City of Morro Bay and
Cayucos Sanitary District

OFFSHORE MONITORING AND REPORTING PROGRAM

RESIDUAL BIOSOLIDS CHEMICAL ANALYSIS RESULTS

SEPTEMBER 2009

Marine Research Specialists
3140 Telegraph Rd., Suite A
Ventura, California 93003

Report to

City of Morro Bay and
Cayucos Sanitary District

955 Shasta Avenue
Morro Bay, California 93442
(805) 772-6272

MONITORING AND REPORTING PROGRAM

ANNUAL BIOSOLIDS REPORT

CHEMICAL ANALYSIS RESULTS

SEPTEMBER 2009

Prepared by

Bonnie Luke
Douglas A. Coats

Marine Research Specialists

3140 Telegraph Rd., Suite A
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September 2009

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

_____

Mr. Bruce Ambo
City of Morro Bay

Date _____

marine research specialists
3140 Telegraph Rd., Suite A • Ventura, CA 93003 • 805-644-1180

Bruce Keogh
Wastewater Division Manager
City of Morro Bay
955 Shasta Avenue
Morro Bay, CA 93442

24 September 2009

Reference: Chemical Analysis Results for Biosolid Samples Collected in September 2009

Dear Mr. Keogh:

Enclosed are the results of chemical analyses conducted on a representative composite of biosolid samples collected from the drying beds on 2 September 2009. Also included in this report are pertinent QA/QC data, including chains of custody and analyses of method blanks and spikes. All analyses were conducted following the requirements set forth in Order Number R3-2008-0065 of NPDES discharge Permit Number CA0047881.

Based on a comparison between measured chemical concentrations in the composite sample and applicable State and Federal regulations, the biosolids amassed in 2009 are not considered hazardous waste, and are considered suitable for land application. A summary of the analytical results is presented in Table 1. As in prior years, only a few of the more than 150 compounds analyzed in the composite sample were detected at quantifiable concentrations, and all detected chemicals had concentrations well below the applicable standards. Bulk trace-metal concentrations measured in the September-2009 sample were comparable to concentrations measured in samples collected annually from 1999 through 2008.[1]

All trace-metal concentrations measured in the September-2009 sample were below Total Threshold Limit Concentrations (TTLC) that would designate them as hazardous under federal regulations.[2] Similarly, dry-weight concentrations for all the metals were well below the federally mandated limits, including the monthly limits for biosolids suitable for land application. One metal, copper, had a bulk wet-weight concentration that exceeded ten-times the Soluble Threshold Limit Concentration (STLC). As a result, the required waste extraction test (WET) was conducted on this compound. The test indicated that the soluble concentration of copper was almost four times lower than the applicable STLC limit that would designate the biosolids as hazardous within the State of California.

Copper occurs naturally in the mineralogy of ambient sediments in the central coast region. As a result, its presence in bulk biosolid samples is not unexpected because sediments enter the collection system through runoff. Copper also enters the collection system through internal corrosion of household plumbing systems, which probably accounts for its consistent detection at low concentrations within effluent samples. As with other metals, the bulk copper concentration determined in the September-2009 sample was comparable to concentrations measured in biosolids samples collected historically.

Two synthetic organic compounds, bis(2-ethylhexyl) phthalate and benzoic acid, were detected at low, but quantifiable concentrations in the September-2009 biosolid sample. There are no limits on either compound specified in State and Federal regulations governing biosolids. Benzoic acid is a common food preservative and antimicrobial agent. It is also found in automobile exhaust, refuse combustion, and tobacco smoke. Bis(2-ethylhexyl) phthalate (BEHP) is a compound that has been consistently detected at low levels in

[1] Marine Research Specialists (MRS). 1999 through 2007. City of Morro Bay and Cayucos Sanitary District, Residual Biosolids Chemical Analysis Results. Prepared for the City of Morro Bay and Cayucos Sanitary District, Morro Bay, CA.

[2] U.S. Government Printing Office (USGPO). 1997b. Code of Federal Regulations. Environmental Protection. Standards for the use or disposal of Sewage Sludge, Land Application, Pollutant Limits. Chapter 40, Part 503, Subpart B. 1 July 1997 edition.

effluent and biosolid samples collected over the past decade.[3] Bis(2-ethylhexyl) phthalate is added to plastic resins to soften them. However, it is not covalently bound to the resin so it slowly leaches out of plastic materials through evaporation and dissolution. Due to BEHP's mobility, high vapor pressure, and massive scale of production, this compound has become pervasive in the environment.

Other compounds listed in Table 1 further characterize the biosolids as required in the waste discharge requirements. Although testing for asbestos is no longer required as part of the NPDES permit, this test was included for completeness.

Please contact the undersigned if you have any questions regarding these results.

Sincerely,

Bonnie Luke
Program Manager
Enclosure (Five Report Copies)

[3] Section 2.2.11, Page 2-44 of the MBCSD 2008 Annual Report to the City of Morro Bay and Cayucos Sanitary District. Prepared by Marine Research Specialists, February 2009.

Table 1. Summary of Results for Biosolids Analyses

		Wet Weight				Dry Weight		
		Measured		Limit		Measured	Limit	
Constituent	**Units**	**Bulk [4]**	**WET [5]**	**STLC [6]**	**TTLC [7]**	**Bulk**	**Monthly [8]**	**Ceiling [9]**
Solids	%	83.4	— [10]	—	—	—	—	—
Total Dissolved Solids	ppm	—	6,600.	—	—	—	—	—
Cyanide	ppm	2.9	—	—	—	3.4	—	—
Antimony	ppm	≈4.2[11]	—	15.	500.	≈5.0	—	—
Arsenic	ppm	2.5	—	5.	500.	3.0	41.	75.
Barium	ppm	420.	—	100.	10,000.	500.	—	—
Beryllium	ppm	≈0.11	—	0.75	75.	≈0.13	—	—
Boron	ppm	17.	—	—	—	21.	—	—
Cadmium	ppm	3.7	—	1.	100.	4.4	39.	85.
Chromium (Total)	ppm	40.	—	560.	2500.	48.	—	—
Chromium (Hexavalent)	ppm	2.6	ND[12]	5.	500.	3.2	—	—
Cobalt	ppm	3.5	—	80.	8,000.	4.2	1,500.	4,300.
Copper	ppm	**480.** [13]	6.7	25.	2,500.	570.	1,500.	4,300.
Lead	ppm	48.	—	5.	1,000.	58.	300.	840.
Mercury	ppm	1.3	—	0.2	20.	1.5	17.	57.
Molybdenum	ppm	18.	—	350.	3,500.	22.	—	—
Nickel	ppm	32.	—	20.	2,000.	38.	420.	420.
Selenium	ppm	8.7	—	1.	100.	10.	100.	100.
Silver	ppm	3.1	—	5.	500.	3.7	—	—
Thallium	ppm	ND	—	7.	700.	ND	—	—
Vanadium	ppm	24.	—	24.	2,400.	29.	—	—
Zinc	ppm	1,100.	—	250.	5,000.	1,300.	2,800.	7,500.
Asbestos	%	ND	—	—	1.	ND	—	—
Bis(2-ethylhexyl) phthalate	ppm	75.	—	—	—	90.	—	—
Benzoic acid	mg/kg	21.	—	—	—	25.	—	—
Hydrogen-Ion	pH	6.46	—	—	—	—	—	—
Phosphate	mg/kg	76,000.	—	—	—	92,000.	—	—

[4] The total wet-weight concentration (mg/kg) within a bulk biosolid sample consisting of the entire millable solid matrix rather than just the leachate.

[5] Waste Extraction Tests (WET) measure the soluble leachate (mg/L) or the extractable amount of a substance contained within a bulk sample of biosolids. A WET is indicated if the bulk wet-weight concentration of a contaminant in a biosolids sample exceeds ten times the STLC.

[6] Soluble Threshold Limit Concentrations (STLC) apply to the measured concentration in the liquid extract from a biosolid sample, as determined by a WET. Biosolids with leachate concentrations exceeding the STLC are classified as hazardous in the State of California as described in the California Code of Regulations (CCR), Title 22, Chapter 11: *Identification and Listing of Hazardous Waste*.

[7] Total Threshold Limit Concentrations (TTLC) apply to the total wet-weight concentration of a contaminant (mg/kg) within a bulk biosolid sample. Biosolids are designated as hazardous wastes in the State of California if measured bulk concentrations exceed the TTLC as described in the CCRs, *op. cit.*

[8] Federally mandated dry-weight limits imposed on biosolids suitable for application on agricultural land apply to monthly average concentrations as defined in Table 3 of the Code of Federal Regulations (CFRs). Environmental Protection. Standards for the use or disposal of Sewage Sludge, Land Application, Pollutant Limits. Chapter 40, Part 503, Subpart B [40 CFR §503.13(b)(1)].

[9] Federally mandated dry-weight ceiling concentrations above which biosolids are considered hazardous waste as defined in Table 1 of the CFRs, *op. cit.*

[10] "—" indicates that the measurement was not required or its limit was not specified.

[11] "≈" indicates the reported concentration was too low to be reliably quantified.

[12] "ND" indicates that the measurement was not detected in concentrations exceeding the method detection limit.

[13] The bulk concentration was greater than ten times the STLC and a WET was conducted.

		Wet Weight				Dry Weight		
		Measured		Limit		Measured	Limit	
Constituent	**Units**	**Bulk [4]**	**WET [5]**	**STLC [6]**	**TTLC [7]**	**Bulk**	**Monthly [8]**	**Ceiling [9]**
Ammonia	mg/kg	8,900.	—	—	—	11,000.	—	—
TKN	mg/kg	29,000.	—	—	—	35,000.	—	—
Organic Nitrogen[14]	mg/kg	20,100.	—	—	—	24,000.	—	—
Nitrate as NO_3	mg/kg	820.	—	—	—	980.	—	—
Oil & Grease	ppm	76,000.	—	—	—	91,000.	—	—

[14] The amount of nitrogen as reported by TKN excluding ammonia

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 09/23/2009

Doug Coats

Marine Research Specialists
3140 Telegraph Road, Suite A
Suite A
Ventura, CA 93003-3238

RE: Biosolids from MBWWTP
BC Work Order: 0911561
Invoice ID: B068506

Enclosed are the results of analyses for samples received by the laboratory on 9/2/2009. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Tina Green
Client Services Manager

Authorized Signature

Marine Research Specialists
3140 Telegraph Road, Suite A
Suite A
Ventura, CA 93003-3238

Project: Biosolids from MBWWTP
Project Number: [none]
Project Manager: Doug Coats

Reported: 09/23/2009 16:25

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
0911561-01	**COC Number:**	---	**Receive Date:**	09/02/2009 18:30
	Project Number:	---	**Sampling Date:**	09/01/2009 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	Morro Bay/Cayucos WWTP Biosolids	**Sample Matrix:**	Solids
	Sampled By:	---		

Marine Research Specialists
3140 Telegraph Road, Suite A
Suite A
Ventura, CA 93003-3238

Project: Biosolids from MBWWTP
Project Number: [none]
Project Manager: Doug Coats

Reported: 09/23/2009 16:25

Organochlorine Pesticides and PCB's (EPA Method 8080)

BCL Sample ID: 0911561-01 **Client Sample Name:** Morro Bay/Cayucos WWTP Biosolids, 9/1/2009 12:00:00AM

Constituent	Dry Basis Result	As Recvd Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Aldrin	ND	ND	mg/kg	0.0050	0.00026	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
alpha-BHC	ND	ND	mg/kg	0.0050	0.0014	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
beta-BHC	ND	ND	mg/kg	0.0050	0.0038	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
delta-BHC	ND	ND	mg/kg	0.0050	0.00076	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
gamma-BHC (Lindane)	ND	ND	mg/kg	0.0050	0.0025	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
Chlordane (Technical)	ND	ND	mg/kg	0.50	0.15	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
4,4'-DDD	ND	ND	mg/kg	0.0050	0.00063	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
4,4'-DDE	ND	ND	mg/kg	0.0050	0.00045	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
4,4'-DDT	ND	ND	mg/kg	0.0050	0.00031	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
Dieldrin	ND	ND	mg/kg	0.0050	0.00032	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
Endosulfan I	ND	ND	mg/kg	0.0050	0.00086	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
Endosulfan II	ND	ND	mg/kg	0.0050	0.00066	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
Endosulfan sulfate	ND	ND	mg/kg	0.0050	0.0013	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10,V11
Endrin	ND	ND	mg/kg	0.0050	0.00035	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
Endrin aldehyde	ND	ND	mg/kg	0.0050	0.00061	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10,V11
Heptachlor	ND	ND	mg/kg	0.0050	0.0026	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
Heptachlor epoxide	ND	ND	mg/kg	0.0050	0.0015	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
Methoxychlor	ND	ND	mg/kg	0.0050	0.0013	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
Toxaphene	ND	ND	mg/kg	0.50	0.074	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
PCB-1016	ND	ND	mg/kg	0.10	0.027	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
PCB-1221	ND	ND	mg/kg	0.10	0.050	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
PCB-1232	ND	ND	mg/kg	0.10	0.012	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10

Marine Research Specialists
3140 Telegraph Road, Suite A
Suite A
Ventura, CA 93003-3238

Project: Biosolids from MBWWTP
Project Number: [none]
Project Manager: Doug Coats

Reported: 09/23/2009 16:25

Organochlorine Pesticides and PCB's (EPA Method 8080)

BCL Sample ID: 0911561-01 **Client Sample Name:** Morro Bay/Cayucos WWTP Biosolids, 9/1/2009 12:00:00AM

Constituent	Dry Basis Result	As Recvd Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
PCB-1242	ND	ND	mg/kg	0.10	0.016	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
PCB-1248	ND	ND	mg/kg	0.10	0.012	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
PCB-1254	ND	ND	mg/kg	0.10	0.0078	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
PCB-1260	ND	ND	mg/kg	0.10	0.022	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
Total PCB's (Summation)	ND	ND	mg/kg	0.10	0.050	EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616	ND	A10
TCMX (Surrogate)	167	167	%	65 - 129 (LCL - UCL)		EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616		A10,S09
Dibutyl chlorendate (Surrogate)	105	105	%	65 - 173 (LCL - UCL)		EPA-8080	09/09/09	09/16/09 19:54	jst	GC-1	10	BSI0616		A10,V11

Marine Research Specialists
3140 Telegraph Road, Suite A
Suite A
Ventura, CA 93003-3238

Project: Biosolids from MBWWTP
Project Number: [none]
Project Manager: Doug Coats

Reported: 09/23/2009 16:25

Volatile Organic Analysis (EPA Method 8240)

BCL Sample ID: 0911561-01 **Client Sample Name:** Morro Bay/Cayucos WWTP Biosolids, 9/1/2009 12:00:00AM

Constituent	Dry Basis Result	As Recvd Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ND	mg/kg	0.025	0.0065	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
Bromodichloromethane	ND	ND	mg/kg	0.025	0.0042	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10,V11
Bromoform	ND	ND	mg/kg	0.025	0.0075	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
Bromomethane	ND	ND	mg/kg	0.025	0.0080	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
Carbon tetrachloride	ND	ND	mg/kg	0.025	0.0055	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
Chlorobenzene	ND	ND	mg/kg	0.025	0.0065	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
Chloroethane	ND	ND	mg/kg	0.025	0.0070	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
Chloroform	ND	ND	mg/kg	0.025	0.0032	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
Chloromethane	ND	ND	mg/kg	0.025	0.0070	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
Dibromochloromethane	ND	ND	mg/kg	0.025	0.0050	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
1,2-Dichlorobenzene	ND	ND	mg/kg	0.025	0.0040	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
1,3-Dichlorobenzene	ND	ND	mg/kg	0.025	0.0070	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
1,4-Dichlorobenzene	ND	ND	mg/kg	0.025	0.0075	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
1,1-Dichloroethane	ND	ND	mg/kg	0.025	0.0070	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
1,2-Dichloroethane	ND	ND	mg/kg	0.025	0.0042	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
1,1-Dichloroethene	ND	ND	mg/kg	0.025	0.0060	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
trans-1,2-Dichloroethene	ND	ND	mg/kg	0.025	0.0070	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
1,2-Dichloropropane	ND	ND	mg/kg	0.025	0.0040	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
cis-1,3-Dichloropropene	ND	ND	mg/kg	0.025	0.0055	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
trans-1,3-Dichloropropene	ND	ND	mg/kg	0.025	0.0060	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
Ethylbenzene	ND	ND	mg/kg	0.025	0.0075	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
Methylene chloride	ND	ND	mg/kg	0.050	0.012	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10

Marine Research Specialists
3140 Telegraph Road, Suite A
Suite A
Ventura, CA 93003-3238

Project: Biosolids from MBWWTP
Project Number: [none]
Project Manager: Doug Coats

Reported: 09/23/2009 16:25

Volatile Organic Analysis (EPA Method 8240)

BCL Sample ID: 0911561-01 **Client Sample Name:** Morro Bay/Cayucos WWTP Biosolids, 9/1/2009 12:00:00AM

Constituent	Dry Basis Result	As Recvd Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Methyl t-butyl ether	ND	ND	mg/kg	0.025	0.0025	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
1,1,2,2-Tetrachloroethane	ND	ND	mg/kg	0.025	0.0055	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
Tetrachloroethene	ND	ND	mg/kg	0.025	0.0065	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
Toluene	ND	ND	mg/kg	0.025	0.0060	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
1,1,1-Trichloroethane	ND	ND	mg/kg	0.025	0.0055	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
1,1,2-Trichloroethane	ND	ND	mg/kg	0.025	0.0038	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
Trichloroethene	ND	ND	mg/kg	0.025	0.0055	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
Trichlorofluoromethane	ND	ND	mg/kg	0.025	0.0055	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ND	mg/kg	0.025	0.0065	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
Vinyl chloride	ND	ND	mg/kg	0.025	0.0080	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10
Total Xylenes	**0.023**	**0.019**	**mg/kg**	**0.050**	**0.017**	**EPA-8240**	**09/14/09**	**09/14/09 14:38**	**JSK**	**MS-V3**	**5**	**BSI0795**	**ND**	**J,A10**
Acrolein	ND	ND	mg/kg	0.25	0.036	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10,V11
Acrylonitrile	ND	ND	mg/kg	0.10	0.024	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10,V11
2-Chloroethyl vinyl ether	ND	ND	mg/kg	0.25	0.12	EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795	ND	A10,A85
1,2-Dichloroethane-d4 (Surrogate)	95.4	95.4	%	70 - 121 (LCL - UCL)		EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795		
Toluene-d8 (Surrogate)	75.4	75.4	%	81 - 117 (LCL - UCL)		EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795		A20,S09
4-Bromofluorobenzene (Surrogate)	65.4	65.4	%	74 - 121 (LCL - UCL)		EPA-8240	09/14/09	09/14/09 14:38	JSK	MS-V3	5	BSI0795		A20,S09

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Project: Biosolids from MBWWTP
Project Number: [none]
Project Manager: Doug Coats

Reported: 09/23/2009 16:25

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 0911561-01 **Client Sample Name:** Morro Bay/Cayucos WWTP Biosolids, 9/1/2009 12:00:00AM

Constituent	Dry Basis Result	As Recvd Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Acenaphthene	ND	ND	mg/kg	3.0	0.33	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Acenaphthylene	ND	ND	mg/kg	3.0	0.36	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Aldrin	ND	ND	mg/kg	3.0	0.45	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Aniline	ND	ND	mg/kg	6.0	3.6	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Anthracene	ND	ND	mg/kg	3.0	0.29	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Benzidine	ND	ND	mg/kg	90	6.6	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Benzo[a]anthracene	ND	ND	mg/kg	3.0	0.33	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Benzo[b]fluoranthene	ND	ND	mg/kg	3.0	0.29	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Benzo[k]fluoranthene	ND	ND	mg/kg	3.0	0.54	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Benzo[a]pyrene	ND	ND	mg/kg	3.0	0.42	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Benzo[g,h,i]perylene	ND	ND	mg/kg	3.0	0.36	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Benzoic acid	**25**	**21**	**mg/kg**	**15**	**0.93**	**EPA-8270 C**	**09/10/09**	**09/17/09 13:52**	**SKC**	**MS-B1**	**30**	**BSI0848**	**ND**	**A10**
Benzyl alcohol	**2.5**	**2.1**	**mg/kg**	**3.0**	**0.48**	**EPA-8270 C**	**09/10/09**	**09/17/09 13:52**	**SKC**	**MS-B1**	**30**	**BSI0848**	**ND**	**J,A10**
Benzyl butyl phthalate	ND	ND	mg/kg	3.0	0.36	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
alpha-BHC	ND	ND	mg/kg	3.0	0.36	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
beta-BHC	ND	ND	mg/kg	3.0	0.45	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10

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Project: Biosolids from MBWWTP
Project Number: [none]
Project Manager: Doug Coats

Reported: 09/23/2009 16:25

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 0911561-01 **Client Sample Name:** Morro Bay/Cayucos WWTP Biosolids, 9/1/2009 12:00:00AM

Constituent	Dry Basis Result	As Recvd Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
delta-BHC	ND	ND	mg/kg	3.0	0.33	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
gamma-BHC (Lindane)	ND	ND	mg/kg	3.0	0.36	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
bis(2-Chloroethoxy)methane	ND	ND	mg/kg	3.0	0.36	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
bis(2-Chloroethyl) ether	ND	ND	mg/kg	3.0	0.26	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
bis(2-Chloroisopropyl)ether	ND	ND	mg/kg	3.0	0.39	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
bis(2-Ethylhexyl)phthalate	**90**	**75**	**mg/kg**	**6.0**	**1.1**	**EPA-8270 C**	**09/10/09**	**09/17/09 13:52**	**SKC**	**MS-B1**	**30**	**BSI0848**	**ND**	**A10**
4-Bromophenyl phenyl ether	ND	ND	mg/kg	3.0	0.42	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
4-Chloroaniline	ND	ND	mg/kg	3.0	2.6	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
2-Chloronaphthalene	ND	ND	mg/kg	3.0	0.24	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
4-Chlorophenyl phenyl ether	ND	ND	mg/kg	3.0	0.28	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Chrysene	ND	ND	mg/kg	3.0	0.42	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
4,4'-DDD	ND	ND	mg/kg	3.0	0.45	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
4,4'-DDE	ND	ND	mg/kg	3.0	0.51	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
4,4'-DDT	ND	ND	mg/kg	3.0	0.63	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Dibenzo[a,h]anthracene	ND	ND	mg/kg	3.0	0.51	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Dibenzofuran	ND	ND	mg/kg	3.0	0.36	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10

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Project: Biosolids from MBWWTP
Project Number: [none]
Project Manager: Doug Coats

Reported: 09/23/2009 16:25

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 0911561-01 **Client Sample Name:** Morro Bay/Cayucos WWTP Biosolids, 9/1/2009 12:00:00AM

Constituent	Dry Basis Result	As Recvd Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,2-Dichlorobenzene	ND	ND	mg/kg	3.0	0.30	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
1,3-Dichlorobenzene	ND	ND	mg/kg	3.0	0.33	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
1,4-Dichlorobenzene	ND	ND	mg/kg	3.0	0.27	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
3,3-Dichlorobenzidine	ND	ND	mg/kg	6.0	1.9	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Dieldrin	ND	ND	mg/kg	3.0	0.72	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Diethyl phthalate	ND	ND	mg/kg	3.0	0.60	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Dimethyl phthalate	ND	ND	mg/kg	3.0	0.29	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Di-n-butyl phthalate	ND	ND	mg/kg	3.0	0.28	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
2,4-Dinitrotoluene	ND	ND	mg/kg	3.0	0.39	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
2,6-Dinitrotoluene	ND	ND	mg/kg	3.0	0.51	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Di-n-octyl phthalate	ND	ND	mg/kg	3.0	0.24	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
1,2-Diphenylhydrazine	ND	ND	mg/kg	3.0	0.42	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Endosulfan I	ND	ND	mg/kg	6.0	0.63	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Endosulfan II	ND	ND	mg/kg	6.0	0.87	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Endosulfan sulfate	ND	ND	mg/kg	3.0	1.1	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Endrin	ND	ND	mg/kg	6.0	2.6	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10

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Project: Biosolids from MBWWTP
Project Number: [none]
Project Manager: Doug Coats

Reported: 09/23/2009 16:25

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 0911561-01 **Client Sample Name:** Morro Bay/Cayucos WWTP Biosolids, 9/1/2009 12:00:00AM

Constituent	Dry Basis Result	As Recvd Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Endrin aldehyde	ND	ND	mg/kg	15	3.6	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Fluoranthene	**2.5**	**2.1**	**mg/kg**	**3.0**	**0.29**	**EPA-8270 C**	**09/10/09**	**09/17/09 13:52**	**SKC**	**MS-B1**	**30**	**BSI0848**	**ND**	**J,A10**
Fluorene	ND	ND	mg/kg	3.0	0.39	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Heptachlor	ND	ND	mg/kg	3.0	0.39	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Heptachlor epoxide	ND	ND	mg/kg	3.0	0.36	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Hexachlorobenzene	ND	ND	mg/kg	3.0	0.42	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Hexachlorobutadiene	ND	ND	mg/kg	3.0	0.30	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Hexachlorocyclopentadiene	ND	ND	mg/kg	3.0	0.36	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Hexachloroethane	ND	ND	mg/kg	3.0	0.23	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Indeno[1,2,3-cd]pyrene	ND	ND	mg/kg	3.0	0.45	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Isophorone	ND	ND	mg/kg	3.0	0.33	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
2-Methylnaphthalene	ND	ND	mg/kg	3.0	0.36	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Naphthalene	ND	ND	mg/kg	3.0	0.33	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
2-Naphthylamine	ND	ND	mg/kg	90	0.93	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
2-Nitroaniline	ND	ND	mg/kg	3.0	0.45	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
3-Nitroaniline	ND	ND	mg/kg	6.0	3.3	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10

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Project: Biosolids from MBWWTP
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Project Manager: Doug Coats

Reported: 09/23/2009 16:25

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 0911561-01 **Client Sample Name:** Morro Bay/Cayucos WWTP Biosolids, 9/1/2009 12:00:00AM

Constituent	Dry Basis Result	As Recvd Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
4-Nitroaniline	ND	ND	mg/kg	6.0	1.5	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Nitrobenzene	ND	ND	mg/kg	3.0	0.39	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
N-Nitrosodimethylamine	ND	ND	mg/kg	3.0	0.39	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
N-Nitrosodi-N-propylamine	ND	ND	mg/kg	3.0	0.39	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
N-Nitrosodiphenylamine	ND	ND	mg/kg	3.0	0.29	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Phenanthrene	ND	ND	mg/kg	3.0	0.39	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Pyrene	ND	ND	mg/kg	3.0	0.45	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
1,2,4-Trichlorobenzene	ND	ND	mg/kg	3.0	0.42	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
4-Chloro-3-methylphenol	ND	ND	mg/kg	6.0	0.36	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
2-Chlorophenol	ND	ND	mg/kg	3.0	0.27	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
2,4-Dichlorophenol	ND	ND	mg/kg	3.0	0.36	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
2,4-Dimethylphenol	ND	ND	mg/kg	3.0	0.90	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
4,6-Dinitro-2-methylphenol	ND	ND	mg/kg	15	0.22	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
2,4-Dinitrophenol	ND	ND	mg/kg	15	1.6	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
2-Methylphenol	ND	ND	mg/kg	3.0	0.69	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
3- & 4-Methylphenol	**4.9**	**4.1**	**mg/kg**	**6.0**	**0.57**	**EPA-8270 C**	**09/10/09**	**09/17/09 13:52**	**SKC**	**MS-B1**	**30**	**BSI0848**	**ND**	**J,A10**

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Project: Biosolids from MBWWTP
Project Number: [none]
Project Manager: Doug Coats

Reported: 09/23/2009 16:25

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID: 0911561-01 **Client Sample Name:** Morro Bay/Cayucos WWTP Biosolids, 9/1/2009 12:00:00AM

Constituent	Dry Basis Result	As Recvd Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
2-Nitrophenol	ND	ND	mg/kg	3.0	0.36	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
4-Nitrophenol	ND	ND	mg/kg	6.0	0.28	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Pentachlorophenol	ND	ND	mg/kg	6.0	0.33	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
Phenol	**1.8**	**1.5**	**mg/kg**	**3.0**	**0.36**	**EPA-8270 C**	**09/10/09**	**09/17/09 13:52**	**SKC**	**MS-B1**	**30**	**BSI0848**	**ND**	**J,A10**
2,4,5-Trichlorophenol	ND	ND	mg/kg	6.0	0.36	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
2,4,6-Trichlorophenol	ND	ND	mg/kg	6.0	0.33	EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848	ND	A10
2-Fluorophenol (Surrogate)	96.0	96.0	%	42 - 137 (LCL - UCL)		EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848		A10
Phenol-d5 (Surrogate)	97.8	97.8	%	36 - 137 (LCL - UCL)		EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848		A10
Nitrobenzene-d5 (Surrogate)	111	111	%	34 - 135 (LCL - UCL)		EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848		A10
2-Fluorobiphenyl (Surrogate)	95.8	95.8	%	40 - 135 (LCL - UCL)		EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848		A10
2,4,6-Tribromophenol (Surrogate)	120	120	%	54 - 162 (LCL - UCL)		EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848		A10
p-Terphenyl-d14 (Surrogate)	149	149	%	20 - 176 (LCL - UCL)		EPA-8270 C	09/10/09	09/17/09 13:52	SKC	MS-B1	30	BSI0848		A10

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Project: Biosolids from MBWWTP
Project Number: [none]
Project Manager: Doug Coats

Reported: 09/23/2009 16:25

EPA Method 1664

BCL Sample ID: 0911561-01 **Client Sample Name:** Morro Bay/Cayucos WWTP Biosolids, 9/1/2009 12:00:00AM

Constituent	Dry Basis Result	As Recvd Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Oil and Grease	91000	76000	mg/kg	500	160	EPA-1664 HEM	09/14/09	09/14/09 10:30	JAK	MAN-SV	10	BSI0891	ND	A09

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Project: Biosolids from MBWWTP
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Reported: 09/23/2009 16:25

Chemical Analysis

BCL Sample ID: 0911561-01 **Client Sample Name:** Morro Bay/Cayucos WWTP Biosolids, 9/1/2009 12:00:00AM

Constituent	Dry Basis Result	As Recvd Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Moisture	0	16.6	%	0.05	0.05	Calc	09/04/09	09/15/09 18:26	TMS	Calc	1	BSI0314	ND	
Total Cyanide	3.4	2.9	mg/kg	0.50	0.25	EPA-9012	09/08/09	09/08/09 16:18	TDC	KONE-1	0.980	BSI0420	ND	
pH	6.46	6.46	pH Units	0.05	0.05	EPA-9045	09/08/09	09/08/09 14:10	RML	B360	1	BSI0439		pH1:3
pH Measurement Temperature	24.9	24.9	C			EPA-9045	09/08/09	09/08/09 14:10	RML	B360	1	BSI0439		
Nitrate as NO3	980	820	mg/kg	8.8	2.4	EPA-300.0	09/14/09	09/15/09 09:39	VH1	IC1	2	BSI0769	ND	A01
Total Kjeldahl Nitrogen	35000	29000	mg/kg	4000	1500	EPA-351.2	09/04/09	09/08/09 11:38	JSM	SC-1	100	BSI0286	ND	A01
Ammonia as N	11000	8900	mg/kg	1000	500	EPA-350.1	09/15/09	09/16/09 08:35	JSM	SC-1	100	BSI0857	ND	A01
Total Phosphate	92000	76000	mg/kg	3000	1200	EPA-365.4	09/04/09	09/08/09 10:16	JSM	SC-1	100	BSI0288	ND	A01
Solids	100	83.4	%	0.05	0.05	SM-2540G	09/04/09	09/04/09 09:00	NW1	MANUAL	1	BSI0255		

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Project: Biosolids from MBWWTP
Project Number: [none]
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Reported: 09/23/2009 16:25

Modified WET Test (STLC)

BCL Sample ID: 0911561-01 **Client Sample Name:** Morro Bay/Cayucos WWTP Biosolids, 9/1/2009 12:00:00AM

Constituent	Dry Basis Result	As Recvd Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Hexavalent Chromium	ND	ND	mg/L	0.20	0.070	EPA-7196	09/16/09	09/16/09 14:31	TDC	KONE-1	1	BSI0986	ND	
Total Dissolved Solids @ 180 C	**7900**	**6600**	**mg/L**	**200**	**200**	**EPA-160.1**	**09/17/09**	**09/17/09 10:50**	**JLR**	**MANUAL**	**20**	**BSI1301**	**ND**	

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Project: Biosolids from MBWWTP
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Reported: 09/23/2009 16:25

WET Test (STLC)

BCL Sample ID: 0911561-01 **Client Sample Name:** Morro Bay/Cayucos WWTP Biosolids, 9/1/2009 12:00:00AM

Constituent	Dry Basis Result	As Recvd Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Copper	8.1	6.7	mg/L	0.10	0.012	EPA-6010 B	09/13/09	09/15/09 09:23	JRG	PE-OP2	1	BSI0786	0.043	

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Reported: 09/23/2009 16:25

Total Concentrations (TTLC)

BCL Sample ID: 0911561-01 **Client Sample Name:** Morro Bay/Cayucos WWTP Biosolids, 9/1/2009 12:00:00AM

Constituent	Dry Basis Result	As Recvd Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Antimony	5.0	4.2	mg/kg	5.0	1.7	EPA-6010 B	09/03/09	09/04/09 10:36	ARD	PE-OP1	1	BSI0233	ND	J
Arsenic	3.0	2.5	mg/kg	1.0	0.71	EPA-6010 B	09/03/09	09/04/09 10:36	ARD	PE-OP1	1	BSI0233	ND	
Barium	500	420	mg/kg	0.50	0.13	EPA-6010 B	09/03/09	09/04/09 10:36	ARD	PE-OP1	1	BSI0233	ND	
Beryllium	0.13	0.11	mg/kg	0.50	0.026	EPA-6010 B	09/03/09	09/04/09 10:36	ARD	PE-OP1	1	BSI0233	ND	J
Cadmium	4.4	3.7	mg/kg	0.50	0.033	EPA-6010 B	09/03/09	09/04/09 10:36	ARD	PE-OP1	1	BSI0233	ND	
Chromium	48	40	mg/kg	0.50	0.045	EPA-6010 B	09/03/09	09/04/09 10:36	ARD	PE-OP1	1	BSI0233	ND	
Total Hexavalent Chromium	3.2	2.6	mg/kg	2.5	1.2	EPA-7199	09/09/09	09/09/09 17:22	VH1	IC-4	2.500	BSI0389	ND	A10
Cobalt	4.2	3.5	mg/kg	2.5	0.18	EPA-6010 B	09/03/09	09/04/09 10:36	ARD	PE-OP1	1	BSI0233	ND	
Copper	570	480	mg/kg	1.0	0.13	EPA-6010 B	09/03/09	09/04/09 10:36	ARD	PE-OP1	1	BSI0233	ND	
Lead	58	48	mg/kg	2.5	0.59	EPA-6010 B	09/03/09	09/04/09 10:36	ARD	PE-OP1	1	BSI0233	ND	
Mercury	1.5	1.3	mg/kg	0.16	0.014	EPA-7471 A	09/14/09	09/14/09 15:35	MEV	CETAC1	0.992	BSI0741	ND	
Molybdenum	22	18	mg/kg	2.5	0.18	EPA-6010 B	09/03/09	09/04/09 10:36	ARD	PE-OP1	1	BSI0233	ND	
Nickel	38	32	mg/kg	0.50	0.12	EPA-6010 B	09/03/09	09/04/09 10:36	ARD	PE-OP1	1	BSI0233	ND	
Selenium	10	8.7	mg/kg	1.0	0.76	EPA-6010 B	09/03/09	09/04/09 10:36	ARD	PE-OP1	1	BSI0233	ND	
Silver	3.7	3.1	mg/kg	0.50	0.086	EPA-6010 B	09/03/09	09/04/09 10:36	ARD	PE-OP1	1	BSI0233	ND	

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Total Concentrations (TTLC)

BCL Sample ID: 0911561-01 **Client Sample Name:** Morro Bay/Cayucos WWTP Biosolids, 9/1/2009 12:00:00AM

Constituent	Dry Basis Result	As Recvd Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Thallium	ND	ND	mg/kg	5.0	0.94	EPA-6010 B	09/03/09	09/04/09 10:36	ARD	PE-OP1	1	BSI0233	ND	
Vanadium	**29**	**24**	**mg/kg**	**0.50**	**0.062**	**EPA-6010 B**	**09/03/09**	**09/04/09 10:36**	**ARD**	**PE-OP1**	**1**	**BSI0233**	**ND**	
Zinc	**1300**	**1100**	**mg/kg**	**2.5**	**0.25**	**EPA-6010 B**	**09/03/09**	**09/04/09 10:36**	**ARD**	**PE-OP1**	**1**	**BSI0233**	**1.0**	
Boron	**21**	**17**	**mg/kg**	**5.0**	**0.40**	**EPA-6010 B**	**09/03/09**	**09/04/09 10:36**	**ARD**	**PE-OP1**	**1**	**BSI0233**	**ND**	

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Organochlorine Pesticides and PCB's (EPA Method 8080)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Aldrin	BSI0616	Matrix Spike	0911528-12	ND	0.0087472	0.0082781	mg/kg		106		67 - 133	
		Matrix Spike Duplicate	0911528-12	ND	0.0086017	0.0083333	mg/kg	2.3	103	30	67 - 133	
gamma-BHC (Lindane)	BSI0616	Matrix Spike	0911528-12	ND	0.0069721	0.0082781	mg/kg		84.2		58 - 117	
		Matrix Spike Duplicate	0911528-12	ND	0.0068473	0.0083333	mg/kg	2.5	82.2	30	58 - 117	
4,4'-DDT	BSI0616	Matrix Spike	0911528-12	ND	0.0081266	0.0082781	mg/kg		98.2		43 - 129	
		Matrix Spike Duplicate	0911528-12	ND	0.0081089	0.0083333	mg/kg	0.9	97.3	30	43 - 129	
Dieldrin	BSI0616	Matrix Spike	0911528-12	ND	0.0087802	0.0082781	mg/kg		106		74 - 121	
		Matrix Spike Duplicate	0911528-12	ND	0.0086959	0.0083333	mg/kg	1.6	104	30	74 - 121	
Endrin	BSI0616	Matrix Spike	0911528-12	ND	0.0087466	0.0082781	mg/kg		106		46 - 144	
		Matrix Spike Duplicate	0911528-12	ND	0.0087319	0.0083333	mg/kg	0.8	105	30	46 - 144	
Heptachlor	BSI0616	Matrix Spike	0911528-12	ND	0.0090298	0.0082781	mg/kg		109		72 - 132	
		Matrix Spike Duplicate	0911528-12	ND	0.0091383	0.0083333	mg/kg	0.5	110	30	72 - 132	
TCMX (Surrogate)	BSI0616	Matrix Spike	0911528-12	ND	0.023164	0.0099338	mg/kg		233		65 - 129	S09
		Matrix Spike Duplicate	0911528-12	ND	0.022311	0.010000	mg/kg		223		65 - 129	S09
Dibutyl chlorendate (Surrogate)	BSI0616	Matrix Spike	0911528-12	ND	0.023810	0.024834	mg/kg		95.9		65 - 173	
		Matrix Spike Duplicate	0911528-12	ND	0.024541	0.025000	mg/kg		98.2		65 - 173	

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Reported: 09/23/2009 16:25

Volatile Organic Analysis (EPA Method 8240)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Benzene	BSI0795	Matrix Spike	0911528-25	ND	0.13494	0.12500	mg/kg		108		70 - 130	
		Matrix Spike Duplicate	0911528-25	ND	0.13488	0.12500	mg/kg	0.0	108	20	70 - 130	
Bromodichloromethane	BSI0795	Matrix Spike	0911528-25	ND	0.096026	0.12500	mg/kg		76.8		70 - 130	
		Matrix Spike Duplicate	0911528-25	ND	0.098905	0.12500	mg/kg	3.0	79.1	20	70 - 130	
Chlorobenzene	BSI0795	Matrix Spike	0911528-25	ND	0.12378	0.12500	mg/kg		99.0		70 - 130	
		Matrix Spike Duplicate	0911528-25	ND	0.12230	0.12500	mg/kg	1.2	97.8	20	70 - 130	
Chloroethane	BSI0795	Matrix Spike	0911528-25	ND	0.12958	0.12500	mg/kg		104		70 - 130	
		Matrix Spike Duplicate	0911528-25	ND	0.13749	0.12500	mg/kg	5.9	110	20	70 - 130	
1,4-Dichlorobenzene	BSI0795	Matrix Spike	0911528-25	ND	0.14349	0.12500	mg/kg		115		70 - 130	
		Matrix Spike Duplicate	0911528-25	ND	0.13822	0.12500	mg/kg	3.7	111	20	70 - 130	
1,1-Dichloroethane	BSI0795	Matrix Spike	0911528-25	ND	0.12939	0.12500	mg/kg		104		70 - 130	
		Matrix Spike Duplicate	0911528-25	ND	0.13588	0.12500	mg/kg	4.9	109	20	70 - 130	
1,1-Dichloroethene	BSI0795	Matrix Spike	0911528-25	ND	0.12891	0.12500	mg/kg		103		70 - 130	
		Matrix Spike Duplicate	0911528-25	ND	0.13475	0.12500	mg/kg	4.4	108	20	70 - 130	
Toluene	BSI0795	Matrix Spike	0911528-25	ND	0.11137	0.12500	mg/kg		89.1		70 - 130	
		Matrix Spike Duplicate	0911528-25	ND	0.11273	0.12500	mg/kg	1.2	90.2	20	70 - 130	
Trichloroethene	BSI0795	Matrix Spike	0911528-25	ND	0.10719	0.12500	mg/kg		85.7		70 - 130	
		Matrix Spike Duplicate	0911528-25	ND	0.10834	0.12500	mg/kg	1.1	86.7	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	BSI0795	Matrix Spike	0911528-25	ND	0.046449	0.050000	mg/kg		92.9		70 - 121	
		Matrix Spike Duplicate	0911528-25	ND	0.048415	0.050000	mg/kg		96.8		70 - 121	
Toluene-d8 (Surrogate)	BSI0795	Matrix Spike	0911528-25	ND	0.047502	0.050000	mg/kg		95.0		81 - 117	
		Matrix Spike Duplicate	0911528-25	ND	0.046694	0.050000	mg/kg		93.4		81 - 117	
4-Bromofluorobenzene (Surrogate)	BSI0795	Matrix Spike	0911528-25	ND	0.046309	0.050000	mg/kg		92.6		74 - 121	
		Matrix Spike Duplicate	0911528-25	ND	0.043107	0.050000	mg/kg		86.2		74 - 121	

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Project: Biosolids from MBWWTP
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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Acenaphthene	BSI0848	Matrix Spike	0911528-07	ND	1.6926	1.6611	mg/kg		102		36 - 158	
		Matrix Spike Duplicate	0911528-07	ND	1.6921	1.6447	mg/kg	1.0	103	29	36 - 158	
1,4-Dichlorobenzene	BSI0848	Matrix Spike	0911528-07	ND	1.6616	1.6611	mg/kg		100		33 - 135	
		Matrix Spike Duplicate	0911528-07	ND	1.6768	1.6447	mg/kg	1.9	102	26	33 - 135	
2,4-Dinitrotoluene	BSI0848	Matrix Spike	0911528-07	ND	1.6484	1.6611	mg/kg		99.2		52 - 137	
		Matrix Spike Duplicate	0911528-07	ND	1.6617	1.6447	mg/kg	1.8	101	26	52 - 137	
Hexachlorobenzene	BSI0848	Matrix Spike	0911528-07	ND	1.0869	1.6611	mg/kg		65.4		44 - 152	
		Matrix Spike Duplicate	0911528-07	ND	1.0943	1.6447	mg/kg	1.7	66.5	20	44 - 152	
Hexachlorobutadiene	BSI0848	Matrix Spike	0911528-07	ND	1.5748	1.6611	mg/kg		94.8		33 - 127	
		Matrix Spike Duplicate	0911528-07	ND	1.5671	1.6447	mg/kg	0.5	95.3	27	33 - 127	
Hexachloroethane	BSI0848	Matrix Spike	0911528-07	ND	1.7301	1.6611	mg/kg		104		29 - 129	
		Matrix Spike Duplicate	0911528-07	ND	1.7317	1.6447	mg/kg	1.1	105	27	29 - 129	
Nitrobenzene	BSI0848	Matrix Spike	0911528-07	ND	1.7002	1.6611	mg/kg		102		39 - 137	
		Matrix Spike Duplicate	0911528-07	ND	1.7122	1.6447	mg/kg	1.7	104	23	39 - 137	
N-Nitrosodi-N-propylamine	BSI0848	Matrix Spike	0911528-07	ND	1.5300	1.6611	mg/kg		92.1		35 - 123	
		Matrix Spike Duplicate	0911528-07	ND	1.5592	1.6447	mg/kg	2.9	94.8	30	35 - 123	
Pyrene	BSI0848	Matrix Spike	0911528-07	ND	1.5171	1.6611	mg/kg		91.3		36 - 161	
		Matrix Spike Duplicate	0911528-07	ND	1.4938	1.6447	mg/kg	0.6	90.8	25	36 - 161	
1,2,4-Trichlorobenzene	BSI0848	Matrix Spike	0911528-07	ND	1.6534	1.6611	mg/kg		99.5		41 - 135	
		Matrix Spike Duplicate	0911528-07	ND	1.6376	1.6447	mg/kg	0.0	99.6	28	41 - 135	
4-Chloro-3-methylphenol	BSI0848	Matrix Spike	0911528-07	ND	1.6251	1.6611	mg/kg		97.8		54 - 144	
		Matrix Spike Duplicate	0911528-07	ND	1.6443	1.6447	mg/kg	2.2	100	21	54 - 144	
2-Chlorophenol	BSI0848	Matrix Spike	0911528-07	ND	1.4486	1.6611	mg/kg		87.2		43 - 126	
		Matrix Spike Duplicate	0911528-07	ND	1.4452	1.6447	mg/kg	0.8	87.9	21	43 - 126	
2-Methylphenol	BSI0848	Matrix Spike	0911528-07	ND	1.4257	1.6611	mg/kg		85.8		40 - 133	
		Matrix Spike Duplicate	0911528-07	ND	1.4432	1.6447	mg/kg	2.2	87.7	19	40 - 133	

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Project: Biosolids from MBWWTP
Project Number: [none]
Project Manager: Doug Coats

Reported: 09/23/2009 16:25

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
3- & 4-Methylphenol	BSI0848	Matrix Spike	0911528-07	ND	2.6639	3.3223	mg/kg		80.2		10 - 216	
		Matrix Spike Duplicate	0911528-07	ND	2.7330	3.2895	mg/kg	3.6	83.1	17	10 - 216	
4-Nitrophenol	BSI0848	Matrix Spike	0911528-07	ND	1.2007	1.6611	mg/kg		72.3		10 - 154	
		Matrix Spike Duplicate	0911528-07	ND	1.2151	1.6447	mg/kg	2.2	73.9	26	10 - 154	
Pentachlorophenol	BSI0848	Matrix Spike	0911528-07	ND	1.5306	1.6611	mg/kg		92.1		26 - 183	
		Matrix Spike Duplicate	0911528-07	ND	1.4900	1.6447	mg/kg	1.7	90.6	26	26 - 183	
Phenol	BSI0848	Matrix Spike	0911528-07	ND	1.5036	1.6611	mg/kg		90.5		39 - 123	
		Matrix Spike Duplicate	0911528-07	ND	1.5055	1.6447	mg/kg	1.1	91.5	21	39 - 123	
2,4,6-Trichlorophenol	BSI0848	Matrix Spike	0911528-07	ND	1.5961	1.6611	mg/kg		96.1		50 - 140	
		Matrix Spike Duplicate	0911528-07	ND	1.6502	1.6447	mg/kg	4.3	100	19	50 - 140	
2-Fluorophenol (Surrogate)	BSI0848	Matrix Spike	0911528-07	ND	2.9550	2.6578	mg/kg		111		42 - 137	
		Matrix Spike Duplicate	0911528-07	ND	2.9640	2.6316	mg/kg		113		42 - 137	
Phenol-d5 (Surrogate)	BSI0848	Matrix Spike	0911528-07	ND	2.7214	2.6578	mg/kg		102		36 - 137	
		Matrix Spike Duplicate	0911528-07	ND	2.7253	2.6316	mg/kg		104		36 - 137	
Nitrobenzene-d5 (Surrogate)	BSI0848	Matrix Spike	0911528-07	ND	2.8274	2.6578	mg/kg		106		34 - 135	
		Matrix Spike Duplicate	0911528-07	ND	2.8650	2.6316	mg/kg		109		34 - 135	
2-Fluorobiphenyl (Surrogate)	BSI0848	Matrix Spike	0911528-07	ND	2.8706	2.6578	mg/kg		108		40 - 135	
		Matrix Spike Duplicate	0911528-07	ND	2.9367	2.6316	mg/kg		112		40 - 135	
2,4,6-Tribromophenol (Surrogate)	BSI0848	Matrix Spike	0911528-07	ND	3.5441	2.6578	mg/kg		133		54 - 162	
		Matrix Spike Duplicate	0911528-07	ND	3.5597	2.6316	mg/kg		135		54 - 162	
p-Terphenyl-d14 (Surrogate)	BSI0848	Matrix Spike	0911528-07	ND	1.3575	1.3289	mg/kg		102		20 - 176	
		Matrix Spike Duplicate	0911528-07	ND	1.3368	1.3158	mg/kg		102		20 - 176	

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EPA Method 1664

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Oil and Grease	BSI0891	Duplicate	0911561-01	75840	69373		mg/kg	8.9		30		A09
		Matrix Spike	0911561-01	75840	74588	8000.0	mg/kg		-15.6		56 - 111	A09,Q03
		Matrix Spike Duplicate	0911561-01	75840	67140	8160.0	mg/kg	149	-107	30	56 - 111	A09,Q02,Q03

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Project Manager: Doug Coats

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Chemical Analysis

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Solids	BSI0255	Duplicate	0911561-01	83.440	83.850		%	0.5		20		
Total Kjeldahl Nitrogen	BSI0286	Duplicate	0911561-01	28861	28067		mg/kg	2.8		20		
		Matrix Spike	0911561-01	28861	28877	400.00	mg/kg		4.1		80 - 120	A03
		Matrix Spike Duplicate	0911561-01	28861	28414	400.00	mg/kg	215	-112	20	80 - 120	A03,Q02
Total Phosphate	BSI0288	Duplicate	0911561-01	76402	75563		mg/kg	1.1		20		
		Matrix Spike	0911561-01	76402	74603	613.20	mg/kg		-293		80 - 120	A03
		Matrix Spike Duplicate	0911561-01	76402	76643	613.20	mg/kg	262	39.2	20	80 - 120	A03,Q02
Total Cyanide	BSI0420	Duplicate	0911252-01	ND	0.30120		mg/kg			20		J
		Matrix Spike	0911252-01	ND	10.016	9.8039	mg/kg		102		80 - 120	
		Matrix Spike Duplicate	0911252-01	ND	10.681	10.000	mg/kg	4.4	107	20	80 - 120	
pH	BSI0439	Duplicate	0911377-01	7.8640	7.8660		pH Units	0.0		20		
pH Measurement Temperature	BSI0439	Duplicate	0911377-01	24.900	24.900		C	0		200		
Nitrate as NO3	BSI0769	Duplicate	0911541-01	1374.7	1353.5		mg/kg	1.6		20		
		Matrix Spike	0911541-01	1374.7	2555.7	1117.9	mg/kg		106		80 - 120	
		Matrix Spike Duplicate	0911541-01	1374.7	2494.4	1117.9	mg/kg	5.3	100	20	80 - 120	
Ammonia as N	BSI0857	Duplicate	0911561-01	8931.0	9029.0		mg/kg	1.1		20		
		Matrix Spike	0911561-01	8931.0	10766	500.00	mg/kg		367		80 - 120	A03
		Matrix Spike Duplicate	0911561-01	8931.0	10231	500.00	mg/kg	34.1	260	20	80 - 120	A03,Q02

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Modified WET Test (STLC)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Hexavalent Chromium	BSI0986	Duplicate	0911561-01	ND	ND		mg/L			20		
		Matrix Spike	0911561-01	ND	5.0655	5.2632	mg/L		96.2		85 - 115	
		Matrix Spike Duplicate	0911561-01	ND	5.0652	5.2632	mg/L	0.0	96.2	20	85 - 115	
Total Dissolved Solids @ 180 C	BSI1301	Duplicate	0911561-01	6620.0	6520.0		mg/L	1.5		20		

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WET Test (STLC)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Copper	BSI0786	Duplicate	0911829-01	0.37256	0.38320		mg/L	2.8		20		
		Matrix Spike	0911829-01	0.37256	4.6167	4.0816	mg/L		104		75 - 125	
		Matrix Spike Duplicate	0911829-01	0.37256	4.6043	4.0816	mg/L	0.3	104	20	75 - 125	

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Total Concentrations (TTLC)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Antimony	BSI0233	Duplicate	0911561-01	4.1673	4.3083		mg/kg	3.3		20		J
		Matrix Spike	0911561-01	4.1673	56.282	100.00	mg/kg		52.1		16 - 119	
		Matrix Spike Duplicate	0911561-01	4.1673	54.610	100.00	mg/kg	3.3	50.4	20	16 - 119	
Arsenic	BSI0233	Duplicate	0911561-01	2.5083	2.7714		mg/kg	10.0		20		
		Matrix Spike	0911561-01	2.5083	10.607	10.000	mg/kg		81.0		75 - 125	
		Matrix Spike Duplicate	0911561-01	2.5083	10.711	10.000	mg/kg	1.3	82.0	20	75 - 125	
Barium	BSI0233	Duplicate	0911561-01	419.30	425.12		mg/kg	1.4		20		
		Matrix Spike	0911561-01	419.30	499.21	100.00	mg/kg		79.9		75 - 125	
		Matrix Spike Duplicate	0911561-01	419.30	497.47	100.00	mg/kg	2.2	78.2	20	75 - 125	
Beryllium	BSI0233	Duplicate	0911561-01	0.10825	0.10582		mg/kg	2.3		20		J
		Matrix Spike	0911561-01	0.10825	8.4340	10.000	mg/kg		83.3		75 - 125	
		Matrix Spike Duplicate	0911561-01	0.10825	8.2000	10.000	mg/kg	2.9	80.9	20	75 - 125	
Cadmium	BSI0233	Duplicate	0911561-01	3.6909	3.7904		mg/kg	2.7		20		
		Matrix Spike	0911561-01	3.6909	12.143	10.000	mg/kg		84.5		75 - 125	
		Matrix Spike Duplicate	0911561-01	3.6909	11.818	10.000	mg/kg	3.9	81.3	20	75 - 125	
Chromium	BSI0233	Duplicate	0911561-01	39.903	40.270		mg/kg	0.9		20		
		Matrix Spike	0911561-01	39.903	121.17	100.00	mg/kg		81.3		75 - 125	
		Matrix Spike Duplicate	0911561-01	39.903	120.00	100.00	mg/kg	1.5	80.1	20	75 - 125	
Cobalt	BSI0233	Duplicate	0911561-01	3.5251	3.5588		mg/kg	1.0		20		
		Matrix Spike	0911561-01	3.5251	85.506	100.00	mg/kg		82.0		75 - 125	
		Matrix Spike Duplicate	0911561-01	3.5251	83.212	100.00	mg/kg	2.8	79.7	20	75 - 125	
Copper	BSI0233	Duplicate	0911561-01	475.17	485.18		mg/kg	2.1		20		
		Matrix Spike	0911561-01	475.17	592.39	100.00	mg/kg		117		75 - 125	
		Matrix Spike Duplicate	0911561-01	475.17	585.46	100.00	mg/kg	6.1	110	20	75 - 125	
Lead	BSI0233	Duplicate	0911561-01	48.457	49.515		mg/kg	2.2		20		
		Matrix Spike	0911561-01	48.457	125.64	100.00	mg/kg		77.2		75 - 125	
		Matrix Spike Duplicate	0911561-01	48.457	122.76	100.00	mg/kg	3.8	74.3	20	75 - 125	Q03

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Project: Biosolids from MBWWTP
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Total Concentrations (TTLC)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Molybdenum	BSI0233	Duplicate	0911561-01	18.477	18.858		mg/kg	2.0		20		
		Matrix Spike	0911561-01	18.477	97.514	100.00	mg/kg		79.0		75 - 125	
		Matrix Spike Duplicate	0911561-01	18.477	95.704	100.00	mg/kg	2.3	77.2	20	75 - 125	
Nickel	BSI0233	Duplicate	0911561-01	31.861	32.195		mg/kg	1.0		20		
		Matrix Spike	0911561-01	31.861	115.44	100.00	mg/kg		83.6		75 - 125	
		Matrix Spike Duplicate	0911561-01	31.861	112.60	100.00	mg/kg	3.5	80.7	20	75 - 125	
Selenium	BSI0233	Duplicate	0911561-01	8.7152	8.8967		mg/kg	2.1		20		
		Matrix Spike	0911561-01	8.7152	15.532	10.000	mg/kg		68.2		75 - 125	Q03
		Matrix Spike Duplicate	0911561-01	8.7152	14.989	10.000	mg/kg	8.3	62.7	20	75 - 125	Q03
Silver	BSI0233	Duplicate	0911561-01	3.0660	3.1894		mg/kg	3.9		20		
		Matrix Spike	0911561-01	3.0660	11.759	10.000	mg/kg		86.9		75 - 125	
		Matrix Spike Duplicate	0911561-01	3.0660	11.523	10.000	mg/kg	2.8	84.6	20	75 - 125	
Thallium	BSI0233	Duplicate	0911561-01	ND	ND		mg/kg			20		
		Matrix Spike	0911561-01	ND	72.222	100.00	mg/kg		72.2		75 - 125	Q03
		Matrix Spike Duplicate	0911561-01	ND	69.673	100.00	mg/kg	3.6	69.7	20	75 - 125	Q03
Vanadium	BSI0233	Duplicate	0911561-01	23.823	23.887		mg/kg	0.3		20		
		Matrix Spike	0911561-01	23.823	109.57	100.00	mg/kg		85.7		75 - 125	
		Matrix Spike Duplicate	0911561-01	23.823	105.86	100.00	mg/kg	4.4	82.0	20	75 - 125	
Zinc	BSI0233	Duplicate	0911561-01	1061.6	1066.3		mg/kg	0.4		20		
		Matrix Spike	0911561-01	1061.6	1172.7	100.00	mg/kg		111		75 - 125	
		Matrix Spike Duplicate	0911561-01	1061.6	1164.6	100.00	mg/kg	7.5	103	20	75 - 125	
Boron	BSI0233	Duplicate	0911561-01	17.446	18.088		mg/kg	3.6		20		
		Matrix Spike	0911561-01	17.446	99.475	100.00	mg/kg		82.0		75 - 125	
		Matrix Spike Duplicate	0911561-01	17.446	97.109	100.00	mg/kg	2.9	79.7	20	75 - 125	
Total Hexavalent Chromium	BSI0389	Duplicate	0911528-06	ND	ND		mg/kg			20		
		Matrix Spike	0911528-06	ND	41.662	40.000	mg/kg		104		75 - 125	
		Matrix Spike Duplicate	0911528-06	ND	42.978	40.000	mg/kg	3.1	107	20	75 - 125	

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Total Concentrations (TTLC)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Mercury	BSI0741	Duplicate	0911755-01	ND	ND		mg/kg			20		
		Matrix Spike	0911755-01	ND	0.78031	0.78125	mg/kg		99.9		85 - 115	
		Matrix Spike Duplicate	0911755-01	ND	0.76969	0.78125	mg/kg	1.4	98.5	20	85 - 115	

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Organochlorine Pesticides and PCB's (EPA Method 8080)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Aldrin	BSI0616	BSI0616-BS1	LCS	0.0084076	0.0082781	0.00050	mg/kg	102		76 - 127		
gamma-BHC (Lindane)	BSI0616	BSI0616-BS1	LCS	0.0070403	0.0082781	0.00050	mg/kg	85.0		62 - 119		
4,4'-DDT	BSI0616	BSI0616-BS1	LCS	0.0079076	0.0082781	0.00050	mg/kg	95.5		46 - 118		
Dieldrin	BSI0616	BSI0616-BS1	LCS	0.0085750	0.0082781	0.00050	mg/kg	104		71 - 122		
Endrin	BSI0616	BSI0616-BS1	LCS	0.0086942	0.0082781	0.00050	mg/kg	105		67 - 126		
Heptachlor	BSI0616	BSI0616-BS1	LCS	0.0086042	0.0082781	0.00050	mg/kg	104		75 - 133		
TCMX (Surrogate)	BSI0616	BSI0616-BS1	LCS	0.022317	0.0099338		mg/kg	225		65 - 129		S09
Dibutyl chlorendate (Surrogate)	BSI0616	BSI0616-BS1	LCS	0.023660	0.024834		mg/kg	95.3		65 - 173		

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Volatile Organic Analysis (EPA Method 8240)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Benzene	BSI0795	BSI0795-BS1	LCS	0.14254	0.12500	0.0050	mg/kg	114		70 - 130		
Bromodichloromethane	BSI0795	BSI0795-BS1	LCS	0.10887	0.12500	0.0050	mg/kg	87.1		70 - 130		
Chlorobenzene	BSI0795	BSI0795-BS1	LCS	0.12738	0.12500	0.0050	mg/kg	102		70 - 130		
Chloroethane	BSI0795	BSI0795-BS1	LCS	0.14567	0.12500	0.0050	mg/kg	117		70 - 130		
1,4-Dichlorobenzene	BSI0795	BSI0795-BS1	LCS	0.13445	0.12500	0.0050	mg/kg	108		70 - 130		
1,1-Dichloroethane	BSI0795	BSI0795-BS1	LCS	0.14346	0.12500	0.0050	mg/kg	115		70 - 130		
1,1-Dichloroethene	BSI0795	BSI0795-BS1	LCS	0.13688	0.12500	0.0050	mg/kg	110		70 - 130		
Toluene	BSI0795	BSI0795-BS1	LCS	0.11607	0.12500	0.0050	mg/kg	92.9		70 - 130		
Trichloroethene	BSI0795	BSI0795-BS1	LCS	0.11715	0.12500	0.0050	mg/kg	93.7		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BSI0795	BSI0795-BS1	LCS	0.053135	0.050000		mg/kg	106		70 - 121		
Toluene-d8 (Surrogate)	BSI0795	BSI0795-BS1	LCS	0.046171	0.050000		mg/kg	92.3		81 - 117		
4-Bromofluorobenzene (Surrogate)	BSI0795	BSI0795-BS1	LCS	0.044028	0.050000		mg/kg	88.1		74 - 121		

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Acenaphthene	BSI0848	BSI0848-BS1	LCS	1.6649	1.6556	0.10	mg/kg	101		39 - 167		
1,4-Dichlorobenzene	BSI0848	BSI0848-BS1	LCS	1.6504	1.6556	0.10	mg/kg	99.7		46 - 131		
2,4-Dinitrotoluene	BSI0848	BSI0848-BS1	LCS	1.6077	1.6556	0.10	mg/kg	97.1		58 - 139		
Hexachlorobenzene	BSI0848	BSI0848-BS1	LCS	1.0766	1.6556	0.10	mg/kg	65.0		53 - 151		
Hexachlorobutadiene	BSI0848	BSI0848-BS1	LCS	1.5675	1.6556	0.10	mg/kg	94.7		48 - 120		
Hexachloroethane	BSI0848	BSI0848-BS1	LCS	1.7004	1.6556	0.10	mg/kg	103		44 - 124		
Nitrobenzene	BSI0848	BSI0848-BS1	LCS	1.6881	1.6556	0.10	mg/kg	102		39 - 143		
N-Nitrosodi-N-propylamine	BSI0848	BSI0848-BS1	LCS	1.5134	1.6556	0.10	mg/kg	91.4		36 - 128		
Pyrene	BSI0848	BSI0848-BS1	LCS	1.5272	1.6556	0.10	mg/kg	92.2		45 - 170		
1,2,4-Trichlorobenzene	BSI0848	BSI0848-BS1	LCS	1.6528	1.6556	0.10	mg/kg	99.8		55 - 128		
4-Chloro-3-methylphenol	BSI0848	BSI0848-BS1	LCS	1.6107	1.6556	0.20	mg/kg	97.3		49 - 153		
2-Chlorophenol	BSI0848	BSI0848-BS1	LCS	1.4252	1.6556	0.10	mg/kg	86.1		46 - 128		
2-Methylphenol	BSI0848	BSI0848-BS1	LCS	1.4452	1.6556	0.10	mg/kg	87.3		40 - 138		
3- & 4-Methylphenol	BSI0848	BSI0848-BS1	LCS	2.6691	3.3113	0.20	mg/kg	80.6		10 - 230		
4-Nitrophenol	BSI0848	BSI0848-BS1	LCS	1.1508	1.6556	0.20	mg/kg	69.5		13 - 145		
Pentachlorophenol	BSI0848	BSI0848-BS1	LCS	1.4667	1.6556	0.20	mg/kg	88.6		50 - 170		
Phenol	BSI0848	BSI0848-BS1	LCS	1.4609	1.6556	0.10	mg/kg	88.2		41 - 126		
2,4,6-Trichlorophenol	BSI0848	BSI0848-BS1	LCS	1.5815	1.6556	0.20	mg/kg	95.5		53 - 144		
2-Fluorophenol (Surrogate)	BSI0848	BSI0848-BS1	LCS	2.9214	2.6490		mg/kg	110		42 - 137		
Phenol-d5 (Surrogate)	BSI0848	BSI0848-BS1	LCS	2.6767	2.6490		mg/kg	101		36 - 137		
Nitrobenzene-d5 (Surrogate)	BSI0848	BSI0848-BS1	LCS	2.8166	2.6490		mg/kg	106		34 - 135		
2-Fluorobiphenyl (Surrogate)	BSI0848	BSI0848-BS1	LCS	2.8715	2.6490		mg/kg	108		40 - 135		
2,4,6-Tribromophenol (Surrogate)	BSI0848	BSI0848-BS1	LCS	3.5474	2.6490		mg/kg	134		54 - 162		

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
p-Terphenyl-d14 (Surrogate)	BSI0848	BSI0848-BS1	LCS	1.3533	1.3245		mg/kg	102		20 - 176		

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Project: Biosolids from MBWWTP
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EPA Method 1664

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Oil and Grease	BSI0891	BSI0891-BS1	LCS	711.00	816.00	50	mg/kg	87.1		59 - 117		

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Project: Biosolids from MBWWTP
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Chemical Analysis

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Total Kjeldahl Nitrogen	BSI0286	BSI0286-BS1	LCS	403.06	400.00	40	mg/kg	101		85 - 115		
Total Phosphate	BSI0288	BSI0288-BS1	LCS	626.42	613.20	30	mg/kg	102		85 - 115		
Total Cyanide	BSI0420	BSI0420-BS1	LCS	14.134	12.500	0.50	mg/kg	113		80 - 120		
pH	BSI0439	BSI0439-BS1	LCS	7.1650	7.2000	0.05	pH Units	99.5		95 - 105		
Nitrate as NO3	BSI0769	BSI0769-BS1	LCS	22.586	22.134	0.44	mg/kg	102		90 - 110		
Ammonia as N	BSI0857	BSI0857-BS1	LCS	102.39	100.00	10	mg/kg	102		80 - 120		

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Project: Biosolids from MBWWTP
Project Number: [none]
Project Manager: Doug Coats

Reported: 09/23/2009 16:25

Modified WET Test (STLC)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Hexavalent Chromium	BSI0986	BSI0986-BS1	LCS	4.8116	5.0000	0.20	mg/L	96.2		85 - 115		
Total Dissolved Solids @ 180 C	BSI1301	BSI1301-BS1	LCS	555.00	586.00	50	mg/L	94.7		90 - 110		

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Project: Biosolids from MBWWTP
Project Number: [none]
Project Manager: Doug Coats

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WET Test (STLC)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Copper	BSI0786	BSI0786-BS1	LCS	4.1462	4.0000	0.10	mg/L	104		85 - 115		

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Project: Biosolids from MBWWTP
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Total Concentrations (TTLC)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Antimony	BSI0233	BSI0233-BS1	LCS	96.399	100.00	5.0	mg/kg	96.4		75 - 125		
Arsenic	BSI0233	BSI0233-BS1	LCS	9.7957	10.000	1.0	mg/kg	98.0		75 - 125		
Barium	BSI0233	BSI0233-BS1	LCS	98.928	100.00	0.50	mg/kg	98.9		75 - 125		
Beryllium	BSI0233	BSI0233-BS1	LCS	10.174	10.000	0.50	mg/kg	102		75 - 125		
Cadmium	BSI0233	BSI0233-BS1	LCS	9.9275	10.000	0.50	mg/kg	99.3		75 - 125		
Chromium	BSI0233	BSI0233-BS1	LCS	99.756	100.00	0.50	mg/kg	99.8		75 - 125		
Cobalt	BSI0233	BSI0233-BS1	LCS	106.05	100.00	2.5	mg/kg	106		75 - 125		
Copper	BSI0233	BSI0233-BS1	LCS	99.355	100.00	1.0	mg/kg	99.4		75 - 125		
Lead	BSI0233	BSI0233-BS1	LCS	106.51	100.00	2.5	mg/kg	107		75 - 125		
Molybdenum	BSI0233	BSI0233-BS1	LCS	100.58	100.00	2.5	mg/kg	101		75 - 125		
Nickel	BSI0233	BSI0233-BS1	LCS	108.22	100.00	0.50	mg/kg	108		75 - 125		
Selenium	BSI0233	BSI0233-BS1	LCS	9.0664	10.000	1.0	mg/kg	90.7		75 - 125		
Silver	BSI0233	BSI0233-BS1	LCS	9.8617	10.000	0.50	mg/kg	98.6		75 - 125		
Thallium	BSI0233	BSI0233-BS1	LCS	102.31	100.00	5.0	mg/kg	102		75 - 125		
Vanadium	BSI0233	BSI0233-BS1	LCS	100.22	100.00	0.50	mg/kg	100		75 - 125		
Zinc	BSI0233	BSI0233-BS1	LCS	105.79	100.00	2.5	mg/kg	106		75 - 125		
Boron	BSI0233	BSI0233-BS1	LCS	99.568	100.00	5.0	mg/kg	99.6		75 - 125		
Total Hexavalent Chromium	BSI0389	BSI0389-BS1	LCS	36.410	40.000	1.0	mg/kg	91.0		80 - 120		
Mercury	BSI0741	BSI0741-BS1	LCS	1.1985	1.5000	0.16	mg/kg	79.9		75 - 125		

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Project: Biosolids from MBWWTP
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Organochlorine Pesticides and PCB's (EPA Method 8080)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Aldrin	BSI0616	BSI0616-BLK1	ND	mg/kg	0.00050	0.000026	
alpha-BHC	BSI0616	BSI0616-BLK1	ND	mg/kg	0.00050	0.00014	
beta-BHC	BSI0616	BSI0616-BLK1	ND	mg/kg	0.00050	0.00038	
delta-BHC	BSI0616	BSI0616-BLK1	ND	mg/kg	0.00050	0.000076	
gamma-BHC (Lindane)	BSI0616	BSI0616-BLK1	ND	mg/kg	0.00050	0.00025	
Chlordane (Technical)	BSI0616	BSI0616-BLK1	ND	mg/kg	0.050	0.015	
4,4'-DDD	BSI0616	BSI0616-BLK1	ND	mg/kg	0.00050	0.000063	
4,4'-DDE	BSI0616	BSI0616-BLK1	ND	mg/kg	0.00050	0.000045	
4,4'-DDT	BSI0616	BSI0616-BLK1	ND	mg/kg	0.00050	0.000031	
Dieldrin	BSI0616	BSI0616-BLK1	ND	mg/kg	0.00050	0.000032	
Endosulfan I	BSI0616	BSI0616-BLK1	ND	mg/kg	0.00050	0.000086	
Endosulfan II	BSI0616	BSI0616-BLK1	ND	mg/kg	0.00050	0.000066	
Endosulfan sulfate	BSI0616	BSI0616-BLK1	ND	mg/kg	0.00050	0.00013	
Endrin	BSI0616	BSI0616-BLK1	ND	mg/kg	0.00050	0.000035	
Endrin aldehyde	BSI0616	BSI0616-BLK1	ND	mg/kg	0.00050	0.000061	
Heptachlor	BSI0616	BSI0616-BLK1	ND	mg/kg	0.00050	0.00026	
Heptachlor epoxide	BSI0616	BSI0616-BLK1	ND	mg/kg	0.00050	0.00015	
Methoxychlor	BSI0616	BSI0616-BLK1	ND	mg/kg	0.00050	0.00013	
Toxaphene	BSI0616	BSI0616-BLK1	ND	mg/kg	0.050	0.0074	
PCB-1016	BSI0616	BSI0616-BLK1	ND	mg/kg	0.010	0.0027	
PCB-1221	BSI0616	BSI0616-BLK1	ND	mg/kg	0.010	0.0050	
PCB-1232	BSI0616	BSI0616-BLK1	ND	mg/kg	0.010	0.0012	
PCB-1242	BSI0616	BSI0616-BLK1	ND	mg/kg	0.010	0.0016	
PCB-1248	BSI0616	BSI0616-BLK1	ND	mg/kg	0.010	0.0012	

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Project: Biosolids from MBWWTP
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Project Manager: Doug Coats

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Organochlorine Pesticides and PCB's (EPA Method 8080)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
PCB-1254	BSI0616	BSI0616-BLK1	ND	mg/kg	0.010	0.00078	
PCB-1260	BSI0616	BSI0616-BLK1	ND	mg/kg	0.010	0.0022	
Total PCB's (Summation)	BSI0616	BSI0616-BLK1	ND	mg/kg	0.010	0.0050	
TCMX (Surrogate)	BSI0616	BSI0616-BLK1	193	%	65 - 129 (LCL - UCL)		S09
Dibutyl chlorendate (Surrogate)	BSI0616	BSI0616-BLK1	91.1	%	65 - 173 (LCL - UCL)		

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Volatile Organic Analysis (EPA Method 8240)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Benzene	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0013	
Bromodichloromethane	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.00084	
Bromoform	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0015	
Bromomethane	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0016	
Carbon tetrachloride	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0011	
Chlorobenzene	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0013	
Chloroethane	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0014	
Chloroform	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.00063	
Chloromethane	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0014	
Dibromochloromethane	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.00099	
1,2-Dichlorobenzene	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.00081	
1,3-Dichlorobenzene	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0014	
1,4-Dichlorobenzene	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0015	
1,1-Dichloroethane	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0014	
1,2-Dichloroethane	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.00085	
1,1-Dichloroethene	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0012	
trans-1,2-Dichloroethene	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0014	
1,2-Dichloropropane	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.00081	
cis-1,3-Dichloropropene	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0011	
trans-1,3-Dichloropropene	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0012	
Ethylbenzene	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0015	
Methylene chloride	BSI0795	BSI0795-BLK1	ND	mg/kg	0.010	0.0024	
Methyl t-butyl ether	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.00050	
1,1,2,2-Tetrachloroethane	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0011	

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Project: Biosolids from MBWWTP
Project Number: [none]
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Volatile Organic Analysis (EPA Method 8240)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Tetrachloroethene	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0013	
Toluene	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0012	
1,1,1-Trichloroethane	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0011	
1,1,2-Trichloroethane	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.00077	
Trichloroethene	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0011	
Trichlorofluoromethane	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0011	
1,1,2-Trichloro-1,2,2-trifluoroethane	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0013	
Vinyl chloride	BSI0795	BSI0795-BLK1	ND	mg/kg	0.0050	0.0016	
Total Xylenes	BSI0795	BSI0795-BLK1	ND	mg/kg	0.010	0.0034	
Acrolein	BSI0795	BSI0795-BLK1	ND	mg/kg	0.050	0.0073	
Acrylonitrile	BSI0795	BSI0795-BLK1	ND	mg/kg	0.020	0.0047	
2-Chloroethyl vinyl ether	BSI0795	BSI0795-BLK1	ND	mg/kg	0.050	0.025	
1,2-Dichloroethane-d4 (Surrogate)	BSI0795	BSI0795-BLK1	92.9	%	70 - 121 (LCL - UCL)		
Toluene-d8 (Surrogate)	BSI0795	BSI0795-BLK1	90.0	%	81 - 117 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BSI0795	BSI0795-BLK1	79.0	%	74 - 121 (LCL - UCL)		

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Project: Biosolids from MBWWTP
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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Acenaphthene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.011	
Acenaphthylene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.012	
Aldrin	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.015	
Aniline	BSI0848	BSI0848-BLK1	ND	mg/kg	0.20	0.12	
Anthracene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.0098	
Benzidine	BSI0848	BSI0848-BLK1	ND	mg/kg	3.0	0.22	
Benzo[a]anthracene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.011	
Benzo[b]fluoranthene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.0098	
Benzo[k]fluoranthene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.018	
Benzo[a]pyrene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.014	
Benzo[g,h,i]perylene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.012	
Benzoic acid	BSI0848	BSI0848-BLK1	ND	mg/kg	0.50	0.031	
Benzyl alcohol	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.016	
Benzyl butyl phthalate	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.012	
alpha-BHC	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.012	
beta-BHC	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.015	
delta-BHC	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.011	
gamma-BHC (Lindane)	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.012	
bis(2-Chloroethoxy)methane	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.012	
bis(2-Chloroethyl) ether	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.0087	
bis(2-Chloroisopropyl)ether	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.013	
bis(2-Ethylhexyl)phthalate	BSI0848	BSI0848-BLK1	ND	mg/kg	0.20	0.038	
4-Bromophenyl phenyl ether	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.014	
4-Chloroaniline	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.086	

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Project: Biosolids from MBWWTP
Project Number: [none]
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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
2-Chloronaphthalene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.0080	
4-Chlorophenyl phenyl ether	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.0092	
Chrysene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.014	
4,4'-DDD	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.015	
4,4'-DDE	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.017	
4,4'-DDT	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.021	
Dibenzo[a,h]anthracene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.017	
Dibenzofuran	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.012	
1,2-Dichlorobenzene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.010	
1,3-Dichlorobenzene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.011	
1,4-Dichlorobenzene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.0089	
3,3-Dichlorobenzidine	BSI0848	BSI0848-BLK1	ND	mg/kg	0.20	0.064	
Dieldrin	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.024	
Diethyl phthalate	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.020	
Dimethyl phthalate	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.0097	
Di-n-butyl phthalate	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.0094	
2,4-Dinitrotoluene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.013	
2,6-Dinitrotoluene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.017	
Di-n-octyl phthalate	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.0081	
1,2-Diphenylhydrazine	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.014	
Endosulfan I	BSI0848	BSI0848-BLK1	ND	mg/kg	0.20	0.021	
Endosulfan II	BSI0848	BSI0848-BLK1	ND	mg/kg	0.20	0.029	
Endosulfan sulfate	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.038	
Endrin	BSI0848	BSI0848-BLK1	ND	mg/kg	0.20	0.088	

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Project: Biosolids from MBWWTP
Project Number: [none]
Project Manager: Doug Coats

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Endrin aldehyde	BSI0848	BSI0848-BLK1	ND	mg/kg	0.50	0.12	
Fluoranthene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.0096	
Fluorene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.013	
Heptachlor	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.013	
Heptachlor epoxide	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.012	
Hexachlorobenzene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.014	
Hexachlorobutadiene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.0099	
Hexachlorocyclopentadiene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.012	
Hexachloroethane	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.0077	
Indeno[1,2,3-cd]pyrene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.015	
Isophorone	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.011	
2-Methylnaphthalene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.012	
Naphthalene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.011	
2-Naphthylamine	BSI0848	BSI0848-BLK1	ND	mg/kg	3.0	0.031	
2-Nitroaniline	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.015	
3-Nitroaniline	BSI0848	BSI0848-BLK1	ND	mg/kg	0.20	0.11	
4-Nitroaniline	BSI0848	BSI0848-BLK1	ND	mg/kg	0.20	0.051	
Nitrobenzene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.013	
N-Nitrosodimethylamine	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.013	
N-Nitrosodi-N-propylamine	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.013	
N-Nitrosodiphenylamine	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.0097	
Phenanthrene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.013	
Pyrene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.015	
1,2,4-Trichlorobenzene	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.014	

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Project: Biosolids from MBWWTP
Project Number: [none]
Project Manager: Doug Coats

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Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
4-Chloro-3-methylphenol	BSI0848	BSI0848-BLK1	ND	mg/kg	0.20	0.012	
2-Chlorophenol	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.0091	
2,4-Dichlorophenol	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.012	
2,4-Dimethylphenol	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.030	
4,6-Dinitro-2-methylphenol	BSI0848	BSI0848-BLK1	ND	mg/kg	0.50	0.0075	
2,4-Dinitrophenol	BSI0848	BSI0848-BLK1	ND	mg/kg	0.50	0.055	
2-Methylphenol	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.023	
3- & 4-Methylphenol	BSI0848	BSI0848-BLK1	ND	mg/kg	0.20	0.019	
2-Nitrophenol	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.012	
4-Nitrophenol	BSI0848	BSI0848-BLK1	ND	mg/kg	0.20	0.0094	
Pentachlorophenol	BSI0848	BSI0848-BLK1	ND	mg/kg	0.20	0.011	
Phenol	BSI0848	BSI0848-BLK1	ND	mg/kg	0.10	0.012	
2,4,5-Trichlorophenol	BSI0848	BSI0848-BLK1	ND	mg/kg	0.20	0.012	
2,4,6-Trichlorophenol	BSI0848	BSI0848-BLK1	ND	mg/kg	0.20	0.011	
2-Fluorophenol (Surrogate)	BSI0848	BSI0848-BLK1	99.3	%	42 - 137 (LCL - UCL)		
Phenol-d5 (Surrogate)	BSI0848	BSI0848-BLK1	93.9	%	36 - 137 (LCL - UCL)		
Nitrobenzene-d5 (Surrogate)	BSI0848	BSI0848-BLK1	99.1	%	34 - 135 (LCL - UCL)		
2-Fluorobiphenyl (Surrogate)	BSI0848	BSI0848-BLK1	102	%	40 - 135 (LCL - UCL)		
2,4,6-Tribromophenol (Surrogate)	BSI0848	BSI0848-BLK1	121	%	54 - 162 (LCL - UCL)		
p-Terphenyl-d14 (Surrogate)	BSI0848	BSI0848-BLK1	95.4	%	20 - 176 (LCL - UCL)		

Marine Research Specialists
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Suite A
Ventura, CA 93003-3238

Project: Biosolids from MBWWTP
Project Number: [none]
Project Manager: Doug Coats

Reported: 09/23/2009 16:25

EPA Method 1664

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Oil and Grease	BSI0891	BSI0891-BLK1	ND	mg/kg	50	16	

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Chemical Analysis

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Total Kjeldahl Nitrogen	BSI0286	BSI0286-BLK1	ND	mg/kg	40	15	
Total Phosphate	BSI0288	BSI0288-BLK1	ND	mg/kg	30	12	
Moisture	BSI0314	BSI0314-BLK1	ND	%	0.05	0.05	
Total Cyanide	BSI0420	BSI0420-BLK1	ND	mg/kg	0.50	0.25	
Nitrate as NO3	BSI0769	BSI0769-BLK1	ND	mg/kg	4.4	1.2	
Ammonia as N	BSI0857	BSI0857-BLK1	ND	mg/kg	10	5.0	

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Reported: 09/23/2009 16:25

Modified WET Test (STLC)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Hexavalent Chromium	BSI0986	BSI0986-BLK1	ND	mg/L	0.20	0.070	
Total Dissolved Solids @ 180 C	BSI1301	BSI1301-BLK1	ND	mg/L	6.7	6.7	

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WET Test (STLC)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Copper	BSI0786	BSI0786-BLK1	0.042882	mg/L	0.10	0.012	J

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Reported: 09/23/2009 16:25

Total Concentrations (TTLC)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Antimony	BSI0233	BSI0233-BLK1	ND	mg/kg	5.0	1.7	
Arsenic	BSI0233	BSI0233-BLK1	ND	mg/kg	1.0	0.71	
Barium	BSI0233	BSI0233-BLK1	ND	mg/kg	0.50	0.13	
Beryllium	BSI0233	BSI0233-BLK1	ND	mg/kg	0.50	0.026	
Cadmium	BSI0233	BSI0233-BLK1	ND	mg/kg	0.50	0.033	
Chromium	BSI0233	BSI0233-BLK1	ND	mg/kg	0.50	0.045	
Cobalt	BSI0233	BSI0233-BLK1	ND	mg/kg	2.5	0.18	
Copper	BSI0233	BSI0233-BLK1	ND	mg/kg	1.0	0.13	
Lead	BSI0233	BSI0233-BLK1	ND	mg/kg	2.5	0.59	
Molybdenum	BSI0233	BSI0233-BLK1	ND	mg/kg	2.5	0.18	
Nickel	BSI0233	BSI0233-BLK1	ND	mg/kg	0.50	0.12	
Selenium	BSI0233	BSI0233-BLK1	ND	mg/kg	1.0	0.76	
Silver	BSI0233	BSI0233-BLK1	ND	mg/kg	0.50	0.086	
Thallium	BSI0233	BSI0233-BLK1	ND	mg/kg	5.0	0.94	
Vanadium	BSI0233	BSI0233-BLK1	ND	mg/kg	0.50	0.062	
Zinc	BSI0233	BSI0233-BLK1	1.0095	mg/kg	2.5	0.25	J
Boron	BSI0233	BSI0233-BLK1	ND	mg/kg	5.0	0.40	
Total Hexavalent Chromium	BSI0389	BSI0389-BLK1	ND	mg/kg	1.0	0.50	
Mercury	BSI0741	BSI0741-BLK1	ND	mg/kg	0.16	0.014	

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Project: Biosolids from MBWWTP
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Reported: 09/23/2009 16:25

Notes And Definitions

J	Estimated Value (CLP Flag)
MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
A01	PQL's and MDL's are raised due to sample dilution.
A03	The sample concentration is more than 4 times the spike level.
A09	PQL's were raised due to high concentration of target analytes requiring sample dilution.
A10	PQL's and MDL's were raised due to matrix interference.
A20	Surrogate is low due to matrix interference. Interference verified through second extraction/analysis.
A85	Analyte is a Tentatively Identified Compound
pH1:3	pH result reported on a 1:3 dilution of sample
Q02	Matrix spike precision is not within the control limits.
Q03	Matrix spike recovery(s) is(are) not within the control limits.
S09	The surrogate recovery on the sample for this compound was not within the control limits.
V11	The Continuing Calibration Verification (CCV) recovery is not within established control limits.

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949.

Chain of Custody Form

Report To: Client: Marine Research Specialists	Project #: mbwwtp biosolids
Attn: Dr Doug Coats	Project Name:
Street Address: 3140 Telegraph Rd St A	Global ID #:
City, State, Zip: Ventura CA 93003	Sampler(s):
Phone: 805 644 1180	
Email Address: Doug.Coats@mrsenv.com	
Work Order# 0911501	

Analysis Requested

Please see attached sheet for analysis requested

Comments: Please see attached sheets. Send results to Dr Doug Coats fax # 805 289 3935 phone # 805 644 1180

Sample #	Description	Date Sampled	Date Sampled	Sample Matrix: Soil	Sludge	Drinking Water	Ground water	Waste Water	Other	Are there any tests with holding times less than or equal to 48 hours?	Notes
-1	Morro Bay/Cayucos WWTP Biosolids	9-2-09	1040		X						

CHK BY DISTRIBUTION
SUB-OUT

Billing

☑ Same as above

Client:
Address:
City: State Zip
Attn:
PO#:

EDF Required? ☐ Yes ☐ No

Send Copy to State of CA? ☐ Yes ☐ No

Sample Disposal ☐ Return to Client ☐ Disposal by lab ☐ Archive Months

Special Reporting ☐ QC ☐ EDF ☐ Raw Data

	Relinquished By	Date	Time
1.	Dave Williams	9/2/09	1100
2.		9-2-09	1830
3.			

	Relinquished By	Date	Time
1.		9-2-09	1100
2.		9/2/09	1830
3.			

#0911561

Analysis and Reporting for the Biosolids Sample from the Morro Bay Wastewater Treatment Plant to be collected on 2 September 2009[a]

Analysis[b]	Method
Level IIA QC	
Waste Extraction Tests on copper and lead[c] **(CCR Title 22, Article 11)**	STLC (6010)
Moisture	EPA 160.3 or BC
Total Dissolved Solids (TDS)	Modified Waste Extraction Test (STLC) EPA 160.1
CAM-17 Metals and Boron[d]:	
Antimony (Sb)	6010
Arsenic (As)	6010
Barium (Ba)	6010
Beryllium (Be)	6010
Boron (B)	6010
Cadmium (Cd)	6010
Total Chromium (Cr)	6010
Cobalt (Co)	6010
Copper (Cu)	6010
Lead (Pb)	6010
Mercury (Hg)	7471
Molybdenum (Mo)	6010
Nickel (Ni)	6010
Selenium (Se)	6010
Silver (Ag)	6010
Thallium (Tl)	6010
Vanadium (Va)	6010
Zinc (Zn)	6010
Total Kjeldahl Nitrogen (TKN)[d]	EPA 351.2
Ammonia as N[d]	EPA 350.1
Nitrate as NO_3[d]	EPA 300.0 or 353.2
Total Phosphate[d]	EPA 365.4
Total Cyanide[d]	EPA 9012

---

a Please provide preliminary (pre-QC) results in BC LabNet as soon as they become available.

b Prior to analysis, homogenize the composite sample in the laboratory to ensure uniform distribution of multiple subsamples in sample container(s)

c Other metals may need to be WET tested depending on their bulk concentrations (e.g. mercury). Ms. Luke (805.289.3926) will determine the need for additional WET tests base on the preliminary bulk-chemistry analysis of metals.

d Sample results to be reported on an '*as received*' and '*dry basis.*'

#0911561

Analysis[b]	Method
pH	EPA 9045 or 150.1
Oil and Grease	EPA 1664
Semi-volatile Organics	EPA 8270/625
Pesticides and PCBs	EPA 8080/608
Volatile Organics – Low Level; report all EPA priority pollutants not reported under other methods (including **acrolein, acrylonitrile, and 2-chloroethyl vinyl ether**)	EPA 8240/624
Hexavalent Chromium [d]	EPA 7196

BC LABORATORIES INC. **SAMPLE RECEIPT FORM** Rev. No. 12 06/24/08 Page 1 Of 1

Submission #: 09115601

SHIPPING INFORMATION

Federal Express ☐ UPS ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

SHIPPING CONTAINER

Ice Chest ☒ None ☐
Box ☐ Other ☐ (Specify)_____

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: 3702 SAC Thermometer ID: TH080

Temperature: A 2.5 °C / C 2.4 °C

Date/Time 9/2/09 1830

Analyst Init CMM

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL PHYSICAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR	A,B,C,D									
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										

Comments:_____

Sample Numbering Completed By: AMB Date/Time: 9/2/09 - 2000

A = Actual / C = Corrected

[H:\DOCS\WP80\LAB_DOCS\FORMS\SAMREC2.WPD]

LA Testing
159 Pasadena Avenue, South Pasadena, CA 91030
Phone: (323) 254-9960 Fax: (323) 254-9982 Email: pasadenalab@latesting.com

Attn: **Tina Green**
BC Laboratories, Inc.
4100 Atlas Court
Bakersfield, CA 93308

Fax: (661) 327-1918 Phone: (661) 327-4911
Project: **0911561**

Customer ID: 32BCLA50
Customer PO:
Received: 09/17/09 8:15 AM
LA Testing Order: 320909851

LA Testing Proj:
Analysis Date: 9/23/2009

Test Report: Qualitative asbestos analysis of soils using the EPA 600/R-93/116 method

Sample	Description	Appearance	Result	Notes
0911561-01 *320909851-0001*			**None Detected**	

Analyst(s)

Rafik Vartanian, Ph.D (1)

Derrick Tanner, Laboratory Manager
or other approved signatory