR ANAEROBICALLY DIGESTED BIOSOLIDS (FECAL COLIFORM TEST ONLY)	Signature: <i>Gina Cloutier</i>	Date

ASSAY(S) TO BE PERFORMED - (PLEASE CHECK)

ANALYTICAL STANDARD	ENTERIC VIRUS ASTM D 4994-89	HELMINTH OVA EPA 625/R-92/013	SALMONELLA EPA 1682	FECAL COLIFORM EPA 1681	TOTAL SOLIDS EPA 1684
CLASS "A"	X	X	X	X	X
CLASS "B"					

COMMENTS:

RELINQUISHED BY (SIGNED)	RECEIVED BY (SIGNED)	DATE	TIME
<i>Gina Cloutier</i>	<i>JMC</i>	7/12/13	08:30

SHIPPING ADDRESS: BIOVIR LABORATORIES, INC., 685 STONE ROAD, UNIT 6, BENICIA CALIFORNIA 94510



BioVir Laboratories, Inc



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

REPORT NO.: 130950
PAGE NO.: 1 of 9
CLIENT: Victor Valley Wastewater Reclamation Authority
ADDRESS: 15776 Main Street, Suite 3
 Victorville, CA 92345-9454
CLIENT NO: VIC001 **CLIENT PO:**

ASSAY RESULTS:

Test: 1682 Salmonella MSRV **Method:** EPA 1682

BioVir #	Sample ID	Site	Analyte	Result	Units
130950-001	130711-19	Storage Pad Biosolids	Salmonella spp.	<0.3	MPN/4 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 12:21:00 PM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosolids Temp 7.6 c Volume: 396.9 g Analysis Start Date: 7/12/13 Analysis Start Time: 0910 Analyst: JTruscott Analysis End: 7/19/2013 Comment					
130950-002	130711-20	Drying Bed #4-2 Transfer 02-19-13	Salmonella spp.	<0.3	MPN/4 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 11:54:00 AM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosolids Temp 7.6 c Volume: 347.29 g Analysis Start Date: 7/12/13 Analysis Start Time: 0910 Analyst: JTruscott Analysis End: 7/19/2013 Comment					
130950-003	130711-21	Drying Bed #4-5 Transfer 03-07-13	Salmonella spp.	<0.3	MPN/4 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 12:03:00 PM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosolids Temp 7.6 c Volume: 354.38 g Analysis Start Date: 7/12/13 Analysis Start Time: 0910 Analyst: JTruscott Analysis End: 7/19/2013 Comment					

REPORT NO.: 130950
PAGE NO.: 2 of 9
CLIENT: Victor Valley Wastewater Reclamation Authority
ADDRESS: 15776 Main Street, Suite 3
 Victorville, CA 92345-9454
CLIENT NO: VIC001 **CLIENT PO:**

ASSAY RESULTS:

Test: 1682 Salmonella MSRV **Method:** EPA 1682

BioVir #	Sample ID	Site	Analyte	Result	Units
130950-004	130711-22	Drying Bed #4-5 Old transfer	Salmonella spp.	<0.3	MPN/4 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 12:17:00 PM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosoilds Temp 7.6 c Volume: 333.11 g Analysis Start Date: 7/12/13 Analysis Start Time: 0910 Analyst: JTruscott Analysis End: 7/21/2013 Comment					
130950-005	130711-23	Drying Bed #4-6 Transfer 01-16-13	Salmonella spp.	<0.3	MPN/4 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 12:09:00 PM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosoilds Temp 7.6 c Volume: 304.76 g Analysis Start Date: 7/14/13 Analysis Start Time: 0910 Analyst: JTruscott Analysis End: 7/21/2013 Comment					
130950-006	130711-24	Dring Bed #4-9 Transfer 01-16-13	Salmonella spp.	2.9	MPN/4 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 12:13:00 PM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosoilds Temp 7.6 c Volume: 425.25 g Analysis Start Date: 7/12/13 Analysis Start Time: 0910 Analyst: JTruscott Analysis End: 7/19/2013 Comment					

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

BioVir #	Sample ID	Site	Analyte	Result	Units
130950-001	130711-19	Storage Pad Biosolids	Coliform, Fecal	1.8	MPN/1 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 12:21:00 PM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosoilds Temp 7.6 c Volume: 396.9 g Analysis Start Date: 7/12/13 Analysis Start Time: 0910 Analyst: MPeaslee Analysis End: 7/29/2013 Comment					

REPORT NO.: 130950
PAGE NO.: 3 of 9
CLIENT: Victor Valley Wastewater Reclamation Authority
ADDRESS: 15776 Main Street, Suite 3
 Victorville, CA 92345-9454
CLIENT NO: VIC001 **CLIENT PO:**

ASSAY RESULTS:

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

BioVir #	Sample ID	Site	Analyte	Result	Units
130950-002	130711-20	Drying Bed #4-2 Transfer 02-19-13	Coliform, Fecal	0.8	MPN/1 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 11:54:00 AM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosoilds Temp 7.6 c Volume: 347.29 g Analysis Start Date: 7/12/13 Analysis Start Time: 0910 Analyst: MPeaslee Analysis End: 7/29/2013 Comment					
130950-003	130711-21	Drying Bed #4-5 Transfer 03-07-13	Coliform, Fecal	1.4	MPN/1 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 12:03:00 PM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosoilds Temp 7.6 c Volume: 354.38 g Analysis Start Date: 7/12/13 Analysis Start Time: 0910 Analyst: MPeaslee Analysis End: 7/29/2013 Comment					
130950-004	130711-22	Drying Bed #4-5 Old transfer	Coliform, Fecal	2.6	MPN/1 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 12:17:00 PM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosoilds Temp 7.6 c Volume: 333.11 g Analysis Start Date: 7/12/13 Analysis Start Time: 0910 Analyst: MPeaslee Analysis End: 7/29/2013 Comment					
130950-005	130711-23	Drying Bed #4-6 Transfer 01-16-13	Coliform, Fecal	13.7	MPN/1 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 12:09:00 PM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosoilds Temp 7.6 c Volume: 304.76 g Analysis Start Date: 7/12/13 Analysis Start Time: 0910 Analyst: MPeaslee Analysis End: 7/29/2013 Comment					

REPORT NO.: 130950
PAGE NO.: 4 of 9
CLIENT: Victor Valley Wastewater Reclamation Authority
ADDRESS: 15776 Main Street, Suite 3
 Victorville, CA 92345-9454
CLIENT NO: VIC001 **CLIENT PO:**

ASSAY RESULTS:

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

BioVir #	Sample ID	Site	Analyte	Result	Units
130950-006	130711-24	Dring Bed #4-9 Transfer 01-16-13	Coliform, Fecal	48.1	MPN/1 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 12:13:00 PM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosoilds Temp 7.6 c Volume: 425.25 g Analysis Start Date: 7/12/13 Analysis Start Time: 0910 Analyst: MPeaslee Analysis End: 7/29/2013 Comment					

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

BioVir #	Sample ID	Site	Analyte	Result	Units
130950-001	130711-19	Storage Pad Biosolids	Enteric Virus	<1	pfu/4 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 12:21:00 PM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosoilds Temp 7.6 c Volume: 396.9 g Analysis Start Date: 7/15/13 Analysis Start Time: 0820 Analyst: ValLog Analysis End: 7/26/2013 Comment					
130950-002	130711-20	Drying Bed #4-2 Transfer 02-19-13	Enteric Virus	<1	pfu/4 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 11:54:00 AM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosoilds Temp 7.6 c Volume: 347.29 g Analysis Start Date: 7/15/13 Analysis Start Time: 0820 Analyst: ValLog Analysis End: 7/26/2013 Comment					
130950-003	130711-21	Drying Bed #4-5 Transfer 03-07-13	Enteric Virus	<1	pfu/4 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 12:03:00 PM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosoilds Temp 7.6 c Volume: 354.38 g Analysis Start Date: 7/15/13 Analysis Start Time: 0820 Analyst: ValLog Analysis End: 8/15/2013 Comment					

REPORT NO.: 130950
PAGE NO.: 6 of 9
CLIENT: Victor Valley Wastewater Reclamation Authority
ADDRESS: 15776 Main Street, Suite 3
 Victorville, CA 92345-9454
CLIENT NO: VIC001 **CLIENT PO:**

ASSAY RESULTS:

Test: Helminth Ova **Method:** EPA/625/R-92/013

BioVir #	Sample ID	Site	Analyte	Result	Units
130950-002	130711-20	Drying Bed #4-2 Transfer 02-19-13	Helminth Ova	<1	Viable Ova /4 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 11:54:00 AM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosoilds Temp 7.6 c Volume: 347.29 g Analysis Start Date: 7/18/13 Analysis Start Time: 0845 Analyst: SMullaney Analysis End: 8/15/2013 Comment					
130950-003	130711-21	Drying Bed #4-5 Transfer 03-07-13	Helminth Ova	<1	Viable Ova /4 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 12:03:00 PM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosoilds Temp 7.6 c Volume: 354.38 g Analysis Start Date: 7/18/13 Analysis Start Time: 0845 Analyst: SMullaney Analysis End: 8/15/2013 Comment					
130950-004	130711-22	Drying Bed #4-5 Old transfer	Helminth Ova	<1	Viable Ova /4 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 12:17:00 PM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosoilds Temp 7.6 c Volume: 333.11 g Analysis Start Date: 7/18/13 Analysis Start Time: 0845 Analyst: SMullaney Analysis End: 8/15/2013 Comment					
130950-005	130711-23	Drying Bed #4-6 Transfer 01-16-13	Helminth Ova	<1	Viable Ova /4 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 12:09:00 PM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosoilds Temp 7.6 c Volume: 304.76 g Analysis Start Date: 7/18/13 Analysis Start Time: 0845 Analyst: SMullaney Analysis End: 8/15/2013 Comment					

REPORT NO.: 130950
PAGE NO.: 7 of 9
CLIENT: Victor Valley Wastewater Reclamation Authority
ADDRESS: 15776 Main Street, Suite 3
 Victorville, CA 92345-9454
CLIENT NO: VIC001 **CLIENT PO:**

ASSAY RESULTS:

Test: Helminth Ova **Method: EPA/625/R-92/013**

BioVir #	Sample ID	Site	Analyte	Result	Units
130950-006	130711-24	Dring Bed #4-9 Transfer 01-16-13	Helminth Ova	<1	Viable Ova /4 g TS
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 12:13:00 PM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosolids Temp 7.6 c Volume: 425.25 g Analysis Start Date: 7/18/15 Analysis Start Time: 0845 Analyst: SMullaney Analysis End: 8/15/2013					

Comment

Test: Total Solids **Method: SM2540B**

BioVir #	Sample ID	Site	Analyte	Result	Units
130950-001	130711-19	Storage Pad Biosolids	Total Solids (%)	95.3	% Total Solids
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 12:21:00 PM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosolids Temp 7.6 c Volume: 396.9 g Analysis Start Date: 7/12/13 Analysis Start Time: 1700 Analyst: MPeaslee Analysis End: 7/13/2013					

Comment

130950-002	130711-20	Drying Bed #4-2 Transfer 02-19-13	Total Solids (%)	95.8	% Total Solids
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 11:54:00 AM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosolids Temp 7.6 c Volume: 347.29 g Analysis Start Date: 7/12/13 Analysis Start Time: 1700 Analyst: MPeaslee Analysis End: 7/13/2013					

Comment

130950-003	130711-21	Drying Bed #4-5 Transfer 03-07-13	Total Solids (%)	94.6	% Total Solids
Collector: Bobby Hesse CollectDate 7/11/2013 CollectTime: 12:03:00 PM ReceiveDate 7/12/2013 8:30:00 AM Matrix: Biosolids Temp 7.6 c Volume: 354.38 g Analysis Start Date: 7/12/13 Analysis Start Time: 1700 Analyst: MPeaslee Analysis End: 7/13/2013					

Comment

REPORT NO.: 130950
PAGE NO.: 9 of 9
CLIENT: Victor Valley Wastewater Reclamation Authority
ADDRESS: 15776 Main Street, Suite 3
Victorville, CA 92345-9454
CLIENT NO: VIC001 CLIENT PO:

ASSAY RESULTS:

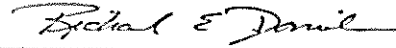
SAMPLE EVALUATION PERFORMANCE CRITERIA: The precise rates of recovery of organisms from environmental samples cannot be determined. BioVir Laboratories has analyzed your sample(s) in accordance with the method described with each analyte above, however, due to inherent limitations of these methods organisms 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 may 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.

8/15/2013

Date:



Signature

Quality
Checked: DCelio



E.S.BABCOCK & Sons, Inc.
Environmental Laboratories *est 1906*

Client Name: Victor Valley Reclamation Authority
Contact: Gina Cloutier
Address: 15776 Main St. Suite 3
Hesperia, CA, 92345

Analytical Report: Page 1 of 1
Project Name: VVWRA-Biosolids Sample - A
Project Number: [none]
Work Order Number: **B3G1393**

Report Date: 05-Aug-2013

Received on Ice (Y/N) Yes Temp: 8 °C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department.

Sample Identification

<u>Lab Sample #</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>By</u>	<u>Date Submitted</u>	<u>By</u>
B3G1393-01	130711-19 Storage Pad Bios	Solid	7/11/13 12:21	Bobby H.	7/12/13 11:30	Courier (J. Mer

Note: Asbestos was subcontracted to EMS Laboratories.

Note: Requested EPA 1613 was subcontracted to Maxxam Analytics.

Approval

Babcock Laboratories certify that the information presented as part of this report meets the minimum quality standards in the analytical methods, if referenced. Exceptions have been noted. Babcock Laboratories and its officers and employees assume no responsibility and make no warranty, express or implied, for uses or interpretations made by any recipients, intended or unintended, of this report.

Taylor Cariaga
CN = Taylor Cariaga C = US O = Babcock
Laboratories, Inc. OU = Project Manager Assistant
2013.08.06 10:54:21 -08'00'

cc:



E.S.BABCOCK & Sons, Inc.
Environmental Laboratories est. 1906

Client Name: Victor Valley Reclamation Authority
Contact: Gina Cloutier
Address: 15776 Main St. Suite 3
Hesperia, CA, 92345

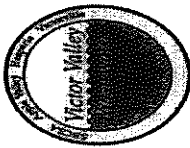
Analytical Report: Page 1 of 1
Project Name: VVWRA-Biosolids Sample - A
Project Number: [none]
Work Order Number: B3G1393

Report Date: 05-Aug-2013

Received on Ice (Y/N) Yes Temp: 8 °C

SUBCONTRACT LABORATORY CHAIN OF CUSTODY AND ANALYSIS REQUEST RECORD

Victor Valley Wastewater Reclamation Authority
A Joint Powers Authority and Public Agency of the State of California
Plant Address: 20111 Shay Road - Victorville, CA 92394 - TEL: (760) 246-8638 FAX: (760) 246-5440
Administration Office Address: 15776 Main Street, Suite 3 - Hesperia, CA 92345 - TEL: (760) 948-9849
Website: www.vvwwra.com E-mail: gcloutier@vvwwra.com



subsoils

Project Name: Biosolids Sample - Annual NPDES	Sample Type	Laboratory Analyses Requested				Sample Preservation Methods	Sample Matrix (W, DW, GW, SG)
		Ammonia-N	TKN	Nitrite-N	Nitrate-N		
Project Contact: Gina Cloutier (760) 246-8638 ext. 216	Composite	X	X	X	X	X	SG
Sampler Name: <i>Bobby #55</i>	Grab	X	X	X	X	X	SG
Sampler Signature: <i>[Signature]</i>							
VVWRA ID #	Sample Date	Sample Time	Sample Location/Description				
120711-13	07/11/13	12:21	Storage Pad Biosolids (6 Grab-Composite)	X	X	X	SG
120711-20	07/11/13	11:54	Drying Bed # 4 - 2 Transfer 02/19/13 Biosolids (6 Grab-Composite)	X	X	X	SG
120711-21	07/11/13	12:03	Drying Bed # 4 - 5 Transfer 03/07/13 Biosolids (6 Grab-Composite)	X	X	X	SG
120711-22	07/11/13	12:17	Drying Bed # 4 - 5 Old Transfer Biosolids (6 Grab-Composite)	X	X	X	SG
120711-23	07/11/13	12:07	Drying Bed # 4 - 6 Transfer 01/16/13 Biosolids (6 Grab-Composite)	X	X	X	SG
120711-24	07/11/13	12:13	Drying Bed # 4 - 9 Transfer 01/16/13 Biosolids (6 Grab-Composite)	X	X	X	SG
Relinquished By (Sign): <i>[Signature]</i>	Date/Time: 12:30	Received By (Sign): <i>[Signature]</i>	Date/Time: 7-12-13	Relinquished By (Sign): <i>[Signature]</i>	Date/Time: 7-12-13	Received By (Sign): <i>[Signature]</i>	
Print: <i>Bobby Hove</i>	Company: VVWRA	Print: <i>Gina Cloutier</i>	Company: VVWRA	Print: <i>Gina Cloutier</i>	Company: VVWRA	Print: <i>L. Meade</i>	Company: D.F.
Relinquished By (Sign): <i>[Signature]</i>	Date/Time: 7-12-13	Received By (Sign): <i>[Signature]</i>	Date/Time: 11:30	Relinquished By (Sign): <i>[Signature]</i>	Date/Time: 7-12-13	Received By (Sign): <i>[Signature]</i>	
Print: <i>L. Meade</i>	Company: D.F.	Print: <i>Indigo Vivas</i>	Company: BSS	Print: <i>[Signature]</i>	Company: BSS	Print: <i>[Signature]</i>	Company: <i>[Signature]</i>
Sample Condition Upon Receipt by Laboratory		Temperature: 8 °C		Laboratory Notes		Samples sent via courier to E.S. Babcock Laboratories	
Samples Received on Ice: <i>[Signature]</i>		Samples Received (Temp): <i>[Signature]</i>		WET Extraction EPA 8020, 7471A, 8081, 8082, 8151, 8260, 8270, 7196/719		Lab: <i>B3G1393</i>	

Page 1 of 1 JUL 15 2013

Please Fax a copy of the completed Chain of Custody document to: Gina Cloutier, VVWRA at (760) 246-5440

DATE: July 30, 2013 Page 1 of 2
CUSTOMER: Babcock Laboratories, Inc.
6100 Quail Valley Court
Riverside, CA 92507-0704
ATTENTION: Lorenzo (Z) Rodriguez
DATE COLLECTED: July 11, 2013 12:21
RECEIVED: July 17, 2013 at 10:50
DATE ANALYZED: July 24, 2013
REPORT NO: 157217
REFERENCE: B3G1393
SUBJECT: ANALYSIS OF SLUDGE – CARB 435
ACCREDITATION: ELAP CDPH 1119

The sample was identified as B3G1393-01.

The biosolid was ashed at 482°C for 8 hours. There was a 36% organic loss.

Sample was then prepared according to CARB 435 and analyzed according to EPA 600/R-93/116.

The dried biosolid was crushed and milled. The final material must be less than 200 mesh.

The sample was first examined at low magnification in a stereo microscope for asbestos for suspected asbestos fiber bundles and mats. The sample was then analyzed by PLM with dispersion staining for asbestos fibers. If asbestos is found by corrective visual estimation (CRV), 400 point counts over 8 different preparations are carried out for asbestos fibers having an aspect ratio of 3:1.

No asbestos was found in the first preparation. Two more preparations were made of the sample.

No asbestos was identified in the sample.

A second analysis of the sample is used as QC.

EMS LABORATORIES, INC.


A.J. Kolk, Jr.
Technical Director

This report shall not be reproduced, except in full, without the written approval of EMS Laboratories, Inc.


The results of the analysis are based upon the sample submitted to the laboratory. No representation is made regarding the sampling area other than that implied by the analytical results for the immediate vicinity of the samples analyzed as calculated from the data presented with those samples.

All the analytical quality control data meet the requirements of the procedure unless otherwise indicated. Any deviation or exclusion from the test method is noted in this cover letter.

Unless otherwise noted in this cover letter, the sample/s were received properly packaged, clearly identified and intact.

Soil Analysis

CARB 435 METHOD (Determination of Asbestos Content)

Laboratory Report #:	157217	Date Received:	July 17, 2013
Client:	E.S.Babcock & Son	Date of Analysis:	July 24, 1943
Attention:	Lorenzo Rodriguez	QC Analyst:	Heather Kilgore
Reference:	B3G1393	Analyst:	Jeff Wan 

B3G1393-01

Sample ID:			
Sample appearance	Black mud	Micro-milled	Yes
Non Asbestos fibers	Cellulose <1%	Stereoscopic examination/ Magnification	Yes 8 - 40X
Non fibrous material	Granular minerals Opagues	PLM Magnification	100X / 400X
Visual Estimate (CVE)	1 N.D.	Point count (400 PC)	1 N.A.
	2 N.D.		2 N.A.
	3 N.D.		3 N.A.
			4 N.A.
			5 N.A.
			6 N.A.
			7 N.A.
			8 N.A.

Final Asbestos Result	CVE	PC	
	x		None Detected

If visual estimate is <10% by calibrated visual estimation, 400 point count over 8 preparations will be performed.
 If there is no asbestos content by calibrated visual estimation in 3 preparations, no point count is performed.
 If the average asbestos content is > 10% in 3 preparations, only corrective visual estimation is needed.
 The upper detection limit is 100%. The lower detection limit is 0.25%

< less than
 > greater than
 CVE Calibrated Visual Estimation

SUBCONTRACT ORDER

Printed: 7/15/2013 13:53

Babcock Laboratories, Inc.
B3G1393

157217

SENDING LABORATORY:

Babcock Laboratories, Inc.
6100 Quail Valley Court
Riverside, CA 92507-0704
Phone: (951) 653-3351
Fax: (951) 653-1662
Project Manager: Lorenzo (Z) Rodriguez

RECEIVING LABORATORY:

EMS Laboratories
117 W. Bellevue Drive
Pasadena, CA 91105
Phone : (626) 568-4065
Fax: (626) 796-5282

Copy/Relog from B3G1384.
Client: Victor Valley Reclamation Authority
Sampler: Bobby H.

Analysis	Due	Expires Regulatory Days		Laboratory ID	Comments
		Past	Date Sampled		
Sample ID: B3G1393-01 Solid		Sampled: 07/11/13 12:21		130711-19 Storage Pad Biosolids (6 Grab - Composite)	Proj.No.: <u>[none]</u>
Asbestos Containers Supplied: Plastic Baggie (A)	07/23/13 17:00	01/07/14 12:21		CARB 435	

All Containers Intact: ___ Yes ___ No Samples Preserved Properly: ___ Yes ___ No

Samples Received at ___ oC Sample Lables / COC Agree: ___ Yes ___ No Custody Seals Present: ___ Yes ___ No

Please forward all acknowledgements of sample receipt, final reports and invoices to data@babcocklabs.com

NO HARDCOPIES PLEASE.

Released By: [Signature] Date: 7/16/13

Received By: [Signature] Date: 7/17/13 @ 9:50 AM

Released By _____ Date _____ Received By _____ Date _____

Your Project #: B3G1393
 Your C.O.C. #: na

Attention: Lorenzo (Z) Rodriguez
 BABCOCK LABS
 PO BOX 432
 RIVERSIDE, CA
 USA 92502-0432

Report Date: 2013/07/25

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B3B5034
Received: 2013/07/17, 12:40

Sample Matrix: Soil
 # Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Method
		Extracted	Analyzed		Reference
Dioxins/Furans in Soil (8290A) (1)	1	2013/07/18	2013/07/22	BRL SOP-00406	EPA 8290A mod.
Moisture	1	N/A	2013/07/19	CAM SOP-00445	R.Carter,1993

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Soils are reported on a dry weight basis unless otherwise specified.

Confirmatory runs for 2,3,7,8-TCDF are performed only if the primary result is greater than the RDL.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Ivana Vukovic, Env Project Manager
 Email: IVukovic@maxxam.ca
 Phone# (905) 817-5700

=====
 Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

Maxxam Job #: B3B5034
 Report Date: 2013/07/25

BABCOCK LABS
 Client Project #: B3G1393

RESULTS OF ANALYSES OF SOIL

Maxxam ID		SH1688		
Sampling Date		2013/07/11 12:21		
COC Number		na		
	Units	B3G1393-01	RDL	QC Batch

Inorganics				
Moisture	%	5.5	1.0	3285536

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B3B5034
 Report Date: 2013/07/25

BABCOCK LABS
 Client Project #: B3G1393

DIOXINS AND FURANS BY HRMS (SOIL)

Maxxam ID		SH1688						
Sampling Date		2013/07/11 12:21						
COC Number		na			TOXIC EQUIVALENCY	# of		
	Units	B3G1393-01	EDL	RDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch

Dioxins & Furans								
2,3,7,8-Tetra CDD *	pg/g	ND	1.0	19	1.00	1.00		3287793
TOTAL TOXIC EQUIVALENCY	pg/g					1.00		
Surrogate Recovery (%)								
C13-2378 TetraCDD	%	73						3287793

ND = Not detected
 RDL = Reportable Detection Limit
 EDL = Estimated Detection Limit
 QC Batch = Quality Control Batch
 * CDD = Chloro Dibenzo-p-Dioxin
 TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient.
 The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
 WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

Maxxam Job #: B3B5034
 Report Date: 2013/07/25

BABCOCK LABS
 Client Project #: B3G1393

Test Summary

Maxxam ID SH1688
 Sample ID B3G1393-01
 Matrix Soil

Collected 2013/07/11
 Shipped
 Received 2013/07/17

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Dioxins/Furans in Soil (8290A)	HRMS/MS	3287793	2013/07/18	2013/07/22	Owen Cosby
Moisture	BAL	3285536	N/A	2013/07/19	Thoi Truyen Huynh

Maxxam Job #: B3B5034
Report Date: 2013/07/25

BABCOCK LABS
Client Project #: B3G1393

Package 1	4.8°C
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Each temperature is the average of up to three cooler temperatures taken at receipt

GENERAL COMMENTS

Results relate only to the items tested.

BABCOCK LABS
 Attention: Lorenzo (Z) Rodriguez
 Client Project #: B3G1393
 P.O. #:
 Site Location:

Quality Assurance Report
 Maxxam Job Number: GB3B5034

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
3285536 JV1	RPD - Sample/Sample Dup	Moisture	2013/07/19	4.1		%	20
3287793 OBC	Spiked Blank	C13-2378 TetraCDD	2013/07/22		63	%	40 - 135
		2,3,7,8-Tetra CDD	2013/07/22		117	%	80 - 140
	Method Blank	C13-2378 TetraCDD	2013/07/22		58	%	40 - 135
		2,3,7,8-Tetra CDD	2013/07/22	ND, EDL=0.11		pg/g	

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

Validation Signature Page

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The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Cristina Carriere, Scientific Services



Owen Cosby, BSc.C.Chem, Supervisor, HRMS Services

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.