City of San Diego
PUBLIC UTILITIES
Water & Wastewater

Application For Renewal of NPDES CA0107409 and 301(h) Modified Secondary Treatment Requirements

POINT LOMA OCEAN OUTFALL

Volume VIII
Appendix M

January 2015

THE CITY OF SAN DIEGO PUBLIC UTILITIES DEPARTMENT

Application for Renewal of NPDES CA0107409

301(h) Modified Secondary Treatment Requirements for Biochemical Oxygen Demand and Total Suspended Solids

POINT LOMA OCEAN OUTFALL &

POINT LOMA WASTEWATER TREATMENT PLANT

Submitted pursuant to
Sections 301(h) and 301(j)(5) of the Clean Water Act

City of San Diego
Public Utilities Department
9192 Topaz Way
San Diego, CA 92123
(858) 292-6401

January 2015

APPLICATION FOR RENEWAL OF NPDES CA0107409
301(h) MODIFIED SECONDARY TREATMENT REQUIREMENTS

Point Loma Ocean Outfall
Point Loma Wastewater Treatment Plant

VOLUME VIII
APPENDIX M

Appendix M 2013 Annual Biosolids Report

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2013 ANNUAL BIOSOLIDS REPORT

Renewal of NPDES CA0107409

THE CITY OF SAN DIEGO

Point Loma Wastewater Treatment Plant
&
Metro Biosolids Center

2013 Annual Biosolids Beneficial Use & Disposal Report

Monitoring and Reporting Program No. R9-2009-0001
NPDES No. CA 0107409

Environmental Monitoring and Technical Services
Public Utilties Department
2392 Kincaid Road • Mail Station 45A • San Diego, CA 92101
Tel (619) 758-2300 Fax (619) 758-2309

THE CITY OF SAN DIEGO

February 18, 2014

Lauren Fondahl, Biosolids Coordinator
Clean Water Act Compliance Office, WTR-7
US EPA Region 9
75 Hawthorne Street
San Francisco, CA 94105

Dear Ms. Fondahl:

Enclosed is the 2013 Annual Biosolids Beneficial Use & Disposal Report as specified in discharge permit Order NO. R9-2009-0001, NPDES No. CA0107409, Waste Discharge Requirements and 40 CFR 503.

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, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that

PUBLIC UTILITIES DEPARTMENT
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there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

Robert Mulvey
Assistant Public Utilities Director
Water Quality Branch

BGB/caq

Enclosures: CD containing PDF file of Report

- Enclosure 1 Solids Production for 2013
- Enclosure 2 Copies of Monthly Vector Attraction Reduction Certification for 2013
- Enclosure 3 Copies of Monthly Biosolids Pathogen Reduction Certification & 503 Table 3 results 2013
- Enclosure 4 Copies of Monthly Biosolids Production Reports for 2013
- Enclosure 5 Copies of Monthly Biosolids Use/Disposal Summary reports for 2013
- Enclosure 6 Copies of monthly Title 22 reports on MBC dewatered biosolids for 2013
- Enclosure 7 Results of other analyses of dewatered biosolids for 2013
- Enclosure 8 Influent Flows (average dry weather basis) for 2013
- Enclosure 9 Summary Tables for Title 22 analyses of dewatered biosolids for 2013
- Enclosure 10 Copies of both the regular and electronic versions of the ADEQ BIOSOLIDS OR SEWAGE SLUDGE ANNUAL REPORT
- Enclosure 11 Copy of Solids Solutions, Inc. Annual Certifications
- Enclosure 12 Copies of Fleet Transportation Services Monthly Certifications and Reports
- Enclosure 13 Maps showing areas of land application/beneficial reuse in 2013
- Enclosure 14 Methods of Analysis of Biosolids samples by the City of San Diego
- Enclosure 15 Copies of laboratory analyses of Biosolids samples by Arizona certified laboratory

cc: San Diego Regional Water Quality Control Board
U.S. EPA Region IX
Arizona Department of Environmental Quality (ADEQ)
Distribution
File

2013 Annual Biosolids Beneficial Use & Disposal Report

Facilities:

Sources of biosolids:	Biosolids treatment and processing:
Point Loma Wastewater Treatment Plant (PLWWTP) 1902 Gatchell Rd., San Diego, CA	Metro Biosolids Center (MBC) 5240 Convoy Street, San Diego, CA 92111
North City Water Reclamation Plant (NCWRP) 4949 Eastgate Mall, San Diego, CA 92121	Point Loma Wastewater Treatment Plant (PLWWTP) 1902 Gatchell Rd., San Diego, CA

The Point Loma Wastewater Treatment Plant (PLWWTP) and the North City Water Reclamation Plant produced and disposed of 124,044 wet tons or 34,293 dry tons (31,110 dry metric tons) of digested sludge (biosolids) in 2013.

All digested sludge produced at the Pt. Loma WWTP was pumped to the Metro Biosolids Center (MBC) for dewatering by centrifuges. All biosolids were then hauled to a disposal site (Local Landfill) or beneficial use site. During this reporting period all of the raw sludge produced at the North City Water Reclamation Plant (NCWRP) was diverted to the Metro Biosolids Center for thickening, degritting, digestion, and blended with the digested solids from the PLWWTP prior to dewatering. The MBC Monthly Biosolids Processing Reports include the biosolids processed from the PLWWTP and the NCWRP. Copies of the MBC Monthly Biosolids Processing Reports and the MBC Biosolids Beneficial Use and Disposal Monthly Summary Reports detailing daily biosolids processing and beneficial use/disposal are included as Enclosures 1 and 5, respectively.

All of the sludge/biosolids produced by the City of San Diego, Pt. Loma Wastewater Treatment Plant and North City Water Reclamation Plant were dewatered at the Metro Biosolids Center(MBC) and disposition is summarized in the following table.

Disposition	Wet tons (short)	Dry tons[1]	Dry metric tons
Beneficial reuse as Alternative Daily Cover (ADC) at landfill – (FROM PTL)	**6,402**	**1,775**	**1,610**
Beneficial reuse as Alternative Daily Cover (ADC) at landfill - (FROM MBC)	**99,079**	**27369**	**24,829**
Land application in Arizona	**18,5623**	**5148**	**4671**

All Biosolids produced by the City of San Diego were treated to Class B standards through Anaerobic Digestion for a minimum of 15 days at a temperature of 35 to 55 degrees Centigrade (Alternative 3, Process 3). Vector Attraction requirements were achieved by reducing the volatile solids content a minimum of 38 percent (Option 1).

[1] (based on sum of monthly total tons)

Land Applier: **Solid Solutions, LLC**
Address: 12812 Valley View St, #9, Garden Grove, CA 92845
Period: January 1, 2013 - December 31, 2013
Reuse method: Direct land application. Digested dewatered sludge from the MBC centrifuges were land applied directly to fields in Yuma County, AZ. The sludge was certified by the City of San Diego as meeting Class B pathogen and vector attraction reduction requirements of 40 CFR 503. Copies of the City of San Diego's certifications (which also serve as notification of nitrogen content) are included as Enclosure 2. Copies of Solid Solutions' certification statements are included as Enclosures 11 & 12.

The MBC provides two essential treatment processes, thickening and digestion of the raw solids from the NCWRP and dewatering of biosolids generated at the NCWRP and the PLWWTP. The digested biosolids from the PLWWTP are pumped to MBC in a 17 mile pipeline into one of the two storage tanks on site where it is blended with the digested biosolids from the NCWRP. Before these biosolids are sent to the dewatering process polymer and ferric chloride are added to condition the biosolids, which enhances the dewaterablility of the biosolids and minimizes the potential of scale formation.

Eight dewatering centrifuges are used to separate the liquid and solids fractions of the conditioned biosolids. The liquid fraction, (centrate) is returned to the PLWWTP via the Rose Canyon Interceptor and the solids recovered, (cake), is pumped to one of the eight storage silos on site before it is loaded into trucks for disposal and beneficial use as Alternative Daily Cover at Otay Landfill or beneficially used for land application in Yuma County, Arizona, Tables 1B and Table 1C.

The digested biosolids, centrate and dewatered cake are sampled on a daily basis to ensure regulatory compliance and to track plant process performance. Grab samples are collected daily on the incoming biosolids from the PLWWTP and the blended biosolids, which includes the digested biosolids from the NCWRP. The operation's staff also collects a twenty-four hour composite sample from the centrate return stream from the dewatering process and from the blended centrate return stream that includes the centrate flow from the thickening and dewatering processes.

Daily grab samples of dewatered cake are collected from each individual dewatering centrifuge that are in operation during the 24 hour period , and a portion of each of these grab samples are combined to provide a daily composite of dewatered cake produced. All sampling at MBC is performed by Wastewater Plant Operators who are certified by the State of California and in conformance with established sampling techniques listed in Standard Methods.

Because the dewatered cake samples are a daily composite and the Land Applier's (Solids Solutions) samples are a monthly grab sample, the dry ton calculations may differ slightly.

In addition to the monthly analyses of 503 and California Title 22 analyses by our California certified laboratory, and in accordance with the Arizona Department of Environmental Quality (ADEQ), grab samples were delivered to an Arizona certified laboratory. Legend Technical Services of Arizona, Inc, 17631 North 25th Avenue, Phoenix, AZ 85023, ADHS#AZ0004 provided EPA Part 503 Table 3 Metals and Nitrogen analysis. See Enclosure 14.

Biosolids used for all uses in 2013 continued to meet all regulatory requirements. Concentration of pollutants were all well below the limits listed in California Title 22 Hazardous Waste thresholds including TTLC (Total Threshold Limit Concentration), STLC (Soluble Threshold Limit Concentration), and 40 CFR part 503.13 Table 3 "Limits for Land Application", the lower lead limit established by the California State Health and Safety Code 25157.8. It also met the A.C.C. (Arizona Administrative Code) R18-9-1005 Table 2. Monthly Average Pollutant Concentration limits.

Additional analyses, including the rest of the "priority pollutant list"[2], were performed during 2013 and the reports of these analyses are included in Enclosure 7.

Table 1.A. Landfill location used during 2013 is as follows:

Otay Landfill 1700 Maxwell Road Chula Vista, San Diego County, CA 91911	105,481 wet tons (29,144 dry tons or 26440 dry metric tons), based on sum of monthly totals disposed of from January to December 2013 at this landfill.

No biosolids were shipped to or disposed of at a surface disposal site.

No biosolids were disposed of or reused by any other method than those listed above.

[2] Includes volatile organic compounds, phenols, base/neutral organic compounds, organophosphorus pesticides, chlorinated pesticides and PCBs.

Table 1B. Annual Biosolids Beneficial Use & Landfill Disposal Summary

2013 Month:	Otay Landfill Beneficial Use[1 (PTL)] (wet Tons)	Otay Landfill Beneficial Use[1 (MBC)] (wet Tons)	Otay Landfill Total (wet Tons)	Cullison Farms, Yuma, AZ Beneficial Use[2] (wet Tons)	Norris Farm Aztec, Yuma County, AZ Beneficial Use[2] (wet Tons)	Desert Ridge Farms Yuma, AZ Beneficial Use[2] (wet Tons)	Butler Diamond Farms Yuma, AZ Beneficial Use[2] (wet Tons)	Total (wet Tons)	%TS	Total Dry Tons	Total Biosolids (dry metric tons)
January		7,445.50	7,445.50	1,886.30				9,331.80	28.7	2,678.23	2,429.69
February		6,070.42	6,070.42	1,611.33				7,681.75	28.2	2,166.25	1,965.23
March		5,543.38	5,543.38	2,150.86				7,694.24	28.4	2,185.16	1,982.38
April		6,573.66	6,573.66	2,376.63				8,950.29	27.2	2,434.48	2,208.56
May		7,942.22	7,942.22	2,458.98				10,401.20	27.4	2,849.93	2,585.46
June		6,536.41	6,536.41	1,748.07				8,284.48	28.2	2,336.22	2,119.42
July		9,602.98	9,602.98	740.86				10,343.84	27.0	2,792.84	2,533.66
August		10,405.05	10,405.05	1,163.38				11,568.43	27.2	3,146.61	2,854.61
September	209.26	9,460.10	9,669.36	1,278.40				10,947.76	27.4	2,999.69	2,721.32
October	469.62	9,636.05	10,105.67	1,568.58				11,674.25	27.0	3,152.05	2,859.54
November	2,962.86	9,980.78	12,943.64	1,060.13				14,003.77	27.7	3,879.04	3,519.07
December	2,760.72	9,882.48	12,643.20	519.01				13,162.21	27.9	3,672.26	3,331.47
Total:	6,402.46	99,079.03	105,481.49	18,562.53	0.00	0.00	0.00	124,044.02		34,292.76	31,110.39
Monthly Average:		8,256.59	8,790.12	1,546.88				10,337.00	27.7	3,068.50	2,592.53

[1] beneficial use as Alternative Daily Cover. Point Loma (PTL) or Metro Biosolids Center (MBC)

[2] beneficial use in Land Application.

Table 1C. 2013 Biosolids Land Application

2013 Month	%TS	Desert Ridge , Yuma City, AZ wet tons	Desert Ridge , Yuma City, AZ dry tons	Norris, Yuma City, AZ wet tons	Norris, Yuma City, AZ dry tons	Cullison, Yuma County, AZ wet tons	Cullison, Yuma County, AZ dry tons	Butler Diamond, Yuma County, AZ wet tons	Butler Diamond, Yuma County, AZ dry tons	Total Monthly wet tons	Total Monthly dry tons	Total Metric dry tons
January	28.7		0.00		0.00	1,886.30	541.37		0.00	1,886.30	541.37	491.13
February	28.2		0.00		0.00	1,611.33	454.40		0.00	1,611.33	454.40	412.23
March	28.4		0.00		0.00	2,150.86	610.84		0.00	2,150.86	610.84	554.16
April	27.2		0.00		0.00	2,376.63	646.44		0.00	2,376.63	646.44	586.45
May	27.4		0.00		0.00	2,458.98	673.76		0.00	2,458.98	673.76	611.24
June	28.2		0.00		0.00	1,748.07	492.96		0.00	1,748.07	492.96	447.21
July	27.0		0.00		0.00	740.86	200.03		0.00	740.86	200.03	181.47
August	27.2		0.00		0.00	1,163.38	316.44		0.00	1,163.38	316.44	287.07
September	27.4		0.00		0.00	1,278.40	350.28		0.00	1,278.40	350.28	317.78
October	27.0		0.00		0.00	1,568.58	423.52		0.00	1,568.58	423.52	384.21
November	27.7		0.00		0.00	1,060.13	293.66		0.00	1,060.13	293.66	266.40
December	27.9		0.00		0.00	519.01	144.80		0.00	519.01	144.80	131.37
2013 Totals	Avg =27.7	0.00	0.00	0.00	0.00	18,562.53	5,148.50	0.00	0.00	18,562.53	5,148.50	4,670.72

Table 1D. Other Solids disposal (weights are gross wet weight)

2013 Month:	Copper Mountain Landfill **Scum (Tons)**	Otay Landfill **Scum (Tons)**	South Yuma Landfill **Scum (Tons)**	Otay Landfill **Digester Cleanings (Tons)**	Miramar Landfill **Grit (Tons)**	Miramar Landfill **Rags & Screenings (Tons)**
January	41.67			0.00	156.80	595.55
February	28.06			0.00	136.18	531.11
March	35.52			0.00	165.59	582.01
April	20.29			0.00	162.29	598.43
May	23.87	8.47		0.00	196.74	600.85
June	27.42	8.47		0.00	31.98	598.15
July	18.95			0.00	154.01	591.54
August	22.33			0.00	178.97	675.43
September	27.13			209.26	181.25	596.34
October	5.21			469.62	6.26	138.77
November	29.82			2,962.86	146.88	502.60
December	30.82			2,760.72	138.59	450.11
Total:	311.09	16.94		6,402.46	1,655.54	6,460.89
Average:	**25.92**	**8.47**		**533.54**	**137.96**	**538.41**

Enclosure 1
Solids Production

2013 Annual Biosolids Report

Point Loma Annual Monitoring Report
Solids Report – TOTALS
From 01-JAN-2013 to 31-DEC-2013

Month	Pt. Loma Raw sludge Gallons	Dry Tons	Pt.Loma Digested Sludge Gallons	Dry Tons	MBC Combined Centrate Gallons	Dry Tons	MBC Dewatered Sludge Wet Tons	Dry Tons
01	38,490,803	6,482	38,490,810	3,378	68,532,626	820	9,332	2,679
02	33,988,986	5,669	33,190,253	2,972	57,703,102	686	7,682	2,168
03	37,077,555	6,404	37,077,435	3,217	67,369,334	843	7,694	2,188
04	35,079,165	6,425	35,079,165	3,316	64,470,543	932	8,950	2,432
05	36,950,497	6,561	33,055,754	3,120	67,627,455	1,201	10,401	2,850
06	33,721,378	6,231	33,721,378	3,473	59,726,565	1,345	8,285	2,335
07	38,685,128	6,167	38,685,128	3,908	72,394,328	1,490	10,344	2,793
08	40,229,325	6,530	40,229,325	3,805	73,975,551	1,254	11,568	3,147
09	36,382,612	6,170	36,385,231	3,543	72,123,348	1,163	10,739	2,941
10	39,227,706	6,496	39,227,706	3,656	71,616,026	1,021	11,205	3,026
11	39,242,189	6,590	39,242,189	3,755	73,478,457	1,042	11,041	3,062
12	35,520,140	6,122	35,520,140	3,505	64,344,821	727	10,402	2,902
avg	37,049,624	6,321	36,658,710	3,471	67,780,180	1,044	9,803	2,710
sum	444,595,484	75,848	439,904,514	41,648	813,362,156	12,524	117,642	32,523

Point Loma Annual Monitoring Report
Solids Report - Daily Averages by Month
From 01-JAN-2013 to 31-DEC-2013

Year Month	Pt. Loma Raw sludge Gallons	%TS	Dry Tons	Pt.Loma Digested Sludge Gallons	%TS	Dry Tons	MBC Combined Centrate Gallons	%TS	Dry Tons	MBC Dewatered Sludge Wet Tons	%TS	Dry Tons
13-01	1,241,639	4.0	208	1,241,639	2.1	109	2,210,730	0.29	26.4	301	28.7	86.4
13-02	1,213,892	4.0	207	1,185,366	2.1	105	2,060,825	0.29	25.4	274	28.2	77.4
13-03	1,196,050	4.1	214	1,196,046	2.1	102	2,173,204	0.30	27.2	248	28.4	70.6
13-04	1,169,306	4.4	212	1,169,306	2.3	111	2,149,018	0.35	31.1	298	27.2	81.1
13-05	1,191,952	4.3	212	1,066,315	2.3	101	2,181,531	0.43	37.7	336	27.4	91.9
13-06	1,124,046	4.4	204	1,124,046	2.5	112	1,990,886	0.54	43.2	276	28.2	77.8
13-07	1,247,907	3.8	200	1,247,907	2.4	126	2,335,301	0.49	48.1	334	27.0	90.1
13-08	1,297,720	3.9	211	1,297,720	2.3	123	2,386,308	0.41	40.4	373	27.2	101.5
13-09	1,212,754	4.1	204	1,212,841	2.3	117	2,404,112	0.39	38.8	358	27.4	98.0
13-10	1,265,410	4.0	209	1,265,410	2.2	118	2,310,194	0.34	33.0	361	27.0	97.6
13-11	1,308,073	4.0	220	1,308,073	2.3	125	2,449,282	0.34	34.8	368	27.7	102.1
13-12	1,145,811	4.1	200	1,145,811	2.4	113	2,075,639	0.27	23.7	336	27.9	93.6
avg	1,217,880	4.1	208	1,205,040	2.3	114	2,227,253	0.37	34.1	322	27.7	89.0

Note: A ton is a “short ton” or 2000 lbs of dry solids.
The mechanical condition of the cake pumps and the variability of sludge concentrations can affect the overall accuracies of these reported values.

Enclosure 2
Monthly Vector Attraction Reduction Certifications

2013 Annual Biosolids Report

CITY OF SAN DIEGO
METROPOLITAN WASTEWATER DEPARTMENT
CERTIFICATION STATEMENT

In Compliance with
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the City of San Diego, CA, Metropolitan Wastewater Department

VECTOR ATTRACTION REDUCTION

Based on the daily fractional volatile solids reduction (FVSR) values calculated using the Van Kleck Equation and raw and digested sludge volatile solids for the month of JANUARY 2013 from locations based on the following information from operations:

All sludge sent to Metro Biosolids Center (MBC) from the Pt. Loma WWTP is pumped from Digester 7.
Only North City Water Reclamation Plant (NCWRP) raw sludge is going to MBC digesters.
The MBC thickened sludge samples are representative of the raw sludge from NCWRP.
MBC is using Digester No. 3 for sludge processing.

The following determinations of volatile solids was done using approved methods by laboratories certified by the State of California Environmental Laboratory Accreditation Program (ELAP Laboratory Cert. No. 2478 & 2474)
63.2 % Average Volatile Solids Reduction for the Pt. Loma WWTP sludge digestion process.
59.1 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.

The following determinations of volatile solids was done using approved methods by laboratories certified by the State of Arizona (Cert. No. 0004)
65.5 % Average Volatile Solids Reduction for the Pt. Loma WWTP sludge digestion process.
63.3 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.

Both streams **do** / ~~do not~~ meet 38% FVSR criteria.

Wastewater Laboratory Senior Chemist — Date Feb. 26, 2013

I certify that the sludge samples taken and used in these determinations were taken and handled under my direction and supervision using approved methods and are representative samples of actual operational conditions.

Wastewater Treatment Superintendent, Metro Biosolids Center (MBC) — Date 3-12-13

Wastewater Treatment Superintendent, Pt. Loma Wastewater Treatment Plant — Date 3/12/13

CERTIFICATION STATEMENT
VECTOR ATTRACTION REQUIREMENTS

I certify, under penalty of law, the vector attraction reduction requirement in Paragraph 503.33 (b) (1) which states that:
The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent, has been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By: — Date 3/12/13

Deputy Director
Wastewater Treatment and Disposal, Metropolitan Wastewater Department

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FVSR (Fractional Volatile Solids Reduction)

$$FVSR = \frac{VS_p - VS_b}{VS_p - (VS_p * VS_b)} = \frac{Vol.solidsRaw - Vol.solids\ Digested}{Vol.solids\ Raw - (Vol.solids\ Raw * Vol.solids\ Digested)}$$

Where: VS_p = Volatile Solids Feed Sludge (RAW SLUDGE),
VS_b = Volatile Solids Digested Sludge (DIG SLUDGE), currently only digester 7 is used for the calculation.

Volatile Solids (VS) is expressed as fractional numbers.

Average Volatile Solids for JANUARY 2013

Average %TVS Digested Sludge (Digester 7) for the month.		Average Raw (feed) sludge %TVS for the month		Calculated FVSR (%)	
CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used
59.7	55.0	80.1	78.0	63.2%	65.5%

Average Volatile Solids for JANUARY 2013

Average %TVS Digested Sludge (MBC Dig 3) for the month.		Average Raw (feed) sludge (MBC_TSBTC) %TVS for the month		Calculated FVSR (%)	
CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used
64.9	61.0	81.9	81.0	59.1%	63.3%

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-JAN-13	RAW S1	TVS	81.9
01-JAN-13	RAW S2	TVS	82.2
01-JAN-13	RAW S3	TVS	82.4
03-JAN-13	RAW S1	TVS	81.4
03-JAN-13	RAW S2	TVS	78.9
03-JAN-13	RAW S3	TVS	80.5
06-JAN-13	RAW S1	TVS	80.4
06-JAN-13	RAW S2	TVS	78.0
06-JAN-13	RAW S3	TVS	80.4
08-JAN-13	RAW S1	TVS	80.1
08-JAN-13	RAW S2	TVS	80.0
08-JAN-13	RAW S3	TVS	80.6
10-JAN-13	RAW S1	TVS	80.2
10-JAN-13	RAW S2	TVS	79.2
10-JAN-13	RAW S3	TVS	78.3
13-JAN-13	RAW S1	TVS	80.6
13-JAN-13	RAW S2	TVS	81.0
13-JAN-13	RAW S3	TVS	79.5
15-JAN-13	RAW S1	TVS	78.9
15-JAN-13	RAW S2	TVS	80.8
15-JAN-13	RAW S3	TVS	80.1
17-JAN-13	RAW S1	TVS	80.6
17-JAN-13	RAW S2	TVS	81.3
17-JAN-13	RAW S3	TVS	78.9
22-JAN-13	RAW S1	TVS	80.5
22-JAN-13	RAW S2	TVS	79.7
22-JAN-13	RAW S3	TVS	77.8
24-JAN-13	RAW S1	TVS	79.9
24-JAN-13	RAW S2	TVS	79.7
24-JAN-13	RAW S3	TVS	79.8
27-JAN-13	RAW S1	TVS	79.1
27-JAN-13	RAW S2	TVS	80.7
27-JAN-13	RAW S3	TVS	80.0
29-JAN-13	RAW S1	TVS	80.9
29-JAN-13	RAW S2	TVS	81.0
29-JAN-13	RAW S3	TVS	80.3
31-JAN-13	RAW S1	TVS	78.6
31-JAN-13	RAW S2	TVS	80.3
31-JAN-13	RAW S3	TVS	80.0
avg			80.1

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-JAN-13	PLDIG7	TVS	59.0
01-JAN-13	PLDIG7	TVS	59.1
02-JAN-13	PLDIG7	TVS	58.7
03-JAN-13	PLDIG7	TVS	58.9
03-JAN-13	PLDIG7	TVS	59.8
03-JAN-13	PLDIG7	TVS	58.8
03-JAN-13	PLDIG7	TVS	59.6
04-JAN-13	PLDIG7	TVS	60.4
06-JAN-13	PLDIG7	TVS	58.7
06-JAN-13	PLDIG7	TVS	58.6
07-JAN-13	PLDIG7	TVS	58.9
08-JAN-13	PLDIG7	TVS	59.5
08-JAN-13	PLDIG7	TVS	60.7
08-JAN-13	PLDIG7	TVS	59.3
08-JAN-13	PLDIG7	TVS	60.7
09-JAN-13	PLDIG7	TVS	60.1
10-JAN-13	PLDIG7	TVS	60.4
10-JAN-13	PLDIG7	TVS	59.7
10-JAN-13	PLDIG7	TVS	60.1
10-JAN-13	PLDIG7	TVS	59.2
11-JAN-13	PLDIG7	TVS	59.6
13-JAN-13	PLDIG7	TVS	59.4
13-JAN-13	PLDIG7	TVS	59.3
14-JAN-13	PLDIG7	TVS	59.3
15-JAN-13	PLDIG7	TVS	60.1
15-JAN-13	PLDIG7	TVS	58.3
15-JAN-13	PLDIG7	TVS	60.3
15-JAN-13	PLDIG7	TVS	58.1
16-JAN-13	PLDIG7	TVS	58.2
17-JAN-13	PLDIG7	TVS	60.2
17-JAN-13	PLDIG7	TVS	59.6
17-JAN-13	PLDIG7	TVS	60.2
17-JAN-13	PLDIG7	TVS	59.7
18-JAN-13	PLDIG7	TVS	58.8
22-JAN-13	PLDIG7	TVS	59.4
22-JAN-13	PLDIG7	TVS	59.1
22-JAN-13	PLDIG7	TVS	59.5
22-JAN-13	PLDIG7	TVS	59.1
23-JAN-13	PLDIG7	TVS	57.7
24-JAN-13	PLDIG7	TVS	63.1
24-JAN-13	PLDIG7	TVS	60.6
24-JAN-13	PLDIG7	TVS	63.0
24-JAN-13	PLDIG7	TVS	60.6
25-JAN-13	PLDIG7	TVS	58.4
27-JAN-13	PLDIG7	TVS	60.4
27-JAN-13	PLDIG7	TVS	60.3
28-JAN-13	PLDIG7	TVS	60.3
29-JAN-13	PLDIG7	TVS	61.1
29-JAN-13	PLDIG7	TVS	59.9
29-JAN-13	PLDIG7	TVS	61.0
29-JAN-13	PLDIG7	TVS	60.0
30-JAN-13	PLDIG7	TVS	59.9
31-JAN-13	PLDIG7	TVS	59.4
31-JAN-13	PLDIG7	TVS	59.0
31-JAN-13	PLDIG7	TVS	59.5
31-JAN-13	PLDIG7	TVS	59.0
avg			59.7

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-JAN-13	MBC_DIG3	TVS	65.0
01-JAN-13	MBC_DIG3	TVS	65.1
03-JAN-13	MBC_DIG3	TVS	65.2
03-JAN-13	MBC_DIG3	TVS	65.4
06-JAN-13	MBC_DIG3	TVS	64.0
06-JAN-13	MBC_DIG3	TVS	64.1
08-JAN-13	MBC_DIG3	TVS	64.9
08-JAN-13	MBC_DIG3	TVS	64.8
10-JAN-13	MBC_DIG3	TVS	64.3
10-JAN-13	MBC_DIG3	TVS	64.1
13-JAN-13	MBC_DIG3	TVS	64.1
13-JAN-13	MBC_DIG3	TVS	63.8
15-JAN-13	MBC_DIG3	TVS	64.4
15-JAN-13	MBC_DIG3	TVS	64.8
17-JAN-13	MBC_DIG3	TVS	64.3
17-JAN-13	MBC_DIG3	TVS	64.7
20-JAN-13	MBC_DIG3	TVS	64.8
20-JAN-13	MBC_DIG3	TVS	64.7
22-JAN-13	MBC_DIG3	TVS	65.4
22-JAN-13	MBC_DIG3	TVS	65.3
24-JAN-13	MBC_DIG3	TVS	65.3
24-JAN-13	MBC_DIG3	TVS	65.6
27-JAN-13	MBC_DIG3	TVS	65.4
27-JAN-13	MBC_DIG3	TVS	66.4
29-JAN-13	MBC_DIG3	TVS	65.5
29-JAN-13	MBC_DIG3	TVS	65.7
31-JAN-13	MBC_DIG3	TVS	65.6
31-JAN-13	MBC_DIG3	TVS	65.7
avg			64.9

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-JAN-13	MBC_TSBTC	TVS	83.5
02-JAN-13	MBC_TSBTC	TVS	83.0
03-JAN-13	MBC_TSBTC	TVS	81.1
04-JAN-13	MBC_TSBTC	TVS	81.4
05-JAN-13	MBC_TSBTC	TVS	82.5
06-JAN-13	MBC_TSBTC	TVS	76.3
07-JAN-13	MBC_TSBTC	TVS	81.0
08-JAN-13	MBC_TSBTC	TVS	82.4
09-JAN-13	MBC_TSBTC	TVS	81.0
10-JAN-13	MBC_TSBTC	TVS	82.0
11-JAN-13	MBC_TSBTC	TVS	79.1
12-JAN-13	MBC_TSBTC	TVS	81.8
13-JAN-13	MBC_TSBTC	TVS	82.0
14-JAN-13	MBC_TSBTC	TVS	81.9
15-JAN-13	MBC_TSBTC	TVS	82.8
16-JAN-13	MBC_TSBTC	TVS	78.9
17-JAN-13	MBC_TSBTC	TVS	83.7
18-JAN-13	MBC_TSBTC	TVS	80.5
19-JAN-13	MBC_TSBTC	TVS	82.2
20-JAN-13	MBC_TSBTC	TVS	81.3
21-JAN-13	MBC_TSBTC	TVS	82.5
22-JAN-13	MBC_TSBTC	TVS	84.1
23-JAN-13	MBC_TSBTC	TVS	84.2
24-JAN-13	MBC_TSBTC	TVS	82.1
25-JAN-13	MBC_TSBTC	TVS	82.7
26-JAN-13	MBC_TSBTC	TVS	80.3
27-JAN-13	MBC_TSBTC	TVS	81.9
28-JAN-13	MBC_TSBTC	TVS	82.6
29-JAN-13	MBC_TSBTC	TVS	83.5
30-JAN-13	MBC_TSBTC	TVS	83.9
31-JAN-13	MBC_TSBTC	TVS	83.3
avg			81.9

MBCDEWN (Dewatered Sludge Cake) P649993 (3020521-01) Solid (Dry Weight) (Grab) Sampled: 01/31/13 23:59
Received: 02/07/13 11:30

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Total Metals									
Arsenic	<29.4	29.4	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Cadmium	**2.59**	0.588	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Chromium	**44.3**	0.735	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Copper	**696**	1.47	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Lead	**22.8**	14.7	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Mercury	**0.77**	0.25	mg/kg dry	1	B3B0305	02/12/13 09:37	02/12/13 14:45	EPA 7471A	
Molybdenum	**14.9**	2.94	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Nickel	**35.2**	2.94	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Selenium	<29.4	29.4	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Zinc	**955**	2.94	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.4	7.4	mg/kg dry	1	[CALC]	02/12/13 14:30	02/12/13 14:30	Calculation	
Organic Nitrogen	**50700**	3680	mg/kg dry	10	[CALC]	02/12/13 14:30	02/13/13 12:01	Calculation	
Total Nitrogen	**54400**	3680	mg/kg dry	1	[CALC]	02/12/13 14:30	02/12/13 14:30	Calculation	
Ammonia as N	**3750**	368	mg/kg dry	10	B3B0335	02/13/13 12:01	02/13/13 12:01	EPA 350.1	
Nitrate + Nitrite as N	<7.35	7.35	mg/kg dry	1	B3B0320	02/12/13 14:30	02/12/13 14:30	SM 4500 NO3 F	
Nitrite as N	<3.7	3.7	mg/kg dry wt, dry	1	B3B0298	02/12/13 11:00	02/12/13 11:00	SM 4500 NO2 B	
Total Kjeldahl Nitrogen	**54400**	3680	mg/kg dry	1	B3B0309	02/12/13 07:45	02/12/13 13:40	EPA 351.2	
Total Phosphorous	**69800**	9190	mg/kg dry	1	B3B0377	02/13/13 10:00	02/13/13 16:35	EPA 365.3	
Total Fixed Solids	**40**	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	
% Solids	**27**	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	
Total Volatile Solids	**60**	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	

MBC_Dig3 (Digested Sludge / Grab) P650368 (3020521-02) Solid (Dry Weight) (Grab) Sampled: 02/05/13 09:00
Received: 02/07/13 11:30

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**2**	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	
Total Volatile Solids	**62**	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	

MBC_TSBTC (Raw Sludge / Grab) P650369 (3020521-03) Solid (Dry Weight) (Grab) Sampled: 02/05/13 09:00
Received: 02/07/13 11:30

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**5**	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	
Total Volatile Solids	**83**	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	

Digester 7 (Digester Sludge) P650366 (3020521-04) Solid (Dry Weight) (Composite) Sampled: 02/05/13 23:59
Received: 02/07/13 11:30

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**2**	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	
Total Volatile Solids	**56**	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Raw Sludge Pump (Raw Sludge) P646636 (3010213-01) Solid (Composite) Sampled: 01/02/13 07:30 Received: 01/03/13 11:00

Legend Technical Services of Arizona, Inc.

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Inorganic Chemistry									
% Solids	**4**	1	%	1	B3A0237	01/07/13 16:00	01/07/13 16:00	SM 2540 G	
Total Volatile Solids	**78**	1	%	1	B3A0237	01/07/13 16:00	01/07/13 16:00	SM 2540 G	

Digester #7 (Digester 7 Sludge) P646638 (3010213-02) Solid (Composite) Sampled: 01/02/13 07:30 Received: 01/03/13 11:00

Legend Technical Services of Arizona, Inc.

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Inorganic Chemistry									
% Solids	**2**	1	%	1	B3A0237	01/07/13 16:00	01/07/13 16:00	SM 2540 G	
Total Volatile Solids	**55**	1	%	1	B3A0237	01/07/13 16:00	01/07/13 16:00	SM 2540 G	

MBCDEWN (Dewatered Sludge Cake) P644970 (3010215-01) Solid (Dry Weight) (Composite) Sampled: 12/31/12 23:59 Received: 01/03/13 11:00

Legend Technical Services of Arizona, Inc.

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Metals									
Arsenic	<30.2	30.2	mg/kg dry	2	B3A0135	01/07/13 09:46	01/09/13 09:24	EPA 6010B	
Cadmium	**2.84**	0.604	mg/kg dry	2	B3A0135	01/07/13 09:46	01/09/13 09:24	EPA 6010B	
Chromium	**41.3**	0.755	mg/kg dry	2	B3A0135	01/07/13 09:46	01/09/13 09:24	EPA 6010B	
Copper	**732**	1.51	mg/kg dry	2	B3A0135	01/07/13 09:46	01/09/13 09:24	EPA 6010B	
Lead	**23.6**	15.1	mg/kg dry	2	B3A0135	01/07/13 09:46	01/09/13 09:24	EPA 6010B	
Mercury	**1.3**	0.25	mg/kg dry	1	B3A0148	01/07/13 14:00	01/07/13 15:53	EPA 7471A	
Molybdenum	**16.4**	3.02	mg/kg dry	2	B3A0135	01/07/13 09:46	01/09/13 09:24	EPA 6010B	
Nickel	**38.3**	3.02	mg/kg dry	2	B3A0135	01/07/13 09:46	01/09/13 09:24	EPA 6010B	
Selenium	<30.2	30.2	mg/kg dry	2	B3A0135	01/07/13 09:46	01/09/13 09:24	EPA 6010B	
Zinc	**974**	3.02	mg/kg dry	2	B3A0135	01/07/13 09:46	01/09/13 09:24	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.55	7.55	mg/kg dry	1	[CALC]	01/11/13 07:40	01/08/13 12:40	Calculation	
Organic Nitrogen	**52000**	3770	mg/kg dry	10	[CALC]	01/11/13 07:40	01/11/13 14:25	Calculation	
Total Nitrogen	**55500**	3770	mg/kg dry	1	[CALC]	01/11/13 07:40	01/11/13 14:25	Calculation	
Ammonia as N	**3490**	377	mg/kg dry	10	B3A0217	01/09/13 13:52	01/09/13 13:52	EPA 350.1	
Nitrate + Nitrite as N	<7.55	7.55	mg/kg dry	1	B3A0172	01/08/13 12:40	01/08/13 12:40	SM 4500 NO3 F	
Nitrite as N	<3.8	3.8	mg/kg dry wt. dry	1	B3A0155	01/07/13 16:25	01/07/13 16:25	SM 4500 NO2 B	M2
Total Kjeldahl Nitrogen	**55500**	3770	mg/kg dry	1	B3A0308	01/11/13 07:40	01/11/13 14:25	EPA 351.2	
Total Phosphorous	**25800**	9430	mg/kg dry	1	B3A0259	01/10/13 10:00	01/10/13 15:05	EPA 365.3	M1
Total Fixed Solids	**39**	1	%	1	B3A0243	01/07/13 16:00	01/07/13 16:00	SM 2540 G	
% Solids	**26**	1	%	1	B3A0243	01/07/13 16:00	01/07/13 16:00	SM 2540 G	
Total Volatile Solids	**61**	1	%	1	B3A0243	01/07/13 16:00	01/07/13 16:00	SM 2540 G	

MBC_Dig3 (Digested Sludge/Grab) P646640 (3010216-01) Solid (Grab) Sampled: 01/01/13 09:00 Received: 01/03/13 11:00

Legend Technical Services of Arizona, Inc.

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Inorganic Chemistry									
% Solids	**2**	1	%	1	B3A0237	01/07/13 16:00	01/07/13 16:00	SM 2540 G	
Total Volatile Solids	**61**	1	%	1	B3A0237	01/07/13 16:00	01/07/13 16:00	SM 2540 G	

MBC_TSBTC (Raw Sludge/Grab) P646641 (3010216-02) Solid (Grab) Sampled: 01/01/13 09:00 Received: 01/03/13 11:00

Legend Technical Services of Arizona, Inc.

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Inorganic Chemistry									
% Solids	4	1	%	1	B3A0237	01/07/13 16:00	01/07/13 16:00	SM 2540 G	
Total Volatile Solids	81	1	%	1	B3A0237	01/07/13 16:00	01/07/13 16:00	SM 2540 G	

CERTIFICATION STATEMENT
In Compliance With
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the
City of San Diego, CA, Metropolitan Wastewater Department

Monthly Sludge Composite Certification - *Centrifuge Dewatered Sludge*

I. INORGANIC POLLUTANT CONCENTRATIONS: The results of analyses below are for a composite sample of daily centrifuge dewatered sludge samples taken from the centrifuges over the calendar month of January 2013. All analyses were performed by the City of San Diego's Wastewater Chemistry Services Section, California State ELAP Certification #1609

Metals: from Table 3 of Paragraph 503.13†
(All concentrations on dry weight)

Parameter	Value	Units	503 Limit	Units
Arsenic	4.15	mg/Kg	41	mg/Kg
Cadmium	1.1	mg/Kg	39	mg/Kg
Chromium	45.2	mg/Kg	3,000	mg/Kg‡
Copper	658	mg/Kg	1,500	mg/Kg
Lead	17	mg/Kg	300	mg/Kg
Mercury	1.1	mg/Kg	17	mg/Kg
Molybdenum	14.8	mg/Kg	75	mg/Kg*
Nickel	35.8	mg/Kg	420	mg/Kg
Selenium	4.5	mg/Kg	36	mg/Kg
Zinc	842	mg/Kg	2,800	mg/Kg
Total Nitrogen	4.89	Wt %		
Date of Sample	31-January-2013			
Total Solids	28.7	Wt %		
Volatile	58.1	Wt %		

† Also conforms to Table 2. Monthly Average Pollutant Concentration of the Arizona Administrative Code Title 18, Chapter 9.
‡ Limit shown is from Table 1. Ceiling Concentrations of Arizona Administrative Code Title 18, Chapter 9.
* Limits for Molybdenum taken from 2009 version of 40 CFR part 503.13 Table 1, Ceiling Concentrations

Based on this month's analysis and the results of analysis of monthly sludge composite samples for the previous year, no parameters in the described sludge stream exceed 40 CFR Part 503 Standards for land application.

Wastewater Laboratory Senior Chemist
Wastewater Chemistry Laboratory,
California State ELAP Cert. No. 1609

Feb, 26, 2013
Date

VAR CERT. Form
Revised 7/6/2000

CITY OF SAN DIEGO
METROPOLITAN WASTEWATER DEPARTMENT
CERTIFICATION STATEMENT

In Compliance with
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the City of San Diego, CA, Metropolitan Wastewater Department

VECTOR ATTRACTION REDUCTION

Based on the daily fractional volatile solids reduction (FVSR) values calculated using the Van Kleck Equation and raw and digested sludge volatile solids for the month of FEBRUARY 2013 from locations based on the following information from operations:

All sludge sent to Metro Biosolids Center (MBC) from the Pt. Loma WWTP is pumped from Digester 7.
Only North City Water Reclamation Plant (NCWRP) raw sludge is going to MBC digesters.
The MBC thickened sludge samples are representative of the raw sludge from NCWRP.
MBC is using Digester No. 3 for sludge processing.

The following determinations of volatile solids was done using approved methods by laboratories certified by the State of California Environmental Laboratory Accreditation Program (ELAP Laboratory Cert. No. 2478 & 2474)
63.4 % Average Volatile Solids Reduction for the Pt. Loma WWTP sludge digestion process.
61.4 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.

The following determinations of volatile solids was done using approved methods by laboratories certified by the State of Arizona (Cert. No. 0004)
64.1 % Average Volatile Solids Reduction for the Pt. Loma WWTP sludge digestion process.
66.6 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.

Both streams **do** / ~~do not~~ meet 38% FVSR criteria.

Wastewater Laboratory Senior Chemist — Date 3/28/2013

I certify that the sludge samples taken and used in these determinations were taken and handled under my direction and supervision using approved methods and are representative samples of actual operational conditions.

Wastewater Treatment Superintendent, Metro Biosolids Center (MBC) — Date 3-9-13
Wastewater Treatment Superintendent, Pt. Loma Wastewater Treatment Plant — Date 3/9/13

CERTIFICATION STATEMENT
VECTOR ATTRACTION REQUIREMENTS

I certify, under penalty of law, the vector attraction reduction requirement in Paragraph 503.33 (b) (1) which states that:
The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent, has been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By:

Deputy Director — Date 4/9/13
Wastewater Treatment and Disposal, Metropolitan Wastewater Department

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FVSR (Fractional Volatile Solids Reduction)

$$FVSR = \frac{VS_p - VS_b}{VS_p - (VS_p * VS_b)} = \frac{Vol.solidsRaw - Vol.solids\ Digested}{Vol.solids\ Raw - (Vol.solids\ Raw * Vol.solids\ Digested)}$$

Where: VS_p = Volatile Solids Feed Sludge (RAW SLUDGE),
VS_b = Volatile Solids Digested Sludge (DIG SLUDGE), currently only digester 7 is used for the calculation.

Volatile Solids (VS) is expressed as fractional numbers.

Average Volatile Solids for FEBRUARY 2013

Average %TVS Digested Sludge (Digester 7) for the month.		Average Raw (feed) sludge %TVS for the month		Calculated FVSR (%)	
CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used
59.4	56.0	80.0	78.0	63.4%	64.1%

Average Volatile Solids for FEBRUARY 2013

Average %TVS Digested Sludge (MBC Dig 3) for the month.		Average Raw (feed) sludge (MBC_TSBTC) %TVS for the month		Calculated FVSR (%)	
CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used
65.8	62.0	83.3	83.0	61.4%	66.6%

SAMPLE_DA	SOURCE	ANALYTE	VALUE
03-FEB-13	RAW S1	TVS	81.3
03-FEB-13	RAW S2	TVS	81.0
03-FEB-13	RAW S3	TVS	80.9
05-FEB-13	RAW S1	TVS	82.1
05-FEB-13	RAW S2	TVS	82.1
05-FEB-13	RAW S3	TVS	81.1
07-FEB-13	RAW S1	TVS	78.0
07-FEB-13	RAW S2	TVS	79.9
07-FEB-13	RAW S3	TVS	78.8
10-FEB-13	RAW S1	TVS	80.5
10-FEB-13	RAW S2	TVS	80.9
10-FEB-13	RAW S3	TVS	80.5
12-FEB-13	RAW S1	TVS	81.8
12-FEB-13	RAW S2	TVS	82.2
12-FEB-13	RAW S3	TVS	81.1
14-FEB-13	RAW S1	TVS	80.5
14-FEB-13	RAW S2	TVS	81.3
14-FEB-13	RAW S3	TVS	79.8
19-FEB-13	RAW S1	TVS	81.5
19-FEB-13	RAW S2	TVS	82.2
19-FEB-13	RAW S3	TVS	82.1
21-FEB-13	RAW S1	TVS	80.8
21-FEB-13	RAW S2	TVS	81.2
21-FEB-13	RAW S3	TVS	80.6
24-FEB-13	RAW S1	TVS	83.1
24-FEB-13	RAW S2	TVS	81.8
24-FEB-13	RAW S3	TVS	80.4
26-FEB-13	RAW S1	TVS	69.9
26-FEB-13	RAW S2	TVS	69.4
26-FEB-13	RAW S3	TVS	71.6
28-FEB-13	RAW S1	TVS	81.3
28-FEB-13	RAW S2	TVS	82.1
28-FEB-13	RAW S3	TVS	79.3
avg			80.0

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-FEB-13	PLDIG7	TVS	59.5
03-FEB-13	PLDIG7	TVS	59.2
03-FEB-13	PLDIG7	TVS	59.3
04-FEB-13	PLDIG7	TVS	60.2
05-FEB-13	PLDIG7	TVS	59.3
05-FEB-13	PLDIG7	TVS	59.6
05-FEB-13	PLDIG7	TVS	59.5
05-FEB-13	PLDIG7	TVS	59.5
06-FEB-13	PLDIG7	TVS	59.8
07-FEB-13	PLDIG7	TVS	59.2
07-FEB-13	PLDIG7	TVS	57.9
07-FEB-13	PLDIG7	TVS	59.1
07-FEB-13	PLDIG7	TVS	58.4
08-FEB-13	PLDIG7	TVS	58.3
10-FEB-13	PLDIG7	TVS	59.3
10-FEB-13	PLDIG7	TVS	59.2
11-FEB-13	PLDIG7	TVS	59.3
12-FEB-13	PLDIG7	TVS	60.0
12-FEB-13	PLDIG7	TVS	59.8
12-FEB-13	PLDIG7	TVS	60.2
12-FEB-13	PLDIG7	TVS	60.0
13-FEB-13	PLDIG7	TVS	60.6
14-FEB-13	PLDIG7	TVS	60.1
14-FEB-13	PLDIG7	TVS	59.2
14-FEB-13	PLDIG7	TVS	59.9
14-FEB-13	PLDIG7	TVS	58.9
15-FEB-13	PLDIG7	TVS	59.3
19-FEB-13	PLDIG7	TVS	59.7
19-FEB-13	PLDIG7	TVS	59.2
19-FEB-13	PLDIG7	TVS	59.8
19-FEB-13	PLDIG7	TVS	59.9
20-FEB-13	PLDIG7	TVS	59.7
21-FEB-13	PLDIG7	TVS	59.2
21-FEB-13	PLDIG7	TVS	57.7
21-FEB-13	PLDIG7	TVS	59.1
21-FEB-13	PLDIG7	TVS	57.6
22-FEB-13	PLDIG7	TVS	58.9
24-FEB-13	PLDIG7	TVS	59.5
24-FEB-13	PLDIG7	TVS	58.8
25-FEB-13	PLDIG7	TVS	59.7
26-FEB-13	PLDIG7	TVS	60.1
26-FEB-13	PLDIG7	TVS	58.6
26-FEB-13	PLDIG7	TVS	60.1
26-FEB-13	PLDIG7	TVS	59.1
27-FEB-13	PLDIG7	TVS	58.9
28-FEB-13	PLDIG7	TVS	59.3
28-FEB-13	PLDIG7	TVS	59.6
28-FEB-13	PLDIG7	TVS	59.2
28-FEB-13	PLDIG7	TVS	59.9
avg			59.4

SAMPLE_DA	SOURCE	ANALYTE	VALUE
03-FEB-13	MBC_DIG3	TVS	65.9
03-FEB-13	MBC_DIG3	TVS	65.9
05-FEB-13	MBC_DIG3	TVS	66.1
05-FEB-13	MBC_DIG3	TVS	66.3
07-FEB-13	MBC_DIG3	TVS	65.7
07-FEB-13	MBC_DIG3	TVS	65.9
10-FEB-13	MBC_DIG3	TVS	65.1
10-FEB-13	MBC_DIG3	TVS	65.1
14-FEB-13	MBC_DIG3	TVS	65.9
14-FEB-13	MBC_DIG3	TVS	66.1
17-FEB-13	MBC_DIG3	TVS	64.9
17-FEB-13	MBC_DIG3	TVS	64.7
19-FEB-13	MBC_DIG3	TVS	66.5
19-FEB-13	MBC_DIG3	TVS	66.1
21-FEB-13	MBC_DIG3	TVS	65.7
21-FEB-13	MBC_DIG3	TVS	65.8
24-FEB-13	MBC_DIG3	TVS	65.0
24-FEB-13	MBC_DIG3	TVS	64.9
26-FEB-13	MBC_DIG3	TVS	66.2
26-FEB-13	MBC_DIG3	TVS	66.5
28-FEB-13	MBC_DIG3	TVS	66.7
28-FEB-13	MBC_DIG3	TVS	66.8
avg			65.8

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-FEB-13	MBC_TSBTC	TVS	83.9
02-FEB-13	MBC_TSBTC	TVS	84.4
03-FEB-13	MBC_TSBTC	TVS	84.1
04-FEB-13	MBC_TSBTC	TVS	82.5
05-FEB-13	MBC_TSBTC	TVS	85.3
06-FEB-13	MBC_TSBTC	TVS	84.1
07-FEB-13	MBC_TSBTC	TVS	84.5
08-FEB-13	MBC_TSBTC	TVS	84.1
09-FEB-13	MBC_TSBTC	TVS	84.1
10-FEB-13	MBC_TSBTC	TVS	83.0
13-FEB-13	MBC_TSBTC	TVS	83.2
14-FEB-13	MBC_TSBTC	TVS	83.6
16-FEB-13	MBC_TSBTC	TVS	83.3
17-FEB-13	MBC_TSBTC	TVS	82.1
18-FEB-13	MBC_TSBTC	TVS	82.8
19-FEB-13	MBC_TSBTC	TVS	84.2
20-FEB-13	MBC_TSBTC	TVS	84.2
21-FEB-13	MBC_TSBTC	TVS	84.6
22-FEB-13	MBC_TSBTC	TVS	83.9
23-FEB-13	MBC_TSBTC	TVS	78.9
24-FEB-13	MBC_TSBTC	TVS	78.6
25-FEB-13	MBC_TSBTC	TVS	81.5
26-FEB-13	MBC_TSBTC	TVS	84.0
27-FEB-13	MBC_TSBTC	TVS	83.1
28-FEB-13	MBC_TSBTC	TVS	84.8
avg			83.3

MBCDEWN (Dewatered Sludge Cake) P653392 (3030545-01) Solid (Dry Weight) (Composite) Sampled: 02/28/13 23:59 Received: 03/07/13 11:33

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Total Metals									
Arsenic	<28.9	28.9	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Cadmium	2.65	0.578	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Chromium	46.1	0.722	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Copper	676	1.44	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Lead	21.8	14.4	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Mercury	1.1	0.24	mg/kg dry	1	B3C0317	03/13/13 09:10	03/13/13 11:13	EPA 7471A	
Molybdenum	14.7	2.89	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Nickel	35.1	2.89	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Selenium	<28.9	28.9	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Zinc	963	2.89	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.2	7.2	mg/kg dry	1	[CALC]	03/15/13 15:15	03/15/13 15:15	Calculation	
Organic Nitrogen	37900	3610	mg/kg dry	10	[CALC]	03/15/13 15:15	03/13/13 13:34	Calculation	
Total Nitrogen	41500	3610	mg/kg dry	1	[CALC]	03/15/13 15:15	03/15/13 15:15	Calculation	
Ammonia as N	3580	361	mg/kg dry	10	B3C0331	03/13/13 13:34	03/13/13 13:34	EPA 350.1	
Nitrate + Nitrite as N	<7.22	7.22	mg/kg dry	1	B3C0431	03/15/13 15:15	03/15/13 15:15	SM 4500 NO3 F	
Nitrite as N	<3.6	3.6	mg/kg dry wt. dry	1	B3C0267	03/11/13 14:10	03/11/13 14:10	SM 4500 NO2 B	
Total Kjeldahl Nitrogen	41500	3610	mg/kg dry	1	B3C0221	03/08/13 10:40	03/08/13 14:29	EPA 351.2	
Total Phosphorous	35300	9030	mg/kg dry	1	B3C0350	03/13/13 10:00	03/13/13 16:26	EPA 365.3	
Total Fixed Solids	41	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	H1
% Solids	28	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	H1
Total Volatile Solids	59	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	H1

MBC_Dig3 (Digested Sludge / Grab) P655511 (3030545-02) Solid (Dry Weight) (Grab) Sampled: 03/05/13 09:00 Received: 03/07/13 11:33

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	2	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	
Total Volatile Solids	62	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	

MBC_TSBTC (Raw Sludge / Grab) P655514 (3030545-03) Solid (Dry Weight) (Grab) Sampled: 03/05/13 09:00 Received: 03/07/13 11:33

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	4	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	
Total Volatile Solids	81	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	

Raw Feed Pump #3 (Raw Sludge) P655512 (3030545-04) Solid (Dry Weight) (Composite) Sampled: 03/06/13 07:30 Received: 03/07/13 11:33

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	4	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	
Total Volatile Solids	78	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MBCDEWN (Dewatered Sludge Cake) P649993 (3020521-01) Solid (Dry Weight) (Grab) Sampled: 01/31/13 23:59
Received: 02/07/13 11:30

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Total Metals									
Arsenic	<29.4	29.4	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Cadmium	2.59	0.588	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Chromium	44.3	0.735	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Copper	696	1.47	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Lead	22.8	14.7	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Mercury	0.77	0.25	mg/kg dry	1	B3B0305	02/12/13 09:37	02/12/13 14:45	EPA 7471A	
Molybdenum	14.9	2.94	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Nickel	35.2	2.94	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Selenium	<29.4	29.4	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Zinc	955	2.94	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.4	7.4	mg/kg dry	1	[CALC]	02/12/13 14:30	02/12/13 14:30	Calculation	
Organic Nitrogen	50700	3680	mg/kg dry	10	[CALC]	02/12/13 14:30	02/13/13 12:01	Calculation	
Total Nitrogen	54400	3680	mg/kg dry	1	[CALC]	02/12/13 14:30	02/12/13 14:30	Calculation	
Ammonia as N	3750	368	mg/kg dry	10	B3B0335	02/13/13 12:01	02/13/13 12:01	EPA 350.1	
Nitrate + Nitrite as N	<7.35	7.35	mg/kg dry	1	B3B0320	02/12/13 14:30	02/12/13 14:30	SM 4500 NO3 F	
Nitrite as N	<3.7	3.7	mg/kg dry wt. dry	1	B3B0298	02/12/13 11:00	02/12/13 11:00	SM 4500 NO2 B	
Total Kjeldahl Nitrogen	54400	3680	mg/kg dry	1	B3B0309	02/12/13 07:45	02/12/13 13:40	EPA 351.2	
Total Phosphorous	69800	9190	mg/kg dry	1	B3B0377	02/13/13 10:00	02/13/13 16:35	EPA 365.3	
Total Fixed Solids	40	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	
% Solids	27	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	
Total Volatile Solids	60	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	

MBC_Dig3 (Digested Sludge / Grab) P650368 (3020521-02) Solid (Dry Weight) (Grab) Sampled: 02/05/13 09:00
Received: 02/07/13 11:30

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	2	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	
Total Volatile Solids	62	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	

MBC_TSBTC (Raw Sludge / Grab) P650369 (3020521-03) Solid (Dry Weight) (Grab) Sampled: 02/05/13 09:00
Received: 02/07/13 11:30

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	5	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	
Total Volatile Solids	83	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	

Digester 7 (Digester Sludge) P650366 (3020521-04) Solid (Dry Weight) (Composite) Sampled: 02/05/13 23:59
Received: 02/07/13 11:30

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	2	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	
Total Volatile Solids	56	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Raw Feed Pump #2 (PL Raw Sludge) P650367 (3020521-05) Solid (Dry Weight) (Composite) Sampled: 02/05/13 23:59
Received: 02/07/13 11:30

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	4	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	
Total Volatile Solids	78	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	

CERTIFICATION STATEMENT
In Compliance With
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the
City of San Diego, CA, Metropolitan Wastewater Department

Monthly Sludge Composite Certification - *Centrifuge Dewatered Sludge*

I. INORGANIC POLLUTANT CONCENTRATIONS: The results of analyses below are for a composite sample of daily centrifuge dewatered sludge samples taken from the centrifuges over the calendar month of February 2013. All analyses were performed by the City of San Diego's Wastewater Chemistry Services Section, California State ELAP Certification #1609

Metals: from Table 3 of Paragraph 503.13†
(All concentrations on dry weight)

Parameter	Value	Units	503 Limit	Units
Arsenic	4.32	mg/Kg	41	mg/Kg
Cadmium	1.3	mg/Kg	39	mg/Kg
Chromium	46.9	mg/Kg	3,000	mg/Kg‡
Copper	656	mg/Kg	1,500	mg/Kg
Lead	19	mg/Kg	300	mg/Kg
Mercury	1.2	mg/Kg	17	mg/Kg
Molybdenum	14.2	mg/Kg	75	mg/Kg*
Nickel	35.9	mg/Kg	420	mg/Kg
Selenium	4.52	mg/Kg	36	mg/Kg
Zinc	784	mg/Kg	2,800	mg/Kg
Total Nitrogen	4.95	Wt %		
Date of Sample	28-February-2013			
Total Solids	27.8	Wt %		
Volatile	59.2	Wt %		

† Also conforms to Table 2. Monthly Average Pollutant Concentration of the Arizona Administrative Code Title 18, Chapter 9.
‡ Limit shown is from Table 1. Ceiling Concentrations of Arizona Administrative Code Title 18, Chapter 9.
* Limits for Molybdenum taken from 2009 version of 40 CFR part 503.13 Table 1, Ceiling Concentrations

Based on this month's analysis and the results of analysis of monthly sludge composite samples for the previous year, no parameters in the described sludge stream exceed 40 CFR Part 503 Standards for land application.

Wastewater Laboratory Senior Chemist
Wastewater Chemistry Laboratory,
California State ELAP Cert. No. 1609

3/28/2013
Date

VAR CERT. Form
Revised 7/6/2000

CITY OF SAN DIEGO
METROPOLITAN WASTEWATER DEPARTMENT
CERTIFICATION STATEMENT

In Compliance with
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the City of San Diego, CA, Metropolitan Wastewater Department

VECTOR ATTRACTION REDUCTION

Based on the daily fractional volatile solids reduction (FVSR) values calculated using the Van Kleck Equation and raw and digested sludge volatile solids for the month of MARCH 2013 from locations based on the following information from operations:

All sludge sent to Metro Biosolids Center (MBC) from the Pt. Loma WWTP is pumped from Digester 7.
Only North City Water Reclamation Plant (NCWRP) raw sludge is going to MBC digesters.
The MBC thickened sludge samples are representative of the raw sludge from NCWRP.
MBC is using Digester No. 3 for sludge processing.

The following determinations of volatile solids was done using approved methods by laboratories certified by the State of California Environmental Laboratory Accreditation Program (ELAP Laboratory Cert. No. 2478 & 2474)
64.0 % Average Volatile Solids Reduction for the Pt. Loma WWTP sludge digestion process.
66.9 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.

The following determinations of volatile solids was done using approved methods by laboratories certified by the State of Arizona (Cert. No. 0004)
59.9 % Average Volatile Solids Reduction for the Pt. Loma WWTP sludge digestion process.
61.7 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.

Both streams **do** / ~~do not meet~~ 38% FVSR criteria.

Wastewater Laboratory Senior Chemist — Date 4/29/2013

I certify that the sludge samples taken and used in these determinations were taken and handled under my direction and supervision using approved methods and are representative samples of actual operational conditions.

Wastewater Treatment Superintendent, Metro Biosolids Center (MBC) — Date 5/7/13

Wastewater Treatment Superintendent, Pt. Loma Wastewater Treatment Plant — Date 5/7/13

CERTIFICATION STATEMENT
VECTOR ATTRACTION REQUIREMENTS

I certify, under penalty of law, the vector attraction reduction requirement in Paragraph 503.33 (b) (1) which states that:
The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent, has been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By: — Date 5/7/13

Deputy Director
Wastewater Treatment and Disposal, Metropolitan Wastewater Department

FVSR (Fractional Volatile Solids Reduction)

$$FVSR = \frac{VS_p - VS_b}{VS_p - (VS_p * VS_b)} = \frac{Vol.solidsRaw - Vol.solids\ Digested}{Vol.solids\ Raw - (Vol.solids\ Raw * Vol.solids\ Digested)}$$

Where: VS_p = Volatile Solids Feed Sludge (RAW SLUDGE),
VS_b = Volatile Solids Digested Sludge (DIG SLUDGE), currently only digester 7 is used for the calculation.

Volatile Solids (VS) is expressed as fractional numbers.

Average Volatile Solids for MARCH 2013

Average %TVS Digested Sludge (Digester 7) for the month.		Average Raw (feed) sludge %TVS for the month		Calculated FVSR (%)	
CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used
59.9	54.0	80.6	78.0	64.0%	66.9%

Average Volatile Solids for MARCH 2013

Average %TVS Digested Sludge (MBC Dig 3) for the month.		Average Raw (feed) sludge (MBC_TSBTC) %TVS for the month		Calculated FVSR (%)	
CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used
67.0	62.0	83.5	81.0	59.9%	61.7%

SAMPLE_DA	SOURCE	ANALYTE	VALUE
03-MAR-13	RAW S1	TVS	82.8
03-MAR-13	RAW S2	TVS	83.0
03-MAR-13	RAW S3	TVS	81.5
05-MAR-13	RAW S1	TVS	81.5
05-MAR-13	RAW S2	TVS	81.2
05-MAR-13	RAW S3	TVS	80.1
07-MAR-13	RAW S1	TVS	77.1
07-MAR-13	RAW S2	TVS	80.4
07-MAR-13	RAW S3	TVS	79.9
10-MAR-13	RAW S1	TVS	*
10-MAR-13	RAW S2	TVS	80.2
10-MAR-13	RAW S3	TVS	80.2
12-MAR-13	RAW S1	TVS	81.4
12-MAR-13	RAW S2	TVS	81.4
12-MAR-13	RAW S3	TVS	80.5
14-MAR-13	RAW S1	TVS	80.4
14-MAR-13	RAW S2	TVS	81.9
14-MAR-13	RAW S3	TVS	81.4
17-MAR-13	RAW S1	TVS	82.3
17-MAR-13	RAW S2	TVS	79.1
17-MAR-13	RAW S3	TVS	80.3
19-MAR-13	RAW S1	TVS	80.7
19-MAR-13	RAW S2	TVS	80.9
19-MAR-13	RAW S3	TVS	79.9
21-MAR-13	RAW S1	TVS	80.0
21-MAR-13	RAW S2	TVS	81.0
21-MAR-13	RAW S3	TVS	79.7
24-MAR-13	RAW S1	TVS	78.4
24-MAR-13	RAW S2	TVS	80.3
24-MAR-13	RAW S3	TVS	80.4
26-MAR-13	RAW S1	TVS	80.8
26-MAR-13	RAW S2	TVS	80.9
26-MAR-13	RAW S3	TVS	80.1
28-MAR-13	RAW S1	TVS	80.7
28-MAR-13	RAW S2	TVS	80.9
28-MAR-13	RAW S3	TVS	79.9
avg			80.6

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-MAR-13	PLDIG7	TVS	59.7
03-MAR-13	PLDIG7	TVS	60.5
03-MAR-13	PLDIG7	TVS	60.5
04-MAR-13	PLDIG7	TVS	60.2
05-MAR-13	PLDIG7	TVS	60.3
05-MAR-13	PLDIG7	TVS	60.8
05-MAR-13	PLDIG7	TVS	59.7
05-MAR-13	PLDIG7	TVS	60.2
06-MAR-13	PLDIG7	TVS	60.8
07-MAR-13	PLDIG7	TVS	58.9
07-MAR-13	PLDIG7	TVS	59.1
07-MAR-13	PLDIG7	TVS	60.5
07-MAR-13	PLDIG7	TVS	58.8
08-MAR-13	PLDIG7	TVS	60.9
10-MAR-13	PLDIG7	TVS	61.0
10-MAR-13	PLDIG7	TVS	60.7
11-MAR-13	PLDIG7	TVS	60.9
12-MAR-13	PLDIG7	TVS	59.0
12-MAR-13	PLDIG7	TVS	60.3
12-MAR-13	PLDIG7	TVS	58.5
12-MAR-13	PLDIG7	TVS	60.9
13-MAR-13	PLDIG7	TVS	61.9
14-MAR-13	PLDIG7	TVS	59.7
14-MAR-13	PLDIG7	TVS	61.2
14-MAR-13	PLDIG7	TVS	59.3
14-MAR-13	PLDIG7	TVS	58.6
15-MAR-13	PLDIG7	TVS	60.0
17-MAR-13	PLDIG7	TVS	59.8
17-MAR-13	PLDIG7	TVS	60.4
18-MAR-13	PLDIG7	TVS	62.6
19-MAR-13	PLDIG7	TVS	61.2
19-MAR-13	PLDIG7	TVS	58.0
19-MAR-13	PLDIG7	TVS	61.4
19-MAR-13	PLDIG7	TVS	57.8
20-MAR-13	PLDIG7	TVS	60.4
21-MAR-13	PLDIG7	TVS	58.2
21-MAR-13	PLDIG7	TVS	59.2
21-MAR-13	PLDIG7	TVS	58.3
21-MAR-13	PLDIG7	TVS	59.4
22-MAR-13	PLDIG7	TVS	59.3
24-MAR-13	PLDIG7	TVS	59.3
24-MAR-13	PLDIG7	TVS	58.5
25-MAR-13	PLDIG7	TVS	59.9
26-MAR-13	PLDIG7	TVS	59.2
26-MAR-13	PLDIG7	TVS	59.5
26-MAR-13	PLDIG7	TVS	59.4
26-MAR-13	PLDIG7	TVS	59.6
27-MAR-13	PLDIG7	TVS	58.9
28-MAR-13	PLDIG7	TVS	60.6
28-MAR-13	PLDIG7	TVS	59.2
28-MAR-13	PLDIG7	TVS	60.4
28-MAR-13	PLDIG7	TVS	59.4
29-MAR-13	PLDIG7	TVS	60.2
avg			59.9

SAMPLE_DA	SOURCE	ANALYTE	VALUE
03-MAR-13	MBC_DIG3	TVS	66.8
03-MAR-13	MBC_DIG3	TVS	66.9
05-MAR-13	MBC_DIG3	TVS	67.2
05-MAR-13	MBC_DIG3	TVS	67.1
07-MAR-13	MBC_DIG3	TVS	67.4
07-MAR-13	MBC_DIG3	TVS	67.5
10-MAR-13	MBC_DIG3	TVS	65.2
10-MAR-13	MBC_DIG3	TVS	65.5
12-MAR-13	MBC_DIG3	TVS	66.7
12-MAR-13	MBC_DIG3	TVS	66.6
14-MAR-13	MBC_DIG3	TVS	67.7
14-MAR-13	MBC_DIG3	TVS	67.8
17-MAR-13	MBC_DIG3	TVS	67.0
17-MAR-13	MBC_DIG3	TVS	66.8
19-MAR-13	MBC_DIG3	TVS	66.5
19-MAR-13	MBC_DIG3	TVS	66.6
21-MAR-13	MBC_DIG3	TVS	67.7
21-MAR-13	MBC_DIG3	TVS	67.5
24-MAR-13	MBC_DIG3	TVS	67.6
24-MAR-13	MBC_DIG3	TVS	67.8
26-MAR-13	MBC_DIG3	TVS	66.7
26-MAR-13	MBC_DIG3	TVS	66.9
28-MAR-13	MBC_DIG3	TVS	67.4
28-MAR-13	MBC_DIG3	TVS	67.2
31-MAR-13	MBC_DIG3	TVS	67.3
31-MAR-13	MBC_DIG3	TVS	67.1
avg			67.0

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-MAR-13	MBC_TSBTC	TVS	83.6
02-MAR-13	MBC_TSBTC	TVS	84.3
03-MAR-13	MBC_TSBTC	TVS	78.4
04-MAR-13	MBC_TSBTC	TVS	83.1
05-MAR-13	MBC_TSBTC	TVS	84.7
06-MAR-13	MBC_TSBTC	TVS	84.5
07-MAR-13	MBC_TSBTC	TVS	84.5
08-MAR-13	MBC_TSBTC	TVS	82.9
09-MAR-13	MBC_TSBTC	TVS	82.5
10-MAR-13	MBC_TSBTC	TVS	82.5
11-MAR-13	MBC_TSBTC	TVS	80.8
12-MAR-13	MBC_TSBTC	TVS	83.6
13-MAR-13	MBC_TSBTC	TVS	84.0
14-MAR-13	MBC_TSBTC	TVS	84.3
15-MAR-13	MBC_TSBTC	TVS	82.0
16-MAR-13	MBC_TSBTC	TVS	83.7
17-MAR-13	MBC_TSBTC	TVS	84.7
18-MAR-13	MBC_TSBTC	TVS	84.3
19-MAR-13	MBC_TSBTC	TVS	83.5
20-MAR-13	MBC_TSBTC	TVS	84.4
21-MAR-13	MBC_TSBTC	TVS	85.4
22-MAR-13	MBC_TSBTC	TVS	83.5
23-MAR-13	MBC_TSBTC	TVS	83.5
24-MAR-13	MBC_TSBTC	TVS	84.4
25-MAR-13	MBC_TSBTC	TVS	83.6
26-MAR-13	MBC_TSBTC	TVS	83.3
27-MAR-13	MBC_TSBTC	TVS	84.4
28-MAR-13	MBC_TSBTC	TVS	84.1
29-MAR-13	MBC_TSBTC	TVS	83.4
30-MAR-13	MBC_TSBTC	TVS	84.0
31-MAR-13	MBC_TSBTC	TVS	82.2
avg			83.5

MBCDEWN (Dewatered Sludge Cake) P653392 (3030545-01) Solid (Dry Weight) (Composite) Sampled: 02/28/13 23:59 Received: 03/07/13 11:33

Legend Technical Services of Arizona, Inc.

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Metals									
Arsenic	<28.9	28.9	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Cadmium	2.65	0.578	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Chromium	46.1	0.722	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Copper	676	1.44	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Lead	21.8	14.4	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Mercury	1.1	0.24	mg/kg dry	1	B3C0317	03/13/13 09:10	03/13/13 11:13	EPA 7471A	
Molybdenum	14.7	2.89	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Nickel	35.1	2.89	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Selenium	<28.9	28.9	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Zinc	963	2.89	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.2	7.2	mg/kg dry	1	[CALC]	03/15/13 15:15	03/15/13 15:15	Calculation	
Organic Nitrogen	37900	3610	mg/kg dry	10	[CALC]	03/15/13 15:15	03/13/13 13:34	Calculation	
Total Nitrogen	41500	3610	mg/kg dry	1	[CALC]	03/15/13 15:15	03/15/13 15:15	Calculation	
Ammonia as N	3580	361	mg/kg dry	10	B3C0331	03/13/13 13:34	03/13/13 13:34	EPA 350.1	
Nitrate + Nitrite as N	<7.22	7.22	mg/kg dry	1	B3C0431	03/15/13 15:15	03/15/13 15:15	SM 4500 NO3 F	
Nitrite as N	<3.6	3.6	mg/kg dry wt. dry	1	B3C0267	03/11/13 14:10	03/11/13 14:10	SM 4500 NO2 B	
Total Kjeldahl Nitrogen	41500	3610	mg/kg dry	1	B3C0221	03/08/13 10:40	03/08/13 14:29	EPA 351.2	
Total Phosphorous	35300	9030	mg/kg dry	1	B3C0350	03/13/13 10:00	03/13/13 16:25	EPA 365.3	
Total Fixed Solids	41	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	H1
% Solids	28	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	H1
Total Volatile Solids	59	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	H1

MBC_Dig3 (Digested Sludge / Grab) P655511 (3030545-02) Solid (Dry Weight) (Grab) Sampled: 03/05/13 09:00 Received: 03/07/13 11:33

Legend Technical Services of Arizona, Inc.

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Inorganic Chemistry									
% Solids	2	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	
Total Volatile Solids	62	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	

MBC_TSBTC (Raw Sludge / Grab) P655514 (3030545-03) Solid (Dry Weight) (Grab) Sampled: 03/05/13 09:00 Received: 03/07/13 11:33

Legend Technical Services of Arizona, Inc.

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Inorganic Chemistry									
% Solids	4	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	
Total Volatile Solids	81	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	

Raw Feed Pump #3 (Raw Sludge) P655512 (3030545-04) Solid (Dry Weight) (Composite) Sampled: 03/06/13 07:30 Received: 03/07/13 11:33

Legend Technical Services of Arizona, Inc.

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Inorganic Chemistry									
% Solids	4	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	
Total Volatile Solids	78	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MBCDEWN (Dewatered Sludge Cake) P657413 (3040450-01) Solid (Dry Weight) (Composite) Sampled: 03/31/13 23:59 Received: 04/04/13 11:35

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Total Metals									
Arsenic	<30.7	30.7	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Cadmium	**2.62**	0.613	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Chromium	**50.6**	0.766	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Copper	**755**	1.53	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Lead	**23.1**	15.3	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Mercury	**1.2**	0.26	mg/kg dry	1	B3D0286	04/09/13 14:14	04/09/13 16:00	EPA 7471A	
Molybdenum	**15.3**	3.07	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Nickel	**34.3**	3.07	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Selenium	<30.7	30.7	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Zinc	**1110**	3.07	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.66	7.66	mg/kg dry	1	[CALC]	04/12/13 15:05	04/17/13 12:25	Calculation	
Organic Nitrogen	**53300**	3830	mg/kg dry	10	[CALC]	04/12/13 15:05	04/10/13 13:49	Calculation	
Total Nitrogen	**57500**	3830	mg/kg dry	1	[CALC]	04/12/13 15:05	04/12/13 15:05	Calculation	
Ammonia as N	**4210**	383	mg/kg dry	10	B3D0304	04/10/13 13:49	04/10/13 13:49	EPA 350.1	
Nitrate + Nitrite as N	<7.66	7.66	mg/kg dry	1	B3D0385	04/12/13 15:05	04/12/13 15:05	SM 4500 NO3 F	
Nitrite as N	<3.8	3.8	mg/kg dry wt. dry	1	B3D0494	04/17/13 12:25	04/17/13 12:25	SM 4500 NO2 B	M2
Total Kjeldahl Nitrogen	**57500**	3830	mg/kg dry	1	B3D0262	04/09/13 07:45	04/09/13 14:53	EPA 351.2	M1
Total Phosphorous	**42700**	9580	mg/kg dry	1	B3D0315	04/10/13 10:00	04/10/13 17:25	EPA 365.3	
Total Fixed Solids	**41**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
% Solids	**26**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
Total Volatile Solids	**59**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	

MBC_Dig3 (Digested Sludge / Grab) P656261 (3040450-02) Solid (Dry Weight) (Grab) Sampled: 04/02/13 09:00 Received: 04/04/13 11:35

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**3**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
Total Volatile Solids	**60**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	

MBC_TSBTC (Raw Sludge / Grab) P656252 (3040450-03) Solid (Dry Weight) (Grab) Sampled: 04/02/13 09:00 Received: 04/04/13 11:35

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**4**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
Total Volatile Solids	**80**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	

Digester #7 (Digester Sludge) P656246 (3040450-04) Solid (Dry Weight) (Composite) Sampled: 04/03/13 07:30 Received: 04/04/13 11:35

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**2**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
Total Volatile Solids	**55**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	

Raw Feed Pump #3 (Raw Sludge) P656240 (3040450-05) Solid (Dry Weight) (Composite) Sampled: 04/03/13 07:30
Received: 04/04/13 11:35

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	3	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
Total Volatile Solids	76	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	

Digester #7 (Digester Sludge) P655513 (3030545-05) Solid (Dry Weight) (Composite) Sampled: 03/06/13 07:30
Received: 03/07/13 11:33

Legend Technical Services of Arizona, Inc.

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Inorganic Chemistry									
% Solids	**2**	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	
Total Volatile Solids	**54**	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	

CERTIFICATION STATEMENT
In Compliance With
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the
City of San Diego, CA, Metropolitan Wastewater Department

Monthly Sludge Composite Certification - *Centrifuge Dewatered Sludge*

I. INORGANIC POLLUTANT CONCENTRATIONS: The results of analyses below are for a composite sample of daily centrifuge dewatered sludge samples taken from the centrifuges over the calendar month of March 2013. All analyses were performed by the City of San Diego's Wastewater Chemistry Services Section, California State ELAP Certification #1609

Metals: from Table 3 of Paragraph 503.13†
(All concentrations on dry weight)

Parameter	Value	Units	503 Limit	Units
Arsenic	4.22	mg/Kg	41	mg/Kg
Cadmium	1.2	mg/Kg	39	mg/Kg
Chromium	50.3	mg/Kg	3,000	mg/Kg‡
Copper	704	mg/Kg	1,500	mg/Kg
Lead	20	mg/Kg	300	mg/Kg
Mercury	1.6	mg/Kg	17	mg/Kg
Molybdenum	16.0	mg/Kg	75	mg/Kg*
Nickel	31.5	mg/Kg	420	mg/Kg
Selenium	4.23	mg/Kg	36	mg/Kg
Zinc	897	mg/Kg	2,800	mg/Kg
Total Nitrogen	4.95	Wt %		
Date of Sample	31-March-2013			
Total Solids	28.3	Wt %		
Volatile	56.9	Wt %		

† Also conforms to Table 2. Monthly Average Pollutant Concentration of the Arizona Administrative Code Title 18, Chapter 9.
‡ Limit shown is from Table 1. Ceiling Concentrations of Arizona Administrative Code Title 18, Chapter 9.
* Limits for Molybdenum taken from 2009 version of 40 CFR part 503.13 Table 1, Ceiling Concentrations

Based on this month's analysis and the results of analysis of monthly sludge composite samples for the previous year, no parameters in the described sludge stream exceed 40 CFR Part 503 Standards for land application.

Wastewater Laboratory Senior Chemist
Wastewater Chemistry Laboratory,
California State ELAP Cert. No. 1609

4/29/2013
Date

VAR CERT. Form
Revised 7/6/2000

CITY OF SAN DIEGO
METROPOLITAN WASTEWATER DEPARTMENT
CERTIFICATION STATEMENT

In Compliance with
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the City of San Diego, CA, Metropolitan Wastewater Department

VECTOR ATTRACTION REDUCTION

Based on the daily fractional volatile solids reduction (FVSR) values calculated using the Van Kleck Equation and raw and digested sludge volatile solids for the month of APRIL 2013 from locations based on the following information from operations:

All sludge sent to Metro Biosolids Center (MBC) from the Pt. Loma WWTP is pumped from Digester 7.
Only North City Water Reclamation Plant (NCWRP) raw sludge is going to MBC digesters.
The MBC thickened sludge samples are representative of the raw sludge from NCWRP.
MBC is using Digester No. 3 for sludge processing.

The following determinations of volatile solids was done using approved methods by laboratories certified by the State of California Environmental Laboratory Accreditation Program (ELAP Laboratory Cert. No. 2478 & 2474)
62.0 % Average Volatile Solids Reduction for the Pt. Loma WWTP sludge digestion process.
57.2 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.

The following determinations of volatile solids was done using approved methods by laboratories certified by the State of Arizona (Cert. No. 0004)
61.4 % Average Volatile Solids Reduction for the Pt. Loma WWTP sludge digestion process.
62.5 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.

Both streams **do** / ~~do not~~ meet 38% FVSR criteria.

Brent G Bowman — Date 6/29/2013
Wastewater Laboratory Senior Chemist

I certify that the sludge samples taken and used in these determinations were taken and handled under my direction and supervision using approved methods and are representative samples of actual operational conditions.

Barry H. Ryan — 6/25/13
Wastewater Treatment Superintendent — Date
Metro Biosolids Center (MBC)

KC Shankles — 7/9/13
Wastewater Treatment Superintendent — Date
Pt. Loma Wastewater Treatment Plant

CERTIFICATION STATEMENT
VECTOR ATTRACTION REQUIREMENTS

I certify, under penalty of law, the vector attraction reduction requirement in Paragraph 503.33 (b) (1) which states that:
The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent, has been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By: — 7/2/13
Deputy Director — Date
Wastewater Treatment and Disposal, Metropolitan Wastewater Department

FVSR (Fractional Volatile Solids Reduction)

$$FVSR = \frac{VS_p - VS_b}{VS_p - (VS_p * VS_b)} = \frac{Vol.solidsRaw - Vol.solids\ Digested}{Vol.solids\ Raw - (Vol.solids\ Raw * Vol.solids\ Digested)}$$

Where: VS_p = Volatile Solids Feed Sludge (RAW SLUDGE),
VS_b = Volatile Solids Digested Sludge (DIG SLUDGE), currently only digester 7 is used for the calculation.

Volatile Solids (VS) is expressed as fractional numbers.

Average Volatile Solids for APRIL 2013

Average %TVS Digested Sludge (Digester 7) for the month.		Average Raw (feed) sludge %TVS for the month		Calculated FVSR (%)	
CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used
59.9	55.0	79.7	76.0	62.0%	61.4%

Average Volatile Solids for APRIL 2013

Average %TVS Digested Sludge (MBC Dig 3) for the month.		Average Raw (feed) sludge (MBC_TSBTC) %TVS for the month		Calculated FVSR (%)	
CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used
66.1	60.0	82.0	80.0	57.2%	62.5%

SAMPLE_DA	SOURCE	ANALYTE	VALUE
02-APR-13	RAW S1	TVS	82.7
02-APR-13	RAW S2	TVS	82.8
02-APR-13	RAW S3	TVS	80.4
04-APR-13	RAW S1	TVS	81.2
04-APR-13	RAW S2	TVS	80.9
04-APR-13	RAW S3	TVS	79.5
07-APR-13	RAW S1	TVS	79.6
07-APR-13	RAW S2	TVS	80.2
07-APR-13	RAW S3	TVS	79.7
09-APR-13	RAW S1	TVS	80.1
09-APR-13	RAW S2	TVS	80.3
09-APR-13	RAW S3	TVS	80.2
11-APR-13	RAW S1	TVS	79.3
11-APR-13	RAW S2	TVS	79.3
11-APR-13	RAW S3	TVS	78.8
14-APR-13	RAW S1	TVS	79.6
14-APR-13	RAW S2	TVS	80.8
14-APR-13	RAW S3	TVS	78.5
16-APR-13	RAW S1	TVS	79.5
16-APR-13	RAW S2	TVS	79.4
16-APR-13	RAW S3	TVS	78.7
18-APR-13	RAW S1	TVS	79.3
18-APR-13	RAW S2	TVS	79.6
18-APR-13	RAW S3	TVS	79.4
21-APR-13	RAW S1	TVS	78.9
21-APR-13	RAW S2	TVS	79.3
21-APR-13	RAW S3	TVS	77.3
23-APR-13	RAW S1	TVS	78.1
23-APR-13	RAW S2	TVS	79.2
23-APR-13	RAW S3	TVS	78.4
25-APR-13	RAW S1	TVS	79.8
25-APR-13	RAW S2	TVS	79.7
25-APR-13	RAW S3	TVS	78.4
28-APR-13	RAW S1	TVS	80.1
28-APR-13	RAW S2	TVS	80.3
28-APR-13	RAW S3	TVS	79.1
30-APR-13	RAW S1	TVS	80.2
30-APR-13	RAW S2	TVS	80.6
30-APR-13	RAW S3	TVS	79.2
avg			79.7

SAMPLE_DA	SOURCE	ANALYTE	VALUE
02-APR-13	PLDIG7	TVS	60.5
02-APR-13	PLDIG7	TVS	61.2
02-APR-13	PLDIG7	TVS	60.7
02-APR-13	PLDIG7	TVS	61.2
03-APR-13	PLDIG7	TVS	61.0
04-APR-13	PLDIG7	TVS	59.2
04-APR-13	PLDIG7	TVS	59.8
04-APR-13	PLDIG7	TVS	59.3
04-APR-13	PLDIG7	TVS	59.7
05-APR-13	PLDIG7	TVS	59.7
07-APR-13	PLDIG7	TVS	58.0
07-APR-13	PLDIG7	TVS	58.0
08-APR-13	PLDIG7	TVS	57.9
09-APR-13	PLDIG7	TVS	59.2
09-APR-13	PLDIG7	TVS	59.8
09-APR-13	PLDIG7	TVS	59.3
09-APR-13	PLDIG7	TVS	59.6
10-APR-13	PLDIG7	TVS	60.1
11-APR-13	PLDIG7	TVS	59.8
11-APR-13	PLDIG7	TVS	59.3
11-APR-13	PLDIG7	TVS	59.7
11-APR-13	PLDIG7	TVS	59.1
12-APR-13	PLDIG7	TVS	59.9
14-APR-13	PLDIG7	TVS	59.5
14-APR-13	PLDIG7	TVS	59.3
15-APR-13	PLDIG7	TVS	59.3
16-APR-13	PLDIG7	TVS	59.9
16-APR-13	PLDIG7	TVS	59.6
16-APR-13	PLDIG7	TVS	60.2
16-APR-13	PLDIG7	TVS	58.9
17-APR-13	PLDIG7	TVS	59.9
18-APR-13	PLDIG7	TVS	60.1
18-APR-13	PLDIG7	TVS	59.8
18-APR-13	PLDIG7	TVS	60.4
18-APR-13	PLDIG7	TVS	59.7
19-APR-13	PLDIG7	TVS	59.5
21-APR-13	PLDIG7	TVS	59.8
21-APR-13	PLDIG7	TVS	59.7
22-APR-13	PLDIG7	TVS	59.3
23-APR-13	PLDIG7	TVS	60.1
23-APR-13	PLDIG7	TVS	60.4
23-APR-13	PLDIG7	TVS	60.0
23-APR-13	PLDIG7	TVS	60.4
24-APR-13	PLDIG7	TVS	60.6
25-APR-13	PLDIG7	TVS	60.4
25-APR-13	PLDIG7	TVS	60.5
25-APR-13	PLDIG7	TVS	60.3
25-APR-13	PLDIG7	TVS	60.7
26-APR-13	PLDIG7	TVS	60.4
28-APR-13	PLDIG7	TVS	61.0
28-APR-13	PLDIG7	TVS	60.8
29-APR-13	PLDIG7	TVS	61.4
30-APR-13	PLDIG7	TVS	59.9
30-APR-13	PLDIG7	TVS	60.3
30-APR-13	PLDIG7	TVS	60.0
30-APR-13	PLDIG7	TVS	60.5
avg			59.9

SAMPLE_DA	SOURCE	ANALYTE	VALUE
02-APR-13	MBC_DIG3	TVS	67.8
02-APR-13	MBC_DIG3	TVS	67.9
04-APR-13	MBC_DIG3	TVS	67.3
04-APR-13	MBC_DIG3	TVS	67.3
07-APR-13	MBC_DIG3	TVS	65.0
07-APR-13	MBC_DIG3	TVS	64.9
09-APR-13	MBC_DIG3	TVS	64.7
09-APR-13	MBC_DIG3	TVS	64.7
11-APR-13	MBC_DIG3	TVS	65.9
11-APR-13	MBC_DIG3	TVS	65.5
14-APR-13	MBC_DIG3	TVS	65.4
14-APR-13	MBC_DIG3	TVS	65.4
16-APR-13	MBC_DIG3	TVS	64.5
16-APR-13	MBC_DIG3	TVS	64.5
18-APR-13	MBC_DIG3	TVS	67.0
18-APR-13	MBC_DIG3	TVS	66.8
21-APR-13	MBC_DIG3	TVS	66.0
21-APR-13	MBC_DIG3	TVS	66.0
23-APR-13	MBC_DIG3	TVS	66.1
23-APR-13	MBC_DIG3	TVS	66.2
25-APR-13	MBC_DIG3	TVS	66.3
25-APR-13	MBC_DIG3	TVS	66.7
28-APR-13	MBC_DIG3	TVS	66.3
28-APR-13	MBC_DIG3	TVS	67.0
30-APR-13	MBC_DIG3	TVS	66.0
30-APR-13	MBC_DIG3	TVS	66.4
avg			66.1

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-APR-13	MBC_TSBTC	TVS	82.7
02-APR-13	MBC_TSBTC	TVS	84.0
03-APR-13	MBC_TSBTC	TVS	84.2
04-APR-13	MBC_TSBTC	TVS	83.8
05-APR-13	MBC_TSBTC	TVS	82.8
06-APR-13	MBC_TSBTC	TVS	78.1
07-APR-13	MBC_TSBTC	TVS	80.8
08-APR-13	MBC_TSBTC	TVS	82.0
09-APR-13	MBC_TSBTC	TVS	82.6
10-APR-13	MBC_TSBTC	TVS	82.5
11-APR-13	MBC_TSBTC	TVS	83.1
12-APR-13	MBC_TSBTC	TVS	82.7
13-APR-13	MBC_TSBTC	TVS	73.8
14-APR-13	MBC_TSBTC	TVS	81.9
15-APR-13	MBC_TSBTC	TVS	81.9
16-APR-13	MBC_TSBTC	TVS	82.1
17-APR-13	MBC_TSBTC	TVS	82.7
18-APR-13	MBC_TSBTC	TVS	84.4
19-APR-13	MBC_TSBTC	TVS	82.0
20-APR-13	MBC_TSBTC	TVS	82.0
21-APR-13	MBC_TSBTC	TVS	81.7
22-APR-13	MBC_TSBTC	TVS	81.4
23-APR-13	MBC_TSBTC	TVS	81.2
24-APR-13	MBC_TSBTC	TVS	83.3
25-APR-13	MBC_TSBTC	TVS	83.6
26-APR-13	MBC_TSBTC	TVS	82.9
27-APR-13	MBC_TSBTC	TVS	83.8
28-APR-13	MBC_TSBTC	TVS	82.1
29-APR-13	MBC_TSBTC	TVS	80.0
30-APR-13	MBC_TSBTC	TVS	79.3
avg			82.0

MBCDEWN (Dewatered Sludge Cake) P660574 (3050822-01) Solid (Dry Weight) (Grab) Sampled: 04/30/13 23:59
Received: 05/09/13 11:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Total Metals									
Arsenic	<30.4	30.4	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Cadmium	**2.50**	0.608	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Chromium	**48.8**	0.760	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Copper	**694**	1.52	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Lead	**21.0**	15.2	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Mercury	**1.5**	0.25	mg/kg dry	1	B3E0367	05/14/13 10:13	05/14/13 12:39	EPA 7471A	
Molybdenum	**16.0**	3.04	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Nickel	**36.1**	3.04	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Selenium	<30.4	30.4	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Zinc	**1150**	3.04	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.6	7.6	mg/kg dry	1	[CALC]	05/17/13 07:45	05/14/13 14:30	Calculation	
Organic Nitrogen	**59300**	3800	mg/kg dry	10	[CALC]	05/17/13 07:45	05/17/13 15:08	Calculation	
Total Nitrogen	**63100**	3800	mg/kg dry	1	[CALC]	05/17/13 07:45	05/17/13 15:08	Calculation	
Ammonia as N	**3770**	380	mg/kg dry	10	B3E0423	05/15/13 13:09	05/15/13 13:09	EPA 350.1	
Nitrate + Nitrite as N	<7.60	7.60	mg/kg dry	1	B3E0394	05/14/13 14:30	05/14/13 14:30	SM 4500 NO3 F	
Nitrite as N	<3.8	3.8	mg/kg dry wt. dry	1	B3E0355	05/13/13 13:40	05/13/13 13:40	SM 4500 NO2 B	
Total Kjeldahl Nitrogen	**63100**	3800	mg/kg dry	1	B3E0531	05/17/13 07:45	05/17/13 15:08	EPA 351.2	
Total Phosphorous	**38300**	9510	mg/kg dry	1	B3E0525	05/17/13 10:00	05/17/13 16:50	EPA 365.3	
Total Fixed Solids	**39**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	H3
% Solids	**26**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	H3
Total Volatile Solids	**61**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	H3

MBC_Dig3 (Digested Sludge / Grab) P656262 (3050822-02) Solid (Dry Weight) (Grab) Sampled: 05/07/13 09:00
Received: 05/09/13 11:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**3**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	
Total Volatile Solids	**62**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	

MBC_TSBTC (Raw Sludge / Grab) P656260 (3050822-03) Solid (Dry Weight) (Grab) Sampled: 05/07/13 09:00
Received: 05/09/13 11:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**7**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	
Total Volatile Solids	**79**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	

Digester Feed Pump (Raw Sludge) P656276 (3050822-04) Solid (Dry Weight) (Composite) Sampled: 05/07/13 06:30
Received: 05/09/13 11:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**4**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	
Total Volatile Solids	**78**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	

MBCDEWN (Dewatered Sludge Cake) P657413 (3040450-01) Solid (Dry Weight) (Composite) Sampled: 03/31/13 23:59 Received: 04/04/13 11:35

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Total Metals									
Arsenic	<30.7	30.7	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Cadmium	2.62	0.613	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Chromium	50.6	0.766	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Copper	755	1.53	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Lead	23.1	15.3	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Mercury	1.2	0.26	mg/kg dry	1	B3D0286	04/09/13 14:14	04/09/13 16:00	EPA 7471A	
Molybdenum	15.3	3.07	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Nickel	34.3	3.07	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Selenium	<30.7	30.7	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Zinc	1110	3.07	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.66	7.66	mg/kg dry	1	[CALC]	04/12/13 15:05	04/17/13 12:25	Calculation	
Organic Nitrogen	53300	3830	mg/kg dry	10	[CALC]	04/12/13 15:05	04/10/13 13:49	Calculation	
Total Nitrogen	57500	3830	mg/kg dry	1	[CALC]	04/12/13 15:05	04/12/13 15:05	Calculation	
Ammonia as N	4210	383	mg/kg dry	10	B3D0304	04/10/13 13:49	04/10/13 13:49	EPA 350.1	
Nitrate + Nitrite as N	<7.66	7.66	mg/kg dry	1	B3D0385	04/12/13 15:05	04/12/13 15:05	SM 4500 NO3 F	
Nitrite as N	<3.8	3.8	mg/kg dry wt. dry	1	B3D0494	04/17/13 12:25	04/17/13 12:25	SM 4500 NO2 B	M2
Total Kjeldahl Nitrogen	57500	3830	mg/kg dry	1	B3D0262	04/09/13 07:45	04/09/13 14:53	EPA 351.2	M1
Total Phosphorous	42700	9580	mg/kg dry	1	B3D0315	04/10/13 10:00	04/10/13 17:25	EPA 365.3	
Total Fixed Solids	41	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
% Solids	26	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
Total Volatile Solids	59	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	

MBC_Dig3 (Digested Sludge / Grab) P656261 (3040450-02) Solid (Dry Weight) (Grab) Sampled: 04/02/13 09:00 Received: 04/04/13 11:35

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	3	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
Total Volatile Solids	60	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	

MBC_TSBTC (Raw Sludge / Grab) P656252 (3040450-03) Solid (Dry Weight) (Grab) Sampled: 04/02/13 09:00 Received: 04/04/13 11:35

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	4	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
Total Volatile Solids	80	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	

Digester #7 (Digester Sludge) P656246 (3040450-04) Solid (Dry Weight) (Composite) Sampled: 04/03/13 07:30 Received: 04/04/13 11:35

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	2	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
Total Volatile Solids	55	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Raw Feed Pump #3 (Raw Sludge) P656240 (3040450-05) Solid (Dry Weight) (Composite) Sampled: 04/03/13 07:30
Received: 04/04/13 11:35

Legend Technical Services of Arizona, Inc.

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Inorganic Chemistry									
% Solids	3	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
Total Volatile Solids	76	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATION STATEMENT
In Compliance With
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the
City of San Diego, CA, Metropolitan Wastewater Department

Monthly Sludge Composite Certification - *Centrifuge Dewatered Sludge*

I. INORGANIC POLLUTANT CONCENTRATIONS: The results of analyses below are for a composite sample of daily centrifuge dewatered sludge samples taken from the centrifuges over the calendar month of April 2013. All analyses were performed by the City of San Diego's Wastewater Chemistry Services Section, California State ELAP Certification #1609

Metals: from Table 3 of Paragraph 503.13†
(All concentrations on dry weight)

Parameter	Value	Units	503 Limit	Units
Arsenic	6.39	mg/Kg	41	mg/Kg
Cadmium	0.75	mg/Kg	39	mg/Kg
Chromium	49.1	mg/Kg	3,000	mg/Kg‡
Copper	566	mg/Kg	1,500	mg/Kg
Lead	13	mg/Kg	300	mg/Kg
Mercury	1.4	mg/Kg	17	mg/Kg
Molybdenum	12.4	mg/Kg	75	mg/Kg*
Nickel	31.6	mg/Kg	420	mg/Kg
Selenium	6.28	mg/Kg	36	mg/Kg
Zinc	912	mg/Kg	2,800	mg/Kg
Total Nitrogen	4.92	Wt %		
Date of Sample	30-April-2013			
Total Solids	27.1	Wt %		
Volatile	60.6	Wt %		

† Also conforms to Table 2. Monthly Average Pollutant Concentration of the Arizona Administrative Code Title 18, Chapter 9.
‡ Limit shown is from Table 1. Ceiling Concentrations of Arizona Administrative Code Title 18, Chapter 9.
* Limits for Molybdenum taken from 2009 version of 40 CFR part 503.13 Table 1, Ceiling Concentrations

Based on this month's analysis and the results of analysis of monthly sludge composite samples for the previous year, no parameters in the described sludge stream exceed 40 CFR Part 503 Standards for land application.

Wastewater Laboratory Senior Chemist
Wastewater Chemistry Laboratory,
California State ELAP Cert. No. 1609

5/30/2013
Date

VAR CERT. Form
Revised 7/6/2000

CITY OF SAN DIEGO
METROPOLITAN WASTEWATER DEPARTMENT
CERTIFICATION STATEMENT

In Compliance with
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the City of San Diego, CA, Metropolitan Wastewater Department

VECTOR ATTRACTION REDUCTION

Based on the daily fractional volatile solids reduction (FVSR) values calculated using the Van Kleck Equation and raw and digested sludge volatile solids for the month of MAY 2013 from locations based on the following information from operations:

All sludge sent to Metro Biosolids Center (MBC) from the Pt. Loma WWTP is pumped from Digester 7.
Only North City Water Reclamation Plant (NCWRP) raw sludge is going to MBC digesters.
The MBC thickened sludge samples are representative of the raw sludge from NCWRP.
MBC is using Digester No. 3 for sludge processing.

The following determinations of volatile solids was done using approved methods by laboratories certified by the State of California Environmental Laboratory Accreditation Program (ELAP Laboratory Cert. No. 2478 & 2474)
61.7 % Average Volatile Solids Reduction for the Pt. Loma WWTP sludge digestion process.
52.6 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.

The following determinations of volatile solids was done using approved methods by laboratories certified by the State of Arizona (Cert. No. 0004)
62.6 % Average Volatile Solids Reduction for the Pt. Loma WWTP sludge digestion process.
56.6 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.

Both streams **do** / ~~do not~~ meet 38% FVSR criteria.

Brent G Bowman — Date June 27, 2013
Wastewater Laboratory Senior Chemist

I certify that the sludge samples taken and used in these determinations were taken and handled under my direction and supervision using approved methods and are representative samples of actual operational conditions.

Wastewater Treatment Superintendent — Date 8/27/13
Metro Biosolids Center (MBC)

KC Shankles — Date 7/9/13
Wastewater Treatment Superintendent
Pt. Loma Wastewater Treatment Plant

CERTIFICATION STATEMENT
VECTOR ATTRACTION REQUIREMENTS

I certify, under penalty of law, the vector attraction reduction requirement in Paragraph 503.33 (b) (1) which states that:
The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent, has been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By: — 8/27/13
Deputy Director — Date
Wastewater Treatment and Disposal, Metropolitan Wastewater Department

FVSR (Fractional Volatile Solids Reduction)

$$FVSR = \frac{VS_p - VS_b}{VS_p - (VS_p * VS_b)} = \frac{Vol.solidsRaw - Vol.solids\ Digested}{Vol.solids\ Raw - (Vol.solids\ Raw * Vol.solids\ Digested)}$$

Where: VS_p = Volatile Solids Feed Sludge (RAW SLUDGE),
VS_b = Volatile Solids Digested Sludge (DIG SLUDGE), currently only digester 7 is used for the calculation.

Volatile Solids (VS) is expressed as fractional numbers.

Average Volatile Solids for MAY 2013

Average %TVS Digested Sludge (Digester 7) for the month.		Average Raw (feed) sludge %TVS for the month		Calculated FVSR (%)	
CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used
59.5	57.0	79.3	78.0	61.7%	62.6%

Average Volatile Solids for MAY 2013

Average %TVS Digested Sludge (MBC Dig 3) for the month.		Average Raw (feed) sludge (MBC_TSBTC) %TVS for the month		Calculated FVSR (%)	
CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used
66.3	62.0	80.6	79.0	52.6%	56.6%

SAMPLE_DA	SOURCE	ANALYTE	VALUE
02-MAY-13	RAW S1	TVS	80.3
02-MAY-13	RAW S2	TVS	80.3
02-MAY-13	RAW S3	TVS	80.1
05-MAY-13	RAW S1	TVS	80.9
05-MAY-13	RAW S2	TVS	80.8
05-MAY-13	RAW S3	TVS	80.3
07-MAY-13	RAW S1	TVS	80.6
07-MAY-13	RAW S2	TVS	80.7
07-MAY-13	RAW S3	TVS	78.6
09-MAY-13	RAW S1	TVS	80.5
09-MAY-13	RAW S2	TVS	80.8
09-MAY-13	RAW S3	TVS	77.8
12-MAY-13	RAW S1	TVS	80.7
12-MAY-13	RAW S2	TVS	80.3
12-MAY-13	RAW S3	TVS	80.5
14-MAY-13	RAW S1	TVS	79.1
14-MAY-13	RAW S2	TVS	80.1
14-MAY-13	RAW S3	TVS	79.5
16-MAY-13	RAW S1	TVS	77.4
16-MAY-13	RAW S2	TVS	79.2
16-MAY-13	RAW S3	TVS	78.0
19-MAY-13	RAW S1	TVS	80.9
19-MAY-13	RAW S2	TVS	80.4
19-MAY-13	RAW S3	TVS	79.9
21-MAY-13	RAW S1	TVS	78.9
21-MAY-13	RAW S2	TVS	79.7
21-MAY-13	RAW S3	TVS	78.9
23-MAY-13	RAW S1	TVS	77.9
23-MAY-13	RAW S2	TVS	77.9
23-MAY-13	RAW S3	TVS	76.4
28-MAY-13	RAW S1	TVS	79.3
28-MAY-13	RAW S2	TVS	79.3
28-MAY-13	RAW S3	TVS	78.4
30-MAY-13	RAW S1	TVS	76.4
30-MAY-13	RAW S2	TVS	78.6
30-MAY-13	RAW S3	TVS	75.6
avg			79.3

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-MAY-13	PLDIG7	TVS	60.2
02-MAY-13	PLDIG7	TVS	60.0
02-MAY-13	PLDIG7	TVS	60.5
02-MAY-13	PLDIG7	TVS	59.9
02-MAY-13	PLDIG7	TVS	60.2
03-MAY-13	PLDIG7	TVS	59.9
05-MAY-13	PLDIG7	TVS	59.3
05-MAY-13	PLDIG7	TVS	59.1
06-MAY-13	PLDIG7	TVS	59.2
07-MAY-13	PLDIG7	TVS	60.4
07-MAY-13	PLDIG7	TVS	60.1
07-MAY-13	PLDIG7	TVS	60.6
07-MAY-13	PLDIG7	TVS	60.3
08-MAY-13	PLDIG7	TVS	60.3
09-MAY-13	PLDIG7	TVS	60.3
09-MAY-13	PLDIG7	TVS	62.2
09-MAY-13	PLDIG7	TVS	60.3
09-MAY-13	PLDIG7	TVS	62.0
10-MAY-13	PLDIG7	TVS	61.3
12-MAY-13	PLDIG7	TVS	58.4
12-MAY-13	PLDIG7	TVS	58.3
13-MAY-13	PLDIG7	TVS	57.7
14-MAY-13	PLDIG7	TVS	59.2
14-MAY-13	PLDIG7	TVS	59.4
14-MAY-13	PLDIG7	TVS	59.2
14-MAY-13	PLDIG7	TVS	59.2
15-MAY-13	PLDIG7	TVS	59.1
16-MAY-13	PLDIG7	TVS	60.3
16-MAY-13	PLDIG7	TVS	59.8
16-MAY-13	PLDIG7	TVS	60.9
16-MAY-13	PLDIG7	TVS	60.7
17-MAY-13	PLDIG7	TVS	59.7
19-MAY-13	PLDIG7	TVS	59.1
19-MAY-13	PLDIG7	TVS	59.0
20-MAY-13	PLDIG7	TVS	58.9
21-MAY-13	PLDIG7	TVS	60.2
21-MAY-13	PLDIG7	TVS	57.4
21-MAY-13	PLDIG7	TVS	60.1
21-MAY-13	PLDIG7	TVS	57.3
22-MAY-13	PLDIG7	TVS	58.3
23-MAY-13	PLDIG7	TVS	58.7
23-MAY-13	PLDIG7	TVS	58.2
23-MAY-13	PLDIG7	TVS	58.8
23-MAY-13	PLDIG7	TVS	59.8
24-MAY-13	PLDIG7	TVS	58.8
28-MAY-13	PLDIG7	TVS	59.7
28-MAY-13	PLDIG7	TVS	57.8
28-MAY-13	PLDIG7	TVS	60.3
28-MAY-13	PLDIG7	TVS	57.0
29-MAY-13	PLDIG7	TVS	57.2
30-MAY-13	PLDIG7	TVS	60.9
30-MAY-13	PLDIG7	TVS	58.9
30-MAY-13	PLDIG7	TVS	60.2
30-MAY-13	PLDIG7	TVS	58.8
31-MAY-13	PLDIG7	TVS	59.1
avg			59.5

SAMPLE_DA	SOURCE	ANALYTE	VALUE
02-MAY-13	MBC_DIG3	TVS	65.9
02-MAY-13	MBC_DIG3	TVS	65.9
05-MAY-13	MBC_DIG3	TVS	66.5
05-MAY-13	MBC_DIG3	TVS	66.7
07-MAY-13	MBC_DIG3	TVS	66.3
07-MAY-13	MBC_DIG3	TVS	66.5
09-MAY-13	MBC_DIG3	TVS	65.8
09-MAY-13	MBC_DIG3	TVS	65.7
12-MAY-13	MBC_DIG3	TVS	66.3
12-MAY-13	MBC_DIG3	TVS	66.3
14-MAY-13	MBC_DIG3	TVS	66.6
14-MAY-13	MBC_DIG3	TVS	66.3
16-MAY-13	MBC_DIG3	TVS	66.9
16-MAY-13	MBC_DIG3	TVS	67.1
19-MAY-13	MBC_DIG3	TVS	66.3
19-MAY-13	MBC_DIG3	TVS	66.3
21-MAY-13	MBC_DIG3	TVS	65.5
21-MAY-13	MBC_DIG3	TVS	65.6
23-MAY-13	MBC_DIG3	TVS	64.0
23-MAY-13	MBC_DIG3	TVS	64.3
26-MAY-13	MBC_DIG3	TVS	65.9
26-MAY-13	MBC_DIG3	TVS	65.8
28-MAY-13	MBC_DIG3	TVS	65.9
28-MAY-13	MBC_DIG3	TVS	66.1
30-MAY-13	MBC_DIG3	TVS	68.5
30-MAY-13	MBC_DIG3	TVS	68.6
avg			66.2

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-MAY-13	MBC_TSBTC	TVS	78.9
02-MAY-13	MBC_TSBTC	TVS	81.0
03-MAY-13	MBC_TSBTC	TVS	83.0
04-MAY-13	MBC_TSBTC	TVS	82.7
05-MAY-13	MBC_TSBTC	TVS	82.3
06-MAY-13	MBC_TSBTC	TVS	81.8
08-MAY-13	MBC_TSBTC	TVS	80.6
09-MAY-13	MBC_TSBTC	TVS	76.9
10-MAY-13	MBC_TSBTC	TVS	81.5
11-MAY-13	MBC_TSBTC	TVS	82.2
12-MAY-13	MBC_TSBTC	TVS	80.3
13-MAY-13	MBC_TSBTC	TVS	80.1
14-MAY-13	MBC_TSBTC	TVS	83.2
15-MAY-13	MBC_TSBTC	TVS	83.8
16-MAY-13	MBC_TSBTC	TVS	81.9
17-MAY-13	MBC_TSBTC	TVS	81.7
18-MAY-13	MBC_TSBTC	TVS	80.2
19-MAY-13	MBC_TSBTC	TVS	80.5
23-MAY-13	MBC_TSBTC	TVS	75.1
24-MAY-13	MBC_TSBTC	TVS	81.0
25-MAY-13	MBC_TSBTC	TVS	82.2
26-MAY-13	MBC_TSBTC	TVS	82.3
27-MAY-13	MBC_TSBTC	TVS	82.1
28-MAY-13	MBC_TSBTC	TVS	71.0
30-MAY-13	MBC_TSBTC	TVS	79.0
31-MAY-13	MBC_TSBTC	TVS	79.8
avg			80.6

MBCDEWN (Dewatered Sludge Cake) P664036 (3060436-01) Solid (Dry Weight) (Grab) Sampled: 05/31/13 23:59
Received: 06/06/13 11:05

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Total Metals									
Arsenic	<30.7	30.7	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Cadmium	**2.59**	0.613	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Chromium	**54.7**	0.766	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Copper	**734**	1.53	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Lead	**24.4**	15.3	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Mercury	**1.7**	0.26	mg/kg dry	1	B3F0299	06/11/13 10:20	06/11/13 15:00	EPA 7471A	
Molybdenum	**19.1**	3.07	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Nickel	**42.1**	3.07	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Selenium	<30.7	30.7	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Zinc	**1210**	3.07	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.66	7.66	mg/kg dry	1	[CALC]	06/11/13 13:10	06/12/13 11:00	Calculation	
Organic Nitrogen	**49400**	3830	mg/kg dry	10	[CALC]	06/11/13 13:10	06/12/13 13:47	Calculation	
Total Nitrogen	**54000**	3830	mg/kg dry	1	[CALC]	06/11/13 13:10	06/11/13 13:47	Calculation	
Ammonia as N	**4640**	383	mg/kg dry	10	B3F0347	06/12/13 13:47	06/12/13 13:47	EPA 350.1	
Nitrate + Nitrite as N	<7.66	7.66	mg/kg dry	1	B3F0320	06/11/13 13:10	06/11/13 13:10	SM 4500 NO3 F	
Nitrite as N	<3.8	3.8	mg/kg dry wt. dry	1	B3F0333	06/12/13 11:00	06/12/13 11:00	SM 4500 NO2 B	M2
Total Phosphorous	**26100**	9580	mg/kg dry	1	B3F0361	06/12/13 10:00	06/13/13 16:50	EPA 365.3	
Total Fixed Solids	**43**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	
% Solids	**26**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	
Total Volatile Solids	**57**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	

MBCDEWN (Dewatered Sludge Cake) P664036 (3060436-01RE1) Solid (Dry Weight) (Grab) Sampled: 05/31/13 23:59
Received: 06/06/13 11:05

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
Organic Nitrogen	**48700**	3830	mg/kg dry	1	[CALC]	06/11/13 07:30	06/11/13 13:47	Calculation	
Total Nitrogen	**48700**	3830	mg/kg dry	1	[CALC]	06/11/13 07:30	06/11/13 13:47	Calculation	
Total Kjeldahl Nitrogen	**48700**	3830	mg/kg dry	1	B3F0307	06/11/13 07:30	06/11/13 13:47	EPA 351.2	M1

MBC_Dig3 (Digested Sludge / Grab) P656263 (3060436-02) Solid (Dry Weight) (Grab) Sampled: 06/04/13 09:00
Received: 06/06/13 11:05

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
% Solids	**3**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	
Total Volatile Solids	**62**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	

MBC_TSBTC (Raw Sludge / Grab) P656253 (3060436-03) Solid (Dry Weight) (Grab) Sampled: 06/04/13 09:00
Received: 06/06/13 11:05

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
% Solids	**5**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	
Total Volatile Solids	**80**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MBCDEWN (Dewatered Sludge Cake) P660574 (3050822-01) Solid (Dry Weight) (Grab) Sampled: 04/30/13 23:59
Received: 05/09/13 11:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Total Metals									
Arsenic	<30.4	30.4	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Cadmium	**2.50**	0.608	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Chromium	**48.8**	0.760	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Copper	**694**	1.52	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Lead	**21.0**	15.2	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Mercury	**1.5**	0.25	mg/kg dry	1	B3E0367	05/14/13 10:13	05/14/13 12:39	EPA 7471A	
Molybdenum	**16.0**	3.04	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Nickel	**36.1**	3.04	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Selenium	<30.4	30.4	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Zinc	**1150**	3.04	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.6	7.6	mg/kg dry	1	[CALC]	05/17/13 07:45	05/14/13 14:30	Calculation	
Organic Nitrogen	**59300**	3800	mg/kg dry	10	[CALC]	05/17/13 07:45	05/17/13 15:08	Calculation	
Total Nitrogen	**63100**	3800	mg/kg dry	1	[CALC]	05/17/13 07:45	05/17/13 15:08	Calculation	
Ammonia as N	**3770**	380	mg/kg dry	10	B3E0423	05/15/13 13:09	05/15/13 13:09	EPA 350.1	
Nitrate + Nitrite as N	<7.60	7.60	mg/kg dry	1	B3E0394	05/14/13 14:30	05/14/13 14:30	SM 4500 NO3 F	
Nitrite as N	<3.8	3.8	mg/kg dry wt. dry	1	B3E0355	05/13/13 13:40	05/13/13 13:40	SM 4500 NO2 B	
Total Kjeldahl Nitrogen	**63100**	3800	mg/kg dry	1	B3E0531	05/17/13 07:45	05/17/13 15:08	EPA 351.2	
Total Phosphorous	**38300**	9510	mg/kg dry	1	B3E0525	05/17/13 10:00	05/17/13 16:50	EPA 365.3	
Total Fixed Solids	**39**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	H3
% Solids	**26**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	H3
Total Volatile Solids	**61**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	H3

MBC_Dig3 (Digested Sludge / Grab) P656262 (3050822-02) Solid (Dry Weight) (Grab) Sampled: 05/07/13 09:00
Received: 05/09/13 11:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**3**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	
Total Volatile Solids	**62**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	

MBC_TSBTC (Raw Sludge / Grab) P656260 (3050822-03) Solid (Dry Weight) (Grab) Sampled: 05/07/13 09:00
Received: 05/09/13 11:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**7**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	
Total Volatile Solids	**79**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	

Digester Feed Pump (Raw Sludge) P656276 (3050822-04) Solid (Dry Weight) (Composite) Sampled: 05/07/13 06:30
Received: 05/09/13 11:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**4**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	
Total Volatile Solids	**78**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	

Digester 7 (Raw Sludge) P656271 (3050822-05) Solid (Dry Weight) (Composite) Sampled: 05/07/13 00:00 Received: 05/09/13 11:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	2	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	
Total Volatile Solids	57	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	

CERTIFICATION STATEMENT
In Compliance With
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the
City of San Diego, CA, Metropolitan Wastewater Department

Monthly Sludge Composite Certification - *Centrifuge Dewatered Sludge*

I. INORGANIC POLLUTANT CONCENTRATIONS: The results of analyses below are for a composite sample of daily centrifuge dewatered sludge samples taken from the centrifuges over the calendar month of May 2013. All analyses were performed by the City of San Diego's Wastewater Chemistry Services Section, California State ELAP Certification #1609

Metals: from Table 3 of Paragraph 503.13†
(All concentrations on dry weight)

Parameter	Value	Units	503 Limit	Units
Arsenic	5.28	mg/Kg	41	mg/Kg
Cadmium	1.2	mg/Kg	39	mg/Kg
Chromium	62.5	mg/Kg	3,000	mg/Kg‡
Copper	746	mg/Kg	1,500	mg/Kg
Lead	17	mg/Kg	300	mg/Kg
Mercury	1.3	mg/Kg	17	mg/Kg
Molybdenum	19.5	mg/Kg	75	mg/Kg*
Nickel	41.0	mg/Kg	420	mg/Kg
Selenium	4.91	mg/Kg	36	mg/Kg
Zinc	1175	mg/Kg	2,800	mg/Kg
Total Nitrogen	4.91	Wt %		
Date of Sample	31-May-2013			
Total Solids	26.9	Wt %		
Volatile	57.4	Wt %		

† Also conforms to Table 2. Monthly Average Pollutant Concentration of the Arizona Administrative Code Title 18, Chapter 9.
‡ Limit shown is from Table 1. Ceiling Concentrations of Arizona Administrative Code Title 18, Chapter 9.
* Limits for Molybdenum taken from 2009 version of 40 CFR part 503.13 Table 1, Ceiling Concentrations

Based on this month's analysis and the results of analysis of monthly sludge composite samples for the previous year, no parameters in the described sludge stream exceed 40 CFR Part 503 Standards for land application.

Brit G Brown
Wastewater Laboratory Senior Chemist
Wastewater Chemistry Laboratory,
California State ELAP Cert. No. 1609

June 27, 2013
Date

VAR CERT. Form
Revised 7/6/2000

CITY OF SAN DIEGO
METROPOLITAN WASTEWATER DEPARTMENT
CERTIFICATION STATEMENT

In Compliance with
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the City of San Diego, CA, Metropolitan Wastewater Department

VECTOR ATTRACTION REDUCTION

Based on the daily fractional volatile solids reduction (FVSR) values calculated using the Van Kleck Equation and raw and digested sludge volatile solids for the month of JUNE 2013 from locations based on the following information from operations:

All sludge sent to Metro Biosolids Center (MBC) from the Pt. Loma WWTP is pumped from Digester 7.
Only North City Water Reclamation Plant (NCWRP) raw sludge is going to MBC digesters.
The MBC thickened sludge samples are representative of the raw sludge from NCWRP.
MBC is using Digester No. 3 for sludge processing.

The following determinations of volatile solids was done using approved methods by laboratories certified by the State of California Environmental Laboratory Accreditation Program (ELAP Laboratory Cert. No. 2478 & 2474)
60.0 % Average Volatile Solids Reduction for the Pt. Loma WWTP sludge digestion process.
58.9 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.

The following determinations of volatile solids was done using approved methods by laboratories certified by the State of Arizona (Cert. No. 0004)
62.9 % Average Volatile Solids Reduction for the Pt. Loma WWTP sludge digestion process.
59.2 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.

Both streams **do** / ~~do not~~ meet 38% FVSR criteria.

Wastewater Laboratory Senior Chemist — Date 7/26/2013

I certify that the sludge samples taken and used in these determinations were taken and handled under my direction and supervision using approved methods and are representative samples of actual operational conditions.

Wastewater Treatment Superintendent, Metro Biosolids Center (MBC) — Date 8/27/13

Wastewater Treatment Superintendent, Pt. Loma Wastewater Treatment Plant — Date 8/27/1

CERTIFICATION STATEMENT
VECTOR ATTRACTION REQUIREMENTS

I certify, under penalty of law, the vector attraction reduction requirement in Paragraph 503.33 (b) (1) which states that:
The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent, has been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By:

Deputy Director — Date 8/27/13
Wastewater Treatment and Disposal, Metropolitan Wastewater Department

FVSR (Fractional Volatile Solids Reduction)

$$FVSR = \frac{VS_p - VS_b}{VS_p - (VS_p * VS_b)} = \frac{Vol.solidsRaw - Vol.solids\ Digested}{Vol.solids\ Raw - (Vol.solids\ Raw * Vol.solids\ Digested)}$$

Where: VS_p = Volatile Solids Feed Sludge (RAW SLUDGE),
VS_b = Volatile Solids Digested Sludge (DIG SLUDGE), currently only digester 7 is used for the calculation.

Volatile Solids (VS) is expressed as fractional numbers.

Average Volatile Solids for JUNE 2013

Average %TVS Digested Sludge (Digester 7) for the month.		Average Raw (feed) sludge %TVS for the month		Calculated FVSR (%)	
CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used
59.1	54.0	78.3	76.0	60.0%	62.9%

Average Volatile Solids for JUNE 2013

Average %TVS Digested Sludge (MBC Dig 3) for the month.		Average Raw (feed) sludge (MBC_TSBTC) %TVS for the month		Calculated FVSR (%)	
CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used
63.8	62.0	81.1	80.0	58.9%	59.2%

SAMPLE_DA	SOURCE	ANALYTE	VALUE
02-JUN-13	RAW S1	TVS	79.2
02-JUN-13	RAW S2	TVS	79.3
02-JUN-13	RAW S3	TVS	79.0
04-JUN-13	RAW S1	TVS	78.7
04-JUN-13	RAW S2	TVS	79.1
04-JUN-13	RAW S3	TVS	78.5
06-JUN-13	RAW S1	TVS	79.4
06-JUN-13	RAW S2	TVS	79.9
06-JUN-13	RAW S3	TVS	78.0
09-JUN-13	RAW S1	TVS	77.6
09-JUN-13	RAW S2	TVS	79.0
09-JUN-13	RAW S3	TVS	78.6
11-JUN-13	RAW S1	TVS	77.3
11-JUN-13	RAW S2	TVS	78.2
11-JUN-13	RAW S3	TVS	78.0
13-JUN-13	RAW S1	TVS	79.9
13-JUN-13	RAW S2	TVS	78.2
13-JUN-13	RAW S3	TVS	78.0
16-JUN-13	RAW S1	TVS	77.9
16-JUN-13	RAW S2	TVS	79.1
16-JUN-13	RAW S3	TVS	79.0
18-JUN-13	RAW S1	TVS	78.6
18-JUN-13	RAW S2	TVS	78.5
18-JUN-13	RAW S3	TVS	78.5
20-JUN-13	RAW S1	TVS	76.6
20-JUN-13	RAW S2	TVS	77.3
20-JUN-13	RAW S3	TVS	77.1
23-JUN-13	RAW S1	TVS	78.5
23-JUN-13	RAW S2	TVS	79.2
23-JUN-13	RAW S3	TVS	77.6
25-JUN-13	RAW S1	TVS	78.1
25-JUN-13	RAW S2	TVS	78.4
25-JUN-13	RAW S3	TVS	77.4
27-JUN-13	RAW S1	TVS	77.6
27-JUN-13	RAW S2	TVS	78.6
27-JUN-13	RAW S3	TVS	77.8
30-JUN-13	RAW S1	TVS	78.1
30-JUN-13	RAW S2	TVS	77.8
30-JUN-13	RAW S3	TVS	77.4
avg			78.3

SAMPLE_DA	SOURCE	ANALYTE	VALUE
02-JUN-13	PLDIG7	TVS	58.4
02-JUN-13	PLDIG7	TVS	58.6
03-JUN-13	PLDIG7	TVS	59.1
04-JUN-13	PLDIG7	TVS	59.3
04-JUN-13	PLDIG7	TVS	58.6
04-JUN-13	PLDIG7	TVS	59.4
04-JUN-13	PLDIG7	TVS	58.6
05-JUN-13	PLDIG7	TVS	58.4
06-JUN-13	PLDIG7	TVS	58.5
06-JUN-13	PLDIG7	TVS	58.1
06-JUN-13	PLDIG7	TVS	58.4
06-JUN-13	PLDIG7	TVS	59.4
07-JUN-13	PLDIG7	TVS	58.2
09-JUN-13	PLDIG7	TVS	59.1
09-JUN-13	PLDIG7	TVS	58.8
10-JUN-13	PLDIG7	TVS	58.4
11-JUN-13	PLDIG7	TVS	58.6
11-JUN-13	PLDIG7	TVS	58.7
11-JUN-13	PLDIG7	TVS	59.7
11-JUN-13	PLDIG7	TVS	59.1
12-JUN-13	PLDIG7	TVS	58.7
13-JUN-13	PLDIG7	TVS	60.1
13-JUN-13	PLDIG7	TVS	60.3
13-JUN-13	PLDIG7	TVS	59.9
13-JUN-13	PLDIG7	TVS	59.7
14-JUN-13	PLDIG7	TVS	60.2
16-JUN-13	PLDIG7	TVS	59.4
16-JUN-13	PLDIG7	TVS	59.3
17-JUN-13	PLDIG7	TVS	58.3
18-JUN-13	PLDIG7	TVS	59.5
18-JUN-13	PLDIG7	TVS	60.2
18-JUN-13	PLDIG7	TVS	59.4
18-JUN-13	PLDIG7	TVS	60.2
19-JUN-13	PLDIG7	TVS	59.1
20-JUN-13	PLDIG7	TVS	58.4
20-JUN-13	PLDIG7	TVS	57.9
20-JUN-13	PLDIG7	TVS	58.5
20-JUN-13	PLDIG7	TVS	58.0
21-JUN-13	PLDIG7	TVS	58.0
23-JUN-13	PLDIG7	TVS	60.0
23-JUN-13	PLDIG7	TVS	60.3
24-JUN-13	PLDIG7	TVS	59.3
25-JUN-13	PLDIG7	TVS	60.3
25-JUN-13	PLDIG7	TVS	59.2
25-JUN-13	PLDIG7	TVS	60.1
25-JUN-13	PLDIG7	TVS	59.3
26-JUN-13	PLDIG7	TVS	59.6
27-JUN-13	PLDIG7	TVS	58.3
27-JUN-13	PLDIG7	TVS	59.8
27-JUN-13	PLDIG7	TVS	58.5
27-JUN-13	PLDIG7	TVS	59.9
28-JUN-13	PLDIG7	TVS	60.3
30-JUN-13	PLDIG7	TVS	58.2
30-JUN-13	PLDIG7	TVS	58.2
avg			59.1

SAMPLE_DA	SOURCE	ANALYTE	VALUE
02-JUN-13	MBC_DIG3	TVS	61.7
02-JUN-13	MBC_DIG3	TVS	62.5
04-JUN-13	MBC_DIG3	TVS	65.2
04-JUN-13	MBC_DIG3	TVS	65.9
06-JUN-13	MBC_DIG3	TVS	66.1
06-JUN-13	MBC_DIG3	TVS	66.6
09-JUN-13	MBC_DIG3	TVS	62.9
09-JUN-13	MBC_DIG3	TVS	63.1
11-JUN-13	MBC_DIG3	TVS	64.5
11-JUN-13	MBC_DIG3	TVS	64.7
13-JUN-13	MBC_DIG3	TVS	63.4
13-JUN-13	MBC_DIG3	TVS	63.7
16-JUN-13	MBC_DIG3	TVS	63.0
16-JUN-13	MBC_DIG3	TVS	63.0
18-JUN-13	MBC_DIG3	TVS	63.0
18-JUN-13	MBC_DIG3	TVS	63.3
20-JUN-13	MBC_DIG3	TVS	62.3
20-JUN-13	MBC_DIG3	TVS	62.7
23-JUN-13	MBC_DIG3	TVS	63.9
23-JUN-13	MBC_DIG3	TVS	64.2
25-JUN-13	MBC_DIG3	TVS	63.2
27-JUN-13	MBC_DIG3	TVS	63.7
27-JUN-13	MBC_DIG3	TVS	64.3
30-JUN-13	MBC_DIG3	TVS	64.2
30-JUN-13	MBC_DIG3	TVS	64.2
avg			63.8

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-JUN-13	MBC_TSBTC	TVS	81.0
02-JUN-13	MBC_TSBTC	TVS	81.1
04-JUN-13	MBC_TSBTC	TVS	82.8
05-JUN-13	MBC_TSBTC	TVS	81.9
06-JUN-13	MBC_TSBTC	TVS	82.7
07-JUN-13	MBC_TSBTC	TVS	79.8
09-JUN-13	MBC_TSBTC	TVS	80.3
18-JUN-13	MBC_TSBTC	TVS	75.5
19-JUN-13	MBC_TSBTC	TVS	80.8
21-JUN-13	MBC_TSBTC	TVS	79.0
22-JUN-13	MBC_TSBTC	TVS	80.4
23-JUN-13	MBC_TSBTC	TVS	81.5
24-JUN-13	MBC_TSBTC	TVS	82.1
25-JUN-13	MBC_TSBTC	TVS	82.3
26-JUN-13	MBC_TSBTC	TVS	81.9
27-JUN-13	MBC_TSBTC	TVS	82.3
28-JUN-13	MBC_TSBTC	TVS	82.7
29-JUN-13	MBC_TSBTC	TVS	82.0
30-JUN-13	MBC_TSBTC	TVS	81.6
avg			81.1

MBCDEWN (Dewatered Sludge Cake) P667050 (3070473-01) Solid (Dry Weight) (Composite) Sampled: 06/30/13 23:59 Received: 07/05/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Total Metals									
Arsenic	<31.5	31.5	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Cadmium	2.37	0.630	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Chromium	54.7	0.787	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Copper	756	1.57	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Lead	22.0	15.7	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Mercury	1.1	0.26	mg/kg dry	1	B3G0430	07/15/13 10:14	07/15/13 16:30	EPA 7471A	
Molybdenum	19.8	3.15	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Nickel	41.3	3.15	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Selenium	<31.5	31.5	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Zinc	1050	3.15	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.87	7.87	mg/kg dry	1	[CALC]	07/15/13 07:30	07/12/13 13:30	Calculation	
Organic Nitrogen	29300	3940	mg/kg dry	10	[CALC]	07/15/13 07:30	07/15/13 14:48	Calculation	
Total Nitrogen	33200	3940	mg/kg dry	1	[CALC]	07/15/13 07:30	07/15/13 14:48	Calculation	
Ammonia as N	3920	394	mg/kg dry	10	B3G0282	07/10/13 13:37	07/10/13 13:37	EPA 350.1	
Nitrate + Nitrite as N	<7.87	7.87	mg/kg dry	1	B3G0375	07/12/13 13:30	07/12/13 13:30	SM 4500 NO3 F	
Nitrite as N	<3.9	3.9	mg/kg dry wt. dry	1	B3G0206	07/08/13 15:14	07/08/13 15:14	SM 4500 NO2 B	M2
Total Kjeldahl Nitrogen	33200	3940	mg/kg dry	1	B3G0418	07/15/13 07:30	07/15/13 14:48	EPA 351.2	M1
Total Phosphorous	24100	9840	mg/kg dry	1	B3G0280	07/10/13 10:00	07/10/13 15:15	EPA 365.3	M1
Total Fixed Solids	41	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	H3
% Solids	25	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	H3
Total Volatile Solids	59	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	H3

Digester 7 (Digested Sludge) P656248 (3070473-02) Solid (Dry Weight) (Composite) Sampled: 07/02/13 23:59 Received: 07/05/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	2	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	
Total Volatile Solids	56	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	

Raw Feed Sludge (Pump Raw Sludge) P656242 (3070473-03) Solid (Dry Weight) (Composite) Sampled: 07/02/13 23:59 Received: 07/05/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	4	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	
Total Volatile Solids	88	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	

MBC_Dig3 (Digested Sludge / Grab) P656264 (3070473-04) Solid (Dry Weight) (Grab) Sampled: 07/02/13 09:00 Received: 07/05/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	3	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	
Total Volatile Solids	61	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	

MBCDEWN (Dewatered Sludge Cake) P664036 (3060436-01) Solid (Dry Weight) (Grab) Sampled: 05/31/13 23:59 Received: 06/06/13 11:05

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Total Metals									
Arsenic	<30.7	30.7	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Cadmium	**2.59**	0.613	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Chromium	**54.7**	0.766	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Copper	**734**	1.53	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Lead	**24.4**	15.3	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Mercury	**1.7**	0.26	mg/kg dry	1	B3F0299	06/11/13 10:20	06/11/13 15:00	EPA 7471A	
Molybdenum	**19.1**	3.07	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Nickel	**42.1**	3.07	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Selenium	<30.7	30.7	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Zinc	**1210**	3.07	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.66	7.66	mg/kg dry	1	[CALC]	06/11/13 13:10	06/12/13 11:00	Calculation	
Organic Nitrogen	**49400**	3830	mg/kg dry	10	[CALC]	06/11/13 13:10	06/12/13 13:47	Calculation	
Total Nitrogen	**54000**	3830	mg/kg dry	1	[CALC]	06/11/13 13:10	06/11/13 13:47	Calculation	
Ammonia as N	**4640**	383	mg/kg dry	10	B3F0347	06/12/13 13:47	06/12/13 13:47	EPA 350.1	
Nitrate + Nitrite as N	<7.66	7.66	mg/kg dry	1	B3F0320	06/11/13 13:10	06/11/13 13:10	SM 4500 NO3 F	
Nitrite as N	<3.8	3.8	mg/kg dry wt. dry	1	B3F0333	06/12/13 11:00	06/12/13 11:00	SM 4500 NO2 B M2	
Total Phosphorous	**26100**	9580	mg/kg dry	1	B3F0361	06/12/13 10:00	06/13/13 16:50	EPA 365.3	
Total Fixed Solids	**43**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	
% Solids	**26**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	
Total Volatile Solids	**57**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	

MBCDEWN (Dewatered Sludge Cake) P664036 (3060436-01RE1) Solid (Dry Weight) (Grab) Sampled: 05/31/13 23:59 Received: 06/06/13 11:05

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
Organic Nitrogen	**48700**	3830	mg/kg dry	1	[CALC]	06/11/13 07:30	06/11/13 13:47	Calculation	
Total Nitrogen	**48700**	3830	mg/kg dry	1	[CALC]	06/11/13 07:30	06/11/13 13:47	Calculation	
Total Kjeldahl Nitrogen	**48700**	3830	mg/kg dry	1	B3F0307	06/11/13 07:30	06/11/13 13:47	EPA 351.2	M1

MBC_Dig3 (Digested Sludge / Grab) P656263 (3060436-02) Solid (Dry Weight) (Grab) Sampled: 06/04/13 09:00 Received: 06/06/13 11:05

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
% Solids	**3**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	
Total Volatile Solids	**62**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	

MBC_TSBTC (Raw Sludge / Grab) P656253 (3060436-03) Solid (Dry Weight) (Grab) Sampled: 06/04/13 09:00 Received: 06/06/13 11:05

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
% Solids	**5**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	
Total Volatile Solids	**80**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Raw Feed Pump (PLR, Raw Sludge) P656241 (3060436-04) Solid (Dry Weight) (Composite) Sampled: 06/04/13 23:59 Received: 06/06/13 11:05

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Legend Technical Services of Arizona, Inc.									
Inorganic Chemistry									
% Solids	4	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	
Total Volatile Solids	76	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	

Digester 7 (Digester Sludge) P656247 (3060436-05) Solid (Dry Weight) (Composite) Sampled: 06/04/13 23:59 Received: 06/06/13 11:05

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Legend Technical Services of Arizona, Inc.									
Inorganic Chemistry									
% Solids	2	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	
Total Volatile Solids	54	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CERTIFICATION STATEMENT
In Compliance With
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the
City of San Diego, CA, Metropolitan Wastewater Department

Monthly Sludge Composite Certification - *Centrifuge Dewatered Sludge*

I. INORGANIC POLLUTANT CONCENTRATIONS: The results of analyses below are for a composite sample of daily centrifuge dewatered sludge samples taken from the centrifuges over the calendar month of June 2013. All analyses were performed by the City of San Diego's Wastewater Chemistry Services Section, California State ELAP Certification #1609

Metals: from Table 3 of Paragraph 503.13†
(All concentrations on dry weight)

Parameter	Value	Units	503 Limit	Units
Arsenic	4.65	mg/Kg	41	mg/Kg
Cadmium	1.4	mg/Kg	39	mg/Kg
Chromium	53.9	mg/Kg	3,000	mg/Kg‡
Copper	622	mg/Kg	1,500	mg/Kg
Lead	18	mg/Kg	300	mg/Kg
Mercury	1.5	mg/Kg	17	mg/Kg
Molybdenum	18.8	mg/Kg	75	mg/Kg*
Nickel	43.5	mg/Kg	420	mg/Kg
Selenium	7.63	mg/Kg	36	mg/Kg
Zinc	937	mg/Kg	2,800	mg/Kg
Total Nitrogen	4.89	Wt %		
Date of Sample	30-Jun-2013			
Total Solids	26.4	Wt %		
Volatile	58.9	Wt %		

† Also conforms to Table 2. Monthly Average Pollutant Concentration of the Arizona Administrative Code Title 18, Chapter 9.
‡ Limit shown is from Table 1. Ceiling Concentrations of Arizona Administrative Code Title 18, Chapter 9.
* Limits for Molybdenum taken from 2009 version of 40 CFR part 503.13 Table 1, Ceiling Concentrations

Based on this month's analysis and the results of analysis of monthly sludge composite samples for the previous year, no parameters in the described sludge stream exceed 40 CFR Part 503 Standards for land application.

Wastewater Laboratory Senior Chemist
Wastewater Chemistry Laboratory,
California State ELAP Cert. No. 1609

7/26/2013
Date

VAR CERT. Form
Revised 7/6/2000

CITY OF SAN DIEGO
METROPOLITAN WASTEWATER DEPARTMENT
CERTIFICATION STATEMENT

In Compliance with
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the City of San Diego, CA, Metropolitan Wastewater Department

VECTOR ATTRACTION REDUCTION

Based on the daily fractional volatile solids reduction (FVSR) values calculated using the Van Kleck Equation and raw and digested sludge volatile solids for the month of JULY 2013 from locations based on the following information from operations:

All sludge sent to Metro Biosolids Center (MBC) from the Pt. Loma WWTP is pumped from Digester 7.
Only North City Water Reclamation Plant (NCWRP) raw sludge is going to MBC digesters.
The MBC thickened sludge samples are representative of the raw sludge from NCWRP.
MBC is using Digester No. 3 for sludge processing.

The following determinations of volatile solids was done using approved methods by laboratories certified by the State of California Environmental Laboratory Accreditation Program (ELAP Laboratory Cert. No. 2478 & 2474)
57.2 % Average Volatile Solids Reduction for the Pt. Loma WWTP sludge digestion process.
56.3 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.

Both streams **do** / ~~do not~~ meet 38% FVSR criteria.

Wastewater Laboratory Senior Chemist — Date 8/28/2013

I certify that the sludge samples taken and used in these determinations were taken and handled under my direction and supervision using approved methods and are representative samples of actual operational conditions.

Wastewater Treatment Superintendent, Metro Biosolids Center (MBC) — Date 9/10/13 BR

Wastewater Treatment Superintendent, Pt. Loma Wastewater Treatment Plant — Date 9/10/13

CERTIFICATION STATEMENT
VECTOR ATTRACTION REQUIREMENTS

I certify, under penalty of law, the vector attraction reduction requirement in Paragraph 503.33 (b) (1) which states that:
The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent, has been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By: Clyl Lester — 9/10/13

Deputy Director — Date
Wastewater Treatment and Disposal, Metropolitan Wastewater Department

FVSR (Fractional Volatile Solids Reduction)

$$FVSR = \frac{VS_p - VS_b}{VS_p - (VS_p * VS_b)} = \frac{Vol.solidsRaw - Vol.solids\ Digested}{Vol.solids\ Raw - (Vol.solids\ Raw * Vol.solids\ Digested)}$$

Where: VS_p = Volatile Solids Feed Sludge (RAW SLUDGE),
VS_b = Volatile Solids Digested Sludge (DIG SLUDGE), currently only digester 7 is used for the calculation.

Volatile Solids (VS) is expressed as fractional numbers.

Average Volatile Solids for JULY 2013

Average %TVS Digested Sludge (Digester 7) for the month.	Average Raw (feed) sludge %TVS for the month	Calculated FVSR (%)
CA Lab data used	CA Lab data used	CA Lab data used
58.6	76.8	57.2%

Average Volatile Solids for JULY 2013

Average %TVS Digested Sludge (MBC Dig 3) for the month.	Average Raw (feed) sludge (MBC_TSBTC) %TVS for the month	Calculated FVSR (%)
CA Lab data used	CA Lab data used	CA Lab data used
65.2	81.1	56.3%

SAMPLE_DA	SOURCE	ANALYTE	VALUE
02-JUL-13	RAW S1	TVS	77.8
02-JUL-13	RAW S2	TVS	77.9
02-JUL-13	RAW S3	TVS	77.5
04-JUL-13	RAW S1	TVS	77.3
04-JUL-13	RAW S2	TVS	76.7
04-JUL-13	RAW S3	TVS	76.4
07-JUL-13	RAW S1	TVS	76.7
07-JUL-13	RAW S2	TVS	76.4
07-JUL-13	RAW S3	TVS	75.9
09-JUL-13	RAW S1	TVS	76.3
09-JUL-13	RAW S2	TVS	77.5
09-JUL-13	RAW S3	TVS	76.3
11-JUL-13	RAW S1	TVS	76.5
11-JUL-13	RAW S2	TVS	75.8
11-JUL-13	RAW S3	TVS	75.3
14-JUL-13	RAW S1	TVS	75.2
14-JUL-13	RAW S2	TVS	74.9
14-JUL-13	RAW S3	TVS	74.9
16-JUL-13	RAW S1	TVS	77.2
16-JUL-13	RAW S2	TVS	76.5
16-JUL-13	RAW S3	TVS	76.0
18-JUL-13	RAW S1	TVS	75.6
18-JUL-13	RAW S2	TVS	75.4
18-JUL-13	RAW S3	TVS	74.3
21-JUL-13	RAW S1	TVS	77.1
21-JUL-13	RAW S2	TVS	77.0
21-JUL-13	RAW S3	TVS	77.8
23-JUL-13	RAW S1	TVS	78.4
23-JUL-13	RAW S2	TVS	77.8
23-JUL-13	RAW S3	TVS	77.1
25-JUL-13	RAW S1	TVS	77.5
25-JUL-13	RAW S2	TVS	77.0
25-JUL-13	RAW S3	TVS	76.7
28-JUL-13	RAW S1	TVS	78.5
28-JUL-13	RAW S2	TVS	78.6
28-JUL-13	RAW S3	TVS	78.9
30-JUL-13	RAW S1	TVS	76.2
30-JUL-13	RAW S2	TVS	77.7
30-JUL-13	RAW S3	TVS	77.5
avg			76.8

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-JUL-13	PLDIG7	TVS	58.1
02-JUL-13	PLDIG7	TVS	60.1
02-JUL-13	PLDIG7	TVS	59.0
02-JUL-13	PLDIG7	TVS	60.0
02-JUL-13	PLDIG7	TVS	59.1
03-JUL-13	PLDIG7	TVS	59.4
04-JUL-13	PLDIG7	TVS	59.7
04-JUL-13	PLDIG7	TVS	60.1
05-JUL-13	PLDIG7	TVS	59.8
07-JUL-13	PLDIG7	TVS	57.3
07-JUL-13	PLDIG7	TVS	58.2
08-JUL-13	PLDIG7	TVS	57.0
09-JUL-13	PLDIG7	TVS	59.0
09-JUL-13	PLDIG7	TVS	57.3
09-JUL-13	PLDIG7	TVS	59.9
09-JUL-13	PLDIG7	TVS	57.3
10-JUL-13	PLDIG7	TVS	57.2
11-JUL-13	PLDIG7	TVS	59.4
11-JUL-13	PLDIG7	TVS	58.6
11-JUL-13	PLDIG7	TVS	59.1
11-JUL-13	PLDIG7	TVS	58.4
12-JUL-13	PLDIG7	TVS	58.0
14-JUL-13	PLDIG7	TVS	57.2
14-JUL-13	PLDIG7	TVS	57.2
15-JUL-13	PLDIG7	TVS	57.1
16-JUL-13	PLDIG7	TVS	58.1
16-JUL-13	PLDIG7	TVS	58.9
16-JUL-13	PLDIG7	TVS	58.2
16-JUL-13	PLDIG7	TVS	58.8
17-JUL-13	PLDIG7	TVS	59.3
18-JUL-13	PLDIG7	TVS	59.4
18-JUL-13	PLDIG7	TVS	57.8
18-JUL-13	PLDIG7	TVS	59.6
18-JUL-13	PLDIG7	TVS	57.8
19-JUL-13	PLDIG7	TVS	57.4
21-JUL-13	PLDIG7	TVS	59.2
21-JUL-13	PLDIG7	TVS	59.2
22-JUL-13	PLDIG7	TVS	58.6
23-JUL-13	PLDIG7	TVS	58.3
23-JUL-13	PLDIG7	TVS	58.1
23-JUL-13	PLDIG7	TVS	58.4
23-JUL-13	PLDIG7	TVS	58.1
24-JUL-13	PLDIG7	TVS	58.2
25-JUL-13	PLDIG7	TVS	58.8
25-JUL-13	PLDIG7	TVS	57.9
25-JUL-13	PLDIG7	TVS	58.9
25-JUL-13	PLDIG7	TVS	58.1
26-JUL-13	PLDIG7	TVS	58.5
28-JUL-13	PLDIG7	TVS	58.8
28-JUL-13	PLDIG7	TVS	58.6
29-JUL-13	PLDIG7	TVS	58.6
30-JUL-13	PLDIG7	TVS	59.0
30-JUL-13	PLDIG7	TVS	60.2
30-JUL-13	PLDIG7	TVS	58.7
30-JUL-13	PLDIG7	TVS	60.6
31-JUL-13	PLDIG7	TVS	59.2
avg			58.6

SAMPLE_DA	SOURCE	ANALYTE	VALUE
02-JUL-13	MBC_DIG3	TVS	66.0
02-JUL-13	MBC_DIG3	TVS	65.3
04-JUL-13	MBC_DIG3	TVS	64.3
04-JUL-13	MBC_DIG3	TVS	64.0
07-JUL-13	MBC_DIG3	TVS	64.9
07-JUL-13	MBC_DIG3	TVS	64.6
09-JUL-13	MBC_DIG3	TVS	65.2
09-JUL-13	MBC_DIG3	TVS	65.9
11-JUL-13	MBC_DIG3	TVS	65.5
11-JUL-13	MBC_DIG3	TVS	65.3
14-JUL-13	MBC_DIG3	TVS	64.5
14-JUL-13	MBC_DIG3	TVS	64.8
16-JUL-13	MBC_DIG3	TVS	65.6
16-JUL-13	MBC_DIG3	TVS	65.6
18-JUL-13	MBC_DIG3	TVS	65.1
18-JUL-13	MBC_DIG3	TVS	65.3
21-JUL-13	MBC_DIG3	TVS	63.9
21-JUL-13	MBC_DIG3	TVS	64.2
23-JUL-13	MBC_DIG3	TVS	65.4
23-JUL-13	MBC_DIG3	TVS	65.9
25-JUL-13	MBC_DIG3	TVS	66.3
25-JUL-13	MBC_DIG3	TVS	66.4
28-JUL-13	MBC_DIG3	TVS	65.2
28-JUL-13	MBC_DIG3	TVS	65.5
30-JUL-13	MBC_DIG3	TVS	66.1
30-JUL-13	MBC_DIG3	TVS	65.6
avg			65.2

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-JUL-13	MBC_TSBTC	TVS	80.9
02-JUL-13	MBC_TSBTC	TVS	82.0
03-JUL-13	MBC_TSBTC	TVS	81.2
04-JUL-13	MBC_TSBTC	TVS	73.0
05-JUL-13	MBC_TSBTC	TVS	81.1
06-JUL-13	MBC_TSBTC	TVS	79.8
07-JUL-13	MBC_TSBTC	TVS	80.9
08-JUL-13	MBC_TSBTC	TVS	80.4
09-JUL-13	MBC_TSBTC	TVS	79.6
10-JUL-13	MBC_TSBTC	TVS	82.0
11-JUL-13	MBC_TSBTC	TVS	81.2
12-JUL-13	MBC_TSBTC	TVS	81.8
13-JUL-13	MBC_TSBTC	TVS	81.1
14-JUL-13	MBC_TSBTC	TVS	81.4
15-JUL-13	MBC_TSBTC	TVS	80.8
16-JUL-13	MBC_TSBTC	TVS	79.8
17-JUL-13	MBC_TSBTC	TVS	76.5
18-JUL-13	MBC_TSBTC	TVS	79.1
19-JUL-13	MBC_TSBTC	TVS	81.6
20-JUL-13	MBC_TSBTC	TVS	81.3
21-JUL-13	MBC_TSBTC	TVS	82.8
22-JUL-13	MBC_TSBTC	TVS	82.2
23-JUL-13	MBC_TSBTC	TVS	83.9
24-JUL-13	MBC_TSBTC	TVS	83.6
25-JUL-13	MBC_TSBTC	TVS	82.6
26-JUL-13	MBC_TSBTC	TVS	83.0
27-JUL-13	MBC_TSBTC	TVS	82.8
28-JUL-13	MBC_TSBTC	TVS	81.4
29-JUL-13	MBC_TSBTC	TVS	80.9
30-JUL-13	MBC_TSBTC	TVS	82.8
31-JUL-13	MBC_TSBTC	TVS	83.1
avg			81.1

MBCDEWN (Dewatered Sludge Cake) P669948 (3080793-01) Solid (Dry Weight) (Composite) Sampled: 07/31/13 23:59
Received: 08/08/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Total Metals									
Arsenic	<31.7	31.7	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Cadmium	**2.68**	0.635	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Chromium	**46.8**	0.794	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Copper	**754**	1.59	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Lead	**23.9**	15.9	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Mercury	**0.98**	0.26	mg/kg dry	1	B3H0324	08/12/13 11:18	08/12/13 17:06	EPA 7471A	
Molybdenum	**20.6**	3.17	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Nickel	**36.6**	3.17	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Selenium	<31.7	31.7	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Zinc	**1070**	3.17	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.94	7.94	mg/kg dry	1	[CALC]	08/16/13 10:00	08/16/13 10:00	Calculation	
Organic Nitrogen	**49300**	3970	mg/kg dry	10	[CALC]	08/16/13 10:00	08/16/13 10:32	Calculation	
Total Nitrogen	**54000**	3970	mg/kg dry	1	[CALC]	08/16/13 10:00	08/16/13 10:00	Calculation	
Ammonia as N	**4680**	397	mg/kg dry	10	B3H0473	08/16/13 10:32	08/16/13 10:32	EPA 350.1	
Nitrate + Nitrite as N	<7.94	7.94	mg/kg dry	1	B3H0534	08/16/13 10:00	08/16/13 10:00	SM 4500 NO3 F	
Nitrite as N	<4.0	4.0	mg/kg dry wt. dry	1	B3H0466	08/15/13 17:05	08/15/13 17:05	SM 4500 NO2 B	
Total Kjeldahl Nitrogen	**54000**	3970	mg/kg dry	1	B3H0437	08/14/13 10:40	08/14/13 14:33	EPA 351.2	
Total Phosphorous	**35800**	9920	mg/kg dry	1	B3H0426	08/14/13 10:00	08/14/13 17:20	EPA 365.3	
Total Fixed Solids	**40**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	H3
% Solids	**25**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	H3
Total Volatile Solids	**60**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	H3

MBC_Dig3 (Digested Sludge/Grab) P656265 (3080793-02) Solid (Dry Weight) (Grab) Sampled: 08/06/13 09:00
Received: 08/08/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**3**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	
Total Volatile Solids	**59**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	

MBC_TSBTC (Raw Sludge/Grab) P656255 (3080793-03) Solid (Dry Weight) (Grab) Sampled: 08/06/13 09:00
Received: 08/08/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**5**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	
Total Volatile Solids	**79**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	

Digester Raw Feed (Raw Sludge) P656278 (3080793-04) Solid (Dry Weight) (Composite) Sampled: 08/07/13 07:00
Received: 08/08/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**4**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	
Total Volatile Solids	**76**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	

MBCDEWN (Dewatered Sludge Cake) P667050 (3070473-01) Solid (Dry Weight) (Composite) Sampled: 06/30/13 23:59 Received: 07/05/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Total Metals									
Arsenic	<31.5	31.5	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Cadmium	**2.37**	0.630	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Chromium	**54.7**	0.787	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Copper	**756**	1.57	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Lead	**22.0**	15.7	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Mercury	**1.1**	0.26	mg/kg dry	1	B3G0430	07/15/13 10:14	07/15/13 15:30	EPA 7471A	
Molybdenum	**19.8**	3.15	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Nickel	**41.3**	3.15	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Selenium	<31.5	31.5	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Zinc	**1050**	3.15	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.87	7.87	mg/kg dry	1	[CALC]	07/15/13 07:30	07/12/13 13:30	Calculation	
Organic Nitrogen	**29300**	3940	mg/kg dry	10	[CALC]	07/15/13 07:30	07/15/13 14:48	Calculation	
Total Nitrogen	**33200**	3940	mg/kg dry	1	[CALC]	07/15/13 07:30	07/15/13 14:48	Calculation	
Ammonia as N	**3920**	394	mg/kg dry	10	B3G0282	07/10/13 13:37	07/10/13 13:37	EPA 350.1	
Nitrate + Nitrite as N	<7.87	7.87	mg/kg dry	1	B3G0375	07/12/13 13:30	07/12/13 13:30	SM 4500 NO3 F	
Nitrite as N	<3.9	3.9	mg/kg dry wt. dry	1	B3G0206	07/08/13 15:14	07/08/13 15:14	SM 4500 NO2 B	M2
Total Kjeldahl Nitrogen	**33200**	3940	mg/kg dry	1	B3G0418	07/15/13 07:30	07/15/13 14:48	EPA 351.2	M1
Total Phosphorous	**24100**	9840	mg/kg dry	1	B3G0280	07/10/13 10:00	07/10/13 15:15	EPA 365.3	M1
Total Fixed Solids	**41**	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	H3
% Solids	**25**	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	H3
Total Volatile Solids	**59**	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	H3

Digester 7 (Digested Sludge) P656248 (3070473-02) Solid (Dry Weight) (Composite) Sampled: 07/02/13 23:59 Received: 07/05/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**2**	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	
Total Volatile Solids	**56**	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	

Raw Feed Sludge (Pump Raw Sludge) P656242 (3070473-03) Solid (Dry Weight) (Composite) Sampled: 07/02/13 23:59 Received: 07/05/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**4**	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	
Total Volatile Solids	**88**	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	

MBC_Dig3 (Digested Sludge / Grab) P656264 (3070473-04) Solid (Dry Weight) (Grab) Sampled: 07/02/13 09:00 Received: 07/05/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**3**	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	
Total Volatile Solids	**61**	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	

MBC_TSBTC (Raw Sludge / Grab) P656254 (3070473-05) Solid (Dry Weight) (Grab) Sampled: 07/02/13 09:00
Received: 07/05/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	5	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	
Total Volatile Solids	79	1	%	1	B3H0751	08/26/13 16:00	08/26/13 16:00	SM 2540 G	H1, N1

CERTIFICATION STATEMENT
In Compliance With
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the
City of San Diego, CA, Metropolitan Wastewater Department

Monthly Sludge Composite Certification - *Centrifuge Dewatered Sludge*

I. INORGANIC POLLUTANT CONCENTRATIONS: The results of analyses below are for a composite sample of daily centrifuge dewatered sludge samples taken from the centrifuges over the calendar month of July 2013. All analyses were performed by the City of San Diego's Wastewater Chemistry Services Section, California State ELAP Certification #1609

Metals: from Table 3 of Paragraph 503.13†
(All concentrations on dry weight)

Parameter	Value	Units	503 Limit	Units
Arsenic	4.03	mg/Kg	41	mg/Kg
Cadmium	1.4	mg/Kg	39	mg/Kg
Chromium	49.7	mg/Kg	3,000	mg/Kg‡
Copper	741	mg/Kg	1,500	mg/Kg
Lead	20	mg/Kg	300	mg/Kg
Mercury	1.9	mg/Kg	17	mg/Kg
Molybdenum	19.5	mg/Kg	75	mg/Kg*
Nickel	35.4	mg/Kg	420	mg/Kg
Selenium	5.85	mg/Kg	36	mg/Kg
Zinc	923	mg/Kg	2,800	mg/Kg
Total Nitrogen	4.68	Wt %		
Date of Sample	31-Jul-2013			
Total Solids	26.8	Wt %		
Volatile	60.8	Wt %		

† Also conforms to Table 2. Monthly Average Pollutant Concentration of the Arizona Administrative Code Title 18, Chapter 9.
‡ Limit shown is from Table 1. Ceiling Concentrations of Arizona Administrative Code Title 18, Chapter 9.
* Limits for Molybdenum taken from 2009 version of 40 CFR part 503.13 Table 1, Ceiling Concentrations

Based on this month's analysis and the results of analysis of monthly sludge composite samples for the previous year, no parameters in the described sludge stream exceed 40 CFR Part 503 Standards for land application.

(OCA) 8/29/2013

Wastewater Laboratory Senior Chemist
Wastewater Chemistry Laboratory
California State ELAP Cert. No. 1609

Date

VAR CERT. Form
Revised 7/6/2000

CITY OF SAN DIEGO
METROPOLITAN WASTEWATER DEPARTMENT
CERTIFICATION STATEMENT

In Compliance with
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the City of San Diego, CA, Metropolitan Wastewater Department

VECTOR ATTRACTION REDUCTION

Based on the daily fractional volatile solids reduction (FVSR) values calculated using the Van Kleck Equation and raw and digested sludge volatile solids for the month of AUGUST 2013 from locations based on the following information from operations:

All sludge sent to Metro Biosolids Center (MBC) from the Pt. Loma WWTP is pumped from Digester 7.
Only North City Water Reclamation Plant (NCWRP) raw sludge is going to MBC digesters.
The MBC thickened sludge samples are representative of the raw sludge from NCWRP.
MBC is using Digester No. 3 for sludge processing.

The following determinations of volatile solids was done using approved methods by laboratories certified by the State of California Environmental Laboratory Accreditation Program (ELAP Laboratory Cert. No. 2478 & 2474)
61.7 % Average Volatile Solids Reduction for the Pt. Loma WWTP sludge digestion process.
56.7 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.

The following determinations of volatile solids was done using approved methods by laboratories certified by the State of Arizona (Cert. No. 0004)
59.8 % Average Volatile Solids Reduction for the Pt. Loma WWTP sludge digestion process.
61.7 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.

Both streams **do** / ~~do not~~ meet 38% FVSR criteria.

Wastewater Laboratory Senior Chemist — Date 9/27/2013

I certify that the sludge samples taken and used in these determinations were taken and handled under my direction and supervision using approved methods and are representative samples of actual operational conditions.

Wastewater Treatment Superintendent (OCA) — Date 12/19/13
Metro Biosolids Center (MBC)

Wastewater Treatment Superintendent — Date 11/12/13
Pt. Loma Wastewater Treatment Plant

CERTIFICATION STATEMENT
VECTOR ATTRACTION REQUIREMENTS

I certify, under penalty of law, the vector attraction reduction requirement in Paragraph 503.33 (b) (1) which states that:
The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent, has been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By:

Deputy Director — Date 11/12/13
Wastewater Treatment and Disposal, Metropolitan Wastewater Department

FVSR (Fractional Volatile Solids Reduction)

$$FVSR = \frac{VS_p - VS_b}{VS_p - (VS_p * VS_b)} = \frac{Vol.solidsRaw - Vol.solids\ Digested}{Vol.solids\ Raw - (Vol.solids\ Raw * Vol.solids\ Digested)}$$

Where: VS_p = Volatile Solids Feed Sludge (RAW SLUDGE),
VS_b = Volatile Solids Digested Sludge (DIG SLUDGE), currently only digester 7 is used for the calculation.

Volatile Solids (VS) is expressed as fractional numbers.

Average Volatile Solids for AUGUST 2013

Average %TVS Digested Sludge (Digester 7) for the month.		Average Raw (feed) sludge %TVS for the month		Calculated FVSR (%)	
CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used
59.3	56.0	79.2	76.0	61.7%	59.8%

Average Volatile Solids for AUGUST 2013

Average %TVS Digested Sludge (MBC Dig 3) for the month.		Average Raw (feed) sludge (MBC_TSBTC) %TVS for the month		Calculated FVSR (%)	
CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used	CA Lab data used	AZ Lab data used
64.4	59.0	80.7	79.0	56.7%	61.7%

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-AUG-13	RAW S1	TVS	78.6
01-AUG-13	RAW S2	TVS	77.9
01-AUG-13	RAW S3	TVS	78.0
04-AUG-13	RAW S1	TVS	79.2
04-AUG-13	RAW S2	TVS	79.4
04-AUG-13	RAW S3	TVS	79.1
06-AUG-13	RAW S1	TVS	79.4
06-AUG-13	RAW S2	TVS	80.0
06-AUG-13	RAW S3	TVS	79.1
08-AUG-13	RAW S1	TVS	79.2
08-AUG-13	RAW S2	TVS	79.2
08-AUG-13	RAW S3	TVS	79.0
11-AUG-13	RAW S1	TVS	79.6
11-AUG-13	RAW S2	TVS	78.0
11-AUG-13	RAW S3	TVS	79.4
13-AUG-13	RAW S1	TVS	79.8
13-AUG-13	RAW S2	TVS	79.5
13-AUG-13	RAW S3	TVS	79.5
15-AUG-13	RAW S1	TVS	79.1
15-AUG-13	RAW S2	TVS	79.1
15-AUG-13	RAW S3	TVS	78.7
18-AUG-13	RAW S1	TVS	79.8
18-AUG-13	RAW S2	TVS	78.6
18-AUG-13	RAW S3	TVS	79.9
20-AUG-13	RAW S1	TVS	80.6
20-AUG-13	RAW S2	TVS	79.3
20-AUG-13	RAW S3	TVS	78.9
22-AUG-13	RAW S1	TVS	79.7
22-AUG-13	RAW S2	TVS	78.4
22-AUG-13	RAW S3	TVS	78.2
25-AUG-13	RAW S1	TVS	80.9
25-AUG-13	RAW S2	TVS	79.1
25-AUG-13	RAW S3	TVS	79.7
27-AUG-13	RAW S1	TVS	78.1
27-AUG-13	RAW S2	TVS	79.0
27-AUG-13	RAW S3	TVS	79.4
29-AUG-13	RAW S1	TVS	79.3
29-AUG-13	RAW S2	TVS	79.0
29-AUG-13	RAW S3	TVS	79.2
avg			79.2

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-AUG-13	PLDIG7	TVS	58.7
01-AUG-13	PLDIG7	TVS	58.3
01-AUG-13	PLDIG7	TVS	58.6
01-AUG-13	PLDIG7	TVS	58.2
02-AUG-13	PLDIG7	TVS	59.0
04-AUG-13	PLDIG7	TVS	59.2
04-AUG-13	PLDIG7	TVS	59.3
05-AUG-13	PLDIG7	TVS	58.5
06-AUG-13	PLDIG7	TVS	58.5
06-AUG-13	PLDIG7	TVS	59.2
06-AUG-13	PLDIG7	TVS	58.7
06-AUG-13	PLDIG7	TVS	58.7
07-AUG-13	PLDIG7	TVS	59.2
08-AUG-13	PLDIG7	TVS	59.9
08-AUG-13	PLDIG7	TVS	58.8
08-AUG-13	PLDIG7	TVS	60.0
08-AUG-13	PLDIG7	TVS	58.5
09-AUG-13	PLDIG7	TVS	59.5
11-AUG-13	PLDIG7	TVS	60.7
11-AUG-13	PLDIG7	TVS	60.7
12-AUG-13	PLDIG7	TVS	59.3
13-AUG-13	PLDIG7	TVS	59.0
13-AUG-13	PLDIG7	TVS	58.7
13-AUG-13	PLDIG7	TVS	59.1
13-AUG-13	PLDIG7	TVS	58.3
14-AUG-13	PLDIG7	TVS	59.0
15-AUG-13	PLDIG7	TVS	59.3
15-AUG-13	PLDIG7	TVS	58.1
15-AUG-13	PLDIG7	TVS	59.3
15-AUG-13	PLDIG7	TVS	58.1
16-AUG-13	PLDIG7	TVS	58.3
18-AUG-13	PLDIG7	TVS	58.1
18-AUG-13	PLDIG7	TVS	58.2
19-AUG-13	PLDIG7	TVS	58.3
20-AUG-13	PLDIG7	TVS	59.8
20-AUG-13	PLDIG7	TVS	58.3
20-AUG-13	PLDIG7	TVS	59.6
20-AUG-13	PLDIG7	TVS	59.2
21-AUG-13	PLDIG7	TVS	60.1
22-AUG-13	PLDIG7	TVS	58.9
22-AUG-13	PLDIG7	TVS	59.7
22-AUG-13	PLDIG7	TVS	58.8
23-AUG-13	PLDIG7	TVS	59.8
25-AUG-13	PLDIG7	TVS	58.8
25-AUG-13	PLDIG7	TVS	57.1
26-AUG-13	PLDIG7	TVS	59.8
27-AUG-13	PLDIG7	TVS	60.0
27-AUG-13	PLDIG7	TVS	61.4
27-AUG-13	PLDIG7	TVS	59.9
27-AUG-13	PLDIG7	TVS	59.0
28-AUG-13	PLDIG7	TVS	59.7
29-AUG-13	PLDIG7	TVS	60.6
29-AUG-13	PLDIG7	TVS	61.7
29-AUG-13	PLDIG7	TVS	60.9
29-AUG-13	PLDIG7	TVS	60.9
30-AUG-13	PLDIG7	TVS	61.7
avg			59.3

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-AUG-13	MBC_DIG3	TVS	64.6
01-AUG-13	MBC_DIG3	TVS	65.2
04-AUG-13	MBC_DIG3	TVS	64.9
04-AUG-13	MBC_DIG3	TVS	65.2
06-AUG-13	MBC_DIG3	TVS	65.4
06-AUG-13	MBC_DIG3	TVS	65.1
08-AUG-13	MBC_DIG3	TVS	65.8
08-AUG-13	MBC_DIG3	TVS	65.5
11-AUG-13	MBC_DIG3	TVS	63.5
11-AUG-13	MBC_DIG3	TVS	63.9
13-AUG-13	MBC_DIG3	TVS	64.7
13-AUG-13	MBC_DIG3	TVS	64.9
15-AUG-13	MBC_DIG3	TVS	64.6
15-AUG-13	MBC_DIG3	TVS	65.3
18-AUG-13	MBC_DIG3	TVS	63.6
18-AUG-13	MBC_DIG3	TVS	63.7
20-AUG-13	MBC_DIG3	TVS	63.8
20-AUG-13	MBC_DIG3	TVS	64.0
25-AUG-13	MBC_DIG3	TVS	63.7
25-AUG-13	MBC_DIG3	TVS	63.7
27-AUG-13	MBC_DIG3	TVS	63.7
27-AUG-13	MBC_DIG3	TVS	63.7
29-AUG-13	MBC_DIG3	TVS	63.5
29-AUG-13	MBC_DIG3	TVS	64.1
avg			64.4

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-AUG-13	MBC_TSBTC	TVS	82.8
02-AUG-13	MBC_TSBTC	TVS	82.9
03-AUG-13	MBC_TSBTC	TVS	82.4
04-AUG-13	MBC_TSBTC	TVS	81.2
05-AUG-13	MBC_TSBTC	TVS	80.4
06-AUG-13	MBC_TSBTC	TVS	81.5
07-AUG-13	MBC_TSBTC	TVS	80.3
08-AUG-13	MBC_TSBTC	TVS	81.2
09-AUG-13	MBC_TSBTC	TVS	82.2
10-AUG-13	MBC_TSBTC	TVS	77.8
11-AUG-13	MBC_TSBTC	TVS	79.0
12-AUG-13	MBC_TSBTC	TVS	80.2
13-AUG-13	MBC_TSBTC	TVS	81.2
14-AUG-13	MBC_TSBTC	TVS	81.2
15-AUG-13	MBC_TSBTC	TVS	80.9
16-AUG-13	MBC_TSBTC	TVS	80.4
17-AUG-13	MBC_TSBTC	TVS	80.9
18-AUG-13	MBC_TSBTC	TVS	80.1
19-AUG-13	MBC_TSBTC	TVS	78.8
20-AUG-13	MBC_TSBTC	TVS	81.4
21-AUG-13	MBC_TSBTC	TVS	82.3
22-AUG-13	MBC_TSBTC	TVS	81.4
23-AUG-13	MBC_TSBTC	TVS	79.3
24-AUG-13	MBC_TSBTC	TVS	81.0
25-AUG-13	MBC_TSBTC	TVS	79.6
26-AUG-13	MBC_TSBTC	TVS	78.2
27-AUG-13	MBC_TSBTC	TVS	80.2
28-AUG-13	MBC_TSBTC	TVS	81.9
29-AUG-13	MBC_TSBTC	TVS	80.8
30-AUG-13	MBC_TSBTC	TVS	80.6
avg			80.7

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-AUG-13	RAW S1	TVS	78.6
01-AUG-13	RAW S2	TVS	77.9
01-AUG-13	RAW S3	TVS	78.0
04-AUG-13	RAW S1	TVS	79.2
04-AUG-13	RAW S2	TVS	79.4
04-AUG-13	RAW S3	TVS	79.1
06-AUG-13	RAW S1	TVS	79.4
06-AUG-13	RAW S2	TVS	80.0
06-AUG-13	RAW S3	TVS	79.1
08-AUG-13	RAW S1	TVS	79.2
08-AUG-13	RAW S2	TVS	79.2
08-AUG-13	RAW S3	TVS	79.0
11-AUG-13	RAW S1	TVS	79.6
11-AUG-13	RAW S2	TVS	78.0
11-AUG-13	RAW S3	TVS	79.4
13-AUG-13	RAW S1	TVS	79.8
13-AUG-13	RAW S2	TVS	79.5
13-AUG-13	RAW S3	TVS	79.5
15-AUG-13	RAW S1	TVS	79.1
15-AUG-13	RAW S2	TVS	79.1
15-AUG-13	RAW S3	TVS	78.7
18-AUG-13	RAW S1	TVS	79.8
18-AUG-13	RAW S2	TVS	78.6
18-AUG-13	RAW S3	TVS	79.9
20-AUG-13	RAW S1	TVS	80.6
20-AUG-13	RAW S2	TVS	79.3
20-AUG-13	RAW S3	TVS	78.9
22-AUG-13	RAW S1	TVS	79.7
22-AUG-13	RAW S2	TVS	78.4
22-AUG-13	RAW S3	TVS	78.2
25-AUG-13	RAW S1	TVS	80.9
25-AUG-13	RAW S2	TVS	79.1
25-AUG-13	RAW S3	TVS	79.7
27-AUG-13	RAW S1	TVS	78.1
27-AUG-13	RAW S2	TVS	79.0
27-AUG-13	RAW S3	TVS	79.4
29-AUG-13	RAW S1	TVS	79.3
29-AUG-13	RAW S2	TVS	79.0
29-AUG-13	RAW S3	TVS	79.2
avg			79.2

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-AUG-13	PLDIG7	TVS	58.7
01-AUG-13	PLDIG7	TVS	58.3
01-AUG-13	PLDIG7	TVS	58.6
01-AUG-13	PLDIG7	TVS	58.2
02-AUG-13	PLDIG7	TVS	59.0
04-AUG-13	PLDIG7	TVS	59.2
04-AUG-13	PLDIG7	TVS	59.3
05-AUG-13	PLDIG7	TVS	58.5
06-AUG-13	PLDIG7	TVS	58.5
06-AUG-13	PLDIG7	TVS	59.2
06-AUG-13	PLDIG7	TVS	58.7
06-AUG-13	PLDIG7	TVS	58.7
07-AUG-13	PLDIG7	TVS	59.2
08-AUG-13	PLDIG7	TVS	59.9
08-AUG-13	PLDIG7	TVS	58.8
08-AUG-13	PLDIG7	TVS	60.0
08-AUG-13	PLDIG7	TVS	58.5
09-AUG-13	PLDIG7	TVS	59.5
11-AUG-13	PLDIG7	TVS	60.7
11-AUG-13	PLDIG7	TVS	60.7
12-AUG-13	PLDIG7	TVS	59.3
13-AUG-13	PLDIG7	TVS	59.0
13-AUG-13	PLDIG7	TVS	58.7
13-AUG-13	PLDIG7	TVS	59.1
13-AUG-13	PLDIG7	TVS	58.3
14-AUG-13	PLDIG7	TVS	59.0
15-AUG-13	PLDIG7	TVS	59.3
15-AUG-13	PLDIG7	TVS	58.1
15-AUG-13	PLDIG7	TVS	59.3
15-AUG-13	PLDIG7	TVS	58.1
16-AUG-13	PLDIG7	TVS	58.3
18-AUG-13	PLDIG7	TVS	58.1
18-AUG-13	PLDIG7	TVS	58.2
19-AUG-13	PLDIG7	TVS	58.3
20-AUG-13	PLDIG7	TVS	59.8
20-AUG-13	PLDIG7	TVS	58.3
20-AUG-13	PLDIG7	TVS	59.6
20-AUG-13	PLDIG7	TVS	59.2
21-AUG-13	PLDIG7	TVS	60.1
22-AUG-13	PLDIG7	TVS	58.9
22-AUG-13	PLDIG7	TVS	59.7
22-AUG-13	PLDIG7	TVS	58.8
23-AUG-13	PLDIG7	TVS	59.8
25-AUG-13	PLDIG7	TVS	58.8
25-AUG-13	PLDIG7	TVS	57.1
26-AUG-13	PLDIG7	TVS	59.8
27-AUG-13	PLDIG7	TVS	60.0
27-AUG-13	PLDIG7	TVS	61.4
27-AUG-13	PLDIG7	TVS	59.9
27-AUG-13	PLDIG7	TVS	59.0
28-AUG-13	PLDIG7	TVS	59.7
29-AUG-13	PLDIG7	TVS	60.6
29-AUG-13	PLDIG7	TVS	61.7
29-AUG-13	PLDIG7	TVS	60.9
29-AUG-13	PLDIG7	TVS	60.9
30-AUG-13	PLDIG7	TVS	61.7
avg			59.3

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-AUG-13	MBC_DIG3	TVS	64.6
01-AUG-13	MBC_DIG3	TVS	65.2
04-AUG-13	MBC_DIG3	TVS	64.9
04-AUG-13	MBC_DIG3	TVS	65.2
06-AUG-13	MBC_DIG3	TVS	65.4
06-AUG-13	MBC_DIG3	TVS	65.1
08-AUG-13	MBC_DIG3	TVS	65.8
08-AUG-13	MBC_DIG3	TVS	65.5
11-AUG-13	MBC_DIG3	TVS	63.5
11-AUG-13	MBC_DIG3	TVS	63.9
13-AUG-13	MBC_DIG3	TVS	64.7
13-AUG-13	MBC_DIG3	TVS	64.9
15-AUG-13	MBC_DIG3	TVS	64.6
15-AUG-13	MBC_DIG3	TVS	65.3
18-AUG-13	MBC_DIG3	TVS	63.6
18-AUG-13	MBC_DIG3	TVS	63.7
20-AUG-13	MBC_DIG3	TVS	63.8
20-AUG-13	MBC_DIG3	TVS	64.0
25-AUG-13	MBC_DIG3	TVS	63.7
25-AUG-13	MBC_DIG3	TVS	63.7
27-AUG-13	MBC_DIG3	TVS	63.7
27-AUG-13	MBC_DIG3	TVS	63.7
29-AUG-13	MBC_DIG3	TVS	63.5
29-AUG-13	MBC_DIG3	TVS	64.1
avg			64.4

SAMPLE_DA	SOURCE	ANALYTE	VALUE
01-AUG-13	MBC_TSBTC	TVS	82.8
02-AUG-13	MBC_TSBTC	TVS	82.9
03-AUG-13	MBC_TSBTC	TVS	82.4
04-AUG-13	MBC_TSBTC	TVS	81.2
05-AUG-13	MBC_TSBTC	TVS	80.4
06-AUG-13	MBC_TSBTC	TVS	81.5
07-AUG-13	MBC_TSBTC	TVS	80.3
08-AUG-13	MBC_TSBTC	TVS	81.2
09-AUG-13	MBC_TSBTC	TVS	82.2
10-AUG-13	MBC_TSBTC	TVS	77.8
11-AUG-13	MBC_TSBTC	TVS	79.0
12-AUG-13	MBC_TSBTC	TVS	80.2
13-AUG-13	MBC_TSBTC	TVS	81.2
14-AUG-13	MBC_TSBTC	TVS	81.2
15-AUG-13	MBC_TSBTC	TVS	80.9
16-AUG-13	MBC_TSBTC	TVS	80.4
17-AUG-13	MBC_TSBTC	TVS	80.9
18-AUG-13	MBC_TSBTC	TVS	80.1
19-AUG-13	MBC_TSBTC	TVS	78.8
20-AUG-13	MBC_TSBTC	TVS	81.4
21-AUG-13	MBC_TSBTC	TVS	82.3
22-AUG-13	MBC_TSBTC	TVS	81.4
23-AUG-13	MBC_TSBTC	TVS	79.3
24-AUG-13	MBC_TSBTC	TVS	81.0
25-AUG-13	MBC_TSBTC	TVS	79.6
26-AUG-13	MBC_TSBTC	TVS	78.2
27-AUG-13	MBC_TSBTC	TVS	80.2
28-AUG-13	MBC_TSBTC	TVS	81.9
29-AUG-13	MBC_TSBTC	TVS	80.8
30-AUG-13	MBC_TSBTC	TVS	80.6
avg			80.7

MBCDEWN (Dewatered Sludge Cake) P674861 (3090304-01) Solid (Dry Weight) (Composite) Sampled: 08/31/13 23:59
Received: 09/04/13 11:30

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Total Metals									
Arsenic	<31.7	31.7	mg/kg dry	2	B3I0221	09/09/13 10:30	09/10/13 10:48	EPA 6010B	
Cadmium	**2.46**	0.635	mg/kg dry	2	B3I0221	09/09/13 10:30	09/10/13 10:48	EPA 6010B	
Chromium	**39.0**	0.794	mg/kg dry	2	B3I0221	09/09/13 10:30	09/10/13 10:48	EPA 6010B	
Copper	**704**	1.59	mg/kg dry	2	B3I0221	09/09/13 10:30	09/10/13 10:48	EPA 6010B	
Lead	**22.1**	15.9	mg/kg dry	2	B3I0221	09/09/13 10:30	09/10/13 10:48	EPA 6010B	
Mercury	**0.49**	0.26	mg/kg dry	1	B3I0310	09/12/13 11:37	09/12/13 14:45	EPA 7471A	
Molybdenum	**20.5**	3.17	mg/kg dry	2	B3I0221	09/09/13 10:30	09/10/13 10:48	EPA 6010B	
Nickel	**32.5**	3.17	mg/kg dry	2	B3I0221	09/09/13 10:30	09/10/13 10:48	EPA 6010B	
Selenium	<31.7	31.7	mg/kg dry	2	B3I0221	09/09/13 10:30	09/10/13 10:48	EPA 6010B	
Zinc	**1050**	3.17	mg/kg dry	2	B3I0221	09/09/13 10:30	09/10/13 10:48	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.94	7.94	mg/kg dry	1	[CALC]	09/13/13 11:55	09/13/13 11:55	Calculation	
Organic Nitrogen	**48200**	3970	mg/kg dry	10	[CALC]	09/13/13 11:55	09/11/13 14:14	Calculation	
Total Nitrogen	**52000**	3970	mg/kg dry	1	[CALC]	09/13/13 11:55	09/13/13 11:55	Calculation	
Ammonia as N	**3820**	397	mg/kg dry	10	B3I0279	09/11/13 14:14	09/11/13 14:14	EPA 350.1	
Nitrate + Nitrite as N	<7.94	7.94	mg/kg dry	1	B3I0340	09/13/13 11:55	09/13/13 11:55	SM 4500 NO3 F	
Nitrite as N	<4.0	4.0	mg/kg dry wt. dry	1	B3I0312	09/12/13 15:45	09/12/13 15:45	SM 4500 NO2 B	
Total Kjeldahl Nitrogen	**52000**	3970	mg/kg dry	1	B3I0227	09/09/13 11:15	09/09/13 15:23	EPA 351.2	
Total Phosphorous	**23400**	9920	mg/kg dry	1	B3I0294	09/11/13 10:00	09/11/13 16:50	EPA 365.3	
Total Fixed Solids	**42**	1	%	1	B3I0173	09/04/13 16:30	09/04/13 16:30	SM 2540 G	
% Solids	**25**	1	%	1	B3I0173	09/04/13 16:30	09/04/13 16:30	SM 2540 G	
Total Volatile Solids	**58**	1	%	1	B3I0173	09/04/13 16:30	09/04/13 16:30	SM 2540 G	

MBCDEWN (Dewatered Sludge Cake) P669948 (3080793-01) Solid (Dry Weight) (Composite) Sampled: 07/31/13 23:59
Received: 08/08/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Total Metals									
Arsenic	<31.7	31.7	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Cadmium	**2.68**	0.635	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Chromium	**46.8**	0.794	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Copper	**754**	1.59	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Lead	**23.9**	15.9	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Mercury	**0.98**	0.26	mg/kg dry	1	B3H0324	08/12/13 11:18	08/12/13 17:06	EPA 7471A	
Molybdenum	**20.6**	3.17	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Nickel	**36.6**	3.17	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Selenium	<31.7	31.7	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Zinc	**1070**	3.17	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.94	7.94	mg/kg dry	1	[CALC]	08/16/13 10:00	08/16/13 10:00	Calculation	
Organic Nitrogen	**49300**	3970	mg/kg dry	10	[CALC]	08/16/13 10:00	08/16/13 10:32	Calculation	
Total Nitrogen	**54000**	3970	mg/kg dry	1	[CALC]	08/16/13 10:00	08/16/13 10:00	Calculation	
Ammonia as N	**4680**	397	mg/kg dry	10	B3H0473	08/16/13 10:32	08/16/13 10:32	EPA 350.1	
Nitrate + Nitrite as N	<7.94	7.94	mg/kg dry	1	B3H0534	08/16/13 10:00	08/16/13 10:00	SM 4500 NO3 F	
Nitrite as N	<4.0	4.0	mg/kg dry wt. dry	1	B3H0466	08/15/13 17:05	08/15/13 17:05	SM 4500 NO2 B	
Total Kjeldahl Nitrogen	**54000**	3970	mg/kg dry	1	B3H0437	08/14/13 10:40	08/14/13 14:33	EPA 351.2	
Total Phosphorous	**35800**	9920	mg/kg dry	1	B3H0426	08/14/13 10:00	08/14/13 17:20	EPA 365.3	
Total Fixed Solids	**40**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	H3
% Solids	**25**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	H3
Total Volatile Solids	**60**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	H3

MBC_Dig3 (Digested Sludge/Grab) P656265 (3080793-02) Solid (Dry Weight) (Grab) Sampled: 08/06/13 09:00
Received: 08/08/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
% Solids	**3**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	
Total Volatile Solids	**59**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	

MBC_TSBTC (Raw Sludge/Grab) P656255 (3080793-03) Solid (Dry Weight) (Grab) Sampled: 08/06/13 09:00
Received: 08/08/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
% Solids	**5**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	
Total Volatile Solids	**79**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	

Digester Raw Feed (Raw Sludge) P656278 (3080793-04) Solid (Dry Weight) (Composite) Sampled: 08/07/13 07:00
Received: 08/08/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
% Solids	**4**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	
Total Volatile Solids	**76**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	

Digester 7 (Digester Sludge) P656273 (3080793-05) Solid (Dry Weight) (Composite) Sampled: 08/07/13 07:00
Received: 08/08/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**2**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	
Total Volatile Solids	**56**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	

CERTIFICATION STATEMENT
In Compliance With
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the
City of San Diego, CA, Metropolitan Wastewater Department

Monthly Sludge Composite Certification - *Centrifuge Dewatered Sludge*

I. INORGANIC POLLUTANT CONCENTRATIONS: The results of analyses below are for a composite sample of daily centrifuge dewatered sludge samples taken from the centrifuges over the calendar month of August 2013. All analyses were performed by the City of San Diego's Wastewater Chemistry Services Section, California State ELAP Certification #1609

Metals: from Table 3 of Paragraph 503.13†
(All concentrations on dry weight)

Parameter	**Value**	**Units**	**503 Limit**	**Units**
Arsenic	3.25	mg/Kg	41	mg/Kg
Cadmium	1.4	mg/Kg	39	mg/Kg
Chromium	40.8	mg/Kg	3,000	mg/Kg‡
Copper	656	mg/Kg	1,500	mg/Kg
Lead	20	mg/Kg	300	mg/Kg
Mercury	1.0	mg/Kg	17	mg/Kg
Molybdenum	18.8	mg/Kg	75	mg/Kg*
Nickel	31.3	mg/Kg	420	mg/Kg
Selenium	4.11	mg/Kg	36	mg/Kg
Zinc	972	mg/Kg	2,800	mg/Kg
Total Nitrogen	5.13	Wt %		
Date of Sample	31-Aug-2013			
Total Solids	26.8	Wt %		
Volatile	60.6	Wt %		

† Also conforms to Table 2. Monthly Average Pollutant Concentration of the Arizona Administrative Code Title 18, Chapter 9.
‡ Limit shown is from Table 1. Ceiling Concentrations of Arizona Administrative Code Title 18, Chapter 9.
* Limits for Molybdenum taken from 2009 version of 40 CFR part 503.13 Table 1, Ceiling Concentrations

Based on this month's analysis and the results of analysis of monthly sludge composite samples for the previous year, no parameters in the described sludge stream exceed 40 CFR Part 503 Standards for land application.

Wastewater Laboratory Senior Chemist
Wastewater Chemistry Laboratory,
California State ELAP Cert. No. 1609

9/27/2013
Date

VAR CERT. Form
Revised 7/6/2000

CITY OF SAN DIEGO
METROPOLITAN WASTEWATER DEPARTMENT
CERTIFICATION STATEMENT

In Compliance with
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the City of San Diego, CA, Metropolitan Wastewater Department

VECTOR ATTRACTION REDUCTION

Based on the daily fractional volatile solids reduction (FVSR) values calculated using the Van Kleck Equation and raw and digested sludge volatile solids for the month of SEPTEMBER 2013 from locations based on the following information from operations:

All sludge sent to Metro Biosolids Center (MBC) from the Pt. Loma WWTP is pumped from Digester 7.
Only North City Water Reclamation Plant (NCWRP) raw sludge is going to MBC digesters.
The MBC thickened sludge samples are representative of the raw sludge from NCWRP.
MBC is using Digester No. 3 for sludge processing.

The following determinations of volatile solids was done using approved methods by laboratories certified by the State of Arizona (Cert. No. AZ0783)

59.4 % Average Volatile Solids Reduction for the Pt. Loma WWTP sludge digestion process.
59.3 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.

Both streams **do** / ~~do not~~ meet 38% FVSR criteria.

Brian G Bowman — Date 10/28/2013
Wastewater Laboratory Senior Chemist

I certify that the sludge samples taken and used in these determinations were taken and handled under my direction and supervision using approved methods and are representative samples of actual operational conditions.

(OCA) 12/19/13 — KC Shankles 12-17-13
Wastewater Treatment Superintendent — Date — Wastewater Treatment Superintendent — Date
Metro Biosolids Center (MBC) — Pt. Loma Wastewater Treatment Plant

CERTIFICATION STATEMENT
VECTOR ATTRACTION REQUIREMENTS

I certify, under penalty of law, the vector attraction reduction requirement in Paragraph 503.33 (b) (1) which states that:
The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent, has been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By:

12-19-13
Deputy Director — Date
Wastewater Treatment and Disposal, Metropolitan Wastewater Department
Robert Mulvey

FVSR (Fractional Volatile Solids Reduction)

$$FVSR = \frac{VS_p - VS_b}{VS_p - (VS_p * VS_b)} = \frac{Vol.solidsRaw - Vol.solids\ Digested}{Vol.solids\ Raw - (Vol.solids\ Raw * Vol.solids\ Digested)}$$

Where: VS_p = Volatile Solids Feed Sludge (RAW SLUDGE),
VS_b = Volatile Solids Digested Sludge (DIG SLUDGE), currently only digester 7 is used for the calculation.

Volatile Solids (VS) is expressed as fractional numbers.

Average Volatile Solids for SEPTEMBER 2013

Average %TVS Digested Sludge (Digester 7) for the month.	Average Raw (feed) sludge %TVS for the month	Calculated FVSR (%)
CA Lab data used	CA Lab data used	CA Lab data used
59.7	78.5	59.4%

Average Volatile Solids for SEPTEMBER 2013

Average %TVS Digested Sludge (MBC Dig 3) for the month.	Average Raw (feed) sludge (MBC_TSBTC) %TVS for the month	Calculated FVSR (%)
CA Lab data used	CA Lab data used	CA Lab data used
63.9	81.3	59.3%

ALVARADO WASTEWATER CHEMISTRY LAB.
ELAP Certificate No. 1609
Total and Volatile Solids

BATCH ID: 13274TS97 ANALYSIS DATE: 10/1/2013 PROTOCOL: SM2540B/160.4
ANALYSIS: TS/VS_SLDG MDL(%): 0.1
ANALYST: MSZETERLAK LCS TRUE VALUE: 4

No "FINAL DRY WT" is needed if the sample was in the oven overnight

SAMPLE ID	SAMPLE DATE	SOURCE	TEST TYPE	DISH ID	TARE WT grams	WET WT grams	INITIAL DRY WT grams	FINAL DRY WT grams	BURN WT grams	TS %	TVS %	COMMENTS
P680909	10/1/2013	LAB_ALV	BLNK	0	73.2715	145.9404	73.2714	overnight		ND		
P680910	10/1/2013	LAB_ALV	LCS	THE	74.8256	161.2745	78.1879	overnight		3.9		%REC= 97.5
P656266	9/29/2013	MBC_DIG3		LA	79.2369	135.1062	80.7573	overnight	79.7852	2.7	63.9	
P656256	9/29/2013	MBC_TSBTC		CR	80.4576	142.403	83.922	overnight	81.1337	5.6	80.5	
P656256	9/29/2013	MBC_TSBTC	DUP	CA	70.7762	122.75	73.6915	overnight	71.3001	5.6	82	RPD TS= 0 , VS= 2
P679246	9/29/2013	RAW COMP		XE	80.107	142.0126	82.5574	overnight	80.633	4	78.5	
P677454	9/29/2013	PLDIG7		7	79.3577	144.27	80.4034	overnight	79.7791	1.6	59.7	CHK ANSWER
P677800	9/30/2013	DEWATERED_SL		3	75.5896	109.539	84.7476	overnight	79.4979	27	57.3	
P677800	9/30/2013	DEWATERED_SL	DUP	XY	73.9839	105.7598	82.3795	overnight	77.5227	26.4	57.8	

1st Entry_____ 2nd Entry_____ Final Entry_____

MBCDEWN (Dewatered Sludge Cake) P677800 (3100445-01) Solid (Dry Weight) (Composite) Sampled: 09/30/13 23:59
Received: 10/03/13 11:35

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Total Metals									
Arsenic	<31.0	31.0	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Cadmium	**2.49**	0.620	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Chromium	**34.1**	0.775	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Copper	**692**	1.55	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Lead	**21.3**	15.5	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Mercury	**1.4**	0.26	mg/kg dry	1	B3J0271	10/09/13 09:44	10/09/13 14:38	EPA 7471A	
Molybdenum	**20.8**	3.10	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Nickel	**32.5**	3.10	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Selenium	<31.0	31.0	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Zinc	**975**	3.10	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.8	7.8	mg/kg dry	1	[CALC]	10/11/13 13:25	10/11/13 13:25	Calculation	
Organic Nitrogen	**50400**	3880	mg/kg dry	10	[CALC]	10/11/13 13:25	10/09/13 13:42	Calculation	
Total Nitrogen	**55000**	3880	mg/kg dry	1	[CALC]	10/11/13 13:25	10/11/13 13:25	Calculation	
Ammonia as N	**4650**	388	mg/kg dry	10	B3J0283	10/09/13 13:42	10/09/13 13:42	EPA 350.1	
Nitrate + Nitrite as N	<7.75	7.75	mg/kg dry	1	B3J0384	10/11/13 13:25	10/11/13 13:25	SM 4500 NO3 F	
Nitrite as N	<3.9	3.9	mg/kg dry wt. dry	1	B3J0292	10/09/13 17:02	10/09/13 17:02	SM 4500 NO2 B	
Total Kjeldahl Nitrogen	**55000**	3880	mg/kg dry	1	B3J0231	10/07/13 09:15	10/07/13 13:19	EPA 351.2	
Total Phosphorous	**34000**	9690	mg/kg dry	1	B3J0303	10/09/13 10:00	10/09/13 17:45	EPA 365.3	
Total Fixed Solids	**41**	1	%	1	B3J0192	10/06/13 15:00	10/06/13 15:00	SM 2540 G	
% Solids	**26**	1	%	1	B3J0192	10/06/13 15:00	10/06/13 15:00	SM 2540 G	
Total Volatile Solids	**59**	1	%	1	B3J0192	10/06/13 15:00	10/06/13 15:00	SM 2540 G	

CERTIFICATION STATEMENT
In Compliance With
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the
City of San Diego, CA, Metropolitan Wastewater Department

Monthly Sludge Composite Certification - *Centrifuge Dewatered Sludge*

I. INORGANIC POLLUTANT CONCENTRATIONS: The results of analyses below are for a composite sample of daily centrifuge dewatered sludge samples taken from the centrifuges over the calendar month of September 2013. All analyses were performed by the City of San Diego's Wastewater Chemistry Services Section, California State ELAP Certification #1609

Metals: from Table 3 of Paragraph 503.13†
(All concentrations on dry weight)

Parameter	Value	Units	503 Limit	Units
Arsenic	3.08	mg/Kg	41	mg/Kg
Cadmium	1.2	mg/Kg	39	mg/Kg
Chromium	33.6	mg/Kg	3,000	mg/Kg‡
Copper	684	mg/Kg	1,500	mg/Kg
Lead	29	mg/Kg	300	mg/Kg
Mercury	1.1	mg/Kg	17	mg/Kg
Molybdenum	18.3	mg/Kg	75	mg/Kg*
Nickel	35.2	mg/Kg	420	mg/Kg
Selenium	5.69	mg/Kg	36	mg/Kg
Zinc	906	mg/Kg	2,800	mg/Kg
Total Nitrogen	4.99	Wt %		
Date of Sample	30-Sep-2013			
Total Solids	26.7	Wt %		
Volatile	57.6	Wt %		

† Also conforms to Table 2. Monthly Average Pollutant Concentration of the Arizona Administrative Code Title 18, Chapter 9.
‡ Limit shown is from Table 1. Ceiling Concentrations of Arizona Administrative Code Title 18, Chapter 9.
* Limits for Molybdenum taken from 2009 version of 40 CFR part 503.13 Table 1, Ceiling Concentrations

Based on this month's analysis and the results of analysis of monthly sludge composite samples for the previous year, no parameters in the described sludge stream exceed 40 CFR Part 503 Standards for land application.

Brent G Borom
Wastewater Laboratory Senior Chemist
Wastewater Chemistry Laboratory,
California State ELAP Cert. No. 1609

1/15/2014
Date

VAR CERT. Form
Revised 7/6/2000

CITY OF SAN DIEGO
METROPOLITAN WASTEWATER DEPARTMENT
CERTIFICATION STATEMENT

In Compliance with
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the City of San Diego, CA, Metropolitan Wastewater Department

VECTOR ATTRACTION REDUCTION

Based on the daily fractional volatile solids reduction (FVSR) values calculated using the Van Kleck Equation and raw and digested sludge volatile solids for the month of OCTOBER 2013 from locations based on the following information from operations:

All sludge sent to Metro Biosolids Center (MBC) from the Pt. Loma WWTP is pumped from Digester 7.
Only North City Water Reclamation Plant (NCWRP) raw sludge is going to MBC digesters.
The MBC thickened sludge samples are representative of the raw sludge from NCWRP.
MBC is using Digester No. 3 for sludge processing.

The following determinations of volatile solids was done using approved methods by laboratories certified by the State of Arizona (Cert. No. AZ0783)

55.0 % Average Volatile Solids Reduction for the Pt. Loma WWTP sludge digestion process.
57.9 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.

Both streams **do** / ~~do not~~ meet 38% FVSR criteria.

Brent G Bowman — Date November 26, 2013
Wastewater Laboratory Senior Chemist

I certify that the sludge samples taken and used in these determinations were taken and handled under my direction and supervision using approved methods and are representative samples of actual operational conditions.

(OCA) — 12/19/13
Wastewater Treatment Superintendent — Date
Metro Biosolids Center (MBC)

KC Shankles — 12-17-13
Wastewater Treatment Superintendent — Date
Pt. Loma Wastewater Treatment Plant

CERTIFICATION STATEMENT
VECTOR ATTRACTION REQUIREMENTS

I certify, under penalty of law, the vector attraction reduction requirement in Paragraph 503.33 (b) (1) which states that:
The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent, has been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By:

12-19-2013
Deputy Director — Date
Wastewater Treatment and Disposal, Metropolitan Wastewater Department
Robert Mulley

FVSR (Fractional Volatile Solids Reduction)

$$FVSR = \frac{VS_p - VS_b}{VS_p - (VS_p * VS_b)} = \frac{Vol.solidsRaw - Vol.solids\ Digested}{Vol.solids\ Raw - (Vol.solids\ Raw * Vol.solids\ Digested)}$$

Where: VS_p = Volatile Solids Feed Sludge (RAW SLUDGE),
VS_b = Volatile Solids Digested Sludge (DIG SLUDGE), currently only digester 7 is used for the calculation.

Volatile Solids (VS) is expressed as fractional numbers.

Average Volatile Solids for OCTOBER 2013

Average %TVS Digested Sludge (Digester 7) for the month.	Average Raw (feed) sludge %TVS for the month	Calculated FVSR (%)
CA Lab data used	CA Lab data used	CA Lab data used
60.4	77.2	55.0%

Average Volatile Solids for OCTOBER 2013

Average %TVS Digested Sludge (MBC Dig 3) for the month.	Average Raw (feed) sludge (MBC_TSBTC) %TVS for the month	Calculated FVSR (%)
CA Lab data used	CA Lab data used	CA Lab data used
63.8	80.7	57.9%

ALVARADO WASTEWATER CHEMISTRY LAB.

ELAP Certificate No. 1609

Total and Volatile Solids

This batch PASSED all the QC parameters

BATCH ID: 13277TS24 ANALYSIS DATE: 10/4/2013 PROTOCOL: SM2540B/160.4

ANALYSIS: TS/VS_SLDG MDL(%): 0.1

ANALYST: MSZETERLAK LCS TRUE VALUE: 4

No "FINAL DRY WT" is needed if the sample was in the oven overnight

SAMPLE ID	SAMPLE DATE	SOURCE	TEST TYPE	DISH ID	TARE WT grams	WET WT grams	INITIAL DRY WT grams	FINAL DRY WT grams	BURN WT grams	TS %	TVS %	COMMENTS
P681389	10/4/2013	LAB_ALV	BLNK	0	73.2708	142.2266	73.2694	overnight		ND		
P681390	10/4/2013	LAB_ALV	LCS	THE	74.8249	151.5465	77.8081	overnight		3.9		%REC= 97.5
P680991	10/1/2013	MBC_DIG3		CA	70.755	146.552	72.7954	overnight	71.4968	2.7	63.6	
P680991	10/1/2013	MBC_DIG3	DUP	XE	80.1076	146.9981	81.919	overnight	80.759	2.7	64	RPD TS= 0 , VS= 1
P677712	10/1/2013	MBC_TSBTC		LA	79.2377	144.7073	83.1862	overnight	79.998	6	80.7	
P677681	10/1/2013	DIG COMP		YS	75.094	143.868	76.4615	overnight	75.6355	2	60.4	
P677667	10/1/2013	RAW COMP		CR	80.4575	144.984	82.8867	overnight	81.011	3.8	77.2	

ADDITIONAL COMMENTS

1st Entry_____ 2nd Entry_____ Final Entry_____

MBCDEWN (Dewatered Sludge Cake) P682539 (3110339-01) Solid (Dry Weight) (Composite) Sampled: 10/31/13 23:59 Received: 11/05/13 13:00

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Total Metals									
Arsenic	<31.7	31.7	mg/kg dry	2	B3K0226	11/08/13 10:00	11/13/13 11:03	EPA 6010B	
Cadmium	**2.84**	0.635	mg/kg dry	2	B3K0226	11/08/13 10:00	11/13/13 11:03	EPA 6010B	
Chromium	**31.9**	0.794	mg/kg dry	2	B3K0226	11/08/13 10:00	11/13/13 11:03	EPA 6010B	
Copper	**656**	1.59	mg/kg dry	2	B3K0226	11/08/13 10:00	11/13/13 11:03	EPA 6010B	
Lead	**20.9**	15.9	mg/kg dry	2	B3K0226	11/08/13 10:00	11/13/13 11:03	EPA 6010B	
Mercury	**0.78**	0.26	mg/kg dry	1	B3K0266	11/11/13 10:34	11/11/13 16:03	EPA 7471A	
Molybdenum	**20.7**	3.17	mg/kg dry	2	B3K0226	11/08/13 10:00	11/13/13 11:03	EPA 6010B	
Nickel	**30.3**	3.17	mg/kg dry	2	B3K0226	11/08/13 10:00	11/13/13 11:03	EPA 6010B	
Selenium	<31.7	31.7	mg/kg dry	2	B3K0226	11/08/13 10:00	11/13/13 11:03	EPA 6010B	
Zinc	**929**	3.17	mg/kg dry	2	B3K0226	11/08/13 10:00	11/13/13 11:03	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.94	7.94	mg/kg dry	1	[CALC]	11/08/13 10:25	11/08/13 15:10	Calculation	
Organic Nitrogen	**54700**	3970	mg/kg dry	10	[CALC]	11/08/13 10:25	11/13/13 13:58	Calculation	
Total Nitrogen	**57900**	3970	mg/kg dry	1	[CALC]	11/08/13 10:25	11/08/13 14:42	Calculation	
Ammonia as N	**3200**	397	mg/kg dry	10	B3K0329	11/13/13 13:58	11/13/13 13:58	EPA 350.1	
Nitrate + Nitrite as N	<7.94	7.94	mg/kg dry	1	B3K0208	11/08/13 10:25	11/08/13 10:26	SM 4500 NO3 F	
Nitrite as N	<4.0	4.0	mg/kg dry wt. dry	1	B3K0220	11/08/13 15:10	11/08/13 15:10	SM 4500 NO2 B	M2
Total Kjeldahl Nitrogen	**57900**	3970	mg/kg dry	1	B3K0222	11/08/13 10:10	11/08/13 14:42	EPA 351.2	M1
Total Phosphorous	**25700**	9920	mg/kg dry	1	B3K0343	11/13/13 10:00	11/13/13 15:50	EPA 365.3	M1
Total Fixed Solids	**39**	1	%	1	B3K0174	11/07/13 15:30	11/07/13 15:30	SM 2540 G	
% Solids	**25**	1	%	1	B3K0174	11/07/13 15:30	11/07/13 15:30	SM 2540 G	
Total Volatile Solids	**61**	1	%	1	B3K0174	11/07/13 15:30	11/07/13 15:30	SM 2540 G	

CERTIFICATION STATEMENT
In Compliance With
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the
City of San Diego, CA, Metropolitan Wastewater Department

Monthly Sludge Composite Certification - *Centrifuge Dewatered Sludge*

I. INORGANIC POLLUTANT CONCENTRATIONS: The results of analyses below are for a composite sample of daily centrifuge dewatered sludge samples taken from the centrifuges over the calendar month of October 2013. All analyses were performed by the City of San Diego's Wastewater Chemistry Services Section, California State ELAP Certification #1609

Metals: from Table 3 of Paragraph 503.13†
(All concentrations on dry weight)

Parameter	Value	Units	503 Limit	Units
Arsenic	2.83	mg/Kg	41	mg/Kg
Cadmium	1.1	mg/Kg	39	mg/Kg
Chromium	33.4	mg/Kg	3,000	mg/Kg‡
Copper	677	mg/Kg	1,500	mg/Kg
Lead	27	mg/Kg	300	mg/Kg
Mercury	1.1	mg/Kg	17	mg/Kg
Molybdenum	20.8	mg/Kg	75	mg/Kg*
Nickel	36.6	mg/Kg	420	mg/Kg
Selenium	4.58	mg/Kg	36	mg/Kg
Zinc	839	mg/Kg	2,800	mg/Kg
Total Nitrogen	5.06	Wt %		
Date of Sample	31-Oct-2013			
Total Solids	26.6	Wt %		
Volatile	60.9	Wt %		

† Also conforms to Table 2. Monthly Average Pollutant Concentration of the Arizona Administrative Code Title 18, Chapter 9.
‡ Limit shown is from Table 1. Ceiling Concentrations of Arizona Administrative Code Title 18, Chapter 9.
* Limits for Molybdenum taken from 2009 version of 40 CFR part 503.13 Table 1, Ceiling Concentrations

Based on this month's analysis and the results of analysis of monthly sludge composite samples for the previous year, no parameters in the described sludge stream exceed 40 CFR Part 503 Standards for land application.

Wastewater Laboratory Senior Chemist
Wastewater Chemistry Laboratory,
California State ELAP Cert. No. 1609

1/15/2014
Date

VAR CERT. Form
Revised 7/6/2000

CITY OF SAN DIEGO
METROPOLITAN WASTEWATER DEPARTMENT
CERTIFICATION STATEMENT

In Compliance with
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the City of San Diego, CA, Metropolitan Wastewater Department

VECTOR ATTRACTION REDUCTION

Based on the daily fractional volatile solids reduction (FVSR) values calculated using the Van Kleck Equation and raw and digested sludge volatile solids for the month of NOVEMBER 2013 from locations based on the following information from operations:

All sludge sent to Metro Biosolids Center (MBC) from the Pt. Loma WWTP is pumped from Digester 7.
Only North City Water Reclamation Plant (NCWRP) raw sludge is going to MBC digesters.
The MBC thickened sludge samples are representative of the raw sludge from NCWRP.
MBC is using Digester No. 3 for sludge processing.

The following determinations of volatile solids was done using approved methods by laboratories certified by the State of Arizona (Cert. No. AZ0783)

59.7 % Average Volatile Solids Reduction for the Pt. Loma WWTP sludge digestion process.
55.6 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.

Both streams **do** / ~~do not~~ meet 38% FVSR criteria.

Brent G Brown — Date 12-24-2013
Wastewater Laboratory Senior Chemist

I certify that the sludge samples taken and used in these determinations were taken and handled under my direction and supervision using approved methods and are representative samples of actual operational conditions.

Barry H. Gyr — 1-29-14
Wastewater Treatment Superintendent — Date
Metro Biosolids Center (MBC)

KC Shankles — 1-14-14
Wastewater Treatment Superintendent — Date
Pt. Loma Wastewater Treatment Plant

CERTIFICATION STATEMENT
VECTOR ATTRACTION REQUIREMENTS

I certify, under penalty of law, the vector attraction reduction requirement in Paragraph 503.33 (b) (1) which states that:
The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent, has been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By:
Cheryl Peppen — 1/28/14
Deputy Director — Date
Wastewater Treatment and Disposal, Metropolitan Wastewater Department

FVSR (Fractional Volatile Solids Reduction)

$$FVSR = \frac{VS_p - VS_b}{VS_p - (VS_p * VS_b)} = \frac{Vol.solidsRaw - Vol.solids\ Digested}{Vol.solids\ Raw - (Vol.solids\ Raw * Vol.solids\ Digested)}$$

Where: VS_p = Volatile Solids Feed Sludge (RAW SLUDGE),
VS_b = Volatile Solids Digested Sludge (DIG SLUDGE), currently only digester 7 is used for the calculation.

Volatile Solids (VS) is expressed as fractional numbers.

Average Volatile Solids for NOVEMBER 2013

Average %TVS Digested Sludge (Digester 7) for the month.	Average Raw (feed) sludge %TVS for the month	Calculated FVSR (%)
CA Lab data used	CA Lab data used	CA Lab data used
59.4	78.4	59.7%

Average Volatile Solids for NOVEMBER 2013

Average %TVS Digested Sludge (MBC Dig 3) for the month.	Average Raw (feed) sludge (MBC_TSBTC) %TVS for the month	Calculated FVSR (%)
CA Lab data used	CA Lab data used	CA Lab data used
64.4	80.3	55.6%

ALVARADO WASTEWATER CHEMISTRY LAB.

ELAP Certificate No. 1609

Total and Volatile Solids

This batch PASSED all the QC parameters

BATCH ID: 13311TS71 ANALYSIS DATE: 11/7/2013 PROTOCOL: SM2540B/160.4

ANALYSIS: TS/VS_SLDG MDL(%): 0.1

ANALYST: MSZETERLAK LCS TRUE VALUE: 4

No "FINAL DRY WT" is needed if the sample was in the oven overnight

SAMPLE ID	SAMPLE DATE	SOURCE	TEST TYPE	DISH ID	TARE WT grams	WET WT grams	INITIAL DRY WT grams	FINAL DRY WT grams	BURN WT grams	TS %	TVS %	COMMENTS
P684661	11/7/2013	LAB_ALV	BLNK	0	77.6008	139.0714	77.5985	overnight		ND		
P684662	11/7/2013	LAB_ALV	LCS	THE	74.8352	163.3647	78.2641	overnight		3.9		%REC= 97.5
P684392	11/5/2013	MBC_DIG3		YS	75.0806	125.9254	76.6424	overnight	75.6362	3.1	64.4	
P684392	11/5/2013	MBC_DIG3	DUP	XE	80.1104	135.0409	81.7868	overnight	80.7075	3.1	64.4	RPD TS= 0 , VS= 0
P682860	11/5/2013	MBC_TSBTC		CA	70.766	129.3266	73.8075	overnight	71.3662	5.2	80.3	
P682827	11/5/2013	PLDIG7		LA	79.2363	139.418	80.4609	overnight	79.734	2	59.4	
P656244	11/5/2013	RAW COMP		CR	80.4658	136.3154	82.6679	overnight	80.9418	3.9	78.4	

ADDITIONAL COMMENTS

1st Entry_____ 2nd Entry_____ Final Entry_____

MBCDEWN (Dewatered Sludge Cake) P687315 (3120303-01) Solid (Dry Weight) (Composite) Sampled: 11/30/13 23:59 Received: 12/03/13 11:50

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Total Metals									
Arsenic	<31.0	31.0	mg/kg dry	2	B3L0247	12/09/13 11:45	12/10/13 19:22	EPA 6010B	
Cadmium	**2.88**	0.620	mg/kg dry	2	B3L0247	12/09/13 11:45	12/10/13 19:22	EPA 6010B	
Chromium	**33.4**	0.775	mg/kg dry	2	B3L0247	12/09/13 11:45	12/10/13 19:22	EPA 6010B	
Copper	**642**	1.55	mg/kg dry	2	B3L0247	12/09/13 11:45	12/10/13 19:22	EPA 6010B	
Lead	**20.9**	15.5	mg/kg dry	2	B3L0247	12/09/13 11:45	12/10/13 19:22	EPA 6010B	
Mercury	**1.2**	0.26	mg/kg dry	1	B3L0317	12/11/13 09:44	12/11/13 15:28	EPA 7471A	
Molybdenum	**19.9**	3.10	mg/kg dry	2	B3L0247	12/09/13 11:45	12/10/13 19:22	EPA 6010B	
Nickel	**29.4**	3.10	mg/kg dry	2	B3L0247	12/09/13 11:45	12/10/13 19:22	EPA 6010B	
Selenium	<31.0	31.0	mg/kg dry	2	B3L0247	12/09/13 11:45	12/10/13 19:22	EPA 6010B	
Zinc	**913**	3.10	mg/kg dry	2	B3L0247	12/09/13 11:45	12/10/13 19:22	EPA 6010B	M2
Inorganic Chemistry									
Nitrate as N	<7.75	7.75	mg/kg dry	1	[CALC]	12/09/13 09:15	12/09/13 09:53	Calculation	
Organic Nitrogen	**48400**	3880	mg/kg dry	10	[CALC]	12/09/13 09:15	12/11/13 12:08	Calculation	
Total Nitrogen	**51600**	3880	mg/kg dry	1	[CALC]	12/09/13 09:15	12/09/13 15:12	Calculation	
Ammonia as N	**3200**	388	mg/kg dry	10	B3L0309	12/11/13 12:08	12/11/13 12:08	EPA 350.1	
Nitrate + Nitrite as N	<7.75	7.75	mg/kg dry	1	B3L0190	12/06/13 10:50	12/06/13 10:50	SM 4500 NO3 F	
Nitrite as N	<3.9	3.9	mg/kg dry wt. dry	1	B3L0244	12/09/13 09:53	12/09/13 09:53	SM 4500 NO2 B	M2
Total Kjeldahl Nitrogen	**51600**	3880	mg/kg dry	1	B3L0257	12/09/13 09:15	12/09/13 15:12	EPA 351.2	
Total Phosphorous	**27100**	9690	mg/kg dry	1	B3L0340	12/11/13 10:00	12/11/13 16:55	EPA 365.3	M1
Total Fixed Solids	**39**	1	%	1	B3L0185	12/05/13 15:50	12/05/13 15:50	SM 2540 G	
% Solids	**26**	1	%	1	B3L0185	12/05/13 15:50	12/05/13 15:50	SM 2540 G	
Total Volatile Solids	**61**	1	%	1	B3L0185	12/05/13 15:50	12/05/13 15:50	SM 2540 G	

CERTIFICATION STATEMENT
In Compliance With
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the
City of San Diego, CA, Metropolitan Wastewater Department

Monthly Sludge Composite Certification - *Centrifuge Dewatered Sludge*

I. INORGANIC POLLUTANT CONCENTRATIONS: The results of analyses below are for a composite sample of daily centrifuge dewatered sludge samples taken from the centrifuges over the calendar month of November 2013. All analyses were performed by the City of San Diego's Wastewater Chemistry Services Section, California State ELAP Certification #1609

Metals: from Table 3 of Paragraph 503.13†
(All concentrations on dry weight)

Parameter	Value	Units	503 Limit	Units
Arsenic	3.8	mg/Kg	41	mg/Kg
Cadmium	1.5	mg/Kg	39	mg/Kg
Chromium	38.6	mg/Kg	3,000	mg/Kg‡
Copper	688	mg/Kg	1,500	mg/Kg
Lead	29	mg/Kg	300	mg/Kg
Mercury	0.9	mg/Kg	17	mg/Kg
Molybdenum	19.9	mg/Kg	75	mg/Kg*
Nickel	38.8	mg/Kg	420	mg/Kg
Selenium	4.22	mg/Kg	36	mg/Kg
Zinc	914	mg/Kg	2,800	mg/Kg
Total Nitrogen	5.02	Wt %		
Date of Sample	30-Nov-2013			
Total Solids	27.4	Wt %		
Volatile	60.8	Wt %		

† Also conforms to Table 2. Monthly Average Pollutant Concentration of the Arizona Administrative Code Title 18, Chapter 9.
‡ Limit shown is from Table 1. Ceiling Concentrations of Arizona Administrative Code Title 18, Chapter 9.
* Limits for Molybdenum taken from 2009 version of 40 CFR part 503.13 Table 1, Ceiling Concentrations

Based on this month's analysis and the results of analysis of monthly sludge composite samples for the previous year, no parameters in the described sludge stream exceed 40 CFR Part 503 Standards for land application.

Wastewater Laboratory Senior Chemist
Wastewater Chemistry Laboratory,
California State ELAP Cert. No. 1609

1/15/2014
Date

VAR CERT. Form
Revised 7/6/2000

CITY OF SAN DIEGO
METROPOLITAN WASTEWATER DEPARTMENT
CERTIFICATION STATEMENT

In Compliance with
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the City of San Diego, CA, Metropolitan Wastewater Department

VECTOR ATTRACTION REDUCTION

Based on the daily fractional volatile solids reduction (FVSR) values calculated using the Van Kleck Equation and raw and digested sludge volatile solids for the month of DECEMBER 2013 from locations based on the following information from operations:

All sludge sent to Metro Biosolids Center (MBC) from the Pt. Loma WWTP is pumped from Digester 7.
Only North City Water Reclamation Plant (NCWRP) raw sludge is going to MBC digesters.
The MBC thickened sludge samples are representative of the raw sludge from NCWRP.
MBC is using Digester No. 3 for sludge processing.

The following determinations of volatile solids was done using approved methods by a laboratory certified by the State of Arizona (Cert. No. AZ0783)

63.3 % Average Volatile Solids Reduction for the Pt. Loma WWTP sludge digestion process.
62.9 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.

Both streams **do** / ~~do not~~ meet 38% FVSR criteria.

Wastewater Laboratory Senior Chemist — Date 1/29/2014

I certify that the sludge samples taken and used in these determinations were taken and handled under my direction and supervision using approved methods and are representative samples of actual operational conditions.

Wastewater Treatment Superintendent, Metro Biosolids Center (MBC) — Date 2-6-14

Wastewater Treatment Superintendent, Pt. Loma Wastewater Treatment Plant — Date 2/11/14

CERTIFICATION STATEMENT
VECTOR ATTRACTION REQUIREMENTS

I certify, under penalty of law, the vector attraction reduction requirement in Paragraph 503.33 (b) (1) which states that:
The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent, has been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By:

Deputy Director, Wastewater Treatment and Disposal, Metropolitan Wastewater Department — Date 2/11/14

FVSR (Fractional Volatile Solids Reduction)

$$FVSR = \frac{VS_p - VS_b}{VS_p - (VS_p * VS_b)} = \frac{Vol.solidsRaw - Vol.solids\ Digested}{Vol.solids\ Raw - (Vol.solids\ Raw * Vol.solids\ Digested)}$$

Where: VS_p = Volatile Solids Feed Sludge (RAW SLUDGE),
VS_b = Volatile Solids Digested Sludge (DIG SLUDGE), currently only digester 7 is used for the calculation.

Volatile Solids (VS) is expressed as fractional numbers.

Average Volatile Solids for DECEMBER 2013

Average %TVS Digested Sludge (Digester 7) for the month.	Average Raw (feed) sludge %TVS for the month	Calculated FVSR (%)
CA Lab data used	CA Lab data used	CA Lab data used
59.5	80.0	63.3%

Average Volatile Solids for DECEMBER 2013

Average %TVS Digested Sludge (MBC Dig 3) for the month.	Average Raw (feed) sludge (MBC_TSBTC) %TVS for the month	Calculated FVSR (%)
CA Lab data used	CA Lab data used	CA Lab data used
63.3	82.3	62.9%

ALVARADO WASTEWATER CHEMISTRY LAB.
ELAP Certificate No. 1609

This batch PASSED all the QC parameters

BATCH ID: 13338TS99 ANALYSIS DATE: 12/4/2013 PROTOCOL: SM2540B/160.4
ANALYSIS: TS/VS_SLDG MDL(%): 0.1
ANALYST: MSZETERLAK LCS TRUE VALUE: 4

SAMPLE ID	SAMPLE DATE	SOURCE	TEST TYPE	DISH ID	TARE WT grams	WET WT grams	INITIAL DRY WT grams	FINAL DRY WT grams	BURN WT grams	TS %	TVS %	COMMENTS
P688456	12/4/2013	LAB_ALV	BLNK	A	80.909	131.4848	80.9058	80.9032		ND		
P688457	12/4/2013	LAB_ALV	LCS	THE	74.8325	140.3822	77.3709	77.3696		3.9		%REC= 97.5
P686447	12/3/2013	MBC_TSBTC		XE	80.1313	133.0796	83.0582	83.0501	80.6354	5.5	82.8	
P686447	12/3/2013	MBC_TSBTC	DUP	CR	80.4597	135.0823	83.5021	83.5006	81.0132	5.6	81.8	RPD TS= 2 , VS= 1
P688371	12/3/2013	MBC_DIG3		LA	79.242	137.9396	81.1125	81.1063	79.9291	3.2	63.3	
P686414	12/3/2013	PLDIG7		CA	70.7665	122.0768	71.719	71.7154	71.1527	1.9	59.5	
P656245	12/3/2013	RAW COMP		YS	75.0934	128.61	77.2149	77.2016	75.5172	4	80	

ADDITIONAL COMMENTS

1st Entry_____ 2nd Entry_____ Final Entry_____

MBCDEWN (Dewatered Sludge Cake) P690536 (4010138-01) Solid (Dry Weight) (Composite) Sampled: 12/31/13 23:59 Received: 01/03/14 11:30

Legend Technical Services of Arizona, Inc.

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Metals									
Arsenic	<29.5	29.5	mg/kg dry	2	B4A0104	01/07/14 09:30	01/07/14 15:17	EPA 6010B	
Cadmium	**2.22**	0.590	mg/kg dry	2	B4A0104	01/07/14 09:30	01/07/14 15:17	EPA 6010B	
Chromium	**36.8**	0.738	mg/kg dry	2	B4A0104	01/07/14 09:30	01/07/14 15:17	EPA 6010B	
Copper	**620**	1.48	mg/kg dry	2	B4A0104	01/07/14 09:30	01/07/14 15:17	EPA 6010B	
Lead	**19.3**	14.8	mg/kg dry	2	B4A0104	01/07/14 09:30	01/07/14 15:17	EPA 6010B	
Mercury	**1.1**	0.25	mg/kg dry	1	B4A0210	01/09/14 11:45	01/09/14 15:08	EPA 7471A	
Molybdenum	**17.2**	2.95	mg/kg dry	2	B4A0104	01/07/14 09:30	01/07/14 15:17	EPA 6010B	
Nickel	**31.2**	2.95	mg/kg dry	2	B4A0104	01/07/14 09:30	01/07/14 15:17	EPA 6010B	
Selenium	<29.5	29.5	mg/kg dry	2	B4A0104	01/07/14 09:30	01/07/14 15:17	EPA 6010B	
Zinc	**847**	2.95	mg/kg dry	2	B4A0104	01/07/14 09:30	01/07/14 15:17	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	**12.0**	7.38	mg/kg dry	1	[CALC]	01/07/14 11:50	01/08/14 16:40	Calculation	
Organic Nitrogen	**51000**	3690	mg/kg dry	10	[CALC]	01/07/14 11:50	01/08/14 10:38	Calculation	
Total Nitrogen	**53100**	3690	mg/kg dry	1	[CALC]	01/07/14 11:50	01/07/14 11:50	Calculation	
Ammonia as N	**2150**	369	mg/kg dry	10	B4A0151	01/08/14 10:38	01/08/14 10:38	EPA 350.1	
Nitrate + Nitrite as N	**12.0**	7.38	mg/kg dry	1	B4A0121	01/07/14 11:50	01/07/14 11:50	SM 4500 NO3 F	
Nitrite as N	<3.7	3.7	mg/kg dry wt. dry	1	B4A0170	01/08/14 16:40	01/08/14 16:40	SM 4500 NO2 B	M2
Total Kjeldahl Nitrogen	**53100**	3690	mg/kg dry	1	B4A0106	01/06/14 10:10	01/06/14 13:28	EPA 351.2	
Total Phosphorous	**44500**	9230	mg/kg dry	1	B4A0162	01/08/14 10:00	01/08/14 14:30	EPA 365.3	M2
Total Fixed Solids	**38**	1	%	1	B4A0109	01/06/14 15:45	01/06/14 15:45	SM 2540 G	
% Solids	**27**	1	%	1	B4A0109	01/06/14 15:45	01/06/14 15:45	SM 2540 G	
Total Volatile Solids	**62**	1	%	1	B4A0109	01/06/14 15:45	01/06/14 15:45	SM 2540 G	

CERTIFICATION STATEMENT
In Compliance With
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the
City of San Diego, CA, Metropolitan Wastewater Department

Monthly Sludge Composite Certification - *Centrifuge Dewatered Sludge*

I. INORGANIC POLLUTANT CONCENTRATIONS: The results of analyses below are for a composite sample of daily centrifuge dewatered sludge samples taken from the centrifuges over the calendar month of December 2013. All analyses were performed by the City of San Diego's Wastewater Chemistry Services Section, California State ELAP Certification #1609

Metals: from Table 3 of Paragraph 503.13†
(All concentrations on dry weight)

Parameter	Value	Units	503 Limit	Units
Arsenic	3.58	mg/Kg	41	mg/Kg
Cadmium	1.1	mg/Kg	39	mg/Kg
Chromium	36.0	mg/Kg	3,000	mg/Kg‡
Copper	627	mg/Kg	1,500	mg/Kg
Lead	18	mg/Kg	300	mg/Kg
Mercury	1.1	mg/Kg	17	mg/Kg
Molybdenum	14.4	mg/Kg	75	mg/Kg*
Nickel	33.7	mg/Kg	420	mg/Kg
Selenium	4.44	mg/Kg	36	mg/Kg
Zinc	742	mg/Kg	2,800	mg/Kg
Total Nitrogen	4.70	Wt %		
Date of Sample	31-Dec-2013			
Total Solids	27.5	Wt %		
Volatile	59.9	Wt %		

† Also conforms to Table 2. Monthly Average Pollutant Concentration of the Arizona Administrative Code Title 18, Chapter 9.
‡ Limit shown is from Table 1. Ceiling Concentrations of Arizona Administrative Code Title 18, Chapter 9.
* Limits for Molybdenum taken from 2009 version of 40 CFR part 503.13 Table 1, Ceiling Concentrations

Based on this month's analysis and the results of analysis of monthly sludge composite samples for the previous year, no parameters in the described sludge stream exceed 40 CFR Part 503 Standards for land application.

Wastewater Laboratory Senior Chemist
Wastewater Chemistry Laboratory,
California State ELAP Cert. No. 1609

1/29/2014
Date

VAR CERT. Form
Revised 7/6/2000

Enclosure 3
Monthly Biosolids Pathogen Reduction Certification and 503 Table 3 Results

2013 Annual Biosolids Report

CITY OF SAN DIEGO
PUBLIC UTITLITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
January 1, 2013 – January 31, 2013

The following pathogens reduction requirement has been prepared in accordance with U.S. Environmental Protection Agency 40 CFR Part 503 Standards for the use and disposal of bulk sewage sludge from the Metro Biosolids Center Operated by the City of San Diego, Public Utilities Department.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b) (3) is met.

At the City of San Diego Metropolitan Biosolids Center sludge undergoes anaerobic, high rate, mesophilic digestion that meets 503 regulations for detention time and temperature.

503.17 (a)(4)(i)(B) - Certification statement for meeting pathogens reduction requirements.

I certify, under penalty of law, that the Class B pathogen requirements in 503.32 (b)(3) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

For The City of San Diego
Public Utilities Department

By: Barry Ayers Date 3-12-13

Barry Ayers
Superintendent
Wastewater Treatment and Disposal Division
Metropolitan Biosolids Center

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
January 1, 2013 – January 31, 2013

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For The City of San Diego
Public Utilities Department

By: KC Shankles Date 3-12-13

K.C. Shankles
Superintendent
Wastewater Treatment and Disposal Division
Point Loma Wastewater Treatment Plant

CITY OF SAN DIEGO
PUBLIC UTITLITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
February 1, 2013 – February 28, 2013

The following pathogens reduction requirement has been prepared in accordance with U.S. Environmental Protection Agency 40 CFR Part 503 Standards for the use and disposal of bulk sewage sludge from the Metro Biosolids Center Operated by the City of San Diego, Public Utilities Department.

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For The City of San Diego
Public Utilities Department

By: Barry Ayers Date 4-9-13

Barry Ayers
Superintendent
Wastewater Treatment and Disposal Division
Metropolitan Biosolids Center

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
February 1, 2013 – February 28, 2013

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For The City of San Diego
Public Utilities Department

By: KC Shankles Date 3/9/13

K.C. Shankles
Superintendent
Wastewater Treatment and Disposal Division
Point Loma Wastewater Treatment Plant

CITY OF SAN DIEGO
PUBLIC UTITLITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
March 1, 2013 – March 31, 2013

The following pathogens reduction requirement has been prepared in accordance with U.S. Environmental Protection Agency 40 CFR Part 503 Standards for the use and disposal of bulk sewage sludge from the Metro Biosolids Center Operated by the City of San Diego, Public Utilities Department.

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For The City of San Diego
Public Utilities Department

By: Barry Ayers Date 5-7-13

Barry Ayers
Superintendent
Wastewater Treatment and Disposal Division
Metropolitan Biosolids Center

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
March 1, 2013 – March 31, 2013

The following pathogens reduction requirement has been prepared in accordance with U.S. Environmental Protection Agency 40 CFR Part 503 Standards for the use and disposal of bulk sewage sludge from the Metro Biosolids Center Operated by the City of San Diego, CA, Public Utilities Department.

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For The City of San Diego
Public Utilities Department

By: KC Shankles Date 5/1/13

K.C. Shankles
Superintendent
Wastewater Treatment and Disposal Division
Point Loma Wastewater Treatment Plant

CITY OF SAN DIEGO
PUBLIC UTITLITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
April 1, 2013 – April 30, 2013, 2013

The following pathogens reduction requirement has been prepared in accordance with U.S. Environmental Protection Agency 40 CFR Part 503 Standards for the use and disposal of bulk sewage sludge from the Metro Biosolids Center Operated by the City of San Diego, Public Utilities Department.

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For The City of San Diego
Public Utilities Department

By: Barry Ayers Date 6/25/13

Barry Ayers
Superintendent
Wastewater Treatment and Disposal Division
Metropolitan Biosolids Center

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
April 1, 2013 – April 30, 2013

The following pathogens reduction requirement has been prepared in accordance with U.S. Environmental Protection Agency 40 CFR Part 503 Standards for the use and disposal of bulk sewage sludge from the Metro Biosolids Center Operated by the City of San Diego, CA, Public Utilities Department.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b) (3) is met.

At the City of San Diego Point Loma Wastewater Treatment Plant sludge undergoes anaerobic, high rate, mesophilic digestion that meets 503 regulations for detention time and temperature.

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For The City of San Diego
Public Utilities Department

By: KC Shankles Date 7/25/13

K.C. Shankles
Superintendent
Wastewater Treatment and Disposal Division
Point Loma Wastewater Treatment Plant

CITY OF SAN DIEGO
PUBLIC UTITLITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
May 1, 2013 – May 31, 2013

The following pathogens reduction requirement has been prepared in accordance with U.S. Environmental Protection Agency 40 CFR Part 503 Standards for the use and disposal of bulk sewage sludge from the Metro Biosolids Center Operated by the City of San Diego, Public Utilities Department.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b) (3) is met.

At the City of San Diego Metropolitan Biosolids Center sludge undergoes anaerobic, high rate, mesophilic digestion that meets 503 regulations for detention time and temperature.

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For The City of San Diego
Public Utilities Department

By: _____ Date 8/27/13

Barry Ayers
Superintendent
Wastewater Treatment and Disposal Division
Metropolitan Biosolids Center

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
May 1, 2013 – May 31, 2013

The following pathogens reduction requirement has been prepared in accordance with U.S. Environmental Protection Agency 40 CFR Part 503 Standards for the use and disposal of bulk sewage sludge from the Metro Biosolids Center Operated by the City of San Diego, CA, Public Utilities Department.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b) (3) is met.

At the City of San Diego Point Loma Wastewater Treatment Plant sludge undergoes anaerobic, high rate, mesophilic digestion that meets 503 regulations for detention time and temperature.

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For The City of San Diego
Public Utilities Department

By: [signature] OCA Superintendent

Date 8/27/13

K.C. Shankles
Superintendent
Wastewater Treatment and Disposal Division
Point Loma Wastewater Treatment Plant

CITY OF SAN DIEGO
PUBLIC UTITLITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
June 1, 2013 – June 30, 2013

The following pathogens reduction requirement has been prepared in accordance with U.S. Environmental Protection Agency 40 CFR Part 503 Standards for the use and disposal of bulk sewage sludge from the Metro Biosolids Center Operated by the City of San Diego, Public Utilities Department.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b) (3) is met.

At the City of San Diego Metropolitan Biosolids Center sludge undergoes anaerobic, high rate, mesophilic digestion that meets 503 regulations for detention time and temperature.

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For The City of San Diego
Public Utilities Department

By: _____ Date 8/27/13

Barry Ayers
Superintendent
Wastewater Treatment and Disposal Division
Metropolitan Biosolids Center

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
June 1, 2013 – June 30, 2013

The following pathogens reduction requirement has been prepared in accordance with U.S. Environmental Protection Agency 40 CFR Part 503 Standards for the use and disposal of bulk sewage sludge from the Metro Biosolids Center Operated by the City of San Diego, CA, Public Utilities Department.

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For The City of San Diego
Public Utilities Department

By: [signature] Date 8/27/13
OCA Supentendent
K.C. Shankles
Superintendent
Wastewater Treatment and Disposal Division
Point Loma Wastewater Treatment Plant

CITY OF SAN DIEGO
PUBLIC UTITLITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
July 1, 2013 – July 31, 2013

The following pathogens reduction requirement has been prepared in accordance with U.S. Environmental Protection Agency 40 CFR Part 503 Standards for the use and disposal of bulk sewage sludge from the Metro Biosolids Center Operated by the City of San Diego, Public Utilities Department.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b) (3) is met.

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For The City of San Diego
Public Utilities Department

By: Barry Ayers Date 9/18/13

Barry Ayers
Superintendent
Wastewater Treatment and Disposal Division
Metropolitan Biosolids Center

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
July 1, 2013 – July 31, 2013

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For The City of San Diego
Public Utilities Department

By: D L Huntamer Date 9/10/13

~~K.C. Shankles~~ David L. Huntamer
Superintendent
Wastewater Treatment and Disposal Division
Point Loma Wastewater Treatment Plant

CITY OF SAN DIEGO
PUBLIC UTITLITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
August 1, 2013 – August 31, 2013

The following pathogens reduction requirement has been prepared in accordance with U.S. Environmental Protection Agency 40 CFR Part 503 Standards for the use and disposal of bulk sewage sludge from the Metro Biosolids Center Operated by the City of San Diego, Public Utilities Department.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b) (3) is met.

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For The City of San Diego
Public Utilities Department

By: (OCA) Date 12/19/13

Barry Ayers
Superintendent
Wastewater Treatment and Disposal Division
Metropolitan Biosolids Center

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
August 1, 2013 – August 31, 2013

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For The City of San Diego
Public Utilities Department

By: KC Shankles Date 11/12/13

K.C. Shankles
Superintendent
Wastewater Treatment and Disposal Division
Point Loma Wastewater Treatment Plant

CITY OF SAN DIEGO
PUBLIC UTITLITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
September 1, 2013 – September 30, 2013

The following pathogens reduction requirement has been prepared in accordance with U.S. Environmental Protection Agency 40 CFR Part 503 Standards for the use and disposal of bulk sewage sludge from the Metro Biosolids Center Operated by the City of San Diego, Public Utilities Department.

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For The City of San Diego
Public Utilities Department

By: (OCA) Date 12/19/13

Barry Ayers
Superintendent
Wastewater Treatment and Disposal Division
Metropolitan Biosolids Center

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
September 1, 2013 – September 30, 2013

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For The City of San Diego
Public Utilities Department

By: KC Shankles Date 12-17-13

K.C. Shankles
Superintendent
Wastewater Treatment and Disposal Division
Point Loma Wastewater Treatment Plant

CITY OF SAN DIEGO
PUBLIC UTITLITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
October 1, 2013 – October 31, 2013

The following pathogens reduction requirement has been prepared in accordance with U.S. Environmental Protection Agency 40 CFR Part 503 Standards for the use and disposal of bulk sewage sludge from the Metro Biosolids Center Operated by the City of San Diego, Public Utilities Department.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b) (3) is met.

At the City of San Diego Metropolitan Biosolids Center sludge undergoes anaerobic, high rate, mesophilic digestion that meets 503 regulations for detention time and temperature.

503.17 (a)(4)(i)(B) - Certification statement for meeting pathogens reduction requirements.

I certify, under penalty of law, that the Class B pathogen requirements in 503.32 (b)(3) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

For The City of San Diego
Public Utilities Department

By: R Petersen (OCA) Date 12/19/13

Barry Ayers
Superintendent
Wastewater Treatment and Disposal Division
Metropolitan Biosolids Center

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
October 1, 2013 – October 31, 2013

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503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b) (3) is met.

At the City of San Diego Point Loma Wastewater Treatment Plant sludge undergoes anaerobic, high rate, mesophilic digestion that meets 503 regulations for detention time and temperature.

503.17 (a)(4)(i)(B) - Certification statement for meeting pathogens reduction requirements.

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For The City of San Diego
Public Utilities Department

By: KC Shankles Date 12-17-13

K.C. Shankles
Superintendent
Wastewater Treatment and Disposal Division
Point Loma Wastewater Treatment Plant

CITY OF SAN DIEGO
PUBLIC UTITLITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
November 1, 2013 – November 30, 2013

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For The City of San Diego
Public Utilities Department

By: Barry H. Ayers Date 1-29-14

Barry Ayers
Superintendent
Wastewater Treatment and Disposal Division
Metropolitan Biosolids Center

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
November 1, 2013 – November 30, 2013

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For The City of San Diego
Public Utilities Department

By: KC Shankles Date 1-14-14

K.C. Shankles
Superintendent
Wastewater Treatment and Disposal Division
Point Loma Wastewater Treatment Plant

CITY OF SAN DIEGO
PUBLIC UTITLITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
December 1, 2013 – December 31, 2013

The following pathogens reduction requirement has been prepared in accordance with U.S. Environmental Protection Agency 40 CFR Part 503 Standards for the use and disposal of bulk sewage sludge from the Metro Biosolids Center Operated by the City of San Diego, Public Utilities Department.

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For The City of San Diego
Public Utilities Department

By: Barry Ayers Date 2/6/14

Barry Ayers
Superintendent
Wastewater Treatment and Disposal Division
Metropolitan Biosolids Center

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT

BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
December 1, 2013 – December 31, 2013

The following pathogens reduction requirement has been prepared in accordance with U.S. Environmental Protection Agency 40 CFR Part 503 Standards for the use and disposal of bulk sewage sludge from the Metro Biosolids Center Operated by the City of San Diego, CA, Public Utilities Department.

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For The City of San Diego
Public Utilities Department

By: KC Shankles Date 2/11/14

K.C. Shankles
Superintendent
Wastewater Treatment and Disposal Division
Point Loma Wastewater Treatment Plant

Enclosure 4
Monthly Biosolids Production Reports

2013 Annual Biosolids Report

Point Loma Monthly Monitoring Report
MetroBiosolids Center Solids Report (MBC)
01-JAN-2013 to 31-JAN-2013

Date	Pt. Loma Raw sludge Gallons	%TS	Tons	Pt. Loma Digested Biosolids Gallons	%TS	Tons	MBC Combined Centrate Gallons	%TS	Tons	MBC Dewatered Biosolids Hauled Wet Tons	%TS	Dry Tons
01-01	1,286,054	3.9	209	1,286,054			2,212,661	0.30	28	.0	29.7	.0
01-02	1,284,367			1,284,369	2.1	113	2,281,133	0.20	19	373.4	30.4	113.5
01-03	1,283,642	3.7	198	1,283,642	2.0	107	2,255,285	0.30	28	543.8	28.1	152.8
01-04	1,281,529			1,281,529	2.0	107	2,186,453	0.30	27	567.4	28.4	161.2
01-05	1,224,805			1,224,805			1,989,734	0.30	25	344.5	28.0	96.4
01-06	1,129,294	3.9	184	1,129,294			2,136,658	0.30	27	.0	28.2	.0
01-07	1,278,246			1,278,246	2.0	107	2,179,325	0.30	27	445.1	28.6	127.3
01-08	1,273,482	4.3	228	1,273,482	2.2	117	2,328,293	0.30	29	497.7	28.7	142.9
01-09	1,289,195			1,289,195	2.2	118	2,381,256	0.30	30	419.6	28.7	120.4
01-10	1,304,301	4.0	218	1,304,301	2.1	114	2,432,520	0.30	30	246.9	28.8	71.1
01-11	1,277,647			1,277,647	2.1	112	2,393,453	0.20	20	345.9	27.4	94.8
01-12	1,280,261			1,280,266			2,250,058	0.20	19	.0	28.5	.0
01-13	1,274,452	4.0	213	1,274,452			2,223,979	0.20	19	.0	28.8	.0
01-14	1,278,462			1,278,462	2.2	117	2,240,309	0.30	28	473.2	29.5	139.6
01-15	1,081,610	4.2	189	1,081,610	2.1	95	2,179,238	0.30	27	444.5	29.3	130.2
01-16	1,282,538			1,282,538	2.1	112	2,153,434	0.30	27	343.4	28.2	96.9
01-17	1,243,547	4.1	213	1,243,547	2.1	109	2,176,387	0.20	18	400.1	28.3	113.2
01-18	1,137,244			1,137,244	2.0	95	2,195,093	0.30	27	196.1	28.5	55.9
01-19	1,237,862			1,237,862			2,131,877	0.30	27	.0	29.9	.0
01-20	1,184,637			1,184,637			2,152,786	0.30	27	.0	28.4	.0
01-21	1,267,638			1,267,638			2,182,162	0.30	27	468.1	29.4	137.6
01-22	1,225,471	3.9	199	1,225,471	2.1	107	2,287,958	0.30	29	521.5	29.0	151.2
01-23	1,181,802			1,181,802	2.1	104	2,110,205	0.40	35	443.0	28.4	125.8
01-24	1,122,857	4.2	197	1,122,857	2.2	103	2,025,950	0.30	25	349.6	28.8	100.7
01-25	1,289,116			1,289,116	2.1	113	2,177,035	0.30	27	322.1	27.3	87.9
01-26	1,295,850			1,295,850			2,246,429	0.30	28	.0	28.1	.0
01-27	1,293,762	4.2	227	1,293,762			2,263,622	0.30	28	.0	27.8	.0
01-28	1,304,609			1,304,609	2.1	114	2,260,570	0.30	28	471.3	28.4	133.8
01-29	1,284,598	4.0	214	1,284,598	2.2	118	2,276,770	0.30	28	444.1	29.0	128.8
01-30	1,037,022			1,037,022	2.1	91	2,068,171	0.30	26	320.9	30.0	96.3
01-31	1,274,903	4.1	218	1,274,903	2.1	112	2,153,822	0.30	27	349.7	29.2	102.1
avg	1,241,639	4.0	208	1,241,639	2.1	109	2,210,730	0.29	26	301.0	28.7	86.5
sum	38,490,803		6,482	38,490,810		3,378	68,532,626		820.47	9,331.8		2,678.23

Sludge and Biosolids Totals are calculated using the total flow and average %TS values since there are not values for every day of the month.

Note: The Tons and Dry Tons calculations of the summary totals is computed by using the following equations.:
Tons = Monthly Total Gallons*(8.34 lbs/Gallon)*(1Ton/2000 lbs)*(Avg %TS/100), Dry Tons = (Monthly Total Wet Tons)*(%TS/100)

Point Loma Monthly Monitoring Report
MetroBiosolids Center Solids Report (MBC)
01-FEB-2013 to 28-FEB-2013

Date	Pt. Loma Raw sludge Gallons	%TS	Tons	Pt. Loma Digested Biosolids Gallons	%TS	Tons	MBC Combined Centrate Gallons	%TS	Tons	MBC Dewatered Biosolids Hauled Wet Tons	%TS	Dry Tons
02-01	1,178,839			1,178,839	2.1	103	2,189,650	0.30	27	393.8	29.7	117.0
02-02	973,495			973,495			1,976,904	0.30	25	.0	29.9	.0
02-03	1,272,808	4.2	223	1,272,808			2,168,006	0.30	27	.0	29.1	.0
02-04	1,264,153			1,264,153	2.2	116	2,220,840	0.30	28	472.5	27.4	129.5
02-05	1,267,304	4.0	211	1,267,304	2.2	116	2,332,339	0.30	29	467.2	29.3	136.9
02-06	1,275,625			1,275,625	2.1	112	2,334,226	0.30	29	565.5	28.7	162.3
02-07	1,157,647	3.8	183	1,157,647	2.1	101	2,213,453	0.30	28	298.0	28.7	85.5
02-08	1,258,747			1,258,747	2.0	105	2,165,011	0.30	27	318.9	28.2	89.9
02-09	1,265,578			1,265,578			2,242,267	0.30	28	.0	28.8	.0
02-10	1,156,677	4.0	193	1,156,677			1,844,078	0.30	23	.0	28.3	.0
02-11	1,205,300			1,205,300	2.1	106	399,341			447.0	28.6*	127.6
02-12	1,270,841	3.9	207	1,270,841	2.1	111	498,672	0.20	4	245.6	28.6*	70.1
02-13	1,261,341			126,134	2.1	11	1,893,960	0.30	24	.0	26.4	.0
02-14	1,268,983	4.0	212	1,268,983	2.1	111	2,624,126	0.30	33	369.2	29.0	107.1
02-15	1,208,439			1,208,439	2.1	106	2,089,238	0.30	26	443.0	28.2	124.9
02-16	1,007,244			1,007,244			2,091,499	0.30	26	.0	27.8	.0
02-17	1,236,341			1,236,341			2,082,600	0.20	17	.0	27.7	.0
02-18	1,353,519			1,353,519			2,195,755	0.30	27	395.6	28.8	113.9
02-19	1,064,289	4.0	178	1,064,289	2.1	93	1,915,085	0.30	24	494.5	27.5	136.0
02-20	577,200			913,105	2.5	95	1,982,275	0.30	25	421.3	27.6	116.3
02-21	1,455,286	4.3	261	1,455,855	2.1	128	2,313,086	0.30	29	172.7	26.8	46.3
02-22	1,425,178			1,425,178	2.1	125	2,471,126	0.30	31	370.9	27.3	101.3
02-23	1,347,516			1,347,516			2,308,090	0.20	19	.0	27.5	.0
02-24	1,261,237	3.7	195	1,261,237			2,146,680	0.30	27	.0	28.8	.0
02-25	1,266,408			1,266,408	2.1	111	2,264,616	0.20	19	499.0	27.7	138.2
02-26	1,229,355	4.3	220	1,229,355	2.1	108	2,251,339	0.30	28	492.3	27.9	137.4
02-27	1,232,179			1,232,179	2.5	129	2,305,454	0.30	29	469.9	27.2	127.8
02-28	1,247,457	3.8	198	1,247,457	2.1	109	2,183,386	0.30	27	345.0	28.7	99.0
avg	1,213,892	4.0	207	1,185,366	2.1	105	2,060,825	0.29	25	274.3	28.2	77.4
sum	33,988,986		5,669	33,190,253		2,972	57,703,102		686.22	7,681.8		2,166.25

*No sample taken Feb 11th and 12th due to plant shutdown. %TS value used to calculate dry tons is the average of previous 2 days.

Sludge and Biosolids Totals are calculated using the total flow and average %TS values since there are not values for every day of the month.

Note: The Tons and Dry Tons calculations of the summary totals is computed by using the following equations.:
Tons = Monthly Total Gallons*(8.34 lbs/Gallon)*(1Ton/2000 lbs)*(Avg %TS/100), Dry Tons = (Monthly Total Wet Tons)*(%TS/100)

Point Loma Monthly Monitoring Report
MetroBiosolids Center Solids Report (MBC)
01-MAR-2013 to 31-MAR-2013

Date	Pt. Loma Raw sludge Gallons	%TS	Tons	Pt. Loma Digested Biosolids Gallons	%TS	Tons	MBC Combined Centrate Gallons	%TS	Tons	MBC Dewatered Biosolids Hauled Wet Tons	%TS	Dry Tons
03-01	1,241,063			1,241,063	2.0	104	2,245,925	0.30	28	270.65	27.7	74.97
03-02	1,235,439			1,235,439			2,294,309	0.30	29	.00	29.6	.00
03-03	1,241,600	3.8	197	1,241,600			2,235,456	0.30	28	.00	30.3	.00
03-04	1,217,682			1,217,682	2.0	102	2,295,821	0.30	29	468.59	28.4	133.08
03-05	1,175,129	4.0	196	1,175,129	2.0	98	2,084,342	0.30	26	493.04	28.1	138.54
03-06	1,204,149			1,204,149	2.0	100	2,106,230	0.30	26	419.63	26.9	112.88
03-07	1,210,429	4.1	207	1,210,129	2.0	101	2,056,680	0.30	26	197.00	29.5	58.12
03-08	1,240,286			1,240,286	2.0	103	2,262,802	0.30	28	99.06	29.3	29.02
03-09	1,245,818			1,245,818			2,170,757	0.30	27	.00	27.5	.00
03-10	1,199,612	4.3	215	1,199,612			2,264,803	0.30	28	.00	29.0	.00
03-11	1,211,303			1,211,303	2.1	106	2,206,728	0.30	28	516.87	28.9	149.38
03-12	1,387,022	4.1	237	1,387,022	2.1	122	2,053,224	0.30	26	495.09	28.5	141.10
03-13	489,062			489,062	2.2	45	1,902,773	0.30	24	447.81	29.8	133.45
03-14	1,278,875	4.6	245	1,278,875	2.1	112	2,168,698	0.30	27	171.54	28.1	48.20
03-15	1,249,607			1,249,607	2.1	109	2,170,238	0.30	27	321.42	28.8	92.57
03-16	1,217,983			1,217,983			2,188,238	0.30	27	.00	29.4	.00
03-17	1,255,615	3.9	204	1,255,615			2,235,888	0.30	28	.00	28.2	.00
03-18	1,253,719			1,253,719	2.2	115	2,207,794	0.30	28	491.37	28.8	141.51
03-19	1,268,529	4.0	212	1,268,529	2.1	111	2,141,942	0.30	27	495.06	29.5	146.04
03-20	762,866			762,866	2.0	64	2,145,830	0.30	27	396.35	27.8	110.19
03-21	1,259,944	4.5	236	1,259,944	2.1	110	2,020,608	0.30	25	196.51	27.3	53.65
03-22	1,242,034			1,242,034	2.1	109	2,233,325	0.30	28	298.39	28.4	84.74
03-23	1,199,976			1,199,976			2,222,669	0.30	28	.00	28.3	.00
03-24	1,183,196	4.1	202	1,183,196			2,132,813	0.30	27	.00	28.3	.00
03-25	1,204,055			1,204,055	2.1	105	2,165,616	0.30	27	471.81	27.7	130.69
03-26	1,218,426	4.1	208	1,218,426	2.2	112	2,184,480	0.30	27	375.46	27.8	104.38
03-27	1,243,589			1,243,589	2.2	114	2,196,346	0.30	27	475.09	28.6	135.88
03-28	1,218,056	4.2	213	1,218,056	2.0	102	2,181,758	0.30	27	247.73	27.1	67.13
03-29	1,239,516			1,239,516	2.1	109	2,174,688	0.30	27	345.77	27.5	95.09
03-30	1,243,135			1,243,315			2,223,806	0.30	28	.00	28.5	.00
03-31	1,239,840			1,239,840			2,194,747	0.30	27	.00	27.8	.00
avg	1,196,050	4.1	214	1,196,046	2.1	102	2,173,204	0.30	27	248.20	28.4	70.34
sum	37,077,555		6,404	37,077,435		3,217	67,369,334		843	7,694.24		2,185.16

Sludge and Biosolids Totals are calculated using the total flow and average %TS values since there are not values for every day of the month.

Note: The Tons and Dry Tons calculations of the summary totals is computed by using the following equations.:
Tons = Monthly Total Gallons*(8.34 lbs/Gallon)*(1Ton/2000 lbs)*(Avg %TS/100), Dry Tons = (Monthly Total Wet Tons)*(%TS/100)

Point Loma Monthly Monitoring Report
MetroBiosolids Center Solids Report (MBC)
01-APR-2013 to 30-APR-2013

Date	Pt. Loma Raw sludge Gallons	%TS	Tons	Pt. Loma Digested Biosolids Gallons	%TS	Tons	MBC Combined Centrate Gallons	%TS	Tons	MBC Dewatered Biosolids Hauled Wet Tons	%TS	Dry Tons
04-01	1,238,488			1,238,488			2,231,842	0.30	28	494.93	27.3	135.12
04-02	1,231,186	4.1	211	1,231,186	2.2	113	2,175,394	0.30	27	496.11	27.2	134.94
04-03	1,218,755			1,218,755	2.5	127	2,214,144	0.40	37	499.32	28.0	139.81
04-04	1,228,466	4.1	210	1,228,466	2.0	103	2,192,414	0.40	37	250.55	27.8	69.65
04-05	1,225,242			1,225,242	2.1	107	2,377,483	0.30	30	371.38	29.0	107.70
04-06	745,772			745,772			1,917,101	0.30	24	.00	28.6	.00
04-07	1,219,293	4.5	229	1,219,293			2,020,925	0.30	25	.00	27.3	.00
04-08	1,209,024			1,209,024	2.2	111	2,224,973	0.30	28	545.44	27.5	150.00
04-09	750,547	4.9	153	750,547	2.2	69	1,773,893	0.30	22	397.49	26.8	106.53
04-10	1,230,228			1,230,228	2.2	113	2,252,894	0.30	28	272.44	26.6	72.47
04-11	1,228,924	4.6	236	1,228,924	2.2	113	2,135,275	0.40	36	224.58	27.1	60.86
04-12	1,220,344			1,220,344	2.2	112	2,276,654	0.30	28	297.53	27.8	82.71
04-13	1,184,629			1,184,629			2,291,112	0.30	29	.00	28.4	.00
04-14	1,113,163	4.5	209	1,113,163			2,053,354	0.30	26	.00	27.3	.00
04-15	1,106,902			1,106,902	1.9	88	2,105,208	0.30	26	448.38	27.4	122.86
04-16	1,111,012	4.5	209	1,111,012	2.2	102	2,075,026	0.30	26	495.47	27.0	133.78
04-17	1,124,304			1,124,304	2.1	99	2,151,187	0.30	27	496.76	27.0	134.13
04-18	1,121,283	4.3	201	1,121,283	2.3	108	2,019,989	0.30	25	248.46	27.0	67.08
04-19	1,124,480			1,124,480	2.3	108	2,224,454	0.30	28	320.94	26.5	85.05
04-20	1,234,426			1,234,426			2,144,995	0.40	36	.00	26.8	.00
04-21	1,234,184	4.3	221	1,234,184			2,244,672	0.40	37	.00	27.1	.00
04-22	1,224,195			1,224,195	2.4	123	2,157,221	0.50	45	621.62	27.1	168.46
04-23	1,218,715	4.4	224	1,218,715	2.4	122	2,151,360	0.40	36	448.71	27.1	121.60
04-24	1,224,264			1,224,264	2.5	128	2,186,842	0.40	36	323.98	27.1	87.80
04-25	1,225,093	4.4	225	1,225,093	2.4	123	2,197,080	0.40	37	250.29	25.9	64.83
04-26	1,222,952			1,222,952	2.4	122	2,254,910	0.30	28	373.52	26.4	98.61
04-27	1,219,424			1,219,424			2,240,928	0.40	37	.00	26.5	.00
04-28	1,227,710	4.3	220	1,227,710			1,992,528	0.40	33	.00	26.4	.00
04-29	1,217,985			1,217,985	2.5	127	2,025,994	0.40	34	522.98	26.2	137.02
04-30	1,198,175	4.2	210	1,198,175	2.4	120	2,160,691	0.40	36	549.41	27.1	148.89
avg	1,169,306	4.4	212	1,169,306	2.3	111	2,149,018	0.35	31	298.34	27.2	81.00
sum	35,079,165		6,425	35,079,165		3,316	64,470,543		931.99	8,950.29		2,434.48

Sludge and Biosolids Totals are calculated using the total flow and average %TS values since there are not values for every day of the month.

Note: The Tons and Dry Tons calculations of the summary totals is computed by using the following equations.:
Tons = Monthly Total Gallons*(8.34 lbs/Gallon)*(1Ton/2000 lbs)*(Avg %TS/100), Dry Tons = (Monthly Total Wet Tons)*(%TS/100)

Point Loma Monthly Monitoring Report
MetroBiosolids Center Solids Report (MBC)
01-MAY-2013 to 31-MAY-2013

Date	Pt. Loma Raw sludge Gallons	%TS	Tons	Pt. Loma Digested Biosolids Gallons	%TS	Tons	MBC Combined Centrate Gallons	%TS	Tons	MBC Dewatered Biosolids Hauled Wet Tons	%TS	Dry Tons
05-01	1,158,893			1,158,890	2.5	121	1,918,584	0.30	24	524.24	26.6	139.45
05-02	1,165,589	4.3	209	1,020,762	2.5	106	2,153,002	0.40	36	374.35	26.6	99.58
05-03	1,194,731			996,908	2.2	92	2,025,130	0.40	34	449.38	26.8	120.43
05-04	787,812			867,586			2,022,941	0.40	34	.00	25.4	.00
05-05	1,161,179	4.7	228	885,167			2,116,598	0.40	35	.00	27.5	.00
05-06	1,227,811			1,062,947	2.2	98	2,257,632	0.40	38	497.29	26.3	130.79
05-07	1,241,442	4.2	217	1,093,818	2.3	105	2,466,475	0.30	31	446.65	27.9	124.62
05-08	1,212,233			1,089,317	2.3	105	2,489,227	0.30	31	349.06	26.5	92.50
05-09	913,265	4.5	171	983,935	2.3	94	2,051,525	0.30	26	495.25	25.2	124.80
05-10	1,087,589			822,595	2.3	79	2,055,384	0.40	34	421.41	26.1	109.99
05-11	1,225,972			1,081,763			2,198,909	0.40	37	.00	27.1	.00
05-12	1,243,076	4.2	218	1,133,482			2,305,354	0.40	38	.00	26.9	.00
05-13	1,141,546			1,038,124	2.3	100	2,204,957	0.40	37	473.33	26.8	126.85
05-14	1,172,421	4.3	210	962,158	2.1	84	2,064,168	0.40	34	650.82	27.6	179.63
05-15	1,253,836			1,138,014	2.1	100	2,240,050	0.40	37	274.46	27.4	75.20
05-16	1,250,450	4.4	229	1,072,895	2.3	103	2,215,526	0.40	37	326.56	27.7	90.46
05-17	1,252,556			1,141,015	2.2	105	2,470,363	0.40	41	455.13	27.5	125.16
05-18	1,242,008			1,088,683			2,347,632	0.40	39	.00	28.2	.00
05-19	1,252,638	3.9	204	1,035,564			2,090,765	0.40	35	.00	27.7	.00
05-20	1,250,463			1,172,231	2.2	108	1,764,821	0.40	29	327.58	29.5	96.64
05-21	1,249,818	3.9	203	1,097,692	2.3	105	1,644,696	1.10	75	570.93	28.1	160.43
05-22	1,211,584			1,105,033	2.2	101	1,404,173	0.90	53	572.45	28.5	163.15
05-23	1,213,168	4.3	218	1,113,584	2.2	102	2,124,158	0.40	35	423.47	28.1	119.00
05-24	1,218,405			1,105,092	2.3	106	2,295,518	0.40	38	446.45	28.2	125.90
05-25	1,229,948			1,132,158			2,323,224	0.40	39	.00	27.0	.00
05-26	1,225,417			1,103,446			2,271,672	0.40	38	.00	27.1	.00
05-27	1,223,683			1,109,542			2,250,648	0.40	38	547.27	27.2	148.86
05-28	1,229,100	3.9	200	1,111,963	2.3	107	2,713,464	0.40	45	526.07	27.5	144.67
05-29	1,228,405			1,112,709	2.2	102	2,283,595	0.40	38	353.26	26.9	95.03
05-30	1,233,381	4.5	231	1,113,022	2.3	107	2,355,163	0.40	39	422.91	28.9	122.22
05-31	1,232,078			1,105,659	2.2	101	2,502,101	0.40	42	472.88	30.6	144.70
avg	1,191,306	4.3	212	1,066,315	2.3	101	2,181,531	0.43	38	335.52	27.4	92.26
sum	36,930,497		6,558	33,055,754		3,120	67,627,455		1,200.80	10,401.20		2,849.93

Sludge and Biosolids Totals are calculated using the total flow and average %TS values since there are not values for every day of the month.

Note: The Tons and Dry Tons calculations of the summary totals is computed by using the following equations.:
Tons = Monthly Total Gallons*(8.34 lbs/Gallon)*(1Ton/2000 lbs)*(Avg %TS/100), Dry Tons = (Monthly Total Wet Tons)*(%TS/100)

Point Loma Monthly Monitoring Report
MetroBiosolids Center Solids Report (MBC)
01-JUN-2013 to 30-JUN-2013

Date	Pt. Loma Raw sludge Gallons	%TS	Tons	Pt. Loma Digested Biosolids Gallons	%TS	Tons	MBC Combined Centrate Gallons	%TS	Tons	MBC Dewatered Biosolids Hauled Wet Tons	%TS	Dry Tons
06-01	1,225,315			1,225,315			2,403,346	0.40	40	.00	29.8	.00
06-02	1,221,974	4.1	209	1,221,974			2,305,296	0.40	38	.00	29.6	.00
06-03	1,165,407			1,165,407	2.3	112	2,204,107	0.40	37	471.51	29.7*	140.04
06-04	1,182,242	4.1	202	1,182,242	2.3	113	2,233,714	0.40	37	523.34	27.2	142.35
06-05	1,137,171			1,137,171	2.3	109	2,230,042	0.40	37	545.79	28.0	152.82
06-06	1,118,719	4.5	210	1,118,719	2.3	107	2,164,608	0.40	36	349.61	28.5	99.64
06-07	980,857			980,857	2.2	90	1,497,154	1.10	69	345.94	26.8	92.71
06-08	1,098,186			1,098,186			1,871,856	0.40	31	.00	27.5	.00
06-09	1,145,477	4.6	220	1,145,477			2,152,109	0.40	36	.00	28.5	.00
06-10	1,069,684			1,069,684	2.4	107	1,560,787	0.50	33	470.88	27.3	128.55
06-11	1,099,055	4.9	225	1,099,055	2.4	110	1,317,427	0.60	33	546.20	28.4	155.12
06-12	1,107,179			1,107,179	2.4	111	1,383,077	0.90	52	373.30	27.8	103.78
06-13	1,106,023	4.6	212	1,106,023	2.4	111	1,245,355	0.50	26	249.47	32.2	80.33
06-14	1,014,349			1,014,349	2.5	106	1,280,909	1.00	53	298.52	28.7	85.68
06-15	1,126,325			1,126,325			1,208,030	0.60	30	.00	28.2	.00
06-16	1,228,233	4.8	246	1,228,233			1,373,443	0.60	34	.00	27.0	.00
06-17	1,228,485			1,228,485	2.9	149	2,143,325	0.50	45	500.66	26.1	130.67
06-18	815,977	4.8	163	815,977	2.5	85	2,069,222	0.50	43	496.95	26.6*	132.19
06-19	779,967			779,967	2.6	85	2,057,299	0.50	43	446.39	26.4*	117.85
06-20	856,661	4.5	161	856,661	2.5	89	1,959,106	0.50	41	150.76	26.6	40.10
06-21	1,175,909			1,175,909	2.5	123	2,241,691	0.50	47	274.16	27.2	74.57
06-22	1,344,315			1,344,315			2,359,339	0.50	49	.00	27.3	.00
06-23	1,221,799	4.2	214	1,221,799			2,372,472	0.50	49	.00	27.6	.00
06-24	1,213,533			1,213,533	2.7	137	2,328,149	0.50	49	597.54	27.5	164.32
06-25	1,043,218	4.1	178	1,043,218	2.6	113	2,250,821	0.50	47	470.58	27.2	128.00
06-26	1,209,856			1,209,856	2.6	131	2,195,338	0.50	46	401.10	28.3	113.51
06-27	1,166,982	4.4	214	1,166,982	2.5	122	2,357,194	0.60	59	351.15	27.3	95.86
06-28	1,210,170			1,210,170	2.5	126	2,346,523	0.60	59	420.63	33.9	142.59
06-29	1,216,380			1,216,380			2,333,074	0.50	49	.00	30.4	.00
06-30	1,211,930	4.0	202	1,211,930			2,281,752	0.50	48	.00	27.8	.00
avg	1,124,046	4.4	204	1,124,046	2.5	112	1,990,886	0.54	43	276.15	28.2	77.36
sum	33,721,378		6,230	33,721,378		3,473	59,726,565		1,344.92	8,284.48		2,336.22

*No samples taken June 3rd (operators unable to sample) 18th and 19th due to PLWWTP shutdown. %TS value used to calculate dry tons is the average of previous 2 days.

Sludge and Biosolids Totals are calculated using the total flow and average %TS values since there are not values for every day of the month.

Note: The Tons and Dry Tons calculations of the summary totals is computed by using the following equations.:
Tons = Monthly Total Gallons*(8.34 lbs/Gallon)*(1Ton/2000 lbs)*(Avg %TS/100), Dry Tons = (Monthly Total Wet Tons)*(%TS/100)

Point Loma Monthly Monitoring Report
MetroBiosolids Center Solids Report (MBC)
01-JUL-2013 to 31-JUL-2013

Date	Pt. Loma Raw sludge Gallons	%TS	Tons	Pt. Loma Digested Biosolids Gallons	%TS	Tons	MBC Combined Centrate Gallons	%TS	Tons	MBC Dewatered Biosolids Hauled Wet Tons	%TS	Dry Tons
07-01	1,212,681			1,212,681	2.5	126	2,341,080	0.50	49	499.64	27.4	136.90
07-02	1,209,741	4.3	217	1,209,741	2.6	131	2,297,232	0.50	48	523.11	25.7	134.44
07-03	1,216,813			1,216,813	2.5	127	2,312,410	0.40	39	397.33	26.2	104.10
07-04	1,207,598	4.3	217	1,207,598			2,312,626	0.40	39	.00	26.8	.00
07-05	1,214,900			1,214,900	2.5	127	2,211,610	0.50	46	519.73	27.4	142.41
07-06	1,211,968			1,211,968			2,347,690	0.50	49	.00	27.4	.00
07-07	1,200,805	3.7	185	1,200,805			2,264,530	0.60	57	.00	26.7	.00
07-08	1,203,197			1,203,197	2.4	120	2,279,246	0.50	48	397.02	27.6	109.58
07-09	1,061,302	4.0	177	1,061,302	2.4	106	2,237,746	0.60	56	446.53	27.1	121.01
07-10	1,020,387			1,020,387	2.4	102	2,198,390	0.60	55	345.83	28.3	97.87
07-11	1,154,294	3.9	188	1,154,294	2.5	120	2,340,806	0.60	59	401.74	26.2	105.26
07-12	1,189,313			1,189,313	2.4	119	2,379,168	0.60	60	450.02	30.3	136.36
07-13	1,231,430			1,231,430			2,348,784	0.50	49	.00	29.9	.00
07-14	1,285,417	3.6	193	1,285,417			2,371,680	0.60	59	.00	26.9	.00
07-15	1,338,383			1,338,383	2.4	134	2,381,069	0.60	60	572.73	26.7	152.92
07-16	1,336,922	3.7	206	1,336,922	2.5	139	2,518,618	0.70	74	348.20	27.1	94.36
07-17	1,337,107			1,337,107	2.4	134	2,438,366	0.60	61	400.64	27.1	108.57
07-18	1,299,123	3.3	179	1,299,123	2.4	130	2,153,750	0.60	54	325.87	26.3	85.70
07-19	1,220,066			1,220,066	2.6	132	2,292,754	0.40	38	370.05	29.2	108.05
07-20	1,220,988			1,220,988			2,319,667	0.40	39	.00	29.3	.00
07-21	1,247,544	3.6	187	1,247,544			2,267,597	0.40	38	.00	27.7	.00
07-22	1,298,007			1,298,007	2.5	135	2,300,270	0.40	38	525.36	25.6	134.49
07-23	1,320,045	3.9	215	1,320,045	2.4	132	2,381,342	0.40	40	597.15	25.3	151.08
07-24	1,321,336			1,321,336	2.4	132	2,468,707	0.40	41	398.11	25.8	102.71
07-25	1,334,767	3.7	206	1,334,767	2.3	128	2,500,920	0.50	52	426.81	25.3	107.98
07-26	1,294,720			1,294,720	2.3	124	2,439,158	0.40	41	469.61	25.6	120.22
07-27	1,261,527			1,261,527			2,324,030	0.40	39	423.91	27.7	117.42
07-28	1,334,948	3.8	212	1,334,948			2,300,083	0.40	38	.00	26.4	.00
07-29	1,277,651			1,277,651	2.3	123	2,439,835	0.50	51	541.02	25.4	137.42
07-30	1,312,227	3.9	213	1,312,227	2.3	126	2,334,038	0.40	39	420.06	26.1	109.64
07-31	1,309,921			1,309,921	2.3	126	2,291,126	0.40	38	543.37	26.5	143.99
avg	1,247,907	3.8	200	1,247,907	2.4	126	2,335,301	0.49	48	333.67	27.0	89.11
sum	38,685,128		6,167	38,685,128		3,908	72,394,328		1,489.95	10,343.84		2,792.84

Sludge and Biosolids Totals are calculated using the total flow and average %TS values since there are not values for every day of the month.

Note: The Tons and Dry Tons calculations of the summary totals is computed by using the following equations.:
Tons = Monthly Total Gallons*(8.34 lbs/Gallon)*(1Ton/2000 lbs)*(Avg %TS/100), Dry Tons = (Monthly Total Wet Tons)*(%TS/100)

Point Loma Monthly Monitoring Report
MetroBiosolids Center Solids Report (MBC)
01-AUG-2013 to 31-AUG-2013

Date	Pt. Loma Raw sludge Gallons	%TS	Tons	Pt. Loma Digested Biosolids Gallons	%TS	Tons	MBC Combined Centrate Gallons	%TS	Tons	MBC Dewatered Biosolids Hauled Wet Tons	%TS	Dry Tons
08-01	1,331,069	3.6	200	1,331,069	2.3	128	2,371,738	0.60	59	522.27	25.3	132.13
08-02	1,318,686			1,318,686	2.3	127	2,310,696	0.40	39	642.71	26.3	169.03
08-03	1,311,913			1,311,913			2,383,877	0.40	40	423.11	26.3	111.28
08-04	1,320,589	3.8	209	1,320,589			2,351,650	0.40	39	.00	25.7	.00
08-05	1,333,766			1,333,766	2.3	128	2,318,558	0.40	39	590.50	26.8	158.25
08-06	1,317,450	4.0	220	1,317,450	2.3	126	2,429,568	0.40	41	499.16	27.5	137.27
08-07	1,303,159			1,303,159	2.4	130	2,451,211	0.40	41	417.75	27.4	114.46
08-08	1,315,249	3.9	214	1,315,249	2.3	126	2,340,936	0.40	39	320.13	26.6	85.15
08-09	1,310,998			1,310,998	2.3	126	2,498,227	0.40	42	371.52	26.3	97.71
08-10	1,324,518			1,324,518			2,374,718	0.40	40	.00	26.9	.00
08-11	1,331,933	3.6	200	1,331,933			2,162,736	0.40	36	.00	26.9	.00
08-12	1,307,824			1,307,824	2.3	125	2,502,475	0.40	42	417.02	26.8	111.76
08-13	1,306,563	4.1	223	1,306,563	2.3	125	2,454,235	0.40	41	566.55	27.4	155.23
08-14	1,301,141			1,301,141	2.3	125	2,678,069	0.40	45	616.77	27.0	166.53
08-15	1,300,693	3.9	212	1,300,693	2.3	125	2,413,008	0.40	40	660.20	26.2	172.97
08-16	1,301,107			1,301,107	2.2	119	2,438,698	0.40	41	634.88	26.2	166.34
08-17	1,308,660			1,308,660			2,379,571	0.40	40	.00	28.1	.00
08-18	1,277,785	3.8	203	1,277,785			2,287,584	0.40	38	.00	26.9	.00
08-19	1,297,423			1,297,423	2.2	119	2,350,987	0.40	39	668.16	26.4	176.39
08-20	1,281,340	3.9	208	1,281,340	2.2	118	2,376,936	0.40	40	591.16	27.0	159.61
08-21	1,286,684			1,286,684	2.3	123	2,271,557	0.40	38	444.18	27.2	120.82
08-22	1,282,541	3.9	209	1,282,541	2.2	118	2,447,323	0.40	41	345.90	27.2	94.08
08-23	1,286,109			1,286,109	2.2	118	2,420,568	0.40	40	442.96	28.7	127.13
08-24	1,287,510			1,287,510			2,431,728	0.40	41	.00	28.8	.00
08-25	1,262,134	3.7	195	1,262,134			2,351,491	0.40	39	.00	29.2	.00
08-26	1,287,430			1,287,430	2.2	118	2,398,176	0.40	40	570.21	26.8	152.82
08-27	1,290,005	4.1	221	1,290,005	2.2	118	2,340,432	0.40	39	468.66	28.5	133.57
08-28	1,231,366			1,231,366	2.3	118	2,422,570	0.40	40	494.76	28.7	142.00
08-29	1,262,154	4.3	226	1,262,154	2.3	121	2,270,650	0.40	38	441.12	26.8	118.22
08-30	1,283,143			1,283,143	2.2	118	2,455,445	0.40	41	418.75	28.4	118.93
08-31	1,268,383			1,268,383			2,290,133	0.40	38	.00	29.0	.00
avg	1,297,720	3.9	211	1,297,720	2.3	123	2,386,308	0.41	40	373.18	27.2	100.70
sum	40,229,325		6,530	40,229,325		3,805	73,975,551		1,253.81	11,568.43		3,146.61

Sludge and Biosolids Totals are calculated using the total flow and average %TS values since there are not values for every day of the month.

Note: The Tons and Dry Tons calculations of the summary totals is computed by using the following equations.:
Tons = Monthly Total Gallons*(8.34 lbs/Gallon)*(1Ton/2000 lbs)*(Avg %TS/100), Dry Tons = (Monthly Total Wet Tons)*(%TS/100)

Point Loma Monthly Monitoring Report
MetroBiosolids Center Solids Report (MBC)
01-SEP-2013 to 30-SEP-2013

Date	Pt. Loma Raw sludge Gallons	%TS	Tons	Pt. Loma Digested Biosolids Gallons	%TS	Tons	MBC Combined Centrate Gallons	%TS	Tons	MBC Dewatered Biosolids Hauled Wet Tons	%TS	Dry Tons
09-01	991,277			991,277			1,825,877	0.30	23	.00	28.2	.00
09-02	1,267,760			1,267,760			2,226,888	0.40	37	.00	27.3	.00
09-03	1,262,388	4.3	226	1,262,388	2.3	121	2,299,536	0.40	38	521.97	26.4	137.80
09-04	438,866			438,866	2.2	40	1,863,734	0.40	31	570.31	28.3	161.40
09-05	843,234	4.7	165	843,234	2.3	81	2,185,474	0.50	46	469.91	27.0	126.88
09-06	1,293,828			1,293,828	2.2	119	2,533,147	0.40	42	421.32	27.7	116.71
09-07	1,310,865			1,310,865			2,347,517	0.40	39	418.61	27.6	115.54
09-08	1,273,552	4.0	212	1,273,552			2,490,638	0.40	42	.00	27.2	.00
09-09	1,233,957			1,233,957	2.4	124	2,430,806	0.40	41	467.06	26.9	125.64
09-10	1,269,189	4.0	212	1,269,189	2.4	127	2,444,357	0.40	41	421.42	27.8	117.15
09-11	1,274,722			1,274,722	2.4	128	2,383,819	0.40	40	395.33	26.3	103.97
09-12	1,270,381	4.0	212	1,270,381	2.4	127	2,571,509	0.40	43	497.37	27.2	135.28
09-13	1,238,457			1,238,457	2.4	124	2,495,246	0.40	42	420.65	27.8	116.94
09-14	1,274,129			1,274,129			2,560,147	0.40	43	418.42	27.8	116.32
09-15	1,267,082	4.0	211	1,267,082			2,434,838	0.40	41	.00	27.5	.00
09-16	1,272,892			1,272,892	2.4	127	2,439,835	0.40	41	546.63	28.4	155.24
09-17	1,265,352	4.0	211	1,265,352	2.3	121	2,617,560	0.40	44	541.81	27.2	147.37
09-18	1,275,406			1,275,406	2.4	128	2,586,989	0.40	43	644.51	27.7	178.53
09-19	1,268,460	3.8	201	1,268,460	2.6	138	2,615,717	0.40	44	640.36	26.1	167.13
09-20	1,274,985			1,274,985	2.2	117	2,562,797	0.40	43	368.92	26.9	99.24
09-21	1,274,027			1,274,027			2,451,931	0.30	31	.00	28.3	.00
09-22	1,273,831	3.9	207	1,273,831			2,371,219	0.30	30	.00	28.2	.00
09-23	1,277,878			1,277,878	2.3	123	2,457,144	0.40	41	672.07	27.3	183.48
09-24	1,275,564	3.9	207	1,275,564	2.3	122	2,667,326	0.40	44	571.15	27.1	154.78
09-25	1,296,083			1,296,083	2.3	124	2,675,074	0.30	33	620.21	27.3	169.32
09-26	1,067,061	4.2	187	1,067,529	2.2	98	2,343,384	0.30	29	294.22	27.2	80.03
09-27	1,296,539			1,297,168	2.2	119	2,264,486	0.40	38	371.18	28.0	103.93
09-28	1,275,422			1,275,956			2,365,891	0.40	39	.00	27.0	.00
09-29	1,206,808	4.0	201	1,207,305			2,260,526	0.40	38	.00	27.3	.00
09-30	1,272,617			1,273,108	2.3	122	2,349,936	0.40	39	445.07	26.7	118.83
avg	1,212,754	4.1	204	1,212,841	2.3	116	2,404,112	0.39	39	357.95	27.4	97.72
sum	36,382,612		6,170	36,385,231		3,528	72,123,348		1,162.92	10,738.50		2,942.35

Sludge and Biosolids Totals are calculated using the total flow and average %TS values since there are not values for every day of the month.

Note: The Tons and Dry Tons calculations of the summary totals is computed by using the following equations.:
Tons = Monthly Total Gallons*(8.34 lbs/Gallon)*(1Ton/2000 lbs)*(Avg %TS/100), Dry Tons = (Monthly Total Wet Tons)*(%TS/100)

Point Loma Monthly Monitoring Report
MetroBiosolids Center Solids Report (MBC)
01-OCT-2013 to 31-OCT-2013

Date	Pt. Loma Raw sludge Gallons	%TS	Tons	Pt. Loma Digested Biosolids Gallons	%TS	Tons	MBC Combined Centrate Gallons	%TS	Tons	MBC Dewatered Biosolids Hauled Wet Tons	%TS	Dry Tons
10-01	1,281,545	4.1	219	1,281,545	2.3	123	2,281,882	0.40	38	564.50	27.5	155.24
10-02	1,277,122			1,277,122	2.3	123	2,279,462	0.40	38	541.61	27.6	149.48
10-03	1,280,342	3.8	203	1,280,342	2.1	112	2,270,146	0.30	28	442.35	25.5	112.80
10-04	1,289,099			1,289,099	2.1	113	2,395,123	0.40	40	419.42	26.9	112.82
10-05	1,291,471			1,291,471			2,361,686	0.40	39	.00	27.3	.00
10-06	1,286,978	3.9	209	1,286,978			2,298,053	0.40	38	.00	26.7	.00
10-07	1,226,419			1,226,419	2.3	118	2,327,458	0.40	39	445.69	26.8	119.44
10-08	1,154,907	4.1	198	1,154,907	2.2	106	2,210,846	0.30	28	568.63	26.6	151.26
10-09	1,244,836			1,244,836	2.3	119	2,176,589	0.30	27	537.93	26.2	140.94
10-10	1,278,134	4.1	219	1,278,134	2.3	123	2,330,698	0.30	29	488.02	26.5	129.33
10-11	1,294,946			1,294,946	2.2	119	2,202,826	0.30	28	319.12	26.6	84.89
10-12	1,287,531			1,287,531			2,285,482	0.30	29	.00	29.5	.00
10-13	1,295,178	3.9	211	1,295,178			2,355,019	0.30	29	.00	26.2	.00
10-14	1,300,938			1,300,938	2.3	125	2,343,917	0.30	29	514.89	26.4	135.93
10-15	1,301,143	3.9	212	1,301,143	2.2	119	2,430,562	0.30	30	516.91	26.4	136.46
10-16	1,298,092			1,298,092	2.2	119	2,430,605	0.30	30	489.31	26.5	129.67
10-17	1,280,937	3.9	208	1,280,937	2.2	118	2,419,733	0.40	40	442.99	26.3	116.51
10-18	1,284,977			1,284,977	2.2	118	2,329,546	0.40	39	418.78	27.0	113.07
10-19	1,294,044			1,294,044			2,329,517	0.40	39	.00	27.3	.00
10-20	1,287,505	3.8	204	1,287,505			2,264,357	0.40	38	.00	27.6	.00
10-21	1,287,981			1,287,981	2.2	118	2,323,051	0.40	39	715.14	27.6	197.38
10-22	1,280,343	3.9	208	1,280,343	2.2	118	2,141,280	0.30	27	466.73	27.8	129.75
10-23	1,300,528			1,300,528	2.2	119	2,531,102	0.40	42	543.07	27.0	146.63
10-24	1,181,555	4.1	202	1,181,555	2.2	108	2,425,205	0.40	40	514.47	27.7	142.51
10-25	1,190,195			1,190,195	2.7	134	2,176,877	0.30	27	414.43	28.3	117.28
10-26	1,181,075			1,181,075			2,241,432	0.30	28	.00	26.7	.00
10-27	1,199,701	4.1	205	1,199,701			2,177,064	0.30	27	.00	26.6	.00
10-28	1,199,415			1,199,415	2.3	115	2,181,715	0.30	27	467.15	27.5	128.47
10-29	1,234,312	4.1	211	1,234,312	2.2	113	2,363,371	0.30	30	345.96	26.7	92.37
10-30	1,324,186			1,324,186	2.3	127	2,371,291	0.30	30	538.20	26.6	143.16
10-31	1,312,271	3.9	213	1,312,271	2.2	120	2,360,131	0.30	30	489.33	27.2	133.10
avg	1,265,410	4.0	209	1,265,410	2.2	119	2,310,194	0.34	33	361.44	27.0	97.37
sum	39,227,706		6,496	39,230,706		3,677	71,616,026		1,021.15	11,204.63		3,025.25

Sludge and Biosolids Totals are calculated using the total flow and average %TS values since there are not values for every day of the month.

Note: The Tons and Dry Tons calculations of the summary totals is computed by using the following equations.:
Tons = Monthly Total Gallons*(8.34 lbs/Gallon)*(1Ton/2000 lbs)*(Avg %TS/100), Dry Tons = (Monthly Total Wet Tons)*(%TS/100)

Point Loma Monthly Monitoring Report
MetroBiosolids Center Solids Report (MBC)
01-NOV-2013 to 30-NOV-2013

Date	Pt. Loma Raw sludge Gallons	%TS	Tons	Pt. Loma Digested Biosolids Gallons	%TS	Tons	MBC Combined Centrate Gallons	%TS	Tons	MBC Dewatered Biosolids Hauled Wet Tons	%TS	Dry Tons
11-01	1,316,210			1,316,210	2.2	121	2,375,194	0.40	40	443.03	27.3	120.95
11-02	1,345,705			1,345,705			2,384,035	0.40	40	.00	27.0	.00
11-03	1,375,433	4.1	235	1,375,433			2,362,637	0.40	39	.00	27.2	.00
11-04	1,300,241			1,300,241	2.2	119	2,192,170	0.30	27	497.60	27.2	135.35
11-05	1,308,792	4.0	218	1,308,792	2.2	120	2,370,802	0.30	30	493.37	26.6	131.24
11-06	1,315,130			1,315,130	2.2	121	2,471,649	0.30	31	421.72	26.8	113.02
11-07	1,316,361	4.1	225	1,316,361	2.2	121	2,586,875	0.30	32	686.66	27.5	188.83
11-08	1,317,879			1,317,879	2.1	115	2,470,963	0.30	31	472.48	32.5	153.56
11-09	1,316,949			1,316,949			2,188,113	0.30	27	.00	30.7	.00
11-10	1,318,871			1,318,871			2,241,742	0.40	37	.00	31.4	.00
11-11	1,326,471			1,326,471			2,111,874	0.30	26	.00	28.8	.00
11-12	1,313,188	3.8	208	1,313,188	2.2	121	2,276,385	0.30	28	620.30	27.7	171.82
11-13	1,311,793			1,311,793	2.3	126	2,770,630	0.40	46	497.66	26.7	132.88
11-14	1,291,161	4.3	232	1,291,161	2.2	119	2,543,878	0.40	42	595.86	27.6	164.46
11-15	1,311,946			1,311,946	2.6	142	2,466,734	0.30	31	471.66	26.9	126.88
11-16	1,330,504			1,330,504			2,315,811	0.40	39	223.93	28.4	63.60
11-17	1,315,719	3.9	214	1,315,719			2,319,049	0.40	39	.00	27.1	.00
11-18	1,320,685			1,320,685	2.3	130	2,461,060	0.40	41	597.30	27.4	163.66
11-19	1,228,122	4.2	215	1,228,122	2.4	123	2,518,508	0.40	42	489.65	26.9	131.72
11-20	1,265,649			1,265,649	2.4	127	2,747,272	0.40	46	661.91	26.7	176.73
11-21	1,318,403	4.0	220	1,318,403	2.4	132	2,619,783	0.30	33	419.68	26.6	111.63
11-22	1,284,203			1,284,203	2.3	123	2,779,689	0.30	35	545.26	27.1	147.77
11-23	1,257,078			1,257,078			2,633,116	0.30	33	345.12	28.6	98.70
11-24	1,299,632	4.0	217	1,299,632			2,593,808	0.30	32	.00	27.4	.00
11-25	1,313,929			1,313,929	2.4	132	2,306,737	0.30	29	545.68	27.4	149.52
11-26	1,313,812	4.0	219	1,313,812	2.4	132	2,636,622	0.40	44	567.10	27.2	154.25
11-27	1,304,931			1,304,931	2.3	125	2,575,602	0.30	32	567.29	26.5	150.33
11-28	1,302,808	3.9	212	1,302,808			2,444,634	0.30	31	.00	27.1	.00
11-29	1,303,093			1,303,093	2.3	125	2,369,135	0.30	30	537.60	27.5	147.84
11-30	1,297,491			1,297,491			2,343,950	0.30	29	340.05	28.2	95.89
avg	1,308,073	4.0	220	1,308,073	2.3	125	2,449,282	0.34	35	368.03	27.7	101.02
sum	39,242,189		6,590	39,242,189		3,755	73,478,457		1,041.78	11,040.91		3,058.33

Sludge and Biosolids Totals are calculated using the total flow and average %TS values since there are not values for every day of the month.

Note: The Tons and Dry Tons calculations of the summary totals is computed by using the following equations.:
Tons = Monthly Total Gallons*(8.34 lbs/Gallon)*(1Ton/2000 lbs)*(Avg %TS/100), Dry Tons = (Monthly Total Wet Tons)*(%TS/100)

Point Loma Monthly Monitoring Report
MetroBiosolids Center Solids Report (MBC)
01-DEC-2013 to 31-DEC-2013

Date	Pt. Loma Raw sludge Gallons	%TS	Tons	Pt. Loma Digested Biosolids Gallons	%TS	Tons	MBC Combined Centrate Gallons	%TS	Tons	MBC Dewatered Biosolids Hauled Wet Tons	%TS	Dry Tons
12-01	1,302,599	3.7	201	1,302,599			2,261,438	0.30	28	.00	27.7	.00
12-02	1,302,659			1,302,659	2.2	120	2,276,096	0.30	28	642.33	27.0	173.43
12-03	1,294,811			1,294,811	2.2	119	2,613,512	0.30	33	471.14	26.9	126.74
12-04	1,298,199			1,298,199			2,563,925	0.30	32	414.48	27.8	115.23
12-05	1,169,764	4.1	200	1,169,764	2.2	107	2,326,592	0.30	29	584.94	27.3	159.69
12-06	1,159,325			1,159,325	2.9	140	2,270,735	0.30	28	534.10	27.0	144.21
12-07	1,075,260			1,075,260			2,282,202	0.30	29	.00	28.7	.00
12-08	1,115,956	4.2	195	1,115,956			2,224,934	0.30	28	.00	28.8	.00
12-09	1,208,308			1,208,308	2.2	111	2,238,419	0.30	28	657.97	27.3	179.63
12-10	771,674	4.5	145	771,674	2.2	71	754,297	0.30	9	539.40	28.5	153.73
12-11	1,239,407			1,239,407	2.3	119	1,441,099	0.30	18	340.36	26.0	88.49
12-12	1,315,713	4.4	241	1,315,713	2.2	121	2,175,135	0.20	18	268.47	28.0	75.17
12-13	673,518			673,518	2.4	67	2,367,907	0.20	20	269.70	28.2	76.06
12-14	1,123,895			1,123,895			2,274,256	0.20	19	.00	28.5	.00
12-15	1,362,654	4.3	244	1,362,654			2,566,052	0.20	21	.00	28.7	.00
12-16	1,313,446			1,313,446	2.4	131	2,343,800	0.30	29	615.77	29.6	182.27
12-17	1,277,505	4.3	229	1,277,505	2.6	139	2,190,655	0.30	27	366.67	28.2	103.40
12-18	1,183,474			1,183,474	2.4	118	2,109,051	0.30	26	491.80	27.8	136.72
12-19	1,119,142	4.0	187	1,119,142	2.3	107	2,092,689	0.30	26	415.07	26.4	109.58
12-20	1,191,074			1,191,074	2.4	119	2,120,773	0.30	27	416.31	27.9	116.15
12-21	1,186,456			1,186,456			2,114,018	0.30	26	.00	29.7	.00
12-22	1,115,294	4.1	191	1,115,294			2,016,065	0.30	25	.00	29.1	.00
12-23	1,112,510			1,112,510	2.8	130	2,008,184	0.30	25	594.91	27.0	160.63
12-24	1,079,359			1,079,359	2.2	99	2,055,125	0.20	17	493.30	28.1	138.62
12-25	1,106,069			1,106,069			2,041,674	0.20	17	.00	27.8	.00
12-26	1,089,006	4.1	186	1,089,006	2.3	104	2,046,289	0.30	26	368.90	26.8	98.87
12-27	1,086,546			1,086,546	2.3	104	2,098,277	0.30	26	539.06	26.6	143.39
12-28	1,079,740			1,079,740			2,061,729	0.30	26	321.23	29.7	95.41
12-29	1,040,957	4.0	174	1,040,957			1,849,437	0.20	15	.00	28.1	.00
12-30	1,023,154			1,023,154	2.7	115	1,759,154	0.30	22	590.28	27.7	163.51
12-31	1,102,666			1,102,666	2.3	106	801,302	0.10	3	465.30	27.9*	129.82
avg	1,145,811	4.2	199	1,145,811	2.4	112	2,075,639	0.27	24	335.53	27.9	92.60
sum	35,520,140		6,154	35,520,140		3,518	64,344,821		727.05	10,401.49		2,902.02

*No sample taken 12/31/2013 due to plant shutdown. %Ts value used to calculate dry tons is the average of previous 2 days.

Sludge and Biosolids Totals are calculated using the total flow and average %TS values since there are not values for every day of the month.

Note: The Tons and Dry Tons calculations of the summary totals is computed by using the following equations.:
Tons = Monthly Total Gallons*(8.34 lbs/Gallon)*(1Ton/2000 lbs)*(Avg %TS/100), Dry Tons = (Monthly Total Wet Tons)*(%TS/100)

Enclosure 5
Monthly Biosolids Use/Disposal Summary Reports

2013 Annual Biosolids Report

City of San Diego

BIOSOLIDS DISPOSAL/BENEFICIAL USE MONTHLY REPORT

Operations Support Group

San Diego Landfill Systems

Landfill Disposal

Beneficial Use

January-13

Date	Day	Landfilled	Beneficial Use					Daily Totals hauled wet tons	Daily total cake solids %	Daily Totals hauled dry tons
			ADC	Land Application	Land Application	Land Application	Land Application			
		Otay Landfill	Otay Landfill/ADC	Field YM 2-283	Field YM 2-282	Field YM 2-2004	Field YM			
		San Diego Cnty. California	San Diego Cnty. California	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona			
		Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons			
1/1/2013	Tuesday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.70	0.00
1/2/2013	Wednesday	0.00	298.13	75.27	0.00	0.00	0.00	373.40	30.40	113.51
1/3/2013	Thursday	0.00	468.37	75.38	0.00	0.00	0.00	543.75	28.10	152.79
1/4/2013	Friday	0.00	492.15	75.28	0.00	0.00	0.00	567.43	28.40	161.15
1/5/2013	Saturday	0.00	344.45	0.00	0.00	0.00	0.00	344.45	28.00	96.45
1/6/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.20	0.00
1/7/2013	Monday	0.00	370.99	74.06	0.00	0.00	0.00	445.05	28.60	127.28
1/8/2013	Tuesday	0.00	424.03	73.71	0.00	0.00	0.00	497.74	28.70	142.85
1/9/2013	Wednesday	0.00	345.59	74.03	0.00	0.00	0.00	419.62	28.70	120.43
1/10/2013	Thursday	0.00	148.45	98.41	0.00	0.00	0.00	246.86	28.80	71.10
1/11/2013	Friday	0.00	271.81	0.00	74.06	0.00	0.00	345.87	27.40	94.77
1/12/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.50	0.00
1/13/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.80	0.00
1/14/2013	Monday	0.00	374.88	0.00	98.32	0.00	0.00	473.20	29.50	139.59
1/15/2013	Tuesday	0.00	370.65	0.00	73.88	0.00	0.00	444.53	29.30	130.25
1/16/2013	Wednesday	0.00	269.32	0.00	74.12	0.00	0.00	343.44	28.20	96.85
1/17/2013	Thursday	0.00	275.91	0.00	124.22	0.00	0.00	400.13	28.30	113.24
1/18/2013	Friday	0.00	97.66	0.00	98.40	0.00	0.00	196.06	28.50	55.88
1/19/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.90	0.00
1/20/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.40	0.00
1/21/2013	Monday	0.00	344.72	0.00	123.37	0.00	0.00	468.09	29.40	137.62
1/22/2013	Tuesday	0.00	396.27	0.00	125.21	0.00	0.00	521.48	29.00	151.23
1/23/2013	Wednesday	0.00	369.74	0.00	0.00	73.22	0.00	442.96	28.40	125.80
1/24/2013	Thursday	0.00	249.59	0.00	0.00	100.04	0.00	349.63	28.80	100.69
1/25/2013	Friday	0.00	222.73	0.00	0.00	99.40	0.00	322.13	27.30	87.94
1/26/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.10	0.00
1/27/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.80	0.00
1/28/2013	Monday	0.00	371.08	0.00	0.00	100.19	0.00	471.27	28.40	133.84
1/29/2013	Tuesday	0.00	369.36	0.00	0.00	74.76	0.00	444.12	29.00	128.79
1/30/2013	Wednesday	0.00	270.52	0.00	0.00	50.39	0.00	320.91	30.00	96.27
1/31/2013	Thursday	0.00	299.10	0.00	0.00	50.58	0.00	349.68	29.20	102.11
	Totals:	0.00	7,445.50	546.14	791.58	548.58	0.00	9,331.80		2,678.23
						Monthly average % cake solids:			28.70	

Daily average wet tons produced:	301.03
Daily average dry tons produced:	86.47

Total tons, Landfilled:	0.00
Cost per ton:	$36.48
Total cost, Landfilled:	$0.00
Total tons, Beneficial use/ADC:	7,445.50
Cost per ton:	$45.43
Total cost, Beneficial use/ADC:	$338,249.07
Total tons, Beneficial use/Land App.:	1,886.30
Cost per ton:	$45.43
Total cost, Beneficial use/Land App.:	$85,694.61
Total cost:	$423,943.67

Gerald Schreckengost

The %TS values listed on days where hauling did not take place are included in the calculation of average monthly %TS.
The average monthly %TS (rounded to nearest 10th) is used to calculate the total monthly dry tons produced.
ADC - Alternative Daily Cover.

POINT LOMA WASTEWATER TREATMENT PLANT

GRIT-SCUM-Screenings Disposal Report
01-JAN-2013 to 31-JAN-2013

GRIT

Disposal Date	Pounds	%Total Solids
01-JAN-13	9,700	46.8
02-JAN-13	9,720	45.3
03-JAN-13	7,920	43.8
04-JAN-13	10,080	49.1
05-JAN-13	9,580	46.0
06-JAN-13	7,920	45.0
07-JAN-13	18,160	47.3
08-JAN-13	9,120	45.0
09-JAN-13	8,980	50.8
10-JAN-13	8,660	42.8
11-JAN-13	10,360	49.5
12-JAN-13	8,620	47.2
13-JAN-13	9,800	46.0
14-JAN-13	9,680	42.3
15-JAN-13	10,700	55.5
16-JAN-13	9,040	45.2
17-JAN-13	9,740	44.7
18-JAN-13	10,400	47.5
19-JAN-13	9,080	43.9
20-JAN-13	9,220	44.1
21-JAN-13	10,180	53.2
22-JAN-13	9,140	40.9
23-JAN-13	9,940	52.0
24-JAN-13	8,160	46.4
25-JAN-13	10,060	50.7
26-JAN-13	7,460	44.4
27-JAN-13	12,440	45.1
28-JAN-13	10,760	51.8
29-JAN-13	11,540	58.4
30-JAN-13	8,940	48.1
31-JAN-13	10,140	51.4
Average	9,846	
Sum	305,240	

INFLUENT SCREENINGS

Disposal Date	Pounds	%Total Solids
01-JAN-13	15,360	43.0
04-JAN-13	11,500	41.4
08-JAN-13	28,760	54.9
11-JAN-13	18,040	24.3
15-JAN-13	21,800	39.4
18-JAN-13	12,440	40.1
22-JAN-13	23,840	43.4
25-JAN-13	10,200	38.7
29-JAN-13	18,160	37.5
Average	17,789	
Sum	160,100	

SCUM

Disposal Date	Pounds
07-JAN-13	14,900
08-JAN-13	23,180
14-JAN-13	14,860
18-JAN-13	16,020
29-JAN-13	14,380
Average	16,668
Sum	83,340

SLUDGE SCREENINGS

Disposal Date	Pounds	%Total Solids
01-JAN-13	21,780	36.8
02-JAN-13	22,180	33.5
03-JAN-13	25,820	33.0
04-JAN-13	21,080	33.3
05-JAN-13	19,460	47.5
06-JAN-13	16,680	37.7
06-JAN-13	21,240	34.3
07-JAN-13	10,000	33.9
08-JAN-13	20,300	37.1
09-JAN-13	23,400	33.4
10-JAN-13	21,140	37.7
11-JAN-13	22,480	33.5
12-JAN-13	24,560	34.2
13-JAN-13	18,160	31.1
14-JAN-13	21,100	32.5
15-JAN-13	23,620	35.3
16-JAN-13	20,260	33.4
17-JAN-13	28,080	35.9
18-JAN-13	25,760	35.1
19-JAN-13	19,620	34.6
19-JAN-13	12,560	41.6
20-JAN-13	14,080	33.2
21-JAN-13	19,560	32.7
22-JAN-13	23,360	38.8
23-JAN-13	22,420	35.8
24-JAN-13	19,900	38.9
25-JAN-13	20,500	38.9
26-JAN-13	20,680	36.4
27-JAN-13	20,780	39.9
28-JAN-13	21,200	33.6
29-JAN-13	20,860	33.9
30-JAN-13	16,860	38.2
31-JAN-13	19,540	34.6
Average	20,576	
Sum	679,020	

KC Shankles

K.C. Shankles, PLWTP Superintendent
Certification no. V-6975
The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

METRO BIOSOLIDS CENTER

MBC Grit - Disposal Report
01-JAN-2013 to 31-JAN-2013

No data to report for the month of January 2013.

Barry Ayers, MBC Superintendent
Certification no. V-9346
The WWTP was operated under my supervision and I have reviewed
the above data for accuracy as it relates to plant performance.

North City Water Reclamation Plant
Grit-Scum-Screenings Disposal Report

01-JAN-2013 to 31-JAN-2013

Disposal Date	NAME	Pounds	%Total Solids
02-JAN-13	NC_GRIT	6,260	42.0
23-JAN-13		5,940	47.0
29-JAN-13		8,360	45.0
	**********	--------	
	avg	6,853	
	sum	20,560	

Disposal Date	NAME	Pounds	%Total Solids
03-JAN-13	NC_INFLUENT_SCREENINGS	14,040	25.0
	**********	--------	
	avg	14,040	
	sum	14,040	

(OCA) V-7791

Ernesto Molas, NCWRP Superintendent
Certification no. V-7227

The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

SOUTH BAY WATER RECLAMATION PLANT
SBWRP GRIT - Disposal Report

01-JAN-2012 to 31-JAN-2012

No data to report for the month of January 2013.

(OCA) V-7791

Ernesto Molas, SBWRP Superintendent
Certification no. V-7227

The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

POINT LOMA WASTEWATER TREATMENT PLANT

Screenings Disposal Report
01-JAN-2013 to 31-JAN-2013

PUMP 1

Disposal Date	Pounds	%Total Solids
03-JAN-13	13,700	30.8
07-JAN-13	16,960	34.7
10-JAN-13	12,400	25.2
14-JAN-13	16,700	24.7
17-JAN-13	12,080	27.9
22-JAN-13	19,260	30.1
24-JAN-13	12,320	33.5
28-JAN-13	17,760	30.9
31-JAN-13	17,740	26.9
Average	15,436	
Sum	138,920	

PUMP 2

Disposal Date	Pounds	%Total Solids
03-JAN-13	15,760	20.4
07-JAN-13	20,120	36.0
10-JAN-13	17,360	30.5
14-JAN-13	23,540	24.4
17-JAN-13	18,280	37.3
21-JAN-13	19,380	42.9
24-JAN-13	17,020	32.8
28-JAN-13	20,500	31.6
31-JAN-13	12,340	30.9
Average	18,256	
Sum	164,300	

PUMP 64

Disposal Date	Pounds	%Total Solids
23-JAN-13	15,260	27.0
Average	15,260	
Sum	15,260	

PUMP 77A

Disposal Date	Pounds	%Total Solids
02-JAN-13	6,250	31.7
16-JAN-13	5,380	32.3
30-JAN-13	7,820	26.7
Average	6,483	
Sum	19,450	

Gerald Shreckengost, Operations Support Superintendent
Certification no. V-5931
I have reviewed the above data for accuracy as it relates to operational performance.

City of San Diego

BIOSOLIDS DISPOSAL/BENEFICIAL USE MONTHLY REPORT

Operations Support Group

San Diego Landfill Systems

Landfill Disposal

Beneficial Use

February-13

Date	Day	Landfilled	Beneficial Use							Daily Totals hauled wet tons	Daily total cake solids %	Daily Totals hauled dry tons
			ADC	Land Application	Land Application	Land Application	Land Application	Land Application	Land Application			
		Otay Landfill	Otay Landfill/ADC	Field YM 2-2004	Field YM 2-1903	Field YM 2-30	Field YM	Field YM	Field YM			
		San Diego Cnty. California	San Diego Cnty. California	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona			
		Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons			
2/1/2013	Friday	0.00	295.37	98.41	0.00	0.00	0.00	0.00	0.00	393.78	29.70	116.95
2/2/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.90	0.00
2/3/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.10	0.00
2/4/2013	Monday	0.00	397.66	74.81	0.00	0.00	0.00	0.00	0.00	472.47	27.40	129.46
2/5/2013	Tuesday	0.00	368.27	98.97	0.00	0.00	0.00	0.00	0.00	467.24	29.30	136.90
2/6/2013	Wednesday	0.00	466.01	99.44	0.00	0.00	0.00	0.00	0.00	565.45	28.70	162.28
2/7/2013	Thursday	0.00	222.52	75.51	0.00	0.00	0.00	0.00	0.00	298.03	28.70	85.53
2/8/2013	Friday	0.00	195.77	123.16	0.00	0.00	0.00	0.00	0.00	318.93	28.20	89.94
2/9/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.80	0.00
2/10/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.30	0.00
2/11/2013	Monday	0.00	373.52	73.48	0.00	0.00	0.00	0.00	0.00	447.00	28.60	127.84
2/12/2013	Tuesday	0.00	146.42	99.17	0.00	0.00	0.00	0.00	0.00	245.59	28.60	70.24
2/13/2013	Wednesday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.40	0.00
2/14/2013	Thursday	0.00	270.78	0.00	98.42	0.00	0.00	0.00	0.00	369.20	29.00	107.07
2/15/2013	Friday	0.00	370.19	0.00	72.85	0.00	0.00	0.00	0.00	443.04	28.20	124.94
2/16/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.80	0.00
2/17/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.70	0.00
2/18/2013	Monday	0.00	370.74	0.00	24.82	0.00	0.00	0.00	0.00	395.56	28.80	113.92
2/19/2013	Tuesday	0.00	419.53	0.00	0.00	74.95	0.00	0.00	0.00	494.48	27.50	135.98
2/20/2013	Wednesday	0.00	321.12	0.00	0.00	100.15	0.00	0.00	0.00	421.27	27.60	116.27
2/21/2013	Thursday	0.00	97.71	0.00	0.00	74.94	0.00	0.00	0.00	172.65	26.80	46.27
2/22/2013	Friday	0.00	296.46	0.00	0.00	74.42	0.00	0.00	0.00	370.88	27.30	101.25
2/23/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.50	0.00
2/24/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.80	0.00
2/25/2013	Monday	0.00	399.17	0.00	0.00	99.78	0.00	0.00	0.00	498.95	27.70	138.21
2/26/2013	Tuesday	0.00	418.77	0.00	0.00	73.53	0.00	0.00	0.00	492.30	27.90	137.35
2/27/2013	Wednesday	0.00	394.48	0.00	0.00	75.45	0.00	0.00	0.00	469.93	27.20	127.82
2/28/2013	Thursday	0.00	245.93	0.00	0.00	99.07	0.00	0.00	0.00	345.00	28.70	99.02
	Totals:	0.00	6,070.42	742.95	196.09	672.29	0.00	0.00	0.00	7,681.75		2,166.25
						Monthly average % cake solids:					28.20	

Daily average wet tons produced:	274.35
Daily average dry tons produced:	77.40

Total tons, Landfilled:	0.00
Cost per ton:	$36.48
Total cost, Landfilled:	$0.00
Total tons, Beneficial use/ADC:	6,070.42
Cost per ton:	$45.43
Total cost, Beneficial use/ADC:	$275,779.18
Total tons, Beneficial use/Land App.:	1,611.33
Cost per ton:	$45.43
Total cost, Beneficial use/Land App.:	$73,202.72
Total cost:	$348,981.90

No sample taken Feb 11th and 12th due to plant shutdown. %TS value used to calculate dry tons is the average of previous 2 days.
The %TS values listed on days where hauling did not take place are included in the calculation of average monthly %TS.
The average monthly %TS (rounded to nearest 10th) is used to calculate the total monthly dry tons produced.
ADC - Alternative Daily Cover.

Gerald Schreckengost

G Schreck

POINT LOMA WASTEWATER TREATMENT PLANT
GRIT-SCUM-Screenings Disposal Report

01-FEB-2013 to 28-FEB-2013

GRIT

Disposal Date	Pounds	%Total Solids
01-FEB-13	9,700	43.6
02-FEB-13	8,980	45.4
03-FEB-13	8,340	43.6
04-FEB-13	11,680	46.1
05-FEB-13	11,040	45.1
06-FEB-13	9,460	47.3
07-FEB-13	9,720	52.9
08-FEB-13	8,980	46.4
09-FEB-13	9,840	44.1
10-FEB-13	8,360	41.2
11-FEB-13	9,640	49.0
12-FEB-13	9,740	48.0
13-FEB-13	7,280	50.3
14-FEB-13	8,260	47.6
15-FEB-13	7,480	43.7
16-FEB-13	8,200	51.7
17-FEB-13	9,720	48.1
18-FEB-13	8,420	46.3
19-FEB-13	8,240	48.1
20-FEB-13	7,400	48.0
21-FEB-13	11,960	40.3
22-FEB-13	9,660	41.4
23-FEB-13	7,740	43.3
24-FEB-13	9,240	42.9
25-FEB-13	7,360	51.4
26-FEB-13	12,000	43.1
27-FEB-13	8,000	42.4
28-FEB-13	10,560	48.3
Average	9,179	
Sum	257,000	

INFLUENT SCREENINGS

Disposal Date	Pounds	%Total Solids
01-FEB-13	9,980	48.6
05-FEB-13	21,740	41.4
08-FEB-13	10,640	52.6
12-FEB-13	21,040	44.6
15-FEB-13	11,820	48.9
19-FEB-13	21,860	48.5
22-FEB-13	9,220	44.0
26-FEB-13	16,040	49.2
Average	15,293	
Sum	122,340	

SCUM

Disposal Date	Pounds
04-FEB-13	14,880
12-FEB-13	14,860
19-FEB-13	12,540
21-FEB-13	13,840
Average	14,030
Sum	56,120

SLUDGE SCREENINGS

Disposal Date	Pounds	%Total Solids
01-FEB-13	13,060	36.3
01-FEB-13	19,900	37.3
02-FEB-13	22,140	39.8
03-FEB-13	21,800	36.2
04-FEB-13	20,000	34.6
05-FEB-13	24,620	33.4
06-FEB-13	23,600	34.3
07-FEB-13	20,660	39.4
08-FEB-13	19,020	34.3
09-FEB-13	17,320	37.3
09-FEB-13	15,200	33.7
10-FEB-13	22,480	34.8
11-FEB-13	21,980	34.6
12-FEB-13	22,040	32.3
13-FEB-13	19,280	38.2
14-FEB-13	18,000	38.7
15-FEB-13	14,960	40.2
15-FEB-13	17,760	37.9
16-FEB-13	20,120	35.5
17-FEB-13	20,100	32.7
18-FEB-13	17,680	37.3
19-FEB-13	14,920	37.3
20-FEB-13	15,100	34.8
20-FEB-13	14,200	36.3
21-FEB-13	8,760	36.6
22-FEB-13	18,800	37.9
23-FEB-13	18,780	33.9
24-FEB-13	19,300	31.9
25-FEB-13	21,220	31.3
26-FEB-13	23,360	32.0
27-FEB-13	17,900	31.2
28-FEB-13	20,760	35.2
28-FEB-13	25,700	31.5
Average	19,107	
Sum	630,520	

K.C. Shankles, PLWTP Superintendent
Certification no. ~~V-6975~~ 8585
The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

METRO BIOSOLIDS CENTER
Disposal Report

01-FEB-2013 to 28-FEB-2013

No data to report for month of February 2013.

Barry Ayers, MBC Superintendent
Certification no. V-9346
The WWTP was operated under my supervision and I have reviewed
the above data for accuracy as it relates to plant performance.

North City Water Reclamation Plant
Grit-Scum-Screenings Disposal Report

01-FEB-2013 to 28-FEB-2013

Disposal Date	NAME	Pounds	%Total Solids
11-FEB-13	NC_SCUM	19,140	
	avg	19,140	
	sum	19,140	

Disposal Date	NAME	Pounds	%Total Solids
13-FEB-13	NC_GRIT	6,720	43.0
22-FEB-13		8,640	41.0
	avg	7,680	
	sum	15,360	

Disposal Date	NAME	Pounds	%Total Solids
27-FEB-13	NC_INFLUENT_SCREENINGS	15,820	21.0
	avg	15,820	
	sum	15,820	

Ernesto P. Molas

Ernesto Molas, NCWRP Superintendent
Certification no. V-7227

The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

SOUTH BAY WATER RECLAMATION PLANT
SCREENINGS - Disposal Report

01-FEB-2013 to 28-FEB-2013

SCREENINGS

Disposal Date	NAME	Pounds	%Total Solids
08-FEB-13	SCREENINGS	5,800	53.0
	**********	--------	
	avg	5,800	
	sum	5,800	

Ernesto Molas, SBWRP Superintendent
Certification no. V-7227

The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

POINT LOMA WASTEWATER TREATMENT PLANT
Screenings Disposal Report

01-FEB-2013 to 28-FEB-2013

PUMP 1

Disposal Date	Pounds	%Total Solids
04-FEB-13	19,040	22.9
07-FEB-13	12,600	21.1
11-FEB-13	20,320	29.7
14-FEB-13	14,280	22.8
19-FEB-13	20,940	28.5
21-FEB-13	9,920	26.2
25-FEB-13	16,480	22.8
Average	16,226	
Sum	113,580	

PUMP 2

Disposal Date	Pounds	%Total Solids
04-FEB-13	20,680	24.7
07-FEB-13	19,200	39.3
11-FEB-13	17,000	21.9
14-FEB-13	18,260	22.9
18-FEB-13	20,280	23.1
21-FEB-13	16,140	36.4
25-FEB-13	17,960	30.4
Average	18,503	
Sum	129,520	

PUMP 64

Disposal Date	Pounds	%Total Solids
06-FEB-13	13,600	23.2
20-FEB-13	13,600	30.2
Average	13,600	
Sum	27,200	

PUMP 77A

Disposal Date	Pounds	%Total Solids
13-FEB-13	5,740	38.4
27-FEB-13	6,400	23.9
Average	6,070	
Sum	12,140	

Gerald Shreckengost, Operations Support Superintendent
Certification no. V-5931
I have reviewed the above data for accuracy as it relates to operational performance.

City of San Diego

BIOSOLIDS DISPOSAL/BENEFICIAL USE MONTHLY REPORT

Operations Support Group

San Diego Landfill Systems
Landfill Disposal
Beneficial Use
March-13

Date	Day	Landfilled	Beneficial Use					Daily Totals hauled wet tons	Daily total cake solids %	Daily Totals hauled dry tons
			ADC	Land Application	Land Application	Land Application	Land Application			
		Otay Landfill	Otay Landfill/ADC	Field YM 2-30	Field YM	Field YM	Field YM			
		San Diego Cnty. California	San Diego Cnty. California	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona			
		Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons			
3/1/2013	Friday	0.00	171.17	99.48	0.00	0.00	0.00	270.65	27.70	74.97
3/2/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.60	0.00
3/3/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.30	0.00
3/4/2013	Monday	0.00	369.32	99.27	0.00	0.00	0.00	468.59	28.40	133.08
3/5/2013	Tuesday	0.00	394.17	98.87	0.00	0.00	0.00	493.04	28.10	138.54
3/6/2013	Wednesday	0.00	320.33	99.30	0.00	0.00	0.00	419.63	26.90	112.88
3/7/2013	Thursday	0.00	97.57	99.43	0.00	0.00	0.00	197.00	29.50	58.12
3/8/2013	Friday	0.00	0.00	99.06	0.00	0.00	0.00	99.06	29.30	29.02
3/9/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.50	0.00
3/10/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.00	0.00
3/11/2013	Monday	0.00	394.74	122.13	0.00	0.00	0.00	516.87	28.90	149.38
3/12/2013	Tuesday	0.00	396.36	98.73	0.00	0.00	0.00	495.09	28.50	141.10
3/13/2013	Wednesday	0.00	325.04	122.77	0.00	0.00	0.00	447.81	29.80	133.45
3/14/2013	Thursday	0.00	73.56	97.98	0.00	0.00	0.00	171.54	28.10	48.20
3/15/2013	Friday	0.00	223.49	97.93	0.00	0.00	0.00	321.42	28.80	92.57
3/16/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.40	0.00
3/17/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.20	0.00
3/18/2013	Monday	0.00	392.89	98.48	0.00	0.00	0.00	491.37	28.80	141.51
3/19/2013	Tuesday	0.00	396.31	98.75	0.00	0.00	0.00	495.06	29.50	146.04
3/20/2013	Wednesday	0.00	321.75	74.60	0.00	0.00	0.00	396.35	27.80	110.19
3/21/2013	Thursday	0.00	98.43	98.08	0.00	0.00	0.00	196.51	27.30	53.65
3/22/2013	Friday	0.00	174.05	124.34	0.00	0.00	0.00	298.39	28.40	84.74
3/23/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.30	0.00
3/24/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.30	0.00
3/25/2013	Monday	0.00	348.15	123.66	0.00	0.00	0.00	471.81	27.70	130.69
3/26/2013	Tuesday	0.00	251.55	123.91	0.00	0.00	0.00	375.46	27.80	104.38
3/27/2013	Wednesday	0.00	399.27	75.82	0.00	0.00	0.00	475.09	28.60	135.88
3/28/2013	Thursday	0.00	148.52	99.21	0.00	0.00	0.00	247.73	27.10	67.13
3/29/2013	Friday	0.00	246.71	99.06	0.00	0.00	0.00	345.77	27.50	95.09
3/30/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.50	0.00
3/31/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.80	0.00
	Totals:	0.00	5,543.38	2,150.86	0.00	0.00	0.00	7,694.24		2,185.16
						Monthly average % cake solids:			28.40	

Daily average wet tons produced:	248.20
Daily average dry tons produced:	70.34

Total tons, Landfilled:	0.00
Cost per ton:	$36.48
Total cost, Landfilled:	$0.00
Total tons, Beneficial use/ADC:	5,543.38
Cost per ton:	$45.43
Total cost, Beneficial use/ADC:	$251,835.75
Total tons, Beneficial use/Land App.:	2,150.86
Cost per ton:	$45.43
Total cost, Beneficial use/Land App.:	$97,713.57
Total cost:	$349,549.32

Gerald Schreckengost

The %TS values listed on days where hauling did not take place are included in the calculation of average monthly %TS.
The average monthly %TS (rounded to nearest 10th) is used to calculate the total monthly dry tons produced.
ADC - Alternative Daily Cover.

POINT LOMA WASTEWATER TREATMENT PLANT
GRIT-SCUM-Screenings Disposal Report

01-MAR-2013 to 31-MAR-2013

GRIT

Disposal Date	Pounds	%Total Solids
01-MAR-13	9,860	44.6
02-MAR-13	8,700	53.7
03-MAR-13	8,180	41.4
04-MAR-13	7,140	47.5
05-MAR-13	7,240	53.4
08-MAR-13	10,960	43.4
08-MAR-13	10,700	40.9
09-MAR-13	11,460	40.5
10-MAR-13	14,880	63.1
11-MAR-13	12,020	46.8
12-MAR-13	10,680	47.5
13-MAR-13	9,640	40.7
14-MAR-13	13,340	48.9
15-MAR-13	15,000	50.0
16-MAR-13	9,860	48.2
17-MAR-13	8,920	43.2
18-MAR-13	10,520	42.4
19-MAR-13	8,240	40.8
20-MAR-13	9,860	43.0
21-MAR-13	10,000	43.6
22-MAR-13	10,740	45.3
23-MAR-13	9,000	48.7
25-MAR-13	8,680	40.0
25-MAR-13	7,880	46.0
26-MAR-13	10,700	43.9
27-MAR-13	11,020	43.5
28-MAR-13	11,420	44.4
29-MAR-13	9,340	50.7
30-MAR-13	9,860	56.2
31-MAR-13	8,920	49.6
Average	10,159	
Sum	304,760	

INFLUENT SCREENINGS

Disposal Date	Pounds	%Total Solids
01-MAR-13	8,940	45.5
05-MAR-13	20,100	46.9
08-MAR-13	9,260	41.6
12-MAR-13	18,460	58.7
15-MAR-13	9,660	39.3
19-MAR-13	18,520	44.0
22-MAR-13	10,220	42.3
26-MAR-13	19,360	35.9
29-MAR-13	10,780	50.1
Average	13,922	
Sum	125,300	

SCUM

Disposal Date	Pounds
01-MAR-13	13,880
07-MAR-13	13,320
15-MAR-13	16,040
27-MAR-13	14,200
29-MAR-13	13,600
Average	14,208
Sum	71,040

SLUDGE SCREENINGS

Disposal Date	Pounds	%Total Solids
01-MAR-13	12,560	34.7
02-MAR-13	23,060	33.5
03-MAR-13	19,040	31.6
04-MAR-13	22,260	36.9
05-MAR-13	22,000	34.6
06-MAR-13	21,420	37.4
06-MAR-13	6,900	41.9
07-MAR-13	21,140	36.0
08-MAR-13	23,740	34.8
09-MAR-13	22,920	33.2
10-MAR-13	18,880	38.1
11-MAR-13	16,620	37.2
12-MAR-13	22,940	38.9
13-MAR-13	24,700	36.5
14-MAR-13	21,820	35.5
15-MAR-13	22,920	34.2
16-MAR-13	22,080	35.3
17-MAR-13	16,700	37.7
17-MAR-13	21,140	42.5
18-MAR-13	22,360	33.5
19-MAR-13	24,640	34.5
20-MAR-13	24,080	34.5
21-MAR-13	24,840	35.8
22-MAR-13	23,420	36.0
23-MAR-13	23,940	35.6
24-MAR-13	24,560	34.6
25-MAR-13	21,060	37.0
26-MAR-13	22,420	35.3
27-MAR-13	22,820	35.1
28-MAR-13	21,020	36.4
29-MAR-13	22,340	40.0
30-MAR-13	25,200	36.0
31-MAR-13	22,700	33.6
Average	21,462	
Sum	708,240	

KC Shankles

K.C. Shankles, PLWTP Superintendent
Certification no. V-6975
The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

METRO BIOSOLIDS CENTER
Disposal Report

01-MAR-2013 to 31-MAR-2013

No data for the month of March 2013.

Barry Ayers, MBC Superintendent
Certification no. V-9346
The WWTP was operated under my supervision and I have reviewed
the above data for accuracy as it relates to plant performance.

North City Water Reclamation Plant
Grit-Scum-Screenings Disposal Report

01-MAR-2013 to 31-MAR-2013

Disposal Date	NAME	Pounds	%Total Solids
06-MAR-13	NC_GRIT	12,260	42.0
20-MAR-13		14,160	58.0
	**********	--------	
	avg	13,210	
	sum	26,420	

Ernesto P. Molas

Ernesto Molas, NCWRP Superintendent
Certification no. V-7227

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

SOUTH BAY WATER RECLAMATION PLANT
SCREENINGS - Disposal Report

01-MAR-2013 to 31-MAR-2013

SCREENINGS

Disposal Date	NAME	Pounds	%Total Solids
22-MAR-13	SCREENINGS	7,380	67.0
	**********	--------	
	avg	7,380	
	sum	7,380	

Ernesto R. Molas

Ernesto Molas, SBWRP Superintendent
Certification no. V-7227

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

POINT LOMA WASTEWATER TREATMENT PLANT
Screenings Disposal Report

01-MAR-2013 to 31-MAR-2013

PUMP 1

Disposal Date	Pounds	%Total Solids
04-MAR-13	18,040	27.8
07-MAR-13	17,300	28.2
11-MAR-13	19,000	24.9
14-MAR-13	13,160	23.4
18-MAR-13	18,820	35.5
21-MAR-13	14,360	25.7
25-MAR-13	6,400	58.5
28-MAR-13	14,540	29.1
Average	15,203	
Sum	121,620	

PUMP 2

Disposal Date	Pounds	%Total Solids
04-MAR-13	23,640	23.7
07-MAR-13	19,880	24.2
11-MAR-13	17,980	32.0
14-MAR-13	18,400	40.3
18-MAR-13	20,320	31.0
21-MAR-13	17,440	66.5
25-MAR-13	23,840	31.4
28-MAR-13	18,100	30.9
Average	19,950	
Sum	159,600	

PUMP 64

Disposal Date	Pounds	%Total Solids
06-MAR-13	14,680	22.6
20-MAR-13	13,860	28.8
Average	14,270	
Sum	28,540	

PUMP 77A

Disposal Date	Pounds	%Total Solids
13-MAR-13	6,400	49.6
27-MAR-13	6,940	30.7
Average	6,670	
Sum	13,340	

Gerald Shreckengost, Operations Support Superintendent
Certification no. V-5931
I have reviewed the above data for accuracy as it relates to operational performance.

City of San Diego

BIOSOLIDS DISPOSAL/BENEFICIAL USE MONTHLY REPORT

Operations Support Group

San Diego Landfill Systems
Landfill Disposal
Beneficial Use
April-13

Date	Day	Landfilled	Beneficial Use						Daily Totals hauled wet tons	Daily total cake solids %	Daily Totals hauled dry tons
			ADC	Land Application	Land Application	Land Application	Land Application	Land Application			
		Otay Landfill	Otay Landfill/ADC	Field YM 2-30	Field YM	Field YM	Field YM	Field YM			
		San Diego Cnty. California	San Diego Cnty. California	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona			
		Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons			
4/1/2013	Monday	0.00	370.53	124.40	0.00	0.00	0.00	0.00	494.93	27.30	135.12
4/2/2013	Tuesday	0.00	395.56	100.55	0.00	0.00	0.00	0.00	496.11	27.20	134.94
4/3/2013	Wednesday	0.00	398.84	100.48	0.00	0.00	0.00	0.00	499.32	28.00	139.81
4/4/2013	Thursday	0.00	149.49	101.06	0.00	0.00	0.00	0.00	250.55	27.80	69.65
4/5/2013	Friday	0.00	271.38	100.00	0.00	0.00	0.00	0.00	371.38	29.00	107.70
4/6/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.60	0.00
4/7/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.30	0.00
4/8/2013	Monday	0.00	395.82	149.62	0.00	0.00	0.00	0.00	545.44	27.50	150.00
4/9/2013	Tuesday	0.00	297.02	100.47	0.00	0.00	0.00	0.00	397.49	26.80	106.53
4/10/2013	Wednesday	0.00	172.40	100.04	0.00	0.00	0.00	0.00	272.44	26.60	72.47
4/11/2013	Thursday	0.00	148.97	75.61	0.00	0.00	0.00	0.00	224.58	27.10	60.86
4/12/2013	Friday	0.00	197.78	99.75	0.00	0.00	0.00	0.00	297.53	27.80	82.71
4/13/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.40	0.00
4/14/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.30	0.00
4/15/2013	Monday	0.00	347.47	100.91	0.00	0.00	0.00	0.00	448.38	27.40	122.86
4/16/2013	Tuesday	0.00	395.54	99.93	0.00	0.00	0.00	0.00	495.47	27.00	133.78
4/17/2013	Wednesday	0.00	396.01	100.75	0.00	0.00	0.00	0.00	496.76	27.00	134.13
4/18/2013	Thursday	0.00	148.40	100.06	0.00	0.00	0.00	0.00	248.46	26.70	67.08
4/19/2013	Friday	0.00	221.24	99.70	0.00	0.00	0.00	0.00	320.94	26.50	85.05
4/20/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.80	0.00
4/21/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.10	0.00
4/22/2013	Monday	0.00	497.23	124.39	0.00	0.00	0.00	0.00	621.62	27.10	168.46
4/23/2013	Tuesday	0.00	349.02	99.69	0.00	0.00	0.00	0.00	448.71	27.10	121.60
4/24/2013	Wednesday	0.00	224.35	99.63	0.00	0.00	0.00	0.00	323.98	27.10	87.80
4/25/2013	Thursday	0.00	149.71	100.58	0.00	0.00	0.00	0.00	250.29	25.90	64.83
4/26/2013	Friday	0.00	249.63	123.89	0.00	0.00	0.00	0.00	373.52	26.40	98.61
4/27/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.50	0.00
4/28/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.40	0.00
4/29/2013	Monday	0.00	398.60	124.38	0.00	0.00	0.00	0.00	522.98	26.20	137.02
4/30/2013	Tuesday	0.00	398.67	150.74	0.00	0.00	0.00	0.00	549.41	27.10	148.89
	Totals:	0.00	6,573.66	2,376.63	0.00	0.00	0.00	0.00	8,950.29		2,434.48
						Monthly average % cake solids:				27.20	

Daily average wet tons produced:	298.34
Daily average dry tons produced:	81.00

Total tons, Landfilled:	0.00
Cost per ton:	$36.48
Total cost, Landfilled:	$0.00
Total tons, Beneficial use/ADC:	6,573.66
Cost per ton:	$45.43
Total cost, Beneficial use/ADC:	$298,641.37
Total tons, Beneficial use/Land App.:	2,376.63
Cost per ton:	$45.43
Total cost, Beneficial use/Land App.:	$107,970.30
Total cost:	$406,611.67

The %TS values listed on days where hauling did not take place are included in the calculation of average monthly %TS.
The average monthly %TS (rounded to nearest 10th) is used to calculate the total monthly dry tons produced.
ADC - Alternative Daily Cover.

Gerald Schreckengost

POINT LOMA WASTEWATER TREATMENT PLANT
GRIT-SCUM-Screenings Disposal Report

01-APR-2013 to 30-APR-2013

GRIT

Disposal Date	Pounds	%Total Solids
01-APR-13	8,580	55.4
02-APR-13	10,040	67.7
03-APR-13	8,900	54.0
04-APR-13	9,700	51.4
05-APR-13	9,620	47.3
06-APR-13	9,700	54.4
07-APR-13	8,480	46.0
08-APR-13	9,100	48.0
09-APR-13	8,460	52.0
10-APR-13	9,320	54.0
11-APR-13	9,040	47.1
12-APR-13	9,020	55.1
13-APR-13	8,800	47.8
14-APR-13	9,140	54.6
15-APR-13	8,400	46.3
16-APR-13	7,840	52.1
17-APR-13	7,360	51.1
18-APR-13	8,980	51.5
19-APR-13	12,660	46.1
20-APR-13	8,020	57.9
21-APR-13	9,980	48.3
22-APR-13	10,700	51.9
23-APR-13	9,480	55.7
24-APR-13	10,620	55.9
25-APR-13	9,080	48.3
26-APR-13	10,240	45.4
27-APR-13	10,460	45.0
28-APR-13	8,760	53.6
29-APR-13	9,320	66.6
30-APR-13	10,660	48.8
Average	9,349	
Sum	280,460	

INFLUENT SCREENINGS

Disposal Date	Pounds	%Total Solids
02-APR-13	22,560	42.4
05-APR-13	9,560	41.6
09-APR-13	18,700	42.7
12-APR-13	9,220	35.9
16-APR-13	18,180	39.9
19-APR-13	10,760	50.3
23-APR-13	20,200	45.2
26-APR-13	10,760	53.2
30-APR-13	19,540	49.2
Average	15,498	
Sum	139,480	

SCUM

Disposal Date	Pounds
09-APR-13	14,000
17-APR-13	11,160
24-APR-13	15,420
Average	13,527
Sum	40,580

SLUDGE SCREENINGS

Disposal Date	Pounds	%Total Solids
01-APR-13	24,640	33.0
02-APR-13	17,300	34.4
02-APR-13	13,440	35.0
03-APR-13	22,260	36.4
04-APR-13	23,200	34.1
05-APR-13	20,480	36.2
06-APR-13	23,440	37.2
07-APR-13	18,820	37.7
07-APR-13	20,520	36.3
08-APR-13	14,340	38.4
09-APR-13	11,920	37.1
10-APR-13	21,580	34.5
11-APR-13	15,820	39.8
12-APR-13	24,860	36.4
13-APR-13	26,580	36.1
14-APR-13	22,760	34.9
15-APR-13	18,460	35.4
16-APR-13	17,740	41.3
17-APR-13	22,180	40.5
18-APR-13	22,120	41.3
19-APR-13	25,420	39.2
20-APR-13	22,400	38.0
21-APR-13	21,560	35.1
22-APR-13	19,160	37.3
23-APR-13	19,200	38.0
24-APR-13	18,180	37.1
25-APR-13	21,500	37.6
26-APR-13	22,500	39.5
27-APR-13	20,840	36.9
28-APR-13	23,380	38.3
29-APR-13	22,480	41.4
30-APR-13	22,540	35.4
Average	20,676	
Sum	661,620	

KC Shankles

K.C. Shankles, PLWTP Superintendent
Certification no. V-6975
The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

METRO BIOSOLIDS CENTER
Disposal Report

01-APR-2013 to 30-APR-2013

No data to report for the month of April 2013.

Barry Ayers, MBC Superintendent
Certification no. V-9346
The WWTP was operated under my supervision and I have reviewed
the above data for accuracy as it relates to plant performance.

North City Water Reclamation Plant
Grit-Scum-Screenings Disposal Report

01-APR-2013 to 30-APR-2013

Disposal Date	NAME	Pounds	%Total Solids
03-APR-13	NC_GRIT	7,560	57.0
16-APR-13		8,400	49.0
23-APR-13		8,700	44.0
30-APR-13		19,460	41.0
	**********	--------	
	avg	11,030	
	sum	44,120	

Disposal Date	NAME	Pounds	%Total Solids
27-APR-13	NC_INFLUENT_SCREENINGS	17,760	74.0
	**********	--------	
	avg	17,760	
	sum	17,760	

Ernesto P. Molas

Ernesto Molas, NCWRP Superintendent
Certification no. V-7227

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

SOUTH BAY WATER RECLAMATION PLANT
SCREENINGS - Disposal Report

01-APR-2013 to 30-APR-2013

SCREENINGS

Disposal Date	NAME	Pounds	%Total Solids
30-APR-13	SCREENINGS	5,880	56.0
	**********	--------	
	avg	5,880	
	sum	5,880	

Ernesto P. Molas

Ernesto Molas, SBWRP Superintendent
Certification no. V-7227

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

POINT LOMA WASTEWATER TREATMENT PLANT
Screenings Disposal Report

01-APR-2013 to 30-APR-2013

PUMP 1

Disposal Date	Pounds	%Total Solids
01-APR-13	18,220	23.0
04-APR-13	13,340	37.0
08-APR-13	18,180	35.0
11-APR-13	13,760	32.0
15-APR-13	18,220	30.0
18-APR-13	15,240	30.0
22-APR-13	18,540	30.0
25-APR-13	13,940	38.0
29-APR-13	18,120	29.0
Average	16,396	
Sum	147,560	

PUMP 2

Disposal Date	Pounds	%Total Solids
01-APR-13	21,540	39.0
04-APR-13	19,020	26.0
08-APR-13	21,180	40.0
11-APR-13	17,620	28.0
15-APR-13	22,600	39.0
18-APR-13	18,500	28.0
22-APR-13	21,900	39.0
25-APR-13	18,860	26.0
29-APR-13	21,460	33.0
Average	20,298	
Sum	182,680	

PUMP 64

Disposal Date	Pounds	%Total Solids
03-APR-13	14,440	52.0
17-APR-13	14,680	22.0
Average	14,560	
Sum	29,120	

PUMP 77A

Disposal Date	Pounds	%Total Solids
10-APR-13	6,600	39.0
24-APR-13	6,160	30.0
Average	6,380	
Sum	12,760	

Gerald Shreckengost, Operations Support Superintendent
Certification no. V-5931
I have reviewed the above data for accuracy as it relates to operational performance.

City of San Diego

BIOSOLIDS DISPOSAL/BENEFICIAL USE MONTHLY REPORT

Operations Support Group

San Diego Landfill Systems
Landfill Disposal
Beneficial Use
May-13

Date	Day	Landfilled	Beneficial Use							Daily Totals hauled wet tons	Daily total cake solids %	Daily Totals hauled dry tons
			ADC	Land Application	Land Application	Land Application	Land Application	Land Application	Land Application			
		Otay Landfill	Otay Landfill/ADC	Field YM 2-30	Field YM 2-161	Field YM	Field YM	Field YM	Field YM			
		San Diego Cnty. California	San Diego Cnty. California	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona			
		Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons			
5/1/2013	Wednesday	0.00	398.81	125.43	0.00	0.00	0.00	0.00	0.00	524.24	26.60	139.45
5/2/2013	Thursday	0.00	223.47	150.88	0.00	0.00	0.00	0.00	0.00	374.35	26.60	99.58
5/3/2013	Friday	0.00	323.27	126.11	0.00	0.00	0.00	0.00	0.00	449.38	26.80	120.43
5/4/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.40	0.00
5/5/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.50	0.00
5/6/2013	Monday	0.00	371.07	126.22	0.00	0.00	0.00	0.00	0.00	497.29	26.30	130.79
5/7/2013	Tuesday	0.00	371.60	75.05	0.00	0.00	0.00	0.00	0.00	446.65	27.90	124.62
5/8/2013	Wednesday	0.00	273.90	0.00	75.16	0.00	0.00	0.00	0.00	349.06	26.50	92.50
5/9/2013	Thursday	0.00	395.67	0.00	99.58	0.00	0.00	0.00	0.00	495.25	25.20	124.80
5/10/2013	Friday	0.00	297.93	0.00	123.48	0.00	0.00	0.00	0.00	421.41	26.10	103.42
5/11/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.10	0.00
5/12/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.90	0.00
5/13/2013	Monday	0.00	373.38	0.00	99.95	0.00	0.00	0.00	0.00	473.33	26.80	133.59
5/14/2013	Tuesday	0.00	599.75	0.00	51.07	0.00	0.00	0.00	0.00	650.82	27.60	144.70
5/15/2013	Wednesday	0.00	198.14	0.00	76.32	0.00	0.00	0.00	0.00	274.46	27.40	109.88
5/16/2013	Thursday	0.00	225.85	0.00	100.71	0.00	0.00	0.00	0.00	326.56	27.70	90.46
5/17/2013	Friday	0.00	354.08	0.00	101.05	0.00	0.00	0.00	0.00	455.13	27.50	125.16
5/18/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.20	0.00
5/19/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.70	0.00
5/20/2013	Monday	0.00	276.40	0.00	51.18	0.00	0.00	0.00	0.00	327.58	29.50	96.64
5/21/2013	Tuesday	0.00	494.30	0.00	76.63	0.00	0.00	0.00	0.00	570.93	28.10	160.43
5/22/2013	Wednesday	0.00	447.50	0.00	124.95	0.00	0.00	0.00	0.00	572.45	28.50	163.15
5/23/2013	Thursday	0.00	248.90	0.00	174.57	0.00	0.00	0.00	0.00	423.47	28.10	119.00
5/24/2013	Friday	0.00	297.52	0.00	148.93	0.00	0.00	0.00	0.00	446.45	28.20	125.90
5/25/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.00	0.00
5/26/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.10	0.00
5/27/2013	Monday	0.00	396.54	0.00	150.73	0.00	0.00	0.00	0.00	547.27	27.20	148.86
5/28/2013	Tuesday	0.00	375.63	0.00	150.44	0.00	0.00	0.00	0.00	526.07	27.50	144.67
5/29/2013	Wednesday	0.00	277.01	0.00	76.25	0.00	0.00	0.00	0.00	353.26	26.90	121.95
5/30/2013	Thursday	0.00	323.17	0.00	99.74	0.00	0.00	0.00	0.00	422.91	28.90	93.29
5/31/2013	Friday	0.00	398.33	0.00	74.55	0.00	0.00	0.00	0.00	472.88	30.60	144.70
	Totals:	0.00	7,942.22	603.69	1,855.29	0.00	0.00	0.00	0.00	10,401.20		2,849.93
									Monthly average % cake solids:		27.40	

Daily average wet tons produced:	335.52
Daily average dry tons produced:	92.19

Total tons, Landfilled:	0.00
Cost per ton:	$36.48
Total cost, Landfilled:	$0.00
Total tons, Beneficial use/ADC:	7,942.22
Cost per ton:	$45.43
Total cost, Beneficial use/ADC:	$360,815.05
Total tons, Beneficial use/Land App.:	2,458.98
Cost per ton:	$45.43
Total cost, Beneficial use/Land App.:	$111,711.46
Total cost:	$472,526.52

The %TS values listed on days where hauling did not take place are included in the calculation of average monthly %TS
The average monthly %TS (rounded to nearest 10th) is used to calculate the total monthly dry tons produced.
ADC - Alternative Daily Cover.

Gerald Schreckengost

POINT LOMA WASTEWATER TREATMENT PLANT
GRIT-SCUM-Screenings Disposal Report

01-MAY-2013 to 31-MAY-2013

GRIT

Disposal Date	Pounds	%Total Solids
01-MAY-13	10,980	56.0
02-MAY-13	9,680	56.0
03-MAY-13	10,980	52.0
04-MAY-13	8,860	56.0
05-MAY-13	12,640	48.0
06-MAY-13	9,360	58.0
07-MAY-13	10,860	55.0
08-MAY-13	10,380	67.0
09-MAY-13	10,040	49.0
10-MAY-13	12,280	50.0
11-MAY-13	11,920	61.0
12-MAY-13	10,520	59.0
13-MAY-13	10,540	59.0
14-MAY-13	10,100	55.0
15-MAY-13	19,220	56.0
16-MAY-13	21,080	60.0
17-MAY-13	10,700	58.0
18-MAY-13	10,080	56.0
19-MAY-13	8,800	59.0
20-MAY-13	7,980	54.0
21-MAY-13	9,360	59.0
22-MAY-13	9,540	53.0
23-MAY-13	10,080	56.0
24-MAY-13	8,320	52.0
25-MAY-13	9,600	57.0
26-MAY-13	7,320	47.0
27-MAY-13	8,820	58.0
28-MAY-13	7,500	58.0
29-MAY-13	9,620	58.0
30-MAY-13	8,240	51.0
31-MAY-13	8,680	54.0
Average	10,454	
Sum	324,080	

INFLUENT SCREENINGS

Disposal Date	Pounds	%Total Solids
03-MAY-13	11,620	52.0
07-MAY-13	21,860	54.0
10-MAY-13	13,120	50.0
14-MAY-13	21,800	54.0
17-MAY-13	15,680	56.0
19-MAY-13	17,100	36.0
21-MAY-13	22,260	46.0
24-MAY-13	12,260	37.0
28-MAY-13	22,720	39.0
31-MAY-13	12,640	44.0
Average	17,106	
Sum	171,060	

SCUM

Disposal Date	Pounds
07-MAY-13	12,420
14-MAY-13	18,380
Average	15,400
Sum	30,800

SLUDGE SCREENINGS

Disposal Date	Pounds	%Total Solids
01-MAY-13	25,580	35.0
02-MAY-13	22,520	33.0
03-MAY-13	21,560	36.0
04-MAY-13	19,860	36.0
05-MAY-13	22,640	38.0
06-MAY-13	19,600	40.0
07-MAY-13	26,000	36.0
08-MAY-13	21,900	40.0
09-MAY-13	23,060	37.0
10-MAY-13	17,220	35.0
11-MAY-13	20,400	40.0
12-MAY-13	24,900	39.0
13-MAY-13	21,780	36.0
14-MAY-13	17,380	36.0
14-MAY-13	17,160	35.0
15-MAY-13	20,020	36.0
16-MAY-13	22,700	36.0
17-MAY-13	26,660	35.0
18-MAY-13	21,200	36.0
19-MAY-13	16,940	36.0
20-MAY-13	25,480	35.0
21-MAY-13	22,600	34.0
22-MAY-13	23,400	35.0
23-MAY-13	20,320	37.0
24-MAY-13	24,120	36.0
25-MAY-13	21,160	35.0
26-MAY-13	21,020	38.0
27-MAY-13	23,640	39.0
28-MAY-13	24,320	34.0
29-MAY-13	25,540	33.0
30-MAY-13	26,100	34.0
31-MAY-13	21,980	38.0
Average	22,149	
Sum	708,760	

KCShankles

K.C. Shankles, PLWTP Superintendent
Certification no. V-6975
The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

METRO BIOSOLIDS CENTER
MBC GRIT Disposal Report

01-MAY-2013 to 31-MAY-2013

MBC GRIT

Disposal Date	Pounds	%Total Solids
31-MAY-13	13,760	56.0
avg	13,760	
sum	13,760	

Barry Ayers, MBC Superintendent
Certification no. V-9346
The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

North City Water Reclamation Plant
Grit-Scum-Screenings Disposal Report

01-MAY-2013 to 31-MAY-2013

Disposal Date	NAME	Pounds	%Total Solids
02-MAY-13	NC_GRIT	15,120	46.0
03-MAY-13		12,980	48.0
10-MAY-13		6,720	50.0
14-MAY-13		8,540	49.0
29-MAY-13		7,160	50.0
	avg	10,104	
	sum	50,520	

Disposal Date	NAME	Pounds
17-MAY-13	NC_SCUM	16,940
	avg	16,940
	sum	16,940

Ernesto P. Molas

Ernesto Molas, NCWRP Superintendent
Certification no. V-7227

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

SOUTH BAY WATER RECLAMATION PLANT
SBWRP GRIT - Disposal Report

01-MAY-2013 to 31-MAY-2013

SBWRP GRIT

Disposal Date	NAME	Pounds	%Total Solids
15-MAY-13	SBWRP GRIT	18,880	37.0
	**********	---	
	avg	18,880	
	sum	18,880	

Ernesto P. Molas

Ernesto Molas, SBWRP Superintendent
Certification no. V-7227

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

POINT LOMA WASTEWATER TREATMENT PLANT
Screenings Disposal Report

01-MAY-2013 to 31-MAY-2013

PUMP 1

Disposal Date	Pounds	%Total Solids
02-MAY-13	11,500	24.0
14-MAY-13	12,300	35.0
16-MAY-13	12,960	26.0
20-MAY-13	16,400	35.0
23-MAY-13	13,200	23.0
27-MAY-13	17,880	26.0
30-MAY-13	13,460	26.0
Average	13,957	
Sum	97,700	

PUMP 2

Disposal Date	Pounds	%Total Solids
02-MAY-13	17,200	23.0
05-MAY-13	21,400	25.0
09-MAY-13	25,800	20.0
13-MAY-13	21,640	38.0
16-MAY-13	15,140	23.0
20-MAY-13	16,240	33.0
23-MAY-13	15,160	30.0
27-MAY-13	22,000	26.0
30-MAY-13	16,600	76.0
Average	19,020	
Sum	171,180	

PUMP 64

Disposal Date	Pounds	%Total Solids
01-MAY-13	14,900	28.0
15-MAY-13	12,480	20.0
29-MAY-13	13,180	31.0
Average	13,520	
Sum	40,560	

PUMP 77

Disposal Date	Pounds	%Total Solids
22-MAY-13	5,760	58.0
Average	5,760	
Sum	5,760	

PUMP 77A

Disposal Date	Pounds	%Total Solids
08-MAY-13	6,680	46.0
Average	6,680	
Sum	6,680	

Gerald Shreckengost, Operations Support Superintendent
Certification no. V-5931
I have reviewed the above data for accuracy as it relates to operational performance.

City of San Diego

BIOSOLIDS DISPOSAL/BENEFICIAL USE MONTHLY REPORT

Operations Support Group

San Diego Landfill Systems
Landfill Disposal
Beneficial Use
June-13

Date	Day	Landfilled	Beneficial Use					Daily Totals hauled wet tons	Daily total cake solids %	Daily Totals hauled dry tons
			ADC	Land Application	Land Application	Land Application	Land Application			
		Otay Landfill	Otay Landfill/ADC	Field YM 2-162 / 163	Field YM	Field YM	Field YM			
		San Diego Cnty. California	San Diego Cnty. California	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona			
		Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons			
6/1/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.80	0.00
6/2/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.60	0.00
6/3/2013	Monday	0.00	371.63	99.88	0.00	0.00	0.00	471.51	29.70	140.04
6/4/2013	Tuesday	0.00	399.05	124.29	0.00	0.00	0.00	523.34	27.20	142.35
6/5/2013	Wednesday	0.00	395.43	150.36	0.00	0.00	0.00	545.79	28.00	152.82
6/6/2013	Thursday	0.00	248.83	100.78	0.00	0.00	0.00	349.61	28.50	99.64
6/7/2013	Friday	0.00	222.07	123.87	0.00	0.00	0.00	345.94	26.80	92.71
6/8/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.50	0.00
6/9/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.50	0.00
6/10/2013	Monday	0.00	395.67	75.21	0.00	0.00	0.00	470.88	27.30	128.55
6/11/2013	Tuesday	0.00	446.61	99.59	0.00	0.00	0.00	546.20	28.40	155.12
6/12/2013	Wednesday	0.00	249.07	124.23	0.00	0.00	0.00	373.30	27.80	103.78
6/13/2013	Thursday	0.00	148.59	100.88	0.00	0.00	0.00	249.47	32.20	80.33
6/14/2013	Friday	0.00	198.54	99.98	0.00	0.00	0.00	298.52	28.70	85.68
6/15/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.20	0.00
6/16/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.00	0.00
6/17/2013	Monday	0.00	425.58	75.08	0.00	0.00	0.00	500.66	26.10	130.67
6/18/2013	Tuesday	0.00	397.28	99.67	0.00	0.00	0.00	496.95	26.60	132.19
6/19/2013	Wednesday	0.00	395.42	50.97	0.00	0.00	0.00	446.39	26.40	117.85
6/20/2013	Thursday	0.00	100.39	50.37	0.00	0.00	0.00	150.76	26.60	40.10
6/21/2013	Friday	0.00	199.39	74.77	0.00	0.00	0.00	274.16	27.20	74.57
6/22/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.30	0.00
6/23/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.60	0.00
6/24/2013	Monday	0.00	497.23	100.31	0.00	0.00	0.00	597.54	27.50	164.32
6/25/2013	Tuesday	0.00	396.25	74.33	0.00	0.00	0.00	470.58	27.20	128.00
6/26/2013	Wednesday	0.00	375.80	25.30	0.00	0.00	0.00	401.10	28.30	113.51
6/27/2013	Thursday	0.00	326.33	24.82	0.00	0.00	0.00	351.15	27.30	95.86
6/28/2013	Friday	0.00	347.25	73.38	0.00	0.00	0.00	420.63	33.90	142.59
6/29/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.40	0.00
6/30/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.80	0.00
	Totals:	0.00	6,536.41	1,748.07	0.00	0.00	0.00	8,284.48		2,336.22
						Monthly average % cake solids:			28.20	

Daily average wet tons produced:	276.15
Daily average dry tons produced:	77.36

Total tons, Landfilled:	0.00
Cost per ton:	$36.48
Total cost, Landfilled:	$0.00
Total tons, Beneficial use/ADC:	6,536.41
Cost per ton:	$45.43
Total cost, Beneficial use/ADC:	$296,949.11
Total tons, Beneficial use/Land App.:	1,748.07
Cost per ton:	$45.43
Total cost, Beneficial use/Land App.:	$79,414.82
Total cost:	$376,363.93

No samples taken June 3rd (operators unable to sample, 18th and 19th due to PLWWTP shutdown. %TS value used to calculate dry tons is the average of previous 2 days.
The %TS values listed on days where hauling did not take place are included in the calculation of average monthly %TS.
The average monthly %TS (rounded to nearest 10th) is used to calculate the total monthly dry tons produced.
ADC - Alternative Daily Cover.

Gerald Schreckengost

POINT LOMA WASTEWATER TREATMENT PLANT
GRIT-SCUM-Screenings Disposal Report

01-JUN-2013 to 30-JUN-2013

GRIT

Disposal Date	Pounds	%Total Solids
01-JUN-13	8,420	54.0
02-JUN-13	7,880	57.0
03-JUN-13	7,460	53.0
04-JUN-13	8,180	64.0
05-JUN-13	9,620	54.0
06-JUN-13	8,240	55.0
07-JUN-13	10,660	57.0
08-JUN-13	7,620	56.0
09-JUN-13	12,000	60.0
10-JUN-13	9,340	57.0
11-JUN-13	10,620	54.0
12-JUN-13	8,820	63.0
13-JUN-13	8,780	56.0
14-JUN-13	9,520	56.0
15-JUN-13	10,660	52.0
16-JUN-13	9,580	56.0
17-JUN-13	8,680	54.0
18-JUN-13	9,420	50.0
19-JUN-13	9,080	57.0
20-JUN-13	14,420	67.0
21-JUN-13	11,440	60.0
22-JUN-13	9,560	50.0
23-JUN-13	6,840	50.0
24-JUN-13	7,400	48.0
25-JUN-13	6,960	49.0
26-JUN-13	6,060	44.0
27-JUN-13	8,500	60.0
28-JUN-13	5,320	58.0
29-JUN-13	8,740	72.0
30-JUN-13	7,080	57.0
Average:	8,897	
Sum:	266,900	

INFLUENT SCREENINGS

Disposal Date	Pounds	%Total Solids
04-JUN-13	17,920	41.0
07-JUN-13	12,720	32.0
11-JUN-13	16,140	66.0
14-JUN-13	15,660	49.0
18-JUN-13	14,020	36.0
21-JUN-13	12,280	47.0
25-JUN-13	16,720	44.0
Average:	15,066	
Sum:	105,460	

SCUM

Disposal Date	Pounds
03-JUN-13	13,500
05-JUN-13	10,140
19-JUN-13	14,260
Average:	12,633
Sum:	37,900

SLUDGE SCREENINGS

Disposal Date	Pounds	%Total Solids
01-JUN-13	22,180	36.0
02-JUN-13	14,220	37.0
02-JUN-13	24,760	36.0
03-JUN-13	22,180	34.0
04-JUN-13	17,140	36.0
05-JUN-13	24,420	38.0
05-JUN-13	15,620	37.0
06-JUN-13	22,500	38.0
07-JUN-13	27,300	35.0
08-JUN-13	21,360	42.0
08-JUN-13	14,340	39.0
09-JUN-13	19,580	37.0
10-JUN-13	24,560	42.0
11-JUN-13	21,740	38.0
12-JUN-13	24,100	39.0
13-JUN-13	15,000	37.0
13-JUN-13	21,680	42.0
14-JUN-13	20,740	37.0
15-JUN-13	24,640	35.0
16-JUN-13	35,320	34.0
17-JUN-13	22,840	36.0
18-JUN-13	24,720	34.0
19-JUN-13	24,420	35.0
20-JUN-13	23,500	36.0
21-JUN-13	23,300	37.0
22-JUN-13	19,940	36.0
22-JUN-13	24,560	40.0
23-JUN-13	20,140	57.0
24-JUN-13	27,000	37.0
25-JUN-13	20,500	34.0
26-JUN-13	25,000	36.0
27-JUN-13	21,380	36.0
28-JUN-13	25,700	36.0
29-JUN-13	19,820	40.0
29-JUN-13	11,520	37.0
30-JUN-13	19,180	37.0
Average:	21,858	
Sum:	786,900	

KC Shankles

K.C. Shankles, PLWTP Superintendent
Certification no. V-6975
The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

METRO BIOSOLIDS CENTER
Disposal Report

01-JUN-2013 to 30-JUN-2013

No data to report for the month of June 2013.

Barry Ayers, MBC Superintendent
Certification no. V-9346
The WWTP was operated under my supervision and I have reviewed
the above data for accuracy as it relates to plant performance.

North City Water Reclamation Plant
Grit-Scum-Screenings Disposal Report

01-JUN-2013 to 30-JUN-2013

Disposal Date	NAME	Pounds	%Total Solids
07-JUN-13	NC_GRIT	9,160	51.0
17-JUN-13		6,520	43.0
19-JUN-13		21,380	51.0
26-JUN-13		8,320	48.0
	**********	--------	
	avg	11,345	
	sum	45,380	

Disposal Date	NAME	Pounds	%Total Solids
07-JUN-13	NC_INFLUENT_SCREENINGS	14,740	59.0
	**********	--------	
	avg	14,740	
	sum	14,740	

Ernesto P. Molas

Ernesto Molas, NCWRP Superintendent
Certification no. V-7227

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

SOUTH BAY WATER RECLAMATION PLANT

SCREENINGS - Disposal Report
01-JUN-2013 to 30-JUN-2013

SCREENINGS

Disposal Date	NAME	Pounds	%Total Solids
14-JUN-13	SCREENINGS	6,820	79.0
	**********	--------	
	avg	6,820	
	sum	6,820	

Ernesto P. Molas

Ernesto Molas, SBWRP Superintendent
Certification no. V-7227

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

POINT LOMA WASTEWATER TREATMENT PLANT
Screenings Disposal Report

01-JUN-2013 to 30-JUN-2013

PUMP 1

Disposal Date	Pounds	%Total Solids
03-JUN-13	19,660	38.0
06-JUN-13	11,060	30.0
10-JUN-13	18,600	22.0
13-JUN-13	13,840	37.0
17-JUN-13	17,460	30.0
20-JUN-13	5,740	61.0
24-JUN-13	18,180	48.0
27-JUN-13	13,380	31.0
Average:	14,740	
Sum:	117,920	

PUMP 2

Disposal Date	Pounds	%Total Solids
03-JUN-13	21,020	30.0
06-JUN-13	15,180	42.0
10-JUN-13	12,800	33.0
13-JUN-13	12,820	28.0
17-JUN-13	20,180	25.0
20-JUN-13	8,220	29.0
24-JUN-13	19,160	44.0
27-JUN-13	18,540	29.0
Average:	15,990	
Sum:	127,920	

PUMP 64

Disposal Date	Pounds	%Total Solids
12-JUN-13	14,020	31.0
26-JUN-13	11,760	44.0
Average:	12,890	
Sum:	25,780	

PUMP 77

Disposal Date	Pounds	%Total Solids
05-JUN-13	5,160	30.0
19-JUN-13	5,600	29.0
Average:	5,380	
Sum:	10,760	

PUMP PPS

Disposal Date	Pounds	%Total Solids
05-JUN-13	5,920	31.0
12-JUN-13	3,360	41.0
19-JUN-13	4,720	51.0
25-JUN-13	4,580	33.0
Average:	4,645	
Sum:	18,580	

Gerald Shreckengost, Operations Support Superintendent
Certification no. V-5931
I have reviewed the above data for accuracy as it relates to operational performance.

City of San Diego

BIOSOLIDS DISPOSAL/BENEFICIAL USE MONTHLY REPORT

Operations Support Group

San Diego Landfill Systems

Landfill Disposal

Beneficial Use

July-13

Date	Day	Landfilled	Beneficial Use					Daily Totals hauled wet tons	Daily total cake solids %	Daily Totals hauled dry tons
			ADC	Land Application	Land Application	Land Application	Land Application			
		Otay Landfill	Otay Landfill/ADC	Field YM 2-162 / 163	Field YM 2-30	Field YM 2-2002	Field YM			
		San Diego Cnty. California	San Diego Cnty. California	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona			
		Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons			
7/1/2013	Monday	0.00	449.56	50.08	0.00	0.00	0.00	499.64	27.40	136.90
7/2/2013	Tuesday	0.00	422.85	100.26	0.00	0.00	0.00	523.11	25.70	134.44
7/3/2013	Wednesday	0.00	372.17	25.16	0.00	0.00	0.00	397.33	26.20	104.10
7/4/2013	Thursday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.80	0.00
7/5/2013	Friday	0.00	494.86	24.87	0.00	0.00	0.00	519.73	27.40	142.41
7/6/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.40	0.00
7/7/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.70	0.00
7/8/2013	Monday	0.00	372.50	24.52	0.00	0.00	0.00	397.02	27.60	109.58
7/9/2013	Tuesday	0.00	372.84	73.69	0.00	0.00	0.00	446.53	27.10	121.01
7/10/2013	Wednesday	0.00	320.74	25.09	0.00	0.00	0.00	345.83	28.30	97.87
7/11/2013	Thursday	0.00	376.69	25.05	0.00	0.00	0.00	401.74	26.20	105.26
7/12/2013	Friday	0.00	450.02	0.00	0.00	0.00	0.00	450.02	30.30	136.36
7/13/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.90	0.00
7/14/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.90	0.00
7/15/2013	Monday	0.00	572.73	0.00	0.00	0.00	0.00	572.73	26.70	152.92
7/16/2013	Tuesday	0.00	299.55	0.00	48.65	0.00	0.00	348.20	27.10	94.36
7/17/2013	Wednesday	0.00	376.85	0.00	23.79	0.00	0.00	400.64	27.10	108.57
7/18/2013	Thursday	0.00	301.50	0.00	24.37	0.00	0.00	325.87	26.30	85.70
7/19/2013	Friday	0.00	345.34	0.00	24.71	0.00	0.00	370.05	29.20	108.05
7/20/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.30	0.00
7/21/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.70	0.00
7/22/2013	Monday	0.00	500.58	0.00	24.78	0.00	0.00	525.36	25.60	134.49
7/23/2013	Tuesday	0.00	597.15	0.00	0.00	0.00	0.00	597.15	25.30	151.08
7/24/2013	Wednesday	0.00	373.34	0.00	24.77	0.00	0.00	398.11	25.80	102.71
7/25/2013	Thursday	0.00	402.03	0.00	24.78	0.00	0.00	426.81	25.30	107.98
7/26/2013	Friday	0.00	420.60	0.00	49.01	0.00	0.00	469.61	25.60	120.22
7/27/2013	Saturday	0.00	399.63	0.00	0.00	24.28	0.00	423.91	27.70	117.42
7/28/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.40	0.00
7/29/2013	Monday	0.00	491.89	0.00	0.00	49.13	0.00	541.02	25.40	137.42
7/30/2013	Tuesday	0.00	370.79	0.00	0.00	49.27	0.00	420.06	26.10	109.64
7/31/2013	Wednesday	0.00	518.77	0.00	0.00	24.60	0.00	543.37	26.50	143.99
	Totals:	0.00	9,602.98	348.72	244.86	147.28	0.00	10,343.84		2,792.84
						Monthly average % cake solids:			27.00	

Daily average wet tons produced:	333.67
Daily average dry tons produced:	89.11

Total tons, Landfilled:	0.00
Cost per ton:	$37.26
Total cost, Landfilled:	$0.00
Total tons, Beneficial use/ADC:	9,602.98
Cost per ton:	$46.41
Total cost, Beneficial use/ADC:	$445,674.30
Total tons, Beneficial use/Land App.:	740.86
Cost per ton:	$46.41
Total cost, Beneficial use/Land App.:	$34,383.31
Total cost:	$480,057.61

Gerald Schreckengost

G. Schreck

The %TS values listed on days where hauling did not take place are included in the calculation of average monthly %TS.
The average monthly %TS (rounded to nearest 10th) is used to calculate the total monthly dry tons produced.
ADC - Alternative Daily Cover.

POINT LOMA WASTEWATER TREATMENT PLANT
GRIT-SCUM-Screenings Disposal Report

01-JUL-2013 to 31-JUL-2013

GRIT

Disposal Date	Pounds	%Total Solids
01-JUL-13	2,660	56.0
02-JUL-13	3,440	54.0
04-JUL-13	6,860	54.0
05-JUL-13	6,760	53.0
06-JUL-13	8,580	58.0
07-JUL-13	6,840	40.0
08-JUL-13	8,200	54.0
09-JUL-13	7,600	54.0
10-JUL-13	9,640	49.0
11-JUL-13	10,580	56.0
12-JUL-13	11,120	57.0
13-JUL-13	9,000	53.0
14-JUL-13	7,520	48.0
15-JUL-13	8,500	46.0
16-JUL-13	15,720	57.0
17-JUL-13	7,880	52.0
18-JUL-13	9,960	47.0
19-JUL-13	9,120	46.0
20-JUL-13	8,820	43.0
21-JUL-13	8,040	56.0
22-JUL-13	7,360	56.0
23-JUL-13	7,680	58.0
24-JUL-13	8,040	41.0
25-JUL-13	7,840	45.0
26-JUL-13	8,380	46.0
27-JUL-13	9,980	41.0
28-JUL-13	8,080	48.0
29-JUL-13	8,380	57.0
30-JUL-13	7,640	56.0
31-JUL-13	9,180	43.0
Average	8,313	
Sum	249,400	

INFLUENT SCREENINGS

Disposal Date	Pounds	%Total Solids
02-JUL-13	13,160	46.0
05-JUL-13	11,560	37.0
09-JUL-13	15,520	41.0
12-JUL-13	9,700	50.0
16-JUL-13	7,160	49.0
19-JUL-13	12,020	41.0
23-JUL-13	14,820	44.0
26-JUL-13	9,660	52.0
28-JUL-13	11,840	32.0
30-JUL-13	17,340	48.0
Average	12,278	
Sum	122,780	

SCUM

Disposal Date	Pounds
03-JUL-13	13,500
05-JUL-13	10,140
10-JUL-13	13,200
12-JUL-13	15,640
19-JUL-13	14,260
24-JUL-13	13,460
Average	13,367
Sum	80,200

SLUDGE SCREENINGS

Disposal Date	Pounds	%Total Solids
01-JUL-13	26,860	39.0
02-JUL-13	22,820	40.0
03-JUL-13	25,560	39.0
04-JUL-13	27,180	39.0
05-JUL-13	27,660	38.0
06-JUL-13	23,760	36.0
07-JUL-13	27,220	38.0
08-JUL-13	21,460	34.0
09-JUL-13	20,440	35.0
10-JUL-13	23,040	38.0
11-JUL-13	20,620	40.0
12-JUL-13	17,760	36.0
12-JUL-13	13,560	43.0
13-JUL-13	14,820	36.0
14-JUL-13	21,220	26.0
15-JUL-13	22,380	36.0
16-JUL-13	22,760	36.0
17-JUL-13	26,100	36.0
18-JUL-13	23,740	35.0
19-JUL-13	22,380	33.0
20-JUL-13	17,640	29.0
21-JUL-13	22,100	38.0
23-JUL-13	24,220	37.0
24-JUL-13	28,000	36.0
25-JUL-13	24,240	37.0
26-JUL-13	13,620	34.0
26-JUL-13	15,920	40.0
27-JUL-13	24,180	36.0
28-JUL-13	25,020	34.0
29-JUL-13	24,300	35.0
30-JUL-13	20,660	43.0
31-JUL-13	23,880	40.0
Average	22,348	
Sum	715,120	

K.C. Shankles, PLWTP Superintendent
Certification no. V-6975
The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

METRO BIOSOLIDS CENTER
MBC GRIT Disposal Report

01-JUL-2013 to 31-JUL-2013

MBC GRIT

Disposal Date	Pounds	%Total Solids
02-JUL-13	12,700	61.0
avg	12,700	
sum	12,700	

Barry Ayers, MBC Superintendent
Certification no. V-9346
The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

North City Water Reclamation Plant
Grit-Scum-Screenings Disposal Report

01-JUL-2013 to 31-JUL-2013

Disposal Date	NAME	Pounds	%Total Solids
09-JUL-13	NC_GRIT	10,900	59.0
10-JUL-13		11,240	59.0
17-JUL-13		7,940	43.0
25-JUL-13		15,840	86.0
	**********	--------	
	avg	11,480	
	sum	45,920	

Ernesto P. Molas

Ernesto Molas, NCWRP Superintendent
Certification no. V-7227

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

SOUTH BAY WATER RECLAMATION PLANT
SCREENINGS - Disposal Report

01-JUL-2013 to 31-JUL-2013

SCREENINGS

Disposal Date	NAME	Pounds	%Total Solids
31-JUL-13	SCREENINGS	6,980	64.0
	**********	--------	
	avg	6,980	
	sum	6,980	

Ernesto P. Molas

Ernesto Molas, SBWRP Superintendent
Certification no. V-7227

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

POINT LOMA WASTEWATER TREATMENT PLANT
Screenings Disposal Report

01-JUL-2013 to 31-JUL-2013

PUMP 1

Disposal Date	Pounds	%Total Solids
01-JUL-13	18,080	28.0
05-JUL-13	17,680	32.0
08-JUL-13	13,900	41.0
11-JUL-13	13,040	30.0
15-JUL-13	18,120	38.0
18-JUL-13	17,120	24.0
22-JUL-13	17,500	28.0
25-JUL-13	13,580	31.0
29-JUL-13	8,040	30.0
Average	15,229	
Sum	137,060	

PUMP 2

Disposal Date	Pounds	%Total Solids
01-JUL-13	21,260	22.0
05-JUL-13	16,560	26.0
08-JUL-13	17,140	28.0
11-JUL-13	17,320	28.0
15-JUL-13	24,460	22.0
18-JUL-13	14,280	25.0
22-JUL-13	20,720	31.0
25-JUL-13	16,840	28.0
29-JUL-13	25,320	34.0
Average	19,322	
Sum	173,900	

PUMP 64

Disposal Date	Pounds	%Total Solids
10-JUL-13	10,640	34.0
24-JUL-13	12,140	20.0
Average	11,390	
Sum	22,780	

PUMP 77

Disposal Date	Pounds	%Total Solids
03-JUL-13	5,720	30.0
17-JUL-13	5,840	41.0
24-JUL-13	4,980	43.0
Average	5,513	
Sum	16,540	

PUMP PPS

Disposal Date	Pounds	%Total Solids
03-JUL-13	5,180	34.0
10-JUL-13	4,680	36.0
17-JUL-13	3,260	62.0
Average	4,373	
Sum	13,120	

Gerald Shreckengost, Operations Support Superintendent
Certification no. V-5931
I have reviewed the above data for accuracy as it relates to operational performance.

City of San Diego

BIOSOLIDS DISPOSAL/BENEFICIAL USE MONTHLY REPORT

Operations Support Group

San Diego Landfill Systems
Landfill Disposal
Beneficial Use
August-13

Date	Day	Landfilled	Beneficial Use							Daily Totals hauled wet tons	Daily total cake solids %	Daily Totals hauled dry tons
			ADC	Land Application	Land Application	Land Application	Land Application	Land Application	Land Application			
		Otay Landfill	Otay Landfill/ADC	Field YM 2-2002	Field YM 2-111	Field YM	Field YM	Field YM	Field YM			
		San Diego Cnty. California	San Diego Cnty. California	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona			
		Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons			
8/1/2013	Thursday	0.00	497.57	24.70	0.00	0.00	0.00	0.00	0.00	522.27	25.30	132.13
8/2/2013	Friday	0.00	594.29	48.42	0.00	0.00	0.00	0.00	0.00	642.71	26.30	169.03
8/3/2013	Saturday	0.00	398.39	24.72	0.00	0.00	0.00	0.00	0.00	423.11	26.30	111.28
8/4/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.70	0.00
8/5/2013	Monday	0.00	541.60	48.90	0.00	0.00	0.00	0.00	0.00	590.50	26.80	158.25
8/6/2013	Tuesday	0.00	474.09	25.07	0.00	0.00	0.00	0.00	0.00	499.16	27.50	137.27
8/7/2013	Wednesday	0.00	393.18	24.57	0.00	0.00	0.00	0.00	0.00	417.75	27.40	114.46
8/8/2013	Thursday	0.00	270.79	49.34	0.00	0.00	0.00	0.00	0.00	320.13	26.60	85.15
8/9/2013	Friday	0.00	321.75	49.77	0.00	0.00	0.00	0.00	0.00	371.52	26.30	97.71
8/10/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.90	0.00
8/11/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.90	0.00
8/12/2013	Monday	0.00	391.93	25.09	0.00	0.00	0.00	0.00	0.00	417.02	26.80	111.76
8/13/2013	Tuesday	0.00	518.64	47.91	0.00	0.00	0.00	0.00	0.00	566.55	27.40	155.23
8/14/2013	Wednesday	0.00	593.25	23.52	0.00	0.00	0.00	0.00	0.00	616.77	27.00	166.53
8/15/2013	Thursday	0.00	587.63	72.57	0.00	0.00	0.00	0.00	0.00	660.20	26.20	172.97
8/16/2013	Friday	0.00	564.00	70.88	0.00	0.00	0.00	0.00	0.00	634.88	26.20	166.34
8/17/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.10	0.00
8/18/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.90	0.00
8/19/2013	Monday	0.00	619.52	48.64	0.00	0.00	0.00	0.00	0.00	668.16	26.40	176.39
8/20/2013	Tuesday	0.00	542.49	48.67	0.00	0.00	0.00	0.00	0.00	591.16	27.00	159.61
8/21/2013	Wednesday	0.00	371.05	73.13	0.00	0.00	0.00	0.00	0.00	444.18	27.20	120.82
8/22/2013	Thursday	0.00	298.00	47.90	0.00	0.00	0.00	0.00	0.00	345.90	27.20	94.08
8/23/2013	Friday	0.00	370.48	72.48	0.00	0.00	0.00	0.00	0.00	442.96	28.70	127.13
8/24/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.80	0.00
8/25/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.20	0.00
8/26/2013	Monday	0.00	521.80	48.41	0.00	0.00	0.00	0.00	0.00	570.21	26.80	152.82
8/27/2013	Tuesday	0.00	396.47	72.19	0.00	0.00	0.00	0.00	0.00	468.66	28.50	133.57
8/28/2013	Wednesday	0.00	422.60	0.00	72.16	0.00	0.00	0.00	0.00	494.76	28.70	142.00
8/29/2013	Thursday	0.00	369.35	0.00	71.77	0.00	0.00	0.00	0.00	441.12	26.80	118.22
8/30/2013	Friday	0.00	346.18	0.00	72.57	0.00	0.00	0.00	0.00	418.75	28.40	118.93
8/31/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.00	0.00
	Totals:	0.00	10,405.05	946.88	216.50	0.00	0.00	0.00	0.00	11,568.43		3,146.61
						Monthly average % cake solids:					27.20	

Daily average wet tons produced:	373.18
Daily average dry tons produced:	100.70

Total tons, Landfilled:	0.00
Cost per ton:	$37.26
Total cost, Landfilled:	$0.00
Total tons, Beneficial use/ADC:	10,405.05
Cost per ton:	$46.41
Total cost, Beneficial use/ADC:	$482,898.37
Total tons, Beneficial use/Land App.:	1,163.38
Cost per ton:	$46.41
Total cost, Beneficial use/Land App.:	$53,992.47
Total cost:	$536,890.84

Elisabeth Pinto
(OCA FOR GERALD SCHRECK)

Gerald Schreckengost

The %TS values listed on days where hauling did not take place are included in the calculation of average monthly %TS.
The average monthly %TS (rounded to nearest 10th) is used to calculate the total monthly dry tons produced.
ADC - Alternative Daily Cover.

POINT LOMA WASTEWATER TREATMENT PLANT
GRIT-SCUM-Screenings Disposal Report

01-AUG-2013 to 31-AUG-2013

GRIT

Disposal Date	Pounds	%Total Solids
01-AUG-13	9,200	54.0
02-AUG-13	8,800	52.0
03-AUG-13	7,640	57.0
04-AUG-13	8,380	60.0
05-AUG-13	7,520	50.0
06-AUG-13	10,300	53.0
07-AUG-13	9,800	58.0
08-AUG-13	9,980	58.0
09-AUG-13	9,300	50.0
10-AUG-13	8,820	61.0
11-AUG-13	8,400	56.0
13-AUG-13	8,780	55.0
14-AUG-13	10,600	50.0
14-AUG-13	9,240	47.0
15-AUG-13	10,660	44.0
16-AUG-13	10,780	58.0
17-AUG-13	11,480	40.0
18-AUG-13	27,460	58.0
19-AUG-13	9,460	45.0
20-AUG-13	9,140	46.0
21-AUG-13	8,780	46.0
22-AUG-13	8,020	47.0
23-AUG-13	8,300	52.0
24-AUG-13	9,460	44.0
25-AUG-13	8,120	58.0
26-AUG-13	7,500	64.0
27-AUG-13	9,580	52.0
28-AUG-13	8,520	55.0
29-AUG-13	10,760	56.0
30-AUG-13	12,440	59.0
31-AUG-13	12,080	51.0
Average	9,977	
Sum	309,300	

INFLUENT SCREENINGS

Disposal Date	Pounds	%Total Solids
02-AUG-13	12,080	37.0
06-AUG-13	21,000	45.0
09-AUG-13	13,220	48.0
13-AUG-13	13,800	49.0
16-AUG-13	9,820	46.0
20-AUG-13	14,420	52.0
23-AUG-13	13,400	53.0
27-AUG-13	16,520	41.0
30-AUG-13	10,000	42.0
Average	13,807	
Sum	124,260	

SCUM

Disposal Date	Pounds
01-AUG-13	13,940
12-AUG-13	17,080
27-AUG-13	13,640
Average	14,887
Sum	44,660

SLUDGE SCREENINGS

Disposal Date	Pounds	%Total Solids
01-AUG-13	17,760	31.0
01-AUG-13	16,180	36.0
02-AUG-13	21,800	40.0
03-AUG-13	22,960	39.0
04-AUG-13	23,320	36.0
05-AUG-13	24,460	36.0
06-AUG-13	23,140	38.0
07-AUG-13	19,340	39.0
07-AUG-13	17,540	38.0
08-AUG-13	20,920	40.0
09-AUG-13	22,900	37.0
10-AUG-13	16,840	40.0
10-AUG-13	20,680	38.0
11-AUG-13	22,280	39.0
12-AUG-13	17,320	37.0
12-AUG-13	18,660	40.0
13-AUG-13	20,860	35.0
14-AUG-13	25,960	35.0
15-AUG-13	19,920	35.0
15-AUG-13	22,620	36.0
16-AUG-13	23,920	36.0
17-AUG-13	26,940	36.0
18-AUG-13	11,140	37.0
19-AUG-13	25,180	37.0
20-AUG-13	25,020	34.0
20-AUG-13	17,820	34.0
21-AUG-13	25,600	35.0
22-AUG-13	23,560	33.0
23-AUG-13	23,620	34.0
23-AUG-13	15,280	34.0
24-AUG-13	27,720	34.0
25-AUG-13	24,480	34.0
26-AUG-13	27,360	42.0
26-AUG-13	15,100	35.0
27-AUG-13	24,200	38.0
28-AUG-13	24,520	33.0
29-AUG-13	17,360	34.0
29-AUG-13	25,500	37.0
30-AUG-13	23,560	37.0
31-AUG-13	17,720	36.0
31-AUG-13	22,200	38.0
Average	21,543	
Sum	883,260	

KCShankles

K.C. Shankles, PLWTP Superintendent
Certification no. V-6975
The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

METRO BIOSOLIDS CENTER
Disposal Report

01-AUG-2013 to 31-AUG-2013

No data to report for the month of August 2013.

Barry Ayers, MBC Superintendent
Certification no. V-9346
The WWTP was operated under my supervision and I have reviewed
the above data for accuracy as it relates to plant performance.

North City Water Reclamation Plant
Grit-Scum-Screenings Disposal Report

01-AUG-2013 to 31-AUG-2013

Disposal Date	NAME	Pounds	%Total Solids
05-AUG-13	NC_GRIT	10,160	93.0
13-AUG-13		11,060	54.0
17-AUG-13		14,480	69.0
27-AUG-13		12,940	48.0
	**********	--------	
	avg	12,160	
	sum	48,640	

Ernesto Molas, NCWRP Superintendent
Certification no. V-7227

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

SOUTH BAY WATER RECLAMATION PLANT
SCREENINGS - Disposal Report

01-AUG-2013 to 31-AUG-2013

No data to report for the month of August 2013.

Ernesto P. Molas

Ernesto Molas, SBWRP Superintendent
Certification no. V-7227

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

POINT LOMA WASTEWATER TREATMENT PLANT
Screenings Disposal Report

01-AUG-2013 to 31-AUG-2013

PUMP 1

Disposal Date	Pounds	%Total Solids
01-AUG-13	12,160	31.0
08-AUG-13	7,960	45.0
12-AUG-13	16,700	36.0
15-AUG-13	12,840	38.0
19-AUG-13	18,060	38.0
22-AUG-13	10,500	38.0
26-AUG-13	12,700	31.0
29-AUG-13	11,200	36.0
Average	12,765	
Sum	102,120	

PUMP 2

Disposal Date	Pounds	%Total Solids
01-AUG-13	21,540	38.0
05-AUG-13	25,380	39.0
08-AUG-13	24,580	34.0
12-AUG-13	20,620	40.0
15-AUG-13	18,640	31.0
19-AUG-13	19,900	31.0
22-AUG-13	17,280	29.0
26-AUG-13	20,120	40.0
29-AUG-13	8,160	34.0
Average	19,580	
Sum	176,220	

PUMP 64

Disposal Date	Pounds	%Total Solids
07-AUG-13	11,720	20.0
21-AUG-13	12,840	26.0
Average	12,280	
Sum	24,560	

PUMP 77

Disposal Date	Pounds	%Total Solids
14-AUG-13	10,200	23.0
28-AUG-13	5,000	32.0
Average	7,600	
Sum	15,200	

PUMP PPS

Disposal Date	Pounds	%Total Solids
01-AUG-13	5,700	67.0
06-AUG-13	4,160	50.0
14-AUG-13	5,220	46.0
21-AUG-13	5,100	44.0
28-AUG-13	5,060	46.0
Average	5,048	
Sum	25,240	

Elisabeth Pinto (OCA for Gerald Schenk)

Gerald Shreckengost, Operations Support Superintendent
Certification no. V-5931
I have reviewed the above data for accuracy as it relates to operational performance.

City of San Diego

BIOSOLIDS DISPOSAL/BENEFICIAL USE MONTHLY REPORT

Operations Support Group

San Diego Landfill Systems

Landfill Disposal

Beneficial Use

September-13

Date	Day	Landfilled	Beneficial Use					Daily Totals hauled wet tons	Daily total cake solids %	Daily Totals hauled dry tons
			ADC	Land Application	Land Application	Land Application	Land Application			
		Otay Landfill	Otay Landfill/ADC	Field YM 2-111	Field YM 2-30	Field YM	Field YM			
		San Diego Cnty. California	San Diego Cnty. California	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona			
		Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons			
9/1/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.20	0.00
9/2/2013	Monday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.30	0.00
9/3/2013	Tuesday	0.00	497.08	24.89	0.00	0.00	0.00	521.97	26.40	137.80
9/4/2013	Wednesday	0.00	496.41	73.90	0.00	0.00	0.00	570.31	28.30	161.40
9/5/2013	Thursday	0.00	420.81	49.10	0.00	0.00	0.00	469.91	27.00	126.88
9/6/2013	Friday	0.00	371.46	49.86	0.00	0.00	0.00	421.32	27.70	116.71
9/7/2013	Saturday	0.00	369.42	49.19	0.00	0.00	0.00	418.61	27.60	115.54
9/8/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.20	0.00
9/9/2013	Monday	0.00	417.29	49.77	0.00	0.00	0.00	467.06	26.90	125.64
9/10/2013	Tuesday	0.00	348.05	0.00	73.37	0.00	0.00	421.42	27.80	117.15
9/11/2013	Wednesday	0.00	370.91	0.00	24.42	0.00	0.00	395.33	26.30	103.97
9/12/2013	Thursday	0.00	448.55	0.00	48.82	0.00	0.00	497.37	27.20	135.28
9/13/2013	Friday	0.00	370.99	0.00	49.66	0.00	0.00	420.65	27.80	116.94
9/14/2013	Saturday	0.00	393.54	0.00	24.88	0.00	0.00	418.42	27.80	116.32
9/15/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.50	0.00
9/16/2013	Monday	0.00	497.41	0.00	49.22	0.00	0.00	546.63	28.40	155.24
9/17/2013	Tuesday	0.00	468.05	0.00	73.76	0.00	0.00	541.81	27.20	147.37
9/18/2013	Wednesday	0.00	571.06	0.00	73.45	0.00	0.00	644.51	27.70	178.53
9/19/2013	Thursday	0.00	591.34	0.00	49.02	0.00	0.00	640.36	26.10	167.13
9/20/2013	Friday	0.00	295.23	0.00	73.69	0.00	0.00	368.92	26.90	99.24
9/21/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.30	0.00
9/22/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.20	0.00
9/23/2013	Monday	0.00	597.93	0.00	74.14	0.00	0.00	672.07	27.30	183.48
9/24/2013	Tuesday	0.00	497.38	0.00	73.77	0.00	0.00	571.15	27.10	154.78
9/25/2013	Wednesday	0.00	546.04	0.00	74.17	0.00	0.00	620.21	27.30	169.32
9/26/2013	Thursday	0.00	197.72	0.00	96.50	0.00	0.00	294.22	27.20	80.03
9/27/2013	Friday	0.00	322.07	0.00	49.11	0.00	0.00	371.18	28.00	103.93
9/28/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.00	0.00
9/29/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.30	0.00
9/30/2013	Monday	0.00	371.36	0.00	73.71	0.00	0.00	445.07	26.70	118.83
	Totals:	0.00	9,460.10	296.71	981.69	0.00	0.00	10,738.50		2,942.35
						Monthly average % cake solids:			27.40	

Daily average wet tons produced:	357.95
Daily average dry tons produced:	97.72

Total tons, Landfilled:	0.00
Cost per ton:	$37.26
Total cost, Landfilled:	$0.00
Total tons, Beneficial use/ADC:	9,460.10
Cost per ton:	$46.41
Total cost, Beneficial use/ADC:	$439,043.24
Total tons, Beneficial use/Land App.:	1,278.40
Cost per ton:	$46.41
Total cost, Beneficial use/Land App.:	$59,330.54
Total cost:	$498,373.79

The %TS values listed on days where hauling did not take place are included in the calculation of average monthly %TS.
The average monthly %TS (rounded to nearest 10th) is used to calculate the total monthly dry tons produced.
ADC - Alternative Daily Cover.

Gerald Schreckengost

G Schreck

POINT LOMA WASTEWATER TREATMENT PLANT
GRIT-SCUM-Screenings Disposal Report

01-SEP-2013 to 30-SEP-2013

GRIT

Disposal Date	Pounds	%Total Solids
01-SEP-13	12,540	58.0
02-SEP-13	8,340	68.0
03-SEP-13	9,800	46.0
04-SEP-13	11,240	44.0
05-SEP-13	8,460	44.0
06-SEP-13	10,740	48.0
07-SEP-13	10,120	44.0
08-SEP-13	10,020	58.0
09-SEP-13	7,980	51.0
10-SEP-13	8,260	50.0
11-SEP-13	12,420	44.0
12-SEP-13	11,420	46.0
13-SEP-13	12,220	48.0
14-SEP-13	9,760	54.0
15-SEP-13	10,160	56.0
16-SEP-13	7,880	57.0
17-SEP-13	24,960	52.0
18-SEP-13	8,860	50.0
19-SEP-13	9,240	41.0
20-SEP-13	8,200	56.0
21-SEP-13	10,020	47.0
22-SEP-13	9,040	51.0
23-SEP-13	9,640	53.0
24-SEP-13	8,340	56.0
25-SEP-13	9,960	50.0
26-SEP-13	9,140	46.0
27-SEP-13	10,200	44.0
28-SEP-13	10,320	45.0
29-SEP-13	9,060	42.0
30-SEP-13	9,560	46.0
Average	10,263	
Sum	307,900	

INFLUENT SCREENINGS

Disposal Date	Pounds	%Total Solids
03-SEP-13	6,720	52.0
09-SEP-13	7,560	44.0
10-SEP-13	10,000	57.0
13-SEP-13	9,300	42.0
17-SEP-13	12,600	35.0
20-SEP-13	8,440	40.0
24-SEP-13	6,920	50.0
27-SEP-13	5,940	35.0
Average	8,435	
Sum	67,480	

SCUM

Disposal Date	Pounds
09-SEP-13	23,560
23-SEP-13	13,980
27-SEP-13	16,720
Average	18,087
Sum	54,260

SLUDGE SCREENINGS

Disposal Date	Pounds	%Total Solids
01-SEP-13	20,840	39.0
02-SEP-13	25,300	38.0
03-SEP-13	22,660	35.0
04-SEP-13	23,020	40.0
04-SEP-13	17,580	37.0
05-SEP-13	25,200	35.0
06-SEP-13	28,120	40.0
07-SEP-13	27,180	34.0
08-SEP-13	17,020	39.0
08-SEP-13	21,060	36.0
09-SEP-13	24,360	35.0
10-SEP-13	22,920	35.0
11-SEP-13	26,980	41.0
12-SEP-13	14,260	38.0
13-SEP-13	23,900	36.0
13-SEP-13	24,860	42.0
14-SEP-13	23,160	36.0
15-SEP-13	24,300	36.0
16-SEP-13	24,360	35.0
17-SEP-13	9,320	37.0
18-SEP-13	15,400	42.0
18-SEP-13	20,780	37.0
19-SEP-13	21,100	36.0
20-SEP-13	24,980	35.0
21-SEP-13	15,280	37.0
22-SEP-13	24,060	38.0
22-SEP-13	22,340	39.0
23-SEP-13	23,200	38.0
24-SEP-13	13,380	32.0
24-SEP-13	23,520	34.0
25-SEP-13	26,120	32.0
26-SEP-13	20,920	35.0
27-SEP-13	22,500	33.0
28-SEP-13	27,740	38.0
29-SEP-13	27,380	38.0
30-SEP-13	24,800	39.0
Average	22,219	
Sum	799,900	

K.C. Shankles, PLWTP Superintendent
Certification no. V-6975
The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

METRO BIOSOLIDS CENTER
MBC GRIT Disposal Report

01-SEP-2013 to 30-SEP-2013

MBC GRIT

Disposal Date	Pounds	%Total Solids
26-SEP-13	17,100	55.0
avg	17,100	
sum	17,100	

Barry Ayers, MBC Superintendent
Certification no. V-9346
The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

North City Water Reclamation Plant
Grit-Scum-Screenings Disposal Report

01-SEP-2013 to 30-SEP-2013

Disposal Date	NAME	Pounds	%Total Solids
11-SEP-13	NC_GRIT	9,960	49.0
25-SEP-13		9,640	60.0
	**********	--------	
	avg	9,800	
	sum	19,600	

Disposal Date	NAME	Pounds	%Total Solids
12-SEP-13	NC_INFLUENT_SCREENINGS	13,900	91.0
	**********	--------	
	avg	13,900	
	sum	13,900	

Ernesto P. Molas

Ernesto Molas, NCWRP Superintendent
Certification no. V-7227

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

SOUTH BAY WATER RECLAMATION PLANT
SBWRP GRIT - Disposal Report

01-SEP-2013 to 30-SEP-2013

SBWRP GRIT

Disposal Date	NAME	Pounds	%Total Solids
23-SEP-13	SBWRP GRIT	17,900	89.0
	**********	--------	
	avg	17,900	
	sum	17,900	

SCREENINGS

Disposal Date	NAME	Pounds	%Total Solids
06-SEP-13	SCREENINGS	4,780	66.0
	**********	--------	
	avg	4,780	
	sum	4,780	

Ernesto P. Molas

Ernesto Molas, SBWRP Superintendent
Certification no. V-7227

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

POINT LOMA WASTEWATER TREATMENT PLANT
Screenings Disposal Report

01-SEP-2013 to 30-SEP-2013

PUMP 1

Disposal Date	Pounds	%Total Solids
02-SEP-13	16,000	36.0
05-SEP-13	17,320	28.0
09-SEP-13	13,200	28.0
12-SEP-13	11,600	29.0
16-SEP-13	16,860	27.0
19-SEP-13	12,740	26.0
23-SEP-13	17,360	25.0
26-SEP-13	12,000	31.0
30-SEP-13	18,980	28.0
Average	15,118	
Sum	136,060	

PUMP 2

Disposal Date	Pounds	%Total Solids
02-SEP-13	10,400	35.0
05-SEP-13	7,860	26.0
09-SEP-13	10,160	26.0
12-SEP-13	7,040	29.0
16-SEP-13	11,400	29.0
19-SEP-13	8,020	20.0
23-SEP-13	18,700	30.0
26-SEP-13	18,820	26.0
30-SEP-13	23,400	32.0
Average	12,867	
Sum	115,800	

PUMP 64

Disposal Date	Pounds	%Total Solids
04-SEP-13	13,000	24.0
18-SEP-13	13,060	32.0
Average	13,030	
Sum	26,060	

PUMP 77

Disposal Date	Pounds	%Total Solids
11-SEP-13	4,460	40.0
25-SEP-13	4,380	46.0
Average	4,420	
Sum	8,840	

PUMP PPS

Disposal Date	Pounds	%Total Solids
04-SEP-13	4,640	68.0
11-SEP-13	4,760	33.0
18-SEP-13	5,140	39.0
25-SEP-13	5,320	57.0
Average	4,965	
Sum	19,860	

G. Schreck

Gerald Shreckengost, Operations Support Superintendent
Certification no. V-5931
I have reviewed the above data for accuracy as it relates to operational performance.

City of San Diego
PUBLIC UTILITIES DEPARTMENT
WASTEWATER TREATMENT & DISPOSAL DIVISION
Receiving Tank Cleanings
September-13

Metro Biosolids Center					
Biosolids - Alternative Daily Cover					
Date	Day	# of Truck Loads	Delivered, wet tons	% Total Solids	Production Dry Tons
September 4, 2013	Wednesday	1.00	24.08	18.40	4.43
September 6, 2013	Friday	1.00	23.47	26.20	6.15
September 10, 2013	Tuesday	2.00	44.91	35.35	15.88
September 11, 2013	Wednesday	4.00	83.16	44.71	37.18
September 12, 2013	Thursday	1.00	18.64	29.88	5.57
September 13, 2013	Friday	1.00	15.00	29.88	4.48
	Totals:	10.00	209.26	NA	73.69

Gerald Schreckengost

City of San Diego

BIOSOLIDS DISPOSAL/BENEFICIAL USE MONTHLY REPORT

Operations Support Group

San Diego Landfill Systems
Landfill Disposal
Beneficial Use
October-13

Date	Day	Landfilled	Beneficial Use					Daily Totals hauled wet tons	Daily total cake solids %	Daily Totals hauled dry tons
			ADC	Land Application	Land Application	Land Application	Land Application			
		Otay Landfill	Otay Landfill/ADC	Field YM 2-30	Field YM	Field YM	Field YM			
		San Diego Cnty. California	San Diego Cnty. California	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona			
		Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons			
10/1/2013	Tuesday	0.00	466.90	97.60	0.00	0.00	0.00	564.50	27.50	155.24
10/2/2013	Wednesday	0.00	492.39	49.22	0.00	0.00	0.00	541.61	27.60	149.48
10/3/2013	Thursday	0.00	369.34	73.01	0.00	0.00	0.00	442.35	25.50	112.80
10/4/2013	Friday	0.00	345.37	74.05	0.00	0.00	0.00	419.42	26.90	112.82
10/5/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.30	0.00
10/6/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.70	0.00
10/7/2013	Monday	0.00	371.78	73.91	0.00	0.00	0.00	445.69	26.80	119.44
10/8/2013	Tuesday	0.00	519.96	48.67	0.00	0.00	0.00	568.63	26.60	151.26
10/9/2013	Wednesday	0.00	464.72	73.21	0.00	0.00	0.00	537.93	26.20	140.94
10/10/2013	Thursday	0.00	390.39	97.63	0.00	0.00	0.00	488.02	26.50	129.33
10/11/2013	Friday	0.00	221.05	98.07	0.00	0.00	0.00	319.12	26.60	84.89
10/12/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.50	0.00
10/13/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.20	0.00
10/14/2013	Monday	0.00	441.94	72.95	0.00	0.00	0.00	514.89	26.40	135.93
10/15/2013	Tuesday	0.00	467.90	49.01	0.00	0.00	0.00	516.91	26.40	136.46
10/16/2013	Wednesday	0.00	416.04	73.27	0.00	0.00	0.00	489.31	26.50	129.67
10/17/2013	Thursday	0.00	369.01	73.98	0.00	0.00	0.00	442.99	26.30	116.51
10/18/2013	Friday	0.00	370.08	48.70	0.00	0.00	0.00	418.78	27.00	113.07
10/19/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.30	0.00
10/20/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.60	0.00
10/21/2013	Monday	0.00	617.45	97.69	0.00	0.00	0.00	715.14	27.60	197.38
10/22/2013	Tuesday	0.00	417.85	48.88	0.00	0.00	0.00	466.73	27.80	129.75
10/23/2013	Wednesday	0.00	445.02	98.05	0.00	0.00	0.00	543.07	27.00	146.63
10/24/2013	Thursday	0.00	440.04	74.43	0.00	0.00	0.00	514.47	27.70	142.51
10/25/2013	Friday	0.00	340.39	74.04	0.00	0.00	0.00	414.43	28.30	117.28
10/26/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.70	0.00
10/27/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.60	0.00
10/28/2013	Monday	0.00	467.15	0.00	0.00	0.00	0.00	467.15	27.50	128.47
10/29/2013	Tuesday	0.00	296.97	48.99	0.00	0.00	0.00	345.96	26.70	92.37
10/30/2013	Wednesday	0.00	464.85	73.35	0.00	0.00	0.00	538.20	26.60	143.16
10/31/2013	Thursday	0.00	439.46	49.87	0.00	0.00	0.00	489.33	27.20	133.10
	Totals:	0.00	9,636.05	1,568.58	0.00	0.00	0.00	11,204.63		3,025.25
						Monthly average % cake solids:			27.00	

Daily average wet tons produced:	361.44
Daily average dry tons produced:	97.37

Total tons, Landfilled:	0.00
Cost per ton:	$37.26
Total cost, Landfilled:	$0.00
Total tons, Beneficial use/ADC:	9,636.05
Cost per ton:	$46.41
Total cost, Beneficial use/ADC:	$447,209.08
Total tons, Beneficial use/Land App.:	1,568.58
Cost per ton:	$46.41
Total cost, Beneficial use/Land App.:	$72,797.80
Total cost:	$520,006.88

The %TS values listed on days where hauling did not take place are included in the calculation of average monthly %TS.
The average monthly %TS (rounded to nearest 10th) is used to calculate the total monthly dry tons produced.
ADC - Alternative Daily Cover.

Gerald Schreckengost

G Schreck

POINT LOMA WASTEWATER TREATMENT PLANT
GRIT-SCUM-Screenings Disposal Report

01-OCT-2013 to 31-OCT-2013

GRIT

Disposal Date	Pounds	%Total Solids
01-OCT-13	9,920	44.0
02-OCT-13	8,700	44.0
03-OCT-13	9,440	48.0
04-OCT-13	8,240	48.0
05-OCT-13	8,780	46.0
06-OCT-13	10,140	48.0
07-OCT-13	8,500	46.0
08-OCT-13	9,420	52.0
09-OCT-13	9,680	45.0
10-OCT-13	8,320	47.0
11-OCT-13	9,400	50.0
12-OCT-13	8,960	47.0
13-OCT-13	11,620	48.0
14-OCT-13	10,200	43.0
15-OCT-13	9,900	49.0
16-OCT-13	8,140	54.0
17-OCT-13	10,980	46.0
18-OCT-13	10,640	49.0
19-OCT-13	6,420	51.0
20-OCT-13	8,440	51.0
21-OCT-13	6,760	50.0
22-OCT-13	9,100	56.0
23-OCT-13	5,800	54.0
24-OCT-13	3,360	52.0
25-OCT-13	3,320	45.0
26-OCT-13	4,300	56.0
27-OCT-13	3,760	51.0
28-OCT-13	6,040	45.0
29-OCT-13	6,800	45.0
30-OCT-13	4,340	50.0
31-OCT-13	4,300	50.0
Average	7,862	
Sum	243,720	

INFLUENT SCREENINGS

Disposal Date	Pounds	%Total Solids
01-OCT-13	13,300	38.0
04-OCT-13	11,540	51.0
08-OCT-13	14,000	44.0
11-OCT-13	12,240	38.0
15-OCT-13	15,000	42.0
18-OCT-13	10,840	45.0
22-OCT-13	15,560	38.0
25-OCT-13	9,440	39.0
29-OCT-13	15,580	46.0
Average	13,056	
Sum	117,500	

SCUM

Disposal Date	Pounds
22-OCT-13	10,420
Average	10,420
Sum	10,420

SLUDGE SCREENINGS

Disposal Date	Pounds	%Total Solids
01-OCT-13	25,880	33.0
02-OCT-13	26,060	37.0
03-OCT-13	17,600	41.0
04-OCT-13	27,900	37.0
05-OCT-13	22,780	37.0
06-OCT-13	24,500	40.0
07-OCT-13	23,100	38.0
08-OCT-13	20,140	34.0
09-OCT-13	19,040	38.0
10-OCT-13	22,200	35.0
11-OCT-13	26,280	39.0
12-OCT-13	27,280	40.0
13-OCT-13	24,200	42.0
14-OCT-13	23,900	41.0
15-OCT-13	23,080	36.0
16-OCT-13	27,380	38.0
17-OCT-13	23,940	41.0
18-OCT-13	21,000	43.0
19-OCT-13	28,540	35.0
20-OCT-13	22,600	35.0
21-OCT-13	24,080	38.0
22-OCT-13	26,300	40.0
23-OCT-13	23,300	35.0
24-OCT-13	22,620	40.0
25-OCT-13	21,600	42.0
26-OCT-13	20,000	39.0
27-OCT-13	23,880	42.0
28-OCT-13	21,220	42.0
29-OCT-13	23,160	39.0
30-OCT-13	23,700	42.0
31-OCT-13	21,560	42.0
Average	23,510	
Sum	728,820	

K.C. Shankles, PLWTP Superintendent
Certification no. V-6975
The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

METRO BIOSOLIDS CENTER
Disposal Report

01-OCT-2013 to 31-OCT-2013

No data to report for the month of October 2013.

Barry Ayers, MBC Superintendent
Certification no. V-9346
The WWTP was operated under my supervision and I have reviewed
the above data for accuracy as it relates to plant performance.

North City Water Reclamation Plant
Grit-Scum-Screenings Disposal Report

01-OCT-2013 to 31-OCT-2013

Disposal Date	NAME	Pounds	%Total Solids
08-OCT-13	NC_GRIT	5,580	59.0
23-OCT-13		4,340	47.0
	**********	--------	
	avg	4,960	
	sum	9,920	

Disposal Date	NAME	Pounds	%Total Solids
30-OCT-13	NC_INFLUENT_SCREENINGS	12,820	90.0
	**********	--------	
	avg	12,820	
	sum	12,820	

Disposal Date	NAME	Pounds
15-OCT-13	NC_SCUM	12,520
	**********	--------
	avg	12,520
	sum	12,520

Ernesto P. Molas

Ernesto Molas, NCWRP Superintendent
Certification no. V-7227

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

SOUTH BAY WATER RECLAMATION PLANT
SCREENINGS - Disposal Report

01-OCT-2013 to 31-OCT-2013

SCREENINGS

Disposal Date	NAME	Pounds	%Total Solids
17-OCT-13	SCREENINGS	5,420	85.0
	**********	---	
	avg	5,420	
	sum	5,420	

Ernesto R. Molas

Ernesto Molas, SBWRP Superintendent
Certification no. V-7227

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

POINT LOMA WASTEWATER TREATMENT PLANT
Screenings Disposal Report

01-OCT-2013 to 31-OCT-2013

PUMP 1

Disposal Date	Pounds	%Total Solids
03-OCT-13	13,540	36.0
07-OCT-13	16,520	38.0
10-OCT-13	14,000	31.0
14-OCT-13	18,260	36.0
17-OCT-13	12,340	24.0
21-OCT-13	18,340	22.0
24-OCT-13	14,220	21.0
28-OCT-13	7,000	34.0
Average	14,278	
Sum	114,220	

PUMP 2

Disposal Date	Pounds	%Total Solids
03-OCT-13	17,660	29.0
07-OCT-13	20,320	24.0
10-OCT-13	18,720	33.0
14-OCT-13	17,180	33.0
17-OCT-13	14,640	24.0
21-OCT-13	12,620	52.0
24-OCT-13	6,700	21.0
28-OCT-13	12,600	41.0
31-OCT-13	9,780	39.0
Average	14,469	
Sum	130,220	

PUMP 64

Disposal Date	Pounds	%Total Solids
02-OCT-13	13,160	25.0
16-OCT-13	13,320	30.0
30-OCT-13	12,840	36.0
Average	13,107	
Sum	39,320	

PUMP 77

Disposal Date	Pounds	%Total Solids
23-OCT-13	2,060	33.0
Average	2,060	
Sum	2,060	

PUMP PPS

Disposal Date	Pounds	%Total Solids
02-OCT-13	5,080	42.0
09-OCT-13	5,240	46.0
15-OCT-13	5,060	28.0
25-OCT-13	7,820	34.0
30-OCT-13	3,900	40.0
Average	5,420	
Sum	27,100	

Gerald Shreckengost, Operations Support Superintendent
Certification no. V-5931
I have reviewed the above data for accuracy as it relates to operational performance.

City of San Diego
PUBLIC UTILITIES DEPARTMENT
WASTEWATER TREATMENT & DISPOSAL DIVISION
DIGESTER CLEANINGS
October-13

Point Loma Treatment Plant					
Biosolids - Alternative Daily Cover					
Date	Day	# of Truck Loads	Delivered, wet tons	% Total Solids	Production Dry Tons
October 23, 2013	**Wednesday**	**5.00**	**125.56**	**34.67**	**43.53**
October 26, 2013	**Saturday**	**5.00**	**143.84**	**32.24**	**46.37**
October 28, 2013	**Monday**	**2.00**	**51.44**	**30.03**	**15.45**
October 29, 2013	**Tuesday**	**3.00**	**60.65**	**32.22**	**19.54**
October 30, 2013	**Wednesday**	**4.00**	**88.13**	**32.69**	**28.81**
	Totals:	**19.00**	**469.62**	**NA**	**153.70**

Gerald Schreckengost

City of San Diego

BIOSOLIDS DISPOSAL/BENEFICIAL USE MONTHLY REPORT

Operations Support Group

San Diego Landfill Systems

Landfill Disposal

Beneficial Use

November-13

Date	Day	Landfilled	Beneficial Use					Daily Totals hauled wet tons	Daily total cake solids %	Daily Totals hauled dry tons
			ADC	Land Application	Land Application	Land Application	Land Application			
		Otay Landfill	Otay Landfill/ADC	Field YM 2-30	Field YM 2-283	Field YM 2-284	Field YM			
		San Diego Cnty. California	San Diego Cnty. California	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona			
		Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons			
11/1/2013	Friday	0.00	369.69	73.34	0.00	0.00	0.00	443.03	27.30	120.95
11/2/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.00	0.00
11/3/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.20	0.00
11/4/2013	Monday	0.00	423.30	0.00	74.30	0.00	0.00	497.60	27.20	135.35
11/5/2013	Tuesday	0.00	394.98	0.00	98.39	0.00	0.00	493.37	26.60	131.24
11/6/2013	Wednesday	0.00	396.96	0.00	24.76	0.00	0.00	421.72	26.80	113.02
11/7/2013	Thursday	0.00	636.86	0.00	49.80	0.00	0.00	686.66	27.50	188.83
11/8/2013	Friday	0.00	398.32	0.00	74.16	0.00	0.00	472.48	32.50	153.56
11/9/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.70	0.00
11/10/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.40	0.00
11/11/2013	Monday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.80	0.00
11/12/2013	Tuesday	0.00	546.26	0.00	74.04	0.00	0.00	620.30	27.70	171.82
11/13/2013	Wednesday	0.00	472.48	0.00	25.18	0.00	0.00	497.66	26.70	132.88
11/14/2013	Thursday	0.00	521.84	0.00	74.02	0.00	0.00	595.86	27.60	164.46
11/15/2013	Friday	0.00	422.44	0.00	49.22	0.00	0.00	471.66	26.90	126.88
11/16/2013	Saturday	0.00	223.93	0.00	0.00	0.00	0.00	223.93	28.40	63.60
11/17/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.10	0.00
11/18/2013	Monday	0.00	548.02	0.00	49.28	0.00	0.00	597.30	27.40	163.66
11/19/2013	Tuesday	0.00	391.49	0.00	98.16	0.00	0.00	489.65	26.90	131.72
11/20/2013	Wednesday	0.00	563.71	0.00	98.20	0.00	0.00	661.91	26.70	176.73
11/21/2013	Thursday	0.00	345.85	0.00	73.83	0.00	0.00	419.68	26.60	111.63
11/22/2013	Friday	0.00	545.26	0.00	0.00	0.00	0.00	545.26	27.10	147.77
11/23/2013	Saturday	0.00	345.12	0.00	0.00	0.00	0.00	345.12	28.60	98.70
11/24/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.40	0.00
11/25/2013	Monday	0.00	520.97	0.00	24.71	0.00	0.00	545.68	27.40	149.52
11/26/2013	Tuesday	0.00	542.40	0.00	0.00	24.70	0.00	567.10	27.20	154.25
11/27/2013	Wednesday	0.00	542.55	0.00	0.00	24.74	0.00	567.29	26.50	150.33
11/28/2013	Thursday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.10	0.00
11/29/2013	Friday	0.00	513.13	0.00	0.00	24.47	0.00	537.60	27.50	147.84
11/30/2013	Saturday	0.00	315.22	0.00	0.00	24.83	0.00	340.05	28.20	95.89
	Totals:	0.00	9,980.78	73.34	888.05	98.74	0.00	11,040.91		3,058.33
								Monthly average % cake solids:	27.70	

Daily average wet tons produced:	368.03
Daily average dry tons produced:	101.02

Total tons, Landfilled:	0.00
Cost per ton:	$37.26
Total cost, Landfilled:	$0.00
Total tons, Beneficial use/ADC:	9,980.78
Cost per ton:	$46.41
Total cost, Beneficial use/ADC:	$463,208.00
Total tons, Beneficial use/Land App.:	1,060.13
Cost per ton:	$46.41
Total cost, Beneficial use/Land App.:	$49,200.63
Total cost:	$512,408.63

The %TS values listed on days where hauling did not take place are included in the calculation of average monthly %TS.
The average monthly %TS (rounded to nearest 10th) is used to calculate the total monthly dry tons produced.
ADC - Alternative Daily Cover.

Gerald Schreckengost

POINT LOMA WASTEWATER TREATMENT PLANT
GRIT-SCUM-Screenings Disposal Report

01-NOV-2013 to 30-NOV-2013

GRIT

Disposal Date	Pounds	%Total Solids
01-NOV-13	4,620	48.0
02-NOV-13	4,240	53.0
03-NOV-13	4,800	48.0
04-NOV-13	7,120	45.0
05-NOV-13	11,160	42.0
06-NOV-13	20,360	48.0
07-NOV-13	8,860	49.0
08-NOV-13	4,920	50.0
09-NOV-13	4,540	48.0
10-NOV-13	4,500	42.0
11-NOV-13	15,440	45.0
12-NOV-13	8,060	43.0
13-NOV-13	4,840	46.0
14-NOV-13	4,880	46.0
15-NOV-13	5,060	46.0
16-NOV-13	4,420	46.0
17-NOV-13	4,440	53.0
18-NOV-13	22,640	46.0
19-NOV-13	8,180	43.0
20-NOV-13	16,120	42.0
21-NOV-13	9,120	52.0
22-NOV-13	10,260	52.0
23-NOV-13	9,680	54.0
24-NOV-13	8,140	57.0
25-NOV-13	5,940	57.0
26-NOV-13	6,200	52.0
27-NOV-13	10,640	53.0
28-NOV-13	9,200	53.0
29-NOV-13	8,020	54.0
30-NOV-13	6,800	47.0
Average	8,440	
Sum	253,200	

INFLUENT SCREENINGS

Disposal Date	Pounds	%Total Solids
01-NOV-13	10,620	48.0
04-NOV-13	14,840	33.0
08-NOV-13	12,360	61.0
12-NOV-13	14,720	37.0
15-NOV-13	9,200	38.0
19-NOV-13	14,480	32.0
22-NOV-13	8,900	46.0
26-NOV-13	11,840	56.0
29-NOV-13	9,280	46.0
Average	11,804	
Sum	106,240	

SCUM

Disposal Date	Pounds
07-NOV-13	17,420
11-NOV-13	17,240
22-NOV-13	24,980
Average	19,880
Sum	59,640

SLUDGE SCREENINGS

Disposal Date	Pounds	%Total Solids
01-NOV-13	24,700	42.0
02-NOV-13	22,280	42.0
03-NOV-13	26,440	41.0
04-NOV-13	20,920	41.0
05-NOV-13	24,480	43.0
06-NOV-13	23,940	41.0
07-NOV-13	21,940	39.0
08-NOV-13	17,280	40.0
09-NOV-13	23,500	47.0
10-NOV-13	24,360	39.0
11-NOV-13	18,380	42.0
12-NOV-13	28,100	38.0
13-NOV-13	22,820	39.0
14-NOV-13	22,040	39.0
15-NOV-13	23,760	37.0
16-NOV-13	21,500	40.0
17-NOV-13	23,160	38.0
18-NOV-13	5,480	40.0
19-NOV-13	26,060	37.0
20-NOV-13	22,440	40.0
21-NOV-13	21,560	39.0
22-NOV-13	20,160	38.0
23-NOV-13	20,260	43.0
24-NOV-13	22,060	41.0
25-NOV-13	20,220	41.0
26-NOV-13	24,080	42.0
27-NOV-13	20,280	40.0
28-NOV-13	22,440	43.0
29-NOV-13	15,940	42.0
30-NOV-13	19,740	37.0
Average	21,677	
Sum	650,320	

K.C. Shankles, PLWTP Superintendent
Certification no. V-6975
The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

METRO BIOSOLIDS CENTER
Disposal Report

01-NOV-2013 to 30-NOV-2013

No data to report for month of November 2013.

Barry Ayers, MBC Superintendent
Certification no. V-9346
The WWTP was operated under my supervision and I have reviewed
the above data for accuracy as it relates to plant performance.

North City Water Reclamation Plant
Grit-Scum-Screenings Disposal Report

01-NOV-2013 to 30-NOV-2013

Disposal Date	NAME	Pounds	%Total Solids
05-NOV-13	NC_GRIT	6,000	42.0
14-NOV-13		5,940	44.0
26-NOV-13		11,440	41.0
	**********	--------	
	avg	7,793	
	sum	23,380	

(OCA)

Ernesto Molas, NCWRP Superintendent
Certification no. V-~~7227~~ 7791

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

SOUTH BAY WATER RECLAMATION PLANT
SBWRP GRIT - Disposal Report

01-NOV-2013 to 30-NOV-2013

SBWRP GRIT

Disposal Date	NAME	Pounds	%Total Solids
19-NOV-13	SBWRP GRIT	16,880	57.0
	**********	--------	
	avg	16,880	
	sum	16,880	

SCREENINGS

Disposal Date	NAME	Pounds	%Total Solids
21-NOV-13	SCREENINGS	6,080	56.0
	**********	--------	
	avg	6,080	
	sum	6,080	

(OCA)

Ernesto Molas, SBWRP Superintendent
Certification no. V-~~7227~~ 7791

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

POINT LOMA WASTEWATER TREATMENT PLANT
Screenings Disposal Report

01-NOV-2013 to 30-NOV-2013

PUMP 1

Disposal Date	Pounds	%Total Solids
04-NOV-13	14,740	45.0
07-NOV-13	12,560	24.0
11-NOV-13	18,300	22.0
14-NOV-13	13,680	36.0
18-NOV-13	24,560	28.0
21-NOV-13	11,860	28.0
25-NOV-13	16,480	32.0
29-NOV-13	12,360	30.0
Average	15,568	
Sum	124,540	

PUMP 2

Disposal Date	Pounds	%Total Solids
04-NOV-13	16,500	27.0
07-NOV-13	8,220	34.0
11-NOV-13	13,680	70.0
14-NOV-13	9,920	39.0
18-NOV-13	12,500	22.0
21-NOV-13	7,600	25.0
25-NOV-13	2,120	24.0
Average	10,077	
Sum	70,540	

PUMP 64

Disposal Date	Pounds	%Total Solids
13-NOV-13	11,700	34.0
27-NOV-13	12,840	26.0
Average	12,270	
Sum	24,540	

PUMP 77

Disposal Date	Pounds	%Total Solids
13-NOV-13	5,680	41.0
Average	5,680	
Sum	5,680	

PUMP PPS

Disposal Date	Pounds	%Total Solids
06-NOV-13	6,000	43.0
20-NOV-13	6,180	34.0
26-NOV-13	5,080	34.0
Average	5,753	
Sum	17,260	

Gerald Shreckengost, Operations Support Superintendent
Certification no. V-5931
I have reviewed the above data for accuracy as it relates to operational performance.

City of San Diego

BIOSOLIDS DISPOSAL/BENEFICIAL USE MONTHLY REPORT

Operations Support Group

San Diego Landfill Systems
Landfill Disposal
Beneficial Use
December-13

Date	Day	Landfilled	Beneficial Use									Daily Totals hauled wet tons	Daily total cake solids %	Daily Totals hauled dry tons
			ADC	Land Application	Land Application	Land Application	Land Application	Land Application	Land Application	Land Application	Land Application			
		Otay Landfill	Otay Landfill/ADC	Field YM 2-284	Field YM 2-221	Field YM 2-285	Field YM 2-282	Field YM	Field YM	Field YM	Field YM			
		San Diego Cnty. California	San Diego Cnty. California	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona	Yuma County Arizona			
		Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons	Biosolids Delivered, tons			
12/1/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.70	0.00
12/2/2013	Monday	0.00	593.52	48.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	642.33	27.00	173.43
12/3/2013	Tuesday	0.00	446.32	24.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	471.14	26.90	126.74
12/4/2013	Wednesday	0.00	414.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	414.48	27.80	115.23
12/5/2013	Thursday	0.00	584.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	584.94	27.30	159.69
12/6/2013	Friday	0.00	509.45	24.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	534.10	27.00	144.21
12/7/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.70	0.00
12/8/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.80	0.00
12/9/2013	Monday	0.00	633.35	24.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	657.97	27.30	179.63
12/10/2013	Tuesday	0.00	514.61	24.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	539.40	28.50	153.73
12/11/2013	Wednesday	0.00	316.03	24.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	340.36	26.00	88.49
12/12/2013	Thursday	0.00	243.81	24.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	268.47	28.00	75.17
12/13/2013	Friday	0.00	245.11	24.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	269.70	28.20	76.06
12/14/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.50	0.00
12/15/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.70	0.00
12/16/2013	Monday	0.00	591.01	24.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	615.77	29.60	182.27
12/17/2013	Tuesday	0.00	341.73	24.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	366.67	28.20	103.40
12/18/2013	Wednesday	0.00	466.82	24.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	491.80	27.80	136.72
12/19/2013	Thursday	0.00	390.19	0.00	24.88	0.00	0.00	0.00	0.00	0.00	0.00	415.07	26.40	109.58
12/20/2013	Friday	0.00	391.43	0.00	24.88	0.00	0.00	0.00	0.00	0.00	0.00	416.31	27.90	116.15
12/21/2013	Saturday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.70	0.00
12/22/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.10	0.00
12/23/2013	Monday	0.00	570.34	0.00	24.57	0.00	0.00	0.00	0.00	0.00	0.00	594.91	27.00	160.63
12/24/2013	Tuesday	0.00	468.44	0.00	24.86	0.00	0.00	0.00	0.00	0.00	0.00	493.30	28.10	138.62
12/25/2013	Wednesday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.80	0.00
12/26/2013	Thursday	0.00	344.09	0.00	0.00	24.81	0.00	0.00	0.00	0.00	0.00	368.90	26.80	98.87
12/27/2013	Friday	0.00	514.48	0.00	0.00	24.58	0.00	0.00	0.00	0.00	0.00	539.06	26.60	143.39
12/28/2013	Saturday	0.00	296.15	0.00	0.00	0.00	25.08	0.00	0.00	0.00	0.00	321.23	29.70	95.41
12/29/2013	Sunday	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.10	0.00
12/30/2013	Monday	0.00	565.44	0.00	0.00	0.00	24.84	0.00	0.00	0.00	0.00	590.28	27.70	163.51
12/31/2013	Tuesday	0.00	440.74	0.00	0.00	0.00	24.56	0.00	0.00	0.00	0.00	465.30	27.90	129.82
	Totals:	0.00	9,882.48	295.95	99.19	49.39	74.48	0.00	0.00	0.00	0.00	10,401.49		2,902.02
											Monthly average % cake solids:		27.90	

No sample taken 12/31/2013 due to plant shutdown. %TS value used to calculate dry tons is the average of previous 2 days.
The %TS values listed on days where hauling did not take place are included in the calculation of average monthly %TS.
The average monthly %TS (rounded to nearest 10th) is used to calculate the total monthly dry tons produced.
ADC - Alternative Daily Cover.

Daily average wet tons produced:	335.53
Daily average dry tons produced:	92.60

Total tons, Landfilled:	0.00
Cost per ton:	$37.26
Total cost, Landfilled:	$0.00
Total tons, Beneficial use/ADC:	9,882.48
Cost per ton:	$46.41
Total cost, Beneficial use/ADC:	$458,645.90
Total tons, Beneficial use/Land App.:	519.01
Cost per ton:	$46.41
Total cost, Beneficial use/Land App.:	$24,087.25
Total cost:	$482,733.15

Gerald Schreckengost

G Schreckengost

POINT LOMA WASTEWATER TREATMENT PLANT
GRIT-SCUM-Screenings Disposal Report

01-DEC-2013 to 31-DEC-2013

GRIT

Disposal Date	Pounds	%Total Solids
01-DEC-13	5,360	52.0
02-DEC-13	4,720	51.0
03-DEC-13	4,880	44.0
04-DEC-13	13,880	54.0
05-DEC-13	10,740	56.0
06-DEC-13	7,940	55.0
07-DEC-13	11,720	50.0
08-DEC-13	4,860	56.0
09-DEC-13	4,820	56.0
10-DEC-13	6,500	51.0
11-DEC-13	7,800	45.0
12-DEC-13	5,240	53.0
13-DEC-13	5,240	50.0
14-DEC-13	12,180	45.0
15-DEC-13	5,120	49.0
16-DEC-13	5,300	49.0
17-DEC-13	6,720	53.0
18-DEC-13	14,640	47.0
19-DEC-13	10,280	46.0
20-DEC-13	9,380	54.0
21-DEC-13	12,940	46.0
22-DEC-13	7,300	44.0
23-DEC-13	9,460	48.0
24-DEC-13	9,460	50.0
25-DEC-13	4,160	68.0
26-DEC-13	6,980	63.0
27-DEC-13	13,860	42.0
28-DEC-13	6,400	42.0
29-DEC-13	3,780	60.0
30-DEC-13	6,500	40.0
31-DEC-13	4,820	42.0
Average	7,838	
Sum	242,980	

INFLUENT SCREENINGS

Disposal Date	Pounds	%Total Solids
03-DEC-13	12,460	43.0
06-DEC-13	10,840	43.0
10-DEC-13	12,800	45.0
13-DEC-13	5,880	54.0
17-DEC-13	7,640	45.0
20-DEC-13	6,720	55.0
24-DEC-13	7,640	48.0
27-DEC-13	11,400	44.0
31-DEC-13	7,940	39.0
Average	9,258	
Sum	83,320	

SCUM

Disposal Date	Pounds
04-DEC-13	14,280
13-DEC-13	9,320
20-DEC-13	12,940
26-DEC-13	12,880
30-DEC-13	12,220
Average	12,328
Sum	61,640

SLUDGE SCREENINGS

Disposal Date	Pounds	%Total Solids
01-DEC-13	20,300	36.0
02-DEC-13	21,760	38.0
03-DEC-13	22,660	37.0
04-DEC-13	24,060	38.0
05-DEC-13	19,580	36.0
06-DEC-13	23,760	37.0
07-DEC-13	19,620	39.0
08-DEC-13	21,860	39.0
09-DEC-13	17,220	41.0
10-DEC-13	18,160	39.0
11-DEC-13	13,280	43.0
12-DEC-13	14,720	42.0
13-DEC-13	18,360	42.0
14-DEC-13	13,020	45.0
15-DEC-13	17,960	41.0
16-DEC-13	17,220	69.0
17-DEC-13	20,640	41.0
18-DEC-13	18,840	39.0
19-DEC-13	18,980	40.0
20-DEC-13	19,760	40.0
21-DEC-13	17,460	37.0
22-DEC-13	21,740	37.0
23-DEC-13	16,960	38.0
24-DEC-13	18,000	40.0
25-DEC-13	18,600	41.0
26-DEC-13	20,600	37.0
27-DEC-13	17,880	49.0
28-DEC-13	20,260	36.0
29-DEC-13	19,160	35.0
30-DEC-13	21,640	37.0
31-DEC-13	18,900	43.0
Average	19,128	
Sum	592,960	

KC Shankles

K.C. Shankles, PLWTP Superintendent
Certification no. V-6975
The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

METRO BIOSOLIDS CENTER
MBC GRIT Disposal Report

01-DEC-2013 to 31-DEC-2013

MBC GRIT

Disposal Date	Pounds	%Total Solids
03-DEC-13	15,000	65.0
avg	15,000	
sum	15,000	

Barry Ayers, MBC Superintendent
Certification no. V-9346
The WWTP was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

North City Water Reclamation Plant
Grit-Scum-Screenings Disposal Report

01-DEC-2013 to 31-DEC-2013

Disposal Date	NAME	Pounds	%Total Solids
11-DEC-13	NC_GRIT	6,280	42.4
23-DEC-13		7,460	53.4
29-DEC-13		5,460	49.7
	**********	--------	
	avg	6,400	
	sum	19,200	

Disposal Date	NAME	Pounds	%Total Solids
09-DEC-13	NC_INFLUENT_SCREENINGS	13,080	64.9
	**********	--------	
	avg	13,080	
	sum	13,080	

Ernesto P. Molas

Ernesto Molas, NCWRP Superintendent
Certification no. V-7227

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

SOUTH BAY WATER RECLAMATION PLANT
SBWRP GRIT - Disposal Report

01-DEC-2013 to 31-DEC-2013

No data to report for the month of December 2013.

Ernesto P. Molas

Ernesto Molas, SBWRP Superintendent
Certification no. V-7227

The Wastewater Reclamation Plant was operated under my supervision and I have reviewed the above data for accuracy as it relates to plant performance.

POINT LOMA WASTEWATER TREATMENT PLANT
Screenings Disposal Report

01-DEC-2013 to 31-DEC-2013

PUMP 1

Disposal Date	Pounds	%Total Solids
02-DEC-13	17,840	44.0
05-DEC-13	13,280	45.0
09-DEC-13	18,700	29.0
12-DEC-13	14,040	28.0
16-DEC-13	18,180	26.0
19-DEC-13	12,560	32.0
23-DEC-13	18,720	23.0
30-DEC-13	31,220	34.0
Average	18,068	
Sum	144,540	

PUMP 2

Disposal Date	Pounds	%Total Solids
02-DEC-13	4,600	29.0
05-DEC-13	5,200	21.0
13-DEC-13	6,820	28.0
19-DEC-13	10,660	26.0
26-DEC-13	3,700	37.0
Average	6,196	
Sum	30,980	

PUMP 64

Disposal Date	Pounds	%Total Solids
11-DEC-13	13,300	36.0
26-DEC-13	13,550	38.0
Average	13,425	
Sum	26,850	

PUMP 77

Disposal Date	Pounds	%Total Solids
03-DEC-13	4,920	34.0
Average	4,920	
Sum	4,920	

PUMP PPS

Disposal Date	Pounds	%Total Solids
04-DEC-13	8,080	37.0
11-DEC-13	6,860	66.0
17-DEC-13	5,440	72.0
24-DEC-13	6,820	22.0
31-DEC-13	6,360	53.0
Average	6,712	
Sum	33,560	

Gerald Shreckengost, Operations Support Superintendent
Certification no. V-5931
I have reviewed the above data for accuracy as it relates to operational performance.

City of San Diego
PUBLIC UTILITIES DEPARTMENT
WASTEWATER TREATMENT & DISPOSAL DIVISION
DIGESTER CLEANINGS
December-13

Point Loma Treatment Plant					
Biosolids - Alternative Daily Cover					
Date	Day	# of Truck Loads	Delivered, wet tons	% Total Solids	Production Dry Tons
December 9, 2013	Monday	6.00	150.73	31.28	47.15
December 10, 2013	Tuesday	11.00	279.52	29.45	82.32
December 11, 2013	Wednesday	9.00	226.77	26.35	59.75
December 12, 2013	Thursday	6.00	254.53	28.93	73.64
December 13, 2013	Friday	9.00	421.37	28.27	119.26
December 14, 2013	Saturday	14.00	345.45	30.42	105.09
December 15, 2013	Sunday	0.00	0.00	0.00	0.00
December 16, 2013	Monday	8.00	151.64	34.42	52.19
December 17, 2013	Tuesday	6.00	203.82	33.68	68.65
December 18, 2013	Wednesday	1.00	253.05	32.84	85.23
December 19, 2013	Thursday	8.00	200.00	32.84	65.68
December 20, 2013	Friday	11.00	273.84	32.84	89.93
	Totals:	89.00	2,760.72	NA	848.88

Gerald Schreckengost

Enclosure 6
Monthly Title 22 Reports
MBC Dewatered Biosolids

2013 Annual Biosolids Report

POINT LOMA WASTEWATER TREATMENT PLANT
CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TESTS (Title 22)
Metro Biosolids Center Dewatered Sludge
From: 01-JAN-2013 to 31-JAN-2013

Source: MBCDEWCN
Sample ID: P649993
Sample Date: 31-JAN-13

Constituent	MDL.	Units	Total Dry Wt. mg/Kg	Total Wet Wt. mg/Kg	TTLC Wet Wt. mg/Kg	W.E.T. Wet Wt. mg/L	STLC Wet Wt. mg/L	40 CFR 503 Limits ** mg/Kg	CA Health & Safety code Limits *** mg/Kg
Antimony	.5	MG/KG	2.6	.73	500	*	15.00		
Arsenic	.68	MG/KG	4.15	1.19	500	*	5.00	41	
Barium	.05	MG/KG	285	81.7	10000	*	100.00		
Beryllium	.02	MG/KG	.11	.03	75	*	.75		
Cadmium	.1	MG/KG	1.1	.315	100	*	1.00	39	
Chromium (VI)			NA	NA	500	NA	5.00		
Chromium	.3	MG/KG	45.2	12.9	2500	*	560.00	1,200	
Cobalt	.2	MG/KG	1.7	.47	8000	*	80.00		
Copper	.4	MG/KG	658	188	2500	*	25.00	1,500	2,500
Lead	2	MG/KG	17	4.9	1000	*	5.00	300	350
Mercury	.2	MG/KG	1.1	.30	20	*	.20	17	
Molybdenum	.1	MG/KG	14.8	4.24	3500	*	350.00		
Nickel	.3	MG/KG	35.8	10.3	2000	*	20.00	420	2,000
Selenium	.47	MG/KG	4.5	1.29	100	*	1.00	100	
Silver	.07	MG/KG	4.29	1.23	500	*	5.00		
Thallium	1	MG/KG	ND	ND	700	*	7.00		
Vanadium	.2	MG/KG	25.8	7.39	2400	*	24.00		
Zinc	.5	MG/KG	842	241	5000	*	250.00	2,800	
Fluoride			NA	NA	18000	NA	180.00		
Sulfides-Reactive	11	MG/KG	78	22					
Sulfides-Total	500	MG/KG	15550	4455					
Total Solids		WT%	28.7						
Total Volatile Solids		WT%	58.1						
pH		PH	7.89		>2 - <12				
Aldrin	.01	MG/KG	ND	ND	1.4	*	.14		
Chlordanes	.003	MG/KG	ND	ND	2.5	*	.25		
DDT, DDE, DDD	.002	MG/KG	.02	.006	1.0	*	.10		
2,4-D			NA	NA	100	NA	10.00		
Dieldrin	.002	MG/KG	ND	ND	8.0	*	.80		
Endrin	.003	MG/KG	ND	ND	0.2	*	.02		
Heptachlor	.001	MG/KG	ND	ND	4.7	*	.47		
Kepone			NA	NA	21	NA	2.10		
Lindane	0	MG/KG	ND	ND	4.0	*	.40		
Methoxychlor	0	MG/KG	ND	ND	100	*	10.00		
Mirex	.001	MG/KG	ND	ND	21	*	2.10		
Pentachlorophenol			NA	NA	17	NA	1.70		
PCBs (Arochlors)	.02	MG/KG	ND	ND	50	*	5.00		
Toxaphene	.18	MG/KG	ND	ND	5	*	.50		
Trichloroethene			ND	ND	2040	*	204.00		
2,4,5-TP			NA	NA	10	NA	1.00		

On the basis of these analyses, I certify that this dried sludge is non-hazardous
as defined by California Code, Title 22, Section 66699.

/S/
Senior Chemist

TTLC = Total Threshold Limit Concentration.
STLC = Soluble Threshold Limit Concentration.
W.E.T. = Waste Extraction Technique.
* = The total wet concentration is less than 10 times the STLC. Therefore by definition,
. this substance is present in concentrations that are less than the limits for hazardous wastes.
** = Limits are in mg/Kg (dry weight) based on 40 CFR part 503.13 Table 3 "Limits for Land Application".
*** = The California State Health and Safety Code 25157.8 established lower a limit for Lead.
NA = Not Analyzed, ND= Not Detected, NS= Not Sampled, NR= Not Required
MDL = Method Detection Limit (are in mg/Kg per dry weight; except for pH and Total and Volatile Solids)
MBCDEWCN = Metro Biosolids Center Dewatered Centrifuged Sludge.

POINT LOMA WASTEWATER TREATMENT PLANT
CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TESTS (Title 22)
Metro Biosolids Center Dewatered Sludge
From: 01-FEB-2013 to 28-FEB-2013

Source: MBCDEWCN
Sample ID: P653392
Sample Date: 28-FEB-13

Constituent	MDL.	Units	Total Dry Wt. mg/Kg	Total Wet Wt. mg/Kg	TTLC Wet Wt. mg/Kg	W.E.T. Wet Wt. mg/L	STLC Wet Wt. mg/L	40 CFR 503 Limits ** mg/Kg	CA Health & Safety code Limits *** mg/Kg
Antimony	.5	MG/KG	3.7	1.02	500	*	15.00		
Arsenic	.68	MG/KG	4.32	1.2	500	*	5.00	41	
Barium	.05	MG/KG	254	70.5	10000	*	100.00		
Beryllium	.02	MG/KG	.1	.028	75	*	.75		
Cadmium	.1	MG/KG	1.3	.361	100	*	1.00	39	
Chromium (VI)			NA	NA	500	NA	5.00		
Chromium	.3	MG/KG	46.9	13.0	2500	*	560.00	1,200	
Cobalt	.2	MG/KG	2.2	.612	8000	*	80.00		
Copper	.4	MG/KG	656	182	2500	*	25.00	1,500	2,500
Lead	2	MG/KG	19	5.1	1000	*	5.00	300	350
Mercury	.2	MG/KG	1.2	.32	20	*	.20	17	
Molybdenum	.1	MG/KG	14.2	3.95	3500	*	350.00		
Nickel	.3	MG/KG	35.9	9.98	2000	*	20.00	420	2,000
Selenium	.47	MG/KG	4.52	1.26	100	*	1.00	100	
Silver	.07	MG/KG	8.89	2.47	500	*	5.00		
Thallium	1	MG/KG	ND	ND	700	*	7.00		
Vanadium	.2	MG/KG	32.2	8.95	2400	*	24.00		
Zinc	.5	MG/KG	784	218	5000	*	250.00	2,800	
Fluoride			NA	NA	18000	NA	180.00		
Sulfides-Reactive	11	MG/KG	89	25					
Sulfides-Total	500	MG/KG	16650	4629					
Total Solids		WT%	27.8						
Total Volatile Solids		WT%	59.2						
pH		PH	7.83		>2 - <12				
Aldrin	.01	MG/KG	ND	ND	1.4	*	.14		
Chlordanes	.003	MG/KG	ND	ND	2.5	*	.25		
DDT, DDE, DDD	.002	MG/KG	ND	ND	1.0	*	.10		
2,4-D			NA	NA	100	NA	10.00		
Dieldrin	.002	MG/KG	ND	ND	8.0	*	.80		
Endrin	.003	MG/KG	ND	ND	0.2	*	.02		
Heptachlor	.001	MG/KG	ND	ND	4.7	*	.47		
Kepone			NA	NA	21	NA	2.10		
Lindane	0	MG/KG	ND	ND	4.0	*	.40		
Methoxychlor	0	MG/KG	ND	ND	100	*	10.00		
Mirex	.001	MG/KG	ND	ND	21	*	2.10		
Pentachlorophenol	.8	MG/KG	ND	ND	17	*	1.70		
PCBs (Arochlors)	.02	MG/KG	ND	ND	50	*	5.00		
Toxaphene	.18	MG/KG	ND	ND	5	*	.50		
Trichloroethene	.003	MG/KG	ND	ND	2040	*	204.00		
2,4,5-TP			NA	NA	10	NA	1.00		

On the basis of these analyses, I certify that this dried sludge is non-hazardous as defined by California Code, Title 22, Section 66699.

_____
Brent G. Bowman, Wastewater Laboratory Senior Chemist

TTLC = Total Threshold Limit Concentration.
STLC = Soluble Threshold Limit Concentration.
W.E.T. = Waste Extraction Technique.
* = The total wet concentration is less than 10 times the STLC. Therefore by definition,
. this substance is present in concentrations that are less than the limits for hazardous wastes.
** = Limits are in mg/Kg (dry weight) based on 40 CFR part 503.13 Table 3 "Limits for Land Application".
*** = The California State Health and Safety Code 25157.8 established lower a limit for Lead.
NA = Not Analyzed, ND= Not Detected, NS= Not Sampled, NR= Not Required
MDL = Method Detection Limit (are in mg/Kg per dry weight; except for pH and Total and Volatile Solids)
MBCDEWCN = Metro Biosolids Center Dewatered Centrifuged Sludge.

POINT LOMA WASTEWATER TREATMENT PLANT
CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TESTS (Title 22)
Metro Biosolids Center Dewatered Sludge
From: 01-MAR-2013 to 31-MAR-2013

Source: MBCDEWCN
Sample ID: P657413
Sample Date: 31-MAR-13

Constituent	MDL.	Units	Total Dry Wt. mg/Kg	Total Wet Wt. mg/Kg	TTLC Wet Wt. mg/Kg	W.E.T. Wet Wt. mg/L	STLC Wet Wt. mg/L	40 CFR 503 Limits ** mg/Kg	CA Health & Safety code Limits *** mg/Kg
Antimony	.5	MG/KG	ND	ND	500	*	15.00		
Arsenic	.68	MG/KG	4.22	1.19	500	*	5.00	41	
Barium	.05	MG/KG	337	95.2	10000	*	100.00		
Beryllium	.02	MG/KG	.11	.03	75	*	.75		
Cadmium	.1	MG/KG	1.2	.33	100	*	1.00	39	
Chromium (VI)			NA	NA	500	NA	5.00		
Chromium	.3	MG/KG	50.3	14.2	2500	*	560.00	1,200	
Cobalt	.2	MG/KG	2	.6	8000	*	80.00		
Copper	.4	MG/KG	704	199	2500	*	25.00	1,500	2,500
Lead	2	MG/KG	20	5.7	1000	*	5.00	300	350
Mercury	.2	MG/KG	1.6	.46	20	*	.20	17	
Molybdenum	.1	MG/KG	16.0	4.5	3500	*	350.00		
Nickel	.3	MG/KG	31.5	8.92	2000	*	20.00	420	2,000
Selenium	.47	MG/KG	4.23	1.2	100	*	1.00	100	
Silver	.07	MG/KG	5.22	1.48	500	*	5.00		
Thallium	1	MG/KG	ND	ND	700	*	7.00		
Vanadium	.2	MG/KG	28.4	8.04	2400	*	24.00		
Zinc	.5	MG/KG	897	254	5000	*	250.00	2,800	
Fluoride			NA	NA	18000	NA	180.00		
Sulfides-Reactive	11	MG/KG	91	26					
Sulfides-Total	500	MG/KG	15150	4287					
Total Solids		WT%	28.3						
Total Volatile Solids		WT%	56.9						
pH		PH	7.92		>2 - <12				
Aldrin	.01	MG/KG	ND	ND	1.4	*	.14		
Chlordanes	.003	MG/KG	.033	.0093	2.5	*	.25		
DDT, DDE, DDD	.002	MG/KG	.04	.011	1.0	*	.10		
2,4-D			NA	NA	100	NA	10.00		
Dieldrin	.002	MG/KG	ND	ND	8.0	*	.80		
Endrin	.003	MG/KG	ND	ND	0.2	*	.02		
Heptachlor	.001	MG/KG	ND	ND	4.7	*	.47		
Kepone			NA	NA	21	NA	2.10		
Lindane	0	MG/KG	ND	ND	4.0	*	.40		
Methoxychlor	0	MG/KG	ND	ND	100	*	10.00		
Mirex	.001	MG/KG	ND	ND	21	*	2.10		
Pentachlorophenol			NA	NA	17	NA	1.70		
PCBs (Arochlors)	.02	MG/KG	ND	ND	50	*	5.00		
Toxaphene	.18	MG/KG	ND	ND	5	*	.50		
Trichloroethene	.003	MG/KG	ND	ND	2040	*	204.00		
2,4,5-TP			NA	NA	10	NA	1.00		

On the basis of these analyses, I certify that this dried sludge is non-hazardous as defined by California Code, Title 22, Section 66699.

_____
Brent G. Bowman, Wastewater Laboratory Senior Chemist

TTLC = Total Threshold Limit Concentration.
STLC = Soluble Threshold Limit Concentration.
W.E.T. = Waste Extraction Technique.
* = The total wet concentration is less than 10 times the STLC. Therefore by definition,
. this substance is present in concentrations that are less than the limits for hazardous wastes.
** = Limits are in mg/Kg (dry weight) based on 40 CFR part 503.13 Table 3 "Limits for Land Application".
*** = The California State Health and Safety Code 25157.8 established lower a limit for Lead.
NA = Not Analyzed, ND= Not Detected, NS= Not Sampled, NR= Not Required
MDL = Method Detection Limit (are in mg/Kg per dry weight; except for pH and Total and Volatile Solids)
MBCDEWCN = Metro Biosolids Center Dewatered Centrifuged Sludge.

POINT LOMA WASTEWATER TREATMENT PLANT
CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TESTS (Title 22)
Metro Biosolids Center Dewatered Sludge
From: 01-APR-2013 to 30-APR-2013

Source: MBCDEWCN
Sample ID: P660574
Sample Date: 30-APR-13

Constituent	MDL.	Units	Total Dry Wt. mg/Kg	Total Wet Wt. mg/Kg	TTLC Wet Wt. mg/Kg	W.E.T. Wet Wt. mg/L	STLC Wet Wt. mg/L	40 CFR 503 Limits ** mg/Kg	CA Health & Safety code Limits *** mg/Kg
Antimony	.5	MG/KG	ND	ND	500	*	15.00		
Arsenic	.68	MG/KG	6.39	1.73	500	*	5.00	41	
Barium	.05	MG/KG	272	73.6	10000	*	100.00		
Beryllium	.02	MG/KG	ND	ND	75	*	.75		
Cadmium	.1	MG/KG	.75	.203	100	*	1.00	39	
Chromium (VI)			NA	NA	500	NA	5.00		
Chromium	.3	MG/KG	49.1	13.3	2500	*	560.00	1,200	
Cobalt	.2	MG/KG	1.9	.514	8000	*	80.00		
Copper	.4	MG/KG	566	153	2500	*	25.00	1,500	2,500
Lead	2	MG/KG	13	3.5	1000	*	5.00	300	350
Mercury	.2	MG/KG	1.4	.37	20	*	.20	17	
Molybdenum	.1	MG/KG	12.4	3.34	3500	*	350.00		
Nickel	.3	MG/KG	31.6	8.53	2000	*	20.00	420	2,000
Selenium	.47	MG/KG	6.28	1.7	100	*	1.00	100	
Silver	.07	MG/KG	3.09	.84	500	*	5.00		
Thallium	1	MG/KG	3	.81	700	*	7.00		
Vanadium	.2	MG/KG	23.4	6.3	2400	*	24.00		
Zinc	.5	MG/KG	912	247	5000	*	250.00	2,800	
Fluoride			NA	NA	18000	NA	180.00		
Sulfides-Reactive	11	MG/KG	117	32					
Sulfides-Total	500	MG/KG	22150	5992					
Total Solids		WT%	27.1						
Total Volatile Solids		WT%	60.6						
pH		PH	7.78		>2 - <12				
Aldrin	.01	MG/KG	ND	ND	1.4	*	.14		
Chlordanes	.003	MG/KG	ND	ND	2.5	*	.25		
DDT, DDE, DDD	.002	MG/KG	ND	ND	1.0	*	.10		
2,4-D			NA	NA	100	NA	10.00		
Dieldrin	.002	MG/KG	ND	ND	8.0	*	.80		
Endrin	.003	MG/KG	ND	ND	0.2	*	.02		
Heptachlor	.001	MG/KG	ND	ND	4.7	*	.47		
Kepone			NA	NA	21	NA	2.10		
Lindane	0	MG/KG	ND	ND	4.0	*	.40		
Methoxychlor	0	MG/KG	ND	ND	100	*	10.00		
Mirex	.001	MG/KG	ND	ND	21	*	2.10		
Pentachlorophenol			NA	NA	17	NA	1.70		
PCBs (Arochlors)	.02	MG/KG	ND	ND	50	*	5.00		
Toxaphene	.18	MG/KG	ND	ND	5	*	.50		
Trichloroethene	.003	MG/KG	ND	ND	2040	*	204.00		
2,4,5-TP			NA	NA	10	NA	1.00		

On the basis of these analyses, I certify that this dried sludge is non-hazardous
as defined by California Code, Title 22, Section 66699.

_____
Brent G. Bowman, Wastewater Laboratory Senior Chemist

TTLC = Total Threshold Limit Concentration.
STLC = Soluble Threshold Limit Concentration.
W.E.T. = Waste Extraction Technique.
* = The total wet concentration is less than 10 times the STLC. Therefore by definition,
. this substance is present in concentrations that are less than the limits for hazardous wastes.
** = Limits are in mg/Kg (dry weight) based on 40 CFR part 503.13 Table 3 "Limits for Land Application".
*** = The California State Health and Safety Code 25157.8 established lower a limit for Lead.
NA = Not Analyzed, ND= Not Detected, NS= Not Sampled, NR= Not Required
MDL = Method Detection Limit (are in mg/Kg per dry weight; except for pH and Total and Volatile Solids)
MBCDEWCN = Metro Biosolids Center Dewatered Centrifuged Sludge.

POINT LOMA WASTEWATER TREATMENT PLANT
CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TESTS (Title 22)
Metro Biosolids Center Dewatered Sludge
From: 01-MAY-2013 to 31-MAY-2013

Source: MBCDEWCN
Sample ID: P664036
Sample Date: 31-MAY-13

Constituent	MDL.	Units	Total Dry Wt. mg/Kg	Total Wet Wt. mg/Kg	TTLC Wet Wt. mg/Kg	W.E.T. Wet Wt. mg/L	STLC Wet Wt. mg/L	40 CFR 503 Limits ** mg/Kg	CA Health & Safety code Limits *** mg/Kg
Antimony	.5	MG/KG	ND	ND	500	*	15.00		
Arsenic	.68	MG/KG	5.25	1.41	500	*	5.00	41	
Barium	.05	MG/KG	356	96.2	10000	*	100.00		
Beryllium	.02	MG/KG	.11	.028	75	*	.75		
Cadmium	.1	MG/KG	1.2	.323	100	*	1.00	39	
Chromium (VI)			NA	NA	500	NA	5.00		
Chromium	.3	MG/KG	62.5	16.8	2500	*	560.00	1,200	
Cobalt	.2	MG/KG	2.5	.673	8000	*	80.00		
Copper	.4	MG/KG	746	201	2500	*	25.00	1,500	2,500
Lead	2	MG/KG	17	4.6	1000	*	5.00	300	350
Mercury	.2	MG/KG	1.3	.35	20	*	.20	17	
Molybdenum	.1	MG/KG	19.5	5.25	3500	*	350.00		
Nickel	.3	MG/KG	41.0	11.0	2000	*	20.00	420	2,000
Selenium	.47	MG/KG	4.91	1.32	100	*	1.00	100	
Silver	.07	MG/KG	5.34	1.44	500	*	5.00		
Thallium	1	MG/KG	ND	ND	700	*	7.00		
Vanadium	.2	MG/KG	26.5	7.12	2400	*	24.00		
Zinc	.5	MG/KG	1175	316	5000	*	250.00	2,800	
Fluoride			NA	NA	18000	NA	180.00		
Sulfides-Reactive	11	MG/KG	101	27					
Sulfides-Total	500	MG/KG	19650	5286					
Total Solids		WT%	26.9						
Total Volatile Solids		WT%	57.4						
pH		PH	7.72		>2 - <12				
Aldrin	.01	MG/KG	ND	ND	1.4	*	.14		
Chlordanes	.003	MG/KG	ND	ND	2.5	*	.25		
DDT, DDE, DDD	.002	MG/KG	.04	.01	1.0	*	.10		
2,4-D			NA	NA	100	NA	10.00		
Dieldrin	.002	MG/KG	ND	ND	8.0	*	.80		
Endrin	.003	MG/KG	ND	ND	0.2	*	.02		
Heptachlor	.001	MG/KG	ND	ND	4.7	*	.47		
Kepone			NA	NA	21	NA	2.10		
Lindane	0	MG/KG	ND	ND	4.0	*	.40		
Methoxychlor	0	MG/KG	ND	ND	100	*	10.00		
Mirex	.001	MG/KG	ND	ND	21	*	2.10		
Pentachlorophenol			NA	NA	17	NA	1.70		
PCBs (Arochlors)	.02	MG/KG	ND	ND	50	*	5.00		
Toxaphene	.18	MG/KG	ND	ND	5	*	.50		
Trichloroethene	.003	MG/KG	ND	ND	2040	*	204.00		
2,4,5-TP			NA	NA	10	NA	1.00		

On the basis of these analyses, I certify that this dried sludge is non-hazardous
as defined by California Code, Title 22, Section 66699.

_____
Brent G. Bowman, Wastewater Laboratory Senior Chemist

TTLC = Total Threshold Limit Concentration.
STLC = Soluble Threshold Limit Concentration.
W.E.T. = Waste Extraction Technique.
* = The total wet concentration is less than 10 times the STLC. Therefore by definition,
. this substance is present in concentrations that are less than the limits for hazardous wastes.
** = Limits are in mg/Kg (dry weight) based on 40 CFR part 503.13 Table 3 "Limits for Land Application".
*** = The California State Health and Safety Code 25157.8 established lower a limit for Lead.
NA = Not Analyzed, ND= Not Detected, NS= Not Sampled, NR= Not Required
MDL = Method Detection Limit (are in mg/Kg per dry weight; except for pH and Total and Volatile Solids)
MBCDEWCN = Metro Biosolids Center Dewatered Centrifuged Sludge.

POINT LOMA WASTEWATER TREATMENT PLANT
CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TESTS (Title 22)
Metro Biosolids Center Dewatered Sludge
From: 01-JUN-2013 to 30-JUN-2013

Source: MBCDEWCN
Sample ID: P667050
Sample Date: 30-JUN-13

Constituent	MDL.	Units	Total Dry Wt. mg/Kg	Total Wet Wt. mg/Kg	TTLC Wet Wt. mg/Kg	W.E.T. Wet Wt. mg/L	STLC Wet Wt. mg/L	40 CFR 503 Limits ** mg/Kg	CA Health & Safety code Limits *** mg/Kg
Antimony	.5	MG/KG	ND	ND	500	*	15.00		
Arsenic	.68	MG/KG	4.65	1.22	500	*	5.00	41	
Barium	.05	MG/KG	284	74.7	10000	*	100.00		
Beryllium	.02	MG/KG	.09	.022	75	*	.75		
Cadmium	.1	MG/KG	1.4	.366	100	*	1.00	39	
Chromium (VI)			NA	NA	500	NA	5.00		
Chromium	.3	MG/KG	53.9	14.2	2500	*	560.00	1,200	
Cobalt	.2	MG/KG	1.3	.34	8000	*	80.00		
Copper	.4	MG/KG	622	164	2500	*	25.00	1,500	2,500
Lead	2	MG/KG	18	4.8	1000	*	5.00	300	350
Mercury	.2	MG/KG	1.5	.405	20	*	.20	17	
Molybdenum	.1	MG/KG	18.8	4.95	3500	*	350.00		
Nickel	.3	MG/KG	43.5	11.5	2000	*	20.00	420	2,000
Selenium	.47	MG/KG	7.63	2.01	100	*	1.00	100	
Silver	.07	MG/KG	4.38	1.15	500	*	5.00		
Thallium	1	MG/KG	2	.51	700	*	7.00		
Vanadium	.2	MG/KG	22.8	5.99	2400	*	24.00		
Zinc	.5	MG/KG	937	247	5000	*	250.00	2,800	
Fluoride			NA	NA	18000	NA	180.00		
Sulfides-Reactive	11	MG/KG	92	24					
Sulfides-Total	500	MG/KG	21050	5547					
Total Solids		WT%	26.4						
Total Volatile Solids		WT%	58.9						
pH		PH	7.79		>2 - <12				
Aldrin	.01	MG/KG	ND	ND	1.4	*	.14		
Chlordanes	.003	MG/KG	.049	.013	2.5	*	.25		
DDT, DDE, DDD	.002	MG/KG	.04	.011	1.0	*	.10		
2,4-D			NA	NA	100	NA	10.00		
Dieldrin	.002	MG/KG	ND	ND	8.0	*	.80		
Endrin	.003	MG/KG	ND	ND	0.2	*	.02		
Heptachlor	.001	MG/KG	ND	ND	4.7	*	.47		
Kepone			NA	NA	21	NA	2.10		
Lindane	0	MG/KG	ND	ND	4.0	*	.40		
Methoxychlor	0	MG/KG	ND	ND	100	*	10.00		
Mirex	.001	MG/KG	ND	ND	21	*	2.10		
Pentachlorophenol			NA	NA	17	NA	1.70		
PCBs (Arochlors)	.02	MG/KG	ND	ND	50	*	5.00		
Toxaphene	.18	MG/KG	ND	ND	5	*	.50		
Trichloroethene	.003	MG/KG	ND	ND	2040	*	204.00		
2,4,5-TP			NA	NA	10	NA	1.00		

On the basis of these analyses, I certify that this dried sludge is non-hazardous as defined by California Code, Title 22, Section 66699.

_____
Brent G. Bowman, Wastewater Laboratory Senior Chemist

TTLC = Total Threshold Limit Concentration.
STLC = Soluble Threshold Limit Concentration.
W.E.T. = Waste Extraction Technique.
* = The total wet concentration is less than 10 times the STLC. Therefore by definition,
. this substance is present in concentrations that are less than the limits for hazardous wastes.
** = Limits are in mg/Kg (dry weight) based on 40 CFR part 503.13 Table 3 "Limits for Land Application".
*** = The California State Health and Safety Code 25157.8 established lower a limit for Lead.
NA = Not Analyzed, ND= Not Detected, NS= Not Sampled, NR= Not Required
MDL = Method Detection Limit (are in mg/Kg per dry weight; except for pH and Total and Volatile Solids)

POINT LOMA WASTEWATER TREATMENT PLANT
CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TESTS (Title 22)
Metro Biosolids Center Dewatered Sludge
From: 01-JUL-2013 to 31-JUL-2013

Source: MBCDEWCN
Sample ID: P669948
Sample Date: 31-JUL-13

Constituent	MDL.	Units	Total Dry Wt. mg/Kg	Total Wet Wt. mg/Kg	TTLC Wet Wt. mg/Kg	W.E.T. Wet Wt. mg/L	STLC Wet Wt. mg/L	40 CFR 503 Limits ** mg/Kg	CA Health & Safety code Limits *** mg/Kg
Antimony	.5	MG/KG	ND	ND	500	*	15.00		
Arsenic	.68	MG/KG	4.03	1.08	500	*	5.00	41	
Barium	.05	MG/KG	186	49.7	10000	*	100.00		
Beryllium	.02	MG/KG	.07	.02	75	*	.75		
Cadmium	.1	MG/KG	1.4	.38	100	*	1.00	39	
Chromium (VI)			NA	NA	500	NA	5.00		
Chromium	.3	MG/KG	49.7	13.3	2500	*	560.00	1,200	
Cobalt	.2	MG/KG	2.8	.75	8000	*	80.00		
Copper	.4	MG/KG	741	199	2500	*	25.00	1,500	2,500
Lead	2	MG/KG	20	5.4	1000	*	5.00	300	350
Mercury	.2	MG/KG	1.9	.51	20	*	.20	17	
Molybdenum	.1	MG/KG	19.5	5.2	3500	*	350.00		
Nickel	.3	MG/KG	35.4	9.45	2000	*	20.00	420	2,000
Selenium	.47	MG/KG	5.85	1.57	100	*	1.00	100	
Silver	.07	MG/KG	5.77	1.55	500	*	5.00		
Thallium	1	MG/KG	2	.59	700	*	7.00		
Vanadium	.2	MG/KG	31.3	8.39	2400	*	24.00		
Zinc	.5	MG/KG	923	247	5000	*	250.00	2,800	
Fluoride			NA	NA	18000	NA	180.00		
Sulfides-Reactive	11	MG/KG	126	34					
Sulfides-Total	500	MG/KG	27050	7249					
Total Solids		WT%	26.8						
Total Volatile Solids		WT%	60.8						
pH		PH	7.84		>2 - <12				
Aldrin	.01	MG/KG	ND	ND	1.4	*	.14		
Chlordanes	.003	MG/KG	.024	.0064	2.5	*	.25		
DDT, DDE, DDD	.002	MG/KG	.06	.016	1.0	*	.10		
2,4-D			NA	NA	100	NA	10.00		
Dieldrin	.002	MG/KG	ND	ND	8.0	*	.80		
Endrin	.003	MG/KG	ND	ND	0.2	*	.02		
Heptachlor	.001	MG/KG	ND	ND	4.7	*	.47		
Kepone			NA	NA	21	NA	2.10		
Lindane	0	MG/KG	ND	ND	4.0	*	.40		
Methoxychlor	0	MG/KG	ND	ND	100	*	10.00		
Mirex	.001	MG/KG	ND	ND	21	*	2.10		
Pentachlorophenol			NA	NA	17	NA	1.70		
PCBs (Arochlors)	.02	MG/KG	ND	ND	50	*	5.00		
Toxaphene	.18	MG/KG	ND	ND	5	*	.50		
Trichloroethene	.003	MG/KG	ND	ND	2040	*	204.00		
2,4,5-TP			NA	NA	10	NA	1.00		

On the basis of these analyses, I certify that this dried sludge is non-hazardous
as defined by California Code, Title 22, Section 66699.

_____
Brent G. Bowman, Wastewater Laboratory Senior Chemist

TTLC = Total Threshold Limit Concentration.
STLC = Soluble Threshold Limit Concentration.
W.E.T. = Waste Extraction Technique.
* = The total wet concentration is less than 10 times the STLC. Therefore by definition,
. this substance is present in concentrations that are less than the limits for hazardous wastes.
** = Limits are in mg/Kg (dry weight) based on 40 CFR part 503.13 Table 3 "Limits for Land Application".
*** = The California State Health and Safety Code 25157.8 established lower a limit for Lead.
NA = Not Analyzed, ND= Not Detected, NS= Not Sampled, NR= Not Required
MDL = Method Detection Limit (are in mg/Kg per dry weight; except for pH and Total and Volatile Solids)
MBCDEWCN = Metro Biosolids Center Dewatered Centrifuged Sludge.

POINT LOMA WASTEWATER TREATMENT PLANT
CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TESTS (Title 22)
Metro Biosolids Center Dewatered Sludge
From: 01-AUG-2013 to 31-AUG-2013

Source: MBCDEWCN
Sample ID: P674861
Sample Date: 31-AUG-13

Constituent	MDL.	Units	Total Dry Wt. mg/Kg	Total Wet Wt. mg/Kg	TTLC Wet Wt. mg/Kg	W.E.T. Wet Wt. mg/L	STLC Wet Wt. mg/L	40 CFR 503 Limits ** mg/Kg	CA Health & Safety code Limits *** mg/Kg
Antimony	.5	MG/KG	ND	ND	500	*	15.00		
Arsenic	.68	MG/KG	3.25	.87	500	*	5.00	41	
Barium	.05	MG/KG	54.2	14.5	10000	*	100.00		
Beryllium	.02	MG/KG	.05	.01	75	*	.75		
Cadmium	.1	MG/KG	1.4	.361	100	*	1.00	39	
Chromium (VI)			NA	NA	500	NA	5.00		
Chromium	.3	MG/KG	40.8	10.9	2500	*	560.00	1,200	
Cobalt	.2	MG/KG	3.6	.95	8000	*	80.00		
Copper	.4	MG/KG	656	175	2500	*	25.00	1,500	2,500
Lead	2	MG/KG	20	5.4	1000	*	5.00	300	350
Mercury	.2	MG/KG	1.0	.27	20	*	.20	17	
Molybdenum	.1	MG/KG	18.8	5.03	3500	*	350.00		
Nickel	.3	MG/KG	31.3	8.37	2000	*	20.00	420	2,000
Selenium	.47	MG/KG	4.11	1.1	100	*	1.00	100	
Silver	.07	MG/KG	4.03	1.08	500	*	5.00		
Thallium	1	MG/KG	ND	ND	700	*	7.00		
Vanadium	.2	MG/KG	44.0	11.8	2400	*	24.00		
Zinc	.5	MG/KG	972	260	5000	*	250.00	2,800	
Fluoride			NA	NA	18000	NA	180.00		
Sulfides-Reactive	11	MG/KG	148	39					
Sulfides-Total	500	MG/KG	23450	6273					
Total Solids		WT%	26.8						
Total Volatile Solids		WT%	60.6						
pH		PH	7.55		>2 - <12				
Aldrin	.01	MG/KG	ND	ND	1.4	*	.14		
Chlordanes	.003	MG/KG	.025	.0068	2.5	*	.25		
DDT, DDE, DDD	.002	MG/KG	.03	.007	1.0	*	.10		
2,4-D			NA	NA	100	NA	10.00		
Dieldrin	.002	MG/KG	ND	ND	8.0	*	.80		
Endrin	.003	MG/KG	ND	ND	0.2	*	.02		
Heptachlor	.001	MG/KG	ND	ND	4.7	*	.47		
Kepone			NA	NA	21	NA	2.10		
Lindane	0	MG/KG	ND	ND	4.0	*	.40		
Methoxychlor	0	MG/KG	ND	ND	100	*	10.00		
Mirex	.001	MG/KG	ND	ND	21	*	2.10		
Pentachlorophenol	.8	MG/KG	ND	ND	17	*	1.70		
PCBs (Arochlors)	.02	MG/KG	ND	ND	50	*	5.00		
Toxaphene	.18	MG/KG	ND	ND	5	*	.50		
Trichloroethene	.003	MG/KG	ND	ND	2040	*	204.00		
2,4,5-TP			NA	NA	10	NA	1.00		

On the basis of these analyses, I certify that this dried sludge is non-hazardous
as defined by California Code, Title 22, Section 66699.

_____
Brent G. Bowman, Wastewater Laboratory Senior Chemist

TTLC = Total Threshold Limit Concentration.
STLC = Soluble Threshold Limit Concentration.
W.E.T. = Waste Extraction Technique.
* = The total wet concentration is less than 10 times the STLC. Therefore by definition,
. this substance is present in concentrations that are less than the limits for hazardous wastes.
** = Limits are in mg/Kg (dry weight) based on 40 CFR part 503.13 Table 3 "Limits for Land Application".
*** = The California State Health and Safety Code 25157.8 established lower a limit for Lead.
NA = Not Analyzed, ND= Not Detected, NS= Not Sampled, NR= Not Required
MDL = Method Detection Limit (are in mg/Kg per dry weight; except for pH and Total and Volatile Solids)
MBCDEWCN = Metro Biosolids Center Dewatered Centrifuged Sludge.

POINT LOMA WASTEWATER TREATMENT PLANT
CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TESTS (Title 22)
Metro Biosolids Center Dewatered Sludge
From: 01-SEP-2013 to 30-SEP-2013
Source: MBCDEWCN
Sample ID: P677800
Sample Date: 30-SEP-13

Constituent	MDL.	Units	Total Dry Wt. mg/Kg	Total Wet Wt. mg/Kg	TTLC Wet Wt. mg/Kg	W.E.T. Wet Wt. mg/L	STLC Wet Wt. mg/L	40 CFR 503 Limits ** mg/Kg	CA Health & Safety code Limits *** mg/Kg
Antimony	.5	MG/KG	3.7	.975	500	*	15.00		
Arsenic	.68	MG/KG	3.08	.82	500	*	5.00	41	
Barium	.05	MG/KG	283	75.4	10000	*	100.00		
Beryllium	.02	MG/KG	.07	.017	75	*	.75		
Cadmium	.1	MG/KG	1.2	.32	100	*	1.00	39	
Chromium (VI)			NA	NA	500	NA	5.00		
Chromium	.3	MG/KG	33.6	8.97	2500	*	560.00	1,200	
Cobalt	.2	MG/KG	6.2	1.66	8000	*	80.00		
Copper	.4	MG/KG	684	183	2500	*	25.00	1,500	2,500
Lead	2	MG/KG	29	7.6	1000	*	5.00	300	350
Mercury	.2	MG/KG	1.1	.298	20	*	.20	17	
Molybdenum	.1	MG/KG	18.3	4.87	3500	*	350.00		
Nickel	.3	MG/KG	35.2	9.39	2000	*	20.00	420	2,000
Selenium	.47	MG/KG	5.69	1.52	100	*	1.00	100	
Silver	.07	MG/KG	5.75	1.54	500	*	5.00		
Thallium	1	MG/KG	2.5	.668	700	*	7.00		
Vanadium	.2	MG/KG	50.8	13.6	2400	*	24.00		
Zinc	.5	MG/KG	906	242	5000	*	250.00	2,800	
Fluoride			NA	NA	18000	NA	180.00		
Sulfides-Reactive	11	MG/KG	116	31					
Sulfides-Total	500	MG/KG	21800	5821					
Total Solids		WT%	26.7						
Total Volatile Solids		WT%	57.6						
pH		PH	7.54		>2 - <12				
Aldrin	.01	MG/KG	ND	ND	1.4	*	.14		
Chlordanes	.003	MG/KG	ND	ND	2.5	*	.25		
DDT, DDE, DDD	.002	MG/KG	ND	ND	1.0	*	.10		
2,4-D			NA	NA	100	NA	10.00		
Dieldrin	.002	MG/KG	ND	ND	8.0	*	.80		
Endrin	.003	MG/KG	ND	ND	0.2	*	.02		
Heptachlor	.001	MG/KG	ND	ND	4.7	*	.47		
Kepone			NA	NA	21	NA	2.10		
Lindane	0	MG/KG	ND	ND	4.0	*	.40		
Methoxychlor	0	MG/KG	ND	ND	100	*	10.00		
Mirex	.001	MG/KG	ND	ND	21	*	2.10		
Pentachlorophenol			NA	NA	17	NA	1.70		
PCBs (Arochlors)	.02	MG/KG	ND	ND	50	*	5.00		
Toxaphene	.18	MG/KG	ND	ND	5	*	.50		
Trichloroethene	.003	MG/KG	ND	ND	2040	*	204.00		
2,4,5-TP			NA	NA	10	NA	1.00		

On the basis of these analyses, I certify that this dried sludge is non-hazardous
as defined by California Code, Title 22, Section 66699.

_____
Brent G. Bowman, Wastewater Laboratory Senior Chemist

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STLC = Soluble Threshold Limit Concentration.
W.E.T. = Waste Extraction Technique.
* = The total wet concentration is less than 10 times the STLC. Therefore by definition,
. this substance is present in concentrations that are less than the limits for hazardous wastes.
** = Limits are in mg/Kg (dry weight) based on 40 CFR part 503.13 Table 3 "Limits for Land Application".
*** = The California State Health and Safety Code 25157.8 established lower a limit for Lead.
NA = Not Analyzed, ND= Not Detected, NS= Not Sampled, NR= Not Required
MDL = Method Detection Limit (are in mg/Kg per dry weight; except for pH and Total and Volatile Solids)
MBCDEWCN = Metro Biosolids Center Dewatered Centrifuged Sludge.

POINT LOMA WASTEWATER TREATMENT PLANT
CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TESTS (Title 22)
Metro Biosolids Center Dewatered Sludge
From: 01-OCT-2013 to 31-OCT-2013
Source: MBCDEWCN
Sample ID: P682539
Sample Date: 31-OCT-13

Constituent	MDL.	Units	Total Dry Wt. mg/Kg	Total Wet Wt. mg/Kg	TTLC Wet Wt. mg/Kg	W.E.T. Wet Wt. mg/L	STLC Wet Wt. mg/L	40 CFR 503 Limits ** mg/Kg	CA Health & Safety code Limits *** mg/Kg
Antimony	.5	MG/KG	1.8	.487	500	*	15.00		
Arsenic	.68	MG/KG	2.83	.75	500	*	5.00	41	
Barium	.05	MG/KG	98.1	26.1	10000	*	100.00		
Beryllium	.02	MG/KG	ND	ND	75	*	.75		
Cadmium	.1	MG/KG	1.1	.281	100	*	1.00	39	
Chromium (VI)			NA	NA	500	NA	5.00		
Chromium	.3	MG/KG	33.4	8.87	2500	*	560.00	1,200	
Cobalt	.2	MG/KG	6.9	1.83	8000	*	80.00		
Copper	.4	MG/KG	677	180	2500	*	25.00	1,500	2,500
Lead	2	MG/KG	27	7.1	1000	*	5.00	300	350
Mercury	.2	MG/KG	1.1	.302	20	*	.20	17	
Molybdenum	.1	MG/KG	20.8	5.52	3500	*	350.00		
Nickel	.3	MG/KG	36.6	9.72	2000	*	20.00	420	2,000
Selenium	.47	MG/KG	4.58	1.22	100	*	1.00	100	
Silver	.07	MG/KG	5.27	1.4	500	*	5.00		
Thallium	1	MG/KG	ND	ND	700	*	7.00		
Vanadium	.2	MG/KG	59.8	15.9	2400	*	24.00		
Zinc	.5	MG/KG	839	223	5000	*	250.00	2,800	
Fluoride			NA	NA	18000	NA	180.00		
Sulfides-Reactive	11	MG/KG	35	9					
Sulfides-Total	500	MG/KG	22350	5945					
Total Solids		WT%	26.6						
Total Volatile Solids		WT%	60.9						
pH		PH	7.54		>2 - <12				
Aldrin	.01	MG/KG	ND	ND	1.4	*	.14		
Chlordanes	.003	MG/KG	.003	.0008	2.5	*	.25		
DDT, DDE, DDD	.002	MG/KG	ND	ND	1.0	*	.10		
2,4-D	.07	MG/KG	ND	ND	100	*	10.00		
Dieldrin	.002	MG/KG	ND	ND	8.0	*	.80		
Endrin	.003	MG/KG	ND	ND	0.2	*	.02		
Heptachlor	.001	MG/KG	ND	ND	4.7	*	.47		
Kepone			NA	NA	21	NA	2.10		
Lindane	0	MG/KG	ND	ND	4.0	*	.40		
Methoxychlor	0	MG/KG	ND	ND	100	*	10.00		
Mirex	.001	MG/KG	ND	ND	21	*	2.10		
Pentachlorophenol	.8	MG/KG	ND	ND	17	*	1.70		
PCBs (Arochlors)	.02	MG/KG	ND	ND	50	*	5.00		
Toxaphene	.18	MG/KG	ND	ND	5	*	.50		
Trichloroethene	.003	MG/KG	ND	ND	2040	*	204.00		
2,4,5-TP	.03	MG/KG	ND	ND	10	*	1.00		

On the basis of these analyses, I certify that this dried sludge is non-hazardous
as defined by California Code, Title 22, Section 66699.

_____
Brent G. Bowman, Wastewater Laboratory Senior Chemist

TTLC = Total Threshold Limit Concentration.
STLC = Soluble Threshold Limit Concentration.
W.E.T. = Waste Extraction Technique.
* = The total wet concentration is less than 10 times the STLC. Therefore by definition,
. this substance is present in concentrations that are less than the limits for hazardous wastes.
** = Limits are in mg/Kg (dry weight) based on 40 CFR part 503.13 Table 3 "Limits for Land Application".
*** = The California State Health and Safety Code 25157.8 established lower a limit for Lead.
NA = Not Analyzed, ND= Not Detected, NS= Not Sampled, NR= Not Required
MDL = Method Detection Limit (are in mg/Kg per dry weight; except for pH and Total and Volatile Solids)
MBCDEWCN = Metro Biosolids Center Dewatered Centrifuged Sludge.

POINT LOMA WASTEWATER TREATMENT PLANT
CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TESTS (Title 22)
Metro Biosolids Center Dewatered Sludge
From: 01-NOV-2013 to 30-NOV-2013
Source: MBCDEWCN
Sample ID: P687315
Sample Date: 30-NOV-13

Constituent	MDL.	Units	Total Dry Wt. mg/Kg	Total Wet Wt. mg/Kg	TTLC Wet Wt. mg/Kg	W.E.T. Wet Wt. mg/L	STLC Wet Wt. mg/L	40 CFR 503 Limits ** mg/Kg	CA Health & Safety code Limits *** mg/Kg
Antimony	.5	MG/KG	4.1	1.108	500	*	15.00		
Arsenic	.68	MG/KG	3.8	1.04	500	*	5.00	41	
Barium	.05	MG/KG	392	107.1	10000	*	100.00		
Beryllium	.02	MG/KG	.06	.017	75	*	.75		
Cadmium	.1	MG/KG	1.5	.397	100	*	1.00	39	
Chromium (VI)			NA	NA	500	NA	5.00		
Chromium	.3	MG/KG	38.6	10.56	2500	*	560.00	1,200	
Cobalt	.2	MG/KG	7.1	1.942	8000	*	80.00		
Copper	.4	MG/KG	688	188.2	2500	*	25.00	1,500	2,500
Lead	2	MG/KG	29	7.9	1000	*	5.00	300	350
Mercury	.2	MG/KG	.85	.233	20	*	.20	17	
Molybdenum	.1	MG/KG	19.9	5.43	3500	*	350.00		
Nickel	.3	MG/KG	38.8	10.598	2000	*	20.00	420	2,000
Selenium	.47	MG/KG	4.22	1.154	100	*	1.00	100	
Silver	.07	MG/KG	6.67	1.824	500	*	5.00		
Thallium	1	MG/KG	2	.41	700	*	7.00		
Vanadium	.2	MG/KG	63.4	17.326	2400	*	24.00		
Zinc	.5	MG/KG	914	250	5000	*	250.00	2,800	
Fluoride			NA	NA	18000	NA	180.00		
Sulfides-Reactive	11	MG/KG	24	7					
Sulfides-Total	500	MG/KG	10200	2790					
Total Solids		WT%	27.4						
Total Volatile Solids		WT%	60.8						
pH		PH	7.69		>2 - <12				
Aldrin	.01	MG/KG	ND	ND	1.4	*	.14		
Chlordanes	.003	MG/KG	ND	ND	2.5	*	.25		
DDT, DDE, DDD	.002	MG/KG	.01	.003	1.0	*	.10		
2,4-D			NA	NA	100	NA	10.00		
Dieldrin	.002	MG/KG	ND	ND	8.0	*	.80		
Endrin	.003	MG/KG	ND	ND	0.2	*	.02		
Heptachlor	.001	MG/KG	ND	ND	4.7	*	.47		
Kepone			NA	NA	21	NA	2.10		
Lindane	0	MG/KG	ND	ND	4.0	*	.40		
Methoxychlor	0	MG/KG	ND	ND	100	*	10.00		
Mirex	.001	MG/KG	ND	ND	21	*	2.10		
Pentachlorophenol			NA	NA	17	NA	1.70		
PCBs (Arochlors)	.02	MG/KG	ND	ND	50	*	5.00		
Toxaphene	.18	MG/KG	ND	ND	5	*	.50		
Trichloroethene	.003	MG/KG	ND	ND	2040	*	204.00		
2,4,5-TP			NA	NA	10	NA	1.00		

On the basis of these analyses, I certify that this dried sludge is non-hazardous
as defined by California Code, Title 22, Section 66699.

_____
Brent G. Bowman, Wastewater Laboratory Senior Chemist

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STLC = Soluble Threshold Limit Concentration.
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. this substance is present in concentrations that are less than the limits for hazardous wastes.
** = Limits are in mg/Kg (dry weight) based on 40 CFR part 503.13 Table 3 "Limits for Land Application".
*** = The California State Health and Safety Code 25157.8 established lower a limit for Lead.
NA = Not Analyzed, ND= Not Detected, NS= Not Sampled, NR= Not Required
MDL = Method Detection Limit (are in mg/Kg per dry weight; except for pH and Total and Volatile Solids)
MBCDEWCN = Metro Biosolids Center Dewatered Centrifuged Sludge.

POINT LOMA WASTEWATER TREATMENT PLANT
CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TESTS (Title 22)
Metro Biosolids Center Dewatered Sludge
From: 01-DEC-2013 to 31-DEC-2013

Source: MBCDEWCN
Sample ID: P690536
Sample Date: 31-DEC-13

Constituent	MDL.	Units	Total Dry Wt. mg/Kg	Total Wet Wt. mg/Kg	TTLC Wet Wt. mg/Kg	W.E.T. Wet Wt. mg/L	STLC Wet Wt. mg/L	40 CFR 503 Limits ** mg/Kg	CA Health & Safety code Limits *** mg/Kg
Antimony	.5	MG/KG	2	.55	500	*	15.00		
Arsenic	.68	MG/KG	3.58	.98	500	*	5.00	41	
Barium	.05	MG/KG	331	91	10000	*	100.00		
Beryllium	.02	MG/KG	.09	.024	75	*	.75		
Cadmium	.1	MG/KG	1.1	.289	100	*	1.00	39	
Chromium (VI)			NA	NA	500	NA	5.00		
Chromium	.3	MG/KG	36	9.89	2500	*	560.00	1,200	
Cobalt	.2	MG/KG	5.9	1.62	8000	*	80.00		
Copper	.4	MG/KG	627	172	2500	*	25.00	1,500	2,500
Lead	2	MG/KG	18	5	1000	*	5.00	300	350
Mercury	.2	MG/KG	1.1	.31	20	*	.20	17	
Molybdenum	.1	MG/KG	14.4	3.96	3500	*	350.00		
Nickel	.3	MG/KG	33.7	9.25	2000	*	20.00	420	2,000
Selenium	.47	MG/KG	4.44	1.22	100	*	1.00	100	
Silver	.07	MG/KG	4.69	1.29	500	*	5.00		
Thallium	1	MG/KG	5	1.38	700	*	7.00		
Vanadium	.2	MG/KG	52	14.3	2400	*	24.00		
Zinc	.5	MG/KG	742	204	5000	*	250.00	2,800	
Fluoride			NA	NA	18000	NA	180.00		
Sulfides-Reactive	11	MG/KG	133	36					
Sulfides-Total	500	MG/KG	26800	7370					
Total Solids		WT%	27.5						
Total Volatile Solids		WT%	59.9						
pH		PH	7.54		>2 - <12				
Aldrin	.01	MG/KG	ND	ND	1.4	*	.14		
Chlordanes	.003	MG/KG	ND	ND	2.5	*	.25		
DDT, DDE, DDD	.002	MG/KG	.03	.007	1.0	*	.10		
2,4-D			NA	NA	100	NA	10.00		
Dieldrin	.002	MG/KG	ND	ND	8.0	*	.80		
Endrin	.003	MG/KG	ND	ND	0.2	*	.02		
Heptachlor	.001	MG/KG	ND	ND	4.7	*	.47		
Kepone			NA	NA	21	NA	2.10		
Lindane	0	MG/KG	ND	ND	4.0	*	.40		
Methoxychlor	0	MG/KG	ND	ND	100	*	10.00		
Mirex	.001	MG/KG	ND	ND	21	*	2.10		
Pentachlorophenol			NA	NA	17	NA	1.70		
PCBs (Arochlors)	.02	MG/KG	ND	ND	50	*	5.00		
Toxaphene	.18	MG/KG	ND	ND	5	*	.50		
Trichloroethene	.003	MG/KG	ND	ND	2040	*	204.00		
2,4,5-TP			NA	NA	10	NA	1.00		

On the basis of these analyses, I certify that this dried sludge is non-hazardous as defined by California Code, Title 22, Section 66699.

_____
Brent G. Bowman, Wastewater Laboratory Senior Chemist

TTLC = Total Threshold Limit Concentration.
STLC = Soluble Threshold Limit Concentration.
W.E.T. = Waste Extraction Technique.
* = The total wet concentration is less than 10 times the STLC. Therefore by definition,
. this substance is present in concentrations that are less than the limits for hazardous wastes.
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*** = The California State Health and Safety Code 25157.8 established lower a limit for Lead.
NA = Not Analyzed, ND= Not Detected, NS= Not Sampled, NR= Not Required
MDL = Method Detection Limit (are in mg/Kg per dry weight; except for pH and Total and Volatile Solids)
MBCDEWCN = Metro Biosolids Center Dewatered Centrifuged Sludge.

Enclosure 7
Other Analyses of Dewatered Biosolids

2013 Annual Biosolids Report

Enclosure 7 Results of other analyses of dewatered biosolids for 2013

Tables showing the analyses for metals (including priority pollutants), pH, total and volatile solids, pesticides & PCBs, and organic priority pollutant compounds of sewage biosolids samples taken in 2012.

POINT LOMA WASTEWATER TREATMENT PLANT
METRO BIOSOLIDS CENTER
ANNUAL DEWATERED SLUDGE COMPOSITES
Trace Metals

2013 Annual

Source:			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date:			31-JAN-2013	28-FEB-2013	31-MAR-2013	30-APR-2013	31-MAY-2013	30-JUN-2013
Sample ID:	MDL	Units	P649993	P653392	P657413	P660574	P664036	P667050
Aluminum	4	MG/KG	4950	5080	5290	4810	5970	4350
Antimony	.5	MG/KG	2.6	3.7	ND	ND	ND	ND
Arsenic	.68	MG/KG	4.15	4.32	4.22	6.39	5.25	4.65
Barium	.05	MG/KG	285	254	337	272	358	284
Beryllium	.02	MG/KG	0.11	0.10	0.11	ND	0.11	0.09
Cadmium	.1	MG/KG	1.1	1.3	1.2	0.8	1.2	1.4
Chromium	.3	MG/KG	45	47	50	49	63	54
Cobalt	.2	MG/KG	1.7	2.2	2.0	1.9	2.5	1.3
Cyanide, Total	.1	MG/KG	NR	21.0	NR	NR	2.6	NR
Copper	.4	MG/KG	658	656	704	566	746	622
Iron	20	MG/KG	93200	80200	82800	71300	93100	90500
Lead	2	MG/KG	17	19	20	13	17	18
Manganese	.2	MG/KG	348	346	316	283	326	295
Mercury	.2	MG/KG	1.1	1.2	1.6	1.4	1.3	1.5
Molybdenum	.1	MG/KG	15	14	16	12	20	19
Nickel	.3	MG/KG	36	36	32	32	41	44
Selenium	.47	MG/KG	4.50	4.52	4.23	6.28	4.91	7.63
Silver	.07	MG/KG	4	9	5	3	5	4
Thallium	1	MG/KG	ND	ND	ND	3	ND	2
Vanadium	.2	MG/KG	26	32	28	23	27	23
Zinc	.5	MG/KG	842	784	897	912	1180	937
Sulfides-Reactive	11	MG/KG	78	89	91	117	101	92
Sulfides-Total	500	MG/KG	15600	16700	15200	22200	19700	21100
Total Nitrogen	1.1	WT%	4.89	4.93	4.95	4.92	4.91	4.89
Total Kjeldahl Nitrogen	.04	WT%	NR	4.54	NR	NR	4.57	NR
Total Volatile Solids		WT%	58.1	59.2	56.9	60.6	57.4	58.9
Total Solids		WT%	28.7	27.8	28.3	27.1	26.9	26.4
pH		PH	7.89	7.83	7.92	7.78	7.72	7.79

ND= Not Detected
NA= Not Analyzed
NS= Not Sampled
NR= Not Required

MBCDEWCN= Metro Biosolids Center Dewatered Centrifuged Sludge.

POINT LOMA WASTEWATER TREATMENT PLANT
METRO BIOSOLIDS CENTER
ANNUAL DEWATERED SLUDGE COMPOSITES
Trace Metals

2013 Annual

Source:			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date:			31-JUL-2013	31-AUG-2013	30-SEP-2013	31-OCT-2013	30-NOV-2013	31-DEC-2013
Sample ID:	MDL	Units	P669948	P674861	P677800	P682539	P687315	P690536
Aluminum	4	MG/KG	5330	4820	4500	4090	4440	3500
Antimony	.5	MG/KG	ND	ND	3.7	1.8	4.1	2.0
Arsenic	.68	MG/KG	4.03	3.25	3.08	2.83	3.80	3.58
Barium	.05	MG/KG	186	54	283	98	392	331
Beryllium	.02	MG/KG	0.07	0.05	0.07	ND	0.06	0.09
Cadmium	.1	MG/KG	1.4	1.4	1.2	1.1	1.5	1.1
Chromium	.3	MG/KG	50	41	34	33	39	36
Cobalt	.2	MG/KG	2.8	3.6	6.2	6.9	7.1	5.9
Cyanide, Total	.1	MG/KG	NR	1.7	NR	1.5	NR	NR
Copper	.4	MG/KG	741	656	684	677	688	627
Iron	20	MG/KG	91000	88300	101000	95200	101000	81600
Lead	2	MG/KG	20	20	29	27	29	18
Manganese	.2	MG/KG	274	240	245	252	276	233
Mercury	.2	MG/KG	1.9	1.0	1.1	1.1	1.0	1.1
Molybdenum	.1	MG/KG	20	19	18	21	20	14
Nickel	.3	MG/KG	35	31	35	37	39	34
Selenium	.47	MG/KG	5.85	4.11	5.69	4.58	4.22	4.44
Silver	.07	MG/KG	6	4	6	5	7	5
Thallium	1	MG/KG	2	ND	3	ND	2	5
Vanadium	.2	MG/KG	31	44	51	60	63	52
Zinc	.5	MG/KG	923	972	906	839	914	742
Sulfides-Reactive	11	MG/KG	126	148	116	35	24	133
Sulfides-Total	500	MG/KG	27100	23500	21800	22400	10200	26800
Total Nitrogen	1.1	WT%	4.67	5.13	4.99	5.06	5.02	5.20
Total Kjeldahl Nitrogen	.04	WT%	NR	4.74	NR	5.07	NR	NR
Total Volatile Solids		WT%	60.8	60.6	57.6	60.9	60.8	59.9
Total Solids		WT%	26.8	26.8	26.7	26.6	27.4	27.5
pH		PH	7.84	7.55	7.54	7.54	7.69	7.54

ND= Not Detected
NA= Not Analyzed
NS= Not Sampled
NR= Not Required

MBCDEWCN= Metro Biosolids Center Dewatered Centrifuged Sludge.

POINT LOMA WASTEWATER TREATMENT PLANT

Total Nitrogen Analysis

2013 Annual

Source:			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date:			31-JAN-2013	28-FEB-2013	31-MAR-2013	30-APR-2013	31-MAY-2013	30-JUN-2013	31-JUL-2013
Sample:	MDL	Units	P649993	P653392	P657413	P660574	P664036	P667050	P669948
Total Nitrogen	1.1	WT%	4.89	4.93	4.95	4.92	4.91	4.89	4.67

Source:			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date:			31-AUG-2013	30-SEP-2013	31-OCT-2013	30-NOV-2013	31-DEC-2013
Sample:	MDL	Units	P674861	P677800	P682539	P687315	P690536
Total Nitrogen	1.1	WT%	5.13	4.99	5.06	5.02	5.20

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT

Radioactivity

2013 Annual

ANALYZED BY: Truesdail Labs Inc.

Source	Sample Date	Sample ID	Gross Alpha Radiation	Gross Beta Radiation
PLE	05-FEB-2013	P649601	1.9±7.6	25.8±7.6
PLE	07-MAY-2013	P661078	-1.6±10.0	33.5±14.0
PLE	06-AUG-2013	P671076	-3.1±8.6	24.9±9.1
PLE	01-OCT-2013	P677625	-2.4±6.9	31.9±9.3
PLE	ANNUAL	AVERAGE	-1.3±8.3	29.0±10.0
PLR	05-FEB-2013	P649607	1.2±7.3	34.0±8.8
PLR	07-MAY-2013	P661084	4.3±10.5	31.0±8.8
PLR	06-AUG-2013	P671082	2.0±8.6	30.6±10.1
PLR	01-OCT-2013	P677631	7.1±8.6	33.4±8.4
PLR	ANNUAL	AVERAGE	3.7±8.7	32.3±9.0
MBC_COMBCN	05-FEB-2013	P649618	-1.2±8.9	52.9±13.0
MBC_COMBCN	07-MAY-2013	P661095	-3.4±14.0	40.4±18.0
MBC_COMBCN	06-AUG-2013	P671093	9.8±13.0	45.1±16.0
MBC_COMBCN	01-OCT-2013	P677642	0.4±7.7	56.2±12.0
MBC_COMBCN	ANNUAL	AVERAGE	1.4±10.9	48.7±14.8

Units in picocuries per Liter (pCi/L)

ND= Not Detected
NA= Not Analyzed
NS= Not Sampled
NR= Not Required

MBC_COMBCN = Combined Sludge Centrate
MBC_NC_DSL = Combined North City Digested Sludge Line
MBC_NC_RSL = Combined North City Raw Sludge Line

POINT LOMA WASTEWATER TREATMENT PLANT

Radioactivity

2013 Annual

ANALYZED BY: Truesdail Labs Inc.

Source	Sample Date	Sample ID		Gross Alpha Radiation	Gross Beta Radiation
MBCDEWCN	28-FEB-2013	P653392		2450±3900	10200±2100
MBCDEWCN	31-MAY-2013	P664036		494±405	8790±1950
MBCDEWCN	31-AUG-2013	P674861		9820±3750	8750±2300
MBCDEWCN	31-OCT-2013	P682539		2350±3800	8640±2000
AVERAGE				3779±2964	9095±2088

Units in picocuries/liter (pCi/kg)

ND= Not Detected
NA= Not Analyzed
NS= Not Sampled
NR= Not Required

MBC_COMBCN= Metro Biosolids Center Combined Sludge Centrate.

METROBIOSOLIDS CENTER
Chlorinated Pesticide Analysis

2013 Annual

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			31-JAN-2013	28-FEB-2013	31-MAR-2013	30-APR-2013	31-MAY-2013
Analyte	MDL	Units	P649993	P653392	P657413	P660574	P664036
Aldrin	10000	NG/KG	ND	ND	ND	ND	ND
Dieldrin	2300	NG/KG	ND	ND	ND	ND	ND
BHC, Alpha isomer	1300	NG/KG	ND	ND	ND	ND	ND
BHC, Beta isomer	1000	NG/KG	ND	ND	ND	ND	ND
BHC, Gamma isomer	1100	NG/KG	ND	ND	ND	ND	ND
BHC, Delta isomer	800	NG/KG	ND	ND	ND	ND	ND
p,p-DDD	500	NG/KG	ND	ND	ND	ND	ND
p,p-DDE	1000	NG/KG	10600	ND	19600	ND	19300
p,p-DDT	2200	NG/KG	ND	ND	ND	ND	ND
o,p-DDD	800	NG/KG	9030	ND	18400	ND	17800
o,p-DDE	1100	NG/KG	ND	ND	ND	ND	ND
o,p-DDT	800	NG/KG	ND	ND	ND	ND	ND
Heptachlor	1200	NG/KG	ND	ND	ND	ND	ND
Heptachlor epoxide	1300	NG/KG	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	3200	NG/KG	ND	ND	18300	ND	ND
Gamma (trans) Chlordane	800	NG/KG	ND	ND	14700	ND	ND
Alpha Chlordene		NG/KG	NA	NA	NA	NA	NA
Gamma Chlordene		NG/KG	NA	NA	NA	NA	NA
Oxychlordane	1600	NG/KG	ND	ND	ND	ND	ND
Trans Nonachlor	1300	NG/KG	ND	ND	8630	ND	ND
Cis Nonachlor	1600	NG/KG	ND	ND	ND	ND	ND
Alpha Endosulfan	2500	NG/KG	ND	ND	ND	ND	ND
Beta Endosulfan	1500	NG/KG	ND	ND	ND	ND	ND
Endosulfan Sulfate	2200	NG/KG	ND	ND	ND	ND	ND
Endrin aldehyde	800	NG/KG	ND	ND	ND	ND	ND
Toxaphene	183000	NG/KG	ND	ND	ND	ND	ND
Mirex	900	NG/KG	ND	ND	ND	ND	ND
Methoxychlor	800	NG/KG	ND	ND	ND	ND	ND
PCB 1016	5600	NG/KG	ND	ND	ND	ND	ND
PCB 1221	20000	NG/KG	ND	ND	ND	ND	ND
PCB 1232	3000	NG/KG	ND	ND	ND	ND	ND
PCB 1242	7000	NG/KG	ND	ND	ND	ND	ND
PCB 1248	9300	NG/KG	ND	ND	ND	ND	ND
PCB 1254	4200	NG/KG	ND	ND	ND	ND	ND
PCB 1260	3000	NG/KG	ND	ND	ND	ND	ND
PCB 1262	5000	NG/KG	ND	ND	ND	ND	ND
Aldrin + Dieldrin	10000	NG/KG	0	0	0	0	0
Hexachlorocyclohexanes	1300	NG/KG	0	0	0	0	0
DDT and derivatives	2200	NG/KG	19630	0	38000	0	37100
Chlordane + related cmpds.	3200	NG/KG	0	0	33000	0	0
Polychlorinated biphenyls	20000	NG/KG	0	0	0	0	0
Chlorinated Hydrocarbons	183000	NG/KG	19630	0	79630	0	37100

nd= not detected
NA= not analyzed
NS= not sampled

METROBIOSOLIDS CENTER
Chlorinated Pesticide Analysis

2013 Annual

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			30-JUN-2013	31-JUL-2013	31-AUG-2013	30-SEP-2013	31-OCT-2013
Analyte	MDL	Units	P667050	P669948	P674861	P677800	P682539
Aldrin	10000	NG/KG	ND	ND	ND	ND	ND
Dieldrin	2300	NG/KG	ND	ND	ND	ND	ND
BHC, Alpha isomer	1300	NG/KG	ND	ND	ND	ND	ND
BHC, Beta isomer	1000	NG/KG	ND	ND	ND	ND	ND
BHC, Gamma isomer	1100	NG/KG	ND	ND	ND	ND	ND
BHC, Delta isomer	800	NG/KG	ND	ND	ND	ND	ND
p,p-DDD	500	NG/KG	ND	4300	ND	ND	ND
p,p-DDE	1000	NG/KG	41500	38300	18800	ND	ND
p,p-DDT	2200	NG/KG	ND	ND	ND	ND	ND
o,p-DDD	800	NG/KG	ND	11300	8360	ND	ND
o,p-DDE	1100	NG/KG	ND	5440	ND	ND	ND
o,p-DDT	800	NG/KG	ND	ND	ND	ND	ND
Heptachlor	1200	NG/KG	ND	ND	ND	ND	ND
Heptachlor epoxide	1300	NG/KG	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	3200	NG/KG	31600	15000	12300	ND	ND
Gamma (trans) Chlordane	800	NG/KG	17600	8960	13100	ND	2950
Alpha Chlordene		NG/KG	NA	NA	NA	NA	NA
Gamma Chlordene		NG/KG	NA	NA	NA	NA	NA
Oxychlordane	1600	NG/KG	ND	ND	ND	ND	ND
Trans Nonachlor	1300	NG/KG	14200	11000	1810	ND	ND
Cis Nonachlor	1600	NG/KG	ND	ND	ND	ND	ND
Alpha Endosulfan	2500	NG/KG	ND	ND	ND	ND	ND
Beta Endosulfan	1500	NG/KG	ND	ND	ND	ND	ND
Endosulfan Sulfate	2200	NG/KG	ND	ND	ND	ND	ND
Endrin aldehyde	800	NG/KG	ND	ND	ND	ND	ND
Toxaphene	183000	NG/KG	ND	ND	ND	ND	ND
Mirex	900	NG/KG	ND	ND	ND	ND	ND
Methoxychlor	800	NG/KG	ND	ND	ND	ND	ND
PCB 1016	5600	NG/KG	ND	ND	ND	ND	ND
PCB 1221	20000	NG/KG	ND	ND	ND	ND	ND
PCB 1232	3000	NG/KG	ND	ND	ND	ND	ND
PCB 1242	7000	NG/KG	ND	ND	ND	ND	ND
PCB 1248	9300	NG/KG	ND	ND	ND	ND	ND
PCB 1254	4200	NG/KG	ND	ND	ND	ND	ND
PCB 1260	3000	NG/KG	ND	ND	ND	ND	ND
PCB 1262	5000	NG/KG	ND	ND	ND	ND	ND
Aldrin + Dieldrin	10000	NG/KG	0	0	0	0	0
Hexachlorocyclohexanes	1300	NG/KG	0	0	0	0	0
DDT and derivatives	2200	NG/KG	41500	59340	27160	0	0
Chlordane + related cmpds.	3200	NG/KG	49200	23960	25400	0	2950
Polychlorinated biphenyls	20000	NG/KG	0	0	0	0	0
Chlorinated Hydrocarbons	183000	NG/KG	104900	94300	54370	0	2950

nd= not detected
NA= not analyzed
NS= not sampled

METROBIOSOLIDS CENTER
Chlorinated Pesticide Analysis

2013 Annual

Source			MBCDEWCN	MBCDEWCN	
Date			30-NOV-2013	31-DEC-2013	Annual
Analyte	MDL	Units	P687315	P690536	Average
Aldrin	10000	NG/KG	ND	ND	ND
Dieldrin	2300	NG/KG	ND	ND	ND
BHC, Alpha isomer	1300	NG/KG	ND	ND	ND
BHC, Beta isomer	1000	NG/KG	ND	ND	ND
BHC, Gamma isomer	1100	NG/KG	ND	ND	ND
BHC, Delta isomer	800	NG/KG	ND	ND	ND
p,p-DDD	500	NG/KG	ND	ND	358
p,p-DDE	1000	NG/KG	9580	15100	14398
p,p-DDT	2200	NG/KG	ND	ND	ND
o,p-DDD	800	NG/KG	ND	11600	6374
o,p-DDE	1100	NG/KG	ND	ND	453
o,p-DDT	800	NG/KG	ND	ND	ND
Heptachlor	1200	NG/KG	ND	ND	ND
Heptachlor epoxide	1300	NG/KG	ND	ND	ND
Alpha (cis) Chlordane	3200	NG/KG	ND	ND	6433
Gamma (trans) Chlordane	800	NG/KG	ND	ND	4776
Alpha Chlordene		NG/KG	NA	NA	NA
Gamma Chlordene		NG/KG	NA	NA	NA
Oxychlordane	1600	NG/KG	ND	ND	ND
Trans Nonachlor	1300	NG/KG	ND	ND	2970
Cis Nonachlor	1600	NG/KG	ND	ND	ND
Alpha Endosulfan	2500	NG/KG	ND	ND	ND
Beta Endosulfan	1500	NG/KG	ND	ND	ND
Endosulfan Sulfate	2200	NG/KG	ND	ND	ND
Endrin aldehyde	800	NG/KG	ND	ND	ND
Toxaphene	183000	NG/KG	ND	ND	ND
Mirex	900	NG/KG	ND	ND	ND
Methoxychlor	800	NG/KG	ND	ND	ND
PCB 1016	5600	NG/KG	ND	ND	ND
PCB 1221	20000	NG/KG	ND	ND	ND
PCB 1232	3000	NG/KG	ND	ND	ND
PCB 1242	7000	NG/KG	ND	ND	ND
PCB 1248	9300	NG/KG	ND	ND	ND
PCB 1254	4200	NG/KG	ND	ND	ND
PCB 1260	3000	NG/KG	ND	ND	ND
PCB 1262	5000	NG/KG	ND	ND	ND
Aldrin + Dieldrin	10000	NG/KG	0	0	0
Hexachlorocyclohexanes	1300	NG/KG	0	0	0
DDT and derivatives	2200	NG/KG	9580	26700	21584
Chlordane + related cmpds.	3200	NG/KG	0	0	11209
Polychlorinated biphenyls	20000	NG/KG	0	0	0
Chlorinated Hydrocarbons	183000	NG/KG	9580	26700	35763

nd= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT

Tributyl Tin (Sludge)

2013 Annual

Source			MBCDEWCN	MBCDEWCN
Date			31-MAY-2013	31-OCT-2013
Analyte			P664036	P682539
Monobutyltin	4000	UG/KG	ND	ND
Tributyltin	2600	UG/KG	ND	ND

nd= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT

Herbicide Analysis

2013 Annual

Source:			MBCDEWCN	MBCDEWCN
Date:			31-MAY-2013	31-OCT-2013
Sample:	MDL	Units	P664036	P682539
2,4-Dichlorophenoxyacetic acid	.0696	MG/KG	ND	ND
2,4,5-TP (Silvex)	.0328	MG/KG	ND	ND

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER

Organophosphorus Pesticides

2013 Annual

Source			PLE	PLE	PLE	PLE	PLE	PLE
Date			11-JAN-2013	05-FEB-2013	15-MAR-2013	16-APR-2013	07-MAY-2013	15-JUN-2013
Analyte	MDL	Units	P645663	P649601	P654931	P658831	P661078	P664851
Demeton O	.15	UG/L	ND	ND	ND	ND	ND	ND
Demeton S	.08	UG/L	ND	ND	ND	ND	ND	ND
Diazinon	.03	UG/L	ND	ND	ND	ND	ND	ND
Guthion	.15	UG/L	ND	ND	ND	ND	ND	ND
Malathion	.03	UG/L	0.05	DNQ0.05	ND	DNQ0.12	ND	0.55
Parathion	.03	UG/L	ND	ND	ND	ND	ND	ND
Chlorpyrifos	.03	UG/L	ND	<0.03	ND	ND	ND	ND
Coumaphos	.15	UG/L	ND	ND	ND	ND	ND	ND
Dichlorvos	.05	UG/L	ND	ND	ND	ND	ND	ND
Dimethoate	.04	UG/L	ND	ND	ND	ND	ND	ND
Disulfoton	.02	UG/L	ND	ND	ND	ND	ND	ND
Stirophos	.03	UG/L	ND	ND	ND	ND	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.05	0.00	0.00	0.00	0.00	0.55
Demeton -O, -S	.15	UG/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.05	0.00	0.00	0.00	0.00	0.55

Source			PLE	PLE	PLE	PLE	PLE	PLE
Date			09-JUL-2013	06-AUG-2013	11-SEP-2013	01-OCT-2013	12-NOV-2013	10-DEC-2013
Analyte	MDL	Units	P667691	P671076	P675373	P677625	P683396	P686942
Demeton O	.15	UG/L	ND	ND	ND	ND	ND	ND
Demeton S	.08	UG/L	ND	ND	ND	ND	ND	ND
Diazinon	.03	UG/L	ND	ND	ND	ND	ND	ND
Guthion	.15	UG/L	ND	ND	ND	ND	ND	ND
Malathion	.03	UG/L	0.19	DNQ0.13	ND	ND	ND	ND
Parathion	.03	UG/L	ND	ND	ND	ND	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND	ND	ND	ND	ND
Coumaphos	.15	UG/L	ND	ND	ND	ND	ND	ND
Dichlorvos	.05	UG/L	ND	ND	ND	ND	ND	ND
Dimethoate	.04	UG/L	ND	ND	ND	ND	ND	ND
Disulfoton	.02	UG/L	ND	ND	ND	ND	ND	ND
Stirophos	.03	UG/L	ND	ND	ND	ND	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.19	0.00	0.00	0.00	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.19	0.00	0.00	0.00	0.00	0.00

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

ND=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER

Organophosphorus Pesticides

2013 Annual

Source			PLR	PLR	PLR	PLR	PLR	PLR
Date			11-JAN-2013	05-FEB-2013	15-MAR-2013	16-APR-2013	07-MAY-2013	15-JUN-2013
Analyte	MDL	Units	P645666	P649607	P654934	P658834	P661084	P664854
Demeton O	.15	UG/L	ND	ND	ND	ND	ND	ND
Demeton S	.08	UG/L	ND	ND	ND	ND	ND	ND
Diazinon	.03	UG/L	ND	ND	ND	ND	ND	ND
Guthion	.15	UG/L	ND	ND	ND	ND	ND	ND
Malathion	.03	UG/L	0.04	ND	ND	ND	ND	0.50
Parathion	.03	UG/L	ND	ND	ND	ND	ND	ND
Chlorpyrifos	.03	UG/L	ND	DNQ0.1	ND	ND	ND	ND
Coumaphos	.15	UG/L	ND	ND	ND	ND	ND	ND
Dichlorvos	.05	UG/L	ND	ND	ND	ND	ND	ND
Dimethoate	.04	UG/L	ND	ND	ND	ND	ND	ND
Disulfoton	.02	UG/L	ND	ND	ND	ND	ND	ND
Stirophos	.03	UG/L	ND	ND	ND	ND	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.04	0.00	0.00	0.00	0.00	0.50
Demeton -O, -S	.15	UG/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.04	0.00	0.00	0.00	0.00	0.50

Source			PLR	PLR	PLR	PLR	PLR	PLR
Date			09-JUL-2013	06-AUG-2013	11-SEP-2013	01-OCT-2013	12-NOV-2013	10-DEC-2013
Analyte	MDL	Units	P667694	P671082	P675376	P677631	P683399	P686945
Demeton O	.15	UG/L	ND	ND	ND	ND	ND	ND
Demeton S	.08	UG/L	ND	ND	ND	ND	ND	ND
Diazinon	.03	UG/L	ND	ND	ND	ND	ND	ND
Guthion	.15	UG/L	ND	ND	ND	ND	ND	ND
Malathion	.03	UG/L	0.15	DNQ0.13	ND	DNQ0.04	ND	ND
Parathion	.03	UG/L	ND	ND	ND	ND	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND	ND	ND	ND	DNQ0.1
Coumaphos	.15	UG/L	ND	ND	ND	ND	ND	ND
Dichlorvos	.05	UG/L	ND	ND	ND	ND	ND	ND
Dimethoate	.04	UG/L	ND	ND	ND	ND	ND	ND
Disulfoton	.02	UG/L	ND	ND	ND	ND	ND	ND
Stirophos	.03	UG/L	ND	ND	ND	DNQ0.03	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.15	0.00	0.00	0.00	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.15	0.00	0.00	0.00	0.00	0.00

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

ND=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER

Organophosphorus Pesticides

2013 Annual

Source			MBC_COMBCN	MBC_COMBCN
Date			07-MAY-2013	01-OCT-2013
Analyte	MDL	Units	P661095	P677642
Demeton O	.15	UG/L	ND	ND
Demeton S	.08	UG/L	ND	ND
Diazinon	.03	UG/L	ND	ND
Guthion	.15	UG/L	ND	ND
Malathion	.03	UG/L	ND	ND
Parathion	.03	UG/L	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND
Coumaphos	.15	UG/L	ND	ND
Dichlorvos	.05	UG/L	ND	ND
Dimethoate	.04	UG/L	ND	ND
Disulfoton	.02	UG/L	ND	ND
Stirophos	.03	UG/L	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.00	0.00

Source			MBC_NC_DSL	MBC_NC_DSL
Date			07-MAY-2013	01-OCT-2013
Analyte	MDL	Units	P661149	P677696
Demeton O	.15	UG/L	ND	ND
Demeton S	.08	UG/L	ND	ND
Diazinon	.03	UG/L	ND	ND
Guthion	.15	UG/L	ND	ND
Malathion	.03	UG/L	ND	ND
Parathion	.03	UG/L	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND
Coumaphos	.15	UG/L	ND	ND
Dichlorvos	.05	UG/L	ND	ND
Dimethoate	.04	UG/L	ND	ND
Disulfoton	.02	UG/L	ND	ND
Stirophos	.03	UG/L	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.00	0.00

ND=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER

Organophosphorus Pesticides

2013 Annual

Source			MBC_NC_RSL	MBC_NC_RSL
Date			07-MAY-2013	01-OCT-2013
Analyte	MDL	Units	P661147	P677694
Demeton O	.15	UG/L	ND	ND
Demeton S	.08	UG/L	ND	ND
Diazinon	.03	UG/L	ND	ND
Guthion	.15	UG/L	ND	ND
Malathion	.03	UG/L	ND	ND
Parathion	.03	UG/L	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND
Coumaphos	.15	UG/L	ND	ND
Dichlorvos	.05	UG/L	ND	ND
Dimethoate	.04	UG/L	ND	ND
Disulfoton	.02	UG/L	ND	ND
Stirophos	.03	UG/L	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.00	0.00

Source			RAW COMP	RAW COMP
Date			07-MAY-2013	01-OCT-2013
Analyte	MDL	Units	P661120	P677667
Demeton O	.15	UG/L	ND	ND
Demeton S	.08	UG/L	ND	ND
Diazinon	.03	UG/L	ND	ND
Guthion	.15	UG/L	ND	ND
Malathion	.03	UG/L	ND	ND
Parathion	.03	UG/L	ND	ND
Chlorpyrifos	.03	UG/L	ND	ND
Coumaphos	.15	UG/L	ND	ND
Dichlorvos	.05	UG/L	ND	ND
Dimethoate	.04	UG/L	ND	ND
Disulfoton	.02	UG/L	ND	ND
Stirophos	.03	UG/L	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.00	0.00

ND=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT / METROBIOSOLIDS CENTER

Organophosphorus Pesticides

2013 Annual

Source			DIG COMP	DIG COMP
Date			07-MAY-2013	01-OCT-2013
Analyte	MDL	Units	P661134	P677681
Demeton O	.15	UG/L	ND	ND
Demeton S	.08	UG/L	ND	ND
Diazinon	.03	UG/L	ND	ND
Guthion	.15	UG/L	ND	ND
Malathion	.03	UG/L	ND	ND
Parathion	.03	UG/L	ND	ND
Chlorpyrifos	.03	UG/L	DNQ2.5	ND
Coumaphos	.15	UG/L	ND	ND
Dichlorvos	.05	UG/L	ND	ND
Dimethoate	.04	UG/L	ND	ND
Disulfoton	.02	UG/L	ND	ND
Stirophos	.03	UG/L	ND	ND
Thiophosphorus Pesticides	.15	UG/L	0.00	0.00
Demeton -O, -S	.15	UG/L	0.00	0.00
Total Organophosphorus Pesticides	.15	UG/L	0.00	0.00

Source			MBCDEWCN	MBCDEWCN
Date			31-MAY-2013	31-OCT-2013
Analyte	MDL	Units	P664036	P682539
Demeton O	67	UG/KG	ND	ND
Demeton S	27	UG/KG	ND	ND
Diazinon		UG/KG	ND	DNQ16.1
Guthion	33	UG/KG	ND	ND
Malathion	20	UG/KG	ND	ND
Parathion	20	UG/KG	ND	ND
Chlorpyrifos		UG/KG	DNQ64.4	248.0
Coumaphos	33	UG/KG	ND	ND
Dichlorvos	17	UG/KG	ND	ND
Dimethoate	27	UG/KG	ND	ND
Disulfoton	20	UG/KG	ND	ND
Stirophos	20	UG/KG	ND	ND
Thiophosphorus Pesticides	33	UG/KG	0.0	0.0
Demeton -O, -S	67	UG/KG	0.0	0.0
Total Organophosphorus Pesticides	67	UG/KG	0.0	248.0

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

ND=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
Base/Neutrals

Annual 2013

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			28-FEB-2013	31-MAY-2013	31-AUG-2013	31-OCT-2013
Analyte	MDL	Units	P653392	P664036	P674861	P682539
Acenaphthene	330	UG/KG	ND	ND	ND	ND
Acenaphthylene	330	UG/KG	ND	ND	ND	ND
Anthracene	330	UG/KG	ND	ND	ND	ND
Benzidine	330	UG/KG	ND	ND	ND	ND
3,4-Benzo(b)fluoranthene	330	UG/KG	ND	ND	ND	ND
Benzo[k]fluoranthene	330	UG/KG	ND	ND	ND	ND
Benzo[a]anthracene	330	UG/KG	ND	ND	ND	ND
Benzo[a]pyrene	330	UG/KG	ND	ND	ND	ND
Benzo[g,h,i]perylene	330	UG/KG	ND	ND	ND	ND
4-Bromophenyl phenyl ether	330	UG/KG	ND	ND	ND	ND
Bis-(2-chloroethoxy) methane	330	UG/KG	ND	ND	ND	ND
Bis-(2-chloroethyl) ether	330	UG/KG	ND	ND	ND	ND
Bis-(2-chloroisopropyl) ether	330	UG/KG	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	330	UG/KG	ND	ND	ND	ND
2-Chloronaphthalene		UG/KG	ND	ND	ND	ND
Chrysene	330	UG/KG	ND	ND	ND	ND
Dibenzo(a,h)anthracene	330	UG/KG	ND	ND	ND	ND
Butyl benzyl phthalate	330	UG/KG	ND	845	ND	1640
Di-n-butyl phthalate	330	UG/KG	ND	ND	ND	ND
Bis-(2-ethylhexyl) phthalate	330	UG/KG	77500	81200	83300	82600
Diethyl phthalate	330	UG/KG	ND	ND	ND	ND
Dimethyl phthalate	330	UG/KG	ND	ND	ND	ND
Di-n-octyl phthalate	330	UG/KG	ND	ND	ND	1100
3,3-Dichlorobenzidine	330	UG/KG	ND	ND	ND	ND
2,4-Dinitrotoluene	330	UG/KG	ND	ND	ND	ND
2,6-Dinitrotoluene	330	UG/KG	ND	ND	ND	ND
1,2-Diphenylhydrazine		UG/KG	ND	ND	ND	ND
Fluoranthene	330	UG/KG	ND	ND	<330	ND
Fluorene	330	UG/KG	ND	ND	ND	ND
Hexachlorobenzene	330	UG/KG	ND	ND	ND	ND
Hexachlorobutadiene	330	UG/KG	ND	ND	ND	ND
Hexachlorocyclopentadiene	330	UG/KG	ND	ND	ND	ND
Hexachloroethane	330	UG/KG	ND	ND	ND	ND
Indeno(1,2,3-CD)pyrene	330	UG/KG	ND	ND	ND	ND
Isophorone	330	UG/KG	ND	ND	ND	ND
Naphthalene	330	UG/KG	ND	681	ND	ND
Nitrobenzene	330	UG/KG	ND	ND	ND	ND
N-nitrosodimethylamine	330	UG/KG	ND	ND	ND	ND
N-nitrosodi-n-propylamine	330	UG/KG	ND	ND	ND	ND
N-nitrosodiphenylamine	330	UG/KG	ND	ND	ND	ND
Phenanthrene	330	UG/KG	ND	356	ND	459
Pyrene	330	UG/KG	ND	ND	ND	ND
1,2,4-Trichlorobenzene	330	UG/KG	ND	ND	ND	ND
PolyNuc. Aromatic Hydrocarbons	330	UG/KG	0	356	0	459
Base/Neutral Compounds	330	UG/KG	77500	83082	83300	85799
Dichlorobenzenes	330	UG/KG	0	0	0	0

Additional Analytes Determined;

Benzo[e]pyrene		UG/KG	ND	ND	ND	ND
Biphenyl		UG/KG	ND	852	ND	296
2,6-Dimethylnaphthalene		UG/KG	1640	1840	1510	1790
1-Methylnaphthalene		UG/KG	ND	ND	ND	497
1-Methylphenanthrene		UG/KG	ND	ND	ND	ND*
2-Methylnaphthalene		UG/KG	462	653	367	573
2,3,5-Trimethylnaphthalene		UG/KG	ND	ND	ND	ND
Perylene	330	UG/KG	ND*	ND	ND	ND*
1,3-Dichlorobenzene	330	UG/KG	ND	ND	ND	ND
1,2-Dichlorobenzene	330	UG/KG	ND	ND	ND	ND
1,4-Dichlorobenzene	330	UG/KG	ND	ND	ND	ND
Pyridine		UG/KG	ND	ND	ND	ND

* =Did not meet CHK and SPK criteria.

nd= not detected, NA= not analyzed, NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
Phenolics

Annual 2013

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	
Date			28-FEB-2013	31-MAY-2013	31-AUG-2013	31-OCT-2013	
Analyte	MDL	Units	P653392	P664036	P674861	P682539	Average
2-Chlorophenol	330	UG/KG	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	330	UG/KG	ND	ND	ND	ND	ND
2,4-Dichlorophenol	330	UG/KG	ND	ND	ND	ND	ND
2,4-Dimethylphenol	330	UG/KG	ND	ND	ND	ND	ND
2,4-Dinitrophenol	330	UG/KG	ND	ND	ND	ND	ND
2-Methyl-4,6-dinitrophenol	800	UG/KG	ND	ND	ND	ND	ND
2-Nitrophenol	330	UG/KG	ND	ND	ND	ND	ND
4-Nitrophenol	800	UG/KG	ND	ND	ND	ND	ND
Pentachlorophenol	800	UG/KG	ND	ND	ND	ND	ND
Phenol	330	UG/KG	5360	6580	3890	3450	4820
2,4,6-Trichlorophenol	330	UG/KG	ND	ND	ND	ND	ND
Total Chlorinated Phenols	800	UG/KG	0	0	0	0	0
Total Non-Chlorinated Phenols	800	UG/KG	6550	7572	6880	5020	6506
Phenols	800	UG/KG	6550	7572	6880	5020	6506
Additional Analytes Determined;							
2-Methylphenol	330	UG/KG	ND	ND	1570	ND	393
4-Methylphenol(3-MP is unresolved)	330	UG/KG	1190	992	1420	1570	1293
2,4,5-Trichlorophenol	800	UG/KG	ND	ND	ND	ND	ND
Phenols average	800	UG/KG	487	598	354	314	438

nd= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
Purgeables

Annual 2013

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			31-JAN-2013	28-FEB-2013	31-MAR-2013	30-APR-2013	31-MAY-2013	30-JUN-2013
Analyte	MDL	Units	P649993	P653392	P657413	P660574	P664036	P667050
Acrolein	6.4	UG/KG	NA*	ND	ND	ND	ND	ND
Acrylonitrile	3.9	UG/KG	NA*	ND	ND	ND	ND	ND
Benzene	2.1	UG/KG	ND	ND	ND	ND	DNQ4.9	ND
Bromodichloromethane	2.2	UG/KG	ND	ND	ND	ND	ND	ND
Bromoform	2.4	UG/KG	ND	ND	ND	ND	ND	ND
Bromomethane	6.9	UG/KG	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	3	UG/KG	ND	ND	ND	ND	ND	ND
Chlorobenzene	1	UG/KG	ND	ND	ND	ND	ND	ND
Chloroethane	3.6	UG/KG	ND	ND	ND	ND	ND	ND
Chloroform	2.3	UG/KG	ND	ND	ND	ND	ND	ND
Chloromethane	3.4	UG/KG	ND	ND	ND	ND	ND	ND
Dibromochloromethane	2.4	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	1.5	UG/KG	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	1.8	UG/KG	ND	ND	ND	DNQ4.3	ND	ND
1,4-Dichlorobenzene	1.5	UG/KG	ND	122	93.7	126	90.3	87.0
Dichlorodifluoromethane	5.56	UG/KG	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	1.9	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	3.6	UG/KG	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	UG/KG	ND	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	3.5	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	2.6	UG/KG	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	2.5	UG/KG	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	2.1	UG/KG	ND	ND	ND	ND	ND	ND
Ethylbenzene	1.4	UG/KG	ND	184	156	183	148	156
Methylene chloride	3.5	UG/KG	626	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5.9	UG/KG	ND	ND	ND	ND	ND	ND
Tetrachloroethene	2.8	UG/KG	ND	ND	ND	ND	ND	ND
Toluene	1.2	UG/KG	ND	110	64.1	76.1	43.5	51.9
1,1,1-Trichloroethane	3.2	UG/KG	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	2.8	UG/KG	ND	ND	ND	ND	ND	ND
Trichloroethene	2.6	UG/KG	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	2.2	UG/KG	ND	ND	ND	ND	ND	ND
Vinyl chloride	4.8	UG/KG	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	2.5	UG/KG	ND	ND	ND	ND	ND	ND
Halomethane Purgeable Compounds	6.9	UG/KG	0.0	0.0	0.0	0.0	0.0	0.0
Purgeable Compounds	6.9	UG/KG	626	416	314	389.4	286.7	294.9
Additional Analytes Determined;								
Acetone	31.4	UG/KG	ND	26200	11800	13600	14200	15200
Allyl chloride	3.6	UG/KG	NA*	ND	ND	ND	ND	ND
Benzyl chloride	4.3	UG/KG	NA*	ND	ND	ND	ND	ND
2-Butanone	36.3	UG/KG	ND	7030	2560	3050	3270	2880
Carbon disulfide	4.7	UG/KG	ND	99.5	89.6	67.4	90.9	76.5
Chloroprene	3.1	UG/KG	NA*	ND	ND	ND	ND	ND
1,2-Dibromoethane	2.5	UG/KG	ND	ND	ND	ND	ND	ND
Isopropylbenzene	1.3	UG/KG	ND	30.1	28.9	30.1	24.6	ND
Methyl Iodide	3.8	UG/KG	NA*	ND	ND	ND	ND	ND
Methyl methacrylate	2.4	UG/KG	NA*	ND	ND	ND	ND	ND
Methyl tert-butyl ether	3.4	UG/KG	ND	ND	ND	ND	ND	ND
2-Nitropropane	45.8	UG/KG	NA*	ND	ND	ND	ND	ND
ortho-xylene	1.9	UG/KG	ND	49.6	40.4	51.6	33.9	32.9
Styrene	1.7	UG/KG	ND	30.9	33.0	30.5	22.2	25.1
meta,para xylenes	4.2	UG/KG	ND	96.3	82.8	106.0	70.1	63.2
2-Chloroethylvinyl ether	5.5	UG/KG	NA*	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	9.7	UG/KG	ND	ND	ND	ND	ND	ND

* = Not analyzed by the external lab (TestAmerica)

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

nd= not detected, NA= not analyzed, NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
Purgeables

Annual 2013

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			31-JUL-2013	31-AUG-2013	30-SEP-2013	31-OCT-2013	30-NOV-2013	31-DEC-2013
Analyte	MDL	Units	P669948	P674861	P677800	P682539	P687315	P690536
Acrolein	6.4	UG/KG	ND	ND	ND	ND	ND	ND
Acrylonitrile	3.9	UG/KG	ND	ND	ND	ND	ND	ND
Benzene	2.1	UG/KG	ND	ND	ND	ND	ND	DNQ4.6
Bromodichloromethane	2.2	UG/KG	ND	ND	ND	ND	ND	ND
Bromoform	2.4	UG/KG	ND	ND	ND	ND	ND	ND
Bromomethane	6.9	UG/KG	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	3	UG/KG	ND	ND	ND	ND	ND	ND
Chlorobenzene	1	UG/KG	ND	ND	ND	DNQ4.2	ND	ND
Chloroethane	3.6	UG/KG	ND	ND	ND	ND	ND	ND
Chloroform	2.3	UG/KG	ND	ND	ND	ND	ND	ND
Chloromethane	3.4	UG/KG	ND	ND	ND	ND	ND	ND
Dibromochloromethane	2.4	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	1.5	UG/KG	ND	ND	ND	ND	DNQ16.0	DNQ10.9
1,3-Dichlorobenzene	1.8	UG/KG	ND	ND	ND	ND	DNQ3.3	ND
1,4-Dichlorobenzene	1.5	UG/KG	77.7	78.9	88.2	DNQ27.1	62.4	53.6
Dichlorodifluoromethane	5.56	UG/KG	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	1.9	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	3.6	UG/KG	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	UG/KG	ND	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	3.5	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	2.6	UG/KG	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	2.5	UG/KG	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	2.1	UG/KG	ND	ND	ND	ND	ND	ND
Ethylbenzene	1.4	UG/KG	170	191	186	222	248	200
Methylene chloride	3.5	UG/KG	ND	DNQ15.8	20.7	DNQ8.0	ND	DNQ5.1
1,1,2,2-Tetrachloroethane	5.9	UG/KG	ND	ND	ND	ND	ND	ND
Tetrachloroethene	2.8	UG/KG	ND	ND	ND	ND	ND	ND
Toluene	1.2	UG/KG	52.9	52.8	71.6	72.8	109.0	60.5
1,1,1-Trichloroethane	3.2	UG/KG	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	2.8	UG/KG	ND	ND	ND	ND	ND	ND
Trichloroethene	2.6	UG/KG	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	2.2	UG/KG	ND	ND	ND	ND	ND	ND
Vinyl chloride	4.8	UG/KG	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	2.5	UG/KG	ND	ND	ND	ND	ND	ND
Halomethane Purgeable Compounds	6.9	UG/KG	0.0	0.0	0.0	0.0	0.0	0.0
Purgeable Compounds	6.9	UG/KG	300.6	322.7	366.5	294.8	419.4	314.1

Additional Analytes Determined;

Acetone	31.4	UG/KG	22100	21200	29900	19300	32800	27700
Allyl chloride	3.6	UG/KG	ND	ND	ND	ND	ND	ND
Benzyl chloride	4.3	UG/KG	ND	ND	ND	ND	ND	ND
2-Butanone	36.3	UG/KG	6260	4800	10900	2530	3400	3330
Carbon disulfide	4.7	UG/KG	93.8	90.6	203.0	123.0	166.0	127.0
Chloroprene	3.1	UG/KG	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	2.5	UG/KG	ND	ND	ND	ND	ND	ND
Isopropylbenzene	1.3	UG/KG	19.4	DNQ16.7	33.6	26.5	23.4	17.2
Methyl Iodide	3.8	UG/KG	ND	ND	ND	ND	ND	ND
Methyl methacrylate	2.4	UG/KG	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	3.4	UG/KG	ND	ND	ND	ND	ND	ND
2-Nitropropane	45.8	UG/KG	ND	ND	ND	ND	ND	ND
ortho-xylene	1.9	UG/KG	40.0	35.9	52.4	46.7	34.7	30.9
Styrene	1.7	UG/KG	23.5	32.2	61.9	45.9	38.8	36.7
meta,para xylenes	4.2	UG/KG	79.1	71.7	97.0	91.0	71.4	59.6
2-Chloroethylvinyl ether	5.5	UG/KG	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	9.7	UG/KG	ND	DNQ13.2	ND	ND	ND	25.3

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

nd= not detected, NA= not analyzed, NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
Purgeables

Annual 2013

Analyte	MDL	Units	Average
Acrolein	6.4	UG/KG	ND
Acrylonitrile	3.9	UG/KG	ND
Benzene	2.1	UG/KG	0.8
Bromodichloromethane	2.2	UG/KG	ND
Bromoform	2.4	UG/KG	ND
Bromomethane	6.9	UG/KG	ND
Carbon tetrachloride	3	UG/KG	ND
Chlorobenzene	1	UG/KG	0.4
Chloroethane	3.6	UG/KG	ND
Chloroform	2.3	UG/KG	ND
Chloromethane	3.4	UG/KG	ND
Dibromochloromethane	2.4	UG/KG	ND
1,2-Dichlorobenzene	1.5	UG/KG	2.2
1,3-Dichlorobenzene	1.8	UG/KG	0.6
1,4-Dichlorobenzene	1.5	UG/KG	75.6
Dichlorodifluoromethane	5.56	UG/KG	ND
1,1-Dichloroethane	1.9	UG/KG	ND
1,2-Dichloroethane	3.6	UG/KG	ND
1,1-Dichloroethene	5	UG/KG	ND
trans-1,2-dichloroethene	3.5	UG/KG	ND
1,2-Dichloropropane	2.6	UG/KG	ND
cis-1,3-dichloropropene	2.5	UG/KG	ND
trans-1,3-dichloropropene	2.1	UG/KG	ND
Ethylbenzene	1.4	UG/KG	170.3
Methylene chloride	3.5	UG/KG	56.3
1,1,2,2-Tetrachloroethane	5.9	UG/KG	ND
Tetrachloroethene	2.8	UG/KG	ND
Toluene	1.2	UG/KG	63.8
1,1,1-Trichloroethane	3.2	UG/KG	ND
1,1,2-Trichloroethane	2.8	UG/KG	ND
Trichloroethene	2.6	UG/KG	ND
Trichlorofluoromethane	2.2	UG/KG	ND
Vinyl chloride	4.8	UG/KG	ND
1,2,4-Trichlorobenzene	2.5	UG/KG	ND
Halomethane Purgeable Compounds	6.9	UG/KG	0.0
Purgeable Compounds	6.9	UG/KG	370.0

Additional Analytes Determined;

Acetone	31.4	UG/KG	19500
Allyl chloride	3.6	UG/KG	ND
Benzyl chloride	4.3	UG/KG	ND
2-Butanone	36.3	UG/KG	4168
Carbon disulfide	4.7	UG/KG	102.3
Chloroprene	3.1	UG/KG	ND
1,2-Dibromoethane	2.5	UG/KG	ND
Isopropylbenzene	1.3	UG/KG	20.9
Methyl Iodide	3.8	UG/KG	ND
Methyl methacrylate	2.4	UG/KG	ND
Methyl tert-butyl ether	3.4	UG/KG	ND
2-Nitropropane	45.8	UG/KG	ND
ortho-xylene	1.9	UG/KG	37.4
Styrene	1.7	UG/KG	31.7
meta,para xylenes	4.2	UG/KG	74.0
2-Chloroethylvinyl ether	5.5	UG/KG	ND
4-Methyl-2-pentanone	9.7	UG/KG	3.2

nd= not detected, NA= not analyzed, NS= not sampled

METROBIOSOLIDS CENTER
Dioxin and Furan Analysis, SW-846 Method 8290

Annual 2013

Analyzed by: Frontier Analytical Laboratories

Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			31-JAN-2013	28-FEB-2013	31-MAR-2013	30-APR-2013	31-MAY-2013	30-JUN-2013	31-JUL-2013
Analyte	MDL	Units	P649993	P653392	P657413	P660574	P664036	P667050	P669948
2,3,7,8-tetra CDD	.043	NG/KG	DNQ0.58	DNQ0.39	DNQ0.75	ND	DNQ0.68	DNQ0.45	ND
1,2,3,7,8-penta CDD	.0566	NG/KG	DNQ2.84	DNQ2.02	DNQ2.62	DNQ3.57	DNQ2.63	DNQ2.56	DNQ2.68
1,2,3,4,7,8_hexa_CDD	.0747	NG/KG	DNQ1.54	DNQ1.18	DNQ2.86	DNQ1.35	DNQ1.66	DNQ1.33	DNQ1.42
1,2,3,6,7,8-hexa CDD	.081	NG/KG	16.50	DNQ4.84	24.00	19.20	24.30	20.70	22.70
1,2,3,7,8,9-hexa CDD	.0748	NG/KG	5.88	DNQ2.58	7.40	5.85	8.29	6.11	DNQ6.25
1,2,3,4,6,7,8-hepta CDD	.143	NG/KG	261.00	91.70	325.00	296.00	258.00	245.00	216.00
octa CDD	.297	NG/KG	1660.00	1250.00	1910.00	1570.00	1510.00	1360.00	1130.00
2,3,7,8-tetra CDF	.0435	NG/KG	3.40	DNQ3.33	3.83	3.81	3.68	3.53	3.03
1,2,3,7,8-penta CDF	.0625	NG/KG	DNQ1.14	DNQ1.08	DNQ1.32	DNQ1.07	DNQ1.40	DNQ1.23	DNQ1.12
2,3,4,7,8-penta CDF	.066	NG/KG	DNQ1.36	DNQ1.14	DNQ1.85	DNQ1.16	DNQ1.38	DNQ1.61	DNQ1.39
1,2,3,4,7,8-hexa CDF	.0484	NG/KG	DNQ2.03	DNQ2.06	DNQ2.42	DNQ1.43	DNQ2.45	DNQ1.86	DNQ1.61
1,2,3,6,7,8-hexa CDF	.0487	NG/KG	DNQ1.76	DNQ1.92	DNQ1.75	DNQ2.09	DNQ3.06	DNQ1.78	DNQ1.85
1,2,3,7,8,9-hexa CDF	.0627	NG/KG	DNQ0.76	DNQ0.87	DNQ0.83	ND	DNQ0.68	DNQ0.61	DNQ0.58
2,3,4,6,7,8-hexa CDF	.0531	NG/KG	DNQ2.55	DNQ2.26	DNQ2.65	DNQ1.84	DNQ2.71	DNQ2.32	DNQ2.00
1,2,3,4,6,7,8-hepta CDF	.073	NG/KG	24.90	24.90	27.70	20.50	23.50	24.50	20.20
1,2,3,4,7,8,9-hepta CDF	.0704	NG/KG	DNQ1.58	DNQ1.50	DNQ1.64	ND	DNQ1.26	DNQ1.50	DNQ1.37
octa CDF	.155	NG/KG	64.30	67.70	77.20	49.10	73.80	61.30	49.80

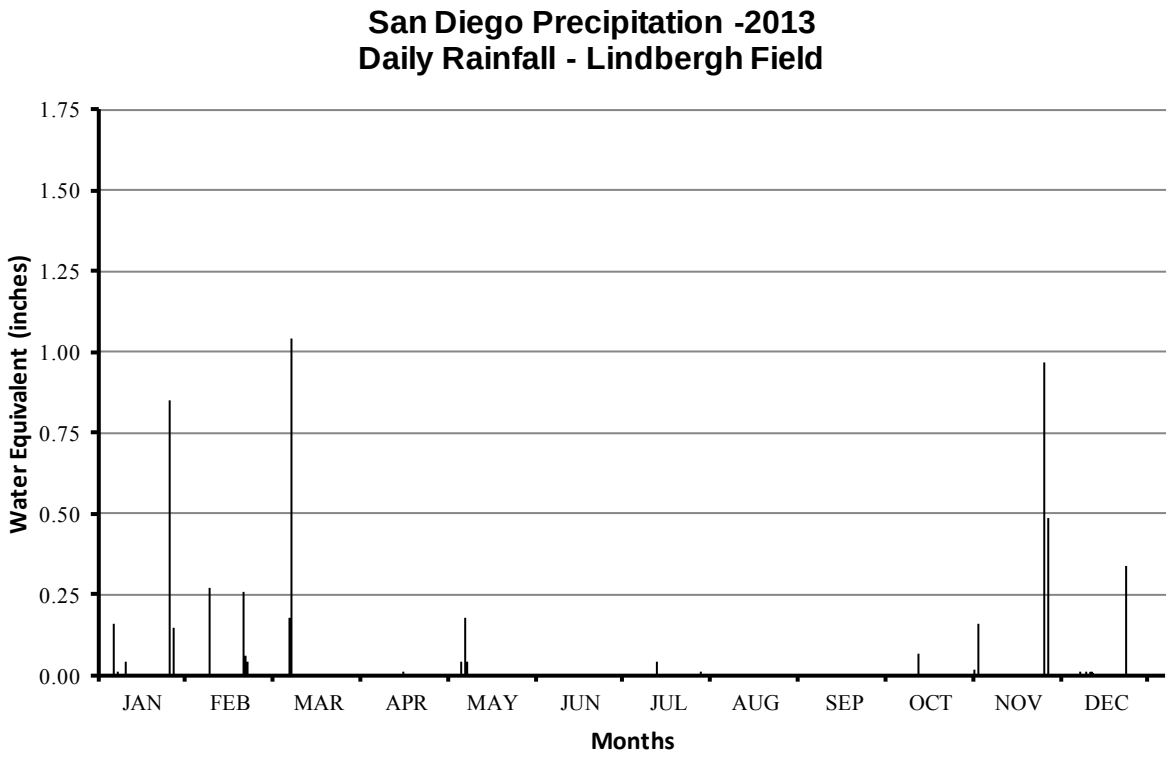
Source			MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN	MBCDEWCN
Date			31-AUG-2013	30-SEP-2013	31-OCT-2013	30-NOV-2013	31-DEC-2013
Analyte	MDL	Units	P674861	P677800	P682539	P687315	P690536
2,3,7,8-tetra CDD	.043	NG/KG	ND	DNQ0.47	DNQ0.57	DNQ0.67	DNQ0.63
1,2,3,7,8-penta CDD	.0566	NG/KG	DNQ3.72	DNQ2.48	DNQ2.44	DNQ2.92	DNQ3.73
1,2,3,4,7,8_hexa_CDD	.0747	NG/KG	DNQ1.55	DNQ1.10	DNQ1.46	DNQ1.65	DNQ1.20
1,2,3,6,7,8-hexa CDD	.081	NG/KG	12.50	9.61	15.90	19.60	16.80
1,2,3,7,8,9-hexa CDD	.0748	NG/KG	DNQ4.33	DNQ3.21	5.44	7.22	DNQ5.58
1,2,3,4,6,7,8-hepta CDD	.143	NG/KG	178.00	163.00	204.00	224.00	231.00
octa CDD	.297	NG/KG	1130.00	1070.00	1230.00	1240.00	1150.00
2,3,7,8-tetra CDF	.0435	NG/KG	3.78	3.60	3.68	3.44	3.62
1,2,3,7,8-penta CDF	.0625	NG/KG	DNQ1.23	DNQ1.08	DNQ1.31	DNQ1.33	DNQ1.38
2,3,4,7,8-penta CDF	.066	NG/KG	DNQ1.36	DNQ1.25	DNQ1.97	DNQ1.71	DNQ1.12
1,2,3,4,7,8-hexa CDF	.0484	NG/KG	DNQ1.95	DNQ1.54	DNQ2.00	DNQ2.04	DNQ1.77
1,2,3,6,7,8-hexa CDF	.0487	NG/KG	DNQ2.09	DNQ1.60	DNQ1.80	DNQ1.78	DNQ1.67
1,2,3,7,8,9-hexa CDF	.0627	NG/KG	ND	DNQ0.50	DNQ0.62	DNQ0.64	DNQ0.57
2,3,4,6,7,8-hexa CDF	.0531	NG/KG	DNQ2.64	DNQ1.84	DNQ2.20	DNQ2.30	DNQ2.02
1,2,3,4,6,7,8-hepta CDF	.073	NG/KG	22.90	19.30	21.40	23.80	22.40
1,2,3,4,7,8,9-hepta CDF	.0704	NG/KG	DNQ1.43	DNQ1.11	DNQ1.48	DNQ1.63	DNQ1.58
octa CDF	.155	NG/KG	54.70	46.70	54.40	60.90	57.80

ND = not detected, NA = not analyzed, NS = not sampled

DNQ= Detected but not quantified. Sample result is less than Minimum Level but greater than or equal to MDL.

Enclosure 8
Influent Flows

2013 Annual Biosolids Report


San Diego Precipitation -2013
Daily Rainfall - Lindbergh Field
Water Equivalent (inches)
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Months

San Diego Precipitation – 2013
Daily Rainfall – Lindbergh Field

Total Annual Precipitation=5.46 **Maximum=1.04** **Trace=0**

First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
Date	Rain	Date	Rain	Date	Rain	Date	Rain
6-Jan-13	0.16	5-Apr-13	T	10-Jul-13	T	9-Oct-13	0.07
7-Jan-13	0.01	8-Apr-13	T	11-Jul-13	0.04	10-Oct-13	T
10-Jan-13	0.04	14-Apr-13	T	21-Jul-13	T	28-Oct-13	0.02
24-Jan-13	T	15-Apr-13	0.01	25-Jul-13	T	29-Oct-13	0.16
25-Jan-13	0.85	25-Apr-13	T	26-Jul-13	0.01	4-Nov-13	T
26-Jan-13	0.15	5-May-13	0.04	26-Aug-13	T	15-Nov-13	T
27-Jan-13	T	6-May-13	0.18	6-Sep-13	T	20-Nov-13	T
2-Feb-13	T	7-May-13	0.04			21-Nov-13	0.97
3-Feb-13	T					22-Nov-13	0.49
8-Feb-13	0.27					28-Nov-13	T
9-Feb-13	T					3-Dec-13	0.01
10-Feb-13	T					5-Dec-13	0.01
19-Feb-13	0.26					7-Dec-13	0.01
20-Feb-13	0.06					19-Dec-13	0.34
21-Feb-13	0.04						
7-Mar-13	0.18						
8-Mar-13	1.04						
9-Mar-13	T						
TOTALS	3.06		0.27		0.05		2.08

Point Loma Wastewater Treatment Plant
2013 Flows (mgd)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	144.1	157.6	144.1	142.1	143.6	144.6	142.8	138.6	146.1	135.7	139.6	146.6	
2	150.6	156.6	142.1	145.1	136.0	144.1	141.6	141.6	144.1	138.2	148.6	140.5	
3	153.1	157.1	143.6	144.6	143.1	149.5	144.7	144.1	146.7	134.5	150.6	149.3	
4	153.1	149.6	145.6	143.6	142.6	139.0	144.6	146.1	139.6	132.9	143.7	137.6	
5	157.6	152.6	142.6	145.1	146.1	141.6	144.1	142.1	135.5	138.6	134.3	140.4	
6	152.6	145.3	140.6	146.6	152.1	140.1	144.6	137.1	139.5	141.4	139.6	130.1	
7	159.1	151.6	143.6	145.6	151.2	137.3	148.6	144.1	138.5	134.1	143.8	147.6	
8	157.6	152.6	178.5	143.1	147.4	142.6	148.9	134.4	140.6	138.8	138.6	150.1	
9	156.1	155.7	171.6	146.1	147.8	144.1	145.5	138.6	143.6	143.3	136.6	141.1	
10	154.1	149.2	155.6	142.6	140.5	139.1	143.0	141.6	136.2	147.2	138.6	140.1	
11	154.1	152.1	157.6	142.6	146.6	140.6	141.6	138.1	135.2	142.9	140.1	142.6	
12	152.4	145.1	155.1	144.1	148.6	139.1	148.6	138.5	131.6	145.1	145.1	143.1	
13	151.1	149.3	150.6	144.1	142.5	141.6	145.6	136.6	137.6	142.6	143.1	138.1	
14	157.1	144.8	152.1	143.3	144.8	136.5	146.6	137.6	140.6	142.1	141.1	144.1	
15	151.1	144.8	152.1	139.6	141.4	136.1	144.6	138.7	140.6	141.1	141.1	150.1	
16	153.1	145.7	148.1	142.6	141.4	143.1	142.9	135.0	140.1	138.6	132.1	144.3	
17	148.1	147.8	147.6	145.1	137.9	141.6	140.9	140.6	136.6	136.6	145.6	138.9	
18	150.3	148.9	148.1	142.0	144.1	135.6	144.1	140.1	134.1	135.6	143.0	140.5	
19	150.1	146.1	145.6	139.2	149.6	135.1	140.6	137.1	140.1	137.1	140.1	139.9	
20	148.6	155.1	147.1	144.1	144.7	133.1	143.6	136.1	137.5	138.6	147.9	142.6	
21	153.6	152.1	145.6	145.1	141.9	137.1	145.6	141.0	137.5	138.6	142.6	147.1	
22	145.1	155.1	148.1	143.0	138.5	135.6	145.1	138.7	139.6	137.1	149.5	142.1	
23	151.6	149.1	146.6	140.2	142.4	143.6	141.1	135.1	136.5	135.1	147.1	135.6	
24	143.6	152.6	148.6	142.6	142.5	139.5	143.1	141.6	134.6	141.6	140.0	146.6	
25	171.1	150.1	146.6	146.6	143.1	139.6	140.1	140.6	136.6	138.1	149.4	126.1	
26	187.1	146.8	147.6	138.1	142.1	140.1	142.6	140.6	133.1	139.1	140.4	131.1	
27	168.6	146.1	144.6	142.6	142.0	139.7	142.1	136.4	136.1	144.1	146.6	137.1	
28	162.6	143.6	145.6	151.6	140.1	139.6	142.1	137.2	136.8	139.1	130.1	134.1	
29	161.1		147.1	143.5	145.1	140.6	143.5	139.6	138.1	142.1	143.6	143.1	
30	163.1		145.6	139.0	142.1	137.9	143.6	137.5	136.1	144.6	132.6	136.6	Annual
31	155.1		146.1		140.1		144.1	141.2		142.6		146.0	Summary
Average	155.4	150.1	149.1	143.4	143.6	139.9	143.9	139.2	138.3	139.6	141.8	141.0	143.8
Minimum	143.6	143.6	140.6	138.1	136.0	133.1	140.1	134.4	131.6	132.9	130.1	126.1	126
Maximum	187.1	157.6	178.5	151.6	152.1	149.5	148.9	146.1	146.7	147.2	150.6	150.1	187
Total	4815.9	4202.5	4479.2	4160.8	4307.7	4052.5	4316.9	4177.0	4002.6	4190.5	4114.9	4225.7	52470

Point Loma Wastewater Treatment Plant
2013 Dry Weather Flows (mgd)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	144.1	157.6	144.1	142.1	143.6	144.6	142.8	138.6	146.1	135.7	139.6	146.6	
2	150.6		142.1	145.1	136.0	144.1	141.6	141.6	144.1	138.2	148.6	140.5	
3	153.1		143.6	144.6	143.1	149.5	144.7	144.1	146.7	134.5	150.6		
4	153.1	149.6	145.6	143.6	142.6	139.0	144.6	146.1	139.6	132.9		137.6	
5	157.6	152.6	142.6			141.6	144.1	142.1	135.5	138.6	134.3		
6		145.3	140.6	146.6		140.1	144.6	137.1		141.4	139.6	130.1	
7		151.6		145.6		137.3	148.6	144.1	138.5	134.1	143.8		
8	157.6				147.4	142.6	148.9	134.4	140.6	138.8	138.6	150.1	
9	156.1			146.1	147.8	144.1	145.5	138.6	143.6		136.6	141.1	
10			155.6	142.6	140.5	139.1		141.6	136.2		138.6	140.1	
11	154.1	152.1	157.6	142.6	146.6	140.6		138.1	135.2	142.9	140.1	142.6	
12	152.4	145.1	155.1	144.1	148.6	139.1	148.6	138.5	131.6	145.1	145.1	143.1	
13	151.1	149.3	150.6	144.1	142.5	141.6	145.6	136.6	137.6	142.6	143.1	138.1	
14	157.1	144.8	152.1		144.8	136.5	146.6	137.6	140.6	142.1	141.1	144.1	
15	151.1	144.8	152.1		141.4	136.1	144.6	138.7	140.6	141.1		150.1	
16	153.1	145.7	148.1	142.6	141.4	143.1	142.9	135.0	140.1	138.6	132.1	144.3	
17	148.1	147.8	147.6	145.1	137.9	141.6	140.9	140.6	136.6	136.6	145.6	138.9	
18	150.3	148.9	148.1	142.0	144.1	135.6	144.1	140.1	134.1	135.6	143.0	140.5	
19	150.1		145.6	139.2	149.6	135.1	140.6	137.1	140.1	137.1	140.1		
20	148.6		147.1	144.1	144.7	133.1	143.6	136.1	137.5	138.6		142.6	
21	153.6		145.6	145.1	141.9	137.1		141.0	137.5	138.6		147.1	
22	145.1	155.1	148.1	143.0	138.5	135.6	145.1	138.7	139.6	137.1		142.1	
23	151.6	149.1	146.6	140.2	142.4	143.6	141.1	135.1	136.5	135.1	147.1	135.6	
24		152.6	148.6	142.6	142.5	139.5	143.1	141.6	134.6	141.6	140.0	146.6	
25		150.1	146.6		143.1	139.6		140.6	136.6	138.1	149.4	126.1	
26		146.8	147.6	138.1	142.1	140.1			133.1	139.1	140.4	131.1	
27		146.1	144.6	142.6	142.0	139.7	142.1	136.4	136.1	144.1	146.6	137.1	
28	162.6	143.6	145.6	151.6	140.1	139.6	142.1	137.2	136.8			134.1	
29	161.1		147.1	143.5	145.1	140.6	143.5	139.6	138.1		143.6	143.1	
30	163.1		145.6	139.0	142.1	137.9	143.6	137.5	136.1	144.6	132.6	136.6	Annual
31	155.1		146.1		140.1		144.1	141.2		142.6		146.0	Summary
Average	153.3	148.9	147.5	143.4	142.9	139.9	144.1	139.2	138.2	139.1	141.7	140.6	143
Minimum	144.1	143.6	140.6	138.1	136.0	133.1	140.6	134.4	131.6	132.9	132.1	126.1	126
Maximum	163.1	157.6	157.6	151.6	149.6	149.5	148.9	146.1	146.7	145.1	150.6	150.1	163
Total	3679.8	2978.3	4129.5	3585.3	4002.0	4197.0	3747.0	4175.0	4009.1	3754.6	3399.6	3795.1	45452

South Bay Water Reclamation Plant
Influent Flows (mgd) 2013

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	7.33	8.07	8.09	8.41	8.21	8.01	8.10	7.90	7.66	7.97	7.90	7.95	
2	8.10	8.06	7.99	8.45	8.55	7.97	8.45	8.37	8.24	7.87	7.48	8.11	
3	7.96	7.72	7.99	8.56	8.35	8.32	8.36	7.93	8.37	7.92	7.50	8.16	
4	8.11	8.32	8.27	8.61	8.11	8.41	7.65	7.93	8.40	7.91	8.08	8.16	
5	6.44	8.27	8.38	8.48	8.05	8.38	7.94	8.27	8.45	7.75	8.30	7.97	
6	7.64	8.44	8.5	8.03	8.15	8.43	7.75	8.29	8.27	7.57	8.26	7.90	
7	8.27	8.31	7.43	8.12	8.42	8.38	7.77	8.14	8.18	8.18	8.31	7.89	
8	8.19	8.23	8.86	7.86	8.44	8.04	8.29	8.70	7.94	8.16	8.19	8.09	
9	8.07	7.77	8.32	8.05	8.48	7.88	8.34	8.24	8.17	8.01	7.56	8.20	
10	7.92	7.88	8.32	8.51	8.27	8.15	8.34	7.71	8.24	8.05	6.31	8.12	
11	8.06	8.32	8.46	8.12	7.88	7.89	8.32	7.92	8.26	8.08	8.38	8.14	
12	7.77	8.38	8.55	8.08	7.85	8.38	8.36	8.28	8.21	7.71	7.93	7.98	
13	7.58	8.38	8.57	7.97	8.44	7.55	8.02	8.24	8.15	7.77	8.21	6.54	
14	7.85	8.05	8.55	8.10	8.59	8.11	8.02	8.28	7.87	8.11	8.51	7.42	
15	8.36	8.23	8.43	8.23	8.47	7.80	8.14	8.27	7.94	8.10	7.97	7.09	
16	8.35	7.71	7.98	8.43	8.41	7.69	7.82	8.30	7.95	8.08	7.76	7.79	
17	7.29	5.79	7.93	8.57	8.31	8.25	8.40	7.83	8.19	7.32	7.43	8.20	
18	8.08	8.03	8.38	8.45	7.94	8.17	8.19	8.03	8.24	7.86	8.07	8.13	
19	7.85	8.31	8.35	8.13	8.14	8.32	8.35	8.19	8.25	6.70	8.00	8.19	
20	7.43	8.60	8.5	8.02	8.33	8.34	7.90	8.27	8.16	7.86	8.09	8.03	
21	8.25	8.47	7.75	7.87	8.35	8.27	7.79	8.36	7.80	7.78	8.06	7.99	
22	8.32	8.37	8.36	8.27	8.45	7.78	8.20	8.38	7.64	8.06	8.13	7.89	
23	8.28	8.31	7.75	8.27	8.00	7.65	8.50	8.31	8.01	8.06	7.89	8.11	
24	8.29	8.11	7.54	8.15	8.35	8.14	8.54	7.86	7.99	8.01	7.65	7.97	
25	8.43	8.27	7.74	8.26	7.98	8.27	8.40	8.00	7.98	7.90	8.08	6.70	
26	8.33	7.95	8.46	8.27	6.94	8.05	7.86	8.25	8.02	7.58	8.07	7.83	
27	8.39	8.42	8.39	7.76	8.03	7.89	7.97	8.34	7.91	7.65	8.21	7.90	
28	8.30	8.17	8.21	7.87	8.31	8.39	8.00	8.39	7.62	8.03	7.89	7.71	
29	8.28		8.29	8.30	8.54	8.23	8.36	8.39	7.40	8.25	7.39	7.58	
30	8.36		7.48	8.38	7.85	7.85	7.87	8.50	7.98	8.17	7.79	7.97	
31	7.84		7.77		8.30		8.31	8.05		8.02		7.90	Annual Summary
Average	7.99	8.11	8.18	8.22	8.21	8.10	8.14	8.19	8.05	7.89	7.91	7.86	8.07
Minimum	6.44	5.79	7.43	7.76	6.94	7.55	7.65	7.71	7.40	6.70	6.31	6.54	5.79
Maximum	8.43	8.60	8.86	8.61	8.59	8.43	8.54	8.70	8.45	8.25	8.51	8.20	8.86
Total	247.72	226.94	253.59	246.58	254.49	242.99	252.31	253.92	241.49	244.49	237.40	243.61	2,946

South Bay Water Reclamation Plant
Influent Dry Weather Flows (mgd) 2013

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Summary
1	7.33	8.07	8.09	8.41	8.21	8.01	8.10	7.90	7.66	7.97	7.90	7.95	
2	8.10		7.99	8.45	8.55	7.97	8.45	8.37	8.24	7.87	7.48	8.11	
3	7.96		7.99	8.56	8.35	8.32	8.36	7.93	8.37	7.92	7.50		
4	8.11	8.32	8.27	8.61	8.11	8.41	7.65	7.93	8.40	7.91		8.16	
5	6.44	8.27	8.38			8.38	7.94	8.27	8.45	7.75	8.30		
6		8.44	8.50	8.03		8.43	7.75	8.29		7.57	8.26	7.90	
7		8.31		8.12		8.38	7.77	8.14	8.18	8.18	8.31		
8	8.19				8.44	8.04	8.29	8.70	7.94	8.16	8.19	8.09	
9	8.07			8.05	8.48	7.88	8.34	8.24	8.17		7.56	8.20	
10			8.32	8.51	8.27	8.15		7.71	8.24		6.31	8.12	
11	8.06	8.32	8.46	8.12	7.88	7.89		7.92	8.26	8.08	8.38	8.14	
12	7.77	8.38	8.55	8.08	7.85	8.38	8.36	8.28	8.21	7.71	7.93	7.98	
13	7.58	8.38	8.57	7.97	8.44	7.55	8.02	8.24	8.15	7.77	8.21	6.54	
14	7.85	8.05	8.55		8.59	8.11	8.02	8.28	7.87	8.11	8.51	7.42	
15	8.36	8.23	8.43		8.47	7.80	8.14	8.27	7.94	8.10		7.09	
16	8.35	7.71	7.98	8.43	8.41	7.69	7.82	8.30	7.95	8.08	7.76	7.79	
17	8.25	7.68	7.93	8.57	8.31	8.25	8.40	7.83	8.19	7.32	7.43	8.20	
18	8.08	8.03	8.38	8.45	7.94	8.17	8.19	8.03	8.24	7.86	8.07	8.13	
19	7.85		8.35	8.13	8.14	8.32	8.35	8.19	8.25	6.70	8.00		
20	7.43		8.50	8.02	8.33	8.34	7.90	8.27	8.16	7.86		8.03	
21	8.25		7.75	7.87	8.35	8.27		8.36	7.80	7.78		7.99	
22	8.32	8.37	8.36	8.27	8.45	7.78	8.20	8.38	7.64	8.06		7.89	
23	8.28	8.31	7.75	8.27	8.00	7.65	8.50	8.31	8.01	8.06	7.89	8.11	
24		8.11	7.54	8.15	8.35	8.14	8.54	7.86	7.99	8.01	7.65	7.97	
25		8.27	7.74		7.98	8.27		8.00	7.98	7.90	8.08	6.70	
26		7.95	8.46	8.27	6.94	8.05			8.02	7.58	8.07	7.83	
27		8.42	8.39	7.76	8.03	7.89	7.97	8.34	7.91	7.65	8.21	7.90	
28	8.30	8.17	8.21	7.87	8.31	8.39	8.00	8.39	7.62			7.71	
29	8.28		8.29	8.30	8.54	8.23	8.36	8.39	7.40		7.39	7.58	
30	8.36		7.48	8.38	7.85	7.85	7.87	8.50	7.98	8.17	7.79	7.97	
31	7.84		7.77		8.30		8.31	8.05		8.02		7.90	
Average	7.98	8.19	8.18	8.23	8.21	8.10	8.14	8.19	8.04	7.86	7.88	7.83	8.07
Minimum	6.44	7.68	7.48	7.76	6.94	7.55	7.65	7.71	7.40	6.70	6.31	6.54	6.31
Maximum	8.36	8.44	8.57	8.61	8.59	8.43	8.54	8.70	8.45	8.18	8.51	8.20	8.70
Total	191	164	229	206	230	243	212	246	233	212	189	211	2566

Enclosure 9
Summary Tables
Title 22 Analyses of Dewatered Biosolids

2013 Annual Biosolids Report

Title 22 CCR Summary Tables

Concentrations of Title 22 analytes (metals and organics) both on a wet weight and dry weight concentration basis for monthly composite of daily samples of sludge being hauled from the Metro Biosolids Center.

The tables list the TTLC (Total Threshold Limit Concentration) or STLC (Soluble Threshold Limit Concentration) limits in the left column for each analyte.

Definitions:
MBCDEWCN = Metro Biosolids Center dewatered sludge.

2013 POINT LOMA WASTEWATER TREATMENT PLANT ANNUAL REPORT

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CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TEST (TITLE 22)

METRO BIOSOLIDS CENTER (MBC)

METALS — **WET WEIGHT Concentration (calculated)**

ANALYTE	TTLC Wet wt mg/Kg	MBCDEWCN Jan-13 P649993	MBCDEWCN Feb-13 P653392	MBCDEWCN Mar-13 P657413	MBCDEWCN Apr-13 P660574	MBCDEWCN May-13 P664036	MBCDEWCN Jun-13 P667050	MBCDEWCN Jul-13 P669948	MBCDEWCN Aug-13 P674861	MBCDEWCN Sep-13 P677800	MBCDEWCN Oct-13 P682539	MBCDEWCN Nov-13 P687315	MBCDEWCN Dec-13 P690536
ANTIMONY	500	0.75	1.03	< 0.14	< 0.14	< 0.13	< 0.13	< 0.13	< 0.30	0.99	0.48	1.12	0.55
ARSENIC	500	1.2	1.2	1.2	1.7	1.4	1.2	1.08	2.0	0.8	0.8	1.0	1.0
BARIUM	10000	82	71	95	74	96	75	50	33	76	26	107	91
BERYLLIUM	75	0.032	0.028	0.031	< 0.005	0.030	0.024	0.019	0.030	0.019	< 0.005	0.016	0.025
CADMIUM	100	0.3	0.4	0.3	0.1	0.3	0.4	0.4	0.8	0.3	0.3	0.4	0.3
CHROMIUM(VI)	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHROMIUM(total)	2500	13	13	14	13	17	14	13	25	9	9	11	10
COBALT	8000	0.5	0.6	0.6	0.5	0.7	0.3	0.8	2.2	1.7	1.8	1.9	1.6
COPPER	2500	189	182	199	153	201	164	199	398	183	180	189	172
LEAD	1000	5	5	6	4	5	5	5	12	8	7	8	5
MERCURY	20	0.32	0.33	0.45	0.38	0.35	0.40	0.51	0.61	0.29	0.29	0.23	0.30
MOLYBDENUM	3500	4.2	3.9	4.5	3.4	5.2	5.0	5.2	11.4	4.9	5.5	5.5	4.0
NICKEL	2000	10	10	9	9	11	11	9	19	9	10	11	9
SELENIUM	100	1.3	1.3	1.2	1.7	1.3	2.0	1.6	2.5	1.5	1.2	1.2	1.2
SILVER	500	1	2	1	1	1	1	2	2	2	1	2	1
THALLIUM	700	< 0.29	< 0.28	< 0.28	0.81	< 0.27	0.53	0.54	< 0.61	0.67	< 0.27	0.55	1.38
VANADIUM	2400	7	9	8	6	7	6	8	27	14	16	17	14
ZINC	5000	242	218	254	247	316	247	247	589	242	223	250	204
FLUORIDE	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SULFIDES-REACTIVE	NA	22	NA	26	32	27	24	34	90	31	9	7	37
SULFIDES-TOTAL	NA	4463	4629	4287	6003	5286	5557	7249	14211	5821	5945	2795	7370
TOTAL SOLIDS (%)		28.7	27.8	28.3	27.1	26.9	26.4	26.8	60.6	26.7	26.6	27.4	27.5

DRY WEIGHT Concentration

ANALYTE	TTLC Wet wt mg/Kg	MBCDEWCN Jan-13 P649993	MBCDEWCN Feb-13 P653392	MBCDEWCN Mar-13 P657413	MBCDEWCN Apr-13 P660574	MBCDEWCN May-13 P664036	MBCDEWCN Jun-13 P667050	MBCDEWCN Jul-13 P669948	MBCDEWCN Aug-13 P674861	MBCDEWCN Sep-13 P677800	MBCDEWCN Oct-13 P682539	MBCDEWCN Nov-13 P687315	MBCDEWCN Dec-13 P690536
ANTIMONY	500	2.6	3.70	< 0.5	< 0.5	< 0.5	< 0.50	< 0.5	< 0.5	3.7	1.8	4.1	2.0
ARSENIC	500	4.2	4.3	4.22	6.39	5.25	4.65	4.0	3.25	3.08	2.8	3.8	3.58
BARIUM	10000	285	254	337	272	356	284	186	54	283	98	392	331
BERYLLIUM	75	0.11	0.10	0.1	< 0.02	0.11	0.09	0.07	0.05	0.07	< 0.02	0.06	0.09
CADMIUM	100	1.10	1.3	1.20	0.2	1.20	1.4	1.4	1.4	1.2	1.1	1.5	1.1
CHROMIUM(VI)	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHROMIUM(total)	2500	45.2	46.9	50.3	49.1	62.5	53.9	49.7	40.8	33.6	33.4	38.6	36
COBALT	8000	1.7	2.20	2	1.90	2.50	1.3	2.8	3.6	6.2	6.9	7.1	5.9
COPPER	2500	658	656	704	566	746	622	741	656	684	677	688	627
LEAD	1000	17	19	20	13	17	18	20	20	29	27	29	18
MERCURY	20	1.10	1.2	1.60	1.40	1.30	1.5	1.9	1.0	1.1	1.1	0.9	1.1
MOLYBDENUM	3500	14.8	14.2	16	12.4	19.5	18.8	19.5	18.8	18.3	20.8	19.9	14.4
NICKEL	2000	35.8	35.9	31.5	31.6	41	43.5	35.4	31.3	35.2	36.6	38.8	33.7
SELENIUM	100	4.50	4.52	4.2	6.28	4.9	7.63	5.9	4.11	5.7	4.6	4.2	4.44
SILVER	500	4.29	8.89	5.22	3.09	5.34	4.38	5.77	4.03	5.75	5.27	6.67	4.69
THALLIUM	700	< 1	< 1	< 1	3	< 1	2	2	< 1	2.5	< 1	2	5
VANADIUM	2400	25.8	32.2	28.4	23.4	26.5	22.8	31.3	44	50.8	59.8	63.4	52.0
ZINC	5000	842	784	897	912	1175	937	923	972	906	839	914	742
FLUORIDE	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SULFIDES-REACTIVE	NA	78	89	91	117	101	92	126	148	116	35	24	133
SULFIDES-TOTAL	NA	15550	16650	15150	22150	19650	21050	27050	23450	21800	22350	10200	26800

TTLC = Total Threshold Limit Concentration STLC = Soluble Threshold Limit Concentration

NA = Not Analyzed, NS = Not Sampled * = The total concentration is less than 10 times the the STLC, therefore by definition this substance is below hazardous concentrations.

ORGANICS

WET WEIGHT Concentration (calculated)

ANALYTE	TTLC Wet wt mg/Kg	MBCDEWCN Jan-13 P649993	MBCDEWCN Feb-13 P653392	MBCDEWCN Mar-13 P657413	MBCDEWCN Apr-13 P660574	MBCDEWCN May-13 P664036	MBCDEWCN Jun-13 P667050	MBCDEWCN Jul-13 P669948	MBCDEWCN Aug-13 P674861	MBCDEWCN Sep-13 P677800	MBCDEWCN Oct-13 P682539	MBCDEWCN Nov-13 P687315	MBCDEWCN Dec-13 P690536
ALDRIN	1.4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLORDANE	2.5	nd	nd	0.009	nd	nd	0.013	0.002	0.015	nd	0.001	nd	nd
DDT,DDE,DDD	1.0	0	nd	0.0113	nd	0.0108	0.0106	0.0043	0.0182	nd	nd	0.0027	0.0083
2,4-DCPAA	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	nd	NA	NA
DIELDRIN	8.0	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
ENDRIN	0.20	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
HEPTACHLOR	4.7	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
KEPONE	21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LINDANE	4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
METHOXYCHLOR	100	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
MIREX	21	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
PENTACHLOROPHENOL	17	NA	nd	NA	NA	NA	NA	NA	nd	NA	nd	NA	NA
PCBs (TOTAL)	50	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TOXAPHENE	5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLOROETHENE	2040	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2,4,5-TCPPA	10	NA	nd	NA	NA	NA	NA	NA	NA	nd	nd	NA	NA
TOTAL SOLIDS (%)		28.7	27.8	28.3	27.1	26.9	26.4	26.8	60.6	26.7	26.6	27.4	27.5
pH	>2-<12	7.89	7.83	7.92	7.78	7.72	7.79	7.84	7.55	7.54	7.54	7.69	7.54

DRY WEIGHT Concentration

ANALYTE	TTLC Wet wt mg/Kg	MBCDEWCN Jan-13 P649993	MBCDEWCN Feb-13 P653392	MBCDEWCN Mar-13 P657413	MBCDEWCN Apr-13 P660574	MBCDEWCN May-13 P664036	MBCDEWCN Jun-13 P667050	MBCDEWCN Jul-13 P669948	MBCDEWCN Aug-13 P674861	MBCDEWCN Sep-13 P677800	MBCDEWCN Oct-13 P682539	MBCDEWCN Nov-13 P687315	MBCDEWCN Dec-13 P690536
ALDRIN	1.4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLORDANE	2.5	nd	nd	0.033	nd	nd	0.049	0.006	0.025	nd	0.003	nd	nd
DDT,DDE,DDD	1.0	0.020	nd	0.040	nd	0.040	0.040	0.016	0.03	nd	nd	0.01	0.03
2,4-DCPAA	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	nd	NA	NA
DIELDRIN	8.0	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
ENDRIN	0.20	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
HEPTACHLOR	4.7	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
KEPONE	21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LINDANE	4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
METHOXYCHLOR	100	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
MIREX	21	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
PENTACHLOROPHENOL	17	NA	nd	NA	NA	NA	NA	NA	nd	NA	nd	NA	NA
PCBs (TOTAL)	50	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TOXAPHENE	5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLOROETHENE	2040	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2,4,5-TCPPA	10	NA	nd	NA	NA	NA	NA	NA	NA	nd	nd	NA	NA

TTLC = Total Threshold Limit Concentration STLC = Soluble Threshold Limit Concentration

ANALYTE	STLC Wet wt mg/L	MBCDEWCN Jan-13 P649993	MBCDEWCN Feb-13 P653392	MBCDEWCN Mar-13 P657413	MBCDEWCN Apr-13 P660574	MBCDEWCN May-13 P664036	MBCDEWCN Jun-13 P667050	MBCDEWCN Jul-13 P669948	MBCDEWCN Aug-13 P674861	MBCDEWCN Sep-13 P677800	MBCDEWCN Oct-13 P682539	MBCDEWCN Nov-13 P687315	MBCDEWCN Dec-13 P690536
ANTIMONY	15	*	*	*	*	*	*	*	*	*	*	*	*
ARSENIC	5.0	*	*	*	*	*	*	*	*	*	*	*	*
BARIUM	100	*	*	*	*	*	*	*	*	*	*	*	*
BERYLLIUM	0.75	*	*	*	*	*	*	*	*	*	*	*	*
CADMIUM	1.0	*	*	*	*	*	*	*	*	*	*	*	*
CHROMIUM(VI)	5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHROMIUM(total)	560	*	*	*	*	*	*	*	*	*	*	*	*
COBALT	80	*	*	*	*	*	*	*	*	*	*	*	*
COPPER	25	*	*	*	*	*	*	*	*	*	*	*	*
LEAD	5.0	*	*	*	*	*	*	*	*	*	*	*	*
MERCURY	0.2	*	*	*	*	*	*	*	*	*	*	*	*
MOLYBDENUM	350	*	*	*	*	*	*	*	*	*	*	*	*
NICKEL	20	*	*	*	*	*	*	*	*	*	*	*	*
SELENIUM	1.0	*	*	*	*	*	*	*	*	*	*	*	*
SILVER	5.0	*	*	*	*	*	*	*	*	*	*	*	*
THALLIUM	7.0	*	*	*	*	*	*	*	*	*	*	*	*
VANADIUM	24	*	*	*	*	*	*	*	*	*	*	*	*
ZINC	250	*	*	*	*	*	*	*	*	*	*	*	*

* = The total concentrations are less than 10 times the the STLC, this substance is below STLC limits by definition.

WASTE EXTRACTION TEST - ORGANICS

ANALYTE	STLC Wet wt mg/L	MBCDEWCN Jan-13 P649993	MBCDEWCN Feb-13 P653392	MBCDEWCN Mar-13 P657413	MBCDEWCN Apr-13 P660574	MBCDEWCN May-13 P664036	MBCDEWCN Jun-13 P667050	MBCDEWCN Jul-13 P575132	MBCDEWCN Aug-13 P674861	MBCDEWCN Sep-13 P677800	MBCDEWCN Oct-13 P682539	MBCDEWCN Nov-13 P687315	MBCDEWCN Dec-13 P690536
ALDRIN	0.14	*	*	*	*	*	*	*	*	*	*	*	*
CHLORDANE	0.25	*	*	*	*	*	*	*	*	*	*	*	*
DDT,DDE,DDD	0.1	*	*	*	*	*	*	*	*	*	*	*	*
2,4-DCPAA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	*	NA	NA
DIELDRIN	0.8	*	*	*	*	*	*	*	*	*	*	*	*
ENDRIN	0.02	*	*	*	*	*	*	*	*	*	*	*	*
HEPTACHLOR	0.47	*	*	*	*	*	*	*	*	*	*	*	*
KEPONE	2.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LINDANE	0.4	*	*	*	*	*	*	*	*	*	*	*	*
METHOXYCHLOR	10	*	*	*	*	*	*	*	*	*	*	*	*
MIREX	2.1	*	*	*	*	*	*	*	*	*	*	*	*
PENTACHLOROPHENOL	1.7	NA	*	NA	NA	*	NA	NA	*	NA	*	NA	NA
PCBs (TOTAL)	5	*	*	*	*	*	*	*	*	*	*	*	*
TOXAPHENE	0.5	*	*	*	*	*	*	*	*	*	*	*	*
TRICHLOROETHENE	204	*	*	*	*	*	*	*	*	*	*	*	*
2,4,5-TCPPA	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	*	NA	NA

TTLC = Total Threshold Limit Concentration STLC = Soluble Threshold Limit Concentration

NA = Not Analyzed, NS = Not Sampled

* = The total concentrations are less than 10 times the the STLC, this substance is below STLC limits by definition.

Enclosure 10
ADEQ Biosolids or Sewage Sludge Annual Report

2013 Annual Biosolids Report

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Water Quality Compliance Assurance Unit
1110 W. Washington Street, MO5415B-1
Phoenix, Arizona 85007
602-771-4612 (voicemail) 602-771-4505 (fax)

BIOSOLIDS OR SEWAGE SLUDGE ANNUAL REPORT FORM FOR REPORTING YEAR 2013

All Preparers (Generators) and Land Applicators Must Complete the Following:

1. General Information

Date: February 18, 2014	**NPDES Permit # CA0107409**
Company Name (Preparer/Applicator): City of San Diego	
Contact Name: Richard Pitchford	**Title: Sr. Wastewater Treatment Supervisor / Biosolids Compliance**
Address: 5240 Convoy, San Diego, CA 92111	
Phone: (858) 614-5509	**Email: rpitchford@sandiego.gov**

CERTIFICATION: I certify, under penalty of law, that the information and descriptions, have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

Signature: R Pitchford	**Title: Sr. Wastewater Treatment Supervisor**

2. Who are you? (Check all that apply)

✓ Preparer. (A "Preparer is a Generator") **The biosolids or sewage sludge prepared at this site are:** (select all that apply)

- ☐ Stored on Site
- ✓ Beneficially used for Land Application
- ☐ Sold/given to composting operation, a sludge drying operation or to another WWTP for further treatment.
- ☐ Disposed of in a biosolids only surface disposal site, monofill, designated sludge only area
- ✓ Disposed of in a solid waste landfill – do biosolids go directly into the landfill? __Yes_____
- ✓ Sent out of state for incineration, landfilling, land application or surface disposal, composting or sludge drying

☐ Applicator of biosolids to the land.

☐ Owner or Operator of a surface disposal site including wastewater treatment plants with surface disposal (final disposal) site for sludge.

3. Final Disposition of Biosolids.

Preparers – wastewater treatment facilities, composting operations and Biosolids processing operations. Complete Parts 3.A., 3.B., 3.C., 3.D., and 3.E. of this form (if more room is needed, provide additional sheets) for:

- All applicators used to haul/land apply your biosolids and the amount
- All surface disposal sites to which you sent or took biosolids and the amount
- All land application sites (farms, ranches, composting operations) where biosolids from your facility were applied in 2013 and the amount
- All landfills to which you sent biosolids and the amount
- All composting operations to which you sent biosolids and the amount
- All incinerators to which you sent biosolids and the amount.

Applicators. Complete Parts 3.C, 3.D, and 3.E. for **out of state preparers.** Complete Parts 3.F and 3.G of this form (if more room is needed, provide additional sheets) for:

- All preparers (including composting operations biosolids processing facilities) from which you obtained biosolids
- All application sites (farms, ranches, composting operations) where biosolids were applied in 2013 and the amount.
- All land applicators that are taking biosolids from California generators are required to complete this form and ensure that the California WWTP or preparer is submitting its Annual Report to ADEQ.

NAME OF FACILITY: City of San Diego Metropolitan Biosolids Center FOR CALENDAR YEAR: 2013

DISPOSITION OF BIOSOLIDS
DO ALL REPORTING IN DRY TONS

Arizona Generators and Preparers – Complete Sections 3.A., 3.B., 3.C., and 3.D
California Generators – Complete Section 3.D only

3.A. Amount of Biosolids Stored on site

Are Biosolids stored in lined lagoons/impoundment? _____
Are Biosolids stored directly on the ground? _____
Are lagoons used in the treatment process? _____

	PATHOGEN TREATMENTS			VAR* Option Used
	NONE	CLASS B	CLASS A	
At beginning of 2013: How much was stored or left over from the previous years? Include any amount that is being stored ANYWHERE – identify the storage of biosolids.	dry tons	dry tons	dry tons	
			(Circle one) Fecal Coliform Salmonella	
		METHOD #		
At the end of 2013, how much is still stored on site? Where?	dry tons	dry tons	dry tons	
			(Circle one) Fecal Coliform Salmonella	
		METHOD #		

3.B. Amount of Biosolids received from another facility during the year such as another wastewater treatment plant or another APP permitted facility, for further processing?

NAME OF FACILITY	LOCATION	PATHOGEN TREATMENT of the incoming biosolids			VAR* Option Used
		NONE	CLASS B	CLASS A	
1.		dry tons	dry tons	dry tons	
2.				(Circle one) Fecal Coliform Salmonella	
			METHOD #		

3.C. Total amount of Biosolids Prepared at the facility during the year based on daily flow.

	PATHOGEN TREATMENT			VAR* Option Used
	NONE	CLASS B	CLASS A	
	dry tons	dry tons	dry tons	
			(Circle one)	
			Fecal Coliform Salmonella	
		METHOD #		

3.D. Amount of Biosolids removed from the facility. Name all recipients, include haulers name and phone number, land applicators, composters, landfills, drying facilities, EQB bagging facilities, bulk composting, etc.

NAME OF RECIPIENT	LOCATION	DISPOSITION**	PATHOGEN TREATMENT			VAR* Option Used
			NONE	CLASS B	CLASS A	
1. Solid Solutions, LLC 12812 Valley View St, #9 Garden Grove, CA 92845 (714) 799-0801	Wellton, AZ	Cullison Farms	dry tons	dry tons	dry tons	*1*
				5148.50	(Circle one) Fecal Coliform Salmonella	
				METHOD #		
				Alt.3,Process3		
5. Otay Landfill	1700 Maxwell Rd. Chula Vista San Diego County, CA 91911 (619) 421-5192	Landfilled	dry tons	dry tons	dry tons	*1*
				0	(Circle one) Fecal Coliform Salmonella	
				METHOD #		
				Alt.3,Process3		
6. Otay Landfill	1700 Maxwell Rd. Chula Vista San Diego County, CA 91911 (619) 421-5192	Alternative Daily Cover	dry tons	dry tons	dry tons	*1*
				29090.62	(Circle one) Fecal Coliform Salmonella	
				METHOD #		
				Alt.3,Process3		
7. Terra Renewal	12812 Valley View St, #9 Garden Grove, CA 92845 (714) 799-0801	Hauler	dry tons	dry tons	dry tons	*1*
				34239.12	(Circle one) Fecal Coliform Salmonella	
				METHOD #		
				Alt.3,Process3		

			dry tons	dry tons	dry tons	
					(Circle one) Fecal Coliform Salmonella	
				METHOD #		
				Alt.3,Process3		
			dry tons	dry tons	dry tons	
					(Circle one) Fecal Coliform Salmonella	
				METHOD #		
				Alt.3,Process3		
			dry tons	dry tons	dry tons	
					(Circle one) Fecal Coliform Salmonella	
				METHOD #		
				Alt.3,Process3		

* VAR = Vector Attraction Reduction – Which option was used from A.A.C. R18-9-1010 (If Preparer did not perform VAR treatment, then specify "none")

** Disposition: Name the Land application, Surface Disposal, Incineration, Composting Operation, EQB (Exceptional Quality Biosolids) Bagging operation, Landfill, Biosolids Processing facility or sludge drying operation site. Example: Hunt Farm, Flagstaff WWTP Surface Disposal site, Northwest Landfill, Western Organics, etc.

3.E. Preparers must attach analytical results for (metals) pollutants according to A.A.C. R18-9-1012 (Self Monitoring), pathogen reduction results according to A.A.C. R18-9-1006 (Class A and Class B Pathogen Reduction Requirements) and Vector Attraction Reduction results according to A.A.C. R18-9-1010. This reporting is required under A.A.C. R18-9-1014(F) for biosolids produced or further treated at site during the year. Report all pollutant and pathogen results on a 100% dry weight basis.

NOTE: If biosolids are going to a landfill – attach Paint Filter Test and Toxicity Characteristic Leaching Procedure test (TCLP test) per 40CFR261.24

******Attn: All Arizona Generators, submit additional testing data/ see requirements under Biosolids Requirements in your AZPDES permit (example: Dioxins/dibenzofurans) with this Annual Report

2013 Biosolids or Sewage Sludge Annual Report

ADEQ Arizona Department of Environmental Quality

Mail signed printout to: Robert Phalen, ADEQ Biosolids Coordinator
1110 W. Washington St.,
Phoenix, AZ 85007
and email file to: biosolids@azdeq.gov

Date signed =date(mm/dd/year)	NPDES/AZPDES Permit#	APP #	Facility Name	Contact First Name	Contact Last Name	Contact Email	Title	FTE Residents served	Preparer or Applicator (P/A/AP)	Street or P.O. Box #	Street Name or "P.O. Box"
1/30/2013	CA0107409		San Diego Point Loma WWTP	Richard	Pitchford	rpitchford@sandiego.gov	Sr. WWT Supervisor		P	5240	Convoy St

City	Zip	Phone	Lagoons/Tanks or LINED Drying Beds for ALL Sludge (Y/N)	Dry Tons Stored 01/01/12	Class (A/B/N)	Alternative #	VAR #	Dry Tons stored 12/31/12	Class (A/B/N)	Alternative #	VAR #
San Diego	92111	858-614-5509									

Dry Tons stored 01/01/12	Dry Tons in, from Daily Flow	Dry Tons Sludge Received	From Facility (Name)	Dry Tons Sludge sent away	To Facilty (Name)	Mark "S" if reporting Short, NOT Metric Tons	Dry Tons Additions to Sludge	Received / Sent Away Hauler	Hauler Phone		Follow Up
						S					

2013 Biosolids or Sewage Sludge Annual Report

ADEQ Arizona Department of Environmental Quality

Mail signed printout to: Robert Phalen, ADEQ Biosolids Coordinator
1110 W. Washington St.,
Phoenix, AZ 85007
and email file to: biosolids@azdeq.gov

Disposition	Dry Tons out, weighed	Class (A/B/N)	Alternative #	VAR #	Fecal C/ Salm. (F/S)	To (Recipient Name)	Hauler Name	Hauler Phone	Application Site		
Surface Unit											
Surface Unit											
Landfill	29090.62	B	3	1		San Diego Landfill Systems	Terra Renewal	714-799-0801	Otay Landfill, 1700 Maxwell		
Landfill											
Landfill											
Composting											
Composting											
Land Apply	5148.5	B	3	1		Solid Solutions, LLC	Terra Renewal	714-799-0801	Cullison Farms		
Land Apply											
Land Apply											
Land Apply											
Land Apply											
Land Apply											
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Land Apply											
Land Apply											

I certify, under penalty of law, that the information and descriptions have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

Name: Richard Pitchford **Title:** Sr. WW Treatment Supervisor

Enclosure 11
Solids Solutions, Inc.
(Terra Renewal Services)
Annual Certifications

2013 Annual Biosolids Report

Terra Renewal Services
12812 Valley View Ave., #9
Garden Grove, CA 92845

2013

Biosolids Annual Report

City of San Diego
Metropolitan Biosolids Center

TERRA renewal
12812 Valley View St., #9
Garden Grove, CA 92845

January 28, 2014

Gerald Schreckengost
City of San Diego – MBC
5240 Convoy Street, MS 901M
San Diego, CA 92111

Re: 2013 Annual Report

Attached is Solid Solutions' 2013 Annual Report for the City of San Diego MBC. Included in this report are annual application reports, field reports, site maps, and a certification statement certifying federal and state requirements were met with our land application operations.

If you have any questions, feel free to call me at (760) 801-3175.

Sincerely,

Chris Marks

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- **2013 Annual Application Summaries**
- **Field Reports**
- **Field Map**
- **2013 ADEQ Annual Report Forms**
- **Certification Statement**

2013 Annual Application Summaries

San Diego - MBC Application Summary - 2013

Field Code:	YM 2-30
Date:	2/1/2014
Total Acres:	191.3
Latitude:	32 43' 50"N
Longitude:	114 5' 31" W
Crop:	Alfalfa+Sudan
Crop Nitrogen Usage:	600+325#/acre
Residual Nitrogen:	144#/acre
Date Started:	2/19/2013
Seeding Date:	May-13
Harvesting Date:	October-13

Wet Tons Applied For Current Year:	8551.02
Dry Tons Applied For Current Year:	2418.32
Wet Metric Tons Applied For Current Year:	7762.62
Dry Metric Tons Applied For Current Year:	2195.35
Wet Tons/Acre Applied For Current Year:	44.70
Dry Tons/Acre Applied For Current Year:	12.64
Wet Metric Tons/ha Applied For Current Year:	100.24
Dry Metric Tons/ha Applied For Current Year:	28.35

Source: San Diego - MBC

Constituent	lbs/acre Applied	kg/hectare Applied
TKN	1177.33	1377.48
NH3	358.42	419.35
NO3	0.17	0.20
Organic N	818.74	957.93
As	0.10	0.12
Cd	0.06	0.07
Cr	1.57	1.84
Cu	16.87	19.74
Pb	0.51	0.60
Hg	0.03	0.03
Mo	0.43	0.51
Ni	1.05	1.23
Se	0.10	0.12
Zn	27.81	32.54
PAN	343.13	401.46
P	609.13	712.68

San Diego - MBC Application Summary - 2013

Field Code:	YM 2-111
Date:	2/1/2014
Total Acres:	72
Latitude:	32 44' 42" N
Longitude:	114 4' 41" W
Crop:	Alfalfa
Crop Nitrogen Usage:	600#/acre
Residual Nitrogen:	72#/acre
Date Started:	8/28/2013
Seeding Date:	October-13
Harvesting Date:	March-14

Wet Tons Applied For Current Year:	1788.78
Dry Tons Applied For Current Year:	476.85
Wet Metric Tons Applied For Current Year:	1623.85
Dry Metric Tons Applied For Current Year:	432.89
Wet Tons/Acre Applied For Current Year:	24.84
Dry Tons/Acre Applied For Current Year:	6.62
Wet Metric Tons/ha Applied For Current Year:	55.72
Dry Metric Tons/ha Applied For Current Year:	14.85

Source: San Diego - MBC

Constituent	lbs/acre Applied	kg/hectare Applied
TKN	645.85	755.65
NH3	218.00	255.06
NO3	0.07	0.09
Organic N	427.78	500.51
As	0.04	0.05
Cd	0.03	0.03
Cr	0.54	0.63
Cu	8.12	9.51
Pb	0.18	0.21
Hg	0.01	0.01
Mo	0.22	0.25
Ni	0.46	0.54
Se	0.05	0.06
Zn	14.51	16.98
PAN	194.63	227.71
P	259.95	304.14

San Diego - MBC Application Summary - 2013

Field Code:	YM 2-161
Date:	2/1/2014
Total Acres:	64
Latitude:	32° 43' 45”N
Longitude:	114° 6' 50”W
Crop:	Bermuda
Crop Nitrogen Usage:	500 #/acre
Residual Nitrogen:	110#/acre
Date Started:	5/8/2013
Seeding Date:	June-13
Harvesting Date:	November-13

Wet Tons Applied For Current Year:	700.64
Dry Tons Applied For Current Year:	194.29
Wet Metric Tons Applied For Current Year:	636.04
Dry Metric Tons Applied For Current Year:	176.37
Wet Tons/Acre Applied For Current Year:	10.95
Dry Tons/Acre Applied For Current Year:	3.04
Wet Metric Tons/ha Applied For Current Year:	24.55
Dry Metric Tons/ha Applied For Current Year:	6.81

Source: San Diego - MBC

Constituent	lbs/acre Applied	kg/hectare Applied
TKN	274.45	321.11
NH3	78.50	91.84
NO3	0.01	0.01
Organic N	195.94	229.25
As	0.03	0.03
Cd	0.01	0.01
Cr	0.41	0.48
Cu	3.94	4.61
Pb	0.14	0.16
Hg	0.01	0.01
Mo	0.12	0.14
Ni	0.27	0.32
Se	0.03	0.03
Zn	5.93	6.94
PAN	78.45	91.78
P	125.60	146.95

San Diego - MBC Application Summary - 2013

Field Code:	YM 2-162
Date:	2/1/2014
Total Acres:	101
Latitude:	32° 43' 26”N
Longitude:	114° 7' 20”W
Crop:	Sudan
Crop Nitrogen Usage:	325#/acre
Residual Nitrogen:	31#/acre
Date Started:	6/1/2013
Seeding Date:	August-13
Harvesting Date:	January-14

Wet Tons Applied For Current Year:	599.18
Dry Tons Applied For Current Year:	166.15
Wet Metric Tons Applied For Current Year:	543.94
Dry Metric Tons Applied For Current Year:	150.83
Wet Tons/Acre Applied For Current Year:	5.93
Dry Tons/Acre Applied For Current Year:	1.65
Wet Metric Tons/ha Applied For Current Year:	13.30
Dry Metric Tons/ha Applied For Current Year:	3.69

Source: San Diego - MBC

Constituent	lbs/acre Applied	kg/hectare Applied
TKN	148.72	174.01
NH3	42.54	49.77
NO3	0.01	0.01
Organic N	106.18	124.23
As	0.02	0.02
Cd	0.01	0.01
Cr	0.22	0.26
Cu	2.13	2.50
Pb	0.08	0.09
Hg	0.00	0.00
Mo	0.07	0.08
Ni	0.15	0.17
Se	0.02	0.02
Zn	3.21	3.76
PAN	42.51	49.74
P	68.06	79.63

San Diego - MBC Application Summary - 2013

Field Code:	YM 2-163
Date:	2/1/2014
Total Acres:	112
Latitude:	32.7240N
Longitude:	114.1131
Crop:	Sudan
Crop Nitrogen Usage:	325#/acre
Residual Nitrogen:	10#/acre
Date Started:	6/1/2013
Seeding Date:	July-13
Harvesting Date:	December-13

Wet Tons Applied For Current Year:	499.89
Dry Tons Applied For Current Year:	138.62
Wet Metric Tons Applied For Current Year:	453.80
Dry Metric Tons Applied For Current Year:	125.84
Wet Tons/Acre Applied For Current Year:	4.46
Dry Tons/Acre Applied For Current Year:	1.24
Wet Metric Tons/ha Applied For Current Year:	10.01
Dry Metric Tons/ha Applied For Current Year:	2.78

Source: San Diego - MBC

Constituent	lbs/acre Applied	kg/hectare Applied
TKN	111.89	130.92
NH3	32.00	37.44
NO3	0.00	0.01
Organic N	79.89	93.47
As	0.01	0.01
Cd	0.00	0.01
Cr	0.17	0.19
Cu	1.60	1.88
Pb	0.06	0.07
Hg	0.00	0.00
Mo	0.05	0.06
Ni	0.11	0.13
Se	0.01	0.01
Zn	2.42	2.83
PAN	31.98	37.42
P	51.21	59.91

San Diego - MBC Application Summary - 2013

Field Code:	YM 2-185
Date:	2/1/2014
Total Acres:	70
Latitude:	32° 42' 22"N
Longitude:	114° 6' 48”W
Crop:	Bermuda
Crop Nitrogen Usage:	500#/acre
Residual Nitrogen:	66#/acre
Date Started:	12/25/2013
Seeding Date:	January-14
Harvesting Date:	May-14

Wet Tons Applied For Current Year:	99.29
Dry Tons Applied For Current Year:	28.37
Wet Metric Tons Applied For Current Year:	90.14
Dry Metric Tons Applied For Current Year:	25.75
Wet Tons/Acre Applied For Current Year:	1.42
Dry Tons/Acre Applied For Current Year:	0.41
Wet Metric Tons/ha Applied For Current Year:	3.18
Dry Metric Tons/ha Applied For Current Year:	0.91

Source: San Diego - MBC

Constituent	lbs/acre Applied	kg/hectare Applied
TKN	39.43	46.13
NH3	12.57	14.71
NO3	0.00	0.01
Organic N	26.85	31.42
As	0.00	0.00
Cd	0.00	0.00
Cr	0.04	0.04
Cu	0.46	0.53
Pb	0.01	0.01
Hg	0.00	0.00
Mo	0.01	0.01
Ni	0.03	0.03
Se	0.00	0.00
Zn	0.69	0.81
PAN	11.66	13.64
P	17.46	20.43

San Diego - MBC Application Summary - 2013

Field Code:	YM 2-221
Date:	2/1/2014
Total Acres:	40
Latitude:	32 41' 56" N
Longitude:	114 7' 25" W
Crop:	Bermuda + Bermuda
Crop Nitrogen Usage:	500+500 #/acre
Residual Nitrogen:	38 #/acre
Date Started:	12/20/12 /12/4/2013
Seeding Date:	01/2013 / 1/1/2014
Harvesting Date:	6/2013 /6/2014

Wet Tons Applied For Current Year:	346.09
Dry Tons Applied For Current Year:	98.88
Wet Metric Tons Applied For Current Year:	314.18
Dry Metric Tons Applied For Current Year:	89.76
Wet Tons/Acre Applied For Current Year:	8.65
Dry Tons/Acre Applied For Current Year:	2.47
Wet Metric Tons/ha Applied For Current Year:	19.40
Dry Metric Tons/ha Applied For Current Year:	5.54

Source: San Diego - MBC

Constituent	lbs/acre Applied	kg/hectare Applied
TKN	240.52	281.41
NH3	76.70	89.74
NO3	0.03	0.03
Organic N	163.79	191.64
As	0.01	0.02
Cd	0.01	0.01
Cr	0.22	0.26
Cu	2.78	3.25
Pb	0.07	0.08
Hg	0.00	0.00
Mo	0.08	0.09
Ni	0.18	0.21
Se	0.02	0.02
Zn	4.23	4.95
PAN	71.14	83.23
P	106.53	124.64

San Diego - MBC Application Summary - 2013

Field Code:	YM 2-281
Date:	2/1/2014
Total Acres:	40
Latitude:	32 41' 19" N
Longitude:	114 7' 18" W
Crop:	Bermuda
Crop Nitrogen Usage:	500#/acre
Residual Nitrogen:	108#/acre
Date Started:	6/17/2013
Seeding Date:	August-13
Harvesting Date:	January-14

Wet Tons Applied For Current Year:	997.72
Dry Tons Applied For Current Year:	276.42
Wet Metric Tons Applied For Current Year:	905.73
Dry Metric Tons Applied For Current Year:	250.94
Wet Tons/Acre Applied For Current Year:	24.94
Dry Tons/Acre Applied For Current Year:	6.91
Wet Metric Tons/ha Applied For Current Year:	55.94
Dry Metric Tons/ha Applied For Current Year:	15.50

Source: San Diego - MBC

Constituent	lbs/acre Applied	kg/hectare Applied
TKN	642.31	751.50
NH3	175.92	205.83
NO3	0.02	0.03
Organic N	466.37	545.65
As	0.06	0.07
Cd	0.03	0.03
Cr	0.86	1.00
Cu	9.06	10.60
Pb	0.29	0.33
Hg	0.01	0.02
Mo	0.26	0.30
Ni	0.59	0.70
Se	0.06	0.07
Zn	14.19	16.61
PAN	181.26	212.07
P	216.21	252.97

San Diego - MBC Application Summary - 2013

Field Code:	YM 2-283
Date:	2/1/2014
Total Acres:	40
Latitude:	32° 42' 7”N
Longitude:	114° 7' 4”W
Crop:	Alfalfa+Bermuda
Crop Nitrogen Usage:	600+500 #/acre
Residual Nitrogen:	113#/acre
Date Started:	1/1/2013 / 11/2/2013
Seeding Date:	2/1/2013 -/ 12/2013
Harvesting Date:	7/1/2013 / 05/14

Wet Tons Applied For Current Year:	2398.14
Dry Tons Applied For Current Year:	651.41
Wet Metric Tons Applied For Current Year:	2177.03
Dry Metric Tons Applied For Current Year:	591.35
Wet Tons/Acre Applied For Current Year:	59.95
Dry Tons/Acre Applied For Current Year:	16.29
Wet Metric Tons/ha Applied For Current Year:	134.45
Dry Metric Tons/ha Applied For Current Year:	36.52

Source: San Diego - MBC

Constituent	lbs/acre Applied	kg/hectare Applied
TKN	1548.76	1812.04
NH3	509.48	596.09
NO3	0.10	0.12
Organic N	1039.17	1215.83
As	0.13	0.15
Cd	0.08	0.09
Cr	1.46	1.71
Cu	21.63	25.30
Pb	0.56	0.66
Hg	0.03	0.03
Mo	0.55	0.64
Ni	1.25	1.46
Se	0.12	0.15
Zn	33.90	39.66
PAN	462.68	541.33
P	767.15	897.56

San Diego - MBC Application Summary - 2013

Field Code:	YM 2-1903
Date:	2/1/2014
Total Acres:	10
Latitude:	32° 25' 41”N
Longitude:	113° 33' 46”W
Crop:	Bermuda
Crop Nitrogen Usage:	500#/acre
Residual Nitrogen:	55#/acre
Date Started:	2/14/2013
Seeding Date:	March-13
Harvesting Date:	August-13

Wet Tons Applied For Current Year:	196.09
Dry Tons Applied For Current Year:	54.04
Wet Metric Tons Applied For Current Year:	178.01
Dry Metric Tons Applied For Current Year:	49.06
Wet Tons/Acre Applied For Current Year:	19.61
Dry Tons/Acre Applied For Current Year:	5.40
Wet Metric Tons/ha Applied For Current Year:	43.97
Dry Metric Tons/ha Applied For Current Year:	12.12

Source: San Diego - MBC

Constituent	lbs/acre Applied	kg/hectare Applied
TKN	504.10	589.80
NH3	158.37	185.30
NO3	0.01	0.01
Organic N	345.72	404.49
As	0.05	0.06
Cd	0.03	0.04
Cr	0.53	0.62
Cu	7.69	9.00
Pb	0.22	0.25
Hg	0.01	0.01
Mo	0.19	0.22
Ni	0.45	0.52
Se	0.04	0.05
Zn	10.97	12.84
PAN	148.34	173.56
P	271.21	317.32

San Diego - MBC Application Summary - 2013

Field Code:	YM 2-2002
Date:	2/1/2014
Total Acres:	53
Latitude:	32 25' 55" N
Longitude:	113 33' 22" W
Crop:	Bermuda
Crop Nitrogen Usage:	500 #/acre
Residual Nitrogen:	53 #/acre
Date Started:	7/27/2013
Seeding Date:	September-13
Harvesting Date:	February-14

Wet Tons Applied For Current Year:	1094.16
Dry Tons Applied For Current Year:	302.64
Wet Metric Tons Applied For Current Year:	993.28
Dry Metric Tons Applied For Current Year:	274.74
Wet Tons/Acre Applied For Current Year:	20.64
Dry Tons/Acre Applied For Current Year:	5.71
Wet Metric Tons/ha Applied For Current Year:	46.30
Dry Metric Tons/ha Applied For Current Year:	12.81

Source: San Diego - MBC

Constituent	lbs/acre Applied	kg/hectare Applied
TKN	557.81	652.63
NH3	141.09	165.08
NO3	0.01	0.01
Organic N	416.70	487.54
As	0.04	0.05
Cd	0.02	0.03
Cr	0.60	0.70
Cu	7.65	8.94
Pb	0.19	0.22
Hg	0.01	0.02
Mo	0.19	0.22
Ni	0.45	0.52
Se	0.04	0.05
Zn	12.80	14.97
PAN	153.90	180.06
P	71.21	83.32

San Diego - MBC Application Summary - 2013

Field Code:	YM 2-2004
Date:	2/1/2014
Total Acres:	45
Latitude:	32 25’ 44”N
Longitude:	113 33’ 32”W
Crop:	Bermuda
Crop Nitrogen Usage:	500#/acre
Residual Nitrogen:	97 #/acre
Date Started:	1/23/2013
Seeding Date:	March-13
Harvesting Date:	August-13

Wet Tons Applied For Current Year:	1291.53
Dry Tons Applied For Current Year:	355.95
Wet Metric Tons Applied For Current Year:	1172.45
Dry Metric Tons Applied For Current Year:	323.13
Wet Tons/Acre Applied For Current Year:	28.70
Dry Tons/Acre Applied For Current Year:	7.91
Wet Metric Tons/ha Applied For Current Year:	64.36
Dry Metric Tons/ha Applied For Current Year:	17.74

Source: San Diego - MBC

Constituent	lbs/acre Applied	kg/hectare Applied
TKN	737.83	863.26
NH3	231.80	271.21
NO3	0.02	0.02
Organic N	506.01	592.03
As	0.08	0.09
Cd	0.05	0.05
Cr	0.77	0.90
Cu	11.26	13.17
Pb	0.32	0.37
Hg	0.01	0.02
Mo	0.27	0.32
Ni	0.65	0.76
Se	0.06	0.07
Zn	16.06	18.79
PAN	217.12	254.03
P	396.95	464.43

Field Reports

Annual Field Report - 2013

Field Code:	YM 2-30
Date:	2/1/2014
Total Acres:	191.3
Latitude:	32 43' 50"N
Longitude:	114 5' 31" W
Crop:	Alfalfa+Sudan
Crop Nitrogen Usage:	600+325#/acre
Residual Nitrogen:	144#/acre
Date Started:	2/19/2013
Seeding Date:	May-13
Harvesting Date:	October-13
Wet Tons Applied:	22541.68
Dry Tons Applied:	5729.08
Wet Metric Tons Applied:	20463.34
Dry Metric Tons Applied:	5200.86
Wet Tons/Acre Applied:	117.83
Dry Tons/Acre Applied:	29.95
Wet Metric Tons/ha Applied:	264.25
Dry Metric Tons/ha Applied:	67.16

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	2855.76	2548.48	2855.76
NH3	708.59	632.35	708.59
NO3	0.44	0.39	0.44
Organic N	2146.72	1915.73	2146.72
As	0.23	0.21	0.23
Cd	0.12	0.11	0.12
Cr	2.97	2.65	2.97
Cu	29.73	26.53	29.73
Pb	0.88	0.79	0.88
Hg	0.05	0.04	0.05
Mo	1.01	0.90	1.01
Ni	1.88	1.68	1.88
Se	0.23	0.20	0.23
Zn	53.25	47.52	53.25
Plant Available - N	784.08	699.72	NA
P	1679.64	1498.91	1679.64

Annual Field Report - 2013

Field Code:	YM 2-111
Date:	2/1/2014
Total Acres:	72
Latitude:	32 44' 42" N
Longitude:	114 4' 41" W
Crop:	Alfalfa
Crop Nitrogen Usage:	600#/acre
Residual Nitrogen:	72#/acre
Date Started:	8/28/2013
Seeding Date:	October-13
Harvesting Date:	March-14
Wet Tons Applied:	3691.48
Dry Tons Applied:	951.11
Wet Metric Tons Applied:	3351.13
Dry Metric Tons Applied:	863.42
Wet Tons/Acre Applied:	51.27
Dry Tons/Acre Applied:	13.21
Wet Metric Tons/ha Applied:	114.98
Dry Metric Tons/ha Applied:	29.62

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	1864.61	1663.98	5971.22
NH3	401.53	358.33	1581.21
NO3	0.20	0.18	0.59
Organic N	1462.88	1305.47	4389.43
As	0.11	0.10	0.62
Cd	0.05	0.05	0.22
Cr	1.11	0.99	5.07
Cu	13.20	11.78	55.88
Pb	0.32	0.28	1.69
Hg	0.02	0.02	0.12
Mo	0.36	0.32	1.84
Ni	0.89	0.79	3.90
Se	0.13	0.11	0.54
Zn	27.75	24.77	91.36
Plant Available - N	493.54	440.44	NA
P	801.49	715.25	2242.38

Annual Field Report - 2013

Field Code:	YM 2-161
Date:	2/1/2014
Total Acres:	64
Latitude:	32° 43' 45”N
Longitude:	114° 6' 50”W
Crop:	Bermuda
Crop Nitrogen Usage:	500 #/acre
Residual Nitrogen:	110#/acre
Date Started:	5/8/2013
Seeding Date:	June-13
Harvesting Date:	November-13
Wet Tons Applied:	700.64
Dry Tons Applied:	388.58
Wet Metric Tons Applied:	636.04
Dry Metric Tons Applied:	352.75
Wet Tons/Acre Applied:	10.95
Dry Tons/Acre Applied:	6.07
Wet Metric Tons/ha Applied:	24.55
Dry Metric Tons/ha Applied:	13.62

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	613.74	547.70	1331.19
NH3	149.11	133.07	318.32
NO3	0.04	0.04	0.06
Organic N	464.59	414.60	1012.81
As	0.06	0.05	0.13
Cd	0.02	0.02	0.06
Cr	0.74	0.66	1.69
Cu	6.24	5.57	14.32
Pb	0.23	0.20	0.54
Hg	0.01	0.01	0.02
Mo	0.23	0.20	0.47
Ni	0.47	0.42	1.34
Se	0.06	0.05	0.07
Zn	11.21	10.00	22.15
Plant Available - N	167.52	149.49	NA
P	380.79	339.82	702.19

Annual Field Report - 2013

Field Code:	YM 2-162
Date:	2/1/2014
Total Acres:	101
Latitude:	32° 43' 26”N
Longitude:	114° 7' 20”W
Crop:	Sudan
Crop Nitrogen Usage:	325#/acre
Residual Nitrogen:	31#/acre
Date Started:	6/1/2013
Seeding Date:	August-13
Harvesting Date:	January-14
Wet Tons Applied:	599.18
Dry Tons Applied:	166.15
Wet Metric Tons Applied:	543.94
Dry Metric Tons Applied:	150.83
Wet Tons/Acre Applied:	5.93
Dry Tons/Acre Applied:	1.65
Wet Metric Tons/ha Applied:	13.30
Dry Metric Tons/ha Applied:	3.69

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	394.37	351.93	1878.80
NH3	104.83	93.55	429.76
NO3	0.00	0.00	0.09
Organic N	289.53	258.38	1448.95
As	0.05	0.04	0.23
Cd	0.02	0.02	0.09
Cr	0.64	0.57	2.22
Cu	5.09	4.54	20.26
Pb	0.19	0.17	0.73
Hg	0.02	0.02	0.06
Mo	0.12	0.11	0.56
Ni	0.53	0.47	1.91
Se	0.01	0.01	0.08
Zn	7.81	6.97	30.94
Plant Available - N	110.32	98.45	NA
P	254.59	227.20	1097.99

Annual Field Report - 2013

Field Code:	YM 2-163
Date:	2/1/2014
Total Acres:	112
Latitude:	32.7240N
Longitude:	114.1131
Crop:	Sudan
Crop Nitrogen Usage:	325#/acre
Residual Nitrogen:	10#/acre
Date Started:	6/1/2013
Seeding Date:	July-13
Harvesting Date:	December-13
Wet Tons Applied:	499.89
Dry Tons Applied:	138.62
Wet Metric Tons Applied:	453.80
Dry Metric Tons Applied:	125.84
Wet Tons/Acre Applied:	4.46
Dry Tons/Acre Applied:	1.24
Wet Metric Tons/ha Applied:	10.01
Dry Metric Tons/ha Applied:	2.78

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	130.92	116.83	893.97
NH3	37.44	33.42	180.72
NO3	0.01	0.00	0.05
Organic N	93.47	83.41	713.20
As	0.01	0.01	0.10
Cd	0.01	0.00	0.03
Cr	0.19	0.17	0.84
Cu	1.88	1.68	9.52
Pb	0.07	0.06	0.32
Hg	0.00	0.00	0.02
Mo	0.06	0.05	0.27
Ni	0.13	0.12	0.59
Se	0.01	0.01	0.04
Zn	2.83	2.52	12.87
Plant Available - N	37.42	33.39	NA
P	59.91	53.46	413.50

Annual Field Report - 2013

Field Code:	YM 2-184
Date:	2/1/2014
Total Acres:	40
Latitude:	32° 42' 22"N
Longitude:	114° 6' 48”W
Crop:	Alfalfa+Alfalfa
Crop Nitrogen Usage:	600 + 600 #/acre
Residual Nitrogen:	89.18#/acre
Date Started:	12/1/2013
Seeding Date:	January-14
Harvesting Date:	June-14

Wet Tons Applied:	1388.01
Dry Tons Applied:	301.61
Wet Metric Tons Applied:	1260.04
Dry Metric Tons Applied:	273.80
Wet Tons/Acre Applied:	34.70
Dry Tons/Acre Applied:	7.54
Wet Metric Tons/ha Applied:	77.82
Dry Metric Tons/ha Applied:	16.91

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Pounds Applied Current Crop (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	1304.48	1164.11	3954.15	8114.46
NH3	306.29	273.33	969.36	1930.79
NO3	0.19	0.17	0.96	1.43
Organic N	998.00	890.61	2983.82	6182.25
As	0.14	0.12	0.41	0.98
Cd	0.04	0.04	0.17	0.35
Cr	1.05	0.94	3.73	7.68
Cu	18.79	16.77	49.22	94.70
Pb	0.40	0.35	1.51	3.20
Hg	0.04	0.03	0.11	0.20
Mo	0.57	0.51	1.47	2.94
Ni	0.59	0.53	2.15	5.15
Se	0.08	0.08	0.28	0.51
Zn	20.87	18.62	69.39	134.08
Plant Available - N	352.93	314.96	1082.41	NA
P	698.92	623.72	2394.38	4016.89

Annual Field Report - 2013

Field Code:	YM 2-185
Date:	2/1/2014
Total Acres:	70
Latitude:	32° 42' 22"N
Longitude:	114° 6' 48”W
Crop:	Bermuda
Crop Nitrogen Usage:	500#/acre
Residual Nitrogen:	66#/acre
Date Started:	12/25/2013
Seeding Date:	January-14
Harvesting Date:	May-14
Wet Tons Applied:	1045.45
Dry Tons Applied:	207.7
Wet Metric Tons Applied:	949.06
Dry Metric Tons Applied:	188.55
Wet Tons/Acre Applied:	14.94
Dry Tons/Acre Applied:	2.97
Wet Metric Tons/ha Applied:	33.49
Dry Metric Tons/ha Applied:	6.65

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	400.95	357.81	3882.72
NH3	93.06	83.04	1069.06
NO3	0.05	0.05	0.26
Organic N	307.85	274.72	2813.40
As	0.03	0.02	0.44
Cd	0.01	0.01	0.19
Cr	0.24	0.21	4.58
Cu	2.48	2.21	44.54
Pb	0.07	0.06	1.77
Hg	0.00	0.00	0.09
Mo	0.11	0.10	1.51
Ni	0.17	0.15	3.46
Se	0.03	0.03	0.23
Zn	4.43	3.95	67.31
Plant Available - N	108.15	96.51	NA
P	217.56	194.15	1943.24

Annual Field Report - 2013

Field Code:	YM 2-221
Date:	2/1/2014
Total Acres:	40
Latitude:	32 41' 56" N
Longitude:	114 7' 25" W
Crop:	Bermuda + Bermuda
Crop Nitrogen Usage:	500+500 #/acre
Residual Nitrogen:	38 #/acre
Date Started:	12/20/12 /12/4/2013
Seeding Date:	01/2013 / 1/1/2014
Harvesting Date:	6/2013 /6/2014

Wet Tons Applied:	3071.01
Dry Tons Applied:	609.79
Wet Metric Tons Applied:	2787.86
Dry Metric Tons Applied:	553.57
Wet Tons/Acre Applied:	76.78
Dry Tons/Acre Applied:	15.24
Wet Metric Tons/ha Applied:	172.18
Dry Metric Tons/ha Applied:	34.19

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Pound Applied Season to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	2076.26	1852.85	5544.33	7661.17
NH3	478.74	427.23	1325.45	1768.73
NO3	0.32	0.28	1.13	1.33
Organic N	1597.20	1425.34	4217.76	5891.11
As	0.14	0.12	0.49	0.72
Cd	0.05	0.04	0.19	0.25
Cr	1.24	1.10	4.29	6.38
Cu	13.73	12.25	53.91	77.45
Pb	0.36	0.32	1.61	2.42
Hg	0.03	0.02	0.11	0.14
Mo	0.62	0.55	1.86	2.47
Ni	0.87	0.78	2.42	3.89
Se	0.17	0.16	0.40	0.57
Zn	22.81	20.35	79.16	113.44
Plant Available - N	559.13	498.97	476.58	NA
P	1099.88	981.53	3207.38	3634.20

Annual Field Report - 2013

Field Code:	YM 2-281
Date:	2/1/2014
Total Acres:	40
Latitude:	32 41' 19" N
Longitude:	114 7' 18" W
Crop:	Bermuda
Crop Nitrogen Usage:	500#/acre
Residual Nitrogen:	108#/acre
Date Started:	6/17/2013
Seeding Date:	August-13
Harvesting Date:	January-14
Wet Tons Applied:	2120.88
Dry Tons Applied:	560.89
Wet Metric Tons Applied:	1925.33
Dry Metric Tons Applied:	509.18
Wet Tons/Acre Applied:	53.02
Dry Tons/Acre Applied:	14.02
Wet Metric Tons/ha Applied:	118.91
Dry Metric Tons/ha Applied:	31.45

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	1614.95	1441.19	5878.50
NH3	379.79	338.92	1454.50
NO3	0.09	0.08	0.36
Organic N	1235.07	1102.18	4423.64
As	0.14	0.12	0.60
Cd	0.06	0.05	0.29
Cr	1.70	1.52	7.60
Cu	14.99	13.38	64.99
Pb	0.48	0.43	2.50
Hg	0.02	0.02	0.12
Mo	0.50	0.45	2.18
Ni	1.10	0.98	5.94
Se	0.15	0.14	0.36
Zn	28.64	25.56	102.75
Plant Available - N	437.00	389.98	NA
P	985.92	879.83	2185.38

Annual Field Report - 2013

Field Code:	YM 2-283
Date:	2/1/2014
Total Acres:	40
Latitude:	32° 42' 7”N
Longitude:	114° 7' 4”W
Crop:	Alfalfa+Bermuda
Crop Nitrogen Usage:	600+500 #/acre
Residual Nitrogen:	113#/acre
Date Started:	1/1/2013 / 11/2/2013
Seeding Date:	2/1/2013 -/ 12/2013
Harvesting Date:	7/1/2013 / 05/14

Wet Tons Applied:	6101.8
Dry Tons Applied:	1526.64
Wet Metric Tons Applied:	5539.21
Dry Metric Tons Applied:	1385.88
Wet Tons/Acre Applied:	152.55
Dry Tons/Acre Applied:	38.17
Wet Metric Tons/ha Applied:	342.10
Dry Metric Tons/ha Applied:	85.59

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	3788.90	3381.21	7339.46
NH3	981.05	875.49	1785.26
NO3	0.43	0.38	1.45
Organic N	2807.42	2505.34	5552.75
As	0.30	0.27	0.68
Cd	0.15	0.13	0.30
Cr	2.79	2.49	6.38
Cu	36.69	32.74	71.68
Pb	0.94	0.84	2.35
Hg	0.05	0.05	0.13
Mo	1.19	1.06	2.35
Ni	2.17	1.94	4.86
Se	0.28	0.25	0.49
Zn	63.49	56.66	120.13
Plant Available - N	1052.44	939.19	NA
P	2000.93	1785.63	3280.18

Annual Field Report - 2013

Field Code:	YM 2-1903
Date:	2/1/2014
Total Acres:	10
Latitude:	32° 25' 41”N
Longitude:	113° 33' 46”W
Crop:	Bermuda
Crop Nitrogen Usage:	500#/acre
Residual Nitrogen:	55#/acre
Date Started:	2/14/2013
Seeding Date:	March-13
Harvesting Date:	August-13

Wet Tons Applied:	1409.79
Dry Tons Applied:	353.31
Wet Metric Tons Applied:	1279.81
Dry Metric Tons Applied:	320.73
Wet Tons/Acre Applied:	140.98
Dry Tons/Acre Applied:	35.33
Wet Metric Tons/ha Applied:	316.16
Dry Metric Tons/ha Applied:	79.23

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	1721.67	1536.42	4406.30
NH3	463.09	413.27	1086.92
NO3	0.17	0.15	0.40
Organic N	1258.41	1123.00	3318.98
As	0.16	0.14	0.51
Cd	0.07	0.07	0.19
Cr	1.34	1.20	4.19
Cu	15.76	14.06	44.47
Pb	0.46	0.41	1.46
Hg	0.03	0.02	1.65
Mo	0.52	0.46	1.29
Ni	0.96	0.86	3.23
Se	0.13	0.12	0.29
Zn	29.24	26.09	73.19
Plant Available - N	483.40	431.39	NA
P	1148.41	1024.84	2657.49

Annual Field Report - 2013

Field Code:	YM 2-2002
Date:	2/1/2014
Total Acres:	53
Latitude:	32 25' 55" N
Longitude:	113 33' 22" W
Crop:	Bermuda
Crop Nitrogen Usage:	500 #/acre
Residual Nitrogen:	53 #/acre
Date Started:	7/27/2013
Seeding Date:	September-13
Harvesting Date:	February-14

Wet Tons Applied:	2399.51
Dry Tons Applied:	628.19
Wet Metric Tons Applied:	2178.28
Dry Metric Tons Applied:	570.27
Wet Tons/Acre Applied:	45.27
Dry Tons/Acre Applied:	11.85
Wet Metric Tons/ha Applied:	101.53
Dry Metric Tons/ha Applied:	26.58

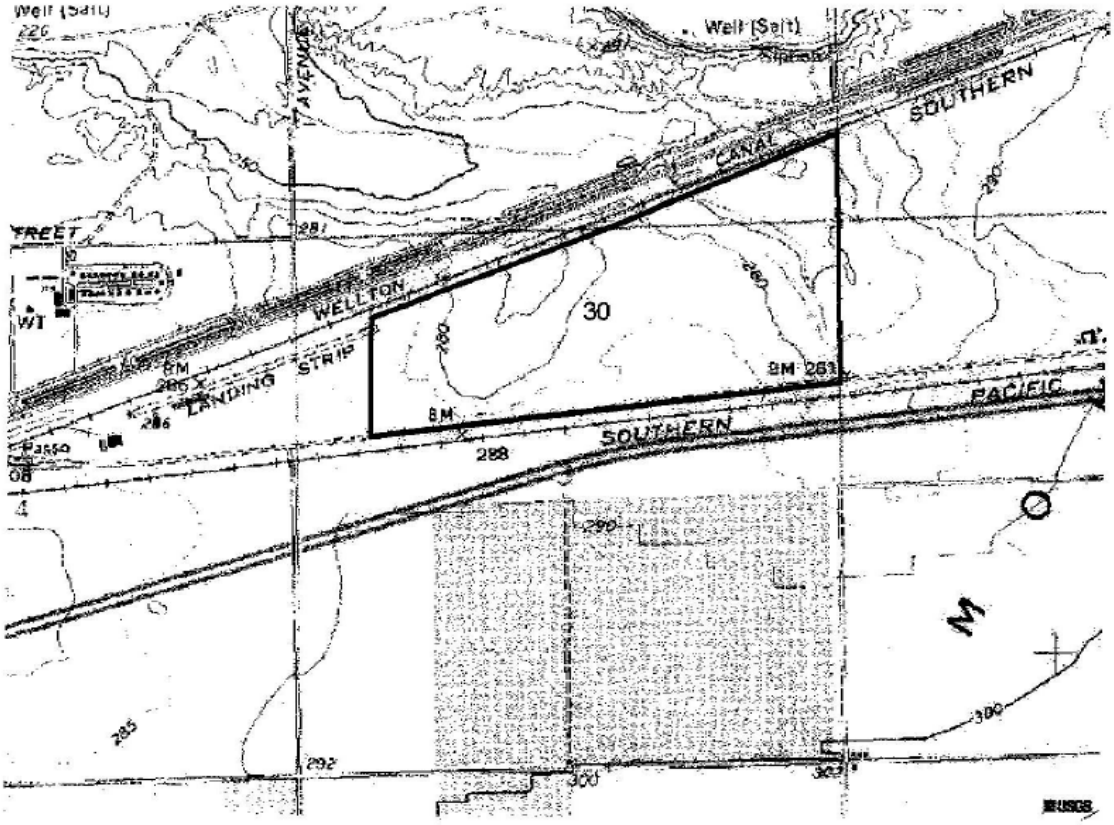
Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	1416.37	1263.97	5883.24
NH3	323.42	288.62	1399.13
NO3	0.04	0.03	0.59
Organic N	1092.92	975.32	4483.52
As	0.11	0.10	0.69
Cd	0.04	0.04	0.23
Cr	1.20	1.07	6.02
Cu	12.56	11.21	54.70
Pb	0.31	0.28	2.11
Hg	0.02	0.02	0.13
Mo	0.34	0.30	1.74
Ni	0.84	0.75	4.46
Se	0.14	0.12	0.36
Zn	25.49	22.74	89.50
Plant Available - N	380.33	339.41	NA
P	719.81	642.36	2140.37

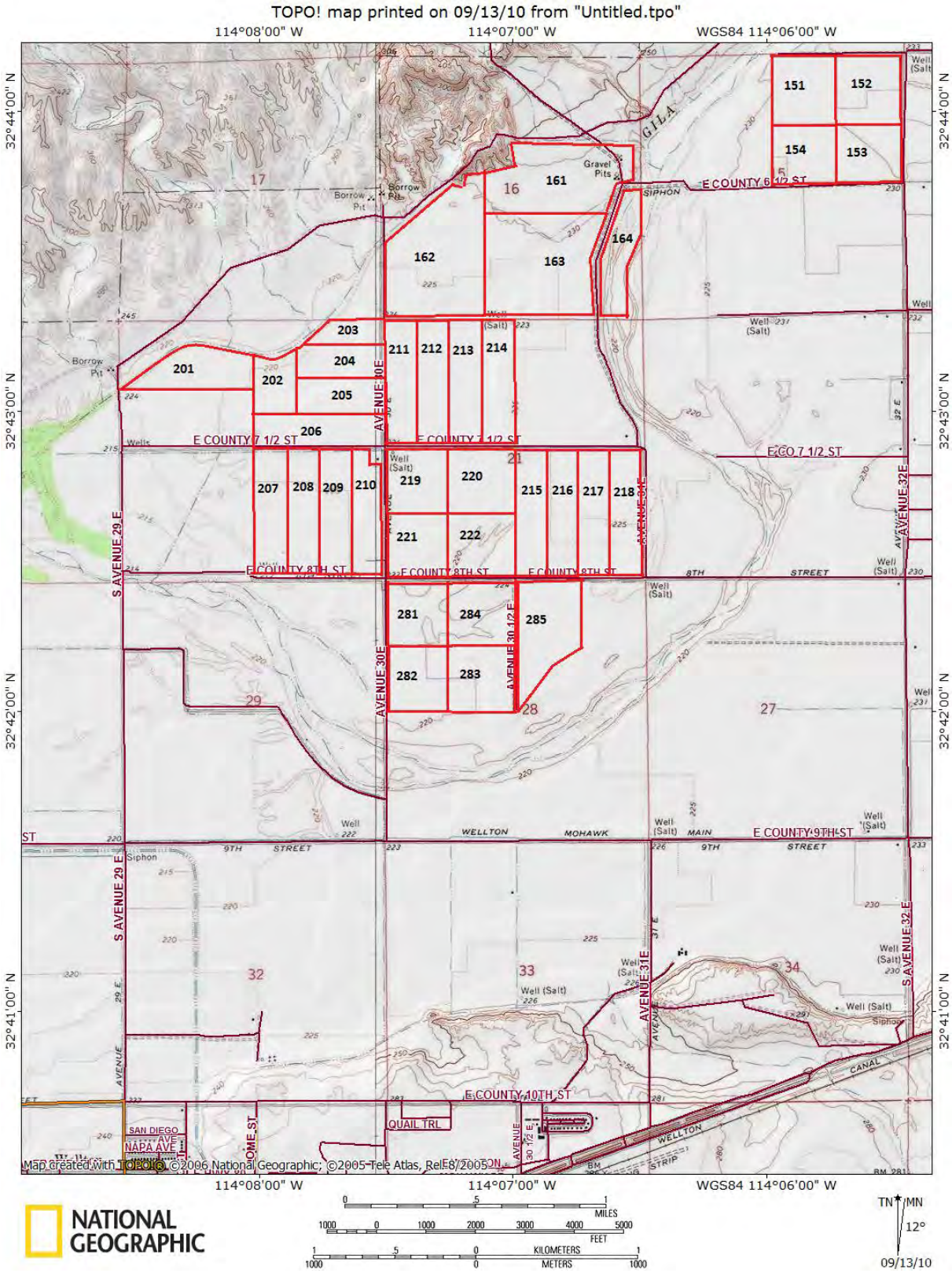
Annual Field Report - 2013

Field Code:	YM 2-2004
Date:	2/1/2014
Total Acres:	45
Latitude:	32 25’ 44”N
Longitude:	113 33’ 32”W
Crop:	Bermuda
Crop Nitrogen Usage:	500#/acre
Residual Nitrogen:	97 #/acre
Date Started:	1/23/2013
Seeding Date:	March-13
Harvesting Date:	August-13
Wet Tons Applied:	3640.48
Dry Tons Applied:	954.8
Wet Metric Tons Applied:	3304.83
Dry Metric Tons Applied:	866.77
Wet Tons/Acre Applied:	80.90
Dry Tons/Acre Applied:	21.22
Wet Metric Tons/ha Applied:	181.42
Dry Metric Tons/ha Applied:	47.58

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	1570.51	1401.53	6923.90
NH3	448.28	400.04	1648.40
NO3	0.14	0.13	1.39
Organic N	1122.09	1001.36	5274.11
As	0.15	0.13	0.91
Cd	0.08	0.07	0.28
Cr	1.36	1.22	6.03
Cu	16.74	14.94	67.35
Pb	0.49	0.43	2.42
Hg	0.02	0.02	0.13
Mo	0.52	0.46	2.26
Ni	1.05	0.94	4.49
Se	0.12	0.11	0.49
Zn	28.44	25.38	105.53
Plant Available - N	448.70	400.42	NA
P	1033.50	922.30	3232.49

Field Maps


Well (Salt)
Well (Salt)
AVENUE
SOUTHERN
CANAL
STREET
WELLTON
30
LANDING STRIP
BM 261
BM
SOUTHERN
PACIFIC
288
290
285
292
300
300
300
280
281
286
WT
USGS



Note: Fields on map (281-285) represent fields YM 2 181-185.

121
152
142
143
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162
113
7th
20E
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216
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218
8th
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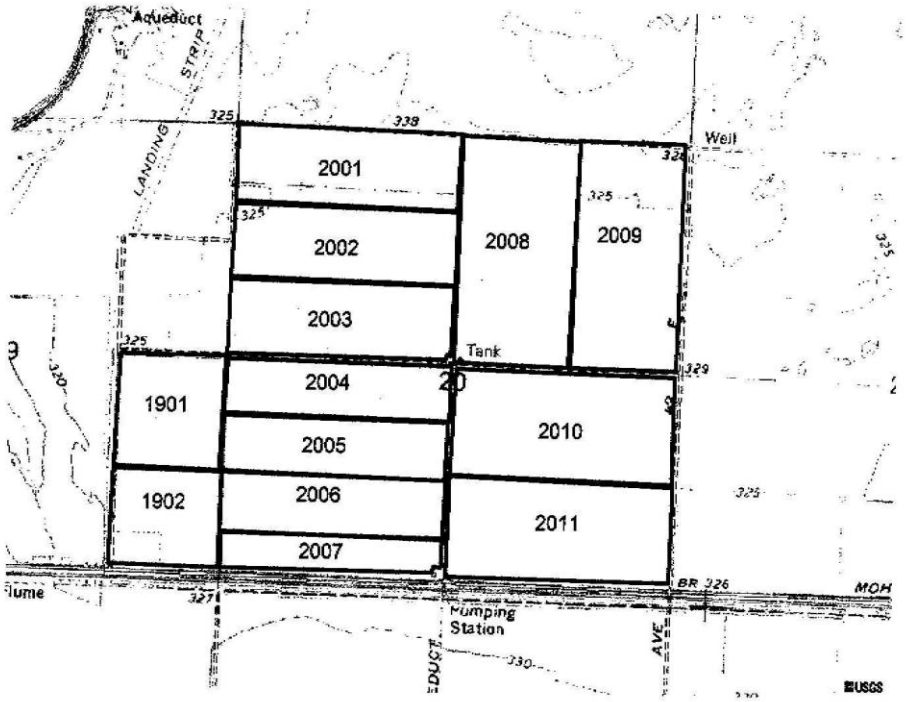
306
307
308
309
9th
351
Ave 28E
Ave 29E
Ave 30E
Ave 31E
Ave 32E
Ave 33E
Ave 34E
30
HWY 80

Cullison Farms
Tacna Fields



2013 ADEQ Annual Report Forms

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Water Quality Compliance Assurance Unit
1110 W. Washington Street, MO5415B-1
Phoenix, Arizona 85007
602-771-4612 (voicemail) 602-771-4505 (fax)

BIOSOLIDS OR SEWAGE SLUDGE ANNUAL REPORT FORM FOR REPORTING YEAR 2013

All Preparers (Generators) and Land Applicators Must Complete the Following:

1. General Information

Date: January 29, 2014	**NPDES Permit # (if applicable)**
Company Name (Preparer/Applicator):Solid Solutions	
Contact Name: Chris Marks	**Title: Environmental Manager**
Address: 12812 Valley View St, Suite 9, Garden Grove, CA 92845	
Phone: (760) 801-3175	**Email: chrisamarks@comcast.net**

CERTIFICATION: I certify, under penalty of law, that the information and descriptions, have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

Signature:	**Title:**

2. Who are you? (Check all that apply)

- **Preparer.** (A "Preparer is a Generator") The biosolids or sewage sludge prepared at this site are: (select all that apply)
  - Stored on Site
  - Beneficially used for Land Application
  - Sold/given to composting operation, a sludge drying operation or to another WWTP for further treatment.
  - Disposed of in a "biosolids only" surface disposal site, monofill, designated sludge only area
- Disposed of in a solid waste landfill – do biosolids go directly into the landfill? _____
  - Sent out of state for incineration, landfilling, land application, surface disposal, composting or sludge drying

---

- **Applicator.** One who applies biosolids to the land (farm, parks, forests, reclamation sites)

- **Owner or Operator** of a surface disposal site including wastewater treatment plants with surface disposal (final disposal) site for sludge.

3. Final Disposition of Biosolids.

Preparers – wastewater treatment facilities, composting operations and Biosolids processing operations. Complete Parts 3.A., 3.B., 3.C., 3.D., and 3.E. of this form (if more room is needed, provide additional sheets) for:

- All applicators used to haul/land apply your biosolids and the amount
- All surface disposal sites to which you sent or took biosolids and the amount
- All land application sites (farms, ranches) where biosolids from your facility were applied in 2010 and the amount
- All landfills to which you sent biosolids and the amount
- All composting operations or biosolids processing facilities including "sludge drying operations" to which you sent biosolids and the amount
- All incinerators to which you sent biosolids and the amount.

Applicators. Complete Parts 3.C, 3.D, and 3.E. for **out of state preparers.** Complete Parts 3.F and 3.G of this form.
If more room is needed, provide additional sheets for:

- All preparers (including composting operations biosolids processing facilities) from which you obtained biosolids
- All application sites (farms, ranches, composting operations) where biosolids were applied in 2006 and the amount.
- All land applicators that are taking biosolids from California generators are required to complete this form and ensure that the California WWTP or preparer is submitting its Annual Report to ADEQ.

AME OF FACILITY: City of San Diego MBC FOR CALENDAR YEAR: 2013

DISPOSITION OF BIOSOLIDS

ALL REPORTING IS TO BE DONE IN DRY TONS

Arizona Generators and Preparers – Complete Sections 3.A., 3.B., 3.C., and 3.D
California Generators – Complete Section 3.D only

3.A. Amount of Biosolids Stored on site

Are Biosolids stored in lined lagoons/impoundment? _____
Are Biosolids stored directly on the ground? _____
Are lagoons used in the treatment process? _____

	PATHOGEN TREATMENTS			VAR* Option Used
	NONE	CLASS B	CLASS A	
At beginning of 2013: How much was stored or left over from the previous years? Include any amount that is being stored ANYWHERE – identify the storage of biosolids.	dry tons	dry tons	dry tons	
			(Circle one) Fecal Coliform Salmonella	
		METHOD #		
At the end of 2013, how much is still stored on site? Where?	dry tons	dry tons	dry tons	
			(Circle one) Fecal Coliform Salmonella	
		METHOD #		

3.B. Amount of Biosolids or sewage sludge received from another facility during the year, such as another wastewater treatment plant or another APP permitted facility, for further processing?

NAME OF FACILITY	LOCATION	PATHOGEN TREATMENT of the incoming biosolids			VAR* Option Used
		NONE	CLASS B	CLASS A	
1.		dry tons	dry tons	dry tons	
				(Circle one) Fecal Coliform Salmonella	
2.			METHOD #		

3.C. Total amount of Biosolids "Prepared" at the facility during the year based on daily flow.

	PATHOGEN TREATMENT			VAR* Option Used
	NONE	CLASS B	CLASS A	
City of San Diego MBC	dry tons *0.00*	dry tons *5161.94*	dry tons *0.00*	
			(Circle one) Fecal Coliform Salmonella	***Option 1***
		METHOD #		
		Alt. 5		

3.D. Amount of Biosolids removed from the facility. Name all recipients, include haulers name and phone number, land applicators, composters, landfills, drying facilities, EQB bagging facilities, bulk composting, etc.

NAME OF RECIPIENT	LOCATION	DISPOSITION**	PATHOGEN TREATMENT			VAR* Option Used
			NONE	CLASS B	CLASS A	
1. Solid Solutions, LLC 12812 Valley View St, Suite 9 Garden Grove, CA 92845 (714) 799-0801	Wellton, AZ	Cullison Farms	**dry tons** ***0.00***	**dry tons** ***5161.94***	**dry tons** ***0.00***	***Option 1***
					(Circle one) **Fecal Coliform** **Salmonella**	
				METHOD #		
				Alt. 5		
2. Solid Solutions, LLC 12812 Valley View St, Suite 9 Garden Grove, CA 92845 (714) 799-0801	Garden Grove, CA	Hauler	**dry tons** ***0.00***	**dry tons**	**dry tons** ***0.00***	
					(Circle one) **Fecal Coliform** **Salmonella**	
				METHOD #		
			dry tons ***0.00***	**dry tons**	**dry tons** ***0.00***	
					(Circle one) **Fecal Coliform** **Salmonella**	
				METHOD #		
				Alt. 5		
			dry tons	**dry tons**	**dry tons**	
					(Circle one) **Fecal Coliform** **Salmonella**	
			dry tons	**dry tons**	**dry tons**	
					(Circle one) **Fecal Coliform** **Salmonella**	
				METHOD #		

* VAR = Vector Attraction Reduction – Which option was used from A.A.C. R18-9-1010 (If Preparer did not perform VAR treatment, then specify "none")

** Disposition: Name the Land application, Surface Disposal, Incineration, Composting Operation, EQB (Exceptional Quality Biosolids) Bagging operation, Landfill, Biosolids Processing facility or sludge drying operation site. Example: Hunt Farm, Flagstaff WWTP Surface Disposal site, Northwest Landfill, Western Organics, etc.

3.E. Preparers must attach analytical results for (metals) pollutants according to A.A.C. R18-9-1012 (Self Monitoring), pathogen reduction results according to A.A.C. R18-9-1006 (Class A and Class B Pathogen Reduction Requirements) and Vector Attraction Reduction results according to A.A.C. R18-9-1010. This reporting is required under A.A.C. R18-9-1014(F) for biosolids produced or further treated at site during the year. Report all pollutant and pathogen results on a 100% dry weight basis.

NOTE: If biosolids are going to a landfill – attach Paint Filter Test and Toxicity Characteristic Leaching Procedure test (TCLP test) per 40CFR261.24

********Attn: All Arizona Generators, submit additional testing data/ see requirements under Biosolids Requirements in your AZPDES permit (example: Dioxins/dibenzofurans) with this Annual Report**

City of San Diego- MBC 2013

F. Specific Information on Land Application Events

Application Site/Location	Field ID	Amount of Biosolids Applied in dry tons (dry tons)	Preparer	Pathogen Treatment Method	Vector Attraction Reduction Method	Loading Rate in dry tons (dry tons/acre)	Nitrogen Conc. Organic + ammonium (kg/ha)	Type of Crop Grown after application	Agronomic Rate of Crop Grown (#N/acre)	Concentration of Pollutants (kg/ha)
Cullison Farms Wellton, AZ	YM 2-30	2418.32	San Diego - MBC	Class B, Alt. 5	Option 1	12.64	401.46	Alfalfa+Sudan	600+325#/acre	As= 0.12 Cd= 0.07 Cr= 1.84 Cu= 19.74 Pb= 0.60 Hg= 0.03 Mo= 0.51 Ni= 1.23 Se= 0.12 Zn= 32.54
Cullison Farms Wellton, AZ	YM 2-111	476.85	San Diego - MBC	Class B, Alt. 5	Option 1	6.62	227.71	Alfalfa	600#/acre	As= 0.05 Cd= 0.03 Cr= 0.63 Cu= 9.51 Pb= 0.21 Hg= 0.01 Mo= 0.25 Ni= 0.54 Se= 0.06 Zn= 16.98
Cullison Farms Wellton, AZ	YM 2-161	194.29	San Diego - MBC	Class B, Alt. 5	Option 1	3.04	91.78	Bermuda	500 #/acre	As= 0.03 Cd= 0.01 Cr= 0.48 Cu= 4.61 Pb= 0.16 Hg= 0.01 Mo= 0.14 Ni= 0.32 Se= 0.03 Zn= 6.94
Cullison Farms Wellton, AZ	YM 2-162	166.15	San Diego - MBC	Class B, Alt. 5	Option 1	1.65	49.74	Sudan	325#/acre	As= 0.02 Cd= 0.01 Cr= 0.26 Cu= 2.50 Pb= 0.09 Hg= 0.00 Mo= 0.08 Ni= 0.17 Se= 0.02 Zn= 3.76
Cullison Farms Wellton, AZ	YM 2-163	138.62	San Diego - MBC	Class B, Alt. 5	Option 1	1.24	37.42	Sudan	325#/acre	As= 0.01 Cd= 0.01 Cr= 0.19 Cu= 1.88 Pb= 0.07 Hg= 0.00 Mo= 0.06 Ni= 0.13 Se= 0.01 Zn= 2.83
Cullison Farms Wellton, AZ	YM 2-185	28.37	San Diego - MBC	Class B, Alt. 5	Option 1	0.41	13.64	Bermuda	500#/acre	As= 0.00 Cd= 0.00 Cr= 0.04 Cu= 0.53 Pb= 0.01 Hg= 0.00 Mo= 0.01 Ni= 0.03 Se= 0.00 Zn= 0.81
Cullison Farms Wellton, AZ	YM 2-221	98.88	San Diego - MBC	Class B, Alt. 5	Option 1	2.47	83.23	Bermuda + Bermuda	500+500 #/acre	As= 0.02 Cd= 0.01 Cr= 0.26 Cu= 3.25 Pb= 0.08 Hg= 0.00 Mo= 0.09 Ni= 0.21 Se= 0.02 Zn= 4.95
Cullison Farms Wellton, AZ	YM 2-281	276.42	San Diego - MBC	Class B, Alt. 5	Option 1	6.91	212.07	Bermuda	500#/acre	As= 0.07 Cd= 0.03 Cr= 1.00 Cu= 10.60 Pb= 0.33 Hg= 0.02 Mo= 0.30 Ni= 0.70 Se= 0.07 Zn= 16.61
Cullison Farms Wellton, AZ	YM 2-283	651.41	San Diego - MBC	Class B, Alt. 5	Option 1	16.29	541.33	Alfalfa+Bermuda	600+500 #/acre	As= 0.15 Cd= 0.09 Cr= 1.71 Cu= 25.30 Pb= 0.66 Hg= 0.03 Mo= 0.64 Ni= 1.46 Se= 0.15 Zn= 39.66
Cullison Farms Wellton, AZ	YM 2-1903	54.04	San Diego - MBC	Class B, Alt. 5	Option 1	5.40	173.56	Bermuda	500#/acre	As= 0.06 Cd= 0.04 Cr= 0.62 Cu= 9.00 Pb= 0.25 Hg= 0.01 Mo= 0.22 Ni= 0.52 Se= 0.05 Zn= 12.84
Cullison Farms Wellton, AZ	YM 2-2002	302.64	San Diego - MBC	Class B, Alt. 5	Option 1	5.71	180.06	Bermuda	500 #/acre	As= 0.05 Cd= 0.03 Cr= 0.70 Cu= 8.94 Pb= 0.22 Hg= 0.02 Mo= 0.22 Ni= 0.52 Se= 0.05 Zn= 14.97
Cullison Farms Wellton, AZ	YM 2-2004	355.95	San Diego - MBC	Class B, Alt. 5	Option 1	7.91	254.03	Bermuda	500#/acre	As= 0.09 Cd= 0.05 Cr= 0.90 Cu= 13.17 Pb= 0.37 Hg= 0.02 Mo= 0.32 Ni= 0.76 Se= 0.07 Zn= 18.79

Certification Statement

Solid Solutions
A Terra Renewal company
12812 Valley View Street, Suite 9
Garden Grove, CA 92845

Arizona
Biosolids Land Application
2013

Certification Statement

"I certify under penalty of law that the information used to determine compliance with the management practices in 503.14, the general requirement in 503.12, and the site restrictions in 503.32(b)(5) was prepared under direction and supervision in accordance with the system designed to ensure that qualified personnel gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

By: _____ Date: 1/15/14

Enclosure 12
Terra Renewal
Monthly Certifications and Reports

2013 Annual Biosolids Report

TERRA renewal
12812 Valley View Ave., #9
Garden Grove, CA 92845

March 11, 2013

Mr. Gerald Schreckengost
City of San Diego
5240 Convoy Street, MS 901M
San Diego, CA 92111

Dear Gerald,

Enclosed is the Monthly Biosolids Report for the month of January 2013. This report includes the date and amount hauled, the application site(s), analysis of the biosolids and concentration of metals and nitrogen applied to the site(s).

If you have any questions or comments on this report please feel free to contact me at (760) 801-3175.

Sincerely,

Chris Marks

Enclosure

TERRA renewal

12812 Valley View Ave., #9
Garden Grove, CA 92845

Monthly Biosolids Report to

City of San Diego

For January 2013

Table of Contents

- **Monthly Application Summary**
- **Daily Load Delivery Log**
- **Field Report**
- **Lab Analysis**

San Diego - MBC Monthly Application Summary - January 2013

Date: 2/1/2013
County: Yuma

Field Number: YM 2-2004
Number of Acres: 45

Month Applied: Jan-13
Wet Tons Applied: 548.58

Percent Solids: 27.56

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	48700.00	366.67
NH3	15300.00	115.20
NO3	1.00	0.01
Organic N	33399.00	251.47
As	5.00	0.04
Cd	3.00	0.02
Cr	51.00	0.38
Cu	743.00	5.59
Pb	21.00	0.16
Hg	0.90	0.01
Mo	18.00	0.14
Ni	43.00	0.32
Se	4.00	0.03
Zn	1060.00	7.98
PAN	14330.80	107.90
P	26200.00	197.26

San Diego - MBC Monthly Application Summary - January 2013

Date: 2/1/2013
County: Yuma

Field Number: YM 2-283
Number of Acres: 40

Month Applied: Jan-13
Wet Tons Applied: 1337.72

Percent Solids: 27.56

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	48700.00	1005.90
NH3	15300.00	316.02
NO3	1.00	0.02
Organic N	33399.00	689.86
As	5.00	0.10
Cd	3.00	0.06
Cr	51.00	1.05
Cu	743.00	15.35
Pb	21.00	0.43
Hg	0.90	0.02
Mo	18.00	0.37
Ni	43.00	0.89
Se	4.00	0.08
Zn	1060.00	21.89
PAN	14330.80	296.00
P	26200.00	541.16

January 2013 Haul Logs

DATE	ORIGIN	TICKET_#	DESTINATION	GROSS	TARE	NET	TONS
01/02/13	MBC	75342	YM 2-283	79,360	30,280	49,080	24.54
01/02/13	MBC	75343	YM 2-283	79,120	27,820	51,300	25.65
01/02/13	MBC	75344	YM 2-283	79,080	28,920	50,160	25.08
01/03/13	MBC	75355	YM 2-283	79,400	30,160	49,240	24.62
01/03/13	MBC	75356	YM 2-283	79,740	28,240	51,500	25.75
01/03/13	MBC	75359	YM 2-283	78,940	28,920	50,020	25.01
01/04/13	MBC	75379	YM 2-283	79,040	30,160	48,880	24.44
01/04/13	MBC	75381	YM 2-283	79,080	28,920	50,160	25.08
01/04/13	MBC	75382	YM 2-283	79,240	27,720	51,520	25.76
01/07/13	MBC	75417	YM 2-283	78,960	28,980	49,980	24.99
01/07/13	MBC	75423	YM 2-283	79,500	30,700	48,800	24.40
01/08/13	MBC	75418	YM 2-283	79,940	30,600	49,340	24.67
01/08/13	MBC	75435	YM 2-283	79,100	30,120	48,980	24.49
01/08/13	MBC	75436	YM 2-283	79,080	28,960	50,120	25.06
01/08/13	MBC	75437	YM 2-283	78,760	30,440	48,320	24.16
01/09/13	MBC	75455	YM 2-283	79,180	30,220	48,960	24.48
01/09/13	MBC	75456	YM 2-283	78,840	28,980	49,860	24.93
01/09/13	MBC	75457	YM 2-283	79,880	30,640	49,240	24.62
01/10/13	MBC	75471	YM 2-283	79,280	30,340	48,940	24.47
01/10/13	MBC	75472	YM 2-283	79,460	30,080	49,380	24.69
01/10/13	MBC	75473	YM 2-283	78,860	29,060	49,800	24.90
01/10/13	MBC	75474	YM 2-283	79,180	30,480	48,700	24.35
01/11/13	MBC	75482	YM 2-283	79,420	30,320	49,100	24.55
01/11/13	MBC	75483	YM 2-283	79,380	28,980	50,400	25.20
01/11/13	MBC	75484	YM 2-283	79,300	30,680	48,620	24.31
01/14/13	MBC	75495	YM 2-283	79,420	30,160	49,260	24.63
01/14/13	MBC	75497	YM 2-283	79,560	31,380	48,180	24.09
01/14/13	MBC	75498	YM 2-283	79,180	28,980	50,200	25.10
01/14/13	MBC	75499	YM 2-283	79,640	30,640	49,000	24.50
01/15/13	MBC	75515	YM 2-283	79,440	31,440	48,000	24.00
01/15/13	MBC	75516	YM 2-283	80,280	30,640	49,640	24.82
01/15/13	MBC	75517	YM 2-283	79,060	28,940	50,120	25.06
01/16/13	MBC	75530	YM 2-283	80,020	30,200	49,820	24.91
01/16/13	MBC	75533	YM 2-283	79,300	30,660	48,640	24.32
01/16/13	MBC	75534	YM 2-283	78,780	29,000	49,780	24.89
01/17/13	MBC	75547	YM 2-283	79,520	30,200	49,320	24.66
01/17/13	MBC	75548	YM 2-283	79,320	31,540	47,780	23.89
01/17/13	MBC	75549	YM 2-283	80,120	30,680	49,440	24.72
01/17/13	MBC	75550	YM 2-283	79,260	29,020	50,240	25.12
01/17/13	MBC	75556	YM 2-283	79,880	28,220	51,660	25.83
01/18/13	MBC	75563	YM 2-283	79,400	30,220	49,180	24.59
01/18/13	MBC	75564	YM 2-283	80,000	31,600	48,400	24.20
01/18/13	MBC	75565	YM 2-283	78,780	28,980	49,800	24.90

01/18/13	MBC	75566	YM 2-283	80,080	30,660	49,420	24.71
01/21/13	MBC	75571	YM 2-283	78,360	30,180	48,180	24.09
01/21/13	MBC	75572	YM 2-283	78,740	29,000	49,740	24.87
01/21/13	MBC	75575	YM 2-283	78,940	28,200	50,740	25.37
01/21/13	MBC	75578	YM 2-283	79,780	31,000	48,780	24.39
01/21/13	MBC	75579	YM 2-283	79,980	30,680	49,300	24.65
01/22/13	MBC	75590	YM 2-283	79,620	30,440	49,180	24.59
01/22/13	MBC	75592	YM 2-283	79,620	28,980	50,640	25.32
01/22/13	MBC	75593	YM 2-283	79,860	30,620	49,240	24.62
01/22/13	MBC	75594	YM 2-283	80,380	27,720	52,660	26.33
01/22/13	MBC	75598	YM 2-283	79,440	30,740	48,700	24.35
01/23/13	MBC	75611	YM 2-2004	78,080	30,440	47,640	23.82
01/23/13	MBC	75612	YM 2-2004	79,100	30,680	48,420	24.21
01/23/13	MBC	75613	YM 2-2004	79,380	29,000	50,380	25.19
01/24/13	MBC	75628	YM 2-2004	79,860	30,220	49,640	24.82
01/24/13	MBC	75630	YM 2-2004	80,500	30,640	49,860	24.93
01/24/13	MBC	75631	YM 2-2004	79,180	29,520	49,660	24.83
01/24/13	MBC	75632	YM 2-2004	79,160	28,240	50,920	25.46
01/25/13	MBC	75642	YM 2-2004	78,820	30,260	48,560	24.28
01/25/13	MBC	75643	YM 2-2004	78,520	28,240	50,280	25.14
01/25/13	MBC	75645	YM 2-2004	81,320	30,860	50,460	25.23
01/25/13	MBC	75646	YM 2-2004	78,960	29,460	49,500	24.75
01/28/13	MBC	75656	YM 2-2004	79,300	30,460	48,840	24.42
01/28/13	MBC	75657	YM 2-2004	80,820	30,640	50,180	25.09
01/28/13	MBC	75658	YM 2-2004	79,180	29,380	49,800	24.90
01/28/13	MBC	75659	YM 2-2004	80,020	28,460	51,560	25.78
01/29/13	MBC	75675	YM 2-2004	79,320	28,180	51,140	25.57
01/29/13	MBC	75676	YM 2-2004	79,140	29,420	49,720	24.86
01/29/13	MBC	75677	YM 2-2004	79,240	30,580	48,660	24.33
01/30/13	MBC	75693	YM 2-2004	78,780	29,360	49,420	24.71
01/30/13	MBC	75694	YM 2-2004	79,540	28,180	51,360	25.68
01/31/13	MBC	75706	YM 2-2004	79,720	29,360	50,360	25.18
01/31/13	MBC	75707	YM 2-2004	78,960	28,160	50,800	25.40
							1886.30

Field Report - Jan 2013

Field Code:	YM 2-283
Date:	2/1/2013
Total Acres:	40
Latitude:	32° 42' 7”N
Longitude:	114° 7' 4”W
Crop:	Alfalfa
Crop Nitrogen Usage:	600 #/acre
Residual Nitrogen:	113#/acre
Date Started:	1/1/2013
Seeding Date:	February-13
Harvesting Date:	July-13
Wet Tons Applied:	3602.37
Dry Tons Applied:	949.94
Wet Metric Tons Applied:	3270.23
Dry Metric Tons Applied:	862.36
Wet Tons/Acre Applied:	90.06
Dry Tons/Acre Applied:	23.75
Wet Metric Tons/ha Applied:	201.97
Dry Metric Tons/ha Applied:	53.26

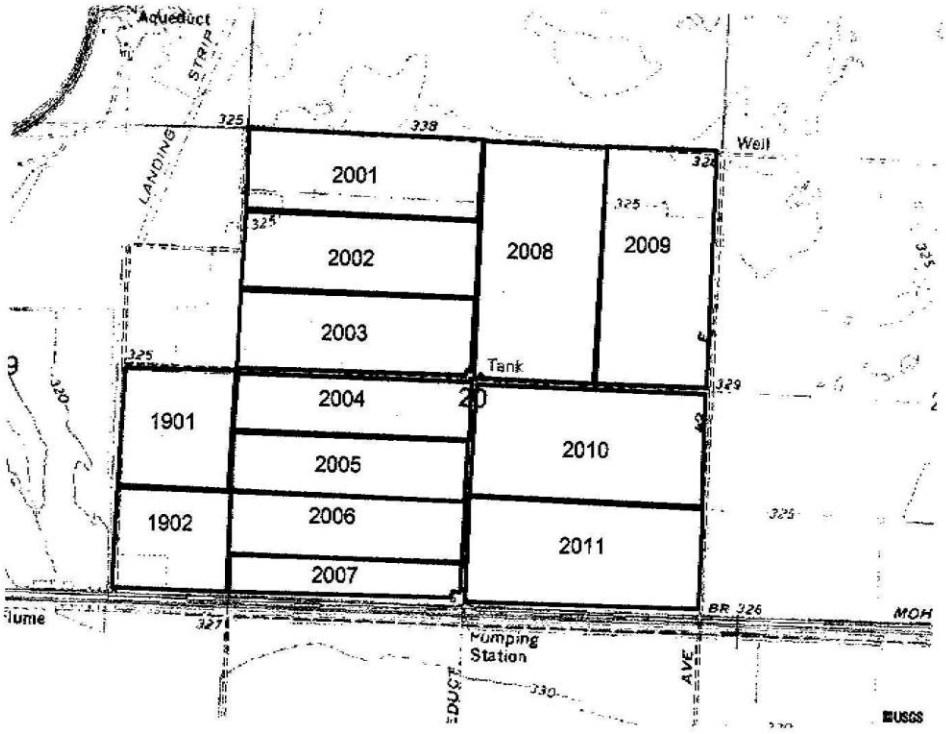
Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	1687.56	1505.98	5238.13
NH3	484.75	432.59	1288.96
NO3	0.14	0.13	1.16
Organic N	1202.68	1073.27	3948.01
As	0.16	0.15	0.54
Cd	0.09	0.08	0.24
Cr	1.50	1.34	5.09
Cu	18.85	16.82	53.85
Pb	0.54	0.48	1.95
Hg	0.02	0.02	0.10
Mo	0.56	0.50	1.72
Ni	1.16	1.04	3.85
Se	0.13	0.12	0.34
Zn	31.11	27.76	87.75
Plant Available - N	483.05	431.07	NA
P	1089.12	971.93	2368.37

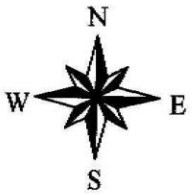
Field Report - Jan 2013

Field Code:	YM 2-2004
Date:	2/1/2013
Total Acres:	45
Latitude:	32 25’ 44”N
Longitude:	113 33’ 32”W
Crop:	Bermuda
Crop Nitrogen Usage:	500#/acre
Residual Nitrogen:	97 #/acre
Date Started:	1/23/2013
Seeding Date:	March-13
Harvesting Date:	August-13
Wet Tons Applied:	1574.83
Dry Tons Applied:	412.21
Wet Metric Tons Applied:	1429.63
Dry Metric Tons Applied:	374.20
Wet Tons/Acre Applied:	35.00
Dry Tons/Acre Applied:	9.16
Wet Metric Tons/ha Applied:	78.48
Dry Metric Tons/ha Applied:	20.54

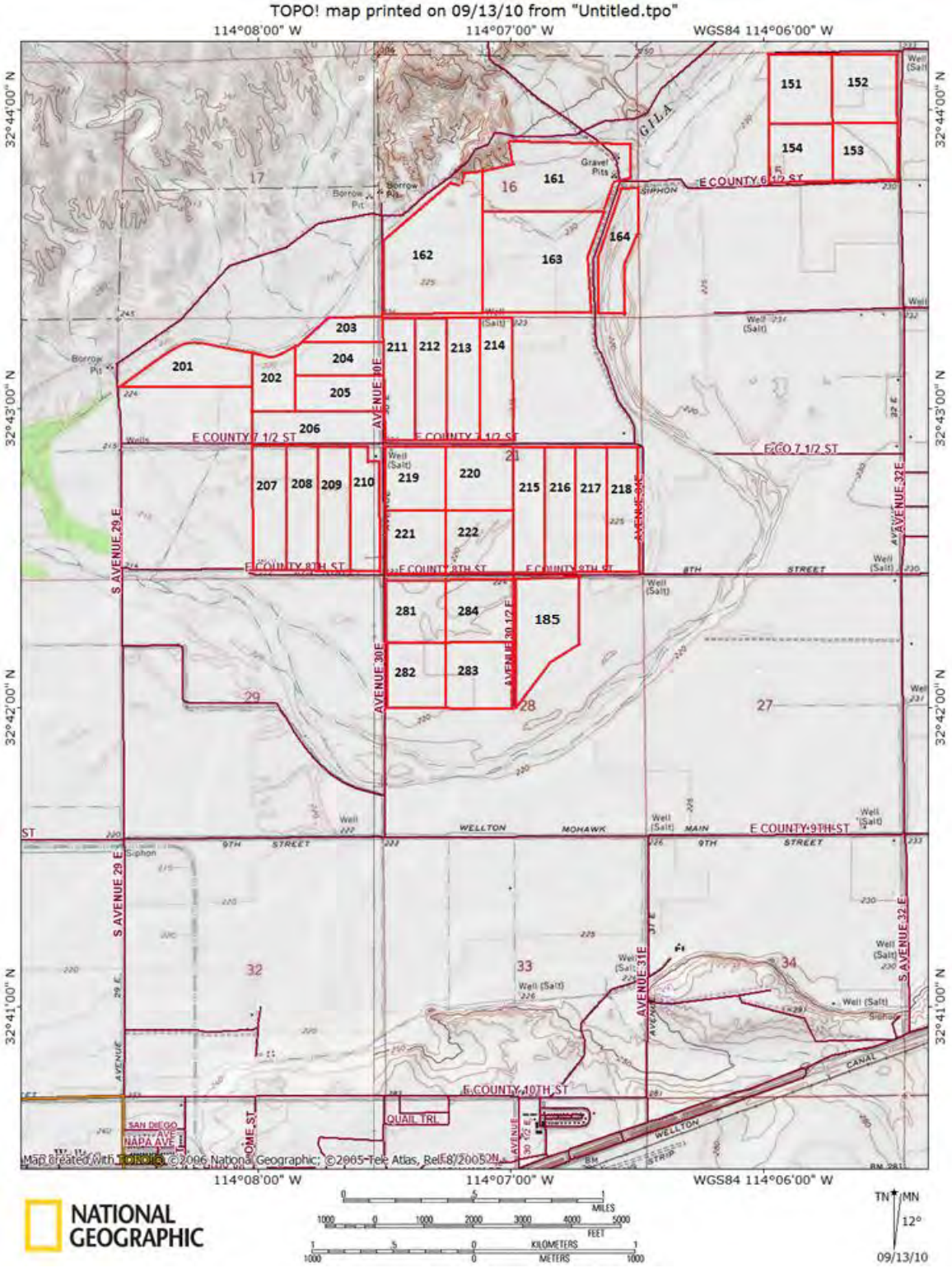
Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	686.46	612.60	6039.85
NH3	195.23	174.22	1395.35
NO3	0.06	0.06	1.31
Organic N	491.17	438.32	4643.19
As	0.07	0.06	0.83
Cd	0.03	0.03	0.24
Cr	0.59	0.53	5.26
Cu	7.21	6.43	57.81
Pb	0.21	0.19	2.15
Hg	0.01	0.01	0.12
Mo	0.23	0.20	1.97
Ni	0.45	0.40	3.89
Se	0.05	0.05	0.42
Zn	12.34	11.01	89.43
Plant Available - N	195.91	174.83	NA
P	454.81	405.87	2653.80

Cullison Farms
Tacna Fields





TOPO! map printed on 09/13/10 from "Untitled.tpo"



NATIONAL GEOGRAPHIC

Report Number: 13-002-0203
Account Number: 11035
Submitted By: CGARCIA

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446
www.aleastern.com

Send To: Terra Renewal LLC
12812 VALLEY VIEW ST
SUITE 9
GARDEN GROVE , CA 92845

Project : MBC
AZ#0629

REPORT OF ANALYSIS

Lab Number : 91074
Sample Id : MBC

Date Sampled: 12/20/2012 14:00:00
Date Received: 01/02/2013 00:00
Date Reported: 01/14/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	27.56	275600	100.0	JM	01/02/2013 14:10	SM-2540G
Moisture *	72.44		100.0	JM	01/02/2013 14:10	SM-2540G
Total Kjeldahl Nitrogen	4.97	49700	10.0	JM	01/03/2013 07:39	SM-4500-NH3C-TKN
Total Phosphorus	2.62	26200	100	KM	01/03/2013 12:50	SW-6010B
Total Potassium	0.09	909	100	KM	01/03/2013 12:50	SW-6010B
Total Sulfur	4.59	45900	100	KM	01/03/2013 12:50	SW-6010B
Total Calcium	3.23	32300	100	KM	01/03/2013 12:50	SW-6010B
Total Magnesium	0.43	4290	100	KM	01/03/2013 12:50	SW-6010B
Total Sodium	0.16	1610	100	KM	01/03/2013 12:50	SW-6010B
Total Iron		97300	100	KM	01/03/2013 12:50	SW-6010B
Total Aluminum		5500	100	KM	01/03/2013 12:50	SW-6010B
Total Manganese		335	5	KM	01/03/2013 12:50	SW-6010B
Total Copper		743	5	KM	01/03/2013 12:50	SW-6010B
Total Zinc		1080	5	KM	01/03/2013 12:50	SW-6010B
Ammonia Nitrogen	1.53	15300	10.0	JM	01/03/2012 07:39	SM-4500-NH3C
Organic N	3.44	34400	10.0		01/03/2012 07:39	CALCULATION
Nitrate+Nitrite-N		<2.00	2.00	JM	01/03/2012 07:40	SM-4500NO3F
Total Cadmium		3.0	2.0	KM	01/03/2013 12:50	SW-6010B

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

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Debbie Holt

Report Number: 13-002-0203
Account Number: 11035
Submitted By: CGARCIA

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446
www.aleastern.com

Send To: Terra Renewal LLC
12812 VALLEY VIEW ST
SUITE 9
GARDEN GROVE , CA 92845

Project : MBC
AZ#0629

REPORT OF ANALYSIS

Lab Number : 91074
Sample Id : MBC

Date Sampled: 12/20/2012 14:00:00
Date Received: 01/02/2013 00:00
Date Reported: 01/14/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Chromium		51	5	KM	01/03/2013 12:50	SW-6010B
Total Nickel		43	5	KM	01/03/2013 12:50	SW-6010B
Total Lead		21	5	KM	01/03/2013 12:50	SW-6010B
Total Arsenic		5.0	3.0	KM	01/03/2013 12:50	SW-6010B
Total Mercury		0.9	0.4	KM	01/14/2013 11:15	SW-7471A
Total Selenium		<5.0	5.0	KM	01/03/2013 12:50	SW-6010B
Total Molybdenum		18	5	KM	01/03/2013 12:50	SW-6010B

Comments:
SULFUR NOT FOR COMPLIANCE PURPOSES
QUALIFIER: THE QCSD WAS OUT OF LIMITS FOR "TKN". THE MATRIX SPIKE WAS OUT OF LIMITS FOR "Fe" AND "S". ALL OTHER QC DATA IS ACCEPTABLE.

TERRA renewal
12812 Valley View Ave., #9
Garden Grove, CA 92845

April 11, 2013

Mr. Gerald Schreckengost
City of San Diego
5240 Convoy Street, MS 901M
San Diego, CA 92111

Dear Gerald,

Enclosed is the Monthly Biosolids Report for the month of February 2013. This report includes the date and amount hauled, the application site(s), analysis of the biosolids and concentration of metals and nitrogen applied to the site(s).

If you have any questions or comments on this report please feel free to contact me at (760) 801-3175.

Sincerely,

Chris Marks

Enclosure

TERRA renewal

12812 Valley View Ave., #9
Garden Grove, CA 92845

Monthly Biosolids Report to

City of San Diego

For February 2013

Table of Contents

- **Monthly Application Summary**
- **Daily Load Delivery Log**
- **Field Report**
- **Lab Analysis**

San Diego - MBC Monthly Application Summary - February 2013

Date: 3/1/2013
County: Yuma

Field Number: YM 2-2004
Number of Acres: 45

Month Applied: Feb-13
Wet Tons Applied: 742.95

Percent Solids: 27.56

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	48700.00	496.59
NH3	15300.00	156.01
NO3	1.00	0.01
Organic N	33399.00	340.57
As	5.00	0.05
Cd	3.00	0.03
Cr	51.00	0.52
Cu	743.00	7.58
Pb	21.00	0.21
Hg	0.90	0.01
Mo	18.00	0.18
Ni	43.00	0.44
Se	4.00	0.04
Zn	1060.00	10.81
PAN	14330.80	146.13
P	26201.00	267.17

San Diego - MBC Monthly Application Summary - February 2013

Date: 3/1/2013
County: Yuma

Field Number: YM 2-1903
Number of Acres: 10

Month Applied: Feb-13
Wet Tons Applied: 196.09

Percent Solids: 27.56

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	48700.00	589.80
NH3	15300.00	185.30
NO3	1.00	0.01
Organic N	33399.00	404.49
As	5.00	0.06
Cd	3.00	0.04
Cr	51.00	0.62
Cu	743.00	9.00
Pb	21.00	0.25
Hg	0.90	0.01
Mo	18.00	0.22
Ni	43.00	0.52
Se	4.00	0.05
Zn	1060.00	12.84
PAN	14330.80	173.56
P	26201.00	317.32

San Diego - MBC Monthly Application Summary - February 2013

Date: 3/1/2013
County: Yuma

Field Number: YM 2-30
Number of Acres: 191.3

Month Applied: Feb-13
Wet Tons Applied: 672.09

Percent Solids: 27.56

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	48700.00	105.67
NH3	15300.00	33.20
NO3	1.00	0.00
Organic N	33399.00	72.47
As	5.00	0.01
Cd	3.00	0.01
Cr	51.00	0.11
Cu	743.00	1.61
Pb	21.00	0.05
Hg	0.90	0.00
Mo	18.00	0.04
Ni	43.00	0.09
Se	4.00	0.01
Zn	1060.00	2.30
PAN	14330.80	31.10
P	26201.00	56.85

February 2013 Haul Logs

DATE	ORIGIN	TICKET_#	DESTINATION	GROSS	TARE	NET	TONS
02/01/13	MBC	75720	YM 2-2004	78,780	30,180	48,600	24.30
02/01/13	MBC	75721	YM 2-2004	79,560	31,360	48,200	24.10
02/01/13	MBC	75722	YM 2-2004	78,820	28,200	50,620	25.31
02/01/13	MBC	75723	YM 2-2004	78,800	29,400	49,400	24.70
02/04/13	MBC	75736	YM 2-2004	79,340	29,360	49,980	24.99
02/04/13	MBC	75740	YM 2-2004	79,560	30,540	49,020	24.51
02/04/13	MBC	75742	YM 2-2004	78,800	28,180	50,620	25.31
02/05/13	MBC	75755	YM 2-2004	79,240	30,980	48,260	24.13
02/05/13	MBC	75756	YM 2-2004	79,340	30,560	48,780	24.39
02/05/13	MBC	75757	YM 2-2004	79,680	29,380	50,300	25.15
02/05/13	MBC	75758	YM 2-2004	78,760	28,160	50,600	25.30
02/06/13	MBC	75774	YM 2-2004	79,720	30,180	49,540	24.77
02/06/13	MBC	75775	YM 2-2004	79,160	29,360	49,800	24.90
02/06/13	MBC	75777	YM 2-2004	79,100	30,700	48,400	24.20
02/06/13	MBC	75778	YM 2-2004	79,300	28,160	51,140	25.57
02/07/13	MBC	75797	YM 2-2004	80,240	29,340	50,900	25.45
02/07/13	MBC	75798	YM 2-2004	79,380	30,100	49,280	24.64
02/07/13	MBC	75799	YM 2-2004	79,000	28,160	50,840	25.42
02/08/13	MBC	75809	YM 2-2004	78,300	29,340	48,960	24.48
02/08/13	MBC	75810	YM 2-2004	79,820	30,800	49,020	24.51
02/08/13	MBC	75811	YM 2-2004	77,960	28,120	49,840	24.92
02/08/13	MBC	75812	YM 2-2004	78,540	30,060	48,480	24.24
02/08/13	MBC	75813	YM 2-2004	78,800	28,780	50,020	25.01
02/11/13	MBC	75822	YM 2-2004	78,680	31,360	47,320	23.66
02/11/13	MBC	75823	YM 2-2004	80,140	29,340	50,800	25.40
02/11/13	MBC	75827	YM 2-2004	79,120	30,280	48,840	24.42
02/12/13	MBC	75840	YM 2-2004	79,260	31,400	47,860	23.93
02/12/13	MBC	75841	YM 2-2004	79,220	28,160	51,060	25.53
02/12/13	MBC	75842	YM 2-2004	79,300	30,260	49,040	24.52
02/12/13	MBC	75843	YM 2-2004	79,720	29,340	50,380	25.19
02/14/13	MBC	75850	YM 2-1903	79,480	31,520	47,960	23.98
02/14/13	MBC	75851	YM 2-1903	79,160	29,340	49,820	24.91
02/14/13	MBC	75852	YM 2-1903	79,040	30,280	48,760	24.38
02/14/13	MBC	75853	YM 2-1903	79,360	29,060	50,300	25.15
02/15/13	MBC	75862	YM 2-1903	79,320	29,340	49,980	24.99
02/15/13	MBC	75864	YM 2-1903	79,120	31,540	47,580	23.79
02/15/13	MBC	75866	YM 2-1903	78,700	30,560	48,140	24.07
02/18/13	MBC	75882	YM 2-1903	79,000	29,360	49,640	24.82
02/19/13	MBC	75899	YM 2-30	79,060	30,320	48,740	24.37
02/19/13	MBC	75900	YM 2-30	79,520	29,220	50,300	25.15
02/19/13	MBC	75901	YM 2-30	78,980	28,120	50,860	25.43
02/20/13	MBC	75918	YM 2-30	78,860	28,140	50,720	25.36
02/20/13	MBC	75920	YM 2-30	79,100	30,360	48,740	24.37

02/20/13	MBC	75921	YM 2-30	80,200	29,420	50,780	25.39
02/20/13	MBC	75922	YM 2-30	79,420	29,360	50,060	25.03
02/21/13	MBC	75936	YM 2-30	79,600	29,440	50,160	25.08
02/21/13	MBC	75937	YM 2-30	79,320	30,360	48,960	24.48
02/21/13	MBC	75938	YM 2-30	78,920	28,160	50,760	25.38
02/22/13	MBC	75942	YM 2-30	79,260	27,800	51,460	25.73
02/22/13	MBC	75943	YM 2-30	79,000	30,560	48,440	24.22
02/22/13	MBC	75945	YM 2-30	78,340	29,400	48,940	24.47
02/25/13	MBC	75957	YM 2-30	79,080	29,400	49,680	24.84
02/25/13	MBC	75959	YM 2-30	79,100	30,360	48,740	24.37
02/25/13	MBC	75960	YM 2-30	79,560	28,180	51,380	25.69
02/25/13	MBC	75970	YM 2-30	80,560	30,800	49,760	24.88
02/26/13	MBC	75979	YM 2-30	79,360	29,400	49,960	24.98
02/26/13	MBC	75980	YM 2-30	79,460	30,460	49,000	24.50
02/26/13	MBC	75983	YM 2-30	78,980	30,880	48,100	24.05
02/27/13	MBC	75998	YM 2-30	79,560	28,120	51,440	25.72
02/27/13	MBC	75999	YM 2-30	79,480	30,220	49,260	24.63
02/27/13	MBC	76000	YM 2-30	79,560	29,360	50,200	25.10
02/28/13	MBC	76018	YM 2-30	78,800	29,380	49,420	24.71
02/28/13	MBC	76019	YM 2-30	79,480	30,440	49,040	24.52
02/28/13	MBC	76020	YM 2-30	78,480	28,140	50,340	25.17
02/28/13	MBC	76024	YM 2-30	80,100	30,760	49,340	24.67
							1611.33

Field Report - Feb 2013

Field Code:	YM 2-2004
Date:	3/1/2013
Total Acres:	45
Latitude:	32 25’ 44”N
Longitude:	113 33’ 32”W
Crop:	Bermuda
Crop Nitrogen Usage:	500#/acre
Residual Nitrogen:	97 #/acre
Date Started:	1/23/2013
Seeding Date:	March-13
Harvesting Date:	August-13
Wet Tons Applied:	3640.48
Dry Tons Applied:	954.8
Wet Metric Tons Applied:	3304.83
Dry Metric Tons Applied:	866.77
Wet Tons/Acre Applied:	80.90
Dry Tons/Acre Applied:	21.22
Wet Metric Tons/ha Applied:	181.42
Dry Metric Tons/ha Applied:	47.58

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	1570.51	1401.53	6923.90
NH3	448.28	400.04	1648.40
NO3	0.14	0.13	1.39
Organic N	1122.09	1001.36	5274.11
As	0.15	0.13	0.91
Cd	0.08	0.07	0.28
Cr	1.36	1.22	6.03
Cu	16.74	14.94	67.35
Pb	0.49	0.43	2.42
Hg	0.02	0.02	0.13
Mo	0.52	0.46	2.26
Ni	1.05	0.94	4.49
Se	0.12	0.11	0.49
Zn	28.44	25.38	105.53
Plant Available - N	448.70	400.42	NA
P	1033.50	922.30	3232.49

Field Report - Feb 2013

Field Code:	YM 2-1903
Date:	3/1/2013
Total Acres:	10
Latitude:	32° 25' 41”N
Longitude:	113° 33' 46”W
Crop:	Bermuda
Crop Nitrogen Usage:	500#/acre
Residual Nitrogen:	55#/acre
Date Started:	2/14/2013
Seeding Date:	March-13
Harvesting Date:	August-13
Wet Tons Applied:	1409.79
Dry Tons Applied:	353.31
Wet Metric Tons Applied:	1279.81
Dry Metric Tons Applied:	320.73
Wet Tons/Acre Applied:	140.98
Dry Tons/Acre Applied:	35.33
Wet Metric Tons/ha Applied:	316.16
Dry Metric Tons/ha Applied:	79.23

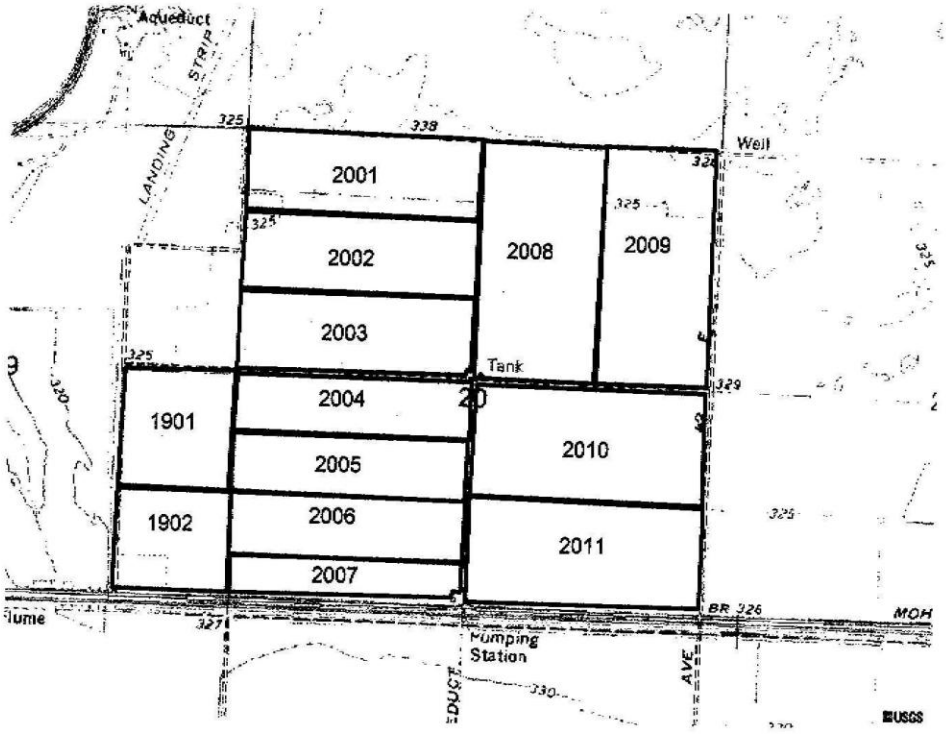
Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	1721.67	1536.42	4406.30
NH3	463.09	413.27	1086.92
NO3	0.17	0.15	0.40
Organic N	1258.41	1123.00	3318.98
As	0.16	0.14	0.51
Cd	0.07	0.07	0.19
Cr	1.34	1.20	4.19
Cu	15.76	14.06	44.47
Pb	0.46	0.41	1.46
Hg	0.03	0.02	1.65
Mo	0.52	0.46	1.29
Ni	0.96	0.86	3.23
Se	0.13	0.12	0.29
Zn	29.24	26.09	73.19
Plant Available - N	483.40	431.39	NA
P	1148.41	1024.84	2657.49

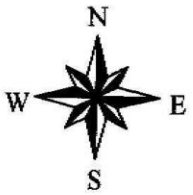
Field Report - February 2013

Field Code:	YM 2-30
Date:	3/1/2013
Total Acres:	191.3
Latitude:	32 43' 50"N
Longitude:	114 5' 31" W
Crop:	Bermuda
Crop Nitrogen Usage:	500#/acre
Residual Nitrogen:	144#/acre
Date Started:	2/19/2013
Seeding Date:	May-13
Harvesting Date:	October-13
Wet Tons Applied:	1200.99
Dry Tons Applied:	317.03
Wet Metric Tons Applied:	1090.26
Dry Metric Tons Applied:	287.80
Wet Tons/Acre Applied:	6.28
Dry Tons/Acre Applied:	1.66
Wet Metric Tons/ha Applied:	14.08
Dry Metric Tons/ha Applied:	3.72

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	196.15	175.05	196.15
NH3	55.12	49.19	55.12
NO3	0.02	0.02	0.02
Organic N	141.01	125.83	141.01
As	0.02	0.02	0.02
Cd	0.01	0.01	0.01
Cr	0.17	0.15	0.17
Cu	2.03	1.81	2.03
Pb	0.06	0.05	0.06
Hg	0.00	0.00	0.00
Mo	0.07	0.06	0.07
Ni	0.13	0.12	0.13
Se	0.01	0.01	0.01
Zn	3.41	3.04	3.41
Plant Available - N	55.78	49.78	NA
P	135.44	120.87	135.44

Cullison Farms
Tacna Fields





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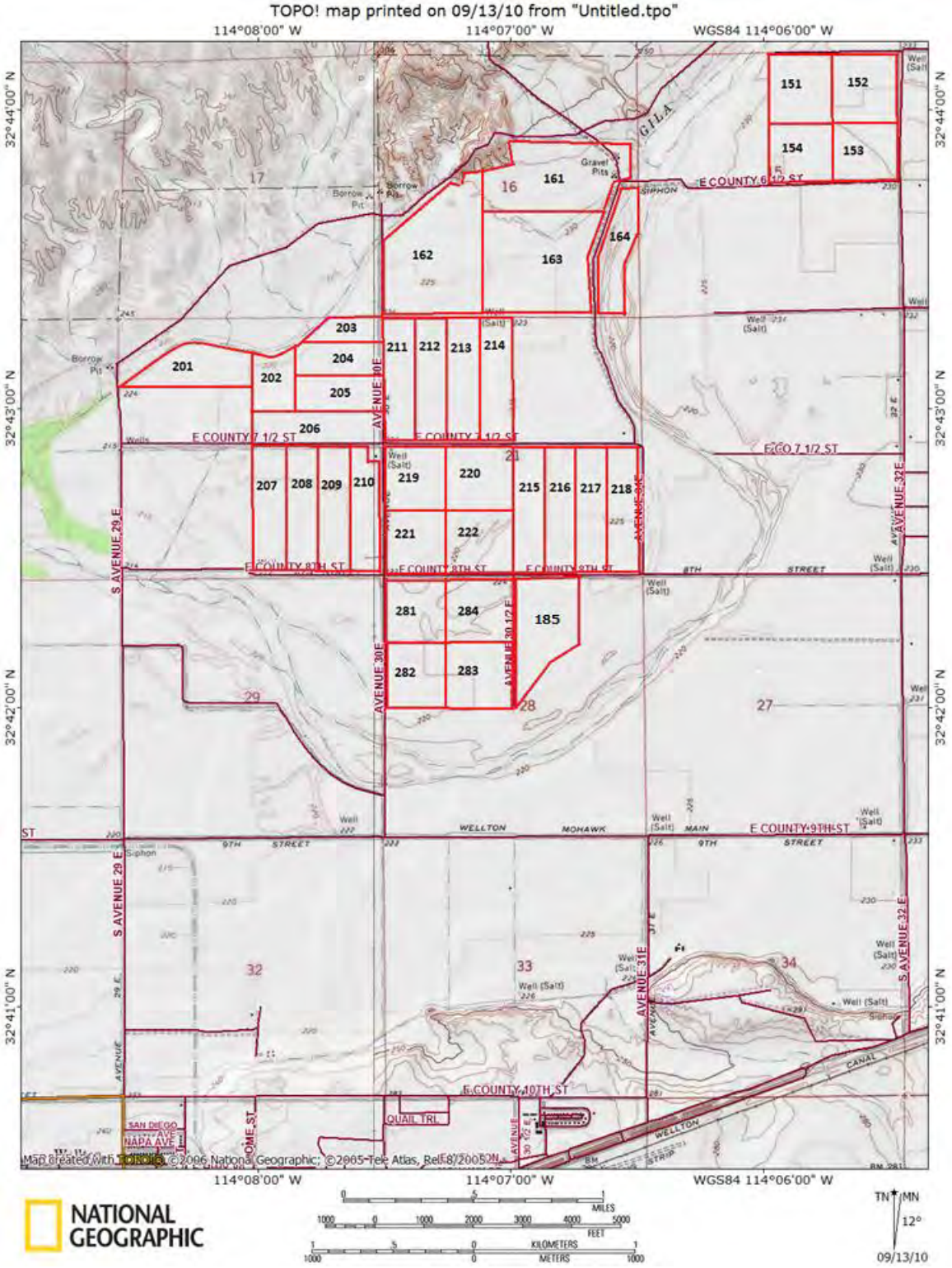

NATIONAL GEOGRAPHIC

Report Number: 13-002-0203
Account Number: 11035
Submitted By: CGARCIA

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446
www.aleastern.com

Send To: Terra Renewal LLC
12812 VALLEY VIEW ST
SUITE 9
GARDEN GROVE , CA 92845

Project : MBC
AZ#0629

REPORT OF ANALYSIS

Lab Number : 91074
Sample Id : MBC

Date Sampled: 12/20/2012 14:00:00
Date Received: 01/02/2013 00:00
Date Reported: 01/14/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	27.56	275600	100.0	JM	01/02/2013 14:10	SM-2540G
Moisture *	72.44		100.0	JM	01/02/2013 14:10	SM-2540G
Total Kjeldahl Nitrogen	4.97	49700	10.0	JM	01/03/2013 07:39	SM-4500-NH3C-TKN
Total Phosphorus	2.62	26200	100	KM	01/03/2013 12:50	SW-6010B
Total Potassium	0.09	909	100	KM	01/03/2013 12:50	SW-6010B
Total Sulfur	4.59	45900	100	KM	01/03/2013 12:50	SW-6010B
Total Calcium	3.23	32300	100	KM	01/03/2013 12:50	SW-6010B
Total Magnesium	0.43	4290	100	KM	01/03/2013 12:50	SW-6010B
Total Sodium	0.16	1610	100	KM	01/03/2013 12:50	SW-6010B
Total Iron		97300	100	KM	01/03/2013 12:50	SW-6010B
Total Aluminum		5500	100	KM	01/03/2013 12:50	SW-6010B
Total Manganese		335	5	KM	01/03/2013 12:50	SW-6010B
Total Copper		743	5	KM	01/03/2013 12:50	SW-6010B
Total Zinc		1080	5	KM	01/03/2013 12:50	SW-6010B
Ammonia Nitrogen	1.53	15300	10.0	JM	01/03/2012 07:39	SM-4500-NH3C
Organic N	3.44	34400	10.0		01/03/2012 07:39	CALCULATION
Nitrate+Nitrite-N		<2.00	2.00	JM	01/03/2012 07:40	SM-4500NO3F
Total Cadmium		3.0	2.0	KM	01/03/2013 12:50	SW-6010B

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

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Debbie Holt

Report Number: 13-002-0203
Account Number: 11035
Submitted By: CGARCIA

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446
www.aleastern.com

Send To: Terra Renewal LLC
12812 VALLEY VIEW ST
SUITE 9
GARDEN GROVE , CA 92845

Project : MBC
AZ#0629

REPORT OF ANALYSIS

Lab Number : 91074
Sample Id : MBC

Date Sampled: 12/20/2012 14:00:00
Date Received: 01/02/2013 00:00
Date Reported: 01/14/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Chromium		51	5	KM	01/03/2013 12:50	SW-6010B
Total Nickel		43	5	KM	01/03/2013 12:50	SW-6010B
Total Lead		21	5	KM	01/03/2013 12:50	SW-6010B
Total Arsenic		5.0	3.0	KM	01/03/2013 12:50	SW-6010B
Total Mercury		0.9	0.4	KM	01/14/2013 11:15	SW-7471A
Total Selenium		<5.0	5.0	KM	01/03/2013 12:50	SW-6010B
Total Molybdenum		18	5	KM	01/03/2013 12:50	SW-6010B

Comments:
SULFUR NOT FOR COMPLIANCE PURPOSES
QUALIFIER: THE QCSD WAS OUT OF LIMITS FOR "TKN". THE MATRIX SPIKE WAS OUT OF LIMITS FOR "Fe" AND "S". ALL OTHER QC DATA IS ACCEPTABLE.

TERRA renewal
12812 Valley View Ave., #9
Garden Grove, CA 92845

May 17, 2013

Mr. Gerald Schreckengost
City of San Diego
5240 Convoy Street, MS 901M
San Diego, CA 92111

Dear Gerald,

Enclosed is the Monthly Biosolids Report for the month of March 2013. This report includes the date and amount hauled, the application site(s), analysis of the biosolids and concentration of metals and nitrogen applied to the site(s).

If you have any questions or comments on this report please feel free to contact me at (760) 801-3175.

Sincerely,

Chris Marks

Enclosure

TERRA renewal

12812 Valley View Ave., #9
Garden Grove, CA 92845

Monthly Biosolids Report to

City of San Diego

For March 2013

Table of Contents

- **Monthly Application Summary**
- **Daily Load Delivery Log**
- **Field Report**
- **Lab Analysis**

San Diego - MBC Monthly Application Summary - March 2013

Date: 4/1/2013
County: Yuma

Field Number: YM 2-30
Number of Acres: 191.3

Month Applied: Mar-13
Wet Tons Applied: 2150.86

Percent Solids: 29.16

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	48400.00	355.61
NH3	14500.00	106.54
NO3	10.30	0.08
Organic N	33889.70	249.00
As	4.00	0.03
Cd	3.00	0.02
Cr	72.00	0.53
Cu	715.00	5.25
Pb	22.00	0.16
Hg	1.40	0.01
Mo	17.00	0.12
Ni	44.00	0.32
Se	4.00	0.03
Zn	1210.00	8.89
PAN	14038.24	103.14
P	28000.00	205.72

March 2013 Haul Logs

DATE	ORIGIN	TICKET_#	DESTINATION	GROSS	TARE	NET	TONS
03/01/13	MBC	76031	YM 2-30	79,440	29,360	50,080	25.04
03/01/13	MBC	76033	YM 2-30	78,740	28,160	50,580	25.29
03/01/13	MBC	76034	YM 2-30	79,600	30,220	49,380	24.69
03/01/13	MBC	76038	YM 2-30	79,700	30,780	48,920	24.46
03/04/13	MBC	76042	YM 2-30	79,080	30,320	48,760	24.38
03/04/13	MBC	76043	YM 2-30	79,280	29,420	49,860	24.93
03/04/13	MBC	76045	YM 2-30	79,320	28,120	51,200	25.60
03/04/13	MBC	76048	YM 2-30	79,620	30,900	48,720	24.36
03/05/13	MBC	76062	YM 2-30	78,780	30,220	48,560	24.28
03/05/13	MBC	76063	YM 2-30	79,680	29,340	50,340	25.17
03/05/13	MBC	76064	YM 2-30	78,460	28,120	50,340	25.17
03/05/13	MBC	76068	YM 2-30	79,420	30,920	48,500	24.25
03/06/13	MBC	76082	YM 2-30	79,540	29,340	50,200	25.10
03/06/13	MBC	76083	YM 2-30	79,340	30,300	49,040	24.52
03/06/13	MBC	76084	YM 2-30	79,280	28,160	51,120	25.56
03/06/13	MBC	76087	YM 2-30	79,240	31,000	48,240	24.12
03/07/13	MBC	76099	YM 2-30	79,580	30,340	49,240	24.62
03/07/13	MBC	76100	YM 2-30	79,060	29,360	49,700	24.85
03/07/13	MBC	76101	YM 2-30	79,200	28,120	51,080	25.54
03/07/13	MBC	76102	YM 2-30	80,020	31,180	48,840	24.42
03/08/13	MBC	76103	YM 2-30	79,140	30,440	48,700	24.35
03/08/13	MBC	76104	YM 2-30	79,120	29,260	49,860	24.93
03/08/13	MBC	76105	YM 2-30	78,820	30,400	48,420	24.21
03/08/13	MBC	76106	YM 2-30	79,260	28,120	51,140	25.57
03/11/13	MBC	76109	YM 2-30	79,300	32,000	47,300	23.65
03/11/13	MBC	76110	YM 2-30	78,800	29,380	49,420	24.71
03/11/13	MBC	76111	YM 2-30	78,880	30,560	48,320	24.16
03/11/13	MBC	76112	YM 2-30	79,120	30,380	48,740	24.37
03/11/13	MBC	76115	YM 2-30	78,620	28,140	50,480	25.24
03/12/13	MBC	76130	YM 2-30	79,160	29,360	49,800	24.90
03/12/13	MBC	76131	YM 2-30	78,940	31,480	47,460	23.73
03/12/13	MBC	76133	YM 2-30	79,420	30,320	49,100	24.55
03/12/13	MBC	76134	YM 2-30	79,180	28,080	51,100	25.55
03/13/13	MBC	76150	YM 2-30	78,860	30,520	48,340	24.17
03/13/13	MBC	76152	YM 2-30	79,120	31,540	47,580	23.79
03/13/13	MBC	76153	YM 2-30	79,380	30,360	49,020	24.51
03/13/13	MBC	76154	YM 2-30	79,780	29,360	50,420	25.21
03/13/13	MBC	76155	YM 2-30	79,240	29,060	50,180	25.09
03/13/13	MBC	76170	YM 2-30	80,000	31,480	48,520	24.26
03/14/13	MBC	76169	YM 2-30	79,320	30,520	48,800	24.40
03/14/13	MBC	76171	YM 2-30	79,140	30,360	48,780	24.39
03/14/13	MBC	76172	YM 2-30	79,240	29,380	49,860	24.93
03/15/13	MBC	76175	YM 2-30	78,800	30,440	48,360	24.18

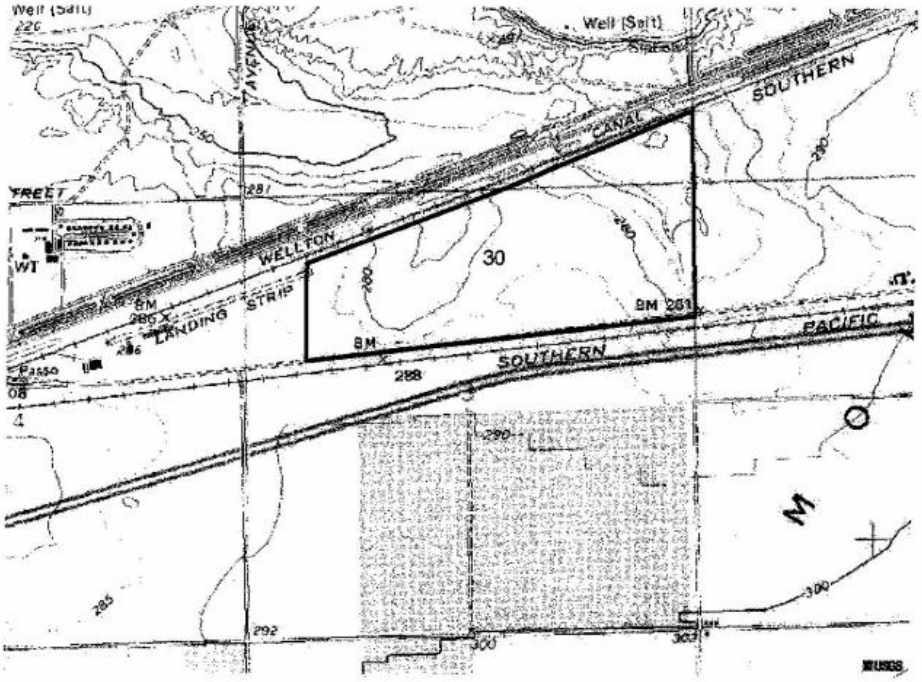
03/15/13	MBC	76177	YM 2-30	79,200	31,440	47,760	23.88
03/15/13	MBC	76178	YM 2-30	79,680	30,500	49,180	24.59
03/15/13	MBC	76179	YM 2-30	79,880	29,320	50,560	25.28
03/18/13	MBC	76189	YM 2-30	79,480	30,500	48,980	24.49
03/18/13	MBC	76190	YM 2-30	80,140	29,340	50,800	25.40
03/18/13	MBC	76191	YM 2-30	78,940	30,360	48,580	24.29
03/18/13	MBC	76196	YM 2-30	79,280	30,680	48,600	24.30
03/19/13	MBC	76209	YM 2-30	79,400	30,380	49,020	24.51
03/19/13	MBC	76210	YM 2-30	79,920	30,460	49,460	24.73
03/19/13	MBC	76211	YM 2-30	79,460	29,340	50,120	25.06
03/19/13	MBC	76216	YM 2-30	79,600	30,700	48,900	24.45
03/20/13	MBC	76229	YM 2-30	79,520	30,480	49,040	24.52
03/20/13	MBC	76231	YM 2-30	80,240	30,340	49,900	24.95
03/20/13	MBC	76232	YM 2-30	79,560	29,300	50,260	25.13
03/21/13	MBC	76245	YM 2-30	79,120	30,560	48,560	24.28
03/21/13	MBC	76246	YM 2-30	79,240	30,320	48,920	24.46
03/21/13	MBC	76247	YM 2-30	79,380	29,360	50,020	25.01
03/21/13	MBC	76248	YM 2-30	79,380	30,720	48,660	24.33
03/22/13	MBC	76253	YM 2-30	79,920	28,140	51,780	25.89
03/22/13	MBC	76254	YM 2-30	79,040	30,480	48,560	24.28
03/22/13	MBC	76255	YM 2-30	80,020	29,380	50,640	25.32
03/22/13	MBC	76256	YM 2-30	79,640	30,820	48,820	24.41
03/22/13	MBC	76257	YM 2-30	79,160	30,280	48,880	24.44
03/25/13	MBC	76265	YM 2-30	79,520	30,600	48,920	24.46
03/25/13	MBC	76265	YM 2-30	79,500	30,340	49,160	24.58
03/25/13	MBC	76266	YM 2-30	79,460	31,460	48,000	24.00
03/25/13	MBC	76267	YM 2-30	78,940	29,340	49,600	24.80
03/25/13	MBC	76268	YM 2-30	79,820	28,180	51,640	25.82
03/26/13	MBC	76282	YM 2-30	79,480	31,480	48,000	24.00
03/26/13	MBC	76283	YM 2-30	79,280	30,540	48,740	24.37
03/26/13	MBC	76284	YM 2-30	80,200	30,380	49,820	24.91
03/26/13	MBC	76286	YM 2-30	79,140	28,880	50,260	25.13
03/26/13	MBC	76287	YM 2-30	79,100	28,100	51,000	25.50
03/27/13	MBC	76299	YM 2-30	79,360	28,980	50,380	25.19
03/27/13	MBC	76300	YM 2-30	79,720	30,400	49,320	24.66
03/27/13	MBC	76301	YM 2-30	80,080	28,140	51,940	25.97
03/28/13	MBC	76917	YM 2-30	79,160	31,380	47,780	23.89
03/28/13	MBC	76918	YM 2-30	79,160	28,980	50,180	25.09
03/28/13	MBC	76919	YM 2-30	78,720	28,140	50,580	25.29
03/28/13	MBC	76920	YM 2-30	80,260	30,380	49,880	24.94
03/29/13	MBC	76926	YM 2-30	79,520	31,340	48,180	24.09
03/29/13	MBC	76927	YM 2-30	79,460	30,560	48,900	24.45
03/29/13	MBC	76928	YM 2-30	79,380	28,280	51,100	25.55
03/29/13	MBC	76929	YM 2-30	80,380	30,440	49,940	24.97
							2150.86

Field Report - March 2013

Field Code:	YM 2-30
Date:	4/1/2013
Total Acres:	191.3
Latitude:	32 43' 50"N
Longitude:	114 5' 31" W
Crop:	Bermuda
Crop Nitrogen Usage:	500#/acre
Residual Nitrogen:	144#/acre
Date Started:	2/19/2013
Seeding Date:	May-13
Harvesting Date:	October-13
Wet Tons Applied:	6781.65
Dry Tons Applied:	1892.04
Wet Metric Tons Applied:	6156.38
Dry Metric Tons Applied:	1717.59
Wet Tons/Acre Applied:	35.45
Dry Tons/Acre Applied:	9.89
Wet Metric Tons/ha Applied:	79.50
Dry Metric Tons/ha Applied:	22.18

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	750.48	669.73	750.48
NH3	201.41	179.74	201.41
NO3	0.14	0.13	0.14
Organic N	548.93	489.87	548.93
As	0.06	0.06	0.06
Cd	0.04	0.03	0.04
Cr	0.92	0.82	0.92
Cu	8.35	7.45	8.35
Pb	0.26	0.23	0.26
Hg	0.02	0.01	0.02
Mo	0.25	0.23	0.25
Ni	0.57	0.51	0.57
Se	0.06	0.05	0.06
Zn	15.28	13.63	15.28
Plant Available - N	210.64	187.97	NA
P	524.73	468.27	524.73

Cullison Farm
Section 3, T9S, R18W



Report Number: 13-119-0214
Account Number: 11035

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446
www.aleastern.com

Send To: Terra Renewal LLC
12812 VALLEY VIEW ST
SUITE 9
GARDEN GROVE CA 92845

Project : MBC
AZ#0629

REPORT OF ANALYSIS

Lab Number : 93358
Sample Id : MBC

Date Sampled: 4/25/2013 10:30:00
Date Received: 04/29/2013 00:00
Date Reported: 05/02/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	29.16	291600	100.0	JM	04/29/2013 15:40	SM-2540G
Moisture *	70.84		100.0	JM	04/29/2013 15:40	SM-2540G
Total Kjeldahl Nitrogen	4.84	48400	10.0	JM	05/01/2013 08:50	SM-4500-NH3C-TKN
Total Phosphorus	2.80	28000	100	KM	04/30/2013 12:57	SW-6010B
Total Potassium	0.09	934	100	KM	04/30/2013 12:57	SW-6010B
Total Sulfur	4.34	43400	100	KM	04/30/2013 12:57	SW-6010B
Total Calcium	3.47	34700	100	KM	04/30/2013 12:57	SW-6010B
Total Magnesium	0.49	4870	100	KM	04/30/2013 12:57	SW-6010B
Total Sodium	0.19	1890	100	KM	04/30/2013 12:57	SW-6010B
Total Iron		89000	100	KM	04/30/2013 12:57	SW-6010B
Total Aluminum		5800	100	KM	04/30/2013 12:57	SW-6010B
Total Manganese		306	5	KM	04/30/2013 12:57	SW-6010B
Total Copper		715	5	KM	04/30/2013 12:57	SW-6010B
Total Zinc		1210	5	KM	04/30/2013 12:57	SW-6010B
Ammonia Nitrogen	1.45	14500	10.0	JM	04/30/2013 08:19	SM-4500-NH3C
Organic N	3.39	33900	10.0		04/30/2013 08:19	CALCULATION
Nitrate+Nitrite-N		10.3	2.00	JM	04/30/2013 08:20	SM-4500NO3F
Total Cadmium		3.0	2.0	KM	04/30/2013 12:57	SW-6010B

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

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Debbie Holt

Report Number: 13-119-0214
Account Number: 11035

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446
www.aleastern.com

Send To: Terra Renewal LLC
12812 VALLEY VIEW ST
SUITE 9
GARDEN GROVE , CA 92845

Project : MBC
AZ#0629

REPORT OF ANALYSIS

Lab Number : 93358
Sample Id : MBC

Date Sampled: 4/25/2013 10:30:00
Date Received: 04/29/2013 00:00
Date Reported: 05/02/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Chromium		72	5	KM	04/30/2013 12:57	SW-6010B
Total Nickel		44	5	KM	04/30/2013 12:57	SW-6010B
Total Lead		22	5	KM	04/30/2013 12:57	SW-6010B
Total Arsenic		4.0	3.0	KM	04/30/2013 12:57	SW-6010B
Total Mercury		1.4	0.4	KM	04/30/2013 08:05	SW-7471A
Total Selenium		<5.0	5.0	KM	04/30/2013 12:57	SW-6010B
Total Molybdenum		17	5	KM	04/30/2013 12:57	SW-6010B

Comments:
SULFUR NOT FOR COMPLIANCE PURPOSES
QUALIFIER: THE MATRIX SPIKE WAS OUT OF LIMITS FOR 'S'. ALL OTHER QC DATA IS ACCEPTABLE.

TERRA renewal
12812 Valley View Ave., #9
Garden Grove, CA 92845

July 1, 2013

Mr. Gerald Schreckengost
City of San Diego
5240 Convoy Street, MS 901M
San Diego, CA 92111

Dear Gerald,

Enclosed is the Monthly Biosolids Report for the month of April 2013. This report includes the date and amount hauled, the application site(s), analysis of the biosolids and concentration of metals and nitrogen applied to the site(s).

If you have any questions or comments on this report please feel free to contact me at (760) 801-3175.

Sincerely,

Chris Marks

Enclosure

TERRA renewal

12812 Valley View Ave., #9
Garden Grove, CA 92845

Monthly Biosolids Report to

City of San Diego

For April 2013

Table of Contents

- **Monthly Application Summary**
- **Daily Load Delivery Log**
- **Field Report**
- **Lab Analysis**

San Diego - MBC Monthly Application Summary - April 2013

Date: 5/1/2013
County: Yuma

Field Number: YM 2-30
Number of Acres: 191.3

Month Applied: Apr-13
Wet Tons Applied: 2376.63

Percent Solids: 29.16

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	48400.00	392.94
NH3	14500.00	117.72
NO3	10.30	0.08
Organic N	33889.70	275.13
As	4.00	0.03
Cd	3.00	0.02
Cr	72.00	0.58
Cu	715.00	5.80
Pb	22.00	0.18
Hg	1.40	0.01
Mo	17.00	0.14
Ni	44.00	0.36
Se	4.00	0.03
Zn	1210.00	9.82
PAN	14038.24	113.97
P	28000.00	227.32

April 2013 Haul Logs

DATE	ORIGIN	TICKET_#	DESTINATION	GROSS	TARE	NET	TONS
04/01/13	MBC	76941	YM 2-30	79,380	30,560	48,820	24.41
04/01/13	MBC	76942	YM 2-30	79,580	28,960	50,620	25.31
04/01/13	MBC	76946	YM 2-30	79,580	30,420	49,160	24.58
04/01/13	MBC	76947	YM 2-30	79,620	28,160	51,460	25.73
04/01/13	MBC	76954	YM 2-30	79,620	30,880	48,740	24.37
04/02/13	MBC	76961	YM 2-30	79,540	30,520	49,020	24.51
04/02/13	MBC	76962	YM 2-30	80,460	30,360	50,100	25.05
04/02/13	MBC	76963	YM 2-30	79,220	28,960	50,260	25.13
04/02/13	MBC	76965	YM 2-30	79,900	28,180	51,720	25.86
04/03/13	MBC	76981	YM 2-30	79,100	30,500	48,600	24.30
04/03/13	MBC	76982	YM 2-30	79,960	29,900	50,060	25.03
04/03/13	MBC	76984	YM 2-30	79,360	28,940	50,420	25.21
04/03/13	MBC	76985	YM 2-30	80,060	28,180	51,880	25.94
04/04/13	MBC	77001	YM 2-30	80,260	30,500	49,760	24.88
04/04/13	MBC	77002	YM 2-30	79,420	30,780	48,640	24.32
04/04/13	MBC	77003	YM 2-30	79,360	27,900	51,460	25.73
04/04/13	MBC	77004	YM 2-30	80,180	27,920	52,260	26.13
04/05/13	MBC	77011	YM 2-30	78,980	28,120	50,860	25.43
04/05/13	MBC	77013	YM 2-30	80,240	29,380	50,860	25.43
04/05/13	MBC	77014	YM 2-30	79,960	30,100	49,860	24.93
04/05/13	MBC	77018	YM 2-30	79,180	30,760	48,420	24.21
04/08/13	MBC	77026	YM 2-30	78,720	30,440	48,280	24.14
04/08/13	MBC	77028	YM 2-30	80,400	28,940	51,460	25.73
04/08/13	MBC	77029	YM 2-30	79,660	30,020	49,640	24.82
04/08/13	MBC	77030	YM 2-30	79,400	28,220	51,180	25.59
04/08/13	MBC	77034	YM 2-30	80,020	31,240	48,780	24.39
04/08/13	MBC	77035	YM 2-30	79,640	29,740	49,900	24.95
04/09/13	MBC	77047	YM 2-30	79,240	30,580	48,660	24.33
04/09/13	MBC	77049	YM 2-30	78,980	28,860	50,120	25.06
04/09/13	MBC	77050	YM 2-30	80,120	29,920	50,200	25.10
04/09/13	MBC	77051	YM 2-30	80,180	28,220	51,960	25.98
04/10/13	MBC	77064	YM 2-30	79,760	31,100	48,660	24.33
04/10/13	MBC	77065	YM 2-30	80,200	29,900	50,300	25.15
04/10/13	MBC	77066	YM 2-30	78,740	28,880	49,860	24.93
04/10/13	MBC	77067	YM 2-30	79,420	28,160	51,260	25.63
04/11/13	MBC	77074	YM 2-30	80,100	29,860	50,240	25.12
04/11/13	MBC	77075	YM 2-30	78,980	28,860	50,120	25.06
04/11/13	MBC	77077	YM 2-30	79,000	28,140	50,860	25.43
04/12/13	MBC	77084	YM 2-30	79,640	31,160	48,480	24.24
04/12/13	MBC	77085	YM 2-30	79,760	28,180	51,580	25.79
04/12/13	MBC	77086	YM 2-30	79,580	30,120	49,460	24.73
04/12/13	MBC	77087	YM 2-30	78,880	28,900	49,980	24.99
04/15/13	MBC	77097	YM 2-30	79,420	27,820	51,600	25.80

04/15/13	MBC	77098	YM 2-30	79,920	29,900	50,020	25.01
04/15/13	MBC	77099	YM 2-30	80,420	28,960	51,460	25.73
04/15/13	MBC	77103	YM 2-30	79,680	30,940	48,740	24.37
04/16/13	MBC	77113	YM 2-30	79,220	29,900	49,320	24.66
04/16/13	MBC	77117	YM 2-30	79,060	28,880	50,180	25.09
04/16/13	MBC	77118	YM 2-30	78,800	27,780	51,020	25.51
04/16/13	MBC	77122	YM 2-30	80,100	30,760	49,340	24.67
04/17/13	MBC	77135	YM 2-30	80,560	29,940	50,620	25.31
04/17/13	MBC	77137	YM 2-30	78,980	28,940	50,040	25.02
04/17/13	MBC	77139	YM 2-30	79,480	27,800	51,680	25.84
04/17/13	MBC	77145	YM 2-30	79,920	30,760	49,160	24.58
04/18/13	MBC	77158	YM 2-30	80,260	30,760	49,500	24.75
04/18/13	MBC	77159	YM 2-30	79,360	29,880	49,480	24.74
04/18/13	MBC	77160	YM 2-30	78,740	28,860	49,880	24.94
04/18/13	MBC	77161	YM 2-30	79,060	27,800	51,260	25.63
04/19/13	MBC	77168	YM 2-30	79,400	30,680	48,720	24.36
04/19/13	MBC	77169	YM 2-30	79,200	30,400	48,800	24.40
04/19/13	MBC	77170	YM 2-30	78,960	27,840	51,120	25.56
04/19/13	MBC	77171	YM 2-30	79,640	28,880	50,760	25.38
04/22/13	MBC	77181	YM 2-30	79,400	28,840	50,560	25.28
04/22/13	MBC	77183	YM 2-30	79,540	30,060	49,480	24.74
04/22/13	MBC	77185	YM 2-30	79,100	27,880	51,220	25.61
04/22/13	MBC	77188	YM 2-30	79,980	31,240	48,740	24.37
04/22/13	MBC	77190	YM 2-30	79,340	30,560	48,780	24.39
04/23/13	MBC	77207	YM 2-30	79,140	28,860	50,280	25.14
04/23/13	MBC	77208	YM 2-30	79,300	29,920	49,380	24.69
04/23/13	MBC	77209	YM 2-30	78,900	27,820	51,080	25.54
04/23/13	MBC	77213	YM 2-30	79,760	31,120	48,640	24.32
04/24/13	MBC	77223	YM 2-30	79,400	30,460	48,940	24.47
04/24/13	MBC	77224	YM 2-30	79,040	28,900	50,140	25.07
04/24/13	MBC	77225	YM 2-30	79,940	31,260	48,680	24.34
04/24/13	MBC	77227	YM 2-30	79,420	27,920	51,500	25.75
04/25/13	MBC	77237	YM 2-30	80,000	31,220	48,780	24.39
04/25/13	MBC	77238	YM 2-30	79,420	28,960	50,460	25.23
04/25/13	MBC	77239	YM 2-30	80,040	29,920	50,120	25.06
04/25/13	MBC	77240	YM 2-30	79,720	27,920	51,800	25.90
04/26/13	MBC	77246	YM 2-30	78,940	30,600	48,340	24.17
04/26/13	MBC	77247	YM 2-30	79,600	31,220	48,380	24.19
04/26/13	MBC	77248	YM 2-30	79,340	27,920	51,420	25.71
04/26/13	MBC	77249	YM 2-30	79,200	28,880	50,320	25.16
04/26/13	MBC	77250	YM 2-30	79,760	30,440	49,320	24.66
04/29/13	MBC	77261	YM 2-30	79,100	30,580	48,520	24.26
04/29/13	MBC	77263	YM 2-30	79,520	29,860	49,660	24.83
04/29/13	MBC	77264	YM 2-30	80,140	30,940	49,200	24.60
04/29/13	MBC	77265	YM 2-30	79,080	28,900	50,180	25.09
04/29/13	MBC	77266	YM 2-30	79,080	27,880	51,200	25.60
04/30/13	MBC	77283	YM 2-30	78,980	30,540	48,440	24.22

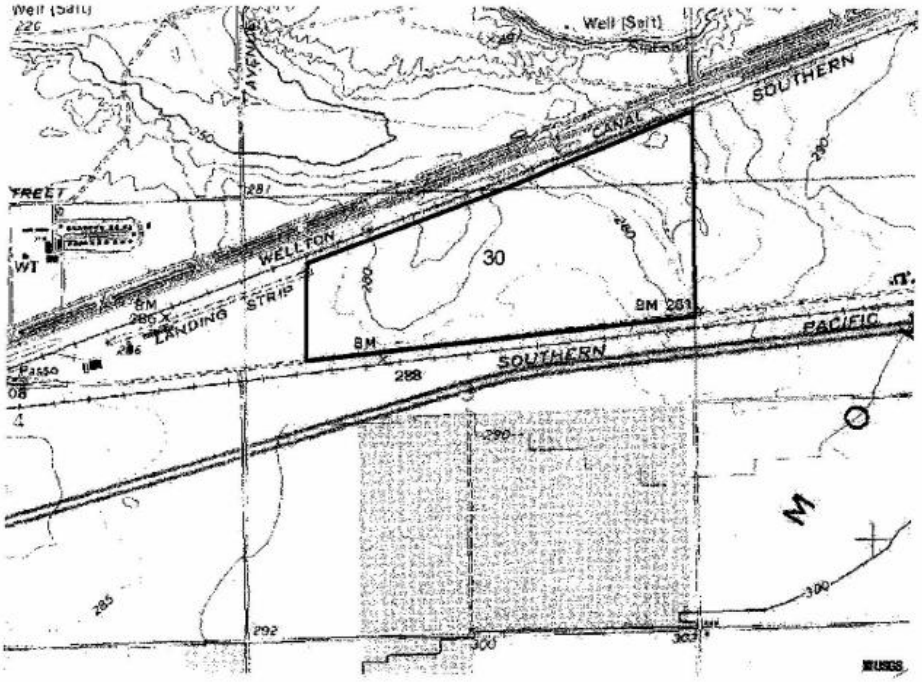
04/30/13	MBC	77284	YM 2-30	80,260	29,940	50,320	25.16
04/30/13	MBC	77285	YM 2-30	78,740	28,180	50,560	25.28
04/30/13	MBC	77286	YM 2-30	80,260	28,880	51,380	25.69
04/30/13	MBC	77287	YM 2-30	79,640	27,860	51,780	25.89
04/30/13	MBC	77292	YM 2-30	79,840	30,840	49,000	24.50
							2376.63

Field Report - April 2013

Field Code:	YM 2-30
Date:	5/1/2013
Total Acres:	191.3
Latitude:	32 43' 50"N
Longitude:	114 5' 31" W
Crop:	Bermuda
Crop Nitrogen Usage:	500#/acre
Residual Nitrogen:	144#/acre
Date Started:	2/19/2013
Seeding Date:	May-13
Harvesting Date:	October-13
Wet Tons Applied:	10486.15
Dry Tons Applied:	2916.6
Wet Metric Tons Applied:	9519.33
Dry Metric Tons Applied:	2647.69
Wet Tons/Acre Applied:	54.82
Dry Tons/Acre Applied:	15.25
Wet Metric Tons/ha Applied:	122.93
Dry Metric Tons/ha Applied:	34.19

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	1349.37	1204.18	1349.37
NH3	360.18	321.42	360.18
NO3	0.28	0.25	0.28
Organic N	988.92	882.51	988.92
As	0.11	0.10	0.11
Cd	0.07	0.06	0.07
Cr	1.73	1.54	1.73
Cu	15.27	13.63	15.27
Pb	0.49	0.43	0.49
Hg	0.03	0.03	0.03
Mo	0.45	0.41	0.45
Ni	1.05	0.94	1.05
Se	0.11	0.10	0.11
Zn	28.18	25.15	28.18
Plant Available - N	378.15	337.46	NA
P	941.07	839.81	941.07

Cullison Farm
Section 3, T9S, R18W



Report Number: 13-119-0214
Account Number: 11035

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446
www.aleastern.com

Send To: Terra Renewal LLC
12812 VALLEY VIEW ST
SUITE 9
GARDEN GROVE CA 92845

Project : MBC
AZ#0629

REPORT OF ANALYSIS

Lab Number : 93358
Sample Id : MBC

Date Sampled: 4/25/2013 10:30:00
Date Received: 04/29/2013 00:00
Date Reported: 05/02/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	29.16	291600	100.0	JM	04/29/2013 15:40	SM-2540G
Moisture *	70.84		100.0	JM	04/29/2013 15:40	SM-2540G
Total Kjeldahl Nitrogen	4.84	48400	10.0	JM	05/01/2013 08:50	SM-4500-NH3C-TKN
Total Phosphorus	2.80	28000	100	KM	04/30/2013 12:57	SW-6010B
Total Potassium	0.09	934	100	KM	04/30/2013 12:57	SW-6010B
Total Sulfur	4.34	43400	100	KM	04/30/2013 12:57	SW-6010B
Total Calcium	3.47	34700	100	KM	04/30/2013 12:57	SW-6010B
Total Magnesium	0.49	4870	100	KM	04/30/2013 12:57	SW-6010B
Total Sodium	0.19	1890	100	KM	04/30/2013 12:57	SW-6010B
Total Iron		89000	100	KM	04/30/2013 12:57	SW-6010B
Total Aluminum		5800	100	KM	04/30/2013 12:57	SW-6010B
Total Manganese		306	5	KM	04/30/2013 12:57	SW-6010B
Total Copper		715	5	KM	04/30/2013 12:57	SW-6010B
Total Zinc		1210	5	KM	04/30/2013 12:57	SW-6010B
Ammonia Nitrogen	1.45	14500	10.0	JM	04/30/2013 08:19	SM-4500-NH3C
Organic N	3.39	33900	10.0		04/30/2013 08:19	CALCULATION
Nitrate+Nitrite-N		10.3	2.00	JM	04/30/2013 08:20	SM-4500NO3F
Total Cadmium		3.0	2.0	KM	04/30/2013 12:57	SW-6010B

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

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Debbie Holt

Report Number: 13-119-0214
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A&L Eastern Laboratories, Inc.
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Send To: Terra Renewal LLC
12812 VALLEY VIEW ST
SUITE 9
GARDEN GROVE , CA 92845

Project : MBC
AZ#0629

REPORT OF ANALYSIS

Lab Number : 93358
Sample Id : MBC

Date Sampled: 4/25/2013 10:30:00
Date Received: 04/29/2013 00:00
Date Reported: 05/02/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Chromium		72	5	KM	04/30/2013 12:57	SW-6010B
Total Nickel		44	5	KM	04/30/2013 12:57	SW-6010B
Total Lead		22	5	KM	04/30/2013 12:57	SW-6010B
Total Arsenic		4.0	3.0	KM	04/30/2013 12:57	SW-6010B
Total Mercury		1.4	0.4	KM	04/30/2013 08:05	SW-7471A
Total Selenium		<5.0	5.0	KM	04/30/2013 12:57	SW-6010B
Total Molybdenum		17	5	KM	04/30/2013 12:57	SW-6010B

Comments:
SULFUR NOT FOR COMPLIANCE PURPOSES
QUALIFIER: THE MATRIX SPIKE WAS OUT OF LIMITS FOR 'S'. ALL OTHER QC DATA IS ACCEPTABLE.

TERRA renewal
12812 Valley View Ave., #9
Garden Grove, CA 92845

July 15, 2013

Mr. Gerald Schreckengost
City of San Diego
5240 Convoy Street, MS 901M
San Diego, CA 92111

Dear Gerald,

Enclosed is the Monthly Biosolids Report for the month of May 2013. This report includes the date and amount hauled, the application site(s), analysis of the biosolids and concentration of metals and nitrogen applied to the site(s).

If you have any questions or comments on this report please feel free to contact me at (760) 801-3175.

Sincerely,

Chris Marks

Enclosure

TERRA renewal

12812 Valley View Ave., #9
Garden Grove, CA 92845

Monthly Biosolids Report to

City of San Diego

For May 2013

Table of Contents

- **Monthly Application Summary**
- **Daily Load Delivery Log**
- **Field Report**
- **Lab Analysis**

San Diego - MBC Monthly Application Summary - May 2013

Date: 6/1/2013
County: Yuma

Field Number: YM 2-30
Number of Acres: 191.3

Month Applied: May-13
Wet Tons Applied: 1758.34

Percent Solids: 27.73

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	47200.00	269.60
NH3	13500.00	77.11
NO3	2.00	0.01
Organic N	33698.00	192.48
As	5.00	0.03
Cd	2.00	0.01
Cr	70.00	0.40
Cu	677.00	3.87
Pb	24.00	0.14
Hg	0.90	0.01
Mo	21.00	0.12
Ni	47.00	0.27
Se	5.00	0.03
Zn	1020.00	5.83
PAN	13491.60	77.06
P	21600.00	123.38

San Diego - MBC Monthly Application Summary - May 2013

Date: 6/1/2013
County: Yuma

Field Number: YM 2-161
Number of Acres: 64

Month Applied: May-13
Wet Tons Applied: 700.64

Percent Solids: 27.73

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	47200.00	321.11
NH3	13500.00	91.84
NO3	2.00	0.01
Organic N	33698.00	229.25
As	5.00	0.03
Cd	2.00	0.01
Cr	70.00	0.48
Cu	677.00	4.61
Pb	24.00	0.16
Hg	0.90	0.01
Mo	21.00	0.14
Ni	47.00	0.32
Se	5.00	0.03
Zn	1020.00	6.94
PAN	13491.60	91.78
P	21600.00	146.95

May 2013 Haul Logs

DATE	ORIGIN	TICKET_#	DESTINATION	GROSS	TARE	NET	TONS
05/01/13	MBC	77305	YM 2-30	79,400	30,520	48,880	24.44
05/01/13	MBC	77306	YM 2-30	79,340	29,920	49,420	24.71
05/01/13	MBC	77308	YM 2-30	79,220	28,920	50,300	25.15
05/01/13	MBC	77309	YM 2-30	79,040	28,460	50,580	25.29
05/01/13	MBC	77310	YM 2-30	79,620	27,940	51,680	25.84
05/02/13	MBC	77325	YM 2-30	79,720	30,500	49,220	24.61
05/02/13	MBC	77327	YM 2-30	80,820	29,880	50,940	25.47
05/02/13	MBC	77328	YM 2-30	79,780	30,600	49,180	24.59
05/02/13	MBC	77329	YM 2-30	79,580	28,860	50,720	25.36
05/02/13	MBC	77330	YM 2-30	78,740	28,120	50,620	25.31
05/02/13	MBC	77331	YM 2-30	78,920	27,840	51,080	25.54
05/03/13	MBC	77340	YM 2-30	79,460	27,900	51,560	25.78
05/03/13	MBC	77342	YM 2-30	80,180	29,800	50,380	25.19
05/03/13	MBC	77344	YM 2-30	79,860	28,780	51,080	25.54
05/03/13	MBC	77345	YM 2-30	79,360	28,160	51,200	25.60
05/03/13	MBC	77349	YM 2-30	78,960	30,960	48,000	24.00
05/06/13	MBC	77359	YM 2-30	80,040	30,540	49,500	24.75
05/06/13	MBC	77360	YM 2-30	79,040	28,940	50,100	25.05
05/06/13	MBC	77361	YM 2-30	79,920	30,120	49,800	24.90
05/06/13	MBC	77362	YM 2-30	79,540	28,140	51,400	25.70
05/06/13	MBC	77369	YM 2-30	79,460	27,820	51,640	25.82
05/07/13	MBC	77379	YM 2-30	79,040	28,960	50,080	25.04
05/07/13	MBC	77380	YM 2-30	79,640	28,900	50,740	25.37
05/07/13	MBC	77384	YM 2-30	79,240	29,960	49,280	24.64
05/08/13	MBC	77397	YM 2-30	79,040	28,640	50,400	25.20
05/08/13	MBC	77398	YM 2-30	79,660	28,900	50,760	25.38
05/08/13	MBC	77399	YM 2-30	79,180	30,020	49,160	24.58
05/09/13	MBC	77412	YM 2-30	78,720	28,280	50,440	25.22
05/09/13	MBC	77413	YM 2-30	79,900	29,980	49,920	24.96
05/09/13	MBC	77414	YM 2-30	79,380	28,980	50,400	25.20
05/09/13	MBC	77418	YM 2-30	79,420	31,020	48,400	24.20
05/10/13	MBC	77431	YM 2-30	79,340	30,500	48,840	24.42
05/10/13	MBC	77432	YM 2-30	78,440	28,260	50,180	25.09
05/10/13	MBC	77434	YM 2-30	79,360	28,920	50,440	25.22
05/10/13	MBC	77435	YM 2-30	78,500	29,980	48,520	24.26
05/10/13	MBC	77439	YM 2-30	80,020	31,040	48,980	24.49
05/13/13	MBC	77446	YM 2-30	79,420	28,220	51,200	25.60
05/13/13	MBC	77447	YM 2-30	79,520	28,940	50,580	25.29
05/13/13	MBC	77453	YM 2-30	79,420	29,900	49,520	24.76
05/13/13	MBC	77454	YM 2-30	79,560	30,960	48,600	24.30
05/14/13	MBC	77468	YM 2-30	79,500	28,260	51,240	25.62
05/14/13	MBC	77469	YM 2-30	79,800	28,900	50,900	25.45
05/15/13	MBC	77488	YM 2-30	79,000	28,260	50,740	25.37

05/15/13	MBC	77489	YM 2-30	79,020	28,920	50,100	25.05
05/15/13	MBC	77490	YM 2-30	79,680	27,880	51,800	25.90
05/16/13	MBC	77503	YM 2-30	79,660	30,460	49,200	24.60
05/16/13	MBC	77505	YM 2-30	79,180	28,920	50,260	25.13
05/16/13	MBC	77506	YM 2-30	79,200	28,600	50,600	25.30
05/16/13	MBC	77507	YM 2-30	79,660	28,300	51,360	25.68
05/17/13	MBC	77516	YM 2-30	79,980	30,520	49,460	24.73
05/17/13	MBC	77517	YM 2-30	78,640	27,800	50,840	25.42
05/17/13	MBC	77518	YM 2-30	79,280	28,280	51,000	25.50
05/17/13	MBC	77519	YM 2-30	79,780	28,980	50,800	25.40
05/20/13	MBC	77534	YM 2-30	79,620	28,120	51,500	25.75
05/20/13	MBC	77535	YM 2-30	79,800	28,940	50,860	25.43
05/21/13	MBC	77548	YM 2-30	79,420	29,000	50,420	25.21
05/21/13	MBC	77549	YM 2-30	79,860	28,180	51,680	25.84
05/21/13	MBC	77551	YM 2-30	78,960	27,800	51,160	25.58
05/22/13	MBC	77571	YM 2-30	79,000	29,000	50,000	25.00
05/22/13	MBC	77572	YM 2-30	79,180	30,040	49,140	24.57
05/22/13	MBC	77573	YM 2-30	79,120	28,160	50,960	25.48
05/22/13	MBC	77574	YM 2-30	79,360	27,920	51,440	25.72
05/22/13	MBC	77580	YM 2-30	78,720	30,360	48,360	24.18
05/23/13	MBC	77594	YM 2-30	78,980	30,400	48,580	24.29
05/23/13	MBC	77595	YM 2-30	79,700	31,240	48,460	24.23
05/23/13	MBC	77596	YM 2-30	79,340	30,200	49,140	24.57
05/23/13	MBC	77597	YM 2-30	78,180	28,280	49,900	24.95
05/23/13	MBC	77598	YM 2-30	80,000	28,900	51,100	25.55
05/23/13	MBC	77599	YM 2-30	79,320	28,060	51,260	25.63
05/23/13	MBC	77604	YM 2-30	79,620	28,920	50,700	25.35
05/24/13	MBC	77611	YM 2-161	79,220	30,520	48,700	24.35
05/24/13	MBC	77612	YM 2-161	79,280	31,200	48,080	24.04
05/24/13	MBC	77613	YM 2-161	79,140	27,960	51,180	25.59
05/24/13	MBC	77614	YM 2-161	79,360	29,720	49,640	24.82
05/24/13	MBC	77615	YM 2-161	78,440	28,240	50,200	25.10
05/24/13	MBC	77616	YM 2-161	79,080	29,020	50,060	25.03
05/27/13	MBC	77629	YM 2-161	79,320	30,460	48,860	24.43
05/27/13	MBC	77630	YM 2-161	79,120	29,040	50,080	25.04
05/27/13	MBC	77631	YM 2-161	80,740	29,660	51,080	25.54
05/27/13	MBC	77632	YM 2-161	79,160	28,240	50,920	25.46
05/27/13	MBC	77638	YM 2-161	79,240	27,900	51,340	25.67
05/27/13	MBC	77639	YM 2-161	80,080	30,900	49,180	24.59
05/28/13	MBC	77651	YM 2-161	78,920	30,440	48,480	24.24
05/28/13	MBC	77652	YM 2-161	79,060	29,700	49,360	24.68
05/28/13	MBC	77653	YM 2-161	79,360	29,020	50,340	25.17
05/28/13	MBC	77655	YM 2-161	80,520	28,260	52,260	26.13
05/28/13	MBC	77656	YM 2-161	79,340	27,920	51,420	25.71
05/28/13	MBC	77660	YM 2-161	79,860	30,840	49,020	24.51
05/29/13	MBC	77671	YM 2-161	78,920	28,200	50,720	25.36
05/29/13	MBC	77673	YM 2-161	79,620	29,040	50,580	25.29

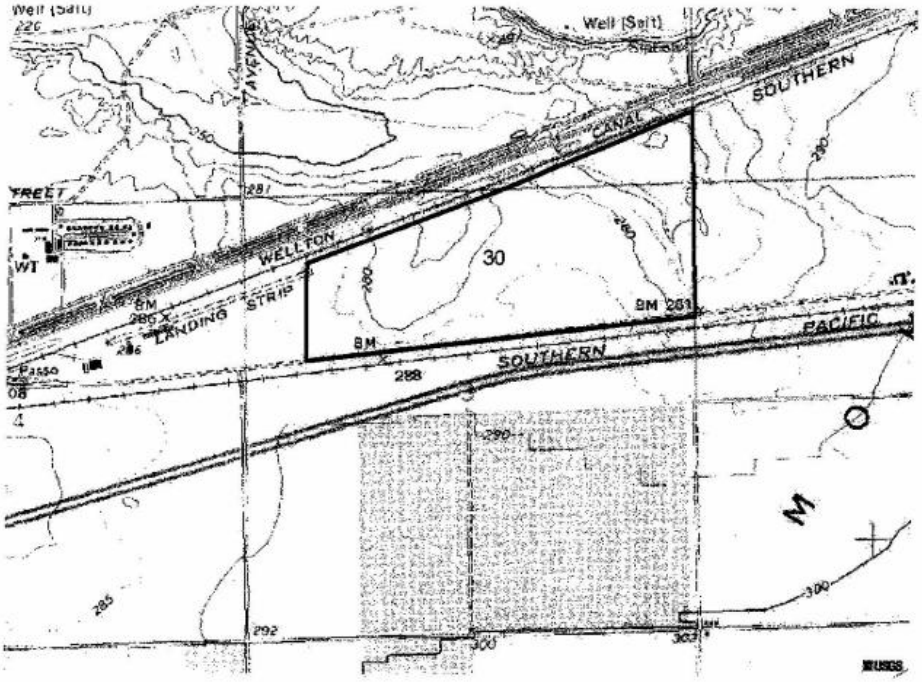
05/29/13	MBC	77674	YM 2-161	79,040	27,840	51,200	25.60
05/30/13	MBC	77690	YM 2-161	78,960	31,060	47,900	23.95
05/30/13	MBC	77691	YM 2-161	79,660	27,860	51,800	25.90
05/30/13	MBC	77692	YM 2-161	80,160	30,440	49,720	24.86
05/30/13	MBC	77693	YM 2-161	79,140	29,080	50,060	25.03
05/31/13	MBC	77707	YM 2-161	79,140	30,480	48,660	24.33
05/31/13	MBC	77708	YM 2-161	79,040	27,900	51,140	25.57
05/31/13	MBC	77709	YM 2-161	80,280	30,980	49,300	24.65
							2458.98

Field Report - May 2013

Field Code:	YM 2-30
Date:	6/1/2013
Total Acres:	191.3
Latitude:	32 43' 50"N
Longitude:	114 5' 31" W
Crop:	Alfalfa
Crop Nitrogen Usage:	600#/acre
Residual Nitrogen:	144#/acre
Date Started:	2/19/2013
Seeding Date:	May-13
Harvesting Date:	October-13
Wet Tons Applied:	13346.2
Dry Tons Applied:	3681.24
Wet Metric Tons Applied:	12115.68
Dry Metric Tons Applied:	3341.83
Wet Tons/Acre Applied:	69.77
Dry Tons/Acre Applied:	19.24
Wet Metric Tons/ha Applied:	156.46
Dry Metric Tons/ha Applied:	43.15

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	1792.71	1599.81	1792.71
NH3	471.35	420.63	471.35
NO3	0.31	0.27	0.31
Organic N	1321.05	1178.90	1321.05
As	0.15	0.14	0.15
Cd	0.09	0.08	0.09
Cr	2.29	2.04	2.29
Cu	20.09	17.93	20.09
Pb	0.66	0.59	0.66
Hg	0.04	0.03	0.04
Mo	0.62	0.56	0.62
Ni	1.41	1.26	1.41
Se	0.15	0.13	0.15
Zn	36.49	32.56	36.49
Plant Available - N	500.19	446.37	NA
P	1194.61	1066.07	1194.61

Cullison Farm
Section 3, T9S, R18W



Report Number: 13-172-0204
Account Number: 11035
Submitted By: JOEL SANTOS

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446
www.aleastern.com

Send To: Terra Renewal LLC
12812 VALLEY VIEW ST
SUITE 9
GARDEN GROVE , CA 92845

Project : MBC AZ#0629

REPORT OF ANALYSIS

Lab Number : 94284
Sample Id : MBC

Date Sampled:
Date Received: 06/21/2013 00:00
Date Reported: 06/26/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	27.73	277300	100.0	JM	06/21/2013 13:59	SM-2540G
Moisture *	72.27		100.0	JM	06/21/2013 13:59	SM-2540G
Total Kjeldahl Nitrogen	4.72	47200	10.0	JM	06/24/2013 08:19	SM-4500-NH3C-TKN
Total Phosphorus	2.16	21600	100	KM	06/24/2013 15:49	SW-6010B
Total Potassium	0.10	969	100	KM	06/24/2013 15:49	SW-6010B
Total Sulfur	4.01	40100	100	KM	06/24/2013 15:49	SW-6010B
Total Calcium	2.86	28600	100	KM	06/24/2013 15:49	SW-6010B
Total Magnesium	0.38	3820	100	KM	06/24/2013 15:49	SW-6010B
Total Sodium	0.18	1840	100	KM	06/24/2013 15:49	SW-6010B
Total Iron		95900	100	KM	06/24/2013 15:49	SW-6010B
Total Aluminum		5900	100	KM	06/24/2013 15:49	SW-6010B
Total Manganese		354	5	KM	06/24/2013 15:49	SW-6010B
Total Copper		677	5	KM	06/24/2013 15:49	SW-6010B
Total Zinc		1020	5	KM	06/24/2013 15:49	SW-6010B
Ammonia Nitrogen	1.35	13500	10.0	JM	06/24/2013 08:19	SM-4500-NH3C
Organic N	3.37	33700	10.0		06/24/2013 08:19	CALCULATION
Nitrate+Nitrite-N		<2.00	2.00	JM	06/24/2013 08:20	SM-4500NO3F
Total Cadmium		2.0	2.0	KM	06/24/2013 15:49	SW-6010B

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

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Debbie Holt

Report Number: 13-172-0204
Account Number: 11035
Submitted By: JOEL SANTOS

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446
www.aleastern.com

Send To: Terra Renewal LLC
12812 VALLEY VIEW ST
SUITE 9
GARDEN GROVE , CA 92845

Project : MBC AZ#0629

REPORT OF ANALYSIS

Lab Number : 94284
Sample Id : MBC

Date Sampled:
Date Received: 06/21/2013 00:00
Date Reported: 06/26/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Chromium		70	5	KM	06/24/2013 15:49	SW-6010B
Total Nickel		47	5	KM	06/24/2013 15:49	SW-6010B
Total Lead		24	5	KM	06/24/2013 15:49	SW-6010B
Total Arsenic		5.0	3.0	KM	06/24/2013 15:49	SW-6010B
Total Mercury		0.9	0.4	KM	06/24/2013 09:00	SW-7471A
Total Selenium		<5.0	5.0	KM	06/24/2013 15:49	SW-6010B
Total Molybdenum		21	5	KM	06/24/2013 15:49	SW-6010B

Comments:
SULFUR NOT FOR COMPLIANCE PURPOSES

TERRA renewal
12812 Valley View Ave., #9
Garden Grove, CA 92845

August 26, 2013

Mr. Gerald Schreckengost
City of San Diego
5240 Convoy Street, MS 901M
San Diego, CA 92111

Dear Gerald,

Enclosed is the Monthly Biosolids Report for the month of June 2013. This report includes the date and amount hauled, the application site(s), analysis of the biosolids and concentration of metals and nitrogen applied to the site(s).

If you have any questions or comments on this report please feel free to contact me at (760) 801-3175.

Sincerely,

Chris Marks

Enclosure

TERRA renewal

12812 Valley View Ave., #9
Garden Grove, CA 92845

Monthly Biosolids Report to

City of San Diego

For June 2013

Table of Contents

- **Monthly Application Summary**
- **Daily Load Delivery Log**
- **Field Report**
- **Lab Analysis**

San Diego - MBC Monthly Application Summary - June 2013

Date: 7/1/2013
County: Yuma

Field Number: YM 2-162
Number of Acres: 101

Month Applied: Jun-13
Wet Tons Applied: 599.18

Percent Solids: 27.73

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	47200.00	174.01
NH3	13500.00	49.77
NO3	2.00	0.01
Organic N	33698.00	124.23
As	5.00	0.02
Cd	2.00	0.01
Cr	70.00	0.26
Cu	677.00	2.50
Pb	24.00	0.09
Hg	0.90	0.00
Mo	21.00	0.08
Ni	47.00	0.17
Se	5.00	0.02
Zn	1020.00	3.76
PAN	13491.60	49.74
P	21600.00	79.63

San Diego - MBC Monthly Application Summary - June 2013

Date: 7/1/2013
County: Yuma

Field Number: YM 2-163
Number of Acres: 112

Month Applied: Jun-13
Wet Tons Applied: 499.89

Percent Solids: 27.73

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	47200.00	130.92
NH3	13500.00	37.44
NO3	2.00	0.01
Organic N	33698.00	93.47
As	5.00	0.01
Cd	2.00	0.01
Cr	70.00	0.19
Cu	677.00	1.88
Pb	24.00	0.07
Hg	0.90	0.00
Mo	21.00	0.06
Ni	47.00	0.13
Se	5.00	0.01
Zn	1020.00	2.83
PAN	13491.60	37.42
P	21600.00	59.91

San Diego - MBC Monthly Application Summary - June 2013

Date: 7/1/2013
County: Yuma

Field Number: YM 2-281
Number of Acres: 40

Month Applied: Jun-13
Wet Tons Applied: 649.00

Percent Solids: 27.73

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	47200.00	475.90
NH3	13500.00	136.12
NO3	2.00	0.02
Organic N	33698.00	339.77
As	5.00	0.05
Cd	2.00	0.02
Cr	70.00	0.71
Cu	677.00	6.83
Pb	24.00	0.24
Hg	0.90	0.01
Mo	21.00	0.21
Ni	47.00	0.47
Se	5.00	0.05
Zn	1020.00	10.28
PAN	13491.60	136.03
P	21600.00	217.79

June 2013 Haul Logs

DATE	ORIGIN	TICKET_#	DESTINATION	GROSS	TARE	NET	TONS
6/3/13	MBC	77721	YM 2-162	78,780	30,440	48,340	24.17
6/3/13	MBC	77723	YM 2-162	78,680	28,160	50,520	25.26
6/3/13	MBC	77724	YM 2-162	80,020	30,120	49,900	24.95
6/3/13	MBC	77728	YM 2-162	78,940	27,940	51,000	25.50
6/4/13	MBC	77740	YM 2-162	78,940	30,520	48,420	24.21
6/4/13	MBC	77742	YM 2-162	79,440	29,580	49,860	24.93
6/4/13	MBC	77743	YM 2-162	78,580	28,120	50,460	25.23
6/4/13	MBC	77745	YM 2-162	79,620	27,860	51,760	25.88
6/4/13	MBC	77747	YM 2-162	79,160	31,080	48,080	24.04
6/5/13	MBC	77762	YM 2-162	79,540	30,480	49,060	24.53
6/5/13	MBC	77763	YM 2-162	78,900	28,180	50,720	25.36
6/5/13	MBC	77765	YM 2-162	79,740	27,900	51,840	25.92
6/5/13	MBC	77769	YM 2-162	79,780	31,080	48,700	24.35
6/5/13	MBC	77770	YM 2-162	79,760	29,720	50,040	25.02
6/5/13	MBC	77771	YM 2-162	79,160	28,800	50,360	25.18
6/6/13	MBC	77784	YM 2-162	80,280	30,560	49,720	24.86
6/6/13	MBC	77786	YM 2-162	79,300	28,180	51,120	25.56
6/6/13	MBC	77787	YM 2-162	79,580	28,000	51,580	25.79
6/6/13	MBC	77791	YM 2-162	80,180	31,040	49,140	24.57
6/7/13	MBC	77797	YM 2-162	79,660	30,540	49,120	24.56
6/7/13	MBC	77799	YM 2-162	78,840	28,000	50,840	25.42
6/7/13	MBC	77800	YM 2-162	79,160	31,080	48,080	24.04
6/7/13	MBC	77801	YM 2-162	78,080	28,240	49,840	24.92
6/7/13	MBC	77802	YM 2-162	78,940	29,080	49,860	24.93
6/10/13	MBC	77812	YM 2-163	78,700	28,140	50,560	25.28
6/10/13	MBC	77814	YM 2-163	79,360	27,760	51,600	25.80
6/10/13	MBC	77820	YM 2-163	79,080	30,820	48,260	24.13
6/11/13	MBC	77831	YM 2-163	79,680	30,480	49,200	24.60
6/11/13	MBC	77832	YM 2-163	78,300	28,160	50,140	25.07
6/11/13	MBC	77834	YM 2-163	78,800	27,820	50,980	25.49
6/11/13	MBC	77839	YM 2-163	79,700	30,840	48,860	24.43
6/12/13	MBC	77852	YM 2-163	79,000	30,540	48,460	24.23
6/12/13	MBC	77854	YM 2-163	78,380	28,100	50,280	25.14
6/12/13	MBC	77855	YM 2-163	79,020	29,000	50,020	25.01
6/12/13	MBC	77859	YM 2-163	78,840	27,920	50,920	25.46
6/12/13	MBC	77861	YM 2-163	79,620	30,840	48,780	24.39
6/13/13	MBC	77868	YM 2-163	79,600	30,840	48,760	24.38
6/13/13	MBC	77869	YM 2-163	79,200	29,020	50,180	25.09
6/13/13	MBC	77870	YM 2-163	79,500	28,140	51,360	25.68
6/13/13	MBC	77873	YM 2-163	79,300	27,840	51,460	25.73

6/14/13	MBC	77878	YM 2-163	79,900	30,520	49,380	24.69
6/14/13	MBC	77879	YM 2-163	79,900	30,760	49,140	24.57
6/14/13	MBC	77880	YM 2-163	78,460	27,860	50,600	25.30
6/14/13	MBC	77881	YM 2-163	78,920	28,080	50,840	25.42
6/17/13	MBC	77890	YM 2-281	78,080	28,120	49,960	24.98
6/17/13	MBC	77896	YM 2-281	79,760	31,460	48,300	24.15
6/17/13	MBC	77897	YM 2-281	79,800	27,900	51,900	25.95
6/18/13	MBC	77909	YM 2-281	79,640	30,480	49,160	24.58
6/18/13	MBC	77913	YM 2-281	79,640	27,860	51,780	25.89
6/18/13	MBC	77916	YM 2-281	79,380	31,180	48,200	24.10
6/18/13	MBC	77917	YM 2-281	79,100	28,900	50,200	25.10
6/19/13	MBC	77931	YM 2-281	78,040	28,160	49,880	24.94
6/19/13	MBC	77932	YM 2-281	79,860	27,800	52,060	26.03
6/20/13	MBC	77947	YM 2-281	77,540	28,180	49,360	24.68
6/20/13	MBC	77948	YM 2-281	79,240	27,860	51,380	25.69
6/21/13	MBC	77953	YM 2-281	78,660	28,180	50,480	25.24
6/21/13	MBC	77954	YM 2-281	78,420	27,840	50,580	25.29
6/21/13	MBC	77958	YM 2-281	79,640	31,160	48,480	24.24
6/24/13	MBC	77965	YM 2-281	78,720	28,360	50,360	25.18
6/24/13	MBC	77966	YM 2-281	80,040	30,520	49,520	24.76
6/24/13	MBC	77968	YM 2-281	79,620	27,900	51,720	25.86
6/24/13	MBC	77974	YM 2-281	79,740	30,720	49,020	24.51
6/25/13	MBC	77991	YM 2-281	79,560	30,460	49,100	24.55
6/25/13	MBC	77992	YM 2-281	79,200	28,240	50,960	25.48
6/25/13	MBC	77997	YM 2-281	79,540	30,940	48,600	24.30
6/26/13	MBC	78007	YM 2-281	78,760	28,160	50,600	25.30
6/27/13	MBC	78027	YM 2-281	77,840	28,200	49,640	24.82
6/28/13	MBC	78039	YM 2-281	78,620	28,180	50,440	25.22
6/28/13	MBC	78040	YM 2-281	79,080	30,560	48,520	24.26
6/28/13	MBC	78042	YM 2-281	78,860	31,060	47,800	23.90
							1,748.07

Field Report - June 2013

Field Code:	YM 2-161
Date:	7/1/2013
Total Acres:	64
Latitude:	32° 43' 45”N
Longitude:	114° 6' 50”W
Crop:	Bermuda
Crop Nitrogen Usage:	500 #/acre
Residual Nitrogen:	110#/acre
Date Started:	5/8/2013
Seeding Date:	June-13
Harvesting Date:	November-13
Wet Tons Applied:	700.64
Dry Tons Applied:	388.58
Wet Metric Tons Applied:	636.04
Dry Metric Tons Applied:	352.75
Wet Tons/Acre Applied:	10.95
Dry Tons/Acre Applied:	6.07
Wet Metric Tons/ha Applied:	24.55
Dry Metric Tons/ha Applied:	13.62

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	613.74	547.70	1331.19
NH3	149.11	133.07	318.32
NO3	0.04	0.04	0.06
Organic N	464.59	414.60	1012.81
As	0.06	0.05	0.13
Cd	0.02	0.02	0.06
Cr	0.74	0.66	1.69
Cu	6.24	5.57	14.32
Pb	0.23	0.20	0.54
Hg	0.01	0.01	0.02
Mo	0.23	0.20	0.47
Ni	0.47	0.42	1.34
Se	0.06	0.05	0.07
Zn	11.21	10.00	22.15
Plant Available - N	167.52	149.49	NA
P	380.79	339.82	702.19

Field Report - June 2013

Field Code:	YM 2-162
Date:	7/1/2013
Total Acres:	101
Latitude:	32° 43' 26”N
Longitude:	114° 7' 20”W
Crop:	Bermuda
Crop Nitrogen Usage:	500 #/acre
Residual Nitrogen:	31#/acre
Date Started:	6/1/2013
Seeding Date:	August-13
Harvesting Date:	January-14

Wet Tons Applied:	599.18
Dry Tons Applied:	166.15
Wet Metric Tons Applied:	543.94
Dry Metric Tons Applied:	150.83
Wet Tons/Acre Applied:	5.93
Dry Tons/Acre Applied:	1.65
Wet Metric Tons/ha Applied:	13.30
Dry Metric Tons/ha Applied:	3.69

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	394.37	351.93	1878.80
NH3	104.83	93.55	429.76
NO3	0.00	0.00	0.09
Organic N	289.53	258.38	1448.95
As	0.05	0.04	0.23
Cd	0.02	0.02	0.09
Cr	0.64	0.57	2.22
Cu	5.09	4.54	20.26
Pb	0.19	0.17	0.73
Hg	0.02	0.02	0.06
Mo	0.12	0.11	0.56
Ni	0.53	0.47	1.91
Se	0.01	0.01	0.08
Zn	7.81	6.97	30.94
Plant Available - N	110.32	98.45	NA
P	254.59	227.20	1097.99

Field Report - June 2013

Field Code:	YM 2-281
Date:	7/1/2013
Total Acres:	40
Latitude:	32 41' 19" N
Longitude:	114 7' 18" W
Crop:	Bermuda
Crop Nitrogen Usage:	500#/acre
Residual Nitrogen:	108#/acre
Date Started:	6/17/2013
Seeding Date:	August-13
Harvesting Date:	January-14
Wet Tons Applied:	1246.91
Dry Tons Applied:	332.39
Wet Metric Tons Applied:	1131.94
Dry Metric Tons Applied:	301.74
Wet Tons/Acre Applied:	31.17
Dry Tons/Acre Applied:	8.31
Wet Metric Tons/ha Applied:	69.91
Dry Metric Tons/ha Applied:	18.64

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	930.34	830.24	5193.89
NH3	225.31	201.07	1300.03
NO3	0.07	0.07	0.34
Organic N	704.95	629.10	3893.52
As	0.08	0.08	0.55
Cd	0.04	0.03	0.27
Cr	1.14	1.02	7.04
Cu	9.29	8.29	59.29
Pb	0.34	0.30	2.36
Hg	0.01	0.01	0.11
Mo	0.34	0.31	2.03
Ni	0.71	0.63	5.55
Se	0.09	0.08	0.29
Zn	16.70	14.91	90.82
Plant Available - N	253.72	226.42	NA
P	606.10	540.89	1805.57

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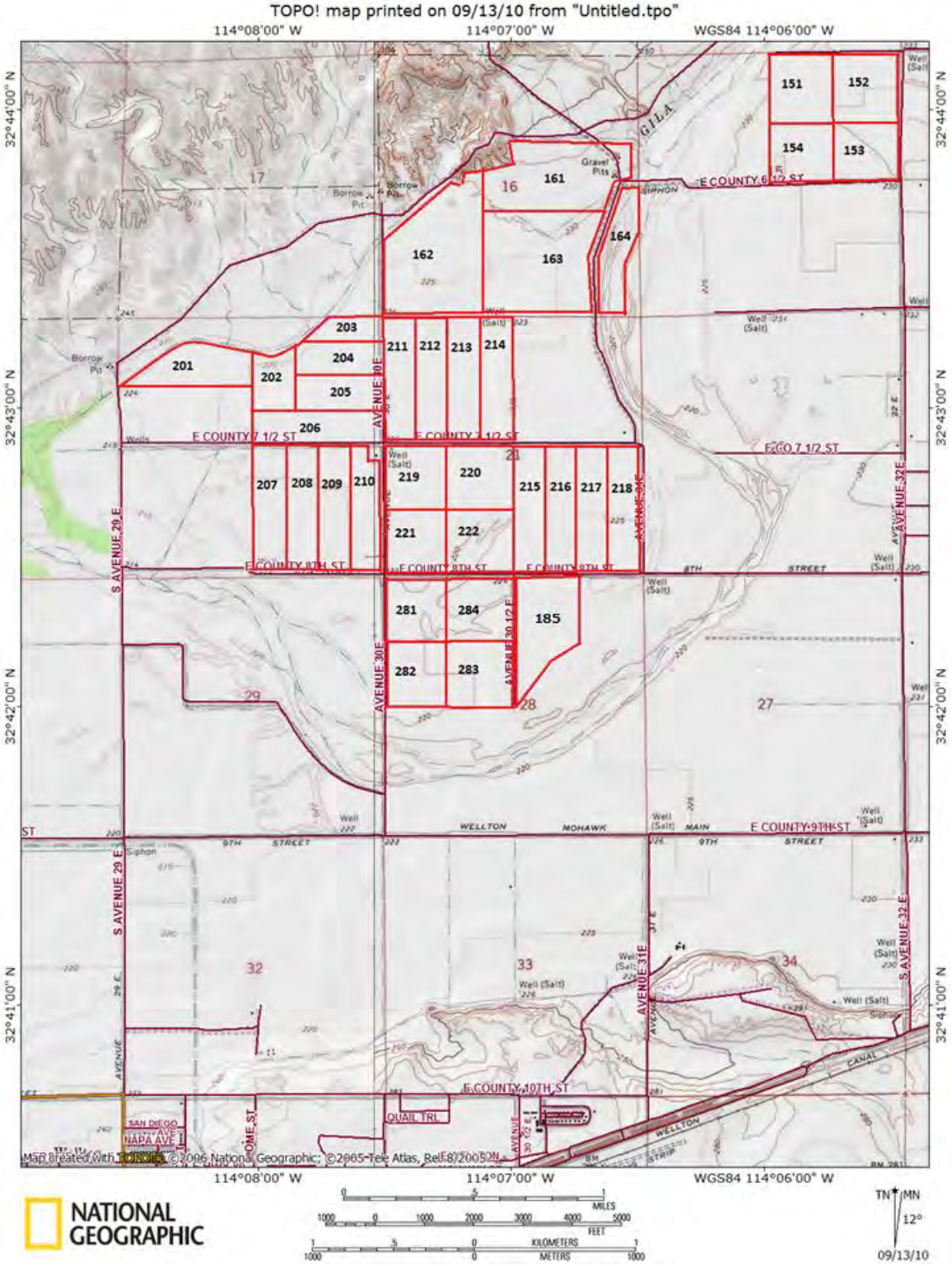

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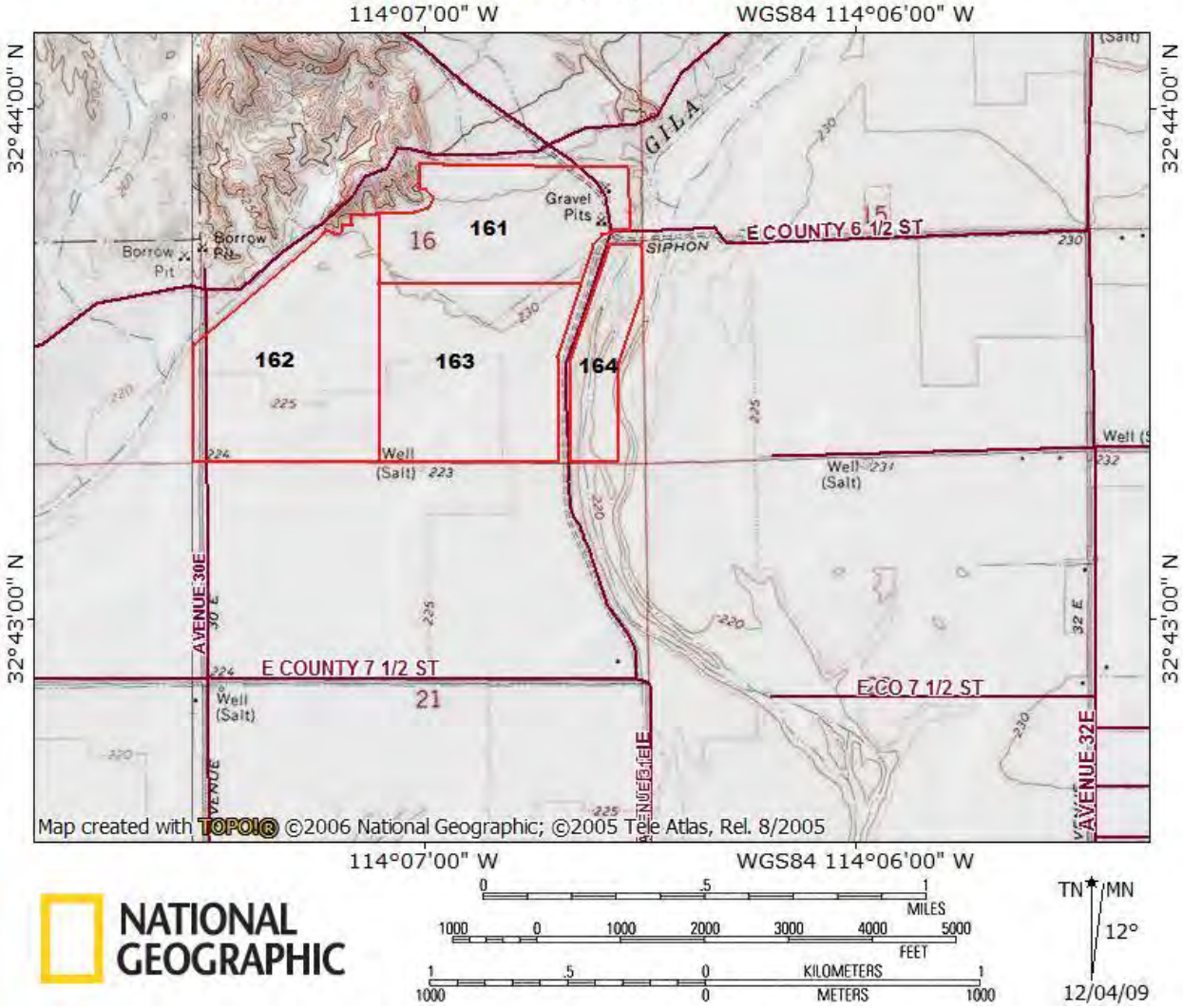

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TN MN

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12/04/09

Report Number: 13-172-0204
Account Number: 11035
Submitted By: JOEL SANTOS

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446
www.aleastern.com

Send To: Terra Renewal LLC
12812 VALLEY VIEW ST
SUITE 9
GARDEN GROVE , CA 92845

Project : MBC AZ#0629

REPORT OF ANALYSIS

Lab Number : 94284
Sample Id : MBC

Date Sampled:
Date Received: 06/21/2013 00:00
Date Reported: 06/26/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	27.73	277300	100.0	JM	06/21/2013 13:59	SM-2540G
Moisture *	72.27		100.0	JM	06/21/2013 13:59	SM-2540G
Total Kjeldahl Nitrogen	4.72	47200	10.0	JM	06/24/2013 08:19	SM-4500-NH3C-TKN
Total Phosphorus	2.16	21600	100	KM	06/24/2013 15:49	SW-6010B
Total Potassium	0.10	969	100	KM	06/24/2013 15:49	SW-6010B
Total Sulfur	4.01	40100	100	KM	06/24/2013 15:49	SW-6010B
Total Calcium	2.86	28600	100	KM	06/24/2013 15:49	SW-6010B
Total Magnesium	0.38	3820	100	KM	06/24/2013 15:49	SW-6010B
Total Sodium	0.18	1840	100	KM	06/24/2013 15:49	SW-6010B
Total Iron		95900	100	KM	06/24/2013 15:49	SW-6010B
Total Aluminum		5900	100	KM	06/24/2013 15:49	SW-6010B
Total Manganese		354	5	KM	06/24/2013 15:49	SW-6010B
Total Copper		677	5	KM	06/24/2013 15:49	SW-6010B
Total Zinc		1020	5	KM	06/24/2013 15:49	SW-6010B
Ammonia Nitrogen	1.35	13500	10.0	JM	06/24/2013 08:19	SM-4500-NH3C
Organic N	3.37	33700	10.0		06/24/2013 08:19	CALCULATION
Nitrate+Nitrite-N		<2.00	2.00	JM	06/24/2013 08:20	SM-4500NO3F
Total Cadmium		2.0	2.0	KM	06/24/2013 15:49	SW-6010B

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

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Debbie Holt

Report Number: 13-172-0204
Account Number: 11035
Submitted By: JOEL SANTOS

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446
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Send To: Terra Renewal LLC
12812 VALLEY VIEW ST
SUITE 9
GARDEN GROVE , CA 92845

Project : MBC AZ#0629

REPORT OF ANALYSIS

Lab Number : 94284
Sample Id : MBC

Date Sampled:
Date Received: 06/21/2013 00:00
Date Reported: 06/26/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Chromium		70	5	KM	06/24/2013 15:49	SW-6010B
Total Nickel		47	5	KM	06/24/2013 15:49	SW-6010B
Total Lead		24	5	KM	06/24/2013 15:49	SW-6010B
Total Arsenic		5.0	3.0	KM	06/24/2013 15:49	SW-6010B
Total Mercury		0.9	0.4	KM	06/24/2013 09:00	SW-7471A
Total Selenium		<5.0	5.0	KM	06/24/2013 15:49	SW-6010B
Total Molybdenum		21	5	KM	06/24/2013 15:49	SW-6010B

Comments:
SULFUR NOT FOR COMPLIANCE PURPOSES

TERRA renewal
12812 Valley View Ave., #9
Garden Grove, CA 92845

September 30, 2013

Mr. Gerald Schreckengost
City of San Diego
5240 Convoy Street, MS 901M
San Diego, CA 92111

Dear Gerald,

Enclosed is the Monthly Biosolids Report for the month of July 2013. This report includes the date and amount hauled, the application site(s), analysis of the biosolids and concentration of metals and nitrogen applied to the site(s).

If you have any questions or comments on this report please feel free to contact me at (760) 801-3175.

Sincerely,

Chris Marks

Enclosure

TERRA renewal

12812 Valley View Ave., #9
Garden Grove, CA 92845

Monthly Biosolids Report to

City of San Diego

For July 2013

Table of Contents

- **Monthly Application Summary**
- **Daily Load Delivery Log**
- **Field Report**
- **Lab Analysis**

San Diego - MBC Monthly Application Summary - July 2013

Date: 8/1/2013
County: Yuma

Field Number: YM 2-281
Number of Acres: 40

Month Applied: Jul-13
Wet Tons Applied: 348.72

Percent Solids: 27.66

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	51000.00	275.60
NH3	12900.00	69.71
NO3	1.00	0.01
Organic N	38099.00	205.88
As	4.00	0.02
Cd	2.00	0.01
Cr	55.00	0.30
Cu	699.00	3.78
Pb	17.00	0.09
Hg	1.20	0.01
Mo	17.00	0.09
Ni	41.00	0.22
Se	4.00	0.02
Zn	1170.00	6.32
PAN	14070.80	76.04
P	6510.00	35.18

San Diego - MBC Monthly Application Summary - July 2013

Date: 8/1/2013
County: Yuma

Field Number: YM 2-30
Number of Acres: 191.3

Month Applied: Jul-13
Wet Tons Applied: 244.86

Percent Solids: 27.66

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	51000.00	40.46
NH3	12900.00	10.23
NO3	1.00	0.00
Organic N	38099.00	30.23
As	4.00	0.00
Cd	2.00	0.00
Cr	55.00	0.04
Cu	699.00	0.55
Pb	17.00	0.01
Hg	1.20	0.00
Mo	17.00	0.01
Ni	41.00	0.03
Se	4.00	0.00
Zn	1170.00	0.93
PAN	14070.80	11.16
P	6510.00	5.17

San Diego - MBC Monthly Application Summary - July 2013

Date: 8/1/2013
County: Yuma

Field Number: YM 2-2002
Number of Acres: 53

Month Applied: Jul-13
Wet Tons Applied: 72.61

Percent Solids: 27.66

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	51000.00	43.31
NH3	12900.00	10.95
NO3	1.00	0.00
Organic N	38099.00	32.35
As	4.00	0.00
Cd	2.00	0.00
Cr	55.00	0.05
Cu	699.00	0.59
Pb	17.00	0.01
Hg	1.20	0.00
Mo	17.00	0.01
Ni	41.00	0.03
Se	4.00	0.00
Zn	1170.00	0.99
PAN	14070.80	11.95
P	6510.00	5.53

July 2013 Haul Logs

DATE	ORIGIN	TICKET #	DESTINATION	GROSS	TARE	NET	TONS
7/1/13	MBC	78058	YM 2-281	79,100	28,140	50,960	25.48
7/1/13	MBC	78063	YM 2-281	80,380	31,180	49,200	24.60
7/2/13	MBC	78077	YM 2-281	79,480	30,520	48,960	24.48
7/2/13	MBC	78078	YM 2-281	78,840	28,140	50,700	25.35
7/2/13	MBC	78081	YM 2-281	79,900	27,720	52,180	26.09
7/2/13	MBC	78085	YM 2-281	79,820	31,140	48,680	24.34
7/3/13	MBC	78097	YM 2-281	78,500	28,180	50,320	25.16
7/5/13	MBC	78113	YM 2-281	77,920	28,180	49,740	24.87
7/8/13	MBC	78141	YM 2-281	79,960	30,920	49,040	24.52
7/9/13	MBC	78151	YM 2-281	79,500	31,040	48,460	24.23
7/9/13	MBC	78152	YM 2-281	79,000	30,480	48,520	24.26
7/9/13	MBC	78153	YM 2-281	78,540	28,140	50,400	25.20
7/10/13	MBC	78168	YM 2-281	78,300	28,120	50,180	25.09
7/11/13	MBC	78182	YM 2-281	78,080	27,980	50,100	25.05
7/16/13	MBC	78240	YM 2-30	79,100	31,200	47,900	23.95
7/16/13	MBC	78241	YM 2-30	78,860	29,460	49,400	24.70
7/17/13	MBC	78254	YM 2-30	78,800	31,220	47,580	23.79
7/18/13	MBC	78271	YM 2-30	78,300	29,560	48,740	24.37
7/19/13	MBC	78284	YM 2-30	78,800	29,380	49,420	24.71
7/22/13	MBC	78299	YM 2-30	78,980	29,420	49,560	24.78
7/24/13	MBC	78344	YM 2-30	79,160	29,620	49,540	24.77
7/25/13	MBC	78360	YM 2-30	79,180	29,620	49,560	24.78
7/26/13	MBC	78376	YM 2-30	79,160	30,520	48,640	24.32
7/26/13	MBC	78377	YM 2-30	78,920	29,540	49,380	24.69
7/27/13	MBC	78395	YM 2-2002	78,120	29,560	48,560	24.28
7/29/13	MBC	78414	YM 2-2002	79,520	31,280	48,240	24.12
7/30/13	MBC	78434	YM 2-2002	79,700	31,280	48,420	24.21
							666.19

Field Report - July 2013

Field Code:	YM 2-281
Date:	8/1/2013
Total Acres:	40
Latitude:	32 41' 19" N
Longitude:	114 7' 18" W
Crop:	Bermuda
Crop Nitrogen Usage:	500#/acre
Residual Nitrogen:	108#/acre
Date Started:	6/17/2013
Seeding Date:	August-13
Harvesting Date:	January-14
Wet Tons Applied:	2120.88
Dry Tons Applied:	560.89
Wet Metric Tons Applied:	1925.33
Dry Metric Tons Applied:	509.18
Wet Tons/Acre Applied:	53.02
Dry Tons/Acre Applied:	14.02
Wet Metric Tons/ha Applied:	118.91
Dry Metric Tons/ha Applied:	31.45

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	1614.95	1441.19	5878.50
NH3	379.79	338.92	1454.50
NO3	0.09	0.08	0.36
Organic N	1235.07	1102.18	4423.64
As	0.14	0.12	0.60
Cd	0.06	0.05	0.29
Cr	1.70	1.52	7.60
Cu	14.99	13.38	64.99
Pb	0.48	0.43	2.50
Hg	0.02	0.02	0.12
Mo	0.50	0.45	2.18
Ni	1.10	0.98	5.94
Se	0.15	0.14	0.36
Zn	28.64	25.56	102.75
Plant Available - N	437.00	389.98	NA
P	985.92	879.83	2185.38

Field Report - July 2013

Field Code:	YM 2-30
Date:	8/1/2013
Total Acres:	191.3
Latitude:	32 43' 50"N
Longitude:	114 5' 31" W
Crop:	Alfalfa+Sudan
Crop Nitrogen Usage:	600+325#/acre
Residual Nitrogen:	144#/acre
Date Started:	2/19/2013
Seeding Date:	May-13
Harvesting Date:	October-13
Wet Tons Applied:	15664.59
Dry Tons Applied:	4234.8
Wet Metric Tons Applied:	14220.31
Dry Metric Tons Applied:	3844.35
Wet Tons/Acre Applied:	81.88
Dry Tons/Acre Applied:	22.14
Wet Metric Tons/ha Applied:	183.63
Dry Metric Tons/ha Applied:	49.64

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	2032.92	1814.17	2032.92
NH3	524.98	468.50	524.98
NO3	0.31	0.28	0.31
Organic N	1507.62	1345.40	1507.62
As	0.18	0.16	0.18
Cd	0.09	0.08	0.09
Cr	2.48	2.21	2.48
Cu	22.51	20.09	22.51
Pb	0.72	0.64	0.72
Hg	0.04	0.04	0.04
Mo	0.73	0.65	0.73
Ni	1.52	1.36	1.52
Se	0.17	0.15	0.17
Zn	40.54	36.18	40.54
Plant Available - N	564.33	503.61	NA
P	1326.43	1183.71	1326.43

Field Report - July 2013

Field Code:	YM 2-2002
Date:	8/1/2013
Total Acres:	53
Latitude:	32 25' 55" N
Longitude:	113 33' 22" W
Crop:	Bermuda
Crop Nitrogen Usage:	500 #/acre
Residual Nitrogen:	53 #/acre
Date Started:	7/27/2013
Seeding Date:	September-13
Harvesting Date:	February-14

Wet Tons Applied:	248.24
Dry Tons Applied:	68.15
Wet Metric Tons Applied:	225.35
Dry Metric Tons Applied:	61.87
Wet Tons/Acre Applied:	4.68
Dry Tons/Acre Applied:	1.29
Wet Metric Tons/ha Applied:	10.50
Dry Metric Tons/ha Applied:	2.88

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	151.64	135.33	4618.51
NH3	33.31	29.73	1109.02
NO3	0.00	0.00	0.56
Organic N	118.33	105.59	3508.93
As	0.01	0.01	0.60
Cd	0.00	0.00	0.19
Cr	0.12	0.11	4.94
Cu	1.07	0.96	43.21
Pb	0.03	0.02	1.82
Hg	0.00	0.00	0.11
Mo	0.03	0.03	1.43
Ni	0.08	0.07	3.71
Se	0.02	0.01	0.24
Zn	2.43	2.17	66.43
Plant Available - N	40.33	35.99	NA
P	107.36	95.81	1527.92

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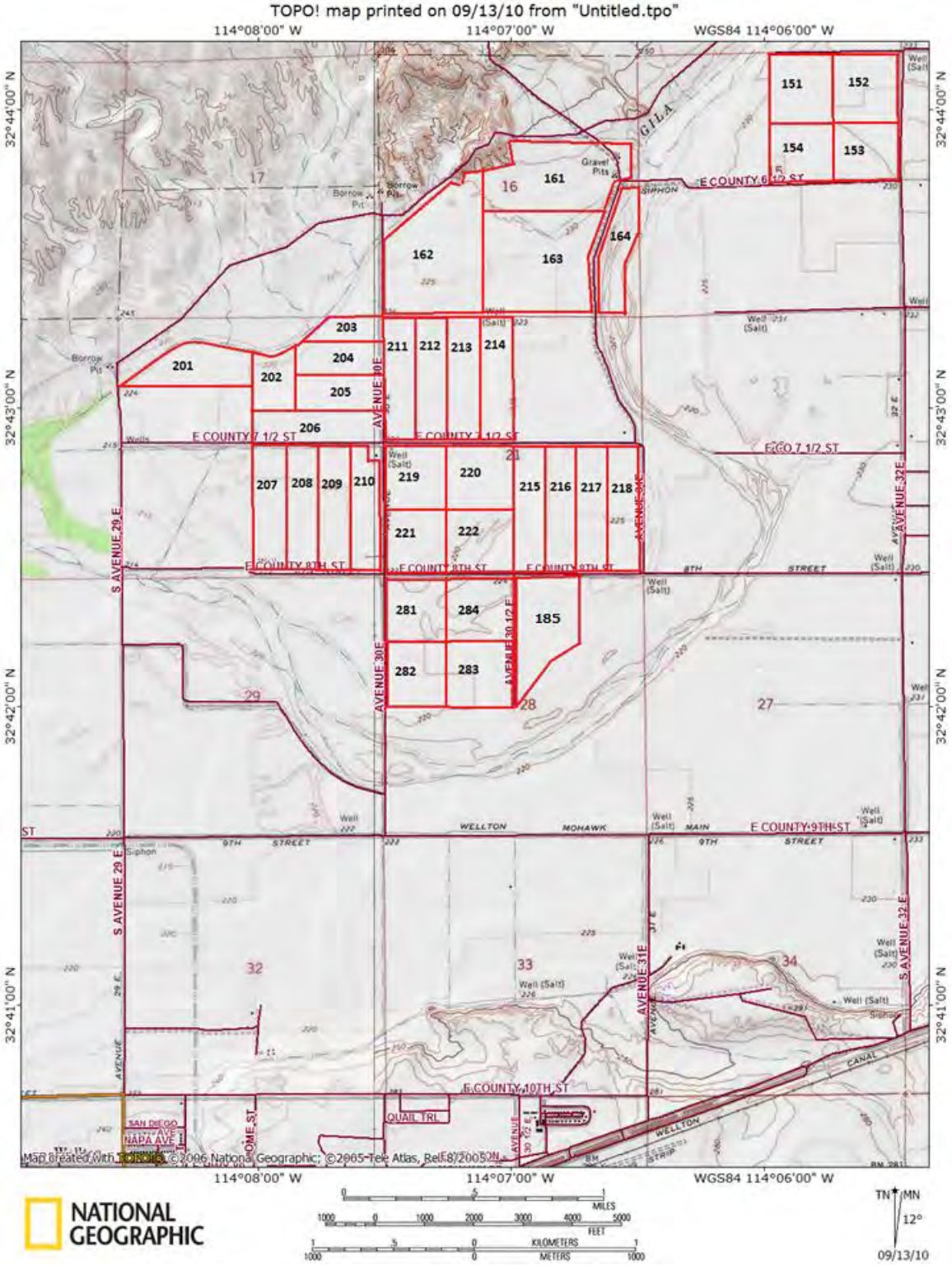

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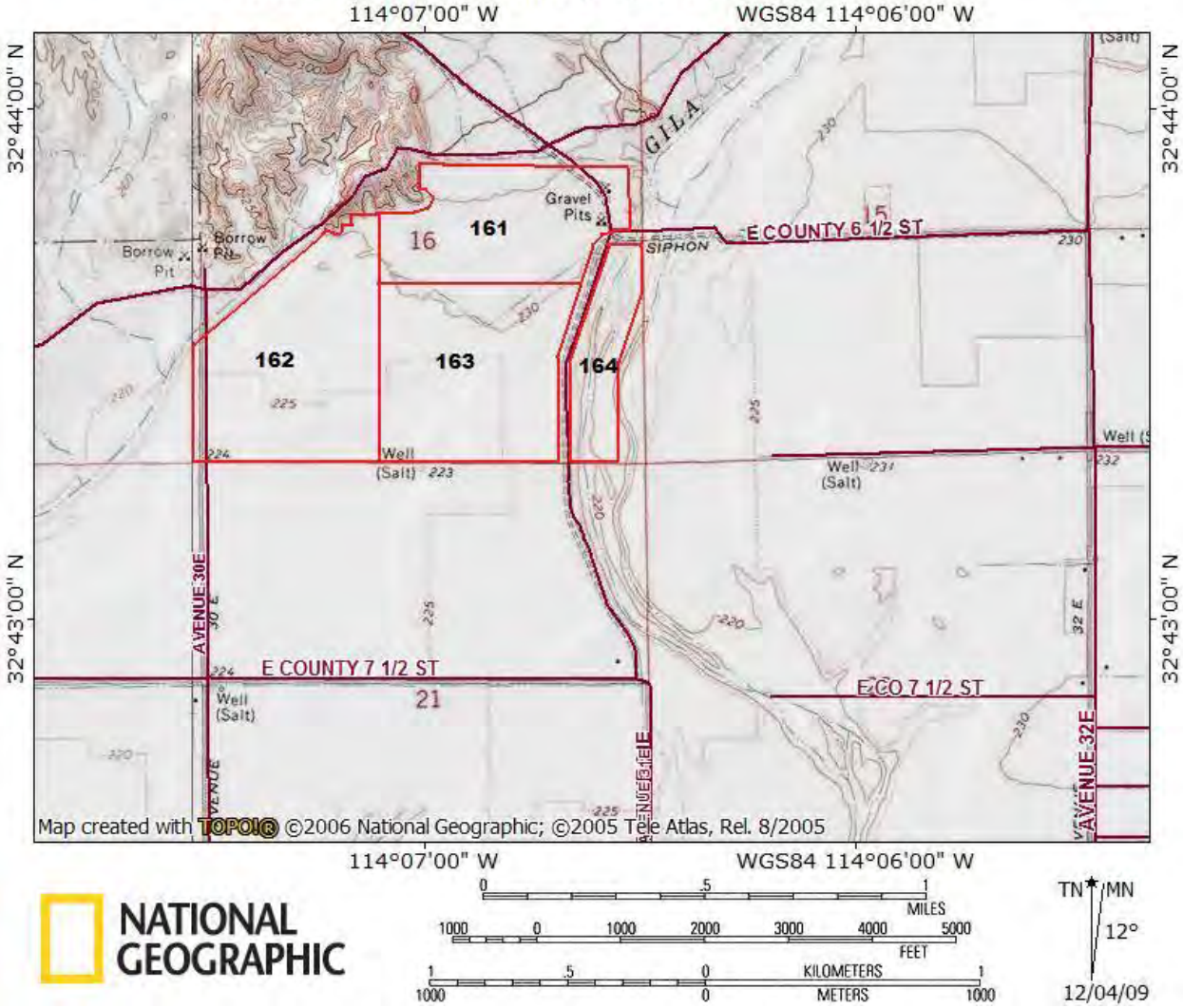

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Account Number: 11035

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Send To: Terra Renewal LLC
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SUITE 9
GARDEN GROVE , CA 92845

Project : MBC
AZ#0629

REPORT OF ANALYSIS

Lab Number : 95199
Sample Id : MBC

Date Sampled: 8/22/2013 10:00:00
Date Received: 08/26/2013 00:00
Date Reported: 08/29/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	27.66	276600	100.0	MW	08/27/2013 08:05	SM-2540G
Moisture *	72.34		100.0	MW	08/27/2013 08:05	SM-2540G
Total Kjeldahl Nitrogen	5.10	51000	10.0	JM	08/27/2013 07:59	SM-4500-NH3C-TKN
Total Phosphorus	0.65	6510	100	KM	08/27/2013 12:08	SW-6010B
Total Potassium	0.08	844	100	KM	08/27/2013 12:08	SW-6010B
Total Sulfur	3.77	37700	100	KM	08/27/2013 12:08	SW-6010B
Total Calcium	3.07	30700	100	KM	08/27/2013 12:08	SW-6010B
Total Magnesium	0.38	3770	100	KM	08/27/2013 12:08	SW-6010B
Total Sodium	0.20	1990	100	KM	08/27/2013 12:08	SW-6010B
Total Iron		39800	100	KM	08/27/2013 12:08	SW-6010B
Total Aluminum		4900	100	KM	08/27/2013 12:08	SW-6010B
Total Manganese		281	5	KM	08/27/2013 12:08	SW-6010B
Total Copper		699	5	KM	08/27/2013 12:08	SW-6010B
Total Zinc		1170	5	KM	08/27/2013 12:08	SW-6010B
Ammonia Nitrogen	1.29	12900	10.0	JM	08/27/2013 07:59	SM-4500-NH3C
Organic N	3.81	38100	10.0		08/27/2013 07:59	CALCULATION
Nitrate+Nitrite-N		<2.00	2.00	JM	08/27/2013 08:00	SM-4500NO3F
Total Cadmium		2.0	2.0	KM	08/27/2013 12:08	SW-6010B

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

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Debbie Holt

Report Number: 13-238-0204
Account Number: 11035

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www.aleastern.com

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PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Chromium		55	5	KM	08/27/2013 12:08	SW-6010B
Total Nickel		41	5	KM	08/27/2013 12:08	SW-6010B
Total Lead		17	5	KM	08/27/2013 12:08	SW-6010B
Total Arsenic		4.0	3.0	KM	08/27/2013 12:08	SW-6010B
Total Mercury		1.2	0.4	KM	08/27/2013 09:00	SW-7471A
Total Selenium		<5.0	5.0	KM	08/27/2013 12:08	SW-6010B
Total Molybdenum		17	5	KM	08/27/2013 12:08	SW-6010B

Comments:
SULFUR NOT FOR COMPLIANCE PURPOSES
QUALIFIER: THE MATRIX SPIKE WAS OUT OF LIMITS FOR "Fe", "Se", AND "S". ALL OTHER QC DATA IS ACCEPTABLE.

TERRA renewal
12812 Valley View Ave., #9
Garden Grove, CA 92845

October 16, 2013

Mr. Gerald Schreckengost
City of San Diego
5240 Convoy Street, MS 901M
San Diego, CA 92111

Dear Gerald,

Enclosed is the Monthly Biosolids Report for the month of August 2013. This report includes the date and amount hauled, the application site(s), analysis of the biosolids and concentration of metals and nitrogen applied to the site(s).

If you have any questions or comments on this report please feel free to contact me at (760) 801-3175.

Sincerely,

Chris Marks

Enclosure

TERRA renewal

12812 Valley View Ave., #9
Garden Grove, CA 92845

Monthly Biosolids Report to

City of San Diego

For August 2013

Table of Contents

- **Monthly Application Summary**
- **Daily Load Delivery Log**
- **Field Report**
- **Lab Analysis**

San Diego - MBC Monthly Application Summary - August 2013

Date: 9/1/2013
County: Yuma

Field Number: YM 2-2002
Number of Acres: 53

Month Applied: Aug-13
Wet Tons Applied: 946.88

Percent Solids: 27.66

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	51000.00	564.79
NH3	12900.00	142.86
NO3	1.00	0.01
Organic N	38099.00	421.92
As	4.00	0.04
Cd	2.00	0.02
Cr	55.00	0.61
Cu	699.00	7.74
Pb	17.00	0.19
Hg	1.20	0.01
Mo	17.00	0.19
Ni	41.00	0.45
Se	4.00	0.04
Zn	1170.00	12.96
PAN	14070.80	155.82
P	6511.00	72.10

San Diego - MBC Monthly Application Summary - August 2013

Date: 9/1/2013
County: Yuma

Field Number: YM 2-111
Number of Acres: 72

Month Applied: Aug-13
Wet Tons Applied: 168.27

Percent Solids: 27.66

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	51000.00	73.88
NH3	12900.00	18.69
NO3	1.00	0.00
Organic N	38099.00	55.19
As	4.00	0.01
Cd	2.00	0.00
Cr	55.00	0.08
Cu	699.00	1.01
Pb	17.00	0.02
Hg	1.20	0.00
Mo	17.00	0.02
Ni	41.00	0.06
Se	4.00	0.01
Zn	1170.00	1.69
PAN	14070.80	20.38
P	6511.00	9.43

August 2013 Haul Logs

DATE	ORIGIN	TICKET #	DESTINATION	GROSS	TARE	NET	TONS
8/1/2013	MBC	78475	YM 2-2002	78,900	29,500	49,400	24.70
8/2/2013	MBC	78496	YM 2-2002	78,360	31,300	47,060	23.53
8/2/2013	MBC	78497	YM 2-2002	79,360	29,580	49,780	24.89
8/3/2013	MBC	78520	YM 2-2002	78,980	29,540	49,440	24.72
8/5/2013	MBC	78537	YM 2-2002	78,880	30,620	48,260	24.13
8/5/2013	MBC	78539	YM 2-2002	79,020	29,480	49,540	24.77
8/6/2013	MBC	78562	YM 2-2002	79,740	29,600	50,140	25.07
8/7/2013	MBC	78582	YM 2-2002	78,700	29,560	49,140	24.57
8/8/2013	MBC	78598	YM 2-2002	80,280	31,300	48,980	24.49
8/8/2013	MBC	78600	YM 2-2002	79,280	29,580	49,700	24.85
8/9/2013	MBC	78612	YM 2-2002	80,060	29,580	50,480	25.24
8/9/2013	MBC	78613	YM 2-2002	80,300	31,240	49,060	24.53
8/13/2013	MBC	78627	YM 2-2002	79,640	29,460	50,180	25.09
8/13/2013	MBC	78645	YM 2-2002	78,620	31,820	46,800	23.40
8/13/2013	MBC	78646	YM 2-2002	78,500	29,480	49,020	24.51
8/14/2013	MBC	78673	YM 2-2002	78,800	31,760	47,040	23.52
8/15/2013	MBC	78693	YM 2-2002	79,780	31,320	48,460	24.23
8/15/2013	MBC	78695	YM 2-2002	78,580	29,680	48,900	24.45
8/15/2013	MBC	78696	YM 2-2002	79,180	31,400	47,780	23.89
8/16/2013	MBC	78720	YM 2-2002	78,320	31,280	47,040	23.52
8/16/2013	MBC	78722	YM 2-2002	77,280	31,680	45,600	22.80
8/16/2013	MBC	78723	YM 2-2002	78,760	29,640	49,120	24.56
8/19/2013	MBC	78746	YM 2-2002	79,560	29,500	50,060	25.03
8/19/2013	MBC	78747	YM 2-2002	78,800	31,580	47,220	23.61
8/20/2013	MBC	78773	YM 2-2002	79,220	29,580	49,640	24.82
8/20/2013	MBC	78774	YM 2-2002	79,360	31,660	47,700	23.85
8/21/2013	MBC	78796	YM 2-2002	78,540	30,480	48,060	24.03
8/21/2013	MBC	78797	YM 2-2002	79,660	29,560	50,100	25.05
8/21/2013	MBC	78798	YM 2-2002	79,740	31,640	48,100	24.05
8/22/2013	MBC	78814	YM 2-2002	78,580	29,560	49,020	24.51
8/22/2013	MBC	78815	YM 2-2002	78,640	31,860	46,780	23.39
8/23/2013	MBC	78827	YM 2-2002	79,660	31,280	48,380	24.19
8/23/2013	MBC	78829	YM 2-2002	78,680	31,220	47,460	23.73
8/23/2013	MBC	78830	YM 2-2002	78,760	29,640	49,120	24.56
8/26/2013	MBC	78845	YM 2-2002	79,260	29,600	49,660	24.83
8/26/2013	MBC	78847	YM 2-2002	78,420	31,260	47,160	23.58
8/27/2013	MBC	78870	YM 2-2002	78,680	31,320	47,360	23.68
8/27/2013	MBC	78871	YM 2-2002	79,260	29,620	49,640	24.82

8/27/2013	MBC	78872	YM 2-2002	78,620	31,240	47,380	23.69
8/28/2013	MBC	78889	YM 2-111	78,140	29,600	48,540	24.27
8/28/2013	MBC	78890	YM 2-111	78,520	31,300	47,220	23.61
8/28/2013	MBC	78895	YM 2-111	79,920	31,360	48,560	24.28
8/29/2013	MBC	78908	YM 2-111	78,420	31,260	47,160	23.58
8/29/2013	MBC	78909	YM 2-111	78,820	29,520	49,300	24.65
8/29/2013	MBC	78910	YM 2-111	78,660	31,580	47,080	23.54
8/30/2013	MBC	78924	YM 2-111	78,280	29,600	48,680	24.34
							1,115.15

Field Report - August 2013

Field Code:	YM 2-2002
Date:	9/1/2013
Total Acres:	53
Latitude:	32 25' 55" N
Longitude:	113 33' 22" W
Crop:	Bermuda
Crop Nitrogen Usage:	500 #/acre
Residual Nitrogen:	53 #/acre
Date Started:	7/27/2013
Seeding Date:	September-13
Harvesting Date:	February-14
Wet Tons Applied:	2324.84
Dry Tons Applied:	607.54
Wet Metric Tons Applied:	2110.49
Dry Metric Tons Applied:	551.52
Wet Tons/Acre Applied:	43.86
Dry Tons/Acre Applied:	11.46
Wet Metric Tons/ha Applied:	98.37
Dry Metric Tons/ha Applied:	25.71

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	1371.83	1224.22	5838.70
NH3	312.15	278.56	1387.86
NO3	0.04	0.03	0.59
Organic N	1059.64	945.63	4450.25
As	0.11	0.09	0.69
Cd	0.04	0.04	0.23
Cr	1.15	1.03	5.97
Cu	11.95	10.67	54.09
Pb	0.30	0.27	2.09
Hg	0.02	0.02	0.13
Mo	0.32	0.29	1.73
Ni	0.80	0.71	4.42
Se	0.13	0.12	0.36
Zn	24.47	21.83	88.47
Plant Available - N	368.04	328.44	NA
P	714.13	637.29	2134.69

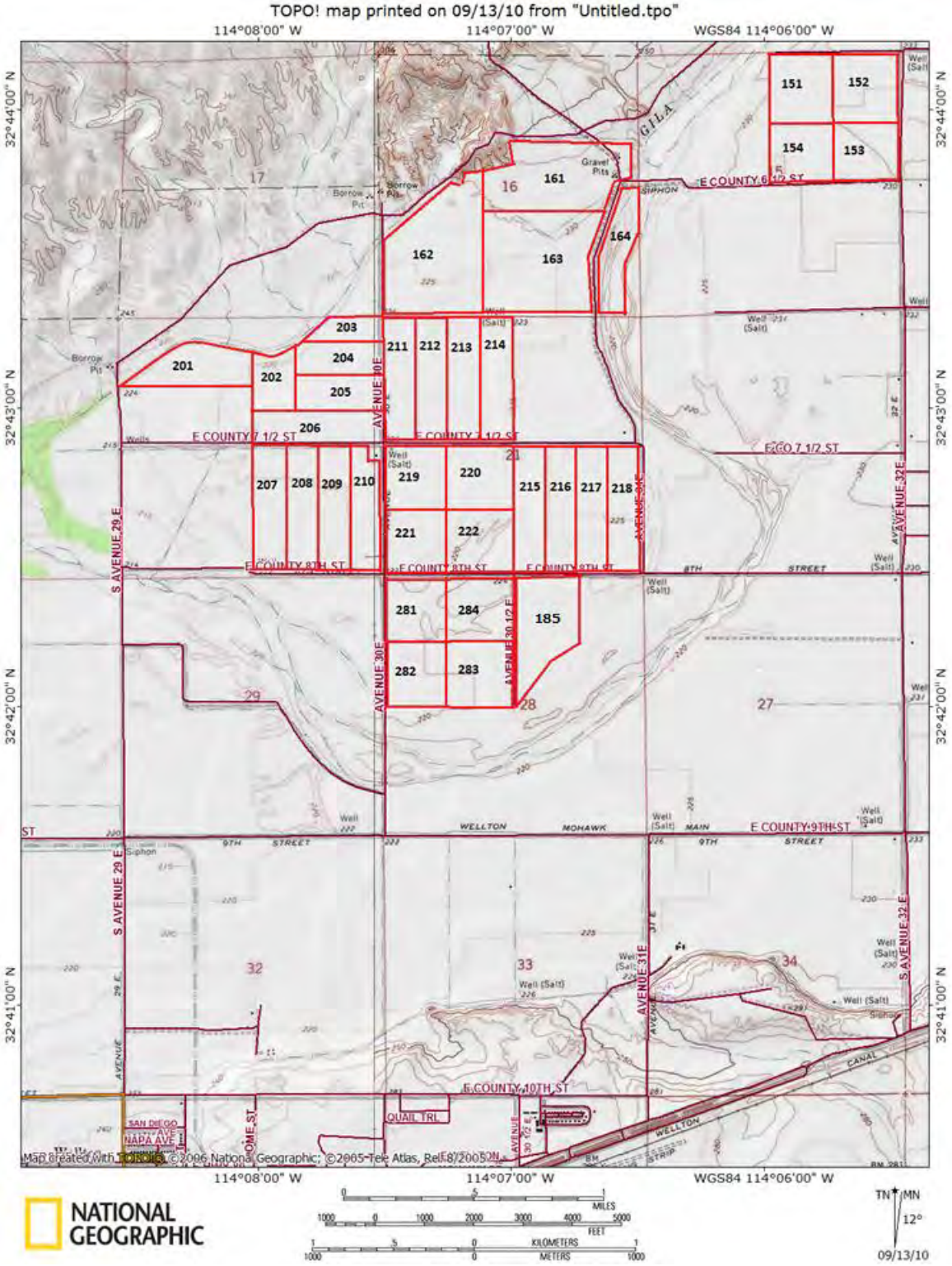
Field Report - Aug 2013

Field Code:	YM 2-111
Date:	9/1/2013
Total Acres:	72
Latitude:	32 44' 42" N
Longitude:	114 4' 41" W
Crop:	Bermuda
Crop Nitrogen Usage:	500 #/acre
Residual Nitrogen:	72#/acre
Date Started:	8/28/2013
Seeding Date:	October-13
Harvesting Date:	March-14

Wet Tons Applied:	437.75
Dry Tons Applied:	120.78
Wet Metric Tons Applied:	397.39
Dry Metric Tons Applied:	109.64
Wet Tons/Acre Applied:	6.08
Dry Tons/Acre Applied:	1.68
Wet Metric Tons/ha Applied:	13.63
Dry Metric Tons/ha Applied:	3.76

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	119.84	106.94	4226.45
NH3	28.17	25.14	1207.85
NO3	0.00	0.00	0.39
Organic N	91.66	81.80	3018.21
As	0.01	0.01	0.52
Cd	0.00	0.00	0.17
Cr	0.11	0.10	4.07
Cu	1.22	1.09	43.90
Pb	0.03	0.03	1.41
Hg	0.00	0.00	0.10
Mo	0.03	0.03	1.51
Ni	0.08	0.07	3.09
Se	0.01	0.01	0.42
Zn	2.30	2.06	65.91
Plant Available - N	32.42	28.93	NA
P	52.63	46.97	1493.52

TOPO! map printed on 09/13/10 from "Untitled.tpo"



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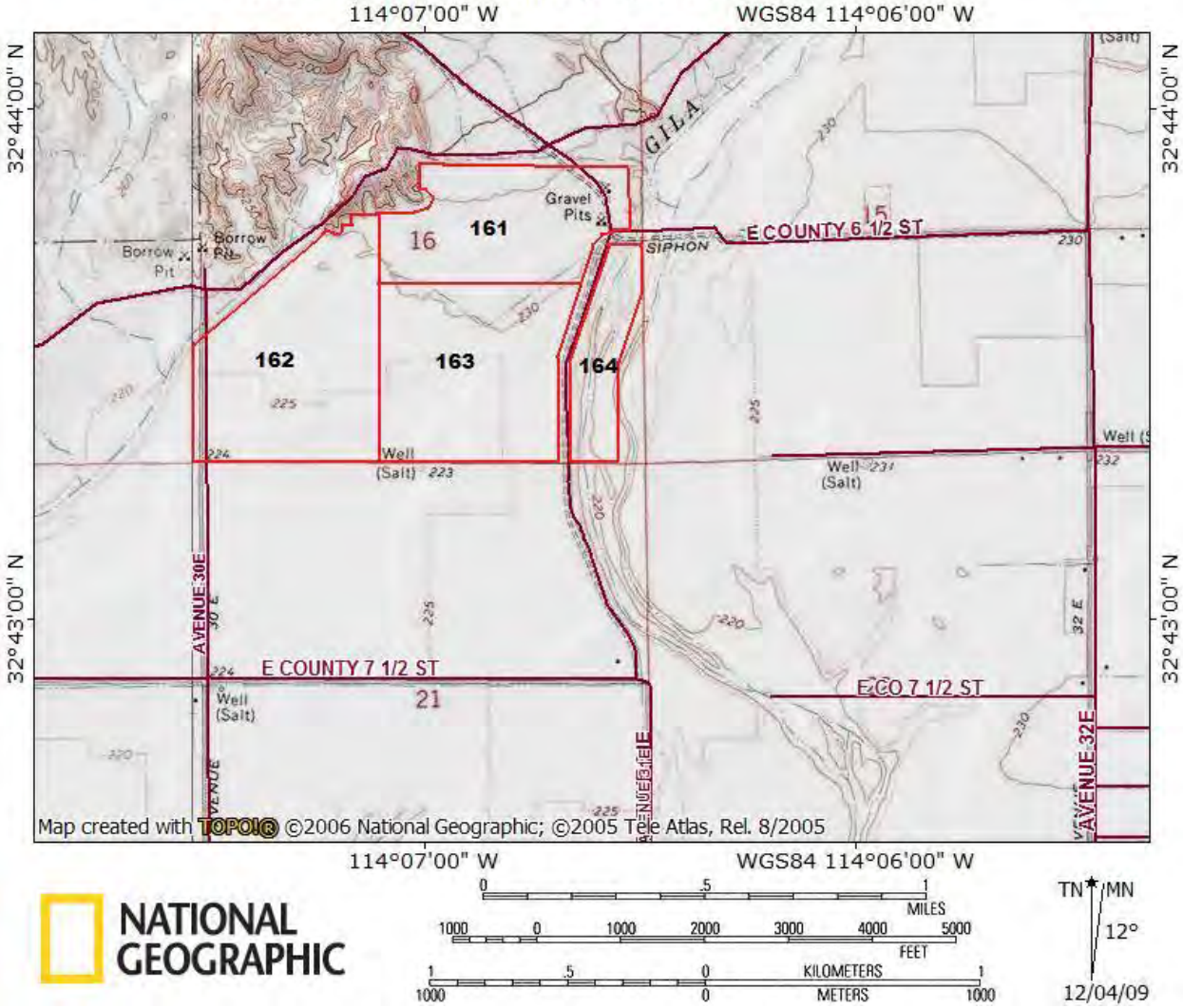
09/13/10

TOPO! map printed on 12/04/09 from "Untitled.tpo"



NATIONAL GEOGRAPHIC

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1 .5 0 KILOMETERS 1

1000 0 METERS 1000

TN MN

12°

12/04/09

Report Number: 13-238-0204
Account Number: 11035

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7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446
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Project : MBC
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REPORT OF ANALYSIS

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Total Lead		17	5	KM	08/27/2013 12:08	SW-6010B
Total Arsenic		4.0	3.0	KM	08/27/2013 12:08	SW-6010B
Total Mercury		1.2	0.4	KM	08/27/2013 09:00	SW-7471A
Total Selenium		<5.0	5.0	KM	08/27/2013 12:08	SW-6010B
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November 20, 2013

Mr. Gerald Schreckengost
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Sincerely,

Chris Marks

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City of San Diego

For September 2013

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- **Daily Load Delivery Log**
- **Field Report**
- **Lab Analysis**

San Diego - MBC Monthly Application Summary - September 2013

Date: 10/1/2013
County: Yuma

Field Number: YM 2-111
Number of Acres: 72

Month Applied: Sep-12
Wet Tons Applied: 1205.87

Percent Solids: 26.52

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	50900.00	506.64
NH3	17800.00	177.18
NO3	6.41	0.06
Organic N	33093.59	329.40
As	3.00	0.03
Cd	2.00	0.02
Cr	41.00	0.41
Cu	632.00	6.29
Pb	14.00	0.14
Hg	0.90	0.01
Mo	17.00	0.17
Ni	36.00	0.36
Se	4.00	0.04
Zn	1140.00	11.35
PAN	15525.13	154.53
P	22500.00	223.96

September 2013 Haul Logs

DATE	ORIGIN	TICKET #	DESTINATION	GROSS	TARE	NET	TONS
9/3/2013	MBC	78944	YM 2-111	79,260	29,480	49,780	24.89
9/4/2013	MBC	78964	YM 2-111	78,920	30,440	48,480	24.24
9/4/2013	MBC	78965	YM 2-111	79,180	29,560	49,620	24.81
9/4/2013	MBC	78966	YM 2-111	79,200	29,500	49,700	24.85
9/5/2013	MBC	78989	YM 2-111	79,020	29,680	49,340	24.67
9/5/2013	MBC	78988	YM 2-111	78,540	29,680	48,860	24.43
9/6/2013	MBC	79007	YM 2-111	79,020	29,580	49,440	24.72
9/6/2013	MBC	79006	YM 2-111	79,820	29,540	50,280	25.14
9/7/2013	MBC	79025	YM 2-111	79,020	29,560	49,460	24.73
9/7/2013	MBC	79024	YM 2-111	78,400	29,480	48,920	24.46
9/9/2013	MBC	79041	YM 2-111	79,260	29,500	49,760	24.88
9/9/2013	MBC	79040	YM 2-111	79,360	29,580	49,780	24.89
9/10/2013	MBC	79060	YM 2-111	79,140	30,860	48,280	24.14
9/10/2013	MBC	79058	YM 2-111	79,340	29,540	49,800	24.90
9/10/2013	MBC	79059	YM 2-111	79,340	30,680	48,660	24.33
9/11/2013	MBC	79077	YM 2-111	79,640	30,800	48,840	24.42
9/12/2013	MBC	79091	YM 2-111	78,900	29,660	49,240	24.62
9/12/2013	MBC	79092	YM 2-111	78,920	30,520	48,400	24.20
9/13/2013	MBC	79112	YM 2-111	79,360	29,540	49,820	24.91
9/13/2013	MBC	79113	YM 2-111	79,400	29,900	49,500	24.75
9/14/2013	MBC	79130	YM 2-111	79,340	29,580	49,760	24.88
9/16/2013	MBC	79147	YM 2-111	79,340	29,580	49,760	24.88
9/16/2013	MBC	79148	YM 2-111	79,400	30,720	48,680	24.34
9/17/2013	MBC	79169	YM 2-111	79,340	30,440	48,900	24.45
9/17/2013	MBC	79171	YM 2-111	79,060	30,760	48,300	24.15
9/17/2013	MBC	79170	YM 2-111	79,880	29,560	50,320	25.16
9/18/2013	MBC	79190	YM 2-111	79,000	30,420	48,580	24.29
9/18/2013	MBC	79192	YM 2-111	79,200	30,760	48,440	24.22
9/18/2013	MBC	79191	YM 2-111	79,460	29,580	49,880	24.94
9/19/2013	MBC	79217	YM 2-111	79,200	29,520	49,680	24.84
9/19/2013	MBC	79219	YM 2-111	79,120	30,760	48,360	24.18
9/20/2013	MBC	79243	YM 2-111	79,840	30,340	49,500	24.75
9/20/2013	MBC	79245	YM 2-111	79,420	29,580	49,840	24.92
9/20/2013	MBC	79244	YM 2-111	78,780	30,740	48,040	24.02
9/23/2013	MBC	79259	YM 2-111	79,960	30,700	49,260	24.63
9/23/2013	MBC	79258	YM 2-111	79,140	29,840	49,300	24.65
9/23/2013	MBC	79260	YM 2-111	79,300	29,580	49,720	24.86
9/24/2013	MBC	79286	YM 2-111	80,100	30,720	49,380	24.69

9/24/2013	MBC	79285	YM 2-111	79,040	29,500	49,540	24.77
9/25/2013	MBC	79309	YM 2-111	79,700	29,740	49,960	24.98
9/25/2013	MBC	79308	YM 2-111	79,560	30,740	48,820	24.41
9/25/2013	MBC	79307	YM 2-111	79,140	29,580	49,560	24.78
9/26/2013	MBC	79334	YM 2-111	78,680	30,680	48,000	24.00
9/26/2013	MBC	79332	YM 2-111	79,020	29,540	49,480	24.74
9/26/2013	MBC	79333	YM 2-111	79,060	30,020	49,040	24.52
9/27/2013	MBC	79345	YM 2-111	80,000	30,900	49,100	24.55
9/27/2013	MBC	79344	YM 2-111	78,660	29,540	49,120	24.56
9/30/2013	MBC	79359	YM 2-111	78,920	29,580	49,340	24.67
9/30/2013	MBC	79360	YM 2-111	78,940	30,820	48,120	24.06
							1,205.87

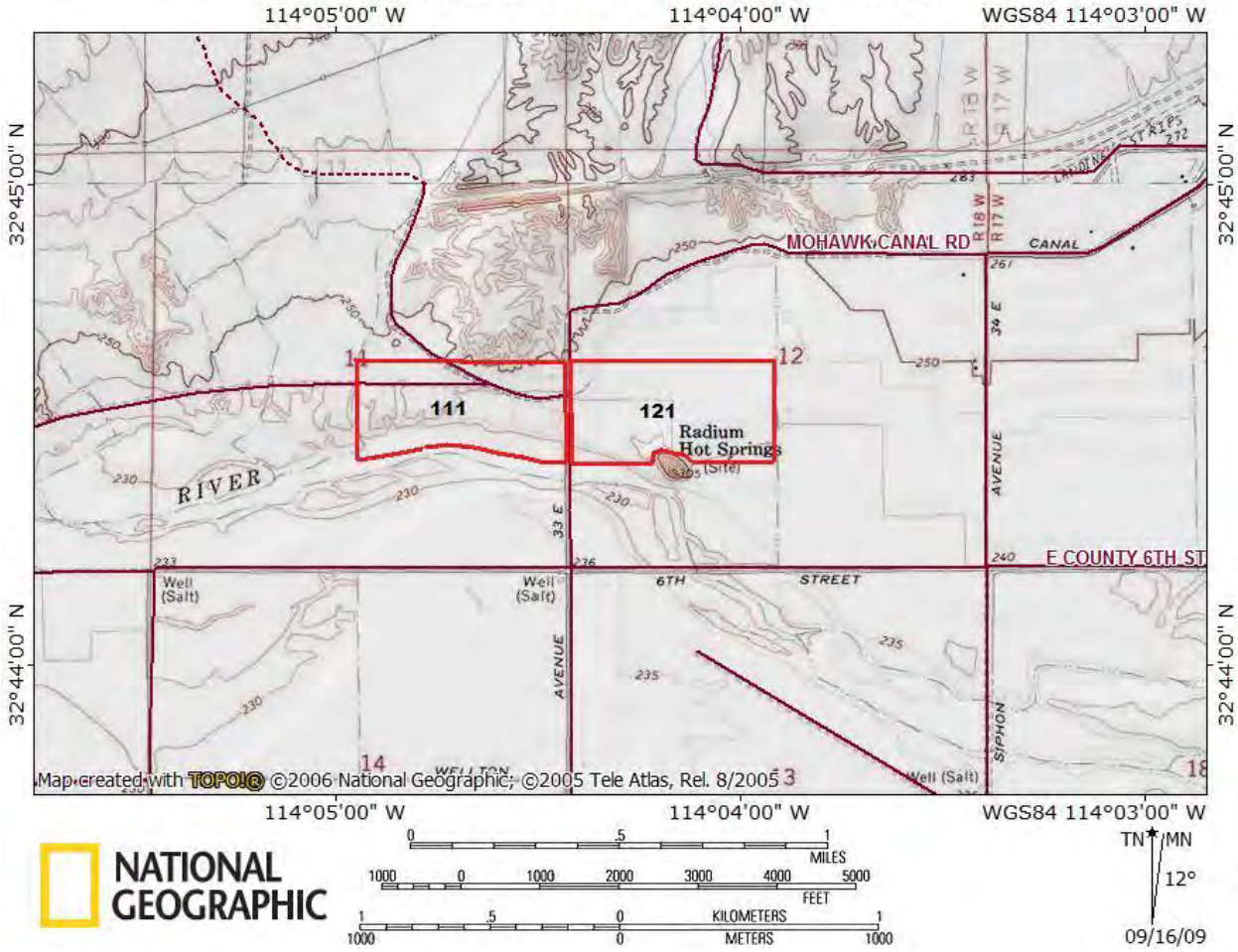
Field Report - Sept 2013

Field Code:	YM 2-111
Date:	10/1/2013
Total Acres:	72
Latitude:	32 44' 42" N
Longitude:	114 4' 41" W
Crop:	Bermuda
Crop Nitrogen Usage:	500 #/acre
Residual Nitrogen:	72#/acre
Date Started:	8/28/2013
Seeding Date:	October-13
Harvesting Date:	March-14

Wet Tons Applied:	3076.7
Dry Tons Applied:	787.5
Wet Metric Tons Applied:	2793.03
Dry Metric Tons Applied:	714.89
Wet Tons/Acre Applied:	42.73
Dry Tons/Acre Applied:	10.94
Wet Metric Tons/ha Applied:	95.83
Dry Metric Tons/ha Applied:	24.53

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	1576.97	1407.29	5683.58
NH3	328.97	293.57	1508.64
NO3	0.17	0.15	0.56
Organic N	1247.83	1113.56	4174.38
As	0.09	0.08	0.61
Cd	0.05	0.04	0.21
Cr	0.92	0.82	4.88
Cu	10.67	9.53	53.35
Pb	0.26	0.23	1.64
Hg	0.02	0.02	0.11
Mo	0.29	0.26	1.77
Ni	0.73	0.65	3.74
Se	0.11	0.10	0.52
Zn	22.86	20.40	86.46
Plant Available - N	414.22	369.65	NA
P	681.83	608.47	2122.73

TOPO! map printed on 09/16/09 from "Untitled.tpo"



NATIONAL GEOGRAPHIC

0 .5 1 MILES

1000 0 1000 2000 3000 4000 5000 FEET

1 .5 0 1 KILOMETERS

1000 0 METERS 1000

TN MN

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09/16/09

Report Number: 13-305-0206
Account Number: 11035
Submitted By: JOEL SANTOS

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-5446
www.aleastern.com

Send To: Terra Renewal LLC
12812 VALLEY VIEW ST
SUITE 9
GARDEN GROVE , CA 92845

Project : MBC
AZ#0629

REPORT OF ANALYSIS

Lab Number : 96294
Sample Id : MBC

Date Sampled:
Date Received: 11/01/2013 00:00
Date Reported: 11/06/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	26.52	265200	100.0	JM	11/01/2013 14:30	SM-2540G
Moisture *	73.48		100.0	JM	11/01/2013 14:30	SM-2540G
Total Kjeldahl Nitrogen	5.09	50900	10.0	JM	11/04/2013 07:34	SM-4500-NH3C-TKN
Total Phosphorus	2.25	22500	100	KM	11/04/2013 13:01	SW-6010B
Total Potassium	0.09	931	100	KM	11/04/2013 13:01	SW-6010B
Total Sulfur	2.78	27800	100	KM	11/04/2013 13:01	SW-6010B
Total Calcium	3.18	31800	100	KM	11/04/2013 13:01	SW-6010B
Total Magnesium	0.37	3730	100	KM	11/04/2013 13:01	SW-6010B
Total Sodium	0.19	1860	100	KM	11/04/2013 13:01	SW-6010B
Total Iron		31400	100	KM	11/04/2013 13:01	SW-6010B
Total Aluminum		4400	100	KM	11/04/2013 13:01	SW-6010B
Total Manganese		309	5	KM	11/04/2013 13:01	SW-6010B
Total Copper		632	5	KM	11/04/2013 13:01	SW-6010B
Total Zinc		1140	5	KM	11/04/2013 13:01	SW-6010B
Ammonia Nitrogen	1.78	17800	10.0	JM	11/04/2013 07:34	SM-4500-NH3C
Organic N	3.31	33100	10.0		11/04/2013 07:34	CALCULATION
Nitrate+Nitrite-N		6.41	2.00	JM	11/04/2013 07:35	SM-4500NO3F
Total Cadmium		2.0	2.0	KM	11/04/2013 13:01	SW-6010B

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

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Debbie Holt

Report Number: 13-305-0206
Account Number: 11035
Submitted By: JOEL SANTOS

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-5446
www.aleastern.com

Send To: Terra Renewal LLC
12812 VALLEY VIEW ST
SUITE 9
GARDEN GROVE , CA 92845

Project : MBC
AZ#0629

REPORT OF ANALYSIS

Lab Number : 96294
Sample Id : MBC

Date Sampled:
Date Received: 11/01/2013 00:00
Date Reported: 11/06/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Chromium		41	5	KM	11/04/2013 13:01	SW-6010B
Total Nickel		36	5	KM	11/04/2013 13:01	SW-6010B
Total Lead		14	5	KM	11/04/2013 13:01	SW-6010B
Total Arsenic		3.0	3.0	KM	11/04/2013 13:01	SW-6010B
Total Mercury		0.9	0.4	KM	11/04/2013 09:00	SW-7471A
Total Selenium		<5.0	5.0	KM	11/04/2013 13:01	SW-6010B
Total Molybdenum		17	5	KM	11/04/2013 13:01	SW-6010B

Comments:
SULFUR NOT FOR COMPLIANCE PURPOSES
QUALIFIER: THE MATRIX SPIKE WAS OUT OF LIMITS FOR "Fe" AND "S". ALL OTHER QC DATA IS ACCEPTABLE.

12812 Valley View Ave., #9
Garden Grove, CA 92845

December 24, 2013

Mr. Gerald Schreckengost
City of San Diego
5240 Convoy Street, MS 901M
San Diego, CA 92111

Dear Gerald,

Enclosed is the Monthly Biosolids Report for the month of October 2013. This report includes the date and amount hauled, the application site(s), analysis of the biosolids and concentration of metals and nitrogen applied to the site(s).

If you have any questions or comments on this report please feel free to contact me at (760) 801-3175.

Sincerely,

Chris Marks

Enclosure

TERRA renewal

12812 Valley View Ave., #9
Garden Grove, CA 92845

Monthly Biosolids Report to

City of San Diego

For October 2013

Table of Contents

- **Monthly Application Summary**
- **Daily Load Delivery Log**
- **Field Report**
- **Lab Analysis**

San Diego - MBC Monthly Application Summary - October 2013

Date: 11/1/2013
County: Yuma

Field Number: YM 2-111
Number of Acres: 72

Month Applied: Oct-13
Wet Tons Applied: 293.88

Percent Solids: 26.52

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	50900.00	123.47
NH3	17800.00	43.18
NO3	6.41	0.02
Organic N	33093.59	80.28
As	3.00	0.01
Cd	2.00	0.00
Cr	41.00	0.10
Cu	632.00	1.53
Pb	14.00	0.03
Hg	0.90	0.00
Mo	17.00	0.04
Ni	36.00	0.09
Se	4.00	0.01
Zn	1140.00	2.77
PAN	15525.13	37.66
P	22501.00	54.58

San Diego - MBC Monthly Application Summary - October 2013

Date: 11/1/2013
County: Yuma

Field Number: YM 2-30
Number of Acres: 191.3

Month Applied: Oct-13
Wet Tons Applied: 1274.70

Percent Solids: 26.52

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	50900.00	201.57
NH3	17800.00	70.49
NO3	6.41	0.03
Organic N	33093.59	131.05
As	3.00	0.01
Cd	2.00	0.01
Cr	41.00	0.16
Cu	632.00	2.50
Pb	14.00	0.06
Hg	0.90	0.00
Mo	17.00	0.07
Ni	36.00	0.14
Se	4.00	0.02
Zn	1140.00	4.51
PAN	15525.13	61.48
P	22501.00	89.11

October 2013 Haul Logs

DATE	ORIGIN	TICKET #	DESTINATION	GROSS	TARE	NET	TONS
10/1/13	MBC	79378	YM 2-111	78,740	30,740	48,000	24.00
10/1/13	MBC	79379	YM 2-111	79,240	29,580	49,660	24.83
10/1/13	MBC	79380	YM 2-111	77,680	29,240	48,440	24.22
10/1/13	MBC	79381	YM 2-111	78,740	29,640	49,100	24.55
10/2/13	MBC	79400	YM 2-111	78,780	29,560	49,220	24.61
10/2/13	MBC	79401	YM 2-111	80,000	30,780	49,220	24.61
10/3/13	MBC	79421	YM 2-111	79,320	29,600	49,720	24.86
10/3/13	MBC	79422	YM 2-111	79,120	30,760	48,360	24.18
10/3/13	MBC	79424	YM 2-111	77,980	30,040	47,940	23.97
10/4/13	MBC	79441	YM 2-111	79,040	30,740	48,300	24.15
10/4/13	MBC	79442	YM 2-111	79,340	29,560	49,780	24.89
10/4/13	MBC	79443	YM 2-111	79,620	29,600	50,020	25.01
10/7/13	MBC	79457	YM 2-30	78,920	29,480	49,440	24.72
10/7/13	MBC	79458	YM 2-30	79,580	30,780	48,800	24.40
10/7/13	MBC	79459	YM 2-30	79,180	29,600	49,580	24.79
10/8/13	MBC	79474	YM 2-30	78,940	29,540	49,400	24.70
10/8/13	MBC	79476	YM 2-30	78,680	30,740	47,940	23.97
10/9/13	MBC	79499	YM 2-30	79,120	29,460	49,660	24.83
10/9/13	MBC	79501	YM 2-30	77,560	29,140	48,420	24.21
10/9/13	MBC	79509	YM 2-30	78,980	30,640	48,340	24.17
10/10/13	MBC	79521	YM 2-30	79,200	29,600	49,600	24.80
10/10/13	MBC	79522	YM 2-30	78,300	30,640	47,660	23.83
10/10/13	MBC	79523	YM 2-30	79,080	29,580	49,500	24.75
10/10/13	MBC	79524	YM 2-30	79,240	30,740	48,500	24.25
10/11/13	MBC	79540	YM 2-30	79,040	29,620	49,420	24.71
10/11/13	MBC	79541	YM 2-30	78,800	30,380	48,420	24.21
10/11/13	MBC	79542	YM 2-30	79,380	29,760	49,620	24.81
10/11/13	MBC	79543	YM 2-30	79,560	30,880	48,680	24.34
10/14/13	MBC	79554	YM 2-30	78,620	29,540	49,080	24.54
10/14/13	MBC	79555	YM 2-30	78,940	30,620	48,320	24.16
10/14/13	MBC	79556	YM 2-30	79,240	30,740	48,500	24.25
10/15/13	MBC	79574	YM 2-30	78,680	29,560	49,120	24.56
10/15/13	MBC	79575	YM 2-30	79,680	30,780	48,900	24.45
10/16/13	MBC	79596	YM 2-30	79,000	30,340	48,660	24.33
10/16/13	MBC	79597	YM 2-30	79,260	29,640	49,620	24.81
10/16/13	MBC	79598	YM 2-30	78,980	30,720	48,260	24.13
10/17/13	MBC	79616	YM 2-30	79,360	29,620	49,740	24.87
10/17/13	MBC	79617	YM 2-30	79,600	30,720	48,880	24.44

10/17/13	MBC	79618	YM 2-30	78,920	29,580	49,340	24.67
10/18/13	MBC	79633	YM 2-30	78,600	29,640	48,960	24.48
10/18/13	MBC	79634	YM 2-30	79,220	30,780	48,440	24.22
10/21/13	MBC	79651	YM 2-30	79,100	30,780	48,320	24.16
10/21/13	MBC	79652	YM 2-30	78,980	29,620	49,360	24.68
10/21/13	MBC	79654	YM 2-30	79,340	29,540	49,800	24.90
10/21/13	MBC	79660	YM 2-30	78,320	30,420	47,900	23.95
10/22/13	MBC	79679	YM 2-30	78,800	29,640	49,160	24.58
10/22/13	MBC	79680	YM 2-30	79,320	30,720	48,600	24.30
10/22/13	MBC	79699	YM 2-30	79,880	29,500	50,380	25.19
10/23/13	MBC	79698	YM 2-30	78,480	30,640	47,840	23.92
10/23/13	MBC	79700	YM 2-30	79,340	29,640	49,700	24.85
10/23/13	MBC	79701	YM 2-30	78,940	30,760	48,180	24.09
10/24/13	MBC	79721	YM 2-30	79,980	29,620	50,360	25.18
10/24/13	MBC	79722	YM 2-30	79,380	30,760	48,620	24.31
10/24/13	MBC	79723	YM 2-30	79,420	29,540	49,880	24.94
10/25/13	MBC	79742	YM 2-30	79,200	30,760	48,440	24.22
10/25/13	MBC	79743	YM 2-30	79,180	29,660	49,520	24.76
10/25/13	MBC	79744	YM 2-30	79,720	29,600	50,120	25.06
10/29/13	MBC	79777	YM 2-30	78,140	29,420	48,720	24.36
10/29/13	MBC	79779	YM 2-30	78,920	29,660	49,260	24.63
10/30/13	MBC	79791	YM 2-30	78,400	29,600	48,800	24.40
10/30/13	MBC	79792	YM 2-30	79,300	29,520	49,780	24.89
10/30/13	MBC	79799	YM 2-30	78,940	30,820	48,120	24.06
10/31/13	MBC	79814	YM 2-30	79,700	29,640	50,060	25.03
10/31/13	MBC	79815	YM 2-30	79,320	29,640	49,680	24.84
							1,568.58

Field Report - October 2013

Field Code:	YM 2-111
Date:	11/1/2013
Total Acres:	72
Latitude:	32 44' 42" N
Longitude:	114 4' 41" W
Crop:	Bermuda
Crop Nitrogen Usage:	500 #/acre
Residual Nitrogen:	72#/acre
Date Started:	8/28/2013
Seeding Date:	October-13
Harvesting Date:	March-14
Wet Tons Applied:	3522.49
Dry Tons Applied:	905.2
Wet Metric Tons Applied:	3197.72
Dry Metric Tons Applied:	821.74
Wet Tons/Acre Applied:	48.92
Dry Tons/Acre Applied:	12.57
Wet Metric Tons/ha Applied:	109.72
Dry Metric Tons/ha Applied:	28.19

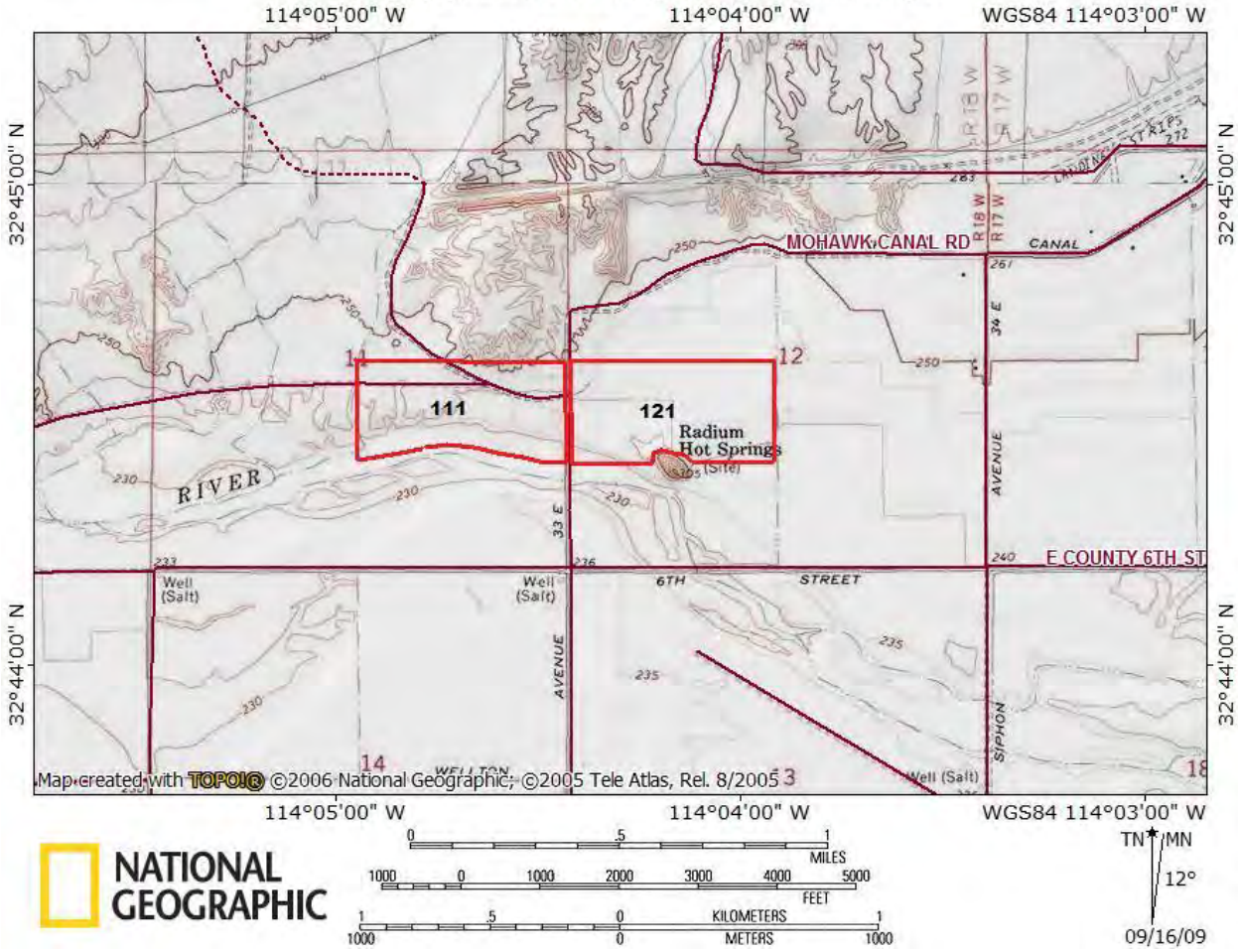
Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	1812.96	1617.89	5919.57
NH3	385.52	344.04	1565.19
NO3	0.20	0.17	0.58
Organic N	1427.25	1273.67	4353.79
As	0.11	0.10	0.62
Cd	0.05	0.05	0.22
Cr	1.07	0.95	5.03
Cu	12.54	11.19	55.22
Pb	0.30	0.27	1.68
Hg	0.02	0.02	0.12
Mo	0.34	0.31	1.82
Ni	0.85	0.76	3.86
Se	0.12	0.11	0.53
Zn	26.59	23.73	90.19
Plant Available - N	478.40	426.93	NA
P	785.31	700.81	2226.21

Field Report - October 2013

Field Code:	YM 2-30
Date:	11/1/2013
Total Acres:	191.3
Latitude:	32 43' 50"N
Longitude:	114 5' 31" W
Crop:	Alfalfa+Sudan
Crop Nitrogen Usage:	600+325#/acre
Residual Nitrogen:	144#/acre
Date Started:	2/19/2013
Seeding Date:	May-13
Harvesting Date:	October-13
Wet Tons Applied:	21515.21
Dry Tons Applied:	5523.76
Wet Metric Tons Applied:	19531.51
Dry Metric Tons Applied:	5014.47
Wet Tons/Acre Applied:	112.47
Dry Tons/Acre Applied:	28.87
Wet Metric Tons/ha Applied:	252.22
Dry Metric Tons/ha Applied:	64.75

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	2679.97	2391.61	2679.97
NH3	674.13	601.59	674.13
NO3	0.41	0.37	0.41
Organic N	2005.43	1789.65	2005.43
As	0.22	0.20	0.22
Cd	0.11	0.10	0.11
Cr	2.88	2.57	2.88
Cu	28.38	25.32	28.38
Pb	0.85	0.76	0.85
Hg	0.05	0.04	0.05
Mo	0.95	0.85	0.95
Ni	1.82	1.62	1.82
Se	0.22	0.19	0.22
Zn	50.71	45.25	50.71
Plant Available - N	738.56	659.09	NA
P	1606.41	1433.56	1606.41

TOPO! map printed on 09/16/09 from "Untitled.tpo"



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TN MN

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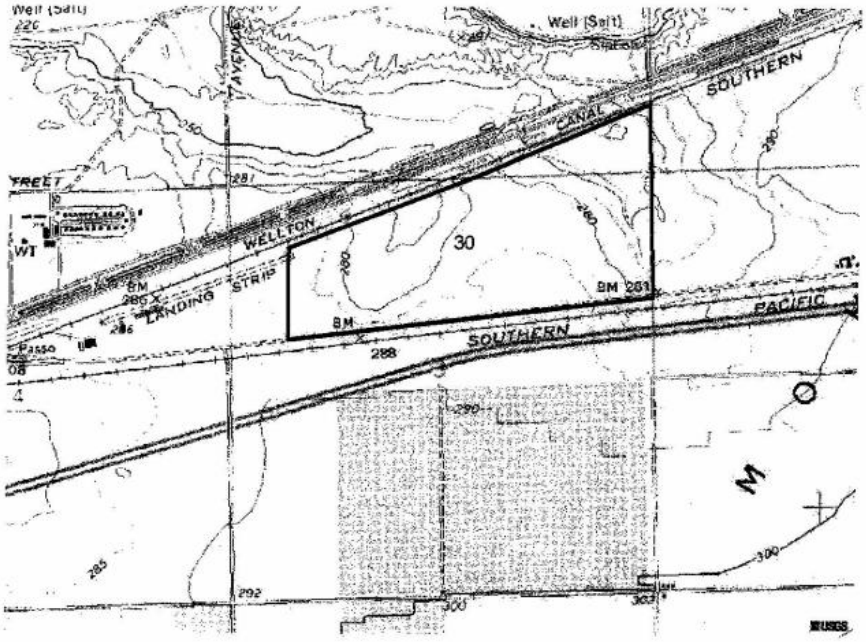
09/16/09

Cullison Farm
Section 3, T9S, R18W



Report Number: 13-305-0206
Account Number: 11035
Submitted By: JOEL SANTOS

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7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-5446
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Send To: Terra Renewal LLC
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GARDEN GROVE , CA 92845

Project : MBC
AZ#0629

REPORT OF ANALYSIS

Lab Number : 96294
Sample Id : MBC

Date Sampled:
Date Received: 11/01/2013 00:00
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PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	26.52	265200	100.0	JM	11/01/2013 14:30	SM-2540G
Moisture *	73.48		100.0	JM	11/01/2013 14:30	SM-2540G
Total Kjeldahl Nitrogen	5.09	50900	10.0	JM	11/04/2013 07:34	SM-4500-NH3C-TKN
Total Phosphorus	2.25	22500	100	KM	11/04/2013 13:01	SW-6010B
Total Potassium	0.09	931	100	KM	11/04/2013 13:01	SW-6010B
Total Sulfur	2.78	27800	100	KM	11/04/2013 13:01	SW-6010B
Total Calcium	3.18	31800	100	KM	11/04/2013 13:01	SW-6010B
Total Magnesium	0.37	3730	100	KM	11/04/2013 13:01	SW-6010B
Total Sodium	0.19	1860	100	KM	11/04/2013 13:01	SW-6010B
Total Iron		31400	100	KM	11/04/2013 13:01	SW-6010B
Total Aluminum		4400	100	KM	11/04/2013 13:01	SW-6010B
Total Manganese		309	5	KM	11/04/2013 13:01	SW-6010B
Total Copper		632	5	KM	11/04/2013 13:01	SW-6010B
Total Zinc		1140	5	KM	11/04/2013 13:01	SW-6010B
Ammonia Nitrogen	1.78	17800	10.0	JM	11/04/2013 07:34	SM-4500-NH3C
Organic N	3.31	33100	10.0		11/04/2013 07:34	CALCULATION
Nitrate+Nitrite-N		6.41	2.00	JM	11/04/2013 07:35	SM-4500NO3F
Total Cadmium		2.0	2.0	KM	11/04/2013 13:01	SW-6010B

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

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Debbie Holt

Report Number: 13-305-0206
Account Number: 11035
Submitted By: JOEL SANTOS

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-5446
www.aleastern.com

Send To: Terra Renewal LLC
12812 VALLEY VIEW ST
SUITE 9
GARDEN GROVE , CA 92845

Project : MBC
AZ#0629

REPORT OF ANALYSIS

Lab Number : 96294
Sample Id : MBC

Date Sampled:
Date Received: 11/01/2013 00:00
Date Reported: 11/06/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Chromium		41	5	KM	11/04/2013 13:01	SW-6010B
Total Nickel		36	5	KM	11/04/2013 13:01	SW-6010B
Total Lead		14	5	KM	11/04/2013 13:01	SW-6010B
Total Arsenic		3.0	3.0	KM	11/04/2013 13:01	SW-6010B
Total Mercury		0.9	0.4	KM	11/04/2013 09:00	SW-7471A
Total Selenium		<5.0	5.0	KM	11/04/2013 13:01	SW-6010B
Total Molybdenum		17	5	KM	11/04/2013 13:01	SW-6010B

Comments:
SULFUR NOT FOR COMPLIANCE PURPOSES
QUALIFIER: THE MATRIX SPIKE WAS OUT OF LIMITS FOR "Fe" AND "S". ALL OTHER QC DATA IS ACCEPTABLE.

TERRA renewal
12812 Valley View Ave., #9
Garden Grove, CA 92845

January 7, 2014

Mr. Gerald Schreckengost
City of San Diego
5240 Convoy Street, MS 901M
San Diego, CA 92111

Dear Gerald,

Enclosed is the Monthly Biosolids Report for the month of November 2013. This report includes the date and amount hauled, the application site(s), analysis of the biosolids and concentration of metals and nitrogen applied to the site(s).

If you have any questions or comments on this report please feel free to contact me at (760) 801-3175.

Sincerely,

Chris Marks

Enclosure

TERRA renewal

12812 Valley View Ave., #9
Garden Grove, CA 92845

Monthly Biosolids Report to

City of San Diego

For November 2013

Table of Contents

- **Monthly Application Summary**
- **Daily Load Delivery Log**
- **Field Report**
- **Lab Analysis**

San Diego - MBC Monthly Application Summary - November 2013

Date: 12/1/2013
County: Yuma

Field Number: YM 2-283
Number of Acres: 40

Month Applied: Nov-13
Wet Tons Applied: 986.79

Percent Solids: 26.52

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	50900.00	746.27
NH3	17800.00	260.98
NO3	6.41	0.09
Organic N	33093.59	485.20
As	3.00	0.04
Cd	2.00	0.03
Cr	41.00	0.60
Cu	632.00	9.27
Pb	14.00	0.21
Hg	0.90	0.01
Mo	17.00	0.25
Ni	36.00	0.53
Se	4.00	0.06
Zn	1140.00	16.71
PAN	15525.13	227.62
P	22500.00	329.89

San Diego - MBC Monthly Application Summary - November 2013

Date: 12/1/2013
County: Yuma

Field Number: YM 2-30
Number of Acres: 191.3

Month Applied: Nov-13
Wet Tons Applied: 73.34

Percent Solids: 26.52

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	50900.00	11.60
NH3	17800.00	4.06
NO3	6.41	0.00
Organic N	33093.59	7.54
As	3.00	0.00
Cd	2.00	0.00
Cr	41.00	0.01
Cu	632.00	0.14
Pb	14.00	0.00
Hg	0.90	0.00
Mo	17.00	0.00
Ni	36.00	0.01
Se	4.00	0.00
Zn	1140.00	0.26
PAN	15525.13	3.54
P	22500.00	5.13

November 2013 Haul Logs

DATE	ORIGIN	TICKET #	DESTINATION	GROSS	TARE	NET	TONS
11/1/2013	MBC	79833	YM 2-30	79,000	29,680	49,320	24.66
11/1/2013	MBC	79834	YM 2-30	79,340	30,660	48,680	24.34
11/1/2013	MBC	79835	YM 2-30	79,460	30,780	48,680	24.34
11/4/2013	MBC	79850	YM 2-283	79,700	29,560	50,140	25.07
11/4/2013	MBC	79851	YM 2-283	79,300	29,420	49,880	24.94
11/4/2013	MBC	79852	YM 2-283	79,340	30,760	48,580	24.29
11/5/2013	MBC	79871	YM 2-283	79,340	30,680	48,660	24.33
11/5/2013	MBC	79872	YM 2-283	79,280	30,720	48,560	24.28
11/5/2013	MBC	79873	YM 2-283	79,120	29,400	49,720	24.86
11/5/2013	MBC	79876	YM 2-283	79,380	29,540	49,840	24.92
11/6/2013	MBC	79893	YM 2-283	79,000	29,480	49,520	24.76
11/7/2013	MBC	79912	YM 2-283	78,900	29,520	49,380	24.69
11/7/2013	MBC	79913	YM 2-283	79,640	29,420	50,220	25.11
11/8/2013	MBC	79938	YM 2-283	79,120	29,520	49,600	24.80
11/8/2013	MBC	79939	YM 2-283	79,700	29,480	50,220	25.11
11/8/2013	MBC	79940	YM 2-283	79,300	30,800	48,500	24.25
11/12/2013	MBC	79959	YM 2-283	78,560	30,500	48,060	24.03
11/12/2013	MBC	79960	YM 2-283	79,860	29,500	50,360	25.18
11/12/2013	MBC	79961	YM 2-283	79,120	29,460	49,660	24.83
11/13/2013	MBC	79982	YM 2-283	79,900	29,540	50,360	25.18
11/14/2013	MBC	80002	YM 2-283	78,980	30,740	48,240	24.12
11/14/2013	MBC	80003	YM 2-283	79,720	29,520	50,200	25.10
11/14/2013	MBC	80004	YM 2-283	79,140	29,540	49,600	24.80
11/15/2013	MBC	80026	YM 2-283	78,780	29,340	49,440	24.72
11/15/2013	MBC	80027	YM 2-283	79,760	30,760	49,000	24.50
11/18/2013	MBC	80055	YM 2-283	79,020	29,500	49,520	24.76
11/18/2013	MBC	80056	YM 2-283	79,780	30,740	49,040	24.52
11/19/2013	MBC	80077	YM 2-283	79,180	30,520	48,660	24.33
11/19/2013	MBC	80079	YM 2-283	78,780	29,560	49,220	24.61
11/19/2013	MBC	80080	YM 2-283	79,500	30,740	48,760	24.38
11/19/2013	MBC	80081	YM 2-283	79,180	29,500	49,680	24.84
11/20/2013	MBC	80099	YM 2-283	78,400	30,480	47,920	23.96
11/20/2013	MBC	80100	YM 2-283	78,840	29,580	49,260	24.63
11/20/2013	MBC	80101	YM 2-283	80,140	30,780	49,360	24.68
11/20/2013	MBC	80102	YM 2-283	79,340	29,480	49,860	24.93
11/21/2013	MBC	80124	YM 2-283	78,640	29,460	49,180	24.59
11/21/2013	MBC	80126	YM 2-283	79,360	30,800	48,560	24.28
11/21/2013	MBC	80131	YM 2-283	79,380	29,460	49,920	24.96
11/26/2013	MBC	80179	YM 2-283	78,880	29,460	49,420	24.71

11/26/2013	MBC	80201	YM 2-283	78,900	29,500	49,400	24.70
11/27/2013	MBC	80223	YM 2-283	79,000	29,520	49,480	24.74
11/29/2013	MBC	80245	YM 2-283	78,440	29,500	48,940	24.47
11/30/2013	MBC	80267	YM 2-283	79,060	29,400	49,660	24.83
							1,060.13

Field Report - Nov 2013

Field Code:	YM 2-283
Date:	12/1/2013
Total Acres:	40
Latitude:	32° 42' 7"N
Longitude:	114° 7' 4"W
Crop:	Alfalfa+Bermuda
Crop Nitrogen Usage:	600+500 #/acre
Residual Nitrogen:	113#/acre
Date Started:	1/1/2013 / 11/2/2013
Seeding Date:	2/1/2013 -/ 12/2013
Harvesting Date:	7/1/2013 / 05/14

Wet Tons Applied:	5978.09
Dry Tons Applied:	1497.51
Wet Metric Tons Applied:	5426.91
Dry Metric Tons Applied:	1359.44
Wet Tons/Acre Applied:	149.45
Dry Tons/Acre Applied:	37.44
Wet Metric Tons/ha Applied:	335.16
Dry Metric Tons/ha Applied:	83.96

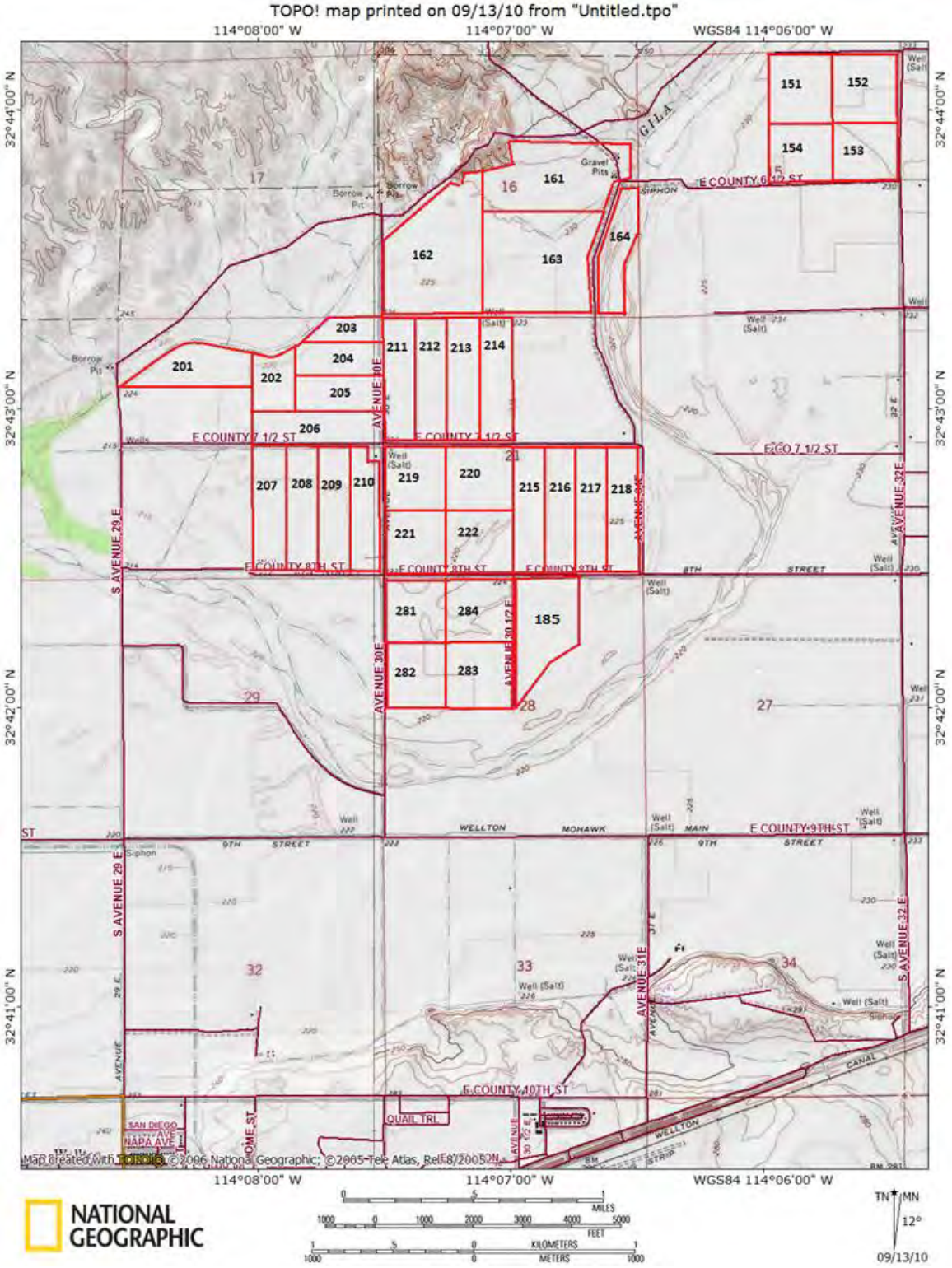
Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	3698.89	3300.89	7249.46
NH3	954.96	852.21	1759.18
NO3	0.41	0.37	1.43
Organic N	2743.52	2448.31	5488.85
As	0.30	0.27	0.67
Cd	0.14	0.13	0.29
Cr	2.71	2.42	6.31
Cu	35.72	31.88	70.72
Pb	0.92	0.82	2.33
Hg	0.05	0.05	0.13
Mo	1.16	1.03	2.31
Ni	2.11	1.89	4.80
Se	0.27	0.24	0.48
Zn	62.00	55.33	118.65
Plant Available - N	1026.60	916.13	NA
P	1961.93	1750.82	3241.18

Field Report - November 2013

Field Code:	YM 2-30
Date:	12/1/2013
Total Acres:	191.3
Latitude:	32 43' 50"N
Longitude:	114 5' 31" W
Crop:	Alfalfa+Sudan
Crop Nitrogen Usage:	600+325#/acre
Residual Nitrogen:	144#/acre
Date Started:	2/19/2013
Seeding Date:	May-13
Harvesting Date:	October-13
Wet Tons Applied:	22541.48
Dry Tons Applied:	5729.03
Wet Metric Tons Applied:	20463.16
Dry Metric Tons Applied:	5200.81
Wet Tons/Acre Applied:	117.83
Dry Tons/Acre Applied:	29.95
Wet Metric Tons/ha Applied:	264.25
Dry Metric Tons/ha Applied:	67.16

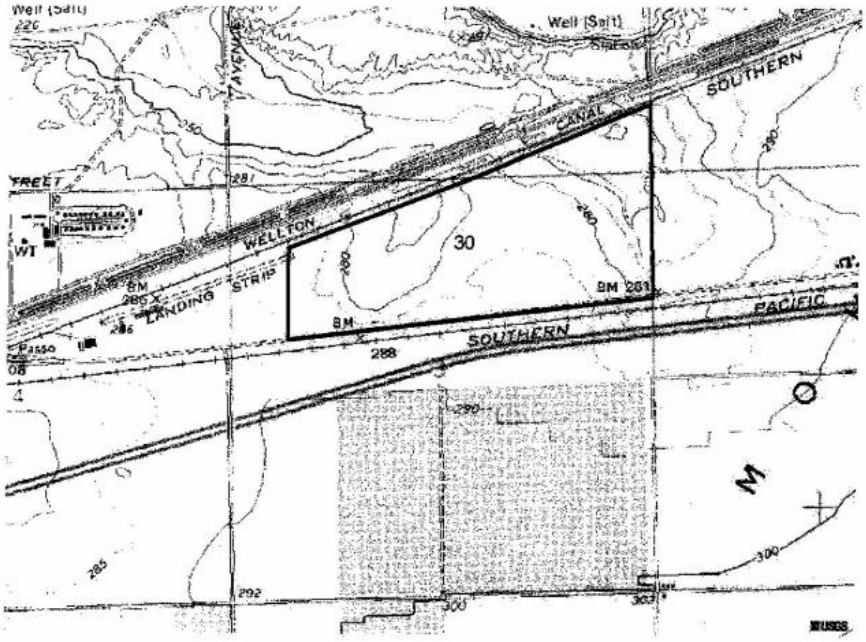
Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	2855.72	2548.45	2855.72
NH3	708.58	632.34	708.58
NO3	0.44	0.39	0.44
Organic N	2146.70	1915.71	2146.70
As	0.23	0.21	0.23
Cd	0.12	0.11	0.12
Cr	2.97	2.65	2.97
Cu	29.73	26.53	29.73
Pb	0.88	0.79	0.88
Hg	0.05	0.04	0.05
Mo	1.01	0.90	1.01
Ni	1.88	1.68	1.88
Se	0.23	0.20	0.23
Zn	53.25	47.52	53.25
Plant Available - N	784.07	699.71	NA
P	1679.62	1498.90	1679.62

TOPO! map printed on 09/13/10 from "Untitled.tpo"



NATIONAL GEOGRAPHIC

Cullison Farm
Section 3, T9S, R18W



Report Number: 13-305-0206
Account Number: 11035
Submitted By: JOEL SANTOS

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-5446
www.aleastern.com

Send To: Terra Renewal LLC
12812 VALLEY VIEW ST
SUITE 9
GARDEN GROVE , CA 92845

Project : MBC
AZ#0629

REPORT OF ANALYSIS

Lab Number : 96294
Sample Id : MBC

Date Sampled:
Date Received: 11/01/2013 00:00
Date Reported: 11/06/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	26.52	265200	100.0	JM	11/01/2013 14:30	SM-2540G
Moisture *	73.48		100.0	JM	11/01/2013 14:30	SM-2540G
Total Kjeldahl Nitrogen	5.09	50900	10.0	JM	11/04/2013 07:34	SM-4500-NH3C-TKN
Total Phosphorus	2.25	22500	100	KM	11/04/2013 13:01	SW-6010B
Total Potassium	0.09	931	100	KM	11/04/2013 13:01	SW-6010B
Total Sulfur	2.78	27800	100	KM	11/04/2013 13:01	SW-6010B
Total Calcium	3.18	31800	100	KM	11/04/2013 13:01	SW-6010B
Total Magnesium	0.37	3730	100	KM	11/04/2013 13:01	SW-6010B
Total Sodium	0.19	1860	100	KM	11/04/2013 13:01	SW-6010B
Total Iron		31400	100	KM	11/04/2013 13:01	SW-6010B
Total Aluminum		4400	100	KM	11/04/2013 13:01	SW-6010B
Total Manganese		309	5	KM	11/04/2013 13:01	SW-6010B
Total Copper		632	5	KM	11/04/2013 13:01	SW-6010B
Total Zinc		1140	5	KM	11/04/2013 13:01	SW-6010B
Ammonia Nitrogen	1.78	17800	10.0	JM	11/04/2013 07:34	SM-4500-NH3C
Organic N	3.31	33100	10.0		11/04/2013 07:34	CALCULATION
Nitrate+Nitrite-N		6.41	2.00	JM	11/04/2013 07:35	SM-4500NO3F
Total Cadmium		2.0	2.0	KM	11/04/2013 13:01	SW-6010B

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

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Debbie Holt

Report Number: 13-305-0206
Account Number: 11035
Submitted By: JOEL SANTOS

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Send To: Terra Renewal LLC
12812 VALLEY VIEW ST
SUITE 9
GARDEN GROVE , CA 92845

Project : MBC
AZ#0629

REPORT OF ANALYSIS

Lab Number : 96294
Sample Id : MBC

Date Sampled:
Date Received: 11/01/2013 00:00
Date Reported: 11/06/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Chromium		41	5	KM	11/04/2013 13:01	SW-6010B
Total Nickel		36	5	KM	11/04/2013 13:01	SW-6010B
Total Lead		14	5	KM	11/04/2013 13:01	SW-6010B
Total Arsenic		3.0	3.0	KM	11/04/2013 13:01	SW-6010B
Total Mercury		0.9	0.4	KM	11/04/2013 09:00	SW-7471A
Total Selenium		<5.0	5.0	KM	11/04/2013 13:01	SW-6010B
Total Molybdenum		17	5	KM	11/04/2013 13:01	SW-6010B

Comments:
SULFUR NOT FOR COMPLIANCE PURPOSES
QUALIFIER: THE MATRIX SPIKE WAS OUT OF LIMITS FOR "Fe" AND "S". ALL OTHER QC DATA IS ACCEPTABLE.

TERRA renewal
12812 Valley View Ave., #9
Garden Grove, CA 92845

January 14, 2014

Mr. Gerald Schreckengost
City of San Diego
5240 Convoy Street, MS 901M
San Diego, CA 92111

Dear Gerald,

Enclosed is the Monthly Biosolids Report for the month of December 2013. This report includes the date and amount hauled, the application site(s), analysis of the biosolids and concentration of metals and nitrogen applied to the site(s).

If you have any questions or comments on this report please feel free to contact me at (760) 801-3175.

Sincerely,

Chris Marks

Enclosure

TERRA renewal

12812 Valley View Ave., #9
Garden Grove, CA 92845

Monthly Biosolids Report to

City of San Diego

For December 2013

Table of Contents

- **Monthly Application Summary**
- **Daily Load Delivery Log**
- **Field Report**
- **Lab Analysis**

San Diego - MBC Monthly Application Summary - December 2013

Date: 1/1/2014
County: Yuma

Field Number: YM 2-283
Number of Acres: 40

Month Applied: Dec-13
Wet Tons Applied: 73.63

Percent Solids: 28.57

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	50800.00	59.87
NH3	16200.00	19.09
NO3	5.95	0.01
Organic N	34594.05	40.77
As	3.00	0.00
Cd	2.00	0.00
Cr	47.00	0.06
Cu	587.00	0.69
Pb	14.00	0.02
Hg	0.80	0.00
Mo	16.00	0.02
Ni	38.00	0.04
Se	4.00	0.00
Zn	893.00	1.05
PAN	15024.76	17.71
P	22500.00	26.52

San Diego - MBC Monthly Application Summary - December 2013

Date: 1/1/2014
County: Yuma

Field Number: YM 2-221
Number of Acres: 40

Month Applied: Dec-13
Wet Tons Applied: 346.09

Percent Solids: 28.57

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	50800.00	281.41
NH3	16200.00	89.74
NO3	5.95	0.03
Organic N	34594.05	191.64
As	3.00	0.02
Cd	2.00	0.01
Cr	47.00	0.26
Cu	587.00	3.25
Pb	14.00	0.08
Hg	0.80	0.00
Mo	16.00	0.09
Ni	38.00	0.21
Se	4.00	0.02
Zn	893.00	4.95
PAN	15024.76	83.23
P	22500.00	124.64

San Diego - MBC Monthly Application Summary - December 2013

Date: 1/1/2014
County: Yuma

Field Number: YM 2-185
Number of Acres: 70

Month Applied: Dec-13
Wet Tons Applied: 99.29

Percent Solids: 28.57

Constituent	Analysis (mg/kg)	kg/hectare Applied
TKN	50800.00	46.13
NH3	16200.00	14.71
NO3	5.95	0.01
Organic N	34594.05	31.42
As	3.00	0.00
Cd	2.00	0.00
Cr	47.00	0.04
Cu	587.00	0.53
Pb	14.00	0.01
Hg	0.80	0.00
Mo	16.00	0.01
Ni	38.00	0.03
Se	4.00	0.00
Zn	893.00	0.81
PAN	15024.76	13.64
P	22500.00	20.43

December 2013 Haul Logs

DATE	ORIGIN	TICKET #	DESTINATION	GROSS	TARE	NET	TONS
12/2/13	Metropolitan Biosolids Center	80284	YM 2-283	78,540	30,500	48,040	24.02
12/2/13	Metropolitan Biosolids Center	80285	YM 2-283	79,080	29,500	49,580	24.79
12/3/13	Metropolitan Biosolids Center	80307	YM 2-283	79,220	29,580	49,640	24.82
12/6/13	Metropolitan Biosolids Center	80367	YM 2-221	78,960	29,660	49,300	24.65
12/9/13	Metropolitan Biosolids Center	80391	YM 2-221	78,840	29,600	49,240	24.62
12/10/13	Metropolitan Biosolids Center	80416	YM 2-221	79,180	29,600	49,580	24.79
12/11/13	Metropolitan Biosolids Center	80438	YM 2-221	78,160	29,500	48,660	24.33
12/12/13	Metropolitan Biosolids Center	80453	YM 2-221	78,820	29,500	49,320	24.66
12/13/13	Metropolitan Biosolids Center	80463	YM 2-221	78,780	29,600	49,180	24.59
12/16/13	Metropolitan Biosolids Center	80474	YM 2-221	79,040	29,520	49,520	24.76
12/17/13	Metropolitan Biosolids Center	80499	YM 2-221	79,400	29,520	49,880	24.94
12/18/13	Metropolitan Biosolids Center	80516	YM 2-221	79,500	29,540	49,960	24.98
12/19/13	Metropolitan Biosolids Center	80534	YM 2-221	79,240	29,480	49,760	24.88
12/20/13	Metropolitan Biosolids Center	80553	YM 2-221	79,380	29,620	49,760	24.88
12/23/13	Metropolitan Biosolids Center	80568	YM 2-221	78,760	29,620	49,140	24.57
12/24/13	Metropolitan Biosolids Center	80593	YM 2-221	79,320	29,600	49,720	24.86
12/24/13	Metropolitan Biosolids Center	80629	YM 2-221	78,700	29,540	49,160	24.58
12/26/13	Metropolitan Biosolids Center	80612	YM 2-185	79,140	29,520	49,620	24.81
12/28/13	Metropolitan Biosolids Center	80650	YM 2-185	79,600	29,440	50,160	25.08
12/30/13	Metropolitan Biosolids Center	80664	YM 2-185	79,240	29,560	49,680	24.84
12/31/13	Metropolitan Biosolids Center	80688	YM 2-185	78,660	29,540	49,120	24.56
							519.01

Field Report - Dec 2013

Field Code:	YM 2-283
Date:	1/1/2014
Total Acres:	40
Latitude:	32° 42' 7"N
Longitude:	114° 7' 4"W
Crop:	Alfalfa+Bermuda
Crop Nitrogen Usage:	600+500 #/acre
Residual Nitrogen:	113#/acre
Date Started:	1/1/2013 / 11/2/2013
Seeding Date:	2/1/2013 -/ 12/2013
Harvesting Date:	7/1/2013 / 05/14

Wet Tons Applied:	6051.72
Dry Tons Applied:	1518.54
Wet Metric Tons Applied:	5493.75
Dry Metric Tons Applied:	1378.53
Wet Tons/Acre Applied:	151.29
Dry Tons/Acre Applied:	37.96
Wet Metric Tons/ha Applied:	339.29
Dry Metric Tons/ha Applied:	85.14

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	3758.76	3354.32	7309.33
NH3	974.05	869.24	1778.27
NO3	0.42	0.38	1.44
Organic N	2784.29	2484.70	5529.62
As	0.30	0.27	0.68
Cd	0.15	0.13	0.30
Cr	2.77	2.47	6.36
Cu	36.41	32.49	71.41
Pb	0.94	0.84	2.34
Hg	0.05	0.05	0.13
Mo	1.18	1.05	2.33
Ni	2.16	1.93	4.84
Se	0.28	0.25	0.48
Zn	63.05	56.27	119.70
Plant Available - N	1044.30	931.94	NA
P	1988.45	1774.49	3267.70

Field Report - Dec 2013

Field Code:	YM 2-221
Date:	1/1/2014
Total Acres:	40
Latitude:	32 41' 56" N
Longitude:	114 7' 25" W
Crop:	Bermuda + Alfalfa+ Bermuda
Crop Nitrogen Usage:	500+600 #/acre
Residual Nitrogen:	38 #/acre
Date Started:	1/13/2012 / 12/20/12 /12/4/2013
Seeding Date:	2/1/2012 / 01/2013 / 1/1/2014 7/1/2012 / 6/2013
Harvesting Date:	/6/2014

Wet Tons Applied:	3071.01
Dry Tons Applied:	609.79
Wet Metric Tons Applied:	2787.86
Dry Metric Tons Applied:	553.57
Wet Tons/Acre Applied:	76.78
Dry Tons/Acre Applied:	15.24
Wet Metric Tons/ha Applied:	172.18
Dry Metric Tons/ha Applied:	34.19

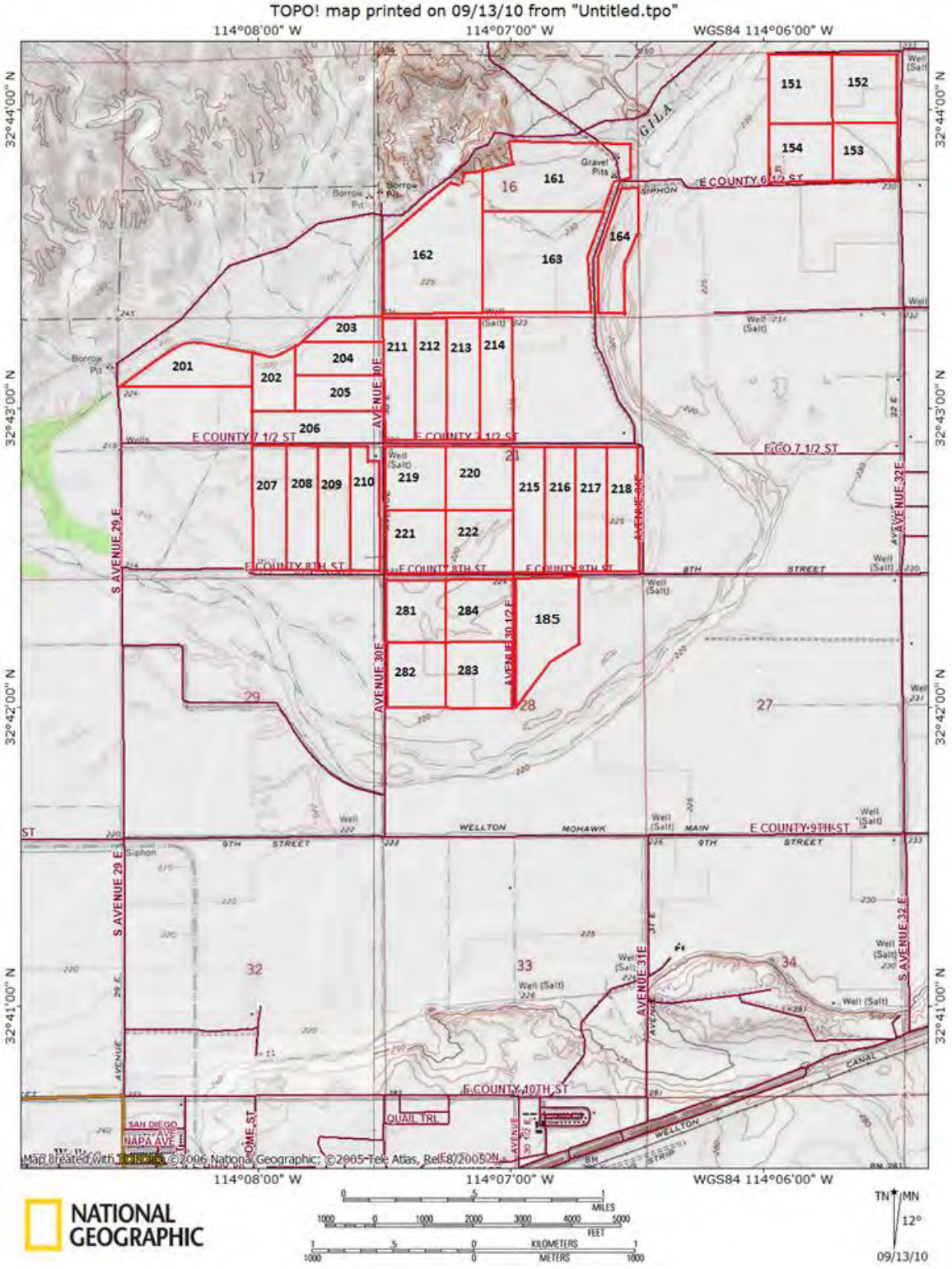
Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Pound Applied Season to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	2076.26	1852.85	5544.33	7661.17
NH3	478.74	427.23	1325.45	1768.73
NO3	0.32	0.28	1.13	1.33
Organic N	1597.20	1425.34	4217.76	5891.11
As	0.14	0.12	0.49	0.72
Cd	0.05	0.04	0.19	0.25
Cr	1.24	1.10	4.29	6.38
Cu	13.73	12.25	53.91	77.45
Pb	0.36	0.32	1.61	2.42
Hg	0.03	0.02	0.11	0.14
Mo	0.62	0.55	1.86	2.47
Ni	0.87	0.78	2.42	3.89
Se	0.17	0.16	0.40	0.57
Zn	22.81	20.35	79.16	113.44
Plant Available - N	559.13	498.97	1507.40	NA
P	1099.88	981.53	3207.38	3634.20

Field Report - Dec 2013

Field Code:	YM 2-185
Date:	1/1/2014
Total Acres:	70
Latitude:	32° 42' 22"N
Longitude:	114° 6' 48"W
Crop:	Bermuda
Crop Nitrogen Usage:	500 #/acre
Residual Nitrogen:	66#/acre
Date Started:	12/25/2013
Seeding Date:	January-14
Harvesting Date:	May-14
Wet Tons Applied:	1050.45
Dry Tons Applied:	208.47
Wet Metric Tons Applied:	953.60
Dry Metric Tons Applied:	189.25
Wet Tons/Acre Applied:	15.01
Dry Tons/Acre Applied:	2.98
Wet Metric Tons/ha Applied:	33.65
Dry Metric Tons/ha Applied:	6.68

Constituent	Kilograms Applied Year to Date (kg/ha)	Pounds Applied Year to Date (lbs/ac)	Kilograms Applied Project to Date (kg/ha)
TKN	402.65	359.33	3884.41
NH3	93.45	83.39	1069.45
NO3	0.05	0.05	0.26
Organic N	309.15	275.88	2814.70
As	0.03	0.02	0.44
Cd	0.01	0.01	0.19
Cr	0.24	0.21	4.58
Cu	2.49	2.22	44.55
Pb	0.07	0.06	1.77
Hg	0.00	0.00	0.09
Mo	0.11	0.10	1.51
Ni	0.17	0.15	3.46
Se	0.03	0.03	0.23
Zn	4.46	3.98	67.34
Plant Available - N	108.61	96.92	NA
P	218.12	194.65	1943.80

TOPO! map printed on 09/13/10 from "Untitled.tpo"



NATIONAL GEOGRAPHIC

MILES 0 .5 1

FEET 1000 0 1000 2000 3000 4000 5000

KILOMETERS 1 .5 0 1

METERS 1000 0 1000

TN MN 12°

09/13/10

Report Number: 13-357-0207
Account Number: 11035

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446
www.aleastern.com

Send To: Terra Renewal LLC
12812 VALLEY VIEW ST
SUITE 9
GARDEN GROVE , CA 92845

Project : MBC
AZ#0629

REPORT OF ANALYSIS

Lab Number : 97235
Sample Id : MBC

Date Sampled: 12/19/2013 14:00:00
Date Received: 12/23/2013 00:00
Date Reported: 01/06/2014

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	28.57	285700	100.0	BW	12/23/2013 14:39	SM-2540G
Moisture *	71.43		100.0	BW	12/23/2013 14:39	SM-2540G
Total Kjeldahl Nitrogen	5.08	50800	10.0	JM	12/30/2013 08:10	SM-4500-NH3C-TKN
Total Phosphorus	2.25	22500	100	KM	01/03/2014 12:10	SW-6010B
Total Potassium	0.09	855	100	KM	01/03/2014 12:10	SW-6010B
Total Sulfur	3.15	31500	100	KM	01/03/2014 12:10	SW-6010B
Total Calcium	2.90	29000	100	KM	01/03/2014 12:10	SW-6010B
Total Magnesium	0.38	3800	100	KM	01/03/2014 12:10	SW-6010B
Total Sodium	0.17	1720	100	KM	01/03/2014 12:10	SW-6010B
Total Iron		38700	100	KM	01/03/2014 12:10	SW-6010B
Total Aluminum		3900	100	KM	01/03/2014 12:10	SW-6010B
Total Manganese		286	5	KM	01/03/2014 12:10	SW-6010B
Total Copper		587	5	KM	01/03/2014 12:10	SW-6010B
Total Zinc		893	5	KM	01/03/2014 12:10	SW-6010B
Ammonia Nitrogen	1.62	16200	10.0	JM	12/30/2013 08:10	SM-4500-NH3C
Organic N	3.46	34600	10.0		12/30/2013 08:10	CALCULATION
Nitrate+Nitrite-N		5.95	2.00	JM	01/02/2014 08:20	SM-4500NO3F
Total Cadmium		2.0	2.0	KM	01/03/2014 12:10	SW-6010B

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

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Debbie Holt

Report Number: 13-357-0207
Account Number: 11035

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446
www.aleastern.com

Send To: Terra Renewal LLC
12812 VALLEY VIEW ST
SUITE 9
GARDEN GROVE , CA 92845

Project : MBC
AZ#0629

REPORT OF ANALYSIS

Lab Number : 97235
Sample Id : MBC

Date Sampled: 12/19/2013 14:00:00
Date Received: 12/23/2013 00:00
Date Reported: 01/06/2014

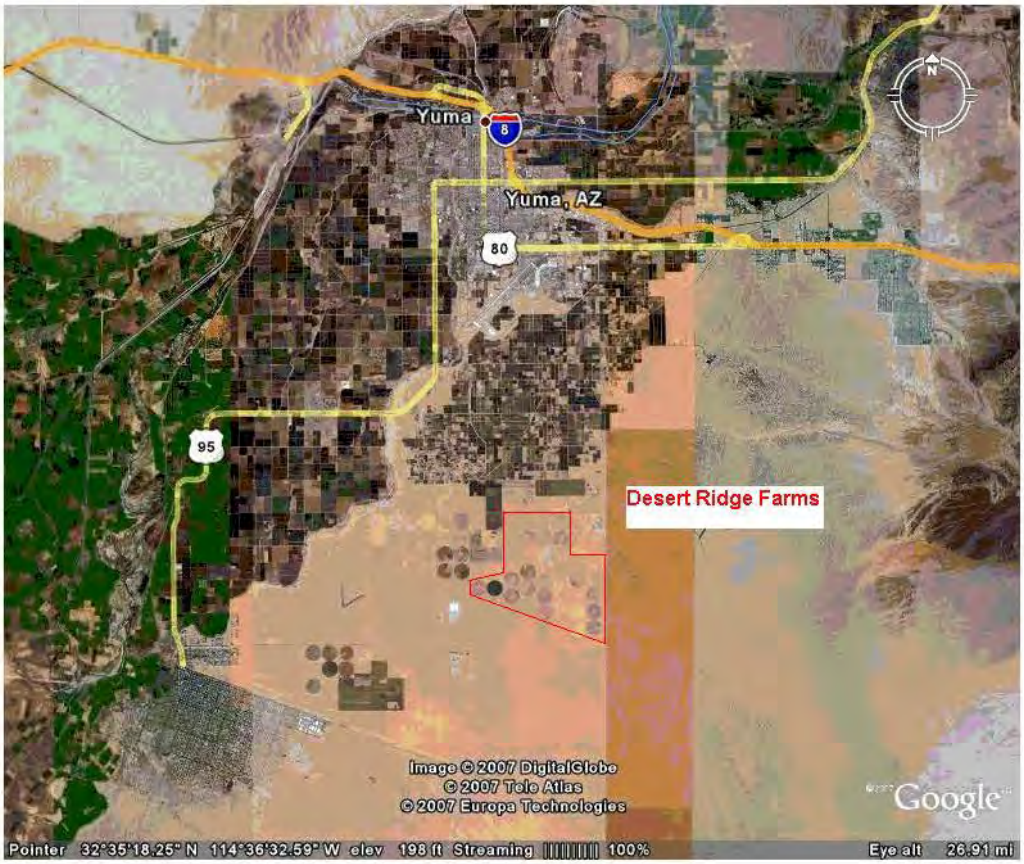
PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Chromium		47	5	KM	01/03/2014 12:10	SW-6010B
Total Nickel		38	5	KM	01/03/2014 12:10	SW-6010B
Total Lead		14	5	KM	01/03/2014 12:10	SW-6010B
Total Arsenic		3.0	3.0	KM	01/03/2014 12:10	SW-6010B
Total Mercury		0.8	0.4	KM	01/02/2014 09:00	SW-7471A
Total Selenium		<5.0	5.0	KM	01/03/2014 12:10	SW-6010B
Total Molybdenum		16	5	KM	01/03/2014 12:10	SW-6010B

Comments:
SULFUR NOT FOR COMPLIANCE PURPOSES
QUALIFIER: THE MATRIX SPIKE WAS OUT OF LIMIS FOR "Fe". ALL OTHER QC DATA IS ACCEPTABLE.

Enclosure 13
Maps Showing Areas of Land Application and Beneficial Use

2013 Annual Biosolids Report

Solid Solutions
Desert Ridge Farms
Yuma Arizona
Fields YM 6-1 through YM 6-23



Solid Solutions
Desert Ridge Farms, Yuma, Arizona
Fields YM 6-1 through YM 6-23

Field ID	Latitude N:	Longitude W:	Acres	Radius, Ft.
YM 6-1	32°31'09"N	114°37'37"W	80	1053
YM 6-2	32°31'09"N	114°37'03"W	80	1053
YM 6-3	32°31'24"N	114°36'40"W	120	1290
YM 6-4	32°30'58"N	114°36'40"W	116	1269
YM 6-5	32°31'35"N	114°36'03"W	116	1269
YM 6-6	32°31'10"N	114°36'03"W	120	1290
YM 6-7	32°30'42"N	114°36'03"W	120	1290
YM 6-8	32°31'24"N	114°35'37"W	120	1290
YM 6-9	32°30'58"N	114°35'37"W	120	1290
YM 6-10	32°30'32"N	114°35'37"W	120	1290
YM 6-11	32°31'31"N	114°35'01"W	120	1290
YM 6-12	32°31'11"N	114°35'01"W	120	1290
YM 6-13	32°30'44"N	114°35'01"W	120	1290
YM 6-14	32°30'17"N	114°35'01"W	120	1290
YM 6-15	32°31'26"N	114°34'36"W	120	1290
YM 6-16	32°30'56"N	114°34'36"W	120	1290
YM 6-17	32°30'33"N	114°34'36"W	120	1290
YM 6-18	32°30'12"N	114°34'36"W	120	1290
YM 6-19	32°31'41"N	114°34'04"W	120	1290
YM 6-20	32°31'26"N	114°34'00"W	120	1290
YM 6-21	32°30'54"N	114°34'00"W	120	1290
YM 6-22	32°30'34"N	114°34'00"W	120	1290
YM 6-23	32°31'09"N	114°34'00"W	120	1290

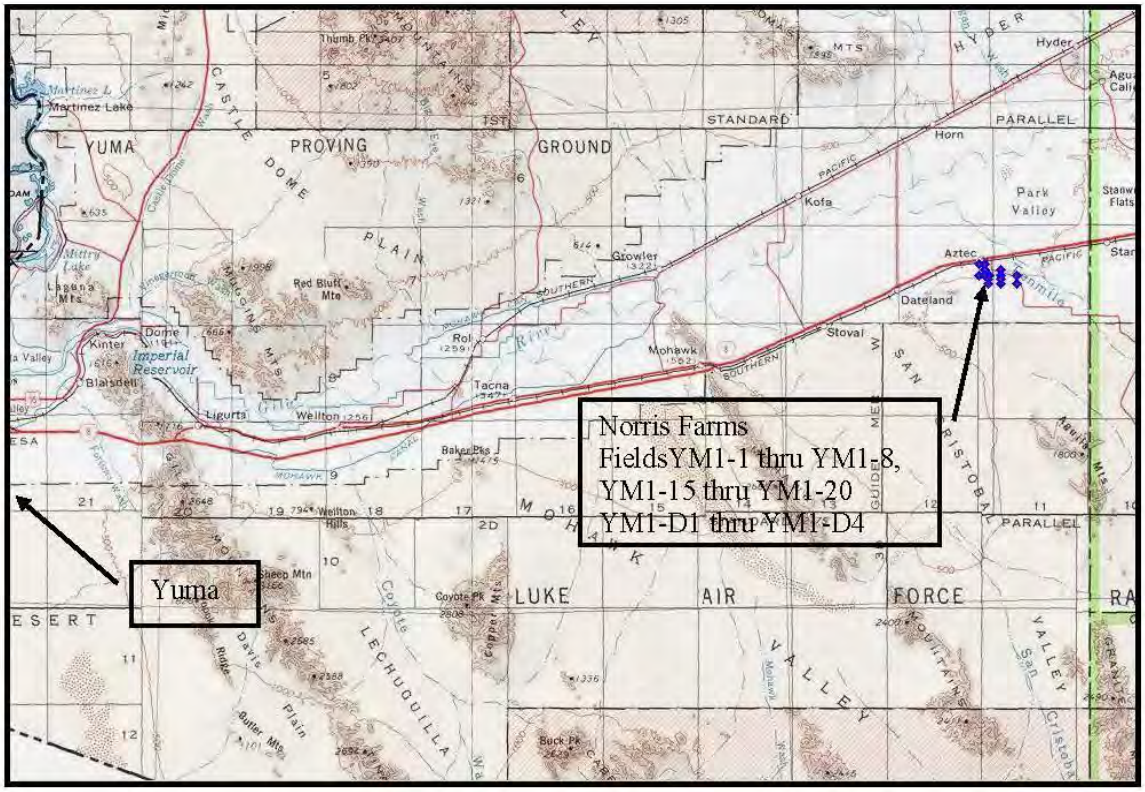
GPS readings are at center of field

Solid Solutions

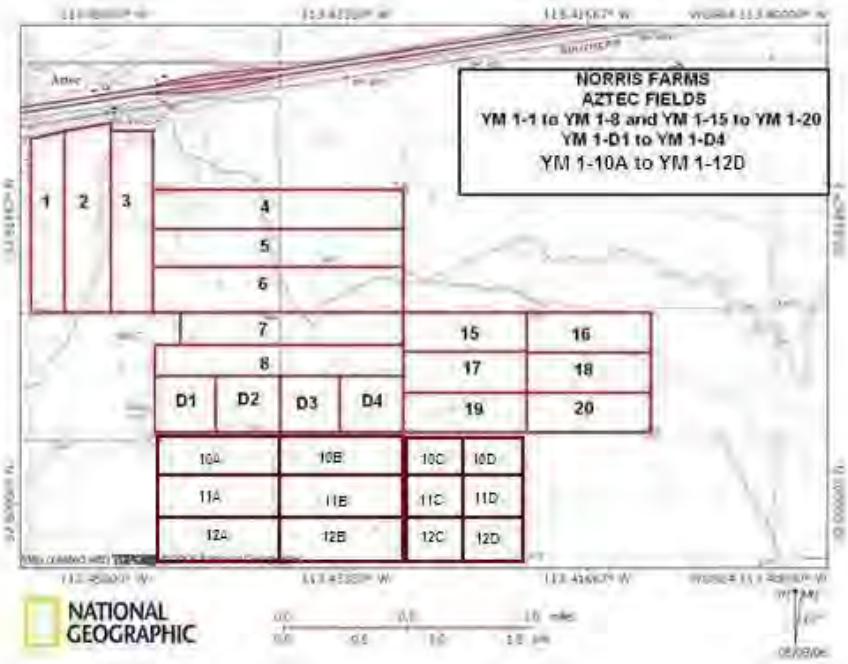
Fields YM1-1 thru YM1-8, YM1-15 thru YM1-20, YM1-D1 thru YM1-D4, YM1-10A thru YM1-12D

Norris Farms

Aztec Arizona



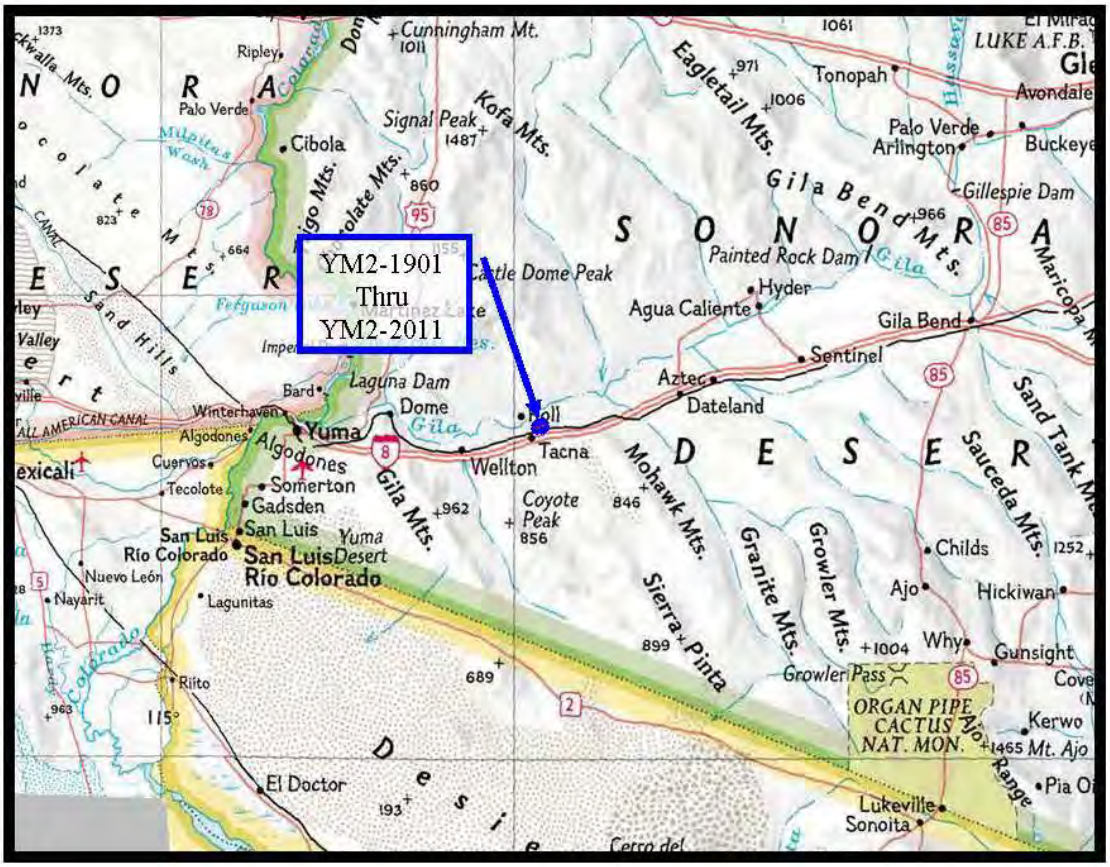
San Diego Landfills/Solid Solutions
Norris Farms, Aztec Arizona
Fields YM1-1 thru YM1-8, YM1-15 thru YM1-20, YM1-D1 thru YM1-D4, YM1-10A thru YM1-12D



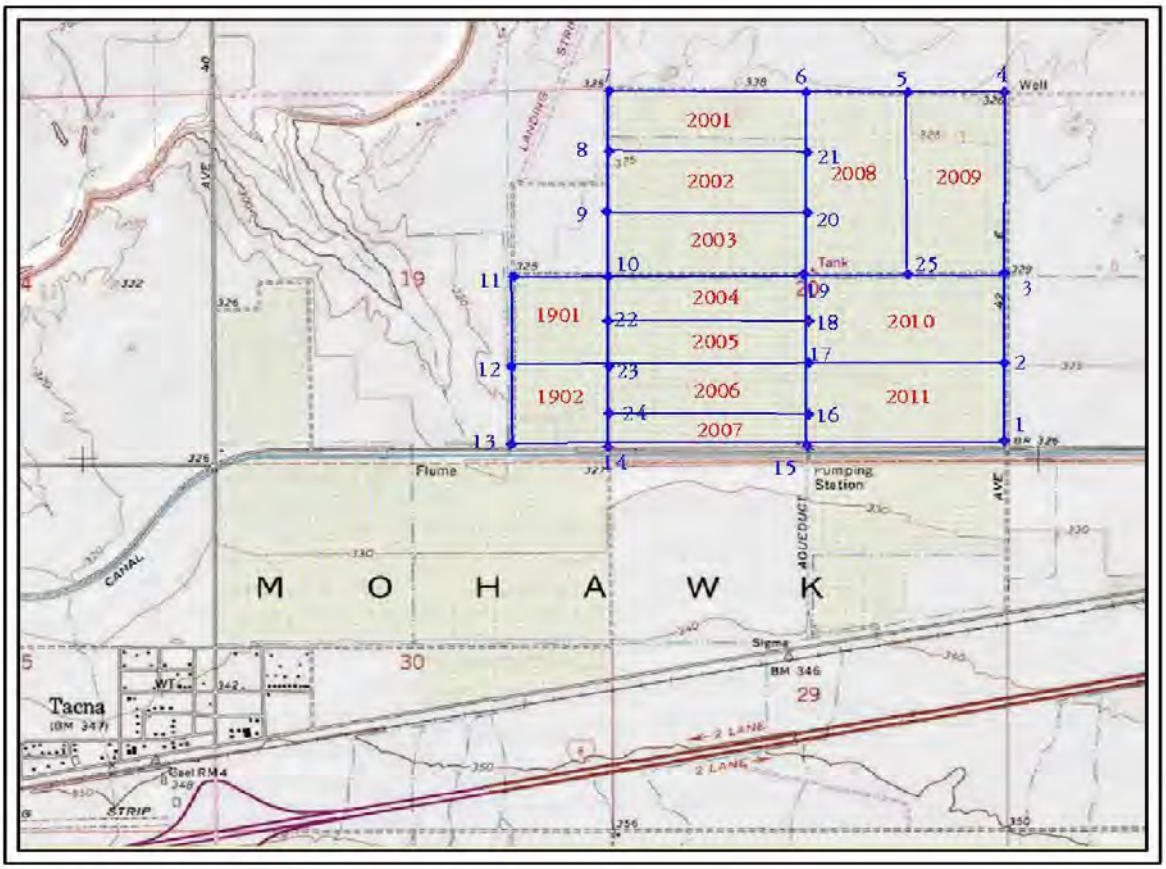
Field ID	Latitude N:	Longitude W:	Acres
YM 1-1	32 48' 58"N	113 27' 10"W	68.37
YM 1-2	32 48' 58"N	113 27' 00"W	74.45
YM 1-3	32 48' 58"N	113 26' 49"W	80.23
YM 1-4	32 49' 02"N	113 26' 14"W	87.04
YM 1-5	32 48' 56"N	113 26' 14"W	102.37
YM 1-6	32 48' 44"N	113 26' 14"W	99.27
YM 1-7	32 48' 36"N	113 26' 14"W	60.79
YM 1-8	32 48' 30"N	113 26' 14"W	73.91
YM 1-15	32 48' 36"N	113 25' 29"W	51.27
YM 1-16	32 48' 36"N	113 25' 47"W	50.50
YM 1-17	32 48' 28"N	113 25' 29"W	49.99
YM 1-18	32 48' 28"N	113 25' 47"W	49.24
YM 1-19	32 48' 19"N	113 25' 29"W	49.53
YM 1-20	32 48' 19"N	113 25' 47"W	47.89
YM 1-D1	32 48' 19"N	113 26' 36"W	35.00
YM 1-D2	32 48' 19"N	113 26' 23"W	35.00
YM 1-D3	32 48' 19"N	113 26' 07"W	35.00
YM 1-D4	32 48' 19"N	113 25' 51"W	35.00
YM 1-10A	32 48' 10"N	113 26' 40"W	50.80
YM 1-10B	32 48' 10"N	113 26' 01"W	52.10
YM 1-10C	32 48' 10"N	113 25' 38"W	26.40
YM 1-10D	32 48' 10"N	113 25' 22"W	26.50
YM 1-11A	32 48' 03"N	113 26' 40"W	49.90
YM 1-11B	32 48' 03"N	113 26' 01"W	51.10
YM 1-11C	32 48' 03"N	113 25' 38"W	26.00
YM 1-11D	32 48' 03"N	113 25' 22"W	26.00
YM 1-12A	32 47' 53"N	113 26' 40"W	46.90
YM 1-12B	32 47' 53"N	113 26' 01"W	47.20
YM 1-12C	32 47' 53"N	113 25' 38"W	24.50
YM 1-12D	32 47' 53"N	113 25' 22"W	24.50

GPS readings are at center of field

San Diego Landfills/Solids Solutions
Fields YM2-1901 thru YM2-2011
Cullison Farms, Tacna, Arizona

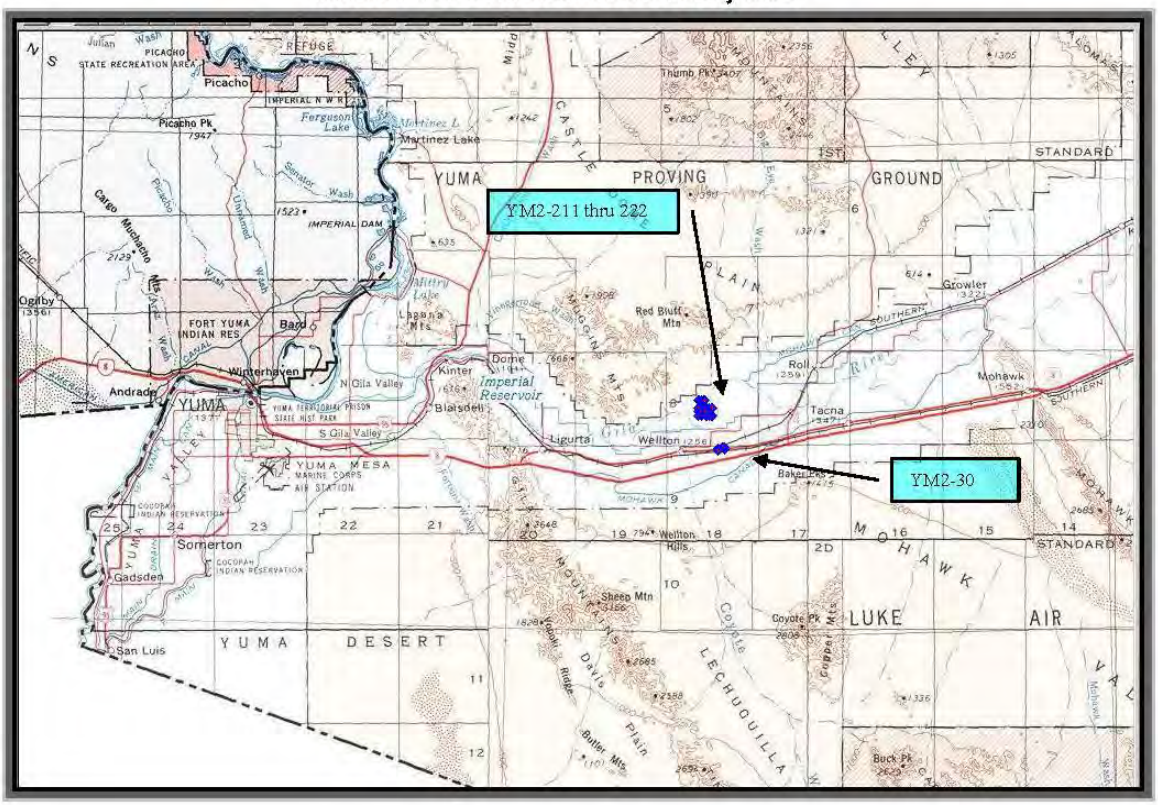


San Diego Landfills/Solid Solutions
Cullison Farms Tacna, AZ
Fields YM2-1901 thru YM2-2011

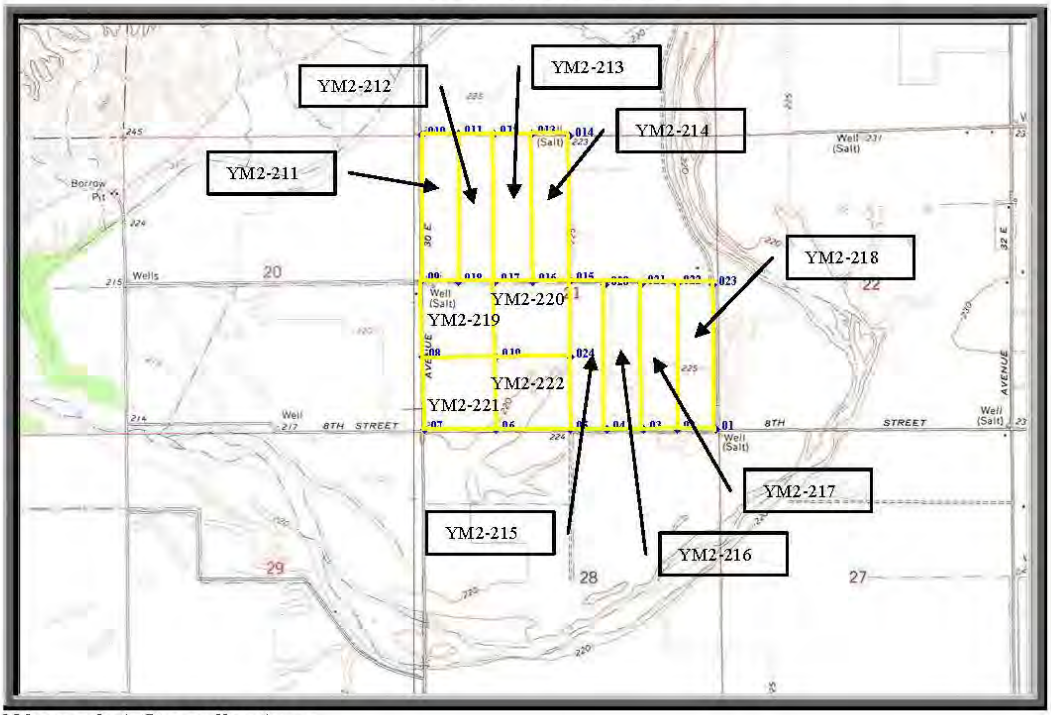


Wpt 1 N32*42.544' W113*55.132'
Wpt 2 N32*42.731' W113*55.131'
Wpt 3 N32*42.943' W113*55.131'
Wpt 4 N32*43.374' W113*55.131'
Wpt 5 N32*43.375' W113*55.384'
Wpt 6 N32*43.376' W113*55.651'
Wpt 7 N32*43.379' W113*56.169'
Wpt 8 N32*43.233' W113*56.169'
Wpt 9 N32*43.090' W113*56.174'
Wpt 10 N32*42.935' W113*56.171'
Wpt 11 N32*42.936' W113*56.419'
Wpt 12 N32*42.721' W113*56.425'
Wpt 13 N32*42.535' W113*56.424'
Wpt 14 N32*42.530' W113*56.171'
Wpt 15 N32*42.534' W113*55.648'
Wpt 16 N32*42.608' W113*55.645'
Wpt 17 N32*42.731' W113*55.644'
Wpt 18 N32*42.830' W113*55.645'
Wpt 19 N32*42.941' W113*55.658'
Wpt 20 N32*43.088' W113*55.648'
Wpt 21 N32*43.231' W113*55.647'
Wpt 22 N32*42.829' W113*56.170'
Wpt 23 N32*42.722' W113*56.166'
Wpt 24 N32*42.611' W113*56.166'
Wpt 25 N32*42.941' W113*55.384'

Solid Solutions Fields YM2-211 thru 222 and YM2-30
Cullison Farms Wellton, AZ



Solid Solutions Fields YM 2-211 thru YM 2-222
Cullison Farms



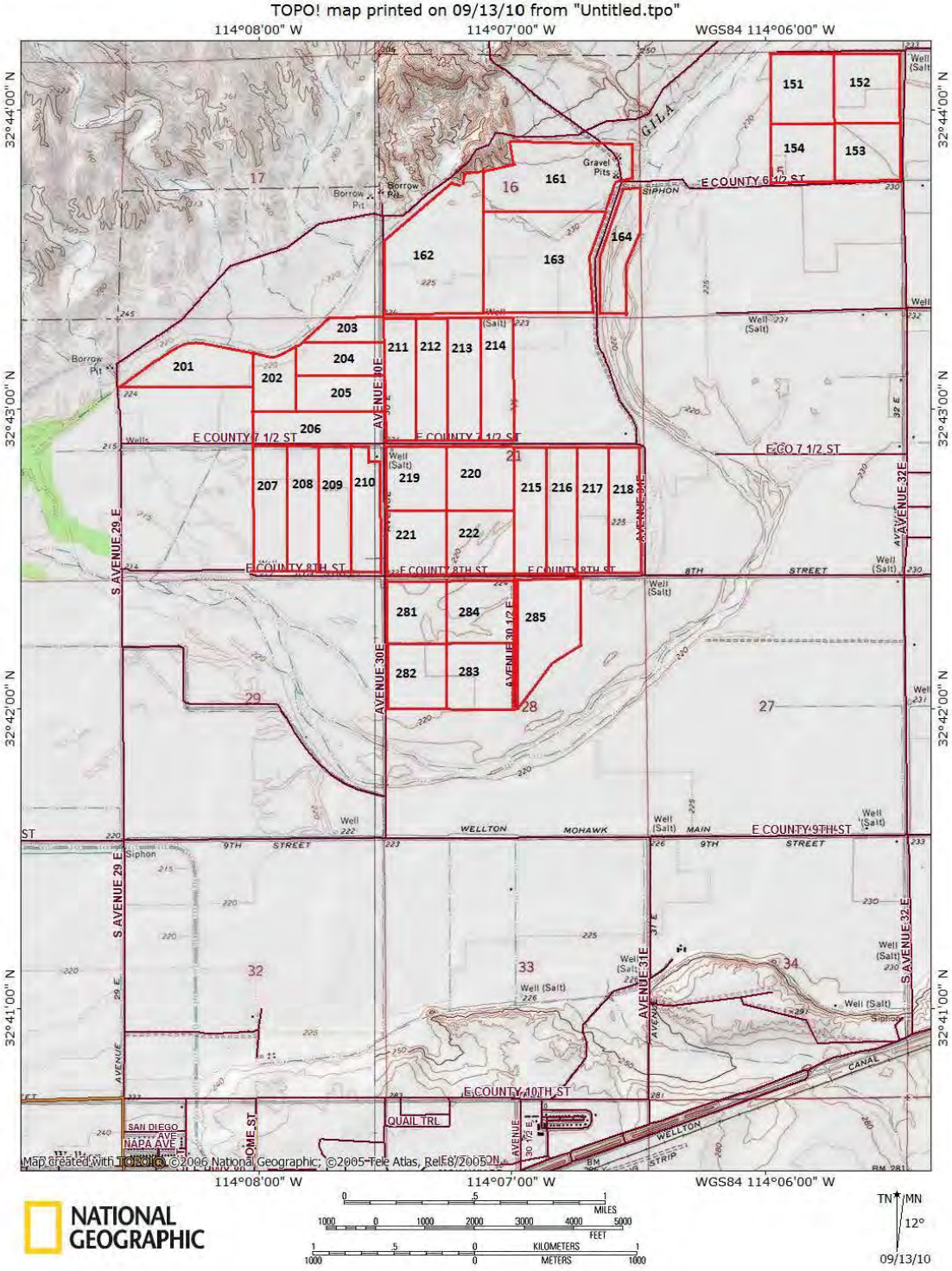
Waypoint Coordinates:

#01) N32*42.440' W114*06.490'	#09) N32*42.878' W114*07.515'	#017) N32*42.877' W114*07.261'
#02) N32*42.440' W114*06.625'	#010) N32*43.308' W114*07.516'	#018) N32*42.876' W114*07.388'
#03) N32*42.440' W114*06.744'	#011) N32*43.310' W114*07.389'	#019) N32*42.655' W114*07.258'
#04) N32*42.440' W114*06.872'	#012) N32*43.309' W114*07.262'	#020) N32*42.868' W114*06.877'
#05) N32*42.440' W114*07.001'	#013) N32*43.310' W114*07.134'	#021) N32*42.870' W114*06.750'
#06) N32*42.440' W114*07.257'	#014) N32*43.304' W114*07.003'	#022) N32*42.871' W114*06.625'
#07) N32*42.439' W114*07.506'	#015) N32*42.878' W114*07.001'	#023) N32*42.868' W114*06.502'
#08) N32*42.655' W114*07.514'	#016) N32*42.877' W114*07.133'	#024) N32*42.655' W114*06.999'

Solid Solutions Fields
Cullison Farms, Wellton, AZ

Solid Solutions Fields
Cullison Farms, Wellton, AZ

TOPO! map printed on 09/13/10 from "Untitled.tpo"

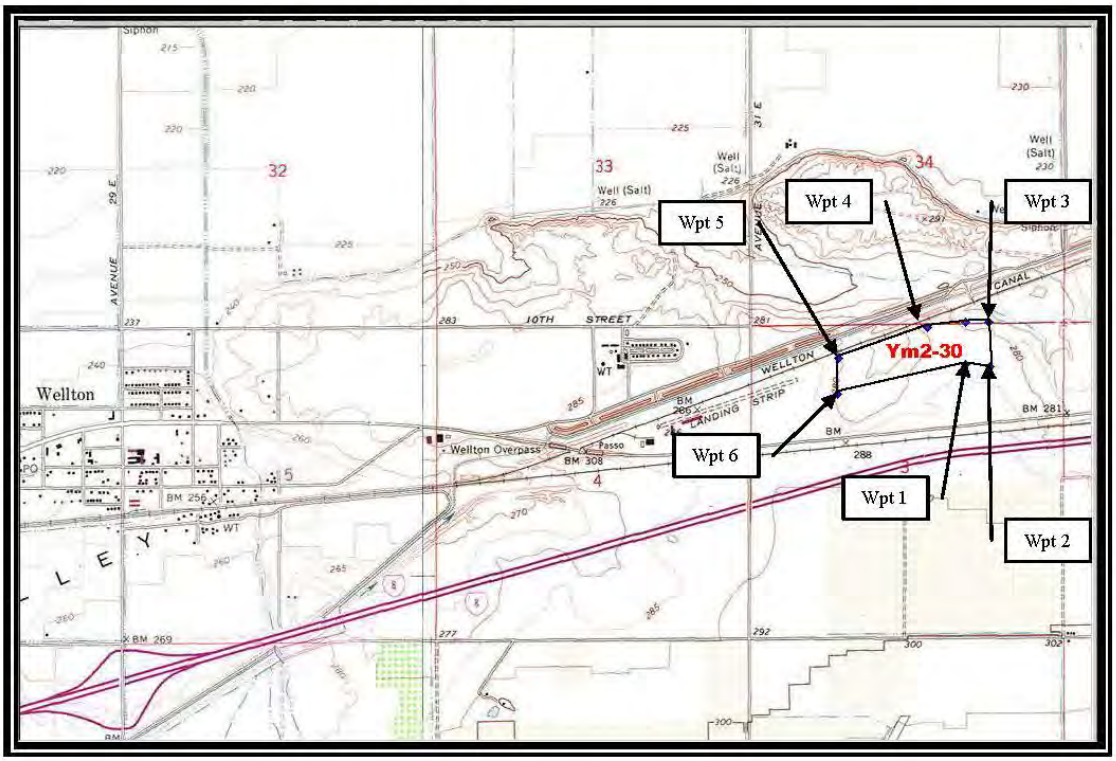


NATIONAL GEOGRAPHIC

MILES 0 .5 1
FEET 1000 0 1000 2000 3000 4000 5000
KILOMETERS 1 .5 0 1
METERS 1000 0 1000

TN MN 12°
09/13/10

Solid Solutions Field YM 2-30 Cullison Farms



Waypoint Coordinates

#1) N32*40.588'
W114*05.763'

#2) N32*40.581'
W114*05.684'

#3) N32*40.705'
W114*05.688'

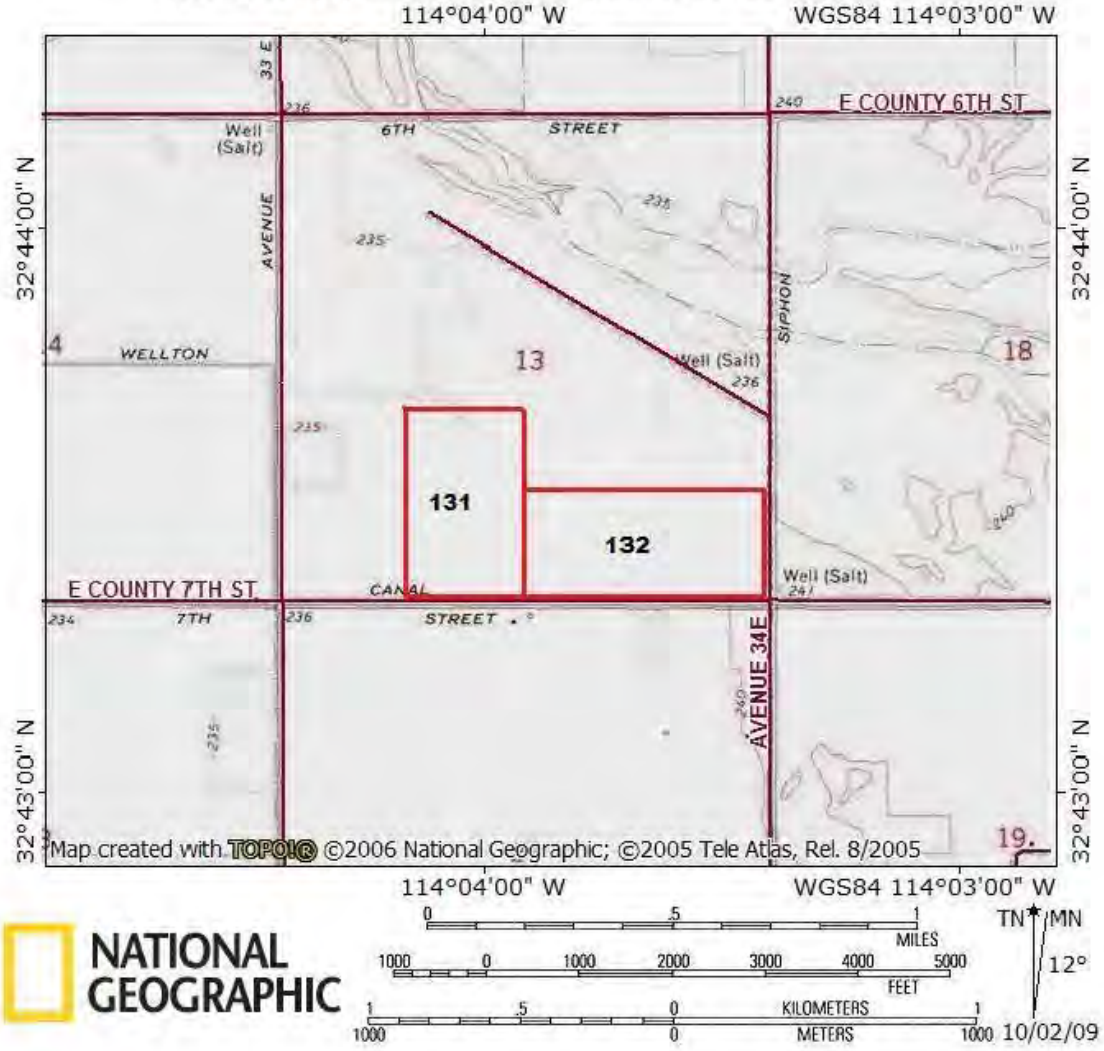
#4) N32*40.691'
W114*05.887'

#5) N32*40.604'
W114*06.181'

#6) N32*40.506'
W114*06.183'

Solid Solutions Fields YM 2-131,132 Cullison Farms

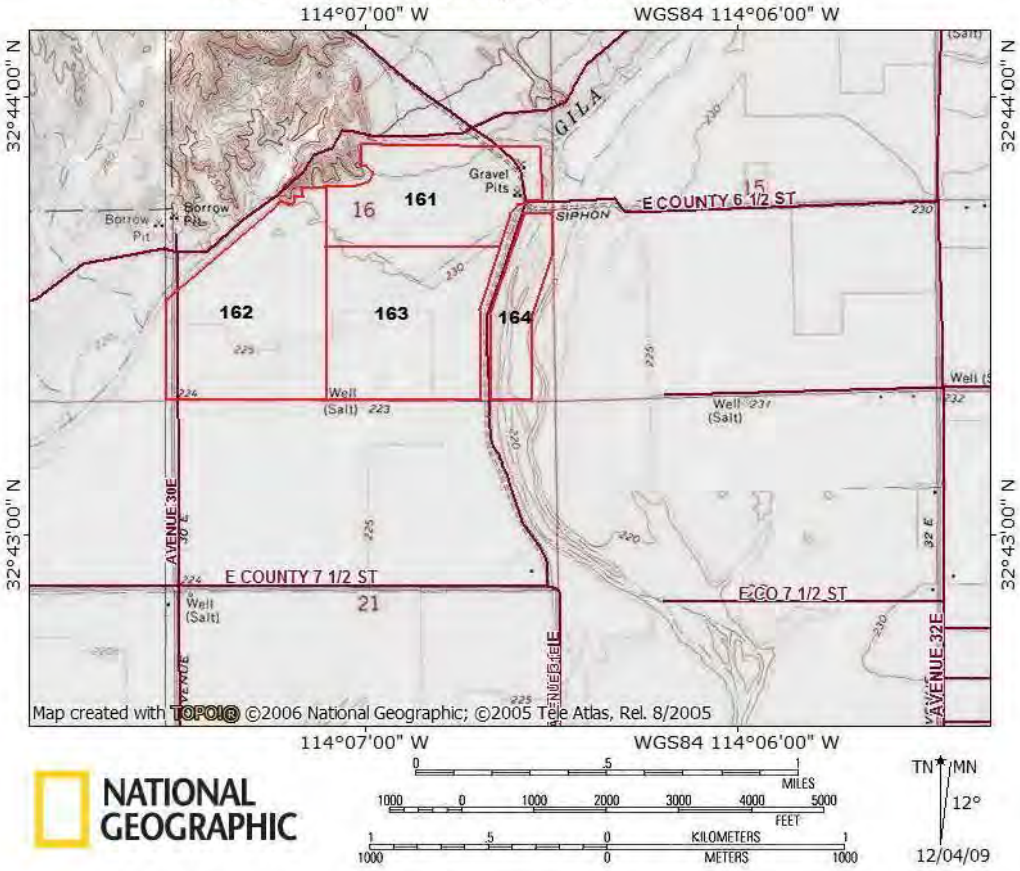
TOPO! map printed on 10/02/09 from "Untitled.tpo"



GPS coordinates, center of field:
YM 2-131: 32° 43' 32"'N 114° 4' 01"W
YM 2-132: 32° 43' 25"'N 114° 3' 48"W

Solid Solutions Fields YM 2-161 thru YM 2-164 Cullison Farms

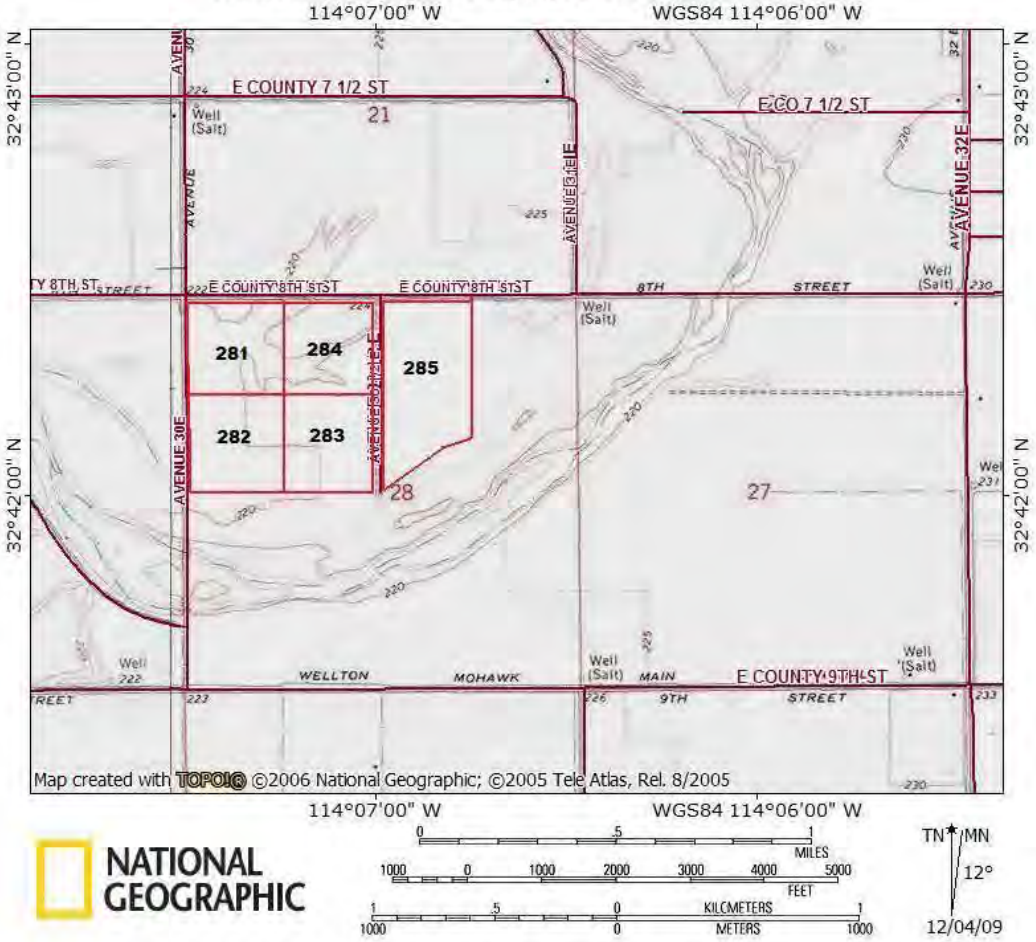
TOPO! map printed on 12/04/09 from "Untitled.tpo"



GPS coordinates, center of field:
YM 2-161: 32° 43' 47"N 114° 6' 47"W
YM 2-164: 32° 43' 40"N 114° 6' 30"W

Solid Solutions Fields YM 2-181 thru YM 2-185 Cullison Farms

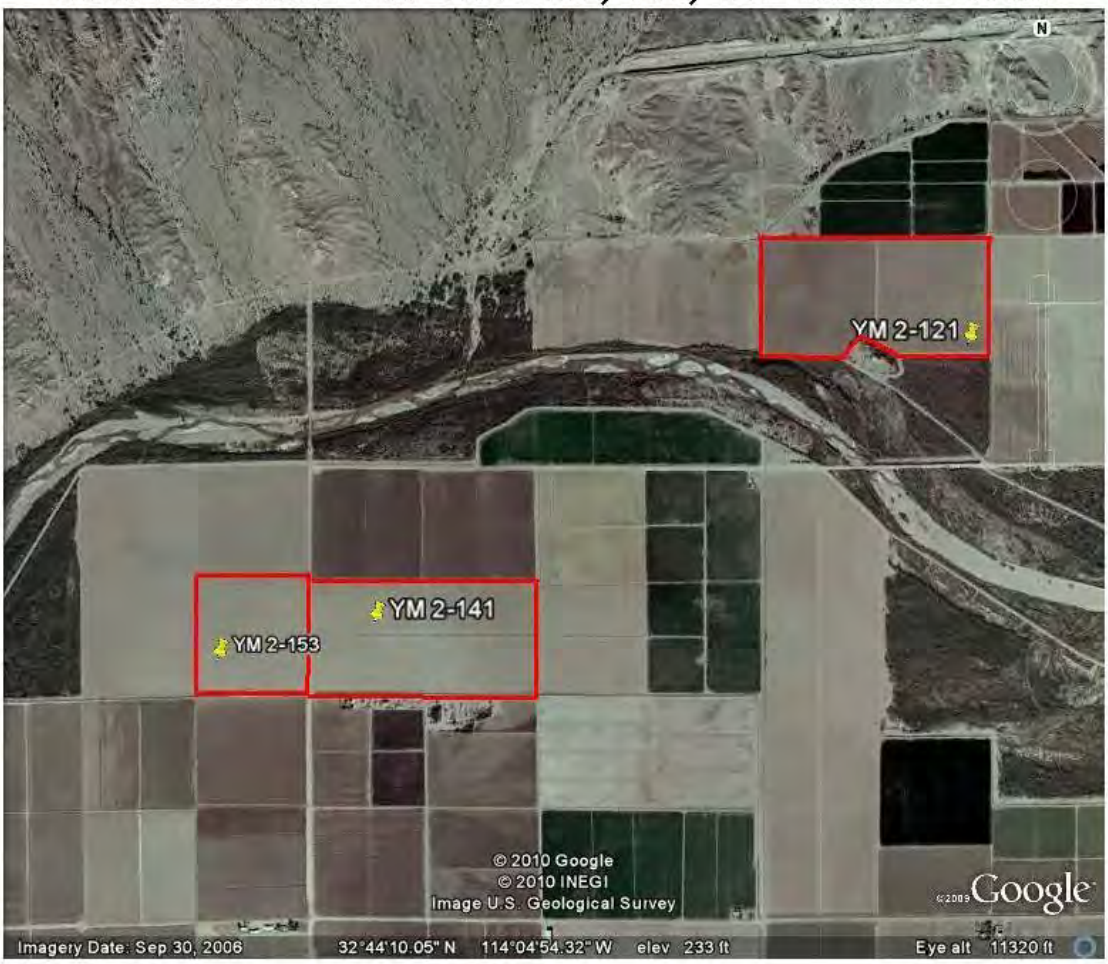
TOPO! map printed on 12/04/09 from "Untitled.tpo"



Note: Fields on map (281-285) represent fields YM 2 181-185.

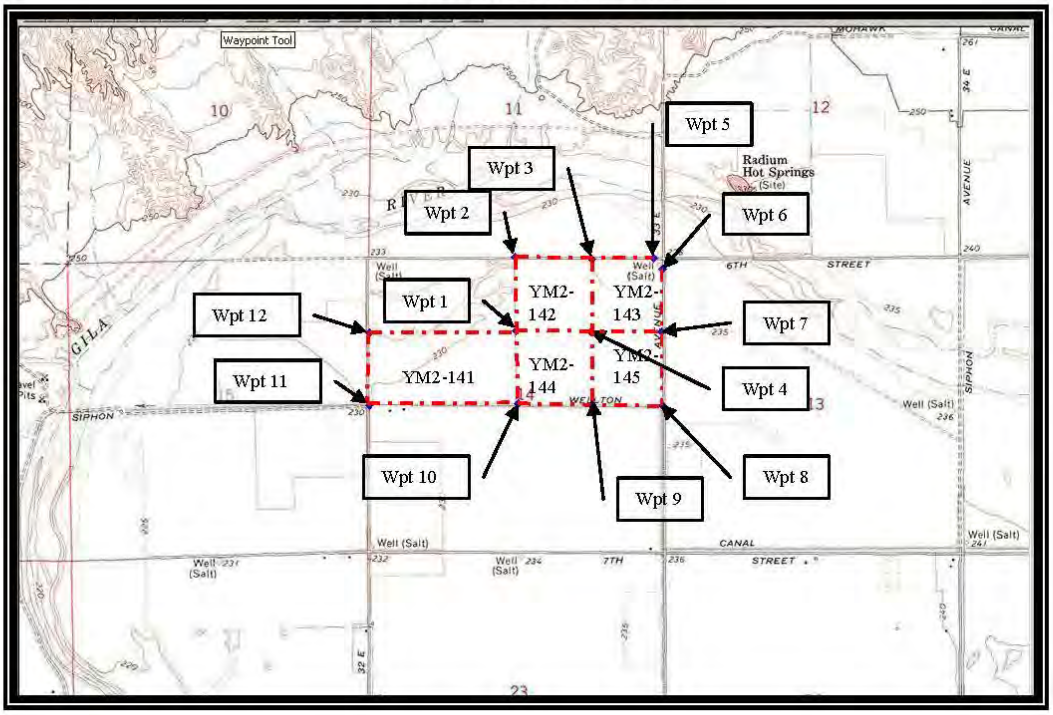
GPS coordinates, center of field:
YM 2-281: 32° 42' 20"N 114° 7' 10"W
YM 2-282: 32° 42' 07"N 114° 7' 23"W
YM 2-283: 32° 42' 07"N 114° 7' 10"W
YM 2-284: 32° 42' 20"N 114° 7' 10"W
YM 2-285: 32° 42' 20"N 114° 6' 53"W

Solid Solutions Field YM 2-153, 143, 121 Cullison Farms



GPS coordinates, center of field:
YM 2-153: 32° 43' 50"N 114° 5' 40"W
YM 2-141: 32° 42' 20"N 114° 7' 23"W
YM 2-121: 32° 46' 26"N 114° 3' 58"W

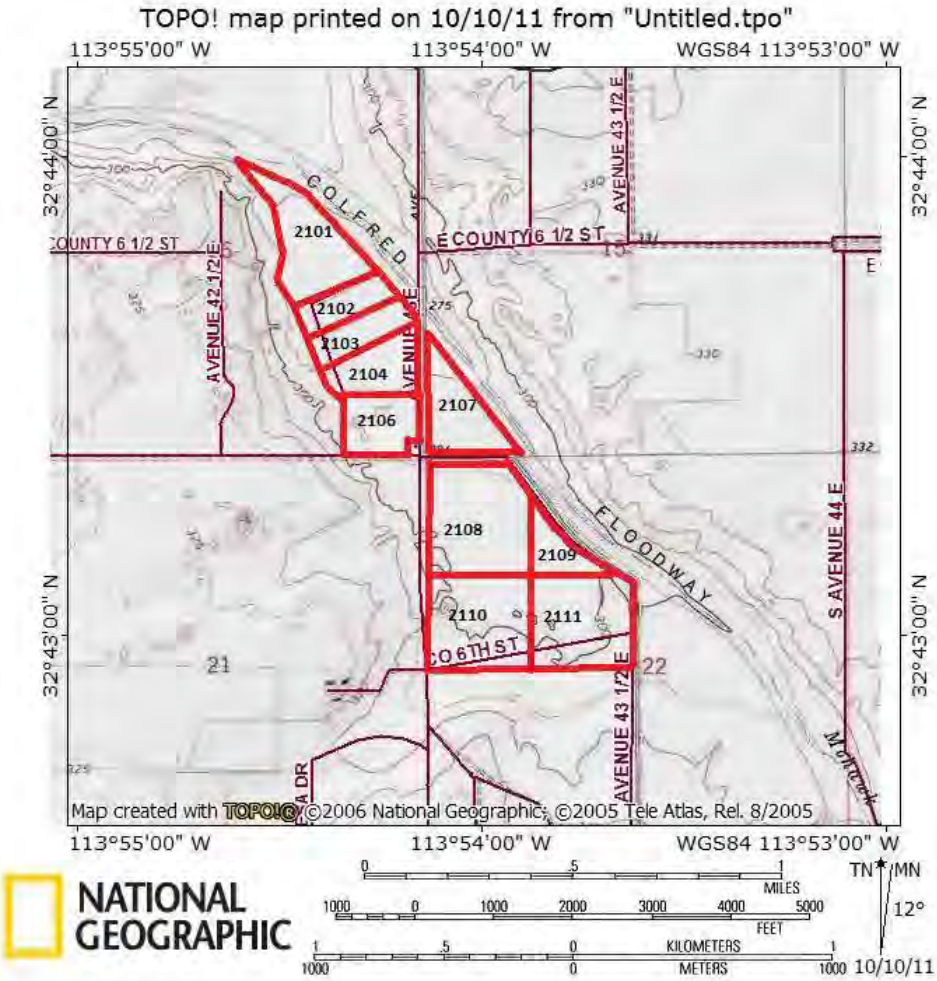
Solid Solutions Fields YM2-141 thru 145
Cullison Farms



Waypoint Coordinates:

#1) N32*43.981'
W114*04.944'
#2) N32*44.197'
W114*04.947'
#3) N32*44.192'
W114*04.681'
#4) N32*43.978'
W114*04.684'
#5) N32*44.195'
W114*04.466'
#6) N32*44.162'
W114*04.435'
#7) N32*43.978'
W114*04.435'
#8) N32*43.761'
W114*04.435'
#9) N32*43.764'
W114*04.681'
#10) N32*43.764'
W114*04.937'
#11) N32*43.761'
W114*05.457'
#12) N32*43.975'
W114*05.457'

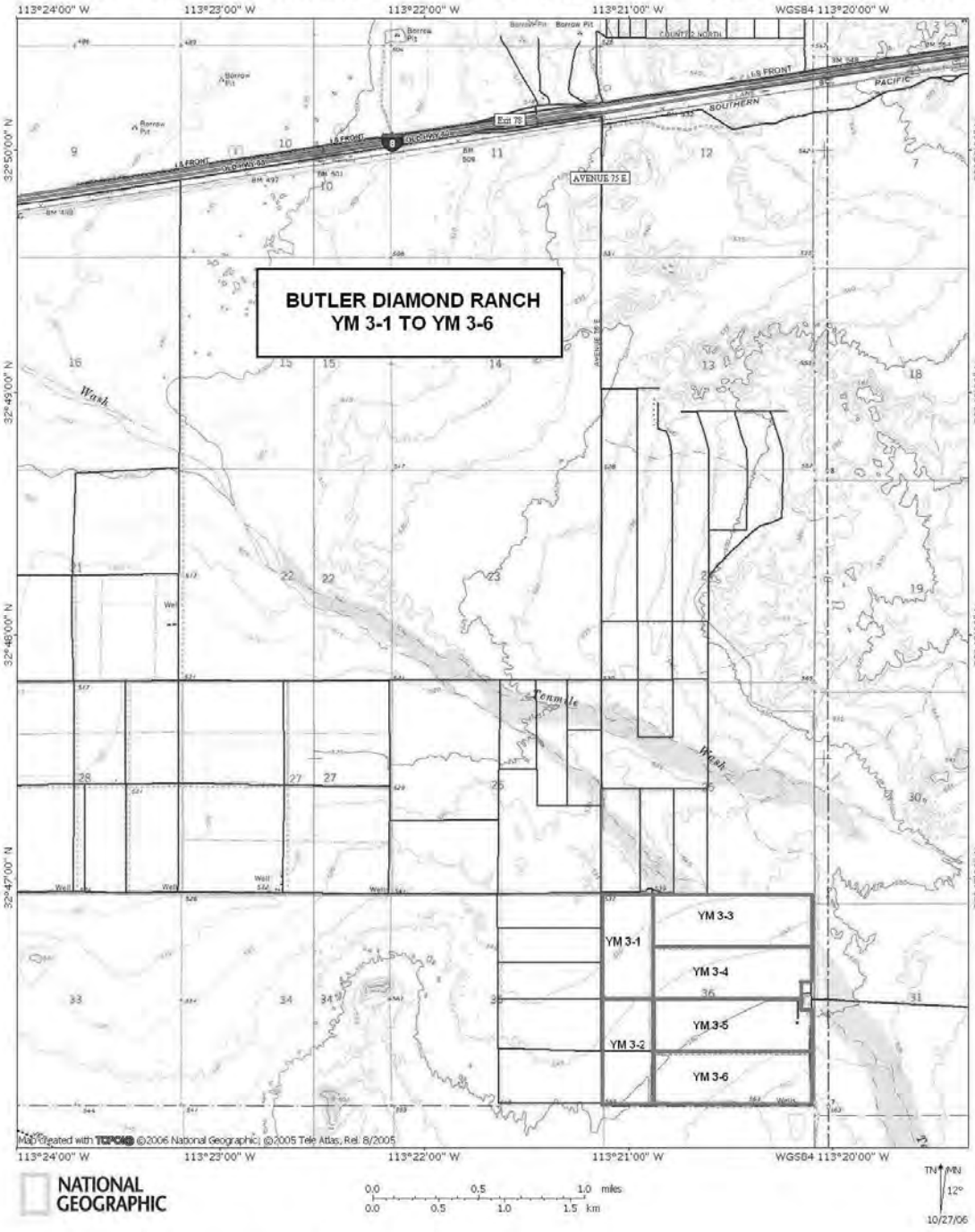
Solid Solutions Fields YM2-2101 thru 2011
Cullison Farms



GPS coordinates, center of field:

Field ID: YM 2-2101	Latitude: 32° 43' 50"N	Longitude: 113° 54' 25W	No. of Acres: 51.9
Field ID: YM 2-2102	Latitude: 32° 43' 45"N	Longitude: 113° 54' 25W	No. of Acres: 11.7
Field ID: YM 2-2103	Latitude: 32° 43' 40"N	Longitude: 113° 54' 20W	No. of Acres: 13.7
Field ID: YM 2-2104	Latitude: 32° 43' 35"N	Longitude: 113° 54' 20W	No. of Acres: 16
Field ID: YM 2-2106	Latitude: 32° 43' 32"N	Longitude: 113° 54' 20W	No. of Acres: 14.7
Field ID: YM 2-2107	Latitude: 32° 43' 35"N	Longitude: 113° 54' 06W	No. of Acres: 39
Field ID: YM 2-2108	Latitude: 32° 43' 10"N	Longitude: 113° 54' 00W	No. of Acres: 39
Field ID: YM 2-2109	Latitude: 32° 43' 08"N	Longitude: 113° 53' 50W	No. of Acres: 13
Field ID: YM 2-2110	Latitude: 32° 43' 00"N	Longitude: 113° 54' 00W	No. of Acres: 40
Field ID: YM 2-2111	Latitude: 32° 43' 00"N	Longitude: 113° 53' 50W	No. of Acres: 40

Solid Solutions Field YM 3-1 to 3-6 Butler Diamond Ranch



GPS coordinates, center of field:

YM 3-1: 32° 46.715'N 113° 21.010'W
YM 3-2: 32° 46.296'N 113° 21.010'W
YM 3-3: 32° 46.809'N 113° 20.535'W
YM 3-4: 32° 46.565'N 113° 20.535'W
YM 3-5: 32° 46.379'N 113° 20.535'W
YM 3-6: 32° 46.177'N 113° 20.535'W

Enclosure 14
Methods of Analyses
City of San Diego Biosolids Samples

2013 Annual Biosolids Report

Enclosure 14 Methods of Analysis of Biosolids samples by the City of San Diego

All Title 22 and CFR 503 analyses were performed by our in-house laboratories. These laboratories are certified by the California Environmental Laboratory Accreditation Program (ELAP) under one or more of the following certificate numbers: 1609, 2474, 2477, 2478, and 2539.

DRIED SLUDGE: Metro Biosolids Center (General)

Analyte	**Description**	**Instrumentation**	**Reference[1]**
Cyanide	Acid Digest-Distillation Colorimetric	Hach DR/4000V UV/Vis	(c) 9010 A
Cyanide Reactive	Distillation / Colorimetric	Hach DR/4000V UV/Vis	(c) 7.3.3.2
pH	Hydrogen+Reference Electrode	Various models of pH meters.	(c) 9045 C
Radiation (alpha & beta)	Gross proportional counter (Test America)	Test America 230W0 (alpha) Tennelec LB-4100 (beta)	(g) 7110 B
Sulfides	Acid Digest-Distil / Titration	Class A Manual Buret	(c) 9030 B
Sulfides, reactive	Distillation / Titration	Class A Manual Buret	(c) 7.3.4.2
Solids, Total	Gravimetric @ 103-105°C	MS 304S analytical balance	(i) 2540 B
Solids, Total-Volatile	Gravimetric @ 550°C	MS 304S analytical balance	(i) 2540 E

DRIED SLUDGE: Metro Biosolids Center (Metals)

Analyte	**Description**	**Instrumentation**	**Reference[1]**
Aluminum	Acid Digestion / ICP-AES	INTREPID II IRIS	(c) 6010 B
Antimony	Acid Digestion / ICP-AES	INTREPID II IRIS	(c) 6010 B
Arsenic	Hydride Generation / AA	INTREPID II	(c) 7062
Barium	Acid Digestion / ICP-AES	INTREPID II IRIS	(c) 6010 B
Beryllium	Acid Digestion / ICP-AES	INTREPID II IRIS	(c) 6010 B
Boron	Acid Digestion / ICP-AES	INTREPID II IRIS	(c) 6010 B
Cadmium	Acid Digestion / ICP-AES	INTREPID II IRIS	(c) 6010 B
Chromium	Acid Digestion / ICP-AES	INTREPID II IRIS	(c) 6010 B
Cobalt	Acid Digestion / ICP-AES	INTREPID II IRIS	(c) 6010 B
Copper	Acid Digestion / ICP-AES	INTREPID II IRIS	(c) 6010 B
Iron	Acid Digestion / ICP-AES	INTREPID II IRIS	(c) 6010 B
Lead	Acid Digestion / ICP-AES	INTREPID II IRIS	(c) 6010 B
Manganese	Acid Digestion / ICP-AES	INTREPID II IRIS	(c) 6010 B
Mercury	Cold Vapor Generation / AF	Leeman Hydra Gold	(c) 7471 A
Molybdenum	Acid Digestion / ICP-AES	INTREPID II IRIS	(c) 6010 B
Nickel	Acid Digestion / ICP-AES	INTREPID II IRIS	(c) 6010 B
Selenium	Hydride Generation / AA	ICE 3300	(c) 7742
Silver	Acid Digestion / ICP-AES	INTREPID II IRIS	(c) 6010 B
Thallium	Acid Digestion / ICP-AES	INTREPID II IRIS	(c) 6010 B
Vanadium	Acid Digestion / ICP-AES	INTREPID II IRIS	(c) 6010 B
Zinc	Acid Digestion / ICP-AES	INTREPID II IRIS	(c) 6010 B

Waste Extraction Test (WET)	Extraction with Sodium Citrate ICP-AES	Burrel wrist action shaker TJA IRIS	(j) Section 66261.100

[1] Reference listing is found following this listing of analytical methods.

DRIED SLUDGE: Metro Biosolids Center (Organics)

Analyte	Description	Instrumentation	Reference[1]
Acrolein and Acrylonitrile	Purge & Trap, GC-MSD	O-I Analytical Eclipse 4660/4552 HP-6890N GC / 5973N MSD Capillary J&W DB-624	(c) 8260 B (b)
Base/Neutral Extractables	CH2Cl2 /Acetone sonication extraction, GC-MSD	Agilent-7890GC / 5975MSD Capillary DB-5.625	(c) 8270 C (c) 3550 A (b)
Chlorinated Compounds	CH2Cl2 extraction, GC-MS/MS	Bruker 450-GC 300-MS TQ Mass Spectrometer DB-XLB	(c) 8081 A
PCBs	CH2Cl2 extraction, GC-MS/MS	Bruker 450-GC 300-MS TQ Mass Spectrometer DB-XLB	(c) 8082
Dioxin	Outside Contact (Test America)	HRGCMS	(a) 8290
Organophosphorus Pesticides	CH2Cl2 extraction, hexane exchange, GC-PFPD	Varian 3800 GC-PFPD DB-1/30m DB-608/30m	(c) 8141 A
Phenolic Compounds	CH2Cl2 / Acetone sonication extraction, GC-MSD	HP-7890GC / 5972MSD Agilent-7890GC / 5975MSD Capillary DB-5.625	(c) 8270 C (c) 3550 A (b)
Purgeables (VOCs)	Purge & Trap, GC-MSD	O-I Analytical Eclipse 4660/4552 HP-6890N GC / 5973N MSD Capillary J&W DB-624	(c) 8260 B
Tri, Di, and Monobutyl Tin	CH2Cl2 extraction, derivatization, hexane exchange, GC-FPD	Varian 3400 GC-FPD DB-1/30m DB-608/30m	(l)
Total Nitrogen (TN)	Combustion / GC-TCD	Carlo-Erba NC-2500 Porapak QS	(m) 9060

[1] Reference listing is found following this listing of analytical methods.

Method References: Methods of Analysis Used to Produce the Data Presented in this Report.

a) Methods for Chemical Analysis of Water and Wastes,
EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio,
March 1979 (EPA-600/4-79-020), 1983 Revision, and March 1984 (EPA-600/4-84-017).

b) U.S. EPA Contract Laboratory Program, Statement of Work for Organic Analysis,
Multi-Media, Multi-Concentration, 7/85 revision and 1/91 revision.

c) Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,
U.S. EPA Office of Solid Waste and emergency Response,
Washington, D.C. 20460, November 1986, SW-846, Third Edition.
Revision 0 September 1994, December 1996, Revision 2

g) Standard Methods for the Examination of Water and Wastewater,
APHA, AWWA, WPCF, 18th Edition, 1992.

i) Standard Methods for the Examination of Water and Wastewater,
APHA, AWWA, WPCF, 20th Edition, 1998.

l) Adaptation of method by the Naval Ocean Systems Center, San Diego, Marine Environment Branch, San Diego, CA 92152-5000

Enclosure 15
Laboratory Analyses Performed by Arizona Certified Laboratory

2013 Annual Biosolids Report

LEGEND
Technical Services, Inc.
www.legend-group.com

17631 North 25th Avenue • Phoenix, AZ 85023
P (602) 324-6100 • F (602) 324-6101

15 January 2013

Barry Ayers
City of San Diego, Metro Biosolids Center
5240 Convoy St.
San Diego, CA 92111-1227

RE: Monthly Biosolids Analysis

Laboratory Work Order No.: 3010213

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 01/03/13 11:00.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

Lisa Parrish

Lisa Parrish
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
Raw Sludge Pump (Raw Sludge) P646636	3010213-01	Solid	Composite	01/02/13 07:30	01/03/13 11:00
Digester #7 (Digester 7 Sludge) P646638	3010213-02	Solid	Composite	01/02/13 07:30	01/03/13 11:00
MBCDEWN (Dewatered Sludge Cake) P644970	3010215-01	Solid (Dry Weight)	Composite	12/31/12 23:59	01/03/13 11:00
MBC_Dig3 (Digested Sludge/Grab) P646640	3010216-01	Solid	Grab	01/01/13 09:00	01/03/13 11:00
MBC_TSBTC (Raw Sludge/Grab) P646641	3010216-02	Solid	Grab	01/01/13 09:00	01/03/13 11:00

Sample Condition Upon Receipt:

Temperature: 3.30 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.

Comments: There were no problems encountered during the processing of the samples, unless otherwise noted.
All samples were analyzed on a "wet" basis unless designated as "dry weight".

Sample Condition Upon Receipt:

Temperature: 3.30 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.

Comments: There were no problems encountered during the processing of the samples, unless otherwise noted. All samples were analyzed on a "wet" basis unless designated as "dry weight".

Sample Condition Upon Receipt:

Temperature: 3.30 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.

Comments: There were no problems encountered during the processing of the samples, unless otherwise noted. All samples were analyzed on a "wet" basis unless designated as "dry weight".

LEGEND
Technical Services, Inc.
www.legend-group.com

17631 North 25th Avenue • Phoenix, AZ 85023
P (602) 324-6100 • F (602) 324-6101

18 February 2013

Barry Ayers
City of San Diego, Metro Biosolids Center
5240 Convoy St.
San Diego, CA 92111-1227

RE: Monthly Biosolids Analysis

Laboratory Work Order No.: 3020521

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 02/07/13 11:30.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

Lisa Parrish

Lisa Parrish
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
MBCDEWN (Dewatered Sludge Cake) P649993	3020521-01	Solid (Dry Weight)	Grab	01/31/13 23:59	02/07/13 11:30
MBC_Dig3 (Digested Sludge / Grab) P650368	3020521-02	Solid (Dry Weight)	Grab	02/05/13 09:00	02/07/13 11:30
MBC_TSBTC (Raw Sludge / Grab) P650369	3020521-03	Solid (Dry Weight)	Grab	02/05/13 09:00	02/07/13 11:30
Digester 7 (Digester Sludge) P650366	3020521-04	Solid (Dry Weight)	Composite	02/05/13 23:59	02/07/13 11:30
Raw Feed Pump #2 (PL Raw Sludge) P650367	3020521-05	Solid (Dry Weight)	Composite	02/05/13 23:59	02/07/13 11:30

Sample Condition Upon Receipt:

Temperature: 3.70 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.

Comments: There were no problems encountered during the processing of the samples, unless otherwise noted.
All samples were analyzed on a "wet" basis unless designated as "dry weight".

MBCDEWN (Dewatered Sludge Cake) P649993 (3020521-01) Solid (Dry Weight) (Grab) Sampled: 01/31/13 23:59
Received: 02/07/13 11:30

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Total Metals									
Arsenic	<29.4	29.4	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Cadmium	**2.59**	0.588	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Chromium	**44.3**	0.735	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Copper	**696**	1.47	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Lead	**22.8**	14.7	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Mercury	**0.77**	0.25	mg/kg dry	1	B3B0305	02/12/13 09:37	02/12/13 14:45	EPA 7471A	
Molybdenum	**14.9**	2.94	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Nickel	**35.2**	2.94	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Selenium	<29.4	29.4	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Zinc	**955**	2.94	mg/kg dry	2	B3B0227	02/08/13 11:15	02/11/13 14:01	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.4	7.4	mg/kg dry	1	[CALC]	02/12/13 14:30	02/12/13 14:30	Calculation	
Organic Nitrogen	**50700**	3680	mg/kg dry	10	[CALC]	02/12/13 14:30	02/13/13 12:01	Calculation	
Total Nitrogen	**54400**	3680	mg/kg dry	1	[CALC]	02/12/13 14:30	02/12/13 14:30	Calculation	
Ammonia as N	**3750**	368	mg/kg dry	10	B3B0335	02/13/13 12:01	02/13/13 12:01	EPA 350.1	
Nitrate + Nitrite as N	<7.35	7.35	mg/kg dry	1	B3B0320	02/12/13 14:30	02/12/13 14:30	SM 4500 NO3 F	
Nitrite as N	<3.7	3.7	mg/kg dry wt. dry	1	B3B0298	02/12/13 11:00	02/12/13 11:00	SM 4500 NO2 B	
Total Kjeldahl Nitrogen	**54400**	3680	mg/kg dry	1	B3B0309	02/12/13 07:45	02/12/13 13:40	EPA 351.2	
Total Phosphorous	**69800**	9190	mg/kg dry	1	B3B0377	02/13/13 10:00	02/13/13 16:35	EPA 365.3	
Total Fixed Solids	**40**	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	
% Solids	**27**	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	
Total Volatile Solids	**60**	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	

MBC_Dig3 (Digested Sludge / Grab) P650368 (3020521-02) Solid (Dry Weight) (Grab) Sampled: 02/05/13 09:00
Received: 02/07/13 11:30

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**2**	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	
Total Volatile Solids	**62**	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	

MBC_TSBTC (Raw Sludge / Grab) P650369 (3020521-03) Solid (Dry Weight) (Grab) Sampled: 02/05/13 09:00
Received: 02/07/13 11:30

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**5**	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	
Total Volatile Solids	**83**	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	

Digester 7 (Digester Sludge) P650366 (3020521-04) Solid (Dry Weight) (Composite) Sampled: 02/05/13 23:59
Received: 02/07/13 11:30

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**2**	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	
Total Volatile Solids	**56**	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	

Raw Feed Pump #2 (PL Raw Sludge) P650367 (3020521-05) Solid (Dry Weight) (Composite) Sampled: 02/05/13 23:59
Received: 02/07/13 11:30

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	4	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	
Total Volatile Solids	78	1	%	1	B3B0224	02/07/13 15:30	02/07/13 15:30	SM 2540 G	

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3B0227 - EPA 3050B Dry										
Blank (B3B0227-BLK1)				*Prepared: 02/08/13 Analyzed: 02/11/13*						
Arsenic	<0.20	0.20	mg/kg wet							
Cadmium	<0.004	0.004	mg/kg wet							
Chromium	<0.005	0.005	mg/kg wet							
Copper	<0.01	0.01	mg/kg wet							
Lead	<0.100	0.100	mg/kg wet							
Molybdenum	<0.02	0.02	mg/kg wet							
Nickel	<0.02	0.02	mg/kg wet							
Selenium	<0.2	0.2	mg/kg wet							
Zinc	<0.02	0.02	mg/kg wet							
LCS (B3B0227-BS1)				*Prepared: 02/08/13 Analyzed: 02/11/13*						
Arsenic	2.01	0.20	mg/kg wet	2.00		100	85-115			
Cadmium	0.396	0.004	mg/kg wet	0.400		99	85-115			
Chromium	0.512	0.005	mg/kg wet	0.500		102	85-115			
Copper	1.01	0.01	mg/kg wet	1.00		101	85-115			
Lead	0.999	0.100	mg/kg wet	1.00		100	85-115			
Molybdenum	0.21	0.02	mg/kg wet	0.200		103	85-115			
Nickel	1.00	0.02	mg/kg wet	1.00		100	85-115			
Selenium	1.0	0.2	mg/kg wet	1.00		98	85-115			
Zinc	0.98	0.02	mg/kg wet	1.00		98	85-115			
Matrix Spike (B3B0227-MS2)	**Source: 3020516-02**			*Prepared: 02/08/13 Analyzed: 02/11/13*						
Arsenic	462	45.7	mg/kg dry	457	10.8	99	75-125			
Cadmium	93.8	0.914	mg/kg dry	91.4	8.79	93	75-125			
Chromium	199	1.14	mg/kg dry	114	88.6	96	75-125			
Copper	1150	2.29	mg/kg dry	229	929	98	75-125			
Lead	247	22.9	mg/kg dry	229	34.6	93	75-125			
Molybdenum	50.4	4.57	mg/kg dry	45.7	6.66	96	75-125			
Nickel	347	4.57	mg/kg dry	229	133	94	75-125			
Selenium	228	45.7	mg/kg dry	229	6.0	97	75-125			
Zinc	1060	4.57	mg/kg dry	229	855	89	75-125			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3B0227 - EPA 3050B Dry										
Matrix Spike Dup (B3B0227-MSD2)		**Source: 3020516-02**		*Prepared: 02/08/13 Analyzed: 02/11/13*						
Arsenic	469	45.7	mg/kg dry	457	10.8	100	75-125	2	20	
Cadmium	96.0	0.914	mg/kg dry	91.4	8.79	95	75-125	2	20	
Chromium	203	1.14	mg/kg dry	114	88.6	100	75-125	2	20	
Copper	1180	2.29	mg/kg dry	229	929	111	75-125	2	20	
Lead	253	22.9	mg/kg dry	229	34.6	95	75-125	2	20	
Molybdenum	51.4	4.57	mg/kg dry	45.7	6.66	98	75-125	2	20	
Nickel	354	4.57	mg/kg dry	229	133	97	75-125	2	20	
Selenium	234	45.7	mg/kg dry	229	6.0	100	75-125	3	20	
Zinc	1080	4.57	mg/kg dry	229	855	98	75-125	2	20	
Batch B3B0305 - EPA 7471A Prep										
Blank (B3B0305-BLK1)				*Prepared & Analyzed: 02/12/13*						
Mercury	<0.0004	0.0004	mg/kg wet							
LCS (B3B0305-BS1)				*Prepared & Analyzed: 02/12/13*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		100	85-115			
Matrix Spike (B3B0305-MS1)		**Source: 3020483-01**		*Prepared & Analyzed: 02/12/13*						
Mercury	14.5	1.6	mg/kg dry	15.5	<1.6	93	85-115			
Matrix Spike Dup (B3B0305-MSD1)		**Source: 3020483-01**		*Prepared & Analyzed: 02/12/13*						
Mercury	14.6	1.6	mg/kg dry	15.5	<1.6	94	85-115	0.4	20	

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3B0224 - NO PREP										
Blank (B3B0224-BLK1)				*Prepared & Analyzed: 02/07/13*						
% Solids	<1	1	%							
Total Fixed Solids	<1	1	%							
Total Volatile Solids	<1	1	%							
Duplicate (B3B0224-DUP1)		**Source: 3020521-01**		*Prepared & Analyzed: 02/07/13*						
% Solids	28	1	%		27			1	5	
Total Fixed Solids	40	1	%		40			0.5	5	
Total Volatile Solids	60	1	%		60			0.3	5	
Batch B3B0298 - NO PREP										
Blank (B3B0298-BLK1)				*Prepared & Analyzed: 02/12/13*						
Nitrite as N	<0.1	0.1	mg/kg dry wt. wet							
LCS (B3B0298-BS1)				*Prepared & Analyzed: 02/12/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		102	80-120			
LCS Dup (B3B0298-BSD1)				*Prepared & Analyzed: 02/12/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		102	80-120	0.5	20	
Matrix Spike (B3B0298-MS1)		**Source: 3020481-01**		*Prepared & Analyzed: 02/12/13*						
Nitrite as N	7.5	5.1	mg/kg dry wt. dry	10.2	<5.1	74	80-120			M2
Matrix Spike Dup (B3B0298-MSD1)		**Source: 3020481-01**		*Prepared & Analyzed: 02/12/13*						
Nitrite as N	7.6	5.1	mg/kg dry wt. dry	10.2	<5.1	75	80-120	0.7	20	M2

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3B0309 - NO PREP										
Blank (B3B0309-BLK1)				*Prepared & Analyzed: 02/12/13*						
Total Kjeldahl Nitrogen	<1.00	1.00	mg/kg wet							
LCS (B3B0309-BS1)				*Prepared & Analyzed: 02/12/13*						
Total Kjeldahl Nitrogen	5.16	1.00	mg/kg wet	5.00		103	90-110			
LCS Dup (B3B0309-BSD1)				*Prepared & Analyzed: 02/12/13*						
Total Kjeldahl Nitrogen	5.22	1.00	mg/kg wet	5.00		104	90-110	1	20	
Matrix Spike (B3B0309-MS1)		**Source: 3020604-01**		*Prepared & Analyzed: 02/12/13*						
Total Kjeldahl Nitrogen	36100	5690	mg/kg dry	5690	27000	159	90-110			M1
Matrix Spike Dup (B3B0309-MSD1)		**Source: 3020604-01**		*Prepared & Analyzed: 02/12/13*						
Total Kjeldahl Nitrogen	36300	5690	mg/kg dry	5690	27000	163	90-110	0.6	20	M1
Batch B3B0320 - NO PREP										
Blank (B3B0320-BLK1)				*Prepared & Analyzed: 02/12/13*						
Nitrate + Nitrite as N	<0.20	0.20	mg/kg wet							
LCS (B3B0320-BS1)				*Prepared & Analyzed: 02/12/13*						
Nitrate + Nitrite as N	10.1	0.20	mg/kg wet	10.0		101	90-110			
LCS Dup (B3B0320-BSD1)				*Prepared & Analyzed: 02/12/13*						
Nitrate + Nitrite as N	10.1	0.20	mg/kg wet	10.0		101	90-110	0	20	
Matrix Spike (B3B0320-MS1)		**Source: 3020483-01**		*Prepared & Analyzed: 02/12/13*						
Nitrate + Nitrite as N	2180	46.6	mg/kg dry	2330	7.30	93	80-120			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3B0320 - NO PREP										
Matrix Spike Dup (B3B0320-MSD1)		**Source: 3020483-01**		*Prepared & Analyzed: 02/12/13*						
Nitrate + Nitrite as N	2160	46.6	mg/kg dry	2330	7.30	92	80-120	1	20	
Batch B3B0335 - NO PREP										
Blank (B3B0335-BLK1)				*Prepared & Analyzed: 02/13/13*						
Ammonia as N	<1.00	1.00	mg/kg wet							
LCS (B3B0335-BS1)				*Prepared & Analyzed: 02/13/13*						
Ammonia as N	10.0	1.00	mg/kg wet	10.0		100	90-110			
LCS Dup (B3B0335-BSD1)				*Prepared & Analyzed: 02/13/13*						
Ammonia as N	10.1	1.00	mg/kg wet	10.0		101	90-110	1	20	
Matrix Spike (B3B0335-MS1)		**Source: 3020483-01**		*Prepared & Analyzed: 02/13/13*						
Ammonia as N	3660	233	mg/kg dry	2330	1300	101	90-110			
Matrix Spike Dup (B3B0335-MSD1)		**Source: 3020483-01**		*Prepared & Analyzed: 02/13/13*						
Ammonia as N	3680	233	mg/kg dry	2330	1300	102	90-110	0.6	20	
Batch B3B0377 - NO PREP										
Blank (B3B0377-BLK1)				*Prepared & Analyzed: 02/13/13*						
Total Phosphorous	<0.05	0.05	mg/kg wet							
LCS (B3B0377-BS1)				*Prepared & Analyzed: 02/13/13*						
Total Phosphorous	0.09	0.05	mg/kg wet	0.100		89	80-120			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3B0377 - NO PREP										
LCS Dup (B3B0377-BSD1)				*Prepared & Analyzed: 02/13/13*						
Total Phosphorous	0.09	0.05	mg/kg wet	0.100		92	80-120	3	20	
Matrix Spike (B3B0377-MS1)		**Source: 3020483-01**		*Prepared & Analyzed: 02/13/13*						
Total Phosphorous	40500	5830	mg/kg dry	11700	27000	116	80-120			
Matrix Spike Dup (B3B0377-MSD1)		**Source: 3020483-01**		*Prepared & Analyzed: 02/13/13*						
Total Phosphorous	40700	5830	mg/kg dry	11700	27000	118	80-120	0.6	20	

Notes and Definitions

M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
M1	Matrix spike recovery was high; the method control sample recovery was acceptable.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

3020521

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center	Sampler/s: Plant Operators	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name: Richard Pitchford	Contact Name: Richard Pitchford	31 Day Composite from Daily Grab Samples.
Phone: (858) 614-5509	Phone: (858) 614-5509	

Sample Information: (All information is required) Number of attachments: 1

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/Wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)
01/01 - 01/31 2013 / 2400	OPR	MBCDEWN	Dewatered Sludge Cake	1000	1	Plastic Bag	ICE	See Attached	P649993 01

Chain-of-Custody

Relinquished by: Name: Keith Kuehnert Sign:	Received by: Name: George Wendorf Sign:	Date & Time 2/1/13 Location: 09:00 MBC A51 Lab	Comments
Relinquished by: Name: George Wendorf Sign:	Received by: Name: Courier Sign:	Date & Time Location:	3.7°C
Relinquished by: Name: Courier Sign:	Received by: Name: Howard Sign: Howard	Date & Time Location: 2/7/13 1130	

See instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

CITY OF SAN DIEGO 3020521
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center	Sampler/s: Plant Operators	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name: Richard Pitchford	Contact Name: Richard Pitchford	
Phone: (858) 614-5509	Phone: (858) 614-5509	

Sample Information: (All information is required) Number of attachments: 0

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/wt mLs / Grms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)	
02/05/13 900	Lab	MBC_Dig3	Digested Sludge / Grab	250 Mls	1	Plastic	ICE	See Attachment	**P650368**	02
02/05/13 900	Lab	MBC_TSBTC	Raw Sludge / Grab	250 Mls	1	Plastic	ICE	See Attachment	**P650369**	03

Chain-of-Custody

Relinquished by:	Received by:	Date & Time	Comments
Name: VINA S. BASILAN Sign: VSBasilan	Name: GEORGE WENDORF Sign: [illegible]	Date & Time 2/6/13 Location: 07:00 MBC A51 Lab	
Relinquished by: Name: Sign:	Received by: Name: COURIER Sign:	Date & Time Location:	
Relinquished by: Name: COURIER Sign:	Received by: J Ward Name: J Ward Sign:	Date & Time 2/7/13 Location: 1130	3.7c

See instructions, on reverse, for completing this form.

Original - retained by Lab.
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Last copy - for sample originator

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, CA 91942
(619) 668-3215

3020521

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client:	Samplers:	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name:	Contact Name:	
Phone:	Phone:	

Sample Information: (All information is required) Number of attachments: _____

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab/Composite	Total vol/wt mLs / Gms	Number of containers	Container Type	Preservative	Analyses requested	Sample Log Number (Labs use only)
2/5/12 24hrs		Digester 7	Digester Sludge	250	1	Plastic			P650366
2/15/12 24hr		Raw Feedpump #2	PE Raw Sludge	250	1	Plastic			

Chain-of-Custody

Relinquished by:	Received by:	Date & Time	Comments
Name: Jeremiah Sign:	Name: GEORGE WENDORF Sign:	2/6/13 09:25 Location: ASI MBL LAB	
Relinquished by: Name: Sign:	Received by: Name: COURIER Sign:	Date & Time Location:	3.7°C
Relinquished by: Name: COURIER Sign:	Received by: Name: HWard Sign: HWard	Date & Time 2/7/13 Location: 1130	Reviewed by: Date:

See instructions, on reverse, for completing this form.
FIGURE 2a

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

I:\SAMPLING_REPORT_&_CHAIN_OF_CUSTODY_RECORD.docx Document Control Number: WCL-F-002.3 September 21, 2009

3020521

CITY OF SAN DIEGO
Public Utilities Department
Wastewater Treatment and Disposal

DATE: February 6, 2013

TO: Legend Technical Services of Arizona, Inc.

FROM: Metropolitan Biosolids Center
Attn: Richard Pitchford

SUBJECT: Lab Analysis of the following listed samples.

Please perform the following Analysis listed for the samples supplied.
If there are questions, please contact:

George Wendorf
Wastewater Plant Operator at the Metropolitan Biosolids Center.
(858) 614-5821
gwendorf@sandiego.gov

Analysis to be performed:

Log Number

P650369: MBC_TSBTC, Raw Sludge
TS, VS
P650368: MBC_Dig3, Digested Sludge
TS, VS
P650367: PLWWTP_Raw Comp, Raw Sludge
TS, VS
P650366: PLWWTP_PLDig7, Digested Sludge
TS, VS

P649993: MBC, Dewatered Sludge Cake
% - TS, VS, Fixed.
Metals: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Zinc, Phosphorus and Nitrogen Series: KJELDAHL Nitrogen, Ammonium Nitrogen, Nitrate, Nitrite, Organic Nitrogen.

LEGEND
Technical Services, Inc.
www.legend-group.com

17631 North 25th Avenue • Phoenix, AZ 85023
P (602) 324-6100 • F (602) 324-6101

19 March 2013

Barry Ayers
City of San Diego, Metro Biosolids Center
5240 Convoy St.
San Diego, CA 92111-1227

RE: Monthly Biosolids Analysis

Laboratory Work Order No.: 3030545

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 03/07/13 11:33.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

Lisa Parrish

Lisa Parrish
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
MBCDEWN (Dewatered Sludge Cake) P653392	3030545-01	Solid (Dry Weight)	Composite	02/28/13 23:59	03/07/13 11:33
MBC_Dig3 (Digested Sludge / Grab) P655511	3030545-02	Solid (Dry Weight)	Grab	03/05/13 09:00	03/07/13 11:33
MBC_TSBTC (Raw Sludge / Grab) P655514	3030545-03	Solid (Dry Weight)	Grab	03/05/13 09:00	03/07/13 11:33
Raw Feed Pump #3 (Raw Sludge) P655512	3030545-04	Solid (Dry Weight)	Composite	03/06/13 07:30	03/07/13 11:33
Digester #7 (Digester Sludge) P655513	3030545-05	Solid (Dry Weight)	Composite	03/06/13 07:30	03/07/13 11:33

Sample Condition Upon Receipt:

Temperature: 2.10 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.

Comments: There were no problems encountered during the processing of the samples, unless otherwise noted. All samples were analyzed on a "wet" basis unless designated as "dry weight".

Solids tests only have a 7-day hold-time. Due to shipping, the samples arrived on the day of expiration and were received with insufficient time remaining to run them within the hold-time.

MBCDEWN (Dewatered Sludge Cake) P653392 (3030545-01) Solid (Dry Weight) (Composite) Sampled: 02/28/13 23:59 Received: 03/07/13 11:33

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Total Metals									
Arsenic	<28.9	28.9	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Cadmium	2.65	0.578	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Chromium	46.1	0.722	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Copper	676	1.44	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Lead	21.8	14.4	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Mercury	1.1	0.24	mg/kg dry	1	B3C0317	03/13/13 09:10	03/13/13 11:13	EPA 7471A	
Molybdenum	14.7	2.89	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Nickel	35.1	2.89	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Selenium	<28.9	28.9	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Zinc	963	2.89	mg/kg dry	2	B3C0217	03/08/13 10:40	03/08/13 16:39	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.2	7.2	mg/kg dry	1	[CALC]	03/15/13 15:15	03/15/13 15:15	Calculation	
Organic Nitrogen	37900	3610	mg/kg dry	10	[CALC]	03/15/13 15:15	03/13/13 13:34	Calculation	
Total Nitrogen	41500	3610	mg/kg dry	1	[CALC]	03/15/13 15:15	03/15/13 15:15	Calculation	
Ammonia as N	3580	361	mg/kg dry	10	B3C0331	03/13/13 13:34	03/13/13 13:34	EPA 350.1	
Nitrate + Nitrite as N	<7.22	7.22	mg/kg dry	1	B3C0431	03/15/13 15:15	03/15/13 15:15	SM 4500 NO3 F	
Nitrite as N	<3.6	3.6	mg/kg dry wt. dry	1	B3C0267	03/11/13 14:10	03/11/13 14:10	SM 4500 NO2 B	
Total Kjeldahl Nitrogen	41500	3610	mg/kg dry	1	B3C0221	03/08/13 10:40	03/08/13 14:29	EPA 351.2	
Total Phosphorous	35300	9030	mg/kg dry	1	B3C0350	03/13/13 10:00	03/13/13 16:25	EPA 365.3	
Total Fixed Solids	41	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	H1
% Solids	28	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	H1
Total Volatile Solids	59	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	H1

MBC_Dig3 (Digested Sludge / Grab) P655511 (3030545-02) Solid (Dry Weight) (Grab) Sampled: 03/05/13 09:00 Received: 03/07/13 11:33

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
% Solids	2	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	
Total Volatile Solids	62	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	

MBC_TSBTC (Raw Sludge / Grab) P655514 (3030545-03) Solid (Dry Weight) (Grab) Sampled: 03/05/13 09:00 Received: 03/07/13 11:33

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
% Solids	4	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	
Total Volatile Solids	81	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	

Raw Feed Pump #3 (Raw Sludge) P655512 (3030545-04) Solid (Dry Weight) (Composite) Sampled: 03/06/13 07:30 Received: 03/07/13 11:33

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
% Solids	4	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	
Total Volatile Solids	78	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	

Digester #7 (Digester Sludge) P655513 (3030545-05) Solid (Dry Weight) (Composite) Sampled: 03/06/13 07:30
Received: 03/07/13 11:33

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	2	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	
Total Volatile Solids	54	1	%	1	B3C0263	03/08/13 14:15	03/08/13 14:15	SM 2540 G	

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3C0217 - EPA 3050B Dry										
Blank (B3C0217-BLK1)				*Prepared & Analyzed: 03/08/13*						
Arsenic	<0.20	0.20	mg/kg wet							
Cadmium	<0.004	0.004	mg/kg wet							
Chromium	<0.005	0.005	mg/kg wet							
Copper	<0.01	0.01	mg/kg wet							
Lead	<0.100	0.100	mg/kg wet							
Molybdenum	<0.02	0.02	mg/kg wet							
Nickel	<0.02	0.02	mg/kg wet							
Selenium	<0.2	0.2	mg/kg wet							
Zinc	<0.02	0.02	mg/kg wet							
LCS (B3C0217-BS1)				*Prepared & Analyzed: 03/08/13*						
Arsenic	1.85	0.20	mg/kg wet	2.00		92	85-115			
Cadmium	0.372	0.004	mg/kg wet	0.400		93	85-115			
Chromium	0.479	0.005	mg/kg wet	0.500		96	85-115			
Copper	0.95	0.01	mg/kg wet	1.00		95	85-115			
Lead	0.941	0.100	mg/kg wet	1.00		94	85-115			
Molybdenum	0.19	0.02	mg/kg wet	0.200		97	85-115			
Nickel	0.94	0.02	mg/kg wet	1.00		94	85-115			
Selenium	0.9	0.2	mg/kg wet	1.00		90	85-115			
Zinc	0.93	0.02	mg/kg wet	1.00		93	85-115			
Matrix Spike (B3C0217-MS2)	**Source: 3030495-01**			*Prepared & Analyzed: 03/08/13*						
Arsenic	417	42.8	mg/kg dry	428	9.97	95	75-125			
Cadmium	86.5	0.856	mg/kg dry	85.6	7.85	92	75-125			
Chromium	183	1.07	mg/kg dry	107	81.9	94	75-125			
Copper	1040	2.14	mg/kg dry	214	839	96	75-125			
Lead	231	21.4	mg/kg dry	214	32.0	93	75-125			
Molybdenum	46.6	4.28	mg/kg dry	42.8	5.91	95	75-125			
Nickel	324	4.28	mg/kg dry	214	126	93	75-125			
Selenium	207	42.8	mg/kg dry	214	6.1	94	75-125			
Zinc	1000	4.28	mg/kg dry	214	818	85	75-125			

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3C0217 - EPA 3050B Dry										
Matrix Spike Dup (B3C0217-MSD2)		**Source: 3030495-01**		*Prepared & Analyzed: 03/08/13*						
Arsenic	421	42.8	mg/kg dry	428	9.97	96	75-125	1	20	
Cadmium	86.4	0.856	mg/kg dry	85.6	7.85	92	75-125	0.1	20	
Chromium	183	1.07	mg/kg dry	107	81.9	94	75-125	0.005	20	
Copper	1050	2.14	mg/kg dry	214	839	97	75-125	0.4	20	
Lead	230	21.4	mg/kg dry	214	32.0	93	75-125	0.2	20	
Molybdenum	46.3	4.28	mg/kg dry	42.8	5.91	95	75-125	0.5	20	
Nickel	323	4.28	mg/kg dry	214	126	92	75-125	0.2	20	
Selenium	207	42.8	mg/kg dry	214	6.1	94	75-125	0.3	20	
Zinc	998	4.28	mg/kg dry	214	818	84	75-125	0.2	20	
Batch B3C0317 - EPA 7471A Prep										
Blank (B3C0317-BLK1)				*Prepared & Analyzed: 03/13/13*						
Mercury	<0.0004	0.0004	mg/kg wet							
LCS (B3C0317-BS1)				*Prepared & Analyzed: 03/13/13*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		100	85-115			
Matrix Spike (B3C0317-MS1)		**Source: 3030583-01**		*Prepared & Analyzed: 03/13/13*						**M2**
Mercury	4.04	0.36	mg/kg dry	3.58	1.12	82	85-115			
Matrix Spike Dup (B3C0317-MSD1)		**Source: 3030583-01**		*Prepared & Analyzed: 03/13/13*						**M2**
Mercury	3.98	0.36	mg/kg dry	3.58	1.12	80	85-115	2	20	

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3C0221 - NO PREP										
Blank (B3C0221-BLK1)				*Prepared & Analyzed: 03/08/13*						
Total Kjeldahl Nitrogen	<1.00	1.00	mg/kg wet							
LCS (B3C0221-BS1)				*Prepared & Analyzed: 03/08/13*						
Total Kjeldahl Nitrogen	4.86	1.00	mg/kg wet	5.00		97	90-110			
LCS Dup (B3C0221-BSD1)				*Prepared & Analyzed: 03/08/13*						
Total Kjeldahl Nitrogen	4.86	1.00	mg/kg wet	5.00		97	90-110	0	20	
Matrix Spike (B3C0221-MS1)		**Source: 3030177-01**		*Prepared & Analyzed: 03/08/13*						
Total Kjeldahl Nitrogen	39700	3610	mg/kg dry	6010	28100	193	90-110			M1
Matrix Spike Dup (B3C0221-MSD1)		**Source: 3030177-01**		*Prepared & Analyzed: 03/08/13*						
Total Kjeldahl Nitrogen	39700	3610	mg/kg dry	6010	28100	193	90-110	0	20	M1
Batch B3C0263 - NO PREP										
Blank (B3C0263-BLK1)				*Prepared & Analyzed: 03/08/13*						
% Solids	<1	1	%							
Total Fixed Solids	<1	1	%							
Total Volatile Solids	<1	1	%							
Duplicate (B3C0263-DUP1)		**Source: 3030545-01**		*Prepared & Analyzed: 03/08/13*						
% Solids	27	1	%		28			3	5	
Total Fixed Solids	40	1	%		41			0.5	5	
Total Volatile Solids	60	1	%		59			0.2	5	

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3C0267 - NO PREP										
Blank (B3C0267-BLK1)				*Prepared & Analyzed: 03/11/13*						
Nitrite as N	<0.1	0.1	mg/kg dry wt. wet							
LCS (B3C0267-BS1)				*Prepared & Analyzed: 03/11/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		97	80-120			
LCS Dup (B3C0267-BSD1)				*Prepared & Analyzed: 03/11/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		97	80-120	0	20	
Matrix Spike (B3C0267-MS1)		**Source: 3030177-01**		*Prepared & Analyzed: 03/11/13*						
Nitrite as N	10.3	1.2	mg/kg dry wt. dry	2.40	9.8	19	80-120			M2
Matrix Spike Dup (B3C0267-MSD1)		**Source: 3030177-01**		*Prepared & Analyzed: 03/11/13*						
Nitrite as N	10.4	1.2	mg/kg dry wt. dry	2.40	9.8	23	80-120	14	20	M2
Batch B3C0331 - NO PREP										
Blank (B3C0331-BLK1)				*Prepared & Analyzed: 03/13/13*						
Ammonia as N	<1.00	1.00	mg/kg wet							
LCS (B3C0331-BS1)				*Prepared & Analyzed: 03/13/13*						
Ammonia as N	10.1	1.00	mg/kg wet	10.0		101	90-110			
LCS Dup (B3C0331-BSD1)				*Prepared & Analyzed: 03/13/13*						
Ammonia as N	10.1	1.00	mg/kg wet	10.0		101	90-110	0	20	
Matrix Spike (B3C0331-MS1)		**Source: 3030583-01**		*Prepared & Analyzed: 03/13/13*						
Ammonia as N	62400	5380	mg/kg dry	53800	5590	106	90-110			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3C0331 - NO PREP										
Matrix Spike Dup (B3C0331-MSD1)		**Source: 3030583-01**		*Prepared & Analyzed: 03/13/13*						
Ammonia as N	62400	5380	mg/kg dry	53800	5590	106	90-110	0	20	
Batch B3C0350 - NO PREP										
Blank (B3C0350-BLK1)				*Prepared & Analyzed: 03/13/13*						
Total Phosphorous	<0.05	0.05	mg/kg wet							
LCS (B3C0350-BS1)				*Prepared & Analyzed: 03/13/13*						
Total Phosphorous	0.11	0.05	mg/kg wet	0.100		107	90-110			
LCS Dup (B3C0350-BSD1)				*Prepared & Analyzed: 03/13/13*						
Total Phosphorous	0.11	0.05	mg/kg wet	0.100		106	90-110	0.8	20	
Matrix Spike (B3C0350-MS1)		**Source: 3030583-01**		*Prepared & Analyzed: 03/13/13*						
Total Phosphorous	43800	6720	mg/kg dry	13400	39800	30	90-110			M2
Matrix Spike Dup (B3C0350-MSD1)		**Source: 3030583-01**		*Prepared & Analyzed: 03/13/13*						
Total Phosphorous	43900	6720	mg/kg dry	13400	39800	30	90-110	0.2	20	M2
Batch B3C0431 - NO PREP										
Blank (B3C0431-BLK1)				*Prepared & Analyzed: 03/15/13*						
Nitrate + Nitrite as N	<0.20	0.20	mg/kg wet							
LCS (B3C0431-BS1)				*Prepared & Analyzed: 03/15/13*						
Nitrate + Nitrite as N	10.0	0.20	mg/kg wet	10.0		100	90-110			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3C0431 - NO PREP										
LCS Dup (B3C0431-BSD1)				*Prepared & Analyzed: 03/15/13*						
Nitrate + Nitrite as N	10.0	0.20	mg/kg wet	10.0		100	90-110	0	20	
Matrix Spike (B3C0431-MS1)		**Source: 3030545-01**		*Prepared & Analyzed: 03/15/13*						
Nitrate + Nitrite as N	340	7.22	mg/kg dry	361	1.34	94	80-120			
Matrix Spike Dup (B3C0431-MSD1)		**Source: 3030545-01**		*Prepared & Analyzed: 03/15/13*						
Nitrate + Nitrite as N	326	7.22	mg/kg dry	361	1.34	90	80-120	4	20	

Notes and Definitions

M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
M1	Matrix spike recovery was high; the method control sample recovery was acceptable.
H1	Sample analysis performed past holding time.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

3030545

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center Contact Name: Richard Pitchford Phone: (858) 614-5509	Sampler/s: Plant Operators Contact Name: Richard Pitchford Phone: (858) 614-5509	Type of Sampling Equipment/How sample obtained/other sampling notes: 28 Day Composite from Daily Grab Samples.

Sample Information: (All information is required) Number of attachments: 1

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)
02/01 - 02/28 2013 / 2400	OPR	MBCDEWN	Dewatered Sludge Cake	1000	1	Plastic Bag	ICE	See Attached	P653392 01

Chain-of-Custody

Relinquished by:	Received by:	Date & Time / Location:	Comments
Name: Keith Rietkirch Sign:	Name: George Wendorf Sign:	3/1/13 9:40 MBC A51 Lab	
Relinquished by: Name: George Wendorf Sign:	Received by: Name: Sign: Courier	Date & Time Location:	
Relinquished by: Name: Sign: Courier	Received by: Name: Zwang Hwang Sign:	Date & Time 3/7/13 2:16 11:33 Location:	

See instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

3030545

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center	Sampler/s: Plant Operators	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name: Richard Pitchford	Contact Name: Richard Pitchford	
Phone: (858) 614-5509	Phone: (858) 614-5509	

Sample Information: (All information is required) Number of attachments: 0

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/Wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)	
03/05/13 900	Lab	MBC_Dig3	Digested Sludge / Grab	250 Mls	1	Plastic	ICE	See Attachment	P655511	02
03/05/13 900	Lab	MBC_TSBTC	Raw Sludge / Grab	250 Mls	1	Plastic	ICE	See Attachment	P655514	03

Chain-of-Custody

Relinquished by:	Received by:	Date & Time / Location:	Comments
Name: VINIA S. BASILAN Sign:	Name: GEORGE WENDORF Sign:	3/6/13 10:00 MBC A51 Lab	
Relinquished by: Name: GEORGE WENDORF Sign:	Received by: Name: Sign: CORMER	Date & Time Location:	
Relinquished by: Name: CORMER Sign:	Received by: HWard Name: Sign: HWard	Date & Time Location: 3/7/13 1133	2.1°C

See instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

3030545

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, CA 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Bio - AZ	Sampler/s: Julie Webb / Operator	Type of Sampling Equipment/How sample obtained/other sampling notes: 3 grab sample - composed with Raw and Digester 7 at 3 different shifts
Contact Name: Brent Bowar/Leeking	Contact Name: Keith Ruehrwein	
Phone:	Phone: 619-668-3219	

Sample Information: (All information is required) Number of attachments: _____

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab/ Composite	Total vol/wt mLs / Gms	Number of containers	Container Type	Preservative	Analyses requested	Sample Log Number (Lab use only)
3-06-2013 0750	JMW/OPA	Raw Feed pump #3	Raw Sludge	250	1	PLS	None	TS VS	P655512 04
3-6-2013 0730	JMW/OPA	Digester #7	Digester Sludge	250	1	PLS	None	TS VS	P655513 05

Chain-of-Custody

Relinquished by: Name: Julie Webb Sign:	Received by: Name: Keith Ruehrwein Sign:	Date & Time 3/6/13 09:30 Location: PLWTP	Comments
Relinquished by: Name: Keith Ruehrwein Sign:	Received by: Name: GEORGE WENDORF Sign:	Date & Time 3/6/13 09:45 Location: MBC	
Relinquished by: Name: Sign: Courier	Received by: Name: Sign: Courier	Date & Time Location:	Reviewed by: Date:

See instructions, on reverse, for completing this form.
FIGURE 2a

Courier 3/7/13 1131
Howard 3/7/13 11:31

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

I:\SAMPLING_REPORT_&_CHAIN_OF_CUSTODY_RECORD.docx Document Control Number: WCL-F-002.3 September 21, 2009

CITY OF SAN DIEGO
Public Utilities Department
Wastewater Treatment and Disposal

DATE: March 6, 2013

TO: Legend Technical Services of Arizona, Inc.

FROM: Metropolitan Biosolids Center
Attn: Richard Pitchford

3030545

SUBJECT: Lab Analysis of the following listed samples.

Please perform the following Analysis listed for the samples supplied.
If there are questions, please contact:

George Wendorf
Wastewater Plant Operator at the Metropolitan Biosolids Center.
(858) 614-5821
gwendorf@sandiego.gov

Analysis to be performed:

Log Number

P655514: MBC_TSBTC, Raw Sludge
TS, VS
P655511: MBC_Dig3, Digested Sludge
TS, VS
P655512: PLWWTP_Raw Comp, Raw Sludge
TS, VS
P655513: PLWWTP_PLDig7, Digested Sludge
TS, VS

P653392: MBC, Dewatered Sludge Cake
% - TS, VS, Fixed.
Metals: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Zinc, Phosphorus and Nitrogen Series: KJELDAHL Nitrogen, Ammonium Nitrogen, Nitrate, Nitrite, Organic Nitrogen.

LEGEND
Technical Services, Inc.
www.legend-group.com

17631 North 25th Avenue • Phoenix, AZ 85023
P (602) 324-6100 • F (602) 324-6101

18 April 2013

Barry Ayers
City of San Diego, Metro Biosolids Center
5240 Convoy St.
San Diego, CA 92111-1227

RE: Monthly Biosolids Analysis

Laboratory Work Order No.: 3040450

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 04/04/13 11:35.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

Lisa Parrish

Lisa Parrish
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
MBCDEWN (Dewatered Sludge Cake) P657413	3040450-01	Solid (Dry Weight)	Composite	03/31/13 23:59	04/04/13 11:35
MBC_Dig3 (Digested Sludge / Grab) P656261	3040450-02	Solid (Dry Weight)	Grab	04/02/13 09:00	04/04/13 11:35
MBC_TSBTC (Raw Sludge / Grab) P656252	3040450-03	Solid (Dry Weight)	Grab	04/02/13 09:00	04/04/13 11:35
Digester #7 (Digester Sludge) P656246	3040450-04	Solid (Dry Weight)	Composite	04/03/13 07:30	04/04/13 11:35
Raw Feed Pump #3 (Raw Sludge) P656240	3040450-05	Solid (Dry Weight)	Composite	04/03/13 07:30	04/04/13 11:35

Sample Condition Upon Receipt:

Temperature: 3.00 C
All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.
QA/QC Criteria: All analyses met method requirements unless otherwise qualified.
Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.
Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.
Comments: There were no problems encountered during the processing of the samples, unless otherwise noted. All samples were analyzed on a "wet" basis unless designated as "dry weight".

MBCDEWN (Dewatered Sludge Cake) P657413 (3040450-01) Solid (Dry Weight) (Composite) Sampled: 03/31/13 23:59 Received: 04/04/13 11:35

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Total Metals									
Arsenic	<30.7	30.7	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Cadmium	**2.62**	0.613	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Chromium	**50.6**	0.766	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Copper	**755**	1.53	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Lead	**23.1**	15.3	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Mercury	**1.2**	0.26	mg/kg dry	1	B3D0286	04/09/13 14:14	04/09/13 16:00	EPA 7471A	
Molybdenum	**15.3**	3.07	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Nickel	**34.3**	3.07	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Selenium	<30.7	30.7	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Zinc	**1110**	3.07	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.66	7.66	mg/kg dry	1	[CALC]	04/12/13 15:05	04/17/13 12:25	Calculation	
Organic Nitrogen	**53300**	3830	mg/kg dry	10	[CALC]	04/12/13 15:05	04/10/13 13:49	Calculation	
Total Nitrogen	**57500**	3830	mg/kg dry	1	[CALC]	04/12/13 15:05	04/12/13 15:05	Calculation	
Ammonia as N	**4210**	383	mg/kg dry	10	B3D0304	04/10/13 13:49	04/10/13 13:49	EPA 350.1	
Nitrate + Nitrite as N	<7.66	7.66	mg/kg dry	1	B3D0385	04/12/13 15:05	04/12/13 15:05	SM 4500 NO3 F	
Nitrite as N	<0.4	0.4	mg/kg dry wt. dry	1	B3D0494	04/17/13 12:25	04/17/13 12:25	SM 4500 NO2 B M2	
Total Kjeldahl Nitrogen	**57500**	3830	mg/kg dry	1	B3D0262	04/09/13 07:45	04/09/13 14:53	EPA 351.2	M1
Total Phosphorous	**42700**	9580	mg/kg dry	1	B3D0315	04/10/13 10:00	04/10/13 17:25	EPA 365.3	
Total Fixed Solids	**41**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
% Solids	**26**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
Total Volatile Solids	**59**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	

MBC_Dig3 (Digested Sludge / Grab) P656261 (3040450-02) Solid (Dry Weight) (Grab) Sampled: 04/02/13 09:00 Received: 04/04/13 11:35

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
% Solids	**3**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
Total Volatile Solids	**60**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	

MBC_TSBTC (Raw Sludge / Grab) P656252 (3040450-03) Solid (Dry Weight) (Grab) Sampled: 04/02/13 09:00 Received: 04/04/13 11:35

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
% Solids	**4**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
Total Volatile Solids	**80**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	

Digester #7 (Digester Sludge) P656246 (3040450-04) Solid (Dry Weight) (Composite) Sampled: 04/03/13 07:30 Received: 04/04/13 11:35

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
% Solids	**2**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
Total Volatile Solids	**55**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	

Raw Feed Pump #3 (Raw Sludge) P656240 (3040450-05) Solid (Dry Weight) (Composite) Sampled: 04/03/13 07:30 Received: 04/04/13 11:35

Analyte	Result	PQL	Units	DilutionBatch	Prepared	Analyzed	Method	Notes
Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry								
% Solids	3	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G
Total Volatile Solids	76	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3D0168 - EPA 3050B Dry										
Blank (B3D0168-BLK1)				*Prepared: 04/05/13 Analyzed: 04/10/13*						
Arsenic	<0.20	0.20	mg/kg wet							
Cadmium	<0.004	0.004	mg/kg wet							
Chromium	<0.005	0.005	mg/kg wet							
Copper	<0.01	0.01	mg/kg wet							
Lead	<0.100	0.100	mg/kg wet							
Molybdenum	<0.02	0.02	mg/kg wet							
Nickel	<0.02	0.02	mg/kg wet							
Selenium	<0.2	0.2	mg/kg wet							
Zinc	<0.02	0.02	mg/kg wet							
LCS (B3D0168-BS1)				*Prepared: 04/05/13 Analyzed: 04/10/13*						
Arsenic	1.87	0.20	mg/kg wet	2.00		94	85-115			
Cadmium	0.389	0.004	mg/kg wet	0.400		97	85-115			
Chromium	0.504	0.005	mg/kg wet	0.500		101	85-115			
Copper	1.00	0.01	mg/kg wet	1.00		100	85-115			
Lead	0.971	0.100	mg/kg wet	1.00		97	85-115			
Molybdenum	0.20	0.02	mg/kg wet	0.200		101	85-115			
Nickel	0.98	0.02	mg/kg wet	1.00		98	85-115			
Selenium	1.0	0.2	mg/kg wet	1.00		98	85-115			
Zinc	0.96	0.02	mg/kg wet	1.00		96	85-115			
Matrix Spike (B3D0168-MS2)		**Source: 3040454-02**		*Prepared: 04/05/13 Analyzed: 04/10/13*						
Arsenic	441	46.5	mg/kg dry	465	10.8	93	75-125			
Cadmium	93.0	0.930	mg/kg dry	93.0	7.83	92	75-125			
Chromium	222	1.16	mg/kg dry	116	112	94	75-125			
Copper	1170	2.33	mg/kg dry	233	951	94	75-125			
Lead	246	23.3	mg/kg dry	233	34.8	91	75-125			
Molybdenum	50.1	4.65	mg/kg dry	46.5	6.66	93	75-125			
Nickel	375	4.65	mg/kg dry	233	164	91	75-125			
Selenium	236	46.5	mg/kg dry	233	5.2	99	75-125			
Zinc	1110	4.65	mg/kg dry	233	920	84	75-125			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3D0168 - EPA 3050B Dry										
Matrix Spike Dup (B3D0168-MSD2)		**Source: 3040454-02**		*Prepared: 04/05/13*	*Analyzed: 04/10/13*					
Arsenic	442	46.5	mg/kg dry	465	10.8	93	75-125	0.1	20	
Cadmium	93.1	0.930	mg/kg dry	93.0	7.83	92	75-125	0.09	20	
Chromium	222	1.16	mg/kg dry	116	112	94	75-125	0.2	20	
Copper	1170	2.33	mg/kg dry	233	951	93	75-125	0.1	20	
Lead	247	23.3	mg/kg dry	233	34.8	91	75-125	0.1	20	
Molybdenum	50.3	4.65	mg/kg dry	46.5	6.66	94	75-125	0.5	20	
Nickel	376	4.65	mg/kg dry	233	164	91	75-125	0.3	20	
Selenium	234	46.5	mg/kg dry	233	5.2	99	75-125	0.6	20	
Zinc	1120	4.65	mg/kg dry	233	920	86	75-125	0.4	20	
Batch B3D0286 - EPA 7471A Prep										
Blank (B3D0286-BLK1)				*Prepared & Analyzed: 04/09/13*						
Mercury	<0.0004	0.0004	mg/kg wet							
LCS (B3D0286-BS1)				*Prepared & Analyzed: 04/09/13*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		101	85-115			
Matrix Spike (B3D0286-MS1)		**Source: 3040242-01**		*Prepared & Analyzed: 04/09/13*						
Mercury	2.36	0.24	mg/kg dry	2.42	0.21	89	85-115			
Matrix Spike Dup (B3D0286-MSD1)		**Source: 3040242-01**		*Prepared & Analyzed: 04/09/13*						
Mercury	2.53	0.24	mg/kg dry	2.42	0.21	96	85-115	7	20	

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3D0156 - NO PREP										
Blank (B3D0156-BLK1)				*Prepared & Analyzed: 04/05/13*						
% Solids	<1	1	%							
Total Fixed Solids	<1	1	%							
Total Volatile Solids	<1	1	%							
Duplicate (B3D0156-DUP1)		**Source: 3040450-01**		*Prepared & Analyzed: 04/05/13*						
% Solids	26	1	%		26			1	5	
Total Fixed Solids	41	1	%		41			0.2	5	
Total Volatile Solids	59	1	%		59			0.2	5	
Batch B3D0262 - NO PREP										
Blank (B3D0262-BLK1)				*Prepared & Analyzed: 04/09/13*						
Total Kjeldahl Nitrogen	<1.00	1.00	mg/kg wet							
LCS (B3D0262-BS1)				*Prepared & Analyzed: 04/09/13*						
Total Kjeldahl Nitrogen	5.20	1.00	mg/kg wet	5.00		104	90-110			
LCS Dup (B3D0262-BSD1)				*Prepared & Analyzed: 04/09/13*						
Total Kjeldahl Nitrogen	5.16	1.00	mg/kg wet	5.00		103	90-110	0.8	20	
Matrix Spike (B3D0262-MS1)		**Source: 3040450-01**		*Prepared & Analyzed: 04/09/13*						
Total Kjeldahl Nitrogen	80500	7660	mg/kg dry	19200	57500	120	90-110			M1
Matrix Spike Dup (B3D0262-MSD1)		**Source: 3040450-01**		*Prepared & Analyzed: 04/09/13*						
Total Kjeldahl Nitrogen	81200	7660	mg/kg dry	19200	57500	124	90-110	0.9	20	M1

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3D0304 - NO PREP										
Blank (B3D0304-BLK1)				*Prepared & Analyzed: 04/10/13*						
Ammonia as N	<1.00	1.00	mg/kg wet							
LCS (B3D0304-BS1)				*Prepared & Analyzed: 04/10/13*						
Ammonia as N	10.1	1.00	mg/kg wet	10.0		101	90-110			
LCS Dup (B3D0304-BSD1)				*Prepared & Analyzed: 04/10/13*						
Ammonia as N	10.0	1.00	mg/kg wet	10.0		100	90-110	1	20	
Matrix Spike (B3D0304-MS1)		**Source: 3040397-01**		*Prepared & Analyzed: 04/10/13*						
Ammonia as N	19.9		mg/L	10.0	10.2	97	90-110			
Matrix Spike Dup (B3D0304-MSD1)		**Source: 3040397-01**		*Prepared & Analyzed: 04/10/13*						
Ammonia as N	20.0		mg/L	10.0	10.2	98	90-110	0.5	20	
Batch B3D0315 - NO PREP										
Blank (B3D0315-BLK1)				*Prepared & Analyzed: 04/10/13*						
Total Phosphorous	<0.05	0.05	mg/kg wet							
LCS (B3D0315-BS1)				*Prepared & Analyzed: 04/10/13*						
Total Phosphorous	0.10	0.05	mg/kg wet	0.100		102	90-110			
LCS Dup (B3D0315-BSD1)				*Prepared & Analyzed: 04/10/13*						
Total Phosphorous	0.10	0.05	mg/kg wet	0.100		101	90-110	1	20	
Matrix Spike (B3D0315-MS1)		**Source: 3040396-01**		*Prepared & Analyzed: 04/10/13*						
Total Phosphorous	26900	2080	mg/kg dry	4150	24400	60	90-110			M2

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3D0315 - NO PREP										
Matrix Spike Dup (B3D0315-MSD1)		**Source: 3040396-01**		*Prepared & Analyzed: 04/10/13*						
Total Phosphorous	26900	2080	mg/kg dry	4150	24400	61	90-110	0.2	20	M2
Batch B3D0385 - NO PREP										
Blank (B3D0385-BLK1)				*Prepared & Analyzed: 04/12/13*						
Nitrate + Nitrite as N	<0.20	0.20	mg/kg wet							
LCS (B3D0385-BS1)				*Prepared & Analyzed: 04/12/13*						
Nitrate + Nitrite as N	10.1	0.20	mg/kg wet	10.0		101	90-110			
LCS Dup (B3D0385-BSD1)				*Prepared & Analyzed: 04/12/13*						
Nitrate + Nitrite as N	10.0	0.20	mg/kg wet	10.0		100	90-110	1	20	
Matrix Spike (B3D0385-MS1)		**Source: 3040450-01**		*Prepared & Analyzed: 04/12/13*						
Nitrate + Nitrite as N	376	7.66	mg/kg dry	383	1.22	98	80-120			
Matrix Spike Dup (B3D0385-MSD1)		**Source: 3040450-01**		*Prepared & Analyzed: 04/12/13*						
Nitrate + Nitrite as N	371	7.66	mg/kg dry	383	1.22	96	80-120	1	20	
Batch B3D0494 - NO PREP										
Blank (B3D0494-BLK1)				*Prepared & Analyzed: 04/17/13*						
Nitrite as N	<0.1	0.1	mg/kg dry wt. wet							
LCS (B3D0494-BS1)				*Prepared & Analyzed: 04/17/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		102	80-120			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3D0494 - NO PREP										
LCS Dup (B3D0494-BSD1)				*Prepared & Analyzed: 04/17/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		102	80-120	0	20	
Matrix Spike (B3D0494-MS1)		**Source: 3040450-01**		*Prepared & Analyzed: 04/17/13*						
Nitrite as N	0.5	0.4	mg/kg dry wt. dry	0.766	0.3	30	80-120			M2
Matrix Spike Dup (B3D0494-MSD1)		**Source: 3040450-01**		*Prepared & Analyzed: 04/17/13*						
Nitrite as N	0.5	0.4	mg/kg dry wt. dry	0.766	0.3	31	80-120	2	20	M2

Notes and Definitions

M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
M1	Matrix spike recovery was high; the method control sample recovery was acceptable.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

3040450

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Klowa Drive
La Mesa, Ca 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center	Sampler/s: Plant Operators	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name: Richard Pitchford	Contact Name: Richard Pitchford	31 Day Composite from Daily Grab Samples.
Phone: (858) 614-5509	Phone: (858) 614-5509	

Sample Information: (All information is required) Number of attachments: 1

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)
03/01 - 03/31 2013 / 2400	OPR	MBCDEWN	Dewatered Sludge Cake	1000	1	Plastic Bag	ICE	See Attached	P657413 01

Chain-of-Custody

Relinquished by:	Received by:	Date & Time / Location:	Comments
Name: Keith Rugh Sweiss Sign:	Name: George Wendorf Sign:	4/2/13 @ 1000 MBC A51 Lab	
Relinquished by: Name: George Wendorf Sign:	Received by: Name: Sign: courier	Date & Time Location:	
Relinquished by: Name: courier Sign:	Received by: Name: Howard Howard Sign:	Date & Time 4/4/13 1135 Location:	3.0°C

See instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

3040450

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center	Sampler/s: Plant Operators	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name: Richard Pitchford	Contact Name: Richard Pitchford	
Phone: (858) 614-5509	Phone: (858) 614-5509	

Sample Information: (All information is required) Number of attachments: 0

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)	
04/02/13 900	Lab	MBC_Dig3	Digested Sludge / Grab	250 Mls	1	Plastic	ICE	See Attachment	P656261	-02
04/02/13 900	Lab	MBC_TSBTC	Raw Sludge / Grab	250 Mls	1	Plastic	ICE	See Attachment	P656252	-03

Chain-of-Custody

Relinquished by:	Received by:	Date & Time / Location:	Comments
Name: VINIA S. BASILAN Sign:	Name: GEORGE WENDORF Sign:	04/02/13 09:00 MBC A51 Lab	
Relinquished by: Name: GEORGE WENDORF Sign:	Received by: Name: Sign: COURIER	Date & Time Location:	
Relinquished by: Name: Sign: COURIER	Received by: Name: Howard Sign: Howard	4/4/13 1135	3.0°C

See instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, CA 91942
(619) 668-3215

3040450

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Legend Tech Services Contact Name: Phone:	Sampler/s: Webb / Operators Contact Name: Keith Ruehrwein Phone: 619-668-3294	Type of Sampling Equipment/How sample obtained/other sampling notes: Composite made from Digester 7 and Raw from shift 3 grab Samples.

Sample Information: (All information is required) Number of attachments: _____

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total vol/wt mL's/Gms	Number of containers	Container Type	Preservative	Analyses requested	Sample Log Number (Lab use only)
4-3-2013 730	ODR/JW	Digester 7	Digested Sludge	250	1	Plastic	4°C	TS TVS	P656246-04
4-3-2013 730	ODR/JW	Raw Sec Pump 3	PL Raw Sludge	250	1	Plastic	4°C	TS TVS	P656240-05

Chain-of-Custody

Relinquished by:	Received by:	Date & Time / Location:	Comments
Name: Julie Mwaso Sign:	Name: Keith Ruehrwein Sign:	4/3/13 @ 915 PLNWTP	
Relinquished by: Name: Keith Ruehrwein Sign:	Received by: Name: GEORGE WENDORF Sign:	4/3/13 @ 10:00 MBC ASI LAB	3.0°C
Relinquished by: Name: GEORGE WENDORF Sign:	Received by: Name: Courier Sign:	Date & Time Location:	Reviewed by: Date:

Courier Howard Howard 4/4/13 1135

See instructions, on reverse, for completing this form.
FIGURE 2a

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

I:\SAMPLING_REPORT_&_CHAIN_OF_CUSTODY_RECORD.docx Document Control Number: WCL-F-002.3 September 21, 2009

3040450

CITY OF SAN DIEGO
Public Utilities Department
Wastewater Treatment and Disposal

DATE: April 3, 2013

TO: Legend Technical Services of Arizona, Inc.

FROM: Metropolitan Biosolids Center
Attn: Richard Pitchford

SUBJECT: Lab Analysis of the following listed samples.

Please perform the following Analysis listed for the samples supplied.
If there are questions, please contact:

George Wendorf
Wastewater Plant Operator at the Metropolitan Biosolids Center.
(858) 614-5821
gwendorf@sandiego.gov

Analysis to be performed:

Log Number

P656252: MBC_TSBTC, Raw Sludge
TS, VS
P656261: MBC_Dig3, Digested Sludge
TS, VS
P656240: PLWWTP_Raw Comp, Raw Sludge
TS, VS
P656246: PLWWTP_PLDig7, Digested Sludge
TS, VS

P657413: MBC, Dewatered Sludge Cake
% - TS, VS, Fixed.
Metals: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Zinc, Phosphorus and Nitrogen Series: KJELDAHL Nitrogen, Ammonium Nitrogen, Nitrate, Nitrite, Organic Nitrogen.

LEGEND
Technical Services, Inc.
www.legend-group.com

17631 North 25th Avenue • Phoenix, AZ 85023
P (602) 324-6100 • F (602) 324-6101

01 May 2013

Barry Ayers
City of San Diego, Metro Biosolids Center
5240 Convoy St.
San Diego, CA 92111-1227

RE: Monthly Biosolids Analysis

Laboratory Work Order No.: 3040450

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 04/04/13 11:35.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

Lisa Parrish

Lisa Parrish
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
MBCDEWN (Dewatered Sludge Cake) P657413	3040450-01	Solid (Dry Weight)	Composite	03/31/13 23:59	04/04/13 11:35
MBC_Dig3 (Digested Sludge / Grab) P656261	3040450-02	Solid (Dry Weight)	Grab	04/02/13 09:00	04/04/13 11:35
MBC_TSBTC (Raw Sludge / Grab) P656252	3040450-03	Solid (Dry Weight)	Grab	04/02/13 09:00	04/04/13 11:35
Digester #7 (Digester Sludge) P656246	3040450-04	Solid (Dry Weight)	Composite	04/03/13 07:30	04/04/13 11:35
Raw Feed Pump #3 (Raw Sludge) P656240	3040450-05	Solid (Dry Weight)	Composite	04/03/13 07:30	04/04/13 11:35

Sample Condition Upon Receipt:

Temperature: 3.00 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.

Comments: There were no problems encountered during the processing of the samples, unless otherwise noted. All samples were analyzed on a "wet" basis unless designated as "dry weight".

Due to an analyst oversight during data entry, the reporting limit for Nitrite in the original report was 10 times lower than their true value. Report revised on 5/1/13 LP

MBCDEWN (Dewatered Sludge Cake) P657413 (3040450-01) Solid (Dry Weight) (Composite) Sampled: 03/31/13 23:59 Received: 04/04/13 11:35

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Total Metals									
Arsenic	<30.7	30.7	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Cadmium	**2.62**	0.613	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Chromium	**50.6**	0.766	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Copper	**755**	1.53	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Lead	**23.1**	15.3	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Mercury	**1.2**	0.26	mg/kg dry	1	B3D0286	04/09/13 14:14	04/09/13 16:00	EPA 7471A	
Molybdenum	**15.3**	3.07	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Nickel	**34.3**	3.07	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Selenium	<30.7	30.7	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Zinc	**1110**	3.07	mg/kg dry	2	B3D0168	04/05/13 11:00	04/10/13 18:14	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.66	7.66	mg/kg dry	1	[CALC]	04/12/13 15:05	04/17/13 12:25	Calculation	
Organic Nitrogen	**53300**	3830	mg/kg dry	10	[CALC]	04/12/13 15:05	04/10/13 13:49	Calculation	
Total Nitrogen	**57500**	3830	mg/kg dry	1	[CALC]	04/12/13 15:05	04/12/13 15:05	Calculation	
Ammonia as N	**4210**	383	mg/kg dry	10	B3D0304	04/10/13 13:49	04/10/13 13:49	EPA 350.1	
Nitrate + Nitrite as N	<7.66	7.66	mg/kg dry	1	B3D0385	04/12/13 15:05	04/12/13 15:05	SM 4500 NO3 F	
Nitrite as N	<3.8	3.8	mg/kg dry wt. dry	1	B3D0494	04/17/13 12:25	04/17/13 12:25	SM 4500 NO2 B	M2
Total Kjeldahl Nitrogen	**57500**	3830	mg/kg dry	1	B3D0262	04/09/13 07:45	04/09/13 14:53	EPA 351.2	M1
Total Phosphorous	**42700**	9580	mg/kg dry	1	B3D0315	04/10/13 10:00	04/10/13 17:25	EPA 365.3	
Total Fixed Solids	**41**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
% Solids	**26**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
Total Volatile Solids	**59**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	

MBC_Dig3 (Digested Sludge / Grab) P656261 (3040450-02) Solid (Dry Weight) (Grab) Sampled: 04/02/13 09:00 Received: 04/04/13 11:35

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**3**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
Total Volatile Solids	**60**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	

MBC_TSBTC (Raw Sludge / Grab) P656252 (3040450-03) Solid (Dry Weight) (Grab) Sampled: 04/02/13 09:00 Received: 04/04/13 11:35

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**4**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
Total Volatile Solids	**80**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	

Digester #7 (Digester Sludge) P656246 (3040450-04) Solid (Dry Weight) (Composite) Sampled: 04/03/13 07:30 Received: 04/04/13 11:35

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**2**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
Total Volatile Solids	**55**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Raw Feed Pump #3 (Raw Sludge) P656240 (3040450-05) Solid (Dry Weight) (Composite) Sampled: 04/03/13 07:30
Received: 04/04/13 11:35

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**3**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	
Total Volatile Solids	**76**	1	%	1	B3D0156	04/05/13 09:30	04/05/13 09:30	SM 2540 G	

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3D0168 - EPA 3050B Dry										
Blank (B3D0168-BLK1)				*Prepared: 04/05/13 Analyzed: 04/10/13*						
Arsenic	<0.20	0.20	mg/kg wet							
Cadmium	<0.004	0.004	mg/kg wet							
Chromium	<0.005	0.005	mg/kg wet							
Copper	<0.01	0.01	mg/kg wet							
Lead	<0.100	0.100	mg/kg wet							
Molybdenum	<0.02	0.02	mg/kg wet							
Nickel	<0.02	0.02	mg/kg wet							
Selenium	<0.2	0.2	mg/kg wet							
Zinc	<0.02	0.02	mg/kg wet							
LCS (B3D0168-BS1)				*Prepared: 04/05/13 Analyzed: 04/10/13*						
Arsenic	1.87	0.20	mg/kg wet	2.00		94	85-115			
Cadmium	0.389	0.004	mg/kg wet	0.400		97	85-115			
Chromium	0.504	0.005	mg/kg wet	0.500		101	85-115			
Copper	1.00	0.01	mg/kg wet	1.00		100	85-115			
Lead	0.971	0.100	mg/kg wet	1.00		97	85-115			
Molybdenum	0.20	0.02	mg/kg wet	0.200		101	85-115			
Nickel	0.98	0.02	mg/kg wet	1.00		98	85-115			
Selenium	1.0	0.2	mg/kg wet	1.00		98	85-115			
Zinc	0.96	0.02	mg/kg wet	1.00		96	85-115			
Matrix Spike (B3D0168-MS2)		**Source: 3040454-02**		*Prepared: 04/05/13 Analyzed: 04/10/13*						
Arsenic	441	46.5	mg/kg dry	465	10.8	93	75-125			
Cadmium	93.0	0.930	mg/kg dry	93.0	7.83	92	75-125			
Chromium	222	1.16	mg/kg dry	116	112	94	75-125			
Copper	1170	2.33	mg/kg dry	233	951	94	75-125			
Lead	246	23.3	mg/kg dry	233	34.8	91	75-125			
Molybdenum	50.1	4.65	mg/kg dry	46.5	6.66	93	75-125			
Nickel	375	4.65	mg/kg dry	233	164	91	75-125			
Selenium	236	46.5	mg/kg dry	233	5.2	99	75-125			
Zinc	1110	4.65	mg/kg dry	233	920	84	75-125			

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3D0168 - EPA 3050B Dry										
Matrix Spike Dup (B3D0168-MSD2)		**Source: 3040454-02**		*Prepared: 04/05/13 Analyzed: 04/10/13*						
Arsenic	442	46.5	mg/kg dry	465	10.8	93	75-125	0.1	20	
Cadmium	93.1	0.930	mg/kg dry	93.0	7.83	92	75-125	0.09	20	
Chromium	222	1.16	mg/kg dry	116	112	94	75-125	0.2	20	
Copper	1170	2.33	mg/kg dry	233	951	93	75-125	0.1	20	
Lead	247	23.3	mg/kg dry	233	34.8	91	75-125	0.1	20	
Molybdenum	50.3	4.65	mg/kg dry	46.5	6.66	94	75-125	0.5	20	
Nickel	376	4.65	mg/kg dry	233	164	91	75-125	0.3	20	
Selenium	234	46.5	mg/kg dry	233	5.2	99	75-125	0.6	20	
Zinc	1120	4.65	mg/kg dry	233	920	86	75-125	0.4	20	
Batch B3D0286 - EPA 7471A Prep										
Blank (B3D0286-BLK1)				*Prepared & Analyzed: 04/09/13*						
Mercury	<0.0004	0.0004	mg/kg wet							
LCS (B3D0286-BS1)				*Prepared & Analyzed: 04/09/13*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		101	85-115			
Matrix Spike (B3D0286-MS1)		**Source: 3040242-01**		*Prepared & Analyzed: 04/09/13*						
Mercury	2.36	0.24	mg/kg dry	2.42	0.21	89	85-115			
Matrix Spike Dup (B3D0286-MSD1)		**Source: 3040242-01**		*Prepared & Analyzed: 04/09/13*						
Mercury	2.53	0.24	mg/kg dry	2.42	0.21	96	85-115	7	20	

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3D0156 - NO PREP										
Blank (B3D0156-BLK1)				*Prepared & Analyzed: 04/05/13*						
% Solids	<1	1	%							
Total Fixed Solids	<1	1	%							
Total Volatile Solids	<1	1	%							
Duplicate (B3D0156-DUP1)		**Source: 3040450-01**		*Prepared & Analyzed: 04/05/13*						
% Solids	26	1	%		26			1	5	
Total Fixed Solids	41	1	%		41			0.2	5	
Total Volatile Solids	59	1	%		59			0.2	5	
Batch B3D0262 - NO PREP										
Blank (B3D0262-BLK1)				*Prepared & Analyzed: 04/09/13*						
Total Kjeldahl Nitrogen	<1.00	1.00	mg/kg wet							
LCS (B3D0262-BS1)				*Prepared & Analyzed: 04/09/13*						
Total Kjeldahl Nitrogen	5.20	1.00	mg/kg wet	5.00		104	90-110			
LCS Dup (B3D0262-BSD1)				*Prepared & Analyzed: 04/09/13*						
Total Kjeldahl Nitrogen	5.16	1.00	mg/kg wet	5.00		103	90-110	0.8	20	
Matrix Spike (B3D0262-MS1)		**Source: 3040450-01**		*Prepared & Analyzed: 04/09/13*						
Total Kjeldahl Nitrogen	80500	7660	mg/kg dry	19200	57500	120	90-110			M1
Matrix Spike Dup (B3D0262-MSD1)		**Source: 3040450-01**		*Prepared & Analyzed: 04/09/13*						
Total Kjeldahl Nitrogen	81200	7660	mg/kg dry	19200	57500	124	90-110	0.9	20	M1

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3D0304 - NO PREP										
Blank (B3D0304-BLK1)				*Prepared & Analyzed: 04/10/13*						
Ammonia as N	<1.00	1.00	mg/kg wet							
LCS (B3D0304-BS1)				*Prepared & Analyzed: 04/10/13*						
Ammonia as N	10.1	1.00	mg/kg wet	10.0		101	90-110			
LCS Dup (B3D0304-BSD1)				*Prepared & Analyzed: 04/10/13*						
Ammonia as N	10.0	1.00	mg/kg wet	10.0		100	90-110	1	20	
Matrix Spike (B3D0304-MS1)		**Source: 3040397-01**		*Prepared & Analyzed: 04/10/13*						
Ammonia as N	19.9		mg/L	10.0	10.2	97	90-110			
Matrix Spike Dup (B3D0304-MSD1)		**Source: 3040397-01**		*Prepared & Analyzed: 04/10/13*						
Ammonia as N	20.0		mg/L	10.0	10.2	98	90-110	0.5	20	
Batch B3D0315 - NO PREP										
Blank (B3D0315-BLK1)				*Prepared & Analyzed: 04/10/13*						
Total Phosphorous	<0.05	0.05	mg/kg wet							
LCS (B3D0315-BS1)				*Prepared & Analyzed: 04/10/13*						
Total Phosphorous	0.10	0.05	mg/kg wet	0.100		102	90-110			
LCS Dup (B3D0315-BSD1)				*Prepared & Analyzed: 04/10/13*						
Total Phosphorous	0.10	0.05	mg/kg wet	0.100		101	90-110	1	20	
Matrix Spike (B3D0315-MS1)		**Source: 3040396-01**		*Prepared & Analyzed: 04/10/13*						
Total Phosphorous	26900	2080	mg/kg dry	4150	24400	60	90-110			M2

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3D0315 - NO PREP										
Matrix Spike Dup (B3D0315-MSD1)		**Source: 3040396-01**		*Prepared & Analyzed: 04/10/13*						
Total Phosphorous	26900	2080	mg/kg dry	4150	24400	61	90-110	0.2	20	M2
Batch B3D0385 - NO PREP										
Blank (B3D0385-BLK1)				*Prepared & Analyzed: 04/12/13*						
Nitrate + Nitrite as N	<0.20	0.20	mg/kg wet							
LCS (B3D0385-BS1)				*Prepared & Analyzed: 04/12/13*						
Nitrate + Nitrite as N	10.1	0.20	mg/kg wet	10.0		101	90-110			
LCS Dup (B3D0385-BSD1)				*Prepared & Analyzed: 04/12/13*						
Nitrate + Nitrite as N	10.0	0.20	mg/kg wet	10.0		100	90-110	1	20	
Matrix Spike (B3D0385-MS1)		**Source: 3040450-01**		*Prepared & Analyzed: 04/12/13*						
Nitrate + Nitrite as N	376	7.66	mg/kg dry	383	1.22	98	80-120			
Matrix Spike Dup (B3D0385-MSD1)		**Source: 3040450-01**		*Prepared & Analyzed: 04/12/13*						
Nitrate + Nitrite as N	371	7.66	mg/kg dry	383	1.22	96	80-120	1	20	
Batch B3D0494 - NO PREP										
Blank (B3D0494-BLK1)				*Prepared & Analyzed: 04/17/13*						
Nitrite as N	<0.1	0.1	mg/kg dry wt. wet							
LCS (B3D0494-BS1)				*Prepared & Analyzed: 04/17/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		102	80-120			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3D0494 - NO PREP										
LCS Dup (B3D0494-BSD1)				*Prepared & Analyzed: 04/17/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		102	80-120	0	20	
Matrix Spike (B3D0494-MS1)		**Source: 3040450-01**		*Prepared & Analyzed: 04/17/13*						
Nitrite as N	5.2	3.8	mg/kg dry wt. dry	7.66	2.9	30	80-120			M2
Matrix Spike Dup (B3D0494-MSD1)		**Source: 3040450-01**		*Prepared & Analyzed: 04/17/13*						
Nitrite as N	5.2	3.8	mg/kg dry wt. dry	7.66	2.9	31	80-120	2	20	M2

Notes and Definitions

M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
M1	Matrix spike recovery was high; the method control sample recovery was acceptable.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

3040450

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center	Sampler/s: Plant Operators	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name: Richard Pitchford	Contact Name: Richard Pitchford	31 Day Composite from Daily Grab Samples.
Phone: (858) 614-5509	Phone: (858) 614-5509	

Sample Information: (All information is required) Number of attachments: 1

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)
03/01 - 03/31 2013 / 2400	OPR	MBCDEWN	Dewatered Sludge Cake	1000	1	Plastic Bag	ICE	See Attached	P657413 01

Chain-of-Custody

Relinquished by:	Received by:	Date & Time / Location:	Comments
Name: Keith Rychener Sign:	Name: George Wendorf Sign:	4/2/13 1000 MBC A51 Lab	
Relinquished by: Name: George Wendorf Sign:	Received by: Name: Courier Sign:	Date & Time Location:	
Relinquished by: Name: Courier Sign:	Received by: Name: Howard Sign: Howard	Date & Time 4/4/13 1135	3.0°C

See instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

3040450

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center	Sampler/s: Plant Operators	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name: Richard Pitchford	Contact Name: Richard Pitchford	
Phone: (858) 614-5509	Phone: (858) 614-5509	

Sample Information: (All information is required) Number of attachments: 0

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/Wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)	
04/02/13 900	Lab	MBC_Dig3	Digested Sludge / Grab	250 Mls	1	Plastic	ICE	See Attachment	P656261	-02
04/02/13 900	Lab	MBC_TSBTC	Raw Sludge / Grab	250 Mls	1	Plastic	ICE	See Attachment	P656252	-03

Chain-of-Custody **Comments**

Relinquished by:	Received by:	Date & Time / Location	
Name: VINIA S. BASILAN Sign:	Name: GEORGE WENDORF Sign:	Date & Time 04/02/13 Location: 09:00 MBC A51 Lab	
Relinquished by: Name: GEORGE WENDORF Sign:	Received by: Name: Sign: COURIER	Date & Time Location:	
Relinquished by: Name: Sign: COURIER	Received by: Name: Howard Sign: Howard	Date & Time 4/4/13 Location: 1135	3.0°C

See Instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, CA 91942
(619) 668-3215

3040450

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Legend Tech Services Contact Name: Phone:	Sampler/s: Wastewater Operators Contact Name: Keith Ruehrwein Phone: 619-668-3294	Type of Sampling Equipment/How sample obtained/other sampling notes: Composite made from Digester 7 and Raw from shift 3 grab samples.

Sample Information: (All information is required) Number of attachments: _____

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total vol/wt (mL's/Gms)	Number of containers	Container Type	Preservative	Analyses requested	Sample Log Number (Lab use only)
4-3-2013 730	ODR/JW	Digester 7	Digested Sludge	250	1	Plastic	4°C	TS TVS	P656246-04
4-3-2013 730	ODR/JW	Raw Seal Pump 3	PL Raw Sludge	250	1	Plastic	4°C	TS TVS	P656240-05

Chain-of-Custody

Relinquished by:	Received by:	Date & Time	Comments
Name: Julie Mwuss Sign:	Name: Keith Ruehrwein Sign:	4/3/13 @ 915 Location: PLNWTP	
Relinquished by: Name: Keith Ruehrwein Sign:	Received by: Name: GEORGE WENDORF Sign:	Date & Time 4/3/13 @ 10:00 Location: MBC ASI LAB	3.0°C
Relinquished by: Name: GEORGE WENDORF Sign:	Received by: Name: Courier Sign:	Date & Time Location:	Received by: Date:

See instructions, on reverse, for completing this form.
FIGURE 2a

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

Courier Howard Howard 4/4/13 1135

I:\SAMPLING_REPORT_&_CHAIN_OF_CUSTODY_RECORD.docx Document Control Number: WCL-F-002.3 September 21, 2009

3040450

City of San Diego
PUBLIC UTILITIES
Water & Wastewater

CITY OF SAN DIEGO
Public Utilities Department
Wastewater Treatment and Disposal

DATE: April 3, 2013

TO: Legend Technical Services of Arizona, Inc.

FROM: Metropolitan Biosolids Center
Attn: Richard Pitchford

SUBJECT: Lab Analysis of the following listed samples.

Please perform the following Analysis listed for the samples supplied.
If there are questions, please contact:

George Wendorf
Wastewater Plant Operator at the Metropolitan Biosolids Center.
(858) 614-5821
gwendorf@sandiego.gov

Analysis to be performed:

Log Number

P656252: MBC_TSBTC, Raw Sludge
TS, VS
P656261: MBC_Dig3, Digested Sludge
TS, VS
P656240: PLWWTP_Raw Comp, Raw Sludge
TS, VS
P656246: PLWWTP_PLDig7, Digested Sludge
TS, VS

P657413: MBC, Dewatered Sludge Cake
% - TS, VS, Fixed.
Metals: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Zinc, Phosphorus and Nitrogen Series: KJELDAHL Nitrogen, Ammonium Nitrogen, Nitrate, Nitrite, Organic Nitrogen.

LEGEND
Technical Services, Inc.
www.legend-group.com

17631 North 25th Avenue • Phoenix, AZ 85023
P (602) 324-6100 • F (602) 324-6101

21 May 2013

Barry Ayers
City of San Diego, Metro Biosolids Center
5240 Convoy St.
San Diego, CA 92111-1227

RE: Monthly Biosolids Analysis

Laboratory Work Order No.: 3050822

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 05/09/13 11:55.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

Lisa Parrish

Lisa Parrish
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
MBCDEWN (Dewatered Sludge Cake) P660574	3050822-01	Solid (Dry Weight)	Grab	04/30/13 23:59	05/09/13 11:55
MBC_Dig3 (Digested Sludge / Grab) P656262	3050822-02	Solid (Dry Weight)	Grab	05/07/13 09:00	05/09/13 11:55
MBC_TSBTC (Raw Sludge / Grab) P656260	3050822-03	Solid (Dry Weight)	Grab	05/07/13 09:00	05/09/13 11:55
Digester Feed Pump (Raw Sludge) P656276	3050822-04	Solid (Dry Weight)	Composite	05/07/13 06:30	05/09/13 11:55
Digester 7 (Raw Sludge) P656271	3050822-05	Solid (Dry Weight)	Composite	05/07/13 00:00	05/09/13 11:55

Sample Condition Upon Receipt:

Temperature: 4.10 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.

Comments: There were no problems encountered during the processing of the samples, unless otherwise noted. All samples were analyzed on a "wet" basis unless designated as "dry weight".

MBCDEWN (Dewatered Sludge Cake) P660574 (3050822-01) Solid (Dry Weight) (Grab) Sampled: 04/30/13 23:59
Received: 05/09/13 11:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Total Metals									
Arsenic	<30.4	30.4	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Cadmium	**2.50**	0.608	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Chromium	**48.8**	0.760	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Copper	**694**	1.52	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Lead	**21.0**	15.2	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Mercury	**1.5**	0.25	mg/kg dry	1	B3E0367	05/14/13 10:13	05/14/13 12:39	EPA 7471A	
Molybdenum	**16.0**	3.04	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Nickel	**36.1**	3.04	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Selenium	<30.4	30.4	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Zinc	**1150**	3.04	mg/kg dry	2	B3E0302	05/10/13 10:30	05/13/13 20:28	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.6	7.6	mg/kg dry	1	[CALC]	05/17/13 07:45	05/14/13 14:30	Calculation	
Organic Nitrogen	**59300**	3800	mg/kg dry	10	[CALC]	05/17/13 07:45	05/17/13 15:08	Calculation	
Total Nitrogen	**63100**	3800	mg/kg dry	1	[CALC]	05/17/13 07:45	05/17/13 15:08	Calculation	
Ammonia as N	**3770**	380	mg/kg dry	10	B3E0423	05/15/13 13:09	05/15/13 13:09	EPA 350.1	
Nitrate + Nitrite as N	<7.60	7.60	mg/kg dry	1	B3E0394	05/14/13 14:30	05/14/13 14:30	SM 4500 NO3 F	
Nitrite as N	<3.8	3.8	mg/kg dry wt. dry	1	B3E0355	05/13/13 13:40	05/13/13 13:40	SM 4500 NO2 B	
Total Kjeldahl Nitrogen	**63100**	3800	mg/kg dry	1	B3E0531	05/17/13 07:45	05/17/13 15:08	EPA 351.2	
Total Phosphorous	**38300**	9510	mg/kg dry	1	B3E0525	05/17/13 10:00	05/17/13 16:50	EPA 365.3	
Total Fixed Solids	**39**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	H3
% Solids	**26**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	H3
Total Volatile Solids	**61**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	H3

MBC_Dig3 (Digested Sludge / Grab) P656262 (3050822-02) Solid (Dry Weight) (Grab) Sampled: 05/07/13 09:00
Received: 05/09/13 11:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**3**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	
Total Volatile Solids	**62**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	

MBC_TSBTC (Raw Sludge / Grab) P656260 (3050822-03) Solid (Dry Weight) (Grab) Sampled: 05/07/13 09:00
Received: 05/09/13 11:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**7**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	
Total Volatile Solids	**79**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	

Digester Feed Pump (Raw Sludge) P656276 (3050822-04) Solid (Dry Weight) (Composite) Sampled: 05/07/13 06:30
Received: 05/09/13 11:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**4**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	
Total Volatile Solids	**78**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	

Digester 7 (Raw Sludge) P656271 (3050822-05) Solid (Dry Weight) (Composite) Sampled: 05/07/13 00:00 Received: 05/09/13 11:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**2**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	
Total Volatile Solids	**57**	1	%	1	B3E0298	05/09/13 15:45	05/09/13 15:45	SM 2540 G	

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3E0302 - EPA 3050B Dry										
Blank (B3E0302-BLK1)				*Prepared: 05/10/13 Analyzed: 05/13/13*						
Arsenic	<0.20	0.20	mg/kg wet							
Cadmium	<0.004	0.004	mg/kg wet							
Chromium	<0.005	0.005	mg/kg wet							
Copper	<0.01	0.01	mg/kg wet							
Lead	<0.100	0.100	mg/kg wet							
Molybdenum	<0.02	0.02	mg/kg wet							
Nickel	<0.02	0.02	mg/kg wet							
Selenium	<0.2	0.2	mg/kg wet							
Zinc	<0.02	0.02	mg/kg wet							
LCS (B3E0302-BS1)				*Prepared: 05/10/13 Analyzed: 05/13/13*						
Arsenic	1.88	0.20	mg/kg wet	2.00		94	85-115			
Cadmium	0.394	0.004	mg/kg wet	0.400		98	85-115			
Chromium	0.481	0.005	mg/kg wet	0.500		96	85-115			
Copper	0.91	0.01	mg/kg wet	1.00		91	85-115			
Lead	0.973	0.100	mg/kg wet	1.00		97	85-115			
Molybdenum	0.19	0.02	mg/kg wet	0.200		97	85-115			
Nickel	0.95	0.02	mg/kg wet	1.00		95	85-115			
Selenium	1.0	0.2	mg/kg wet	1.00		98	85-115			
Zinc	0.99	0.02	mg/kg wet	1.00		99	85-115			
Matrix Spike (B3E0302-MS2)		**Source: 3050795-02**		*Prepared: 05/10/13 Analyzed: 05/13/13*						
Arsenic	456	44.9	mg/kg dry	449	10.7	99	75-125			
Cadmium	96.0	0.899	mg/kg dry	89.9	6.79	99	75-125			
Chromium	237	1.12	mg/kg dry	112	130	95	75-125			
Copper	1090	2.25	mg/kg dry	225	870	98	75-125			
Lead	254	22.5	mg/kg dry	225	35.1	97	75-125			
Molybdenum	49.4	4.49	mg/kg dry	44.9	6.42	96	75-125			
Nickel	430	4.49	mg/kg dry	225	212	97	75-125			
Selenium	244	44.9	mg/kg dry	225	5.0	106	75-125			
Zinc	1210	4.49	mg/kg dry	225	983	101	75-125			

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3E0302 - EPA 3050B Dry										
Matrix Spike Dup (B3E0302-MSD2)		**Source: 3050795-02**		*Prepared: 05/10/13 Analyzed: 05/13/13*						
Arsenic	448	44.9	mg/kg dry	449	10.7	97	75-125	2	20	
Cadmium	94.4	0.899	mg/kg dry	89.9	6.79	97	75-125	2	20	
Chromium	236	1.12	mg/kg dry	112	130	94	75-125	0.4	20	
Copper	1090	2.25	mg/kg dry	225	870	96	75-125	0.3	20	
Lead	251	22.5	mg/kg dry	225	35.1	96	75-125	1	20	
Molybdenum	49.1	4.49	mg/kg dry	44.9	6.42	95	75-125	0.7	20	
Nickel	426	4.49	mg/kg dry	225	212	95	75-125	1	20	
Selenium	236	44.9	mg/kg dry	225	5.0	103	75-125	3	20	
Zinc	1190	4.49	mg/kg dry	225	983	93	75-125	1	20	
Batch B3E0367 - EPA 7471A Prep										
Blank (B3E0367-BLK1)				*Prepared & Analyzed: 05/14/13*						
Mercury	<0.0004	0.0004	mg/kg wet							
LCS (B3E0367-BS1)				*Prepared & Analyzed: 05/14/13*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		99	85-115			
Matrix Spike (B3E0367-MS1)		**Source: 3050936-02**		*Prepared & Analyzed: 05/14/13*						
Mercury	2.78	0.30	mg/kg dry	2.98	0.19	87	85-115			
Matrix Spike Dup (B3E0367-MSD1)		**Source: 3050936-02**		*Prepared & Analyzed: 05/14/13*						
Mercury	2.94	0.30	mg/kg dry	2.98	0.19	92	85-115	5	20	

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3E0298 - NO PREP										
Blank (B3E0298-BLK1)				*Prepared & Analyzed: 05/09/13*						
% Solids	<1	1	%							
Total Fixed Solids	<1	1	%							
Total Volatile Solids	<1	1	%							
Duplicate (B3E0298-DUP1)		**Source: 3050822-01**		*Prepared & Analyzed: 05/09/13*						
% Solids	26	1	%		26			2	5	
Total Fixed Solids	40	1	%		39			2	5	
Total Volatile Solids	60	1	%		61			1	5	
Batch B3E0355 - NO PREP										
Blank (B3E0355-BLK1)				*Prepared & Analyzed: 05/13/13*						
Nitrite as N	<0.1	0.1	mg/kg dry wt. wet							
LCS (B3E0355-BS1)				*Prepared & Analyzed: 05/13/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		101	80-120			
LCS Dup (B3E0355-BSD1)				*Prepared & Analyzed: 05/13/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		101	80-120	0	20	
Matrix Spike (B3E0355-MS1)		**Source: 3050737-01**		*Prepared & Analyzed: 05/13/13*						
Nitrite as N	3.0	1.5	mg/kg dry wt. dry	3.09	2.2	24	80-120			M2
Matrix Spike Dup (B3E0355-MSD1)		**Source: 3050737-01**		*Prepared & Analyzed: 05/13/13*						
Nitrite as N	3.0	1.5	mg/kg dry wt. dry	3.09	2.2	24	80-120	2	20	M2

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3E0394 - NO PREP										
Blank (B3E0394-BLK1)				*Prepared & Analyzed: 05/14/13*						
Nitrate + Nitrite as N	<0.20	0.20	mg/kg wet							
LCS (B3E0394-BS1)				*Prepared & Analyzed: 05/14/13*						
Nitrate + Nitrite as N	10.5	0.20	mg/kg wet	10.0		105	90-110			
LCS Dup (B3E0394-BSD1)				*Prepared & Analyzed: 05/14/13*						
Nitrate + Nitrite as N	10.3	0.20	mg/kg wet	10.0		103	90-110	2	20	
Matrix Spike (B3E0394-MS1)		**Source: 3050765-01**		*Prepared & Analyzed: 05/14/13*						
Nitrate + Nitrite as N	9550	180	mg/kg dry	9010	37.9	106	80-120			
Matrix Spike Dup (B3E0394-MSD1)		**Source: 3050765-01**		*Prepared & Analyzed: 05/14/13*						
Nitrate + Nitrite as N	9730	180	mg/kg dry	9010	37.9	108	80-120	2	20	
Batch B3E0423 - NO PREP										
Blank (B3E0423-BLK1)				*Prepared & Analyzed: 05/15/13*						
Ammonia as N	<1.00	1.00	mg/kg wet							
LCS (B3E0423-BS1)				*Prepared & Analyzed: 05/15/13*						
Ammonia as N	10.1	1.00	mg/kg wet	10.0		101	90-110			
LCS Dup (B3E0423-BSD1)				*Prepared & Analyzed: 05/15/13*						
Ammonia as N	10.1	1.00	mg/kg wet	10.0		101	90-110	0	20	
Matrix Spike (B3E0423-MS1)		**Source: 3050765-01**		*Prepared & Analyzed: 05/15/13*						
Ammonia as N	66700	4500	mg/kg dry	45000	19700	104	90-110			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3E0423 - NO PREP										
Matrix Spike Dup (B3E0423-MSD1)		**Source: 3050765-01**		*Prepared & Analyzed: 05/15/13*						
Ammonia as N	66700	4500	mg/kg dry	45000	19700	104	90-110	0	20	
Batch B3E0525 - NO PREP										
Blank (B3E0525-BLK1)				*Prepared & Analyzed: 05/17/13*						
Total Phosphorous	<0.05	0.05	mg/kg wet							
LCS (B3E0525-BS1)				*Prepared & Analyzed: 05/17/13*						
Total Phosphorous	0.09	0.05	mg/kg wet	0.100		92	90-110			
LCS Dup (B3E0525-BSD1)				*Prepared & Analyzed: 05/17/13*						
Total Phosphorous	0.09	0.05	mg/kg wet	0.100		93	90-110	0.6	20	
Matrix Spike (B3E0525-MS1)		**Source: 3050893-01**		*Prepared & Analyzed: 05/17/13*						
Total Phosphorous	40700	8390	mg/kg dry	16800	21500	114	90-110			M1
Matrix Spike Dup (B3E0525-MSD1)		**Source: 3050893-01**		*Prepared & Analyzed: 05/17/13*						
Total Phosphorous	41300	8390	mg/kg dry	16800	21500	118	90-110	1	20	M1
Batch B3E0531 - NO PREP										
Blank (B3E0531-BLK1)				*Prepared & Analyzed: 05/17/13*						
Total Kjeldahl Nitrogen	<1.00	1.00	mg/kg wet							
LCS (B3E0531-BS1)				*Prepared & Analyzed: 05/17/13*						
Total Kjeldahl Nitrogen	5.05	1.00	mg/kg wet	5.00		101	90-110			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3E0531 - NO PREP										
LCS Dup (B3E0531-BSD1)				*Prepared & Analyzed: 05/17/13*						
Total Kjeldahl Nitrogen	5.24	1.00	mg/kg wet	5.00		105	90-110	4	20	
Matrix Spike (B3E0531-MS1)		**Source: 3050894-01**		*Prepared & Analyzed: 05/17/13*						
Total Kjeldahl Nitrogen	78000	6780	mg/kg dry	16900	66100	70	90-110			M2
Matrix Spike Dup (B3E0531-MSD1)		**Source: 3050894-01**		*Prepared & Analyzed: 05/17/13*						
Total Kjeldahl Nitrogen	80700	6780	mg/kg dry	16900	66100	86	90-110	3	20	M2

Notes and Definitions

M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
M1	Matrix spike recovery was high; the method control sample recovery was acceptable.
H3	Sample was received and /or anlaysis was requested past holding time.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

3050822

CITY OF SAN DIEGO
Public Utilities Department
Wastewater Treatment and Disposal

DATE: May 7, 2013

TO: Legend Technical Services of Arizona, Inc.

FROM: Metropolitan Biosolids Center
Attn: Richard Pitchford

SUBJECT: Lab Analysis of the following listed samples.

Please perform the following Analysis listed for the samples supplied.
If there are questions, please contact:

George Wendorf
Wastewater Plant Operator at the Metropolitan Biosolids Center.
(858) 614-5821
gwendorf@sandiego.gov

Analysis to be performed:

Log Number

P656260: MBC_TSBTC, Raw Sludge
TS, VS
P656262: MBC_Dig3, Digested Sludge
TS, VS
P656276: PLWWTP_Raw Comp, Raw Sludge
TS, VS
P656271: PLWWTP_PLDig7, Digested Sludge
TS, VS

P660574: MBC, Dewatered Sludge Cake
% - TS, VS, Fixed.
Metals: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Zinc, Phosphorus and Nitrogen Series: KJELDAHL Nitrogen, Ammonium Nitrogen, Nitrate, Nitrite, Organic Nitrogen.

3050822

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center	Sampler/s: Plant Operators	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name: Richard Pitchford	Contact Name: Richard Pitchford	30 Day Composite from Daily Grab Samples.
Phone: (858) 614-5509	Phone: (858) 614-5509	

Sample Information: (All information is required) Number of attachments: 1

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)
04/01 - 04/30 2013 / 2400	OPR	MBCDEWN	Dewatered Sludge Cake	1000	1	Plastic Bag	ICE	See Attached	**P660574** 01

Chain-of-Custody **Comments**

Relinquished by: Name: Kelly Rodriguez Sign:	Received by: Name: GEORGE WENDORF Sign:	Date & Time 5/1/13 Location: 09:00 MBC A51 Lab	4.1°C
Relinquished by: Name: GEORGE WENDORF Sign:	Received by: Name: A Cerome Sign:	Date & Time 5/9/13 Location: 1155 Legend	
Relinquished by: Name: Sign:	Received by: Name: Sign:	Date & Time Location:	

See instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

3050822

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center	Sampler/s: Plant Operators	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name: Richard Pitchford	Contact Name: Richard Pitchford	
Phone: (858) 614-5509	Phone: (858) 614-5509	

Sample Information: (All information is required) Number of attachments: 0

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)	
05/07/13 900	Lab	MBC_Dig3	Digested Sludge / Grab	250 Mls	1	Plastic	ICE	See Attachment	**P656262**	02
05/07/13 900	Lab	MBC_TSBTC	Raw Sludge / Grab	250 Mls	1	Plastic	ICE	See Attachment	**P656260**	03

Chain-of-Custody **Comments**

Relinquished by: Name: VINIA S. BASIVAN Sign:	Received by: Name: GEORGE WENDORF Sign:	Date & Time 5/7/13 Location: 1010 MBC A51 Lab	4.1°C
Relinquished by: Name: GEORGE WENDORF Sign:	Received by: Name: A. Jerome Sign:	Date & Time 5/9/13 Location: 1155 Legend	
Relinquished by: Name: Sign:	Received by: Name: Sign:	Date & Time Location:	

See instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, CA 91942
(619) 668-3215

3050822

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Legend Tech Service Contact Name: Phone:	Sampler/s: JWebb/operator Contact Name: Keith Ruehrwein Phone: 619-668-3294	Type of Sampling Equipment/How sample obtained/other sampling notes: Composite sample made from 12 grab sample taken at 2 hours intervals

Sample Information: (All information is required) Number of attachments: _____

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total vol/wt mL / Gms	Number of containers	Container Type	Preservative	Analyses requested	Sample Log Number (Lab use only)
5/7/2013	JW/DPR	Digester Feed Pump	Raw Sludge	250	1	plastic	4°C None	TS/VS	P656276
5/7/2013	JW/DPR	Digester 7	Digested Sludge	250	1	plastic	4°C	TS/VS	P656271

Chain-of-Custody

Relinquished by:	Received by:	Date & Time / Location	Comments
Name: Julie M Webb Sign:	Name: Keith Ruehrwein Sign:	Date & Time: 05/8/13 Location: PL	H.I.C
Relinquished by: Name: SARA DAMPER Sign:	Received by: Name: Brandon Howard Sign:	Date & Time Location: 5/8/13 11:00 MBC	
Relinquished by: Name: Brandon Howard Sign:	Received by: Name: Brandon Howard Sign:	Date & Time: 5/8/13 Location: MBC	Reviewed by: Date:

See instructions, on reverse, for completing this form.
FIGURE 2a

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

~~Eff~~ 5/9/13
courier

Jerome 5/9/13 1155, Legend

I:\SAMPLING_REPORT_&_CHAIN_OF_CUSTODY_RECORD.docx Document Control Number: WCL-F-002.3 September 21, 2009

LEGEND
Technical Services, Inc.
www.legend-group.com

17631 North 25th Avenue • Phoenix, AZ 85023
P (602) 324-6100 • F (602) 324-6101

13 June 2013

Barry Ayers
City of San Diego, Metro Biosolids Center
5240 Convoy St.
San Diego, CA 92111-1227

RE: Monthly Biosolids Analysis

Laboratory Work Order No.: 3060436

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 06/06/13 11:05.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

Lisa Parrish

Lisa Parrish
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
MBCDEWN (Dewatered Sludge Cake) P664036	3060436-01	Solid (Dry Weight)	Grab	05/31/13 23:59	06/06/13 11:05
MBC_Dig3 (Digested Sludge / Grab) P656263	3060436-02	Solid (Dry Weight)	Grab	06/04/13 09:00	06/06/13 11:05
MBC_TSBTC (Raw Sludge / Grab) P656253	3060436-03	Solid (Dry Weight)	Grab	06/04/13 09:00	06/06/13 11:05
Raw Feed Pump (PLR, Raw Sludge) P656241	3060436-04	Solid (Dry Weight)	Composite	06/04/13 23:59	06/06/13 11:05
Digester 7 (Digester Sludge) P656247	3060436-05	Solid (Dry Weight)	Composite	06/04/13 23:59	06/06/13 11:05

Sample Condition Upon Receipt:

Temperature: 3.30 C
All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.
QA/QC Criteria: All analyses met method requirements unless otherwise qualified.
Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.
Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.
Comments: There were no problems encountered during the processing of the samples, unless otherwise noted. All samples were analyzed on a "wet" basis unless designated as "dry weight".

MBCDEWN (Dewatered Sludge Cake) P664036 (3060436-01) Solid (Dry Weight) (Grab) Sampled: 05/31/13 23:59 Received: 06/06/13 11:05

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Total Metals									
Arsenic	<30.7	30.7	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Cadmium	**2.59**	0.613	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Chromium	**54.7**	0.766	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Copper	**734**	1.53	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Lead	**24.4**	15.3	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Mercury	**1.7**	0.26	mg/kg dry	1	B3F0299	06/11/13 10:20	06/11/13 15:00	EPA 7471A	
Molybdenum	**19.1**	3.07	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Nickel	**42.1**	3.07	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Selenium	<30.7	30.7	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Zinc	**1210**	3.07	mg/kg dry	2	B3F0182	06/07/13 10:50	06/10/13 12:58	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.66	7.66	mg/kg dry	1	[CALC]	06/11/13 13:10	06/12/13 11:00	Calculation	
Organic Nitrogen	**49400**	3830	mg/kg dry	10	[CALC]	06/11/13 13:10	06/12/13 13:47	Calculation	
Total Nitrogen	**54000**	3830	mg/kg dry	1	[CALC]	06/11/13 13:10	06/11/13 13:47	Calculation	
Ammonia as N	**4640**	383	mg/kg dry	10	B3F0347	06/12/13 13:47	06/12/13 13:47	EPA 350.1	
Nitrate + Nitrite as N	<7.66	7.66	mg/kg dry	1	B3F0320	06/11/13 13:10	06/11/13 13:10	SM 4500 NO3 F	
Nitrite as N	<3.8	3.8	mg/kg dry wt. dry	1	B3F0333	06/12/13 11:00	06/12/13 11:00	SM 4500 NO2 B M2	
Total Phosphorous	**26100**	9580	mg/kg dry	1	B3F0361	06/12/13 10:00	06/13/13 16:50	EPA 365.3	
Total Fixed Solids	**43**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	
% Solids	**26**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	
Total Volatile Solids	**57**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	

MBCDEWN (Dewatered Sludge Cake) P664036 (3060436-01RE1) Solid (Dry Weight) (Grab) Sampled: 05/31/13 23:59 Received: 06/06/13 11:05

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
Organic Nitrogen	**48700**	3830	mg/kg dry	1	[CALC]	06/11/13 07:30	06/11/13 13:47	Calculation	
Total Nitrogen	**48700**	3830	mg/kg dry	1	[CALC]	06/11/13 07:30	06/11/13 13:47	Calculation	
Total Kjeldahl Nitrogen	**48700**	3830	mg/kg dry	1	B3F0307	06/11/13 07:30	06/11/13 13:47	EPA 351.2	M1

MBC_Dig3 (Digested Sludge / Grab) P656263 (3060436-02) Solid (Dry Weight) (Grab) Sampled: 06/04/13 09:00 Received: 06/06/13 11:05

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
% Solids	**3**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	
Total Volatile Solids	**62**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	

MBC_TSBTC (Raw Sludge / Grab) P656253 (3060436-03) Solid (Dry Weight) (Grab) Sampled: 06/04/13 09:00 Received: 06/06/13 11:05

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
% Solids	**5**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	
Total Volatile Solids	**80**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G	

Raw Feed Pump (PLR, Raw Sludge) P656241 (3060436-04) Solid (Dry Weight) (Composite) Sampled: 06/04/13 23:59 Received: 06/06/13 11:05

Analyte	Result	PQL	Units	DilutionBatch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry								
% Solids	4	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G
Total Volatile Solids	**76**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G

Digester 7 (Digester Sludge) P656247 (3060436-05) Solid (Dry Weight) (Composite) Sampled: 06/04/13 23:59 Received: 06/06/13 11:05

Analyte	Result	PQL	Units	DilutionBatch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry								
% Solids	**2**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G
Total Volatile Solids	**54**	1	%	1	B3F0272	06/07/13 13:30	06/07/13 13:30	SM 2540 G

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3F0182 - EPA 3050B Dry										
Blank (B3F0182-BLK1)				*Prepared: 06/07/13 Analyzed: 06/10/13*						
Arsenic	<0.20	0.20	mg/kg wet							
Cadmium	<0.004	0.004	mg/kg wet							
Chromium	<0.005	0.005	mg/kg wet							
Copper	<0.01	0.01	mg/kg wet							
Lead	<0.100	0.100	mg/kg wet							
Molybdenum	<0.02	0.02	mg/kg wet							
Nickel	<0.02	0.02	mg/kg wet							
Selenium	<0.2	0.2	mg/kg wet							
Zinc	<0.02	0.02	mg/kg wet							
LCS (B3F0182-BS1)				*Prepared: 06/07/13 Analyzed: 06/10/13*						
Arsenic	1.94	0.20	mg/kg wet	2.00		97	85-115			
Cadmium	0.408	0.004	mg/kg wet	0.400		102	85-115			
Chromium	0.503	0.005	mg/kg wet	0.500		101	85-115			
Copper	0.96	0.01	mg/kg wet	1.00		96	85-115			
Lead	1.01	0.100	mg/kg wet	1.00		101	85-115			
Molybdenum	0.20	0.02	mg/kg wet	0.200		100	85-115			
Nickel	0.98	0.02	mg/kg wet	1.00		98	85-115			
Selenium	1.0	0.2	mg/kg wet	1.00		101	85-115			
Zinc	1.02	0.02	mg/kg wet	1.00		102	85-115			
Matrix Spike (B3F0182-MS2)		**Source: 3060450-02**		*Prepared: 06/07/13 Analyzed: 06/10/13*						
Arsenic	492	50.0	mg/kg dry	500	10.3	96	75-125			
Cadmium	106	1.00	mg/kg dry	100	6.89	99	75-125			
Chromium	256	1.25	mg/kg dry	125	135	97	75-125			
Copper	1170	2.50	mg/kg dry	250	943	91	75-125			
Lead	275	25.0	mg/kg dry	250	33.5	97	75-125			
Molybdenum	54.2	5.00	mg/kg dry	50.0	6.32	96	75-125			
Nickel	473	5.00	mg/kg dry	250	240	94	75-125			
Selenium	258	50.0	mg/kg dry	250	7.4	100	75-125			
Zinc	1240	5.00	mg/kg dry	250	1010	92	75-125			

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3F0182 - EPA 3050B Dry										
Matrix Spike Dup (B3F0182-MSD2)		**Source: 3060450-02**		*Prepared: 06/07/13*	*Analyzed: 06/10/13*					
Arsenic	508	50.0	mg/kg dry	500	10.3	99	75-125	3	20	
Cadmium	109	1.00	mg/kg dry	100	6.89	102	75-125	3	20	
Chromium	264	1.25	mg/kg dry	125	135	103	75-125	3	20	
Copper	1210	2.50	mg/kg dry	250	943	106	75-125	3	20	
Lead	283	25.0	mg/kg dry	250	33.5	100	75-125	3	20	
Molybdenum	55.9	5.00	mg/kg dry	50.0	6.32	99	75-125	3	20	
Nickel	490	5.00	mg/kg dry	250	240	100	75-125	3	20	
Selenium	266	50.0	mg/kg dry	250	7.4	104	75-125	3	20	
Zinc	1280	5.00	mg/kg dry	250	1010	108	75-125	3	20	
Batch B3F0299 - EPA 7471A Prep										
Blank (B3F0299-BLK1)				*Prepared & Analyzed: 06/11/13*						
Mercury	<0.0004	0.0004	mg/kg wet							
LCS (B3F0299-BS1)				*Prepared & Analyzed: 06/11/13*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		98	85-115			
Matrix Spike (B3F0299-MS1)		**Source: 3060104-01**		*Prepared & Analyzed: 06/11/13*						
Mercury	5.30	0.39	mg/kg dry	3.90	1.66	93	85-115			
Matrix Spike Dup (B3F0299-MSD1)		**Source: 3060104-01**		*Prepared & Analyzed: 06/11/13*						
Mercury	5.39	0.39	mg/kg dry	3.90	1.66	96	85-115	2	20	

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3F0190 - NO PREP										
Blank (B3F0190-BLK1)				*Prepared & Analyzed: 06/07/13*						
Total Kjeldahl Nitrogen	<1.00	1.00	mg/kg wet							
LCS (B3F0190-BS1)				*Prepared & Analyzed: 06/07/13*						
Total Kjeldahl Nitrogen	4.98	1.00	mg/kg wet	5.00		100	90-110			
LCS Dup (B3F0190-BSD1)				*Prepared & Analyzed: 06/07/13*						
Total Kjeldahl Nitrogen	5.10	1.00	mg/kg wet	5.00		102	90-110	2	20	
Matrix Spike (B3F0190-MS1)		**Source: 3060436-01**		*Prepared & Analyzed: 06/07/13*						
Total Kjeldahl Nitrogen	134000	11500	mg/kg dry	19200	54000	420	90-110			M1
Matrix Spike Dup (B3F0190-MSD1)		**Source: 3060436-01**		*Prepared & Analyzed: 06/07/13*						
Total Kjeldahl Nitrogen	134000	11500	mg/kg dry	19200	54000	420	90-110	0	20	M1
Batch B3F0272 - NO PREP										
Blank (B3F0272-BLK1)				*Prepared & Analyzed: 06/07/13*						
% Solids	<1	1	%							
Total Fixed Solids	<1	1	%							
Total Volatile Solids	<1	1	%							
Duplicate (B3F0272-DUP1)		**Source: 3060436-01**		*Prepared & Analyzed: 06/07/13*						
% Solids	26	1	%		26			0.8	5	
Total Fixed Solids	44	1	%		43			3	5	
Total Volatile Solids	56	1	%		57			2	5	

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3F0307 - NO PREP										
Blank (B3F0307-BLK1)				*Prepared & Analyzed: 06/11/13*						
Total Kjeldahl Nitrogen	<1.00	1.00	mg/kg wet							
LCS (B3F0307-BS1)				*Prepared & Analyzed: 06/11/13*						
Total Kjeldahl Nitrogen	4.91	1.00	mg/kg wet	5.00		98	90-110			
LCS Dup (B3F0307-BSD1)				*Prepared & Analyzed: 06/11/13*						
Total Kjeldahl Nitrogen	4.97	1.00	mg/kg wet	5.00		99	90-110	1	20	
Matrix Spike (B3F0307-MS1)		**Source: 3060436-01RE**		*Prepared & Analyzed: 06/11/13*						
Total Kjeldahl Nitrogen	71600	3830	mg/kg dry	19200	48700	120	90-110			M1
Matrix Spike Dup (B3F0307-MSD1)		**Source: 3060436-01RE**		*Prepared & Analyzed: 06/11/13*						
Total Kjeldahl Nitrogen	71600	3830	mg/kg dry	19200	48700	120	90-110	0	20	M1
Batch B3F0320 - NO PREP										
Blank (B3F0320-BLK1)				*Prepared & Analyzed: 06/11/13*						
Nitrate + Nitrite as N	<0.20	0.20	mg/kg wet							
LCS (B3F0320-BS1)				*Prepared & Analyzed: 06/11/13*						
Nitrate + Nitrite as N	10.3	0.20	mg/kg wet	10.0		103	90-110			
LCS Dup (B3F0320-BSD1)				*Prepared & Analyzed: 06/11/13*						
Nitrate + Nitrite as N	10.4	0.20	mg/kg wet	10.0		104	90-110	1	20	
Matrix Spike (B3F0320-MS1)		**Source: 3060436-01**		*Prepared & Analyzed: 06/11/13*						
Nitrate + Nitrite as N	406	7.66	mg/kg dry	383	1.88	106	80-120			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3F0320 - NO PREP										
Matrix Spike Dup (B3F0320-MSD1)		**Source: 3060436-01**		*Prepared & Analyzed: 06/11/13*						
Nitrate + Nitrite as N	398	7.66	mg/kg dry	383	1.88	104	80-120	2	20	
Batch B3F0333 - NO PREP										
Blank (B3F0333-BLK1)				*Prepared & Analyzed: 06/12/13*						
Nitrite as N	<0.1	0.1	mg/kg dry wt. wet							
LCS (B3F0333-BS1)				*Prepared & Analyzed: 06/12/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		100	80-120			
LCS Dup (B3F0333-BSD1)				*Prepared & Analyzed: 06/12/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		100	80-120	0.5	20	
Matrix Spike (B3F0333-MS1)		**Source: 3060436-01**		*Prepared & Analyzed: 06/12/13*						
Nitrite as N	4.1	3.8	mg/kg dry wt. dry	7.66	1.3	37	80-120			M2
Matrix Spike Dup (B3F0333-MSD1)		**Source: 3060436-01**		*Prepared & Analyzed: 06/12/13*						
Nitrite as N	4.2	3.8	mg/kg dry wt. dry	7.66	1.3	38	80-120	3	20	M2
Batch B3F0347 - NO PREP										
Blank (B3F0347-BLK1)				*Prepared & Analyzed: 06/12/13*						
Ammonia as N	<1.00	1.00	mg/kg wet							
LCS (B3F0347-BS1)				*Prepared & Analyzed: 06/12/13*						
Ammonia as N	10.1	1.00	mg/kg wet	10.0		101	90-110			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3F0347 - NO PREP										
LCS Dup (B3F0347-BSD1)				*Prepared & Analyzed: 06/12/13*						
Ammonia as N	10.3	1.00	mg/kg wet	10.0		103	90-110	2	20	
Matrix Spike (B3F0347-MS1)		**Source: 3060702-01**		*Prepared & Analyzed: 06/12/13*						
Ammonia as N	16.9		mg/L	10.0	6.35	106	90-110			
Matrix Spike Dup (B3F0347-MSD1)		**Source: 3060702-01**		*Prepared & Analyzed: 06/12/13*						
Ammonia as N	16.8		mg/L	10.0	6.35	104	90-110	0.6	20	
Batch B3F0361 - NO PREP										
Blank (B3F0361-BLK1)				*Prepared: 06/12/13 Analyzed: 06/13/13*						
Total Phosphorous	<0.05	0.05	mg/kg wet							
LCS (B3F0361-BS1)				*Prepared: 06/12/13 Analyzed: 06/13/13*						
Total Phosphorous	0.10	0.05	mg/kg wet	0.100		101	90-110			
LCS Dup (B3F0361-BSD1)				*Prepared: 06/12/13 Analyzed: 06/13/13*						
Total Phosphorous	0.10	0.05	mg/kg wet	0.100		101	90-110	0.3	20	
Matrix Spike (B3F0361-MS1)		**Source: 3060701-01**		*Prepared: 06/12/13 Analyzed: 06/13/13*						
Total Phosphorous	5740	1250	mg/kg wet	2500	3680	83	90-110			M2
Matrix Spike Dup (B3F0361-MSD1)		**Source: 3060701-01**		*Prepared: 06/12/13 Analyzed: 06/13/13*						
Total Phosphorous	5720	1250	mg/kg wet	2500	3680	82	90-110	0.3	20	M2

Notes and Definitions

M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
M1	Matrix spike recovery was high; the method control sample recovery was acceptable.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

3060436

CITY OF SAN DIEGO
Public Utilities Department
Wastewater Treatment and Disposal

DATE: June 5, 2013

TO: Legend Technical Services of Arizona, Inc.

FROM: Metropolitan Biosolids Center
Attn: Richard Pitchford

SUBJECT: Lab Analysis of the following listed samples.

Please perform the following Analysis listed for the samples supplied.
If there are questions, please contact:

George Wendorf
Wastewater Plant Operator at the Metropolitan Biosolids Center.
(858) 614-5821
gwendorf@sandiego.gov

Analysis to be performed:

Log Number

P656253: MBC_TSBTC, Raw Sludge
TS, VS
P656263: MBC_Dig3, Digested Sludge
TS, VS
P656241: PLWWTP_Raw Comp, Raw Sludge
TS, VS
P656247: PLWWTP_PLDig7, Digested Sludge
TS, VS

P664036: MBC, Dewatered Sludge Cake
% - TS, VS, Fixed.
Metals: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Zinc, Phosphorus and Nitrogen Series: KJELDAHL Nitrogen, Ammonium Nitrogen, Nitrate, Nitrite, Organic Nitrogen.

3060436

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center	Sampler/s: Plant Operators	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name: Richard Pitchford	Contact Name: Richard Pitchford	31 Day Composite from Daily Grab Samples.
Phone: (858) 614-5509	Phone: (858) 614-5509	

Sample Information: (All information is required) Number of attachments: 1

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)
05/01 - 05/31 2013 / 2400	OPR	MBCDEWN	Dewatered Sludge Cake	1000	1	Plastic Bag	ICE	See Attached	P1604036-01

Chain-of-Custody

Relinquished by: Name: Keith Pretchner Sign:	Received by: Name: George Wendorf Sign:	Date & Time 6/3/13 Location: 08:30 MBC A51 Lab	Comments: 3.3°C
Relinquished by: Name: George Wendorf Sign:	Received by: Name: courier Sign:	Date & Time Location:	
Relinquished by: Name: courier Sign:	Received by: Name: Jerome Sign:	Date & Time 4/6/13 Location: 11:05 Legend	

See instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

3060436

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center Contact Name: Richard Pitchford Phone: (858) 614-5509	Sampler/s: Plant Operators Contact Name: Richard Pitchford Phone: (858) 614-5509	Type of Sampling Equipment/How sample obtained/other sampling notes:

Sample Information: (All information is required) Number of attachments: 0

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)
~~05/04/13~~ 6/4/13 900	Lab	MBC_Dig3	Digested Sludge / Grab	250 Mls	1	Plastic	ICE	See Attachment	P656263-02
~~05/04/13~~ 6/4/13 900	Lab	MBC_TSBTC	Raw Sludge / Grab	250 Mls	1	Plastic	ICE	See Attachment	P656253-03

Chain-of-Custody

Relinquished by: Name: VINIA S. BASLIAN Sign:	Received by: Name: George Wendorf Sign:	Date & Time 05/04/13 Location: 10:00 MBC A51 Lab	Comments: 3.3°C Correct sample date is 6/4/13 per Richard 6/4/13
Relinquished by: Name: George Wendorf Sign:	Received by: Name: Courier Sign:	Date & Time Location:	
Relinquished by: Name: courier Sign:	Received by: Name: A. Jerome Sign:	Date & Time 6/6/13 11:05 Location: Legend	

See instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, CA 91942
(619) 668-3215

3060436

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Legend Tech Service Contact Name: Phone:	Sampler/s: JWebb / operator Contact Name: Keith Ruehrwein Phone: 619-668 3294	Type of Sampling Equipment/How sample obtained/other sampling notes: Composite sample from Raw1, Raw3 and Raw 3 grab and 1 Composite sample from Digester 7 Shift 1, Shift 2, Shift 3

Sample Information: (All information is required) Number of attachments: _____

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description	Grab / Composite	Total vol/wt mLs / Gms	Number of containers	Container Type	Preservative	Analyses requested	Sample Log Number (Lab use only)
6-4-2013 2400	OPR/JWebb	Raw Feed Pump	PLR, Raw Sludge		250	1	Plastic	None	TS/VS	P656241
6/3-2013 2400	OPR/JWebb	Digester 7	Digester Sludge		250	1	Plastic	None	TS/VS	P656247

Chain-of-Custody

Relinquished by:	Received by:	Date & Time	Comments
Name: Julie Mwebb Sign:	Name: Brad Donahue Sign:	6/5/13 0900 Location: PT. LOMA LAB	3.3°C
Relinquished by: Name: Brad Donahue Sign:	Received by: Name: GEORGE WENDORF Sign:	Date & Time 6/5/13 1000 Location: MBC	
Relinquished by: Name: GEORGE WENDORF Sign:	Received by: Name: Courier Sign:	Date & Time Location:	Reviewed by: Date:

Courier 6/6/13 11:05 A. Jerome 6/6/13 11:05

See instructions, on reverse, for completing this form.
FIGURE 2a

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

I:\SAMPLING_REPORT_&_CHAIN_OF_CUSTODY_RECORD.docx Document Control Number: WCL-F-002.3 September 21, 2009

LEGEND
Technical Services, Inc.
www.legend-group.com

17631 North 25th Avenue • Phoenix, AZ 85023
P (602) 324-6100 • F (602) 324-6101

28 August 2013

REVISED

Barry Ayers
City of San Diego, Metro Biosolids Center
5240 Convoy St.
San Diego, CA 92111-1227

RE: Monthly Biosolids Analysis

Laboratory Work Order No.: 3070473

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 07/05/13 10:55.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

Lisa Parrish

Lisa Parrish
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
MBCDEWN (Dewatered Sludge Cake) P667050	3070473-01	Solid (Dry Weight)	Composite	06/30/13 23:59	07/05/13 10:55
Digester 7 (Digested Sludge) P656248	3070473-02	Solid (Dry Weight)	Composite	07/02/13 23:59	07/05/13 10:55
Raw Feed Sludge (Pump Raw Sludge) P656242	3070473-03	Solid (Dry Weight)	Composite	07/02/13 23:59	07/05/13 10:55
MBC_Dig3 (Digested Sludge / Grab) P656264	3070473-04	Solid (Dry Weight)	Grab	07/02/13 09:00	07/05/13 10:55
MBC_TSBTC (Raw Sludge / Grab) P656254	3070473-05	Solid (Dry Weight)	Grab	07/02/13 09:00	07/05/13 10:55

Sample Condition Upon Receipt:

Temperature: 21.30 C
All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.
QA/QC Criteria: All analyses met method requirements unless otherwise qualified.
Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.
Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.
Comments: There were no problems encountered during the processing of the samples, unless otherwise noted. All samples were analyzed on a "wet" basis unless designated as "dry weight".

Notified client that the samples were received above temperature via email on 7/8/13- OK to run above temperature per Richard Pitchford. LP

Client requested Volatile Solids verification for -05 on 8/26/13 LP
Samples were re-analyzed. During re-analysis, the analyst shook the sample container more vigurously in order to homogenize the sample as much as possible The result for the re-analysis did not confirm the original result, but it did agree with historical data for this sample.
Report revised on 8/28/13 LP

MBCDEWN (Dewatered Sludge Cake) P667050 (3070473-01) Solid (Dry Weight) (Composite) Sampled: 06/30/13 23:59 Received: 07/05/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Total Metals									
Arsenic	<31.5	31.5	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Cadmium	**2.37**	0.630	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Chromium	**54.7**	0.787	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Copper	**756**	1.57	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Lead	**22.0**	15.7	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Mercury	**1.1**	0.26	mg/kg dry	1	B3G0430	07/15/13 10:14	07/15/13 15:30	EPA 7471A	
Molybdenum	**19.8**	3.15	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Nickel	**41.3**	3.15	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Selenium	<31.5	31.5	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Zinc	**1050**	3.15	mg/kg dry	2	B3G0296	07/09/13 14:25	07/14/13 15:56	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.87	7.87	mg/kg dry	1	[CALC]	07/15/13 07:30	07/12/13 13:30	Calculation	
Organic Nitrogen	**29300**	3940	mg/kg dry	10	[CALC]	07/15/13 07:30	07/15/13 14:48	Calculation	
Total Nitrogen	**33200**	3940	mg/kg dry	1	[CALC]	07/15/13 07:30	07/15/13 14:48	Calculation	
Ammonia as N	**3920**	394	mg/kg dry	10	B3G0282	07/10/13 13:37	07/10/13 13:37	EPA 350.1	
Nitrate + Nitrite as N	<7.87	7.87	mg/kg dry	1	B3G0375	07/12/13 13:30	07/12/13 13:30	SM 4500 NO3 F	
Nitrite as N	<3.9	3.9	mg/kg dry wt. dry	1	B3G0206	07/08/13 15:14	07/08/13 15:14	SM 4500 NO2 B	M2
Total Kjeldahl Nitrogen	**33200**	3940	mg/kg dry	1	B3G0418	07/15/13 07:30	07/15/13 14:48	EPA 351.2	M1
Total Phosphorous	**24100**	9840	mg/kg dry	1	B3G0280	07/10/13 10:00	07/10/13 15:15	EPA 365.3	M1
Total Fixed Solids	**41**	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	H3
% Solids	**25**	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	H3
Total Volatile Solids	**59**	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	H3

Digester 7 (Digested Sludge) P656248 (3070473-02) Solid (Dry Weight) (Composite) Sampled: 07/02/13 23:59 Received: 07/05/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
% Solids	**2**	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	
Total Volatile Solids	**56**	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	

Raw Feed Sludge (Pump Raw Sludge) P656242 (3070473-03) Solid (Dry Weight) (Composite) Sampled: 07/02/13 23:59 Received: 07/05/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
% Solids	**4**	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	
Total Volatile Solids	**88**	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	

MBC_Dig3 (Digested Sludge / Grab) P656264 (3070473-04) Solid (Dry Weight) (Grab) Sampled: 07/02/13 09:00 Received: 07/05/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry									
% Solids	**3**	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	
Total Volatile Solids	**61**	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	

MBC_TSBTC (Raw Sludge / Grab) P656254 (3070473-05) Solid (Dry Weight) (Grab) Sampled: 07/02/13 09:00 Received: 07/05/13 10:55

Legend Technical Services of Arizona, Inc.

Analyte	Result	PQL	Units	DilutionBatch	Prepared	Analyzed	Method	Notes
Inorganic Chemistry								
% Solids	**5**	1	%	1	B3G0273	07/09/13 15:00	07/09/13 15:00	SM 2540 G	
Total Volatile Solids	**79**	1	%	1	B3H0751	08/26/13 16:00	08/26/13 16:00	SM 2540 G	H1, N1

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3G0296 - EPA 3050B Dry										
Blank (B3G0296-BLK1)				*Prepared: 07/09/13 Analyzed: 07/14/13*						
Arsenic	<0.20	0.20	mg/kg wet							
Cadmium	<0.004	0.004	mg/kg wet							
Chromium	<0.005	0.005	mg/kg wet							
Copper	<0.01	0.01	mg/kg wet							
Lead	<0.100	0.100	mg/kg wet							
Molybdenum	<0.02	0.02	mg/kg wet							
Nickel	<0.02	0.02	mg/kg wet							
Selenium	<0.2	0.2	mg/kg wet							
Zinc	<0.02	0.02	mg/kg wet							
LCS (B3G0296-BS1)				*Prepared: 07/09/13 Analyzed: 07/14/13*						
Arsenic	1.91	0.20	mg/kg wet	2.00		95	85-115			
Cadmium	0.384	0.004	mg/kg wet	0.400		96	85-115			
Chromium	0.517	0.005	mg/kg wet	0.500		103	85-115			
Copper	1.00	0.01	mg/kg wet	1.00		100	85-115			
Lead	0.970	0.100	mg/kg wet	1.00		97	85-115			
Molybdenum	0.21	0.02	mg/kg wet	0.200		104	85-115			
Nickel	0.99	0.02	mg/kg wet	1.00		99	85-115			
Selenium	1.0	0.2	mg/kg wet	1.00		97	85-115			
Zinc	0.95	0.02	mg/kg wet	1.00		95	85-115			
Matrix Spike (B3G0296-MS2)		**Source: 3070296-02**		*Prepared: 07/09/13 Analyzed: 07/14/13*						
Arsenic	511	54.1	mg/kg dry	541	10.7	93	75-125			
Cadmium	106	1.08	mg/kg dry	108	6.91	92	75-125			
Chromium	287	1.35	mg/kg dry	135	157	96	75-125			
Copper	1370	2.70	mg/kg dry	270	1120	95	75-125			
Lead	279	27.0	mg/kg dry	270	34.3	91	75-125			
Molybdenum	58.7	5.41	mg/kg dry	54.1	6.31	97	75-125			
Nickel	520	5.41	mg/kg dry	270	269	93	75-125			
Selenium	266	54.1	mg/kg dry	270	9.8	95	75-125			
Zinc	1280	5.41	mg/kg dry	270	1040	90	75-125			

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3G0296 - EPA 3050B Dry										
Matrix Spike Dup (B3G0296-MSD2)		**Source: 3070296-02**		*Prepared: 07/09/13*	*Analyzed: 07/14/13*					
Arsenic	513	54.1	mg/kg dry	541	10.7	93	75-125	0.4	20	
Cadmium	106	1.08	mg/kg dry	108	6.91	91	75-125	0.4	20	
Chromium	287	1.35	mg/kg dry	135	157	96	75-125	0.06	20	
Copper	1370	2.70	mg/kg dry	270	1120	95	75-125	0.08	20	
Lead	278	27.0	mg/kg dry	270	34.3	90	75-125	0.5	20	
Molybdenum	58.5	5.41	mg/kg dry	54.1	6.31	97	75-125	0.4	20	
Nickel	520	5.41	mg/kg dry	270	269	93	75-125	0.05	20	
Selenium	268	54.1	mg/kg dry	270	9.8	96	75-125	0.6	20	
Zinc	1270	5.41	mg/kg dry	270	1040	88	75-125	0.2	20	
Batch B3G0430 - EPA 7471A Prep										
Blank (B3G0430-BLK1)				*Prepared & Analyzed: 07/15/13*						
Mercury	<0.0004	0.0004	mg/kg wet							
LCS (B3G0430-BS1)				*Prepared & Analyzed: 07/15/13*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		101	85-115			
Matrix Spike (B3G0430-MS1)		**Source: 3070473-01**		*Prepared & Analyzed: 07/15/13*						
Mercury	3.85	0.26	mg/kg dry	2.62	1.11	104	85-115			
Matrix Spike (B3G0430-MS2)		**Source: 3071066-01**		*Prepared & Analyzed: 07/15/13*						
Mercury	3.74	0.38	mg/kg dry	3.81	0.26	91	85-115			
Matrix Spike Dup (B3G0430-MSD1)		**Source: 3070473-01**		*Prepared & Analyzed: 07/15/13*						
Mercury	4.09	0.26	mg/kg dry	2.62	1.11	114	85-115	6	20	

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3G0430 - EPA 7471A Prep										
Matrix Spike Dup (B3G0430-MSD2)		**Source: 3071066-01**		*Prepared & Analyzed: 07/15/13*						
Mercury	3.97	0.38	mg/kg dry	3.81	0.26	97	85-115	6	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3G0206 - NO PREP										
Blank (B3G0206-BLK1)				*Prepared & Analyzed: 07/08/13*						
Nitrite as N	<0.1	0.1	mg/kg dry wt. wet							
LCS (B3G0206-BS1)				*Prepared & Analyzed: 07/08/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		100	80-120			
LCS Dup (B3G0206-BSD1)				*Prepared & Analyzed: 07/08/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		100	80-120	0	20	
Matrix Spike (B3G0206-MS1)		**Source: 3070473-01**		*Prepared & Analyzed: 07/08/13*						
Nitrite as N	5.5	3.9	mg/kg dry wt. dry	7.87	1.1	56	80-120			M2
Matrix Spike Dup (B3G0206-MSD1)		**Source: 3070473-01**		*Prepared & Analyzed: 07/08/13*						
Nitrite as N	5.5	3.9	mg/kg dry wt. dry	7.87	1.1	56	80-120	0	20	M2
Batch B3G0273 - NO PREP										
Blank (B3G0273-BLK1)				*Prepared & Analyzed: 07/09/13*						
% Solids	<1	1	%							
Total Fixed Solids	<1	1	%							
Total Volatile Solids	<1	1	%							
Duplicate (B3G0273-DUP1)		**Source: 3070473-01**		*Prepared & Analyzed: 07/09/13*						
% Solids	26	1	%		25			0.8	5	
Total Fixed Solids	40	1	%		41			1	5	
Total Volatile Solids	60	1	%		59			0.8	5	

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3G0280 - NO PREP										
Blank (B3G0280-BLK1)				*Prepared & Analyzed: 07/10/13*						
Total Phosphorous	<0.05	0.05	mg/kg wet							
LCS (B3G0280-BS1)				*Prepared & Analyzed: 07/10/13*						
Total Phosphorous	0.09	0.05	mg/kg wet	0.100		93	90-110			
LCS Dup (B3G0280-BSD1)				*Prepared & Analyzed: 07/10/13*						
Total Phosphorous	0.09	0.05	mg/kg wet	0.100		93	90-110	0.1	20	
Matrix Spike (B3G0280-MS1)		**Source: 3070473-01**		*Prepared & Analyzed: 07/10/13*						
Total Phosphorous	54400	9840	mg/kg dry	19700	24100	154	90-110			M1
Matrix Spike Dup (B3G0280-MSD1)		**Source: 3070473-01**		*Prepared & Analyzed: 07/10/13*						
Total Phosphorous	54600	9840	mg/kg dry	19700	24100	155	90-110	0.3	20	M1
Batch B3G0282 - NO PREP										
Blank (B3G0282-BLK1)				*Prepared & Analyzed: 07/10/13*						
Ammonia as N	<1.00	1.00	mg/kg wet							
LCS (B3G0282-BS1)				*Prepared & Analyzed: 07/10/13*						
Ammonia as N	10.5	1.00	mg/kg wet	10.0		105	90-110			
LCS Dup (B3G0282-BSD1)				*Prepared & Analyzed: 07/10/13*						
Ammonia as N	10.4	1.00	mg/kg wet	10.0		104	90-110	1	20	
Matrix Spike (B3G0282-MS1)		**Source: 3070473-01**		*Prepared & Analyzed: 07/10/13*						
Ammonia as N	7760	394	mg/kg dry	3940	3920	97	90-110			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3G0282 - NO PREP										
Matrix Spike Dup (B3G0282-MSD1)		**Source: 3070473-01**		*Prepared & Analyzed: 07/10/13*						
Ammonia as N	7830	394	mg/kg dry	3940	3920	99	90-110	1	20	
Batch B3G0375 - NO PREP										
Blank (B3G0375-BLK1)				*Prepared & Analyzed: 07/12/13*						
Nitrate + Nitrite as N	<0.20	0.20	mg/kg wet							
LCS (B3G0375-BS1)				*Prepared & Analyzed: 07/12/13*						
Nitrate + Nitrite as N	10.2	0.20	mg/kg wet	10.0		102	90-110			
LCS Dup (B3G0375-BSD1)				*Prepared & Analyzed: 07/12/13*						
Nitrate + Nitrite as N	10.2	0.20	mg/kg wet	10.0		102	90-110	0	20	
Matrix Spike (B3G0375-MS1)		**Source: 3070473-01**		*Prepared & Analyzed: 07/12/13*						
Nitrate + Nitrite as N	402	7.87	mg/kg dry	394	1.43	102	80-120			
Matrix Spike Dup (B3G0375-MSD1)		**Source: 3070473-01**		*Prepared & Analyzed: 07/12/13*						
Nitrate + Nitrite as N	392	7.87	mg/kg dry	394	1.43	99	80-120	2	20	
Batch B3G0418 - NO PREP										
Blank (B3G0418-BLK1)				*Prepared & Analyzed: 07/15/13*						
Total Kjeldahl Nitrogen	<1.00	1.00	mg/kg wet							
LCS (B3G0418-BS1)				*Prepared & Analyzed: 07/15/13*						
Total Kjeldahl Nitrogen	4.86	1.00	mg/kg wet	5.00		97	90-110			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3G0418 - NO PREP										
LCS Dup (B3G0418-BSD1)				*Prepared & Analyzed: 07/15/13*						
Total Kjeldahl Nitrogen	5.10	1.00	mg/kg wet	5.00		102	90-110	5	20	
Matrix Spike (B3G0418-MS1)		**Source: 3070473-01**		*Prepared & Analyzed: 07/15/13*						
Total Kjeldahl Nitrogen	75200	3940	mg/kg dry	19700	33200	213	90-110			M1
Matrix Spike Dup (B3G0418-MSD1)		**Source: 3070473-01**		*Prepared & Analyzed: 07/15/13*						
Total Kjeldahl Nitrogen	75200	3940	mg/kg dry	19700	33200	213	90-110	0	20	M1
Batch B3H0751 - NO PREP										
Blank (B3H0751-BLK1)				*Prepared & Analyzed: 08/26/13*						
Total Volatile Solids	<1	1	%							
Duplicate (B3H0751-DUP1)		**Source: 3070473-05**		*Prepared & Analyzed: 08/26/13*						
Total Volatile Solids	81	1	%		79			2	5	

Notes and Definitions

N1	See case narrative.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
M1	Matrix spike recovery was high; the method control sample recovery was acceptable.
H3	Sample was received and /or anlaysis was requested past holding time.
H1	Sample analysis performed past holding time.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

3070473

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center	Sampler/s: Plant Operators	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name: Richard Pitchford	Contact Name: Richard Pitchford	30 Day Composite from Daily Grab Samples.
Phone: (858) 614-5509	Phone: (858) 614-5509	

Sample Information: (All information is required) Number of attachments: 1

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)
06/01 - 06/30 2013 / 2400	OPR	MBCDEWN	Dewatered Sludge Cake	1000	1	Plastic Bag	ICE	See Attached	P667050 -01

Chain-of-Custody

Relinquished by: Name: Kerth Richner Sign:	Received by: Name: George Wendorf Sign:	Date & Time 7/2/13 Location: 10:00 MBC A51 Lab	Comments: 21.3°C OK to analyze over temp per Richard 7/8/13
Relinquished by: Name: George Wendorf Sign:	Received by: Name: courier Sign:	Date & Time Location:	
Relinquished by: Name: courier Sign:	Received by: Name: Aybree Jerome Sign:	Date & Time 7/5/13 Location: Legend 1065	

See instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

3070473

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, CA 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Legend Tech Services Contact Name: Phone:	Sampler/s: JWebb/Operators Contact Name: Keith Ruehrwein Phone: 619-668-3294	Type of Sampling Equipment/How sample obtained/other sampling notes: Composite made from Digester 7 and Raw Sludge from 3 shifts grab samples

Sample Information: (All information is required) Number of attachments: _____

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description	Grab / Composite	Total vol/wt mLs / Gms	Number of containers	Container Type	Preservative	Analyses requested	Sample Log Number (Lab use only)
7/2/2013 2400	JW/OPR	Digester 7	Digested Sludge	Composite	250	1	plastic	4°C	TS TVS	P686248 -02
7/2/2013 2400	JW/OPR	Raw Sludge	Pump Raw Sludge	Composite	250	1	Plastic	4°C	TS TVS	P686242 -03

Chain-of-Custody

Relinquished by:	Received by:	Date & Time	Comments
Name: [illegible] Sign: [illegible]	Name: GEORGE WENDORF Sign: [illegible]	7/3/13 10:40 Location: ASI MBC LAB	21.3°C OK to analyze over temp. per Richard 7/8/13 [illegible] Client made correction to sample date 7/8/13 [illegible]
Relinquished by: Name: GEORGE WENDORF Sign: [illegible]	Received by: Name: Courier Sign:	Date & Time Location:	
Relinquished by: Name: Courier Sign:	Received by: Name: [illegible] Jerome Sign: [illegible]	Date & Time 7/5/13 1065 Location: Legend	Reviewed by: Date:

See instructions, on reverse, for completing this form.
FIGURE 2a

Original - retained by Lab.
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Last copy - for sample originator

I:\SAMPLING_REPORT_&_CHAIN_OF_CUSTODY_RECORD.docx Document Control Number: WCL-F-002.3 September 21, 2009

3070473

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center	Sampler/s: Plant Operators	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name: Richard Pitchford	Contact Name: Richard Pitchford	
Phone: (858) 614-5509	Phone: (858) 614-5509	

Sample Information: (All Information is required) Number of attachments: 0

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)	
07/02/13 900	Lab	MBC_Dig3	Digested Sludge / Grab	250 Mls	1	Plastic	ICE	See Attachment	**P656264**	-04
07/02/13 900	Lab	MBC_TSBTC	Raw Sludge / Grab	250 Mls	1	Plastic	ICE	See Attachment	**P656254**	-05

Chain-of-Custody

Relinquished by:	Received by:	Date & Time / Location	Comments
Name: VINIA S. BASILAN Sign:	Name: GEORGE WENDORF Sign:	Date & Time 7/2/13 Location: 08100 MBC A51 Lab	21.3°C OK to analyze over temp. per Richard 07/8/13
Relinquished by: Name: GEORGE WENDORF Sign:	Received by: Name: courier Sign:	Date & Time Location:	
Relinquished by: Name: courier Sign:	Received by: Name: A. Jerome Sign:	Date & Time 7/5/13 1055 Location: Legind	

See instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

3070473

CITY OF SAN DIEGO
Public Utilities Department
Wastewater Treatment and Disposal

DATE: July 3, 2013

TO: Legend Technical Services of Arizona, Inc.

FROM: Metropolitan Biosolids Center
Attn: Richard Pitchford

SUBJECT: Lab Analysis of the following listed samples.

Please perform the following Analysis listed for the samples supplied.
If there are questions, please contact:

George Wendorf
Wastewater Plant Operator at the Metropolitan Biosolids Center.
(858) 614-5821
gwendorf@sandiego.gov

Analysis to be performed:

Log Number

P656254: MBC_TSBTC, Raw Sludge
TS, VS
P656264: MBC_Dig3, Digested Sludge
TS, VS
P656242: PLWWTP_Raw Comp, Raw Sludge
TS, VS
P656248: PLWWTP_PLDig7, Digested Sludge
TS, VS

P667050: MBC, Dewatered Sludge Cake
% - TS, VS, Fixed.
Metals: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Zinc, Phosphorus and Nitrogen Series: KJELDAHL Nitrogen, Ammonium Nitrogen, Nitrate, Nitrite, Organic Nitrogen.

LEGEND
Technical Services, Inc.
www.legend-group.com

17631 North 25th Avenue • Phoenix, AZ 85023
P (602) 324-6100 • F (602) 324-6101

20 August 2013

Barry Ayers
City of San Diego, Metro Biosolids Center
5240 Convoy St.
San Diego, CA 92111-1227

RE: Monthly Biosolids Analysis

Laboratory Work Order No.: 3080793

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 08/08/13 10:55.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

Lisa Parrish

Lisa Parrish
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
MBCDEWN (Dewatered Sludge Cake) P669948	3080793-01	Solid (Dry Weight)	Composite	07/31/13 23:59	08/08/13 10:55
MBC_Dig3 (Digested Sludge/Grab) P656265	3080793-02	Solid (Dry Weight)	Grab	08/06/13 09:00	08/08/13 10:55
MBC_TSBTC (Raw Sludge/Grab) P656255	3080793-03	Solid (Dry Weight)	Grab	08/06/13 09:00	08/08/13 10:55
Digester Raw Feed (Raw Sludge) P656278	3080793-04	Solid (Dry Weight)	Composite	08/07/13 07:00	08/08/13 10:55
Digester 7 (Digester Sludge) P656273	3080793-05	Solid (Dry Weight)	Composite	08/07/13 07:00	08/08/13 10:55

Sample Condition Upon Receipt:

Temperature: 2.00 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.

Comments: There were no problems encountered during the processing of the samples, unless otherwise noted. All samples were analyzed on a "wet" basis unless designated as "dry weight".

MBCDEWN (Dewatered Sludge Cake) P669948 (3080793-01) Solid (Dry Weight) (Composite) Sampled: 07/31/13 23:59
Received: 08/08/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Total Metals									
Arsenic	<31.7	31.7	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Cadmium	**2.68**	0.635	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Chromium	**46.8**	0.794	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Copper	**754**	1.59	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Lead	**23.9**	15.9	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Mercury	**0.98**	0.26	mg/kg dry	1	B3H0324	08/12/13 11:18	08/12/13 17:06	EPA 7471A	
Molybdenum	**20.6**	3.17	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Nickel	**36.6**	3.17	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Selenium	<31.7	31.7	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Zinc	**1070**	3.17	mg/kg dry	2	B3H0389	08/13/13 10:30	08/15/13 10:03	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.94	7.94	mg/kg dry	1	[CALC]	08/16/13 10:00	08/16/13 10:00	Calculation	
Organic Nitrogen	**49300**	3970	mg/kg dry	10	[CALC]	08/16/13 10:00	08/16/13 10:32	Calculation	
Total Nitrogen	**54000**	3970	mg/kg dry	1	[CALC]	08/16/13 10:00	08/16/13 10:00	Calculation	
Ammonia as N	**4680**	397	mg/kg dry	10	B3H0473	08/16/13 10:32	08/16/13 10:32	EPA 350.1	
Nitrate + Nitrite as N	<7.94	7.94	mg/kg dry	1	B3H0534	08/16/13 10:00	08/16/13 10:00	SM 4500 NO3 F	
Nitrite as N	<4.0	4.0	mg/kg dry wt. dry	1	B3H0466	08/15/13 17:05	08/15/13 17:05	SM 4500 NO2 B	
Total Kjeldahl Nitrogen	**54000**	3970	mg/kg dry	1	B3H0437	08/14/13 10:40	08/14/13 14:33	EPA 351.2	
Total Phosphorous	**35800**	9920	mg/kg dry	1	B3H0426	08/14/13 10:00	08/14/13 17:20	EPA 365.3	
Total Fixed Solids	**40**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	H3
% Solids	**25**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	H3
Total Volatile Solids	**60**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	H3

MBC_Dig3 (Digested Sludge/Grab) P656265 (3080793-02) Solid (Dry Weight) (Grab) Sampled: 08/06/13 09:00
Received: 08/08/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**3**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	
Total Volatile Solids	**59**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	

MBC_TSBTC (Raw Sludge/Grab) P656255 (3080793-03) Solid (Dry Weight) (Grab) Sampled: 08/06/13 09:00
Received: 08/08/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**5**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	
Total Volatile Solids	**79**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	

Digester Raw Feed (Raw Sludge) P656278 (3080793-04) Solid (Dry Weight) (Composite) Sampled: 08/07/13 07:00
Received: 08/08/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**4**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	
Total Volatile Solids	**76**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	

Digester 7 (Digester Sludge) P656273 (3080793-05) Solid (Dry Weight) (Composite) Sampled: 08/07/13 07:00
Received: 08/08/13 10:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Inorganic Chemistry									
% Solids	**2**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	
Total Volatile Solids	**56**	1	%	1	B3H0281	08/11/13 10:00	08/11/13 10:00	SM 2540 G	

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3H0324 - EPA 7471A Prep										
Blank (B3H0324-BLK1)				*Prepared & Analyzed: 08/12/13*						
Mercury	<0.0004	0.0004	mg/kg wet							
LCS (B3H0324-BS1)				*Prepared & Analyzed: 08/12/13*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		100	85-115			
Matrix Spike (B3H0324-MS1)		**Source: 3080132-04**		*Prepared & Analyzed: 08/12/13*						
Mercury	3.16	0.28	mg/kg dry	2.85	0.17	105	85-115			
Matrix Spike Dup (B3H0324-MSD1)		**Source: 3080132-04**		*Prepared & Analyzed: 08/12/13*						
Mercury	2.97	0.28	mg/kg dry	2.85	0.17	98	85-115	6	20	
Batch B3H0389 - EPA 3050B Dry										
Blank (B3H0389-BLK1)				*Prepared: 08/13/13 Analyzed: 08/15/13*						
Arsenic	<0.20	0.20	mg/kg wet							
Cadmium	<0.004	0.004	mg/kg wet							
Chromium	<0.005	0.005	mg/kg wet							
Copper	<0.01	0.01	mg/kg wet							
Lead	<0.100	0.100	mg/kg wet							
Molybdenum	<0.02	0.02	mg/kg wet							
Nickel	<0.02	0.02	mg/kg wet							
Selenium	<0.2	0.2	mg/kg wet							
Zinc	<0.02	0.02	mg/kg wet							
LCS (B3H0389-BS1)				*Prepared: 08/13/13 Analyzed: 08/15/13*						
Arsenic	1.93	0.20	mg/kg wet	2.00		96	85-115			
Cadmium	0.382	0.004	mg/kg wet	0.400		95	85-115			
Chromium	0.486	0.005	mg/kg wet	0.500		97	85-115			
Copper	0.98	0.01	mg/kg wet	1.00		98	85-115			
Lead	0.974	0.100	mg/kg wet	1.00		97	85-115			
Molybdenum	0.20	0.02	mg/kg wet	0.200		98	85-115			
Nickel	0.95	0.02	mg/kg wet	1.00		95	85-115			
Selenium	0.9	0.2	mg/kg wet	1.00		91	85-115			
Zinc	0.93	0.02	mg/kg wet	1.00		93	85-115			

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3H0389 - EPA 3050B Dry										
Matrix Spike (B3H0389-MS2)		**Source: 3080662-01**		*Prepared: 08/13/13 Analyzed: 08/15/13*						
Arsenic	404	41.2	mg/kg dry	412	8.11	96	75-125			
Cadmium	82.0	0.825	mg/kg dry	82.5	6.86	91	75-125			
Chromium	271	1.03	mg/kg dry	103	179	89	75-125			
Copper	1320	2.06	mg/kg dry	206	1120	94	75-125			
Lead	232	20.6	mg/kg dry	206	43.6	91	75-125			
Molybdenum	47.5	4.12	mg/kg dry	41.2	9.56	92	75-125			
Nickel	370	4.12	mg/kg dry	206	184	90	75-125			
Selenium	198	41.2	mg/kg dry	206	5.7	93	75-125			
Zinc	1030	4.12	mg/kg dry	206	866	80	75-125			
Matrix Spike Dup (B3H0389-MSD2)		**Source: 3080662-01**		*Prepared: 08/13/13 Analyzed: 08/15/13*						
Arsenic	406	41.2	mg/kg dry	412	8.11	97	75-125	0.5	20	
Cadmium	82.2	0.825	mg/kg dry	82.5	6.86	91	75-125	0.3	20	
Chromium	271	1.03	mg/kg dry	103	179	90	75-125	0.07	20	
Copper	1310	2.06	mg/kg dry	206	1120	94	75-125	0.1	20	
Lead	231	20.6	mg/kg dry	206	43.6	91	75-125	0.2	20	
Molybdenum	47.6	4.12	mg/kg dry	41.2	9.56	92	75-125	0.3	20	
Nickel	371	4.12	mg/kg dry	206	184	91	75-125	0.2	20	
Selenium	197	41.2	mg/kg dry	206	5.7	93	75-125	0.2	20	
Zinc	1030	4.12	mg/kg dry	206	866	81	75-125	0.3	20	

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3H0281 - NO PREP										
Blank (B3H0281-BLK1)				*Prepared & Analyzed: 08/11/13*						
% Solids	<1	1	%							
Total Fixed Solids	<1	1	%							
Total Volatile Solids	<1	1	%							
Duplicate (B3H0281-DUP1)		**Source: 3080793-01**		*Prepared & Analyzed: 08/11/13*						
% Solids	25	1	%		25			0.8	5	
Total Fixed Solids	40	1	%		40			0.5	5	
Total Volatile Solids	60	1	%		60			0.2	5	
Batch B3H0426 - NO PREP										
Blank (B3H0426-BLK1)				*Prepared & Analyzed: 08/14/13*						
Total Phosphorous	<0.05	0.05	mg/kg wet							
LCS (B3H0426-BS1)				*Prepared & Analyzed: 08/14/13*						
Total Phosphorous	0.11	0.05	mg/kg wet	0.100		109	90-110			
LCS Dup (B3H0426-BSD1)				*Prepared & Analyzed: 08/14/13*						
Total Phosphorous	0.11	0.05	mg/kg wet	0.100		109	90-110	0.09	20	
Matrix Spike (B3H0426-MS1)		**Source: 3080792-01**		*Prepared & Analyzed: 08/14/13*						
Total Phosphorous	40300	6510	mg/kg dry	13000	17100	179	90-110			M1
Matrix Spike Dup (B3H0426-MSD1)		**Source: 3080792-01**		*Prepared & Analyzed: 08/14/13*						
Total Phosphorous	40200	6510	mg/kg dry	13000	17100	178	90-110	0.3	20	M1

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3H0437 - NO PREP										
Blank (B3H0437-BLK1)				*Prepared & Analyzed: 08/14/13*						
Total Kjeldahl Nitrogen	<1.00	1.00	mg/kg wet							
LCS (B3H0437-BS1)				*Prepared & Analyzed: 08/14/13*						
Total Kjeldahl Nitrogen	4.95	1.00	mg/kg wet	5.00		99	90-110			
LCS Dup (B3H0437-BSD1)				*Prepared & Analyzed: 08/14/13*						
Total Kjeldahl Nitrogen	4.85	1.00	mg/kg wet	5.00		97	90-110	2	20	
Matrix Spike (B3H0437-MS1)		**Source: 3080792-01**		*Prepared & Analyzed: 08/14/13*						
Total Kjeldahl Nitrogen	87500	5210	mg/kg dry	26000	59900	106	90-110			
Matrix Spike Dup (B3H0437-MSD1)		**Source: 3080792-01**		*Prepared & Analyzed: 08/14/13*						
Total Kjeldahl Nitrogen	87500	5210	mg/kg dry	26000	59900	106	90-110	0	20	
Batch B3H0466 - NO PREP										
Blank (B3H0466-BLK1)				*Prepared & Analyzed: 08/15/13*						
Nitrite as N	<0.1	0.1	mg/kg dry wt. wet							
LCS (B3H0466-BS1)				*Prepared & Analyzed: 08/15/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		102	80-120			
LCS Dup (B3H0466-BSD1)				*Prepared & Analyzed: 08/15/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		102	80-120	0	20	
Matrix Spike (B3H0466-MS1)		**Source: 3080791-01**		*Prepared & Analyzed: 08/15/13*						
Nitrite as N	1.7	1.5	mg/kg dry wt. dry	2.94	0.8	31	80-120			M2

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3H0466 - NO PREP										
Matrix Spike Dup (B3H0466-MSD1)		**Source: 3080791-01**		*Prepared & Analyzed: 08/15/13*						
Nitrite as N	1.7	1.5	mg/kg dry wt. dry	2.94	0.8	31	80-120	0	20	M2
Batch B3H0473 - NO PREP										
Blank (B3H0473-BLK1)				*Prepared & Analyzed: 08/16/13*						
Ammonia as N	<1.00	1.00	mg/kg wet							
LCS (B3H0473-BS1)				*Prepared & Analyzed: 08/16/13*						
Ammonia as N	10.2	1.00	mg/kg wet	10.0		102	90-110			
LCS Dup (B3H0473-BSD1)				*Prepared & Analyzed: 08/16/13*						
Ammonia as N	10.2	1.00	mg/kg wet	10.0		102	90-110	0	20	
Matrix Spike (B3H0473-MS1)		**Source: 3080792-01**		*Prepared & Analyzed: 08/16/13*						
Ammonia as N	9640	521	mg/kg dry	5210	4490	99	90-110			
Matrix Spike Dup (B3H0473-MSD1)		**Source: 3080792-01**		*Prepared & Analyzed: 08/16/13*						
Ammonia as N	9580	521	mg/kg dry	5210	4490	98	90-110	0.5	20	
Batch B3H0534 - NO PREP										
Blank (B3H0534-BLK1)				*Prepared & Analyzed: 08/16/13*						
Nitrate + Nitrite as N	<0.20	0.20	mg/kg wet							
LCS (B3H0534-BS1)				*Prepared & Analyzed: 08/16/13*						
Nitrate + Nitrite as N	10.1	0.20	mg/kg wet	10.0		101	90-110			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3H0534 - NO PREP										
LCS Dup (B3H0534-BSD1)				*Prepared & Analyzed: 08/16/13*						
Nitrate + Nitrite as N	10.1	0.20	mg/kg wet	10.0		101	90-110	0	20	
Matrix Spike (B3H0534-MS1)		**Source: 3080791-01**		*Prepared & Analyzed: 08/16/13*						
Nitrate + Nitrite as N	146	2.94	mg/kg dry	147	5.29	95	80-120			
Matrix Spike Dup (B3H0534-MSD1)		**Source: 3080791-01**		*Prepared & Analyzed: 08/16/13*						
Nitrate + Nitrite as N	139	2.94	mg/kg dry	147	5.29	91	80-120	5	20	

Notes and Definitions

M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
M1	Matrix spike recovery was high; the method control sample recovery was acceptable.
H3	Sample was received and /or anlaysis was requested past holding time.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

3080793

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center	Sampler/s: Plant Operators	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name: Richard Pitchford	Contact Name: Richard Pitchford	31 Day Composite from Daily Grab Samples.
Phone: (858) 614-5509	Phone: (858) 614-5509	

Sample Information: (All information is required) Number of attachments: 1

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)
07/01 - 07/31 2013 / 2400	OPR	MBCDEWN	Dewatered Sludge Cake	1000	1	Plastic Bag	ICE	See Attached	P669948 -01

Chain-of-Custody

Relinquished by:	Received by:	Date & Time 08/01/13 08:30	Comments
Name: Keith Rietkerk	Name: George Wendorf	Location: MBC A51 Lab	* SAMPLE LOG MISSING TWO ENTRIES.
Sign:	Sign:		
Relinquished by: George Wendorf	Received by:	Date & Time	
Sign:	Sign: Courier	Location:	
Relinquished by: Courier	Received by: Hward	Date & Time 8/8/13	2.0°C
Name:	Name: Hward	Location: 1055	
Sign:	Sign:		

See instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

3080793

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center	Sampler/s: Plant Operators	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name: Richard Pitchford	Contact Name: Richard Pitchford	
Phone: (858) 614-5509	Phone: (858) 614-5509	

Sample Information: (All information is required) Number of attachments: 0

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)	
08/06/13 900	Lab	MBC_Dig3	Digested Sludge / Grab	250 Mls	1	Plastic	ICE	See Attachment	P656265	-02
08/06/13 900	Lab	MBC_TSBTC	Raw Sludge / Grab	250 Mls	1	Plastic	ICE	See Attachment	P656255	-03

Chain-of-Custody **Comments**

Relinquished by	Received by	Date & Time / Location	Comments
Name: VINIA S. BASILAN Sign:	Name: GEORGE WENDORF Sign:	Date & Time 8/6/13 Location: 09:30 MBC A51 Lab	
Relinquished by: Name: GEORGE WENDORF Sign:	Received by: Name: Sign: COURIER	Date & Time Location:	
Relinquished by: Name: Sign: COURIER	Received by: Name: Howard Sign: Howard	Date & Time 8/8/13 Location: 1055	2.0 C

See instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, CA 91942
(619) 668-3215

3080793

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Legend Tech Services Contact Name: Phone:	Sampler/s: JWebb/operator Contact Name: Keith Kuehrwein Phone: 619-668-3294	Type of Sampling Equipment/How sample obtained/other sampling notes: Composite sample made from 12 grab samples taken at 2 hours intervals

Sample Information: (All information is required) Number of attachments:

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description	Grab / Composite	Total vol/wt (mL) / Gms	Number of containers	Container Type	Preservative	Analyses requested	Sample Log Number (Lab use only)
8/7/2013 0700	OPR/JWebb	Digester Raw Feed	Raw Sludge	Composite	250	1	Plastic	4°C Nm	TS/VS	P656278 -04
8/7/2013 0700	OPR/JWebb	Digester 7	Digester Sludge	Composite	250	1	Plastic	4°C	TS/VS	P656273 -05

Chain-of-Custody

Relinquished by:	Received by:	Date & Time	Comments
Name: Julie M Webb Sign:	Name: GEORGE WENDORF Sign:	8/7/13 10:00 Location: AS/MBC LAB	
Relinquished by: Name: GEORGE WENDORF Sign:	Received by: Name: Sign: Courier	Date & Time Location:	
Relinquished by: Name: Sign: Courier	Received by: Name: HWard Sign: HWard	Date & Time Location: 8/8/13 1055	2.0 C Reviewed by: Date:

See instructions, on reverse, for completing this form.
FIGURE 2a

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

System 26941:Users:pamelacabanillas:Desktop:aUpload Files:SAMPLING_REPORT_&_CHAIN_OF_CUSTODY_RECORD.docx Document Control Number: WCL-F-002.3 September 21, 2009

3080793

CITY OF SAN DIEGO
Public Utilities Department
Wastewater Treatment and Disposal

DATE: August 6, 2013

TO: Legend Technical Services of Arizona, Inc.

FROM: Metropolitan Biosolids Center
Attn: Richard Pitchford

SUBJECT: Lab Analysis of the following listed samples.

Please perform the following Analysis listed for the samples supplied.
If there are questions, please contact:

George Wendorf
Wastewater Plant Operator at the Metropolitan Biosolids Center.
(858) 614-5821
gwendorf@sandiego.gov

Analysis to be performed:

Log Number

P656255: MBC_TSBTC, Raw Sludge
TS, VS
P656265: MBC_Dig3, Digested Sludge
TS, VS
P656278: PLWWTP_Raw Comp, Raw Sludge
TS, VS
P656273: PLWWTP_PLDig7, Digested Sludge
TS, VS

P669948: MBC, Dewatered Sludge Cake
% - TS, VS, Fixed.
Metals: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Zinc, Phosphorus and Nitrogen Series: KJELDAHL Nitrogen, Ammonium Nitrogen, Nitrate, Nitrite, Organic Nitrogen.

LEGEND
Technical Services, Inc.
www.legend-group.com

17631 North 25th Avenue • Phoenix, AZ 85023
P (602) 324-6100 • F (602) 324-6101

18 September 2013

Barry Ayers
City of San Diego, Metro Biosolids Center
5240 Convoy St.
San Diego, CA 92111-1227

RE: Monthly Biosolids Analysis

Laboratory Work Order No.: 3090304

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 09/04/13 11:30.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

Lisa Parrish

Lisa Parrish
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
MBCDEWN (Dewatered Sludge Cake) P674861	3090304-01	Solid (Dry Weight)	Composite	08/31/13 23:59	09/04/13 11:30

Sample Condition Upon Receipt:

Temperature: 2.70 C
All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.
QA/QC Criteria: All analyses met method requirements unless otherwise qualified.
Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.
Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.
Comments: There were no problems encountered during the processing of the samples, unless otherwise noted. All samples were analyzed on a "wet" basis unless designated as "dry weight".

MBCDEWN (Dewatered Sludge Cake) P674861 (3090304-01) Solid (Dry Weight) (Composite) Sampled: 08/31/13 23:59
Received: 09/04/13 11:30

Legend Technical Services of Arizona, Inc.

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Metals									
Arsenic	<31.7	31.7	mg/kg dry	2	B3I0221	09/09/13 10:30	09/10/13 10:48	EPA 6010B	
Cadmium	**2.46**	0.635	mg/kg dry	2	B3I0221	09/09/13 10:30	09/10/13 10:48	EPA 6010B	
Chromium	**39.0**	0.794	mg/kg dry	2	B3I0221	09/09/13 10:30	09/10/13 10:48	EPA 6010B	
Copper	**704**	1.59	mg/kg dry	2	B3I0221	09/09/13 10:30	09/10/13 10:48	EPA 6010B	
Lead	**22.1**	15.9	mg/kg dry	2	B3I0221	09/09/13 10:30	09/10/13 10:48	EPA 6010B	
Mercury	**0.49**	0.26	mg/kg dry	1	B3I0310	09/12/13 11:37	09/12/13 14:45	EPA 7471A	
Molybdenum	**20.5**	3.17	mg/kg dry	2	B3I0221	09/09/13 10:30	09/10/13 10:48	EPA 6010B	
Nickel	**32.5**	3.17	mg/kg dry	2	B3I0221	09/09/13 10:30	09/10/13 10:48	EPA 6010B	
Selenium	<31.7	31.7	mg/kg dry	2	B3I0221	09/09/13 10:30	09/10/13 10:48	EPA 6010B	
Zinc	**1050**	3.17	mg/kg dry	2	B3I0221	09/09/13 10:30	09/10/13 10:48	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.94	7.94	mg/kg dry	1	[CALC]	09/13/13 11:55	09/13/13 11:55	Calculation	
Organic Nitrogen	**48200**	3970	mg/kg dry	10	[CALC]	09/13/13 11:55	09/11/13 14:14	Calculation	
Total Nitrogen	**52000**	3970	mg/kg dry	1	[CALC]	09/13/13 11:55	09/13/13 11:55	Calculation	
Ammonia as N	**3820**	397	mg/kg dry	10	B3I0279	09/11/13 14:14	09/11/13 14:14	EPA 350.1	
Nitrate + Nitrite as N	<7.94	7.94	mg/kg dry	1	B3I0340	09/13/13 11:55	09/13/13 11:55	SM 4500 NO3 F	
Nitrite as N	<4.0	4.0	mg/kg dry wt. dry	1	B3I0312	09/12/13 15:45	09/12/13 15:45	SM 4500 NO2 B	
Total Kjeldahl Nitrogen	**52000**	3970	mg/kg dry	1	B3I0227	09/09/13 11:15	09/09/13 15:23	EPA 351.2	
Total Phosphorous	**23400**	9920	mg/kg dry	1	B3I0294	09/11/13 10:00	09/11/13 16:50	EPA 365.3	
Total Fixed Solids	**42**	1	%	1	B3I0173	09/04/13 16:30	09/04/13 16:30	SM 2540 G	
% Solids	**25**	1	%	1	B3I0173	09/04/13 16:30	09/04/13 16:30	SM 2540 G	
Total Volatile Solids	**58**	1	%	1	B3I0173	09/04/13 16:30	09/04/13 16:30	SM 2540 G	

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3I0221 - EPA 3050B Dry										
Blank (B3I0221-BLK1)				*Prepared: 09/09/13 Analyzed: 09/10/13*						
Arsenic	<0.20	0.20	mg/kg wet							
Cadmium	<0.004	0.004	mg/kg wet							
Chromium	<0.005	0.005	mg/kg wet							
Copper	<0.01	0.01	mg/kg wet							
Lead	<0.100	0.100	mg/kg wet							
Molybdenum	<0.02	0.02	mg/kg wet							
Nickel	<0.02	0.02	mg/kg wet							
Selenium	<0.2	0.2	mg/kg wet							
Zinc	<0.02	0.02	mg/kg wet							
LCS (B3I0221-BS1)				*Prepared: 09/09/13 Analyzed: 09/10/13*						
Arsenic	1.84	0.20	mg/kg wet	2.00		92	85-115			
Cadmium	0.380	0.004	mg/kg wet	0.400		95	85-115			
Chromium	0.487	0.005	mg/kg wet	0.500		97	85-115			
Copper	0.97	0.01	mg/kg wet	1.00		97	85-115			
Lead	0.935	0.100	mg/kg wet	1.00		93	85-115			
Molybdenum	0.20	0.02	mg/kg wet	0.200		98	85-115			
Nickel	0.95	0.02	mg/kg wet	1.00		95	85-115			
Selenium	0.9	0.2	mg/kg wet	1.00		93	85-115			
Zinc	0.93	0.02	mg/kg wet	1.00		93	85-115			
LCS Dup (B3I0221-BSD1)				*Prepared: 09/09/13 Analyzed: 09/10/13*						
Arsenic	1.88	0.20	mg/kg wet	2.00		94	85-115	2	20	
Cadmium	0.386	0.004	mg/kg wet	0.400		97	85-115	2	20	
Chromium	0.497	0.005	mg/kg wet	0.500		99	85-115	2	20	
Copper	0.99	0.01	mg/kg wet	1.00		99	85-115	2	20	
Lead	0.955	0.100	mg/kg wet	1.00		95	85-115	2	20	
Molybdenum	0.20	0.02	mg/kg wet	0.200		99	85-115	2	20	
Nickel	0.97	0.02	mg/kg wet	1.00		97	85-115	2	20	
Selenium	0.9	0.2	mg/kg wet	1.00		94	85-115	1	20	
Zinc	0.95	0.02	mg/kg wet	1.00		95	85-115	2	20	

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3I0221 - EPA 3050B Dry										
Matrix Spike (B3I0221-MS2)		**Source: 3090419-01**		*Prepared: 09/09/13 Analyzed: 09/10/13*						
Arsenic	422	46.5	mg/kg dry	465	11.1	88	75-125			
Cadmium	86.3	0.930	mg/kg dry	93.0	6.82	85	75-125			
Chromium	295	1.16	mg/kg dry	116	204	78	75-125			
Copper	1190	2.33	mg/kg dry	233	1030	70	75-125			M2
Lead	242	23.3	mg/kg dry	233	45.5	84	75-125			
Molybdenum	48.1	4.65	mg/kg dry	46.5	7.46	87	75-125			
Nickel	418	4.65	mg/kg dry	233	227	82	75-125			
Selenium	220	46.5	mg/kg dry	233	6.7	92	75-125			
Zinc	1090	4.65	mg/kg dry	233	948	60	75-125			M2
Matrix Spike Dup (B3I0221-MSD2)		**Source: 3090419-01**		*Prepared: 09/09/13 Analyzed: 09/10/13*						
Arsenic	423	46.5	mg/kg dry	465	11.1	89	75-125	0.3	20	
Cadmium	86.1	0.930	mg/kg dry	93.0	6.82	85	75-125	0.2	20	
Chromium	295	1.16	mg/kg dry	116	204	78	75-125	0.04	20	
Copper	1190	2.33	mg/kg dry	233	1030	72	75-125	0.5	20	M2
Lead	240	23.3	mg/kg dry	233	45.5	84	75-125	0.5	20	
Molybdenum	47.9	4.65	mg/kg dry	46.5	7.46	87	75-125	0.4	20	
Nickel	417	4.65	mg/kg dry	233	227	82	75-125	0.07	20	
Selenium	219	46.5	mg/kg dry	233	6.7	91	75-125	0.2	20	
Zinc	1090	4.65	mg/kg dry	233	948	60	75-125	0.02	20	M2
Batch B3I0310 - EPA 7471A Prep										
Blank (B3I0310-BLK1)				*Prepared & Analyzed: 09/12/13*						
Mercury	<0.0004	0.0004	mg/kg wet							
LCS (B3I0310-BS1)				*Prepared & Analyzed: 09/12/13*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		101	85-115			

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3I0310 - EPA 7471A Prep										
LCS Dup (B3I0310-BSD1)				*Prepared & Analyzed: 09/12/13*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		102	85-115	0.9	20	
Matrix Spike (B3I0310-MS1)		**Source: 3090474-01**		*Prepared & Analyzed: 09/12/13*						
Mercury	3.60	0.34	mg/kg dry	3.37	0.43	94	85-115			
Matrix Spike Dup (B3I0310-MSD1)		**Source: 3090474-01**		*Prepared & Analyzed: 09/12/13*						
Mercury	3.61	0.34	mg/kg dry	3.37	0.43	95	85-115	0.4	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3I0173 - NO PREP										
Blank (B3I0173-BLK1)				*Prepared & Analyzed: 09/04/13*						
% Solids	<1	1	%							
Total Fixed Solids	<1	1	%							
Total Volatile Solids	<1	1	%							
Duplicate (B3I0173-DUP1)		**Source: 3090304-01**		*Prepared & Analyzed: 09/04/13*						
% Solids	25	1	%		25			0.4	5	
Total Fixed Solids	40	1	%		42			4	5	
Total Volatile Solids	60	1	%		58			3	5	
Batch B3I0227 - NO PREP										
Blank (B3I0227-BLK1)				*Prepared & Analyzed: 09/09/13*						
Total Kjeldahl Nitrogen	<1.00	1.00	mg/kg wet							
LCS (B3I0227-BS1)				*Prepared & Analyzed: 09/09/13*						
Total Kjeldahl Nitrogen	4.87	1.00	mg/kg wet	5.00		97	90-110			
LCS Dup (B3I0227-BSD1)				*Prepared & Analyzed: 09/09/13*						
Total Kjeldahl Nitrogen	4.87	1.00	mg/kg wet	5.00		97	90-110	0	20	
Matrix Spike (B3I0227-MS1)		**Source: 3090474-01**		*Prepared & Analyzed: 09/09/13*						
Total Kjeldahl Nitrogen	86900	5050	mg/kg dry	25300	60600	104	90-110			
Matrix Spike Dup (B3I0227-MSD1)		**Source: 3090474-01**		*Prepared & Analyzed: 09/09/13*						
Total Kjeldahl Nitrogen	86900	5050	mg/kg dry	25300	60600	104	90-110	0	20	

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3I0279 - NO PREP										
Blank (B3I0279-BLK1)				*Prepared & Analyzed: 09/11/13*						
Ammonia as N	<1.00	1.00	mg/kg wet							
LCS (B3I0279-BS1)				*Prepared & Analyzed: 09/11/13*						
Ammonia as N	10.3	1.00	mg/kg wet	10.0		103	90-110			
LCS Dup (B3I0279-BSD1)				*Prepared & Analyzed: 09/11/13*						
Ammonia as N	10.2	1.00	mg/kg wet	10.0		102	90-110	1	20	
Matrix Spike (B3I0279-MS1)		**Source: 3090474-01**		*Prepared & Analyzed: 09/11/13*						
Ammonia as N	8890	505	mg/kg dry	5050	4040	96	90-110			
Matrix Spike Dup (B3I0279-MSD1)		**Source: 3090474-01**		*Prepared & Analyzed: 09/11/13*						
Ammonia as N	8890	505	mg/kg dry	5050	4040	96	90-110	0	20	
Batch B3I0294 - NO PREP										
Blank (B3I0294-BLK1)				*Prepared & Analyzed: 09/11/13*						
Total Phosphorous	<0.05	0.05	mg/kg wet							
LCS (B3I0294-BS1)				*Prepared & Analyzed: 09/11/13*						
Total Phosphorous	0.10	0.05	mg/kg wet	0.100		98	90-110			
LCS Dup (B3I0294-BSD1)				*Prepared & Analyzed: 09/11/13*						
Total Phosphorous	0.11	0.05	mg/kg wet	0.100		105	90-110	7	20	
Matrix Spike (B3I0294-MS1)		**Source: 3090474-01**		*Prepared & Analyzed: 09/11/13*						
Total Phosphorous	43500	6310	mg/kg dry	12600	25700	141	90-110			M1

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3I0294 - NO PREP										
Matrix Spike Dup (B3I0294-MSD1)		**Source: 3090474-01**		*Prepared & Analyzed: 09/11/13*						
Total Phosphorous	43500	6310	mg/kg dry	12600	25700	141	90-110	0	20	M1
Batch B3I0312 - NO PREP										
Blank (B3I0312-BLK1)				*Prepared & Analyzed: 09/12/13*						
Nitrite as N	<0.1	0.1	mg/kg dry wt. wet							
LCS (B3I0312-BS1)				*Prepared & Analyzed: 09/12/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		103	80-120			
LCS Dup (B3I0312-BSD1)				*Prepared & Analyzed: 09/12/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		103	80-120	0	20	
Matrix Spike (B3I0312-MS1)		**Source: 3090474-01**		*Prepared & Analyzed: 09/12/13*						
Nitrite as N	8.2	5.1	mg/kg dry wt. dry	10.1	2.3	58	80-120			M2
Matrix Spike Dup (B3I0312-MSD1)		**Source: 3090474-01**		*Prepared & Analyzed: 09/12/13*						
Nitrite as N	8.2	5.1	mg/kg dry wt. dry	10.1	2.3	58	80-120	0	20	M2
Batch B3I0340 - NO PREP										
Blank (B3I0340-BLK1)				*Prepared & Analyzed: 09/13/13*						
Nitrate + Nitrite as N	<0.20	0.20	mg/kg wet							
LCS (B3I0340-BS1)				*Prepared & Analyzed: 09/13/13*						
Nitrate + Nitrite as N	10.1	0.20	mg/kg wet	10.0		101	90-110			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3I0340 - NO PREP										
LCS Dup (B3I0340-BSD1)				*Prepared & Analyzed: 09/13/13*						
Nitrate + Nitrite as N	10.1	0.20	mg/kg wet	10.0		101	90-110	0	20	
Matrix Spike (B3I0340-MS1)		**Source: 3090474-01**		*Prepared & Analyzed: 09/13/13*						
Nitrate + Nitrite as N	530	10.1	mg/kg dry	505	5.03	104	80-120			
Matrix Spike Dup (B3I0340-MSD1)		**Source: 3090474-01**		*Prepared & Analyzed: 09/13/13*						
Nitrate + Nitrite as N	530	10.1	mg/kg dry	505	5.03	104	80-120	0	20	

Notes and Definitions

M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
M1	Matrix spike recovery was high; the method control sample recovery was acceptable.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

3090304

CITY OF SAN DIEGO
Public Utilities Department
Wastewater Treatment and Disposal

DATE: September 3, 2013

TO: Legend Technical Services of Arizona, Inc.

FROM: Metropolitan Biosolids Center
Attn: Richard Pitchford

SUBJECT: Lab Analysis of the following listed samples.

Please perform the following Analysis listed for the samples supplied.
If there are questions, please contact:

George Wendorf
Wastewater Plant Operator at the Metropolitan Biosolids Center.
(858) 614-5821
gwendorf@sandiego.gov

Analysis to be performed:

Log Number

P674861: MBC, Dewatered Sludge Cake
Fixed.
Metals: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Zinc, Phosphorus and Nitrogen Series: KJELDAHL Nitrogen, Ammonium Nitrogen, Nitrate, Nitrite, Organic Nitrogen.

3090304

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center	Sampler/s: Plant Operators	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name: Richard Pitchford	Contact Name: Richard Pitchford	~~31~~ Day Composite from Daily Grab Samples.
Phone: (858) 614-5509	Phone: (858) 614-5509	30 GPW

Sample Information: (All information is required) Number of attachments: 1

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)
08/01 - 08/31 2013 / 2400	OPR	MBCDEWN	Dewatered Sludge Cake	1000	1	Plastic Bag	ICE	See Attached	P674861 -01

Chain-of-Custody

Relinquished by: Name: Kelly Richardson Sign:	Received by: Name: George Wendorf Sign:	Date & Time 9/3/13 Location: 0900 MBC A51 Lab	Comments: NOTE: ONE ENTRY MISSING FROM SAMPLE SHEET (ARIA).
Relinquished by: Name: George Wendorf Sign:	Received by: Name: Sign: Courier	Date & Time Location:	
Relinquished by: Name: Sign: Courier	Received by: Name: H. Ward Sign: H. Ward	Date & Time 9/4/13 Location: 11:30	2.7 °C

See instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

LEGEND
Technical Services, Inc.
www.legend-group.com

17631 North 25th Avenue • Phoenix, AZ 85023
P (602) 324-6100 • F (602) 324-6101

15 October 2013

Barry Ayers
City of San Diego, Metro Biosolids Center
5240 Convoy St.
San Diego, CA 92111-1227

RE: Monthly Biosolids Analysis

Laboratory Work Order No.: 3100445

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 10/03/13 11:35.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

Lisa Parrish

Lisa Parrish
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
MBCDEWN (Dewatered Sludge Cake) P677800	3100445-01	Solid (Dry Weight)	Composite	09/30/13 23:59	10/03/13 11:35

Sample Condition Upon Receipt:

Temperature: 5.90 C
All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.
QA/QC Criteria: All analyses met method requirements unless otherwise qualified.
Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.
Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.
Comments: There were no problems encountered during the processing of the samples, unless otherwise noted. All samples were analyzed on a "wet" basis unless designated as "dry weight".

MBCDEWN (Dewatered Sludge Cake) P677800 (3100445-01) Solid (Dry Weight) (Composite) Sampled: 09/30/13 23:59
Received: 10/03/13 11:35

Legend Technical Services of Arizona, Inc.

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Metals									
Arsenic	<31.0	31.0	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Cadmium	**2.49**	0.620	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Chromium	**34.1**	0.775	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Copper	**692**	1.55	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Lead	**21.3**	15.5	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Mercury	**1.4**	0.26	mg/kg dry	1	B3J0271	10/09/13 09:44	10/09/13 14:38	EPA 7471A	
Molybdenum	**20.8**	3.10	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Nickel	**32.5**	3.10	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Selenium	<31.0	31.0	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Zinc	**975**	3.10	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.8	7.8	mg/kg dry	1	[CALC]	10/11/13 13:25	10/11/13 13:25	Calculation	
Organic Nitrogen	**50400**	3880	mg/kg dry	10	[CALC]	10/11/13 13:25	10/09/13 13:42	Calculation	
Total Nitrogen	**55000**	3880	mg/kg dry	1	[CALC]	10/11/13 13:25	10/11/13 13:25	Calculation	
Ammonia as N	**4650**	388	mg/kg dry	10	B3J0283	10/09/13 13:42	10/09/13 13:42	EPA 350.1	
Nitrate + Nitrite as N	<7.75	7.75	mg/kg dry	1	B3J0384	10/11/13 13:25	10/11/13 13:25	SM 4500 NO3 F	
Nitrite as N	<3.9	3.9	mg/kg dry wt. dry	1	B3J0292	10/09/13 17:02	10/09/13 17:02	SM 4500 NO2 B	
Total Kjeldahl Nitrogen	**55000**	3880	mg/kg dry	1	B3J0231	10/07/13 09:15	10/07/13 13:19	EPA 351.2	
Total Phosphorous	**34000**	9690	mg/kg dry	1	B3J0303	10/09/13 10:00	10/09/13 17:45	EPA 365.3	
Total Fixed Solids	**41**	1	%	1	B3J0192	10/06/13 15:00	10/06/13 15:00	SM 2540 G	
% Solids	**26**	1	%	1	B3J0192	10/06/13 15:00	10/06/13 15:00	SM 2540 G	
Total Volatile Solids	**59**	1	%	1	B3J0192	10/06/13 15:00	10/06/13 15:00	SM 2540 G	

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3J0130 - EPA 3050B Dry										
Blank (B3J0130-BLK1)				*Prepared: 10/04/13 Analyzed: 10/07/13*						
Arsenic	<0.20	0.20	mg/kg wet							
Cadmium	<0.004	0.004	mg/kg wet							
Chromium	<0.005	0.005	mg/kg wet							
Copper	<0.01	0.01	mg/kg wet							
Lead	<0.100	0.100	mg/kg wet							
Molybdenum	<0.02	0.02	mg/kg wet							
Nickel	<0.02	0.02	mg/kg wet							
Selenium	<0.2	0.2	mg/kg wet							
Zinc	<0.02	0.02	mg/kg wet							
LCS (B3J0130-BS1)				*Prepared: 10/04/13 Analyzed: 10/07/13*						
Arsenic	1.87	0.20	mg/kg wet	2.00		93	85-115			
Cadmium	0.372	0.004	mg/kg wet	0.400		93	85-115			
Chromium	0.487	0.005	mg/kg wet	0.500		97	85-115			
Copper	0.95	0.01	mg/kg wet	1.00		95	85-115			
Lead	0.934	0.100	mg/kg wet	1.00		93	85-115			
Molybdenum	0.20	0.02	mg/kg wet	0.200		100	85-115			
Nickel	0.94	0.02	mg/kg wet	1.00		94	85-115			
Selenium	0.9	0.2	mg/kg wet	1.00		93	85-115			
Zinc	0.93	0.02	mg/kg wet	1.00		93	85-115			
LCS Dup (B3J0130-BSD1)				*Prepared: 10/04/13 Analyzed: 10/07/13*						
Arsenic	1.88	0.20	mg/kg wet	2.00		94	85-115	0.6	20	
Cadmium	0.373	0.004	mg/kg wet	0.400		93	85-115	0.4	20	
Chromium	0.489	0.005	mg/kg wet	0.500		98	85-115	0.3	20	
Copper	0.96	0.01	mg/kg wet	1.00		96	85-115	1	20	
Lead	0.931	0.100	mg/kg wet	1.00		93	85-115	0.3	20	
Molybdenum	0.20	0.02	mg/kg wet	0.200		101	85-115	0.1	20	
Nickel	0.95	0.02	mg/kg wet	1.00		95	85-115	0.4	20	
Selenium	0.9	0.2	mg/kg wet	1.00		93	85-115	0.4	20	
Zinc	0.93	0.02	mg/kg wet	1.00		93	85-115	0.03	20	

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3J0130 - EPA 3050B Dry										
Matrix Spike (B3J0130-MS2)		**Source: 3100105-01**		*Prepared: 10/04/13*		*Analyzed: 10/07/13*				
Arsenic	499	49.7	mg/kg dry	497	10.5	98	75-125			
Cadmium	92.0	0.994	mg/kg dry	99.4	1.15	91	75-125			
Chromium	235	1.24	mg/kg dry	124	116	96	75-125			
Copper	854	2.48	mg/kg dry	248	609	99	75-125			
Lead	236	24.8	mg/kg dry	248	7.57	92	75-125			
Molybdenum	68.0	4.97	mg/kg dry	49.7	18.7	99	75-125			
Nickel	248	4.97	mg/kg dry	248	16.6	93	75-125			
Selenium	268	49.7	mg/kg dry	248	21.6	99	75-125			
Zinc	867	4.97	mg/kg dry	248	641	91	75-125			
Matrix Spike Dup (B3J0130-MSD2)		**Source: 3100105-01**		*Prepared: 10/04/13*		*Analyzed: 10/07/13*				
Arsenic	493	49.7	mg/kg dry	497	10.5	97	75-125	1	20	
Cadmium	91.7	0.994	mg/kg dry	99.4	1.15	91	75-125	0.4	20	
Chromium	234	1.24	mg/kg dry	124	116	95	75-125	0.4	20	
Copper	844	2.48	mg/kg dry	248	609	95	75-125	1	20	
Lead	234	24.8	mg/kg dry	248	7.57	91	75-125	0.9	20	
Molybdenum	68.0	4.97	mg/kg dry	49.7	18.7	99	75-125	0.09	20	
Nickel	246	4.97	mg/kg dry	248	16.6	93	75-125	0.6	20	
Selenium	263	49.7	mg/kg dry	248	21.6	97	75-125	2	20	
Zinc	864	4.97	mg/kg dry	248	641	90	75-125	0.4	20	
Batch B3J0271 - EPA 7471A Prep										
Blank (B3J0271-BLK1)				*Prepared & Analyzed: 10/09/13*						
Mercury	<0.0004	0.0004	mg/kg wet							
LCS (B3J0271-BS1)				*Prepared & Analyzed: 10/09/13*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		101	85-115			

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3J0271 - EPA 7471A Prep										
LCS Dup (B3J0271-BSD1)				*Prepared & Analyzed: 10/09/13*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		101	85-115	0.1	20	
Matrix Spike (B3J0271-MS1)		**Source: 3100512-02**		*Prepared & Analyzed: 10/09/13*						
Mercury	3.72	0.39	mg/kg dry	3.88	0.39	86	85-115			
Matrix Spike Dup (B3J0271-MSD1)		**Source: 3100512-02**		*Prepared & Analyzed: 10/09/13*						
Mercury	3.81	0.39	mg/kg dry	3.88	0.39	88	85-115	2	20	

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3J0192 - NO PREP										
Blank (B3J0192-BLK1)				*Prepared & Analyzed: 10/06/13*						
% Solids	<1	1	%							
Total Fixed Solids	<1	1	%							
Total Volatile Solids	<1	1	%							
Duplicate (B3J0192-DUP1)		**Source: 3100445-01**		*Prepared & Analyzed: 10/06/13*						
% Solids	26	1	%		26			0.8	5	
Total Fixed Solids	40	1	%		41			3	5	
Total Volatile Solids	60	1	%		59			2	5	
Batch B3J0231 - NO PREP										
Blank (B3J0231-BLK1)				*Prepared & Analyzed: 10/07/13*						
Total Kjeldahl Nitrogen	<1.00	1.00	mg/kg wet							
LCS (B3J0231-BS1)				*Prepared & Analyzed: 10/07/13*						
Total Kjeldahl Nitrogen	4.89	1.00	mg/kg wet	5.00		98	90-110			
LCS Dup (B3J0231-BSD1)				*Prepared & Analyzed: 10/07/13*						
Total Kjeldahl Nitrogen	5.02	1.00	mg/kg wet	5.00		100	90-110	3	20	
Matrix Spike (B3J0231-MS1)		**Source: 3100435-01**		*Prepared & Analyzed: 10/07/13*						
Total Kjeldahl Nitrogen	27.4		mg/L	5.00	23.2	84	90-110			M2
Matrix Spike Dup (B3J0231-MSD1)		**Source: 3100435-01**		*Prepared & Analyzed: 10/07/13*						
Total Kjeldahl Nitrogen	27.4		mg/L	5.00	23.2	84	90-110		20	M2

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3J0283 - NO PREP										
Blank (B3J0283-BLK1)				*Prepared & Analyzed: 10/09/13*						
Ammonia as N	<1.00	1.00	mg/kg wet							
LCS (B3J0283-BS1)				*Prepared & Analyzed: 10/09/13*						
Ammonia as N	10.1	1.00	mg/kg wet	10.0		101	90-110			
LCS Dup (B3J0283-BSD1)				*Prepared & Analyzed: 10/09/13*						
Ammonia as N	10.1	1.00	mg/kg wet	10.0		101	90-110	0	20	
Matrix Spike (B3J0283-MS1)		**Source: 3100188-01**		*Prepared & Analyzed: 10/09/13*						
Ammonia as N	12.8		mg/L	10.0	2.92	99	90-110			
Matrix Spike Dup (B3J0283-MSD1)		**Source: 3100188-01**		*Prepared & Analyzed: 10/09/13*						
Ammonia as N	12.7		mg/L	10.0	2.92	98	90-110		20	
Batch B3J0292 - NO PREP										
Blank (B3J0292-BLK1)				*Prepared & Analyzed: 10/09/13*						
Nitrite as N	<0.1	0.1	mg/kg dry wt. wet							
LCS (B3J0292-BS1)				*Prepared & Analyzed: 10/09/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		102	80-120			
LCS Dup (B3J0292-BSD1)				*Prepared & Analyzed: 10/09/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		102	80-120	0	20	
Matrix Spike (B3J0292-MS1)		**Source: 3100287-01**		*Prepared & Analyzed: 10/09/13*						
Nitrite as N	28.9	8.6	mg/kg dry wt. dry	17.2	12.2	97	80-120			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3J0292 - NO PREP										
Matrix Spike Dup (B3J0292-MSD1)		**Source: 3100287-01**		*Prepared & Analyzed: 10/09/13*						
Nitrite as N	28.9	8.6	mg/kg dry wt. dry	17.2	12.2	97	80-120	0	20	
Batch B3J0303 - NO PREP										
Blank (B3J0303-BLK1)				*Prepared & Analyzed: 10/09/13*						
Total Phosphorous	<0.05	0.05	mg/kg wet							
LCS (B3J0303-BS1)				*Prepared & Analyzed: 10/09/13*						
Total Phosphorous	0.10	0.05	mg/kg wet	0.100		101	90-110			
LCS Dup (B3J0303-BSD1)				*Prepared & Analyzed: 10/09/13*						
Total Phosphorous	0.10	0.05	mg/kg wet	0.100		101	90-110	0.1	20	
Matrix Spike (B3J0303-MS1)		**Source: 3100188-01**		*Prepared & Analyzed: 10/09/13*						
Total Phosphorous	73200	18000	mg/kg dry	36000	57900	43	90-110			M2
Matrix Spike Dup (B3J0303-MSD1)		**Source: 3100188-01**		*Prepared & Analyzed: 10/09/13*						
Total Phosphorous	73100	18000	mg/kg dry	36000	57900	42	90-110	0.1	20	M2
Batch B3J0384 - NO PREP										
Blank (B3J0384-BLK1)				*Prepared & Analyzed: 10/11/13*						
Nitrate + Nitrite as N	<0.20	0.20	mg/kg wet							
LCS (B3J0384-BS1)				*Prepared & Analyzed: 10/11/13*						
Nitrate + Nitrite as N	10.1	0.20	mg/kg wet	10.0		101	90-110			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3J0384 - NO PREP										
LCS Dup (B3J0384-BSD1)				*Prepared & Analyzed: 10/11/13*						
Nitrate + Nitrite as N	10.1	0.20	mg/kg wet	10.0		101	90-110	0	20	
Matrix Spike (B3J0384-MS1)		**Source: 3100445-01**		*Prepared & Analyzed: 10/11/13*						
Nitrate + Nitrite as N	391	7.75	mg/kg dry	388	4.11	100	80-120			
Matrix Spike Dup (B3J0384-MSD1)		**Source: 3100445-01**		*Prepared & Analyzed: 10/11/13*						
Nitrate + Nitrite as N	395	7.75	mg/kg dry	388	4.11	101	80-120	1	20	

Notes and Definitions

M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

3100445

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center	Sampler/s: Plant Operators	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name: Richard Pitchford	Contact Name: Richard Pitchford	30 Day Composite from Daily Grab Samples.
Phone: (858) 614-5509	Phone: (858) 614-5509	

Sample Information: (All information is required) Number of attachments: 1

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)
09/01 - 09/30 2013 / 2400	OPR	MBCDEWN	Dewatered Sludge Cake	1000	1	Plastic Bag	ICE	See Attached	P677800 -01

Chain-of-Custody

Relinquished by: Name: Keith Freiberger Sign:	Received by: Name: George Wendorf Sign:	Date & Time 10/1/13 Location: 10:00 MBC A51 Lab	Comments: Temp = 5.9°C No collection time on sample Time taken from COC
Relinquished by: Name: George Wendorf Sign:	Received by: Name: Legend Technical Sign: Cory Lund	Date & Time 10/3/13 11:55 Location:	
Relinquished by: Name: Sign:	Received by: Name: Sign:	Date & Time Location	

See instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

3100445

CITY OF SAN DIEGO
Public Utilities Department
Wastewater Treatment and Disposal

DATE: October 1, 2013

TO: Legend Technical Services of Arizona, Inc.

FROM: Metropolitan Biosolids Center
Attn: Richard Pitchford

SUBJECT: Lab Analysis of the following listed samples.

Please perform the following Analysis listed for the samples supplied.
If there are questions, please contact:

George Wendorf
Wastewater Plant Operator at the Metropolitan Biosolids Center.
(858) 614-5821
gwendorf@sandiego.gov

Analysis to be performed:

Log Number

P677800: MBC, Dewatered Sludge Cake
Fixed.
Metals: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Zinc, Phosphorus and Nitrogen Series: KJELDAHL Nitrogen, Ammonium Nitrogen, Nitrate, Nitrite, Organic Nitrogen.

LEGEND
Technical Services, Inc.
www.legend-group.com

17631 North 25th Avenue • Phoenix, AZ 85023
P (602) 324-6100 • F (602) 324-6101

15 October 2013

Barry Ayers
City of San Diego, Metro Biosolids Center
5240 Convoy St.
San Diego, CA 92111-1227

RE: Monthly Biosolids Analysis

Laboratory Work Order No.: 3100445

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 10/03/13 11:35.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

Lisa Parrish

Lisa Parrish
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
MBCDEWN (Dewatered Sludge Cake) P677800	3100445-01	Solid (Dry Weight)	Composite	09/30/13 23:59	10/03/13 11:35

Sample Condition Upon Receipt:

Temperature: 5.90 C
All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.
QA/QC Criteria: All analyses met method requirements unless otherwise qualified.
Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.
Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.
Comments: There were no problems encountered during the processing of the samples, unless otherwise noted. All samples were analyzed on a "wet" basis unless designated as "dry weight".

MBCDEWN (Dewatered Sludge Cake) P677800 (3100445-01) Solid (Dry Weight) (Composite) Sampled: 09/30/13 23:59
Received: 10/03/13 11:35

Legend Technical Services of Arizona, Inc.

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Metals									
Arsenic	<31.0	31.0	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Cadmium	**2.49**	0.620	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Chromium	**34.1**	0.775	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Copper	**692**	1.55	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Lead	**21.3**	15.5	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Mercury	**1.4**	0.26	mg/kg dry	1	B3J0271	10/09/13 09:44	10/09/13 14:38	EPA 7471A	
Molybdenum	**20.8**	3.10	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Nickel	**32.5**	3.10	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Selenium	<31.0	31.0	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Zinc	**975**	3.10	mg/kg dry	2	B3J0130	10/04/13 15:10	10/07/13 16:45	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.8	7.8	mg/kg dry	1	[CALC]	10/11/13 13:25	10/11/13 13:25	Calculation	
Organic Nitrogen	**50400**	3880	mg/kg dry	10	[CALC]	10/11/13 13:25	10/09/13 13:42	Calculation	
Total Nitrogen	**55000**	3880	mg/kg dry	1	[CALC]	10/11/13 13:25	10/11/13 13:25	Calculation	
Ammonia as N	**4650**	388	mg/kg dry	10	B3J0283	10/09/13 13:42	10/09/13 13:42	EPA 350.1	
Nitrate + Nitrite as N	<7.75	7.75	mg/kg dry	1	B3J0384	10/11/13 13:25	10/11/13 13:25	SM 4500 NO3 F	
Nitrite as N	<3.9	3.9	mg/kg dry wt. dry	1	B3J0292	10/09/13 17:02	10/09/13 17:02	SM 4500 NO2 B	
Total Kjeldahl Nitrogen	**55000**	3880	mg/kg dry	1	B3J0231	10/07/13 09:15	10/07/13 13:19	EPA 351.2	
Total Phosphorous	**34000**	9690	mg/kg dry	1	B3J0303	10/09/13 10:00	10/09/13 17:45	EPA 365.3	
Total Fixed Solids	**41**	1	%	1	B3J0192	10/06/13 15:00	10/06/13 15:00	SM 2540 G	
% Solids	**26**	1	%	1	B3J0192	10/06/13 15:00	10/06/13 15:00	SM 2540 G	
Total Volatile Solids	**59**	1	%	1	B3J0192	10/06/13 15:00	10/06/13 15:00	SM 2540 G	

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3J0130 - EPA 3050B Dry										
Blank (B3J0130-BLK1)				*Prepared: 10/04/13 Analyzed: 10/07/13*						
Arsenic	<0.20	0.20	mg/kg wet							
Cadmium	<0.004	0.004	mg/kg wet							
Chromium	<0.005	0.005	mg/kg wet							
Copper	<0.01	0.01	mg/kg wet							
Lead	<0.100	0.100	mg/kg wet							
Molybdenum	<0.02	0.02	mg/kg wet							
Nickel	<0.02	0.02	mg/kg wet							
Selenium	<0.2	0.2	mg/kg wet							
Zinc	<0.02	0.02	mg/kg wet							
LCS (B3J0130-BS1)				*Prepared: 10/04/13 Analyzed: 10/07/13*						
Arsenic	1.87	0.20	mg/kg wet	2.00		93	85-115			
Cadmium	0.372	0.004	mg/kg wet	0.400		93	85-115			
Chromium	0.487	0.005	mg/kg wet	0.500		97	85-115			
Copper	0.95	0.01	mg/kg wet	1.00		95	85-115			
Lead	0.934	0.100	mg/kg wet	1.00		93	85-115			
Molybdenum	0.20	0.02	mg/kg wet	0.200		100	85-115			
Nickel	0.94	0.02	mg/kg wet	1.00		94	85-115			
Selenium	0.9	0.2	mg/kg wet	1.00		93	85-115			
Zinc	0.93	0.02	mg/kg wet	1.00		93	85-115			
LCS Dup (B3J0130-BSD1)				*Prepared: 10/04/13 Analyzed: 10/07/13*						
Arsenic	1.88	0.20	mg/kg wet	2.00		94	85-115	0.6	20	
Cadmium	0.373	0.004	mg/kg wet	0.400		93	85-115	0.4	20	
Chromium	0.489	0.005	mg/kg wet	0.500		98	85-115	0.3	20	
Copper	0.96	0.01	mg/kg wet	1.00		96	85-115	1	20	
Lead	0.931	0.100	mg/kg wet	1.00		93	85-115	0.3	20	
Molybdenum	0.20	0.02	mg/kg wet	0.200		101	85-115	0.1	20	
Nickel	0.95	0.02	mg/kg wet	1.00		95	85-115	0.4	20	
Selenium	0.9	0.2	mg/kg wet	1.00		93	85-115	0.4	20	
Zinc	0.93	0.02	mg/kg wet	1.00		93	85-115	0.03	20	

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3J0130 - EPA 3050B Dry										
Matrix Spike (B3J0130-MS2)		**Source: 3100105-01**		*Prepared: 10/04/13*		*Analyzed: 10/07/13*				
Arsenic	499	49.7	mg/kg dry	497	10.5	98	75-125			
Cadmium	92.0	0.994	mg/kg dry	99.4	1.15	91	75-125			
Chromium	235	1.24	mg/kg dry	124	116	96	75-125			
Copper	854	2.48	mg/kg dry	248	609	99	75-125			
Lead	236	24.8	mg/kg dry	248	7.57	92	75-125			
Molybdenum	68.0	4.97	mg/kg dry	49.7	18.7	99	75-125			
Nickel	248	4.97	mg/kg dry	248	16.6	93	75-125			
Selenium	268	49.7	mg/kg dry	248	21.6	99	75-125			
Zinc	867	4.97	mg/kg dry	248	641	91	75-125			
Matrix Spike Dup (B3J0130-MSD2)		**Source: 3100105-01**		*Prepared: 10/04/13*		*Analyzed: 10/07/13*				
Arsenic	493	49.7	mg/kg dry	497	10.5	97	75-125	1	20	
Cadmium	91.7	0.994	mg/kg dry	99.4	1.15	91	75-125	0.4	20	
Chromium	234	1.24	mg/kg dry	124	116	95	75-125	0.4	20	
Copper	844	2.48	mg/kg dry	248	609	95	75-125	1	20	
Lead	234	24.8	mg/kg dry	248	7.57	91	75-125	0.9	20	
Molybdenum	68.0	4.97	mg/kg dry	49.7	18.7	99	75-125	0.09	20	
Nickel	246	4.97	mg/kg dry	248	16.6	93	75-125	0.6	20	
Selenium	263	49.7	mg/kg dry	248	21.6	97	75-125	2	20	
Zinc	864	4.97	mg/kg dry	248	641	90	75-125	0.4	20	
Batch B3J0271 - EPA 7471A Prep										
Blank (B3J0271-BLK1)				*Prepared & Analyzed: 10/09/13*						
Mercury	<0.0004	0.0004	mg/kg wet							
LCS (B3J0271-BS1)				*Prepared & Analyzed: 10/09/13*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		101	85-115			

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3J0271 - EPA 7471A Prep										
LCS Dup (B3J0271-BSD1)				*Prepared & Analyzed: 10/09/13*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		101	85-115	0.1	20	
Matrix Spike (B3J0271-MS1)		**Source: 3100512-02**		*Prepared & Analyzed: 10/09/13*						
Mercury	3.72	0.39	mg/kg dry	3.88	0.39	86	85-115			
Matrix Spike Dup (B3J0271-MSD1)		**Source: 3100512-02**		*Prepared & Analyzed: 10/09/13*						
Mercury	3.81	0.39	mg/kg dry	3.88	0.39	88	85-115	2	20	

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3J0192 - NO PREP										
Blank (B3J0192-BLK1)				*Prepared & Analyzed: 10/06/13*						
% Solids	<1	1	%							
Total Fixed Solids	<1	1	%							
Total Volatile Solids	<1	1	%							
Duplicate (B3J0192-DUP1)		**Source: 3100445-01**		*Prepared & Analyzed: 10/06/13*						
% Solids	26	1	%		26			0.8	5	
Total Fixed Solids	40	1	%		41			3	5	
Total Volatile Solids	60	1	%		59			2	5	
Batch B3J0231 - NO PREP										
Blank (B3J0231-BLK1)				*Prepared & Analyzed: 10/07/13*						
Total Kjeldahl Nitrogen	<1.00	1.00	mg/kg wet							
LCS (B3J0231-BS1)				*Prepared & Analyzed: 10/07/13*						
Total Kjeldahl Nitrogen	4.89	1.00	mg/kg wet	5.00		98	90-110			
LCS Dup (B3J0231-BSD1)				*Prepared & Analyzed: 10/07/13*						
Total Kjeldahl Nitrogen	5.02	1.00	mg/kg wet	5.00		100	90-110	3	20	
Matrix Spike (B3J0231-MS1)		**Source: 3100435-01**		*Prepared & Analyzed: 10/07/13*						
Total Kjeldahl Nitrogen	27.4		mg/L	5.00	23.2	84	90-110			M2
Matrix Spike Dup (B3J0231-MSD1)		**Source: 3100435-01**		*Prepared & Analyzed: 10/07/13*						
Total Kjeldahl Nitrogen	27.4		mg/L	5.00	23.2	84	90-110		20	M2

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3J0283 - NO PREP										
Blank (B3J0283-BLK1)				*Prepared & Analyzed: 10/09/13*						
Ammonia as N	<1.00	1.00	mg/kg wet							
LCS (B3J0283-BS1)				*Prepared & Analyzed: 10/09/13*						
Ammonia as N	10.1	1.00	mg/kg wet	10.0		101	90-110			
LCS Dup (B3J0283-BSD1)				*Prepared & Analyzed: 10/09/13*						
Ammonia as N	10.1	1.00	mg/kg wet	10.0		101	90-110	0	20	
Matrix Spike (B3J0283-MS1)		**Source: 3100188-01**		*Prepared & Analyzed: 10/09/13*						
Ammonia as N	12.8		mg/L	10.0	2.92	99	90-110			
Matrix Spike Dup (B3J0283-MSD1)		**Source: 3100188-01**		*Prepared & Analyzed: 10/09/13*						
Ammonia as N	12.7		mg/L	10.0	2.92	98	90-110		20	
Batch B3J0292 - NO PREP										
Blank (B3J0292-BLK1)				*Prepared & Analyzed: 10/09/13*						
Nitrite as N	<0.1	0.1	mg/kg dry wt. wet							
LCS (B3J0292-BS1)				*Prepared & Analyzed: 10/09/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		102	80-120			
LCS Dup (B3J0292-BSD1)				*Prepared & Analyzed: 10/09/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		102	80-120	0	20	
Matrix Spike (B3J0292-MS1)		**Source: 3100287-01**		*Prepared & Analyzed: 10/09/13*						
Nitrite as N	28.9	8.6	mg/kg dry wt. dry	17.2	12.2	97	80-120			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3J0292 - NO PREP										
Matrix Spike Dup (B3J0292-MSD1)		**Source: 3100287-01**		*Prepared & Analyzed: 10/09/13*						
Nitrite as N	28.9	8.6	mg/kg dry wt. dry	17.2	12.2	97	80-120	0	20	
Batch B3J0303 - NO PREP										
Blank (B3J0303-BLK1)				*Prepared & Analyzed: 10/09/13*						
Total Phosphorous	<0.05	0.05	mg/kg wet							
LCS (B3J0303-BS1)				*Prepared & Analyzed: 10/09/13*						
Total Phosphorous	0.10	0.05	mg/kg wet	0.100		101	90-110			
LCS Dup (B3J0303-BSD1)				*Prepared & Analyzed: 10/09/13*						
Total Phosphorous	0.10	0.05	mg/kg wet	0.100		101	90-110	0.1	20	
Matrix Spike (B3J0303-MS1)		**Source: 3100188-01**		*Prepared & Analyzed: 10/09/13*						
Total Phosphorous	73200	18000	mg/kg dry	36000	57900	43	90-110			M2
Matrix Spike Dup (B3J0303-MSD1)		**Source: 3100188-01**		*Prepared & Analyzed: 10/09/13*						
Total Phosphorous	73100	18000	mg/kg dry	36000	57900	42	90-110	0.1	20	M2
Batch B3J0384 - NO PREP										
Blank (B3J0384-BLK1)				*Prepared & Analyzed: 10/11/13*						
Nitrate + Nitrite as N	<0.20	0.20	mg/kg wet							
LCS (B3J0384-BS1)				*Prepared & Analyzed: 10/11/13*						
Nitrate + Nitrite as N	10.1	0.20	mg/kg wet	10.0		101	90-110			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3J0384 - NO PREP										
LCS Dup (B3J0384-BSD1)				*Prepared & Analyzed: 10/11/13*						
Nitrate + Nitrite as N	10.1	0.20	mg/kg wet	10.0		101	90-110	0	20	
Matrix Spike (B3J0384-MS1)		**Source: 3100445-01**		*Prepared & Analyzed: 10/11/13*						
Nitrate + Nitrite as N	391	7.75	mg/kg dry	388	4.11	100	80-120			
Matrix Spike Dup (B3J0384-MSD1)		**Source: 3100445-01**		*Prepared & Analyzed: 10/11/13*						
Nitrate + Nitrite as N	395	7.75	mg/kg dry	388	4.11	101	80-120	1	20	

Notes and Definitions

M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

3100445

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center	Sampler/s: Plant Operators	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name: Richard Pitchford	Contact Name: Richard Pitchford	30 Day Composite from Daily Grab Samples.
Phone: (858) 614-5509	Phone: (858) 614-5509	

Sample Information: (All information is required) Number of attachments: 1

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)
09/01 - 09/30 2013 / 2400	OPR	MBCDEWN	Dewatered Sludge Cake	1000	1	Plastic Bag	ICE	See Attached	P677800 -01

Chain-of-Custody

Relinquished by: Name: Keith Freiberger Sign:	Received by: Name: George Wendorf Sign:	Date & Time 10/1/13 Location: 10:00 MBC A51 Lab	Comments: Temp = 5.9°C No collection time on sample Time taken from COC
Relinquished by: Name: George Wendorf Sign:	Received by: Name: Legend Technical Sign: Cory Lund	Date & Time 10/3/13 11:55 Location:	
Relinquished by: Name: Sign:	Received by: Name: Sign:	Date & Time Location	

See instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

3100445

CITY OF SAN DIEGO
Public Utilities Department
Wastewater Treatment and Disposal

DATE: October 1, 2013

TO: Legend Technical Services of Arizona, Inc.

FROM: Metropolitan Biosolids Center
Attn: Richard Pitchford

SUBJECT: Lab Analysis of the following listed samples.

Please perform the following Analysis listed for the samples supplied.
If there are questions, please contact:

George Wendorf
Wastewater Plant Operator at the Metropolitan Biosolids Center.
(858) 614-5821
gwendorf@sandiego.gov

Analysis to be performed:

Log Number

P677800: MBC, Dewatered Sludge Cake
Fixed.
Metals: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Zinc, Phosphorus and Nitrogen Series: KJELDAHL Nitrogen, Ammonium Nitrogen, Nitrate, Nitrite, Organic Nitrogen.

LEGEND
Technical Services, Inc.
www.legend-group.com

17631 North 25th Avenue • Phoenix, AZ 85023
P (602) 324-6100 • F (602) 324-6101

14 November 2013

Barry Ayers
City of San Diego, Metro Biosolids Center
5240 Convoy St.
San Diego, CA 92111-1227

RE: Monthly Biosolids Analysis

Laboratory Work Order No.: 3110339

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 11/05/13 13:00.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

Lisa Parrish

Lisa Parrish
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
MBCDEWN (Dewatered Sludge Cake) P682539	3110339-01	Solid (Dry Weight)	Composite	10/31/13 23:59	11/05/13 13:00

Sample Condition Upon Receipt:

Temperature: 5.40 C
All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.
QA/QC Criteria: All analyses met method requirements unless otherwise qualified.
Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.
Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.
Comments: There were no problems encountered during the processing of the samples, unless otherwise noted. All samples were analyzed on a "wet" basis unless designated as "dry weight".

MBCDEWN (Dewatered Sludge Cake) P682539 (3110339-01) Solid (Dry Weight) (Composite) Sampled: 10/31/13 23:59 Received: 11/05/13 13:00

Legend Technical Services of Arizona, Inc.

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Metals									
Arsenic	<31.7	31.7	mg/kg dry	2	B3K0226	11/08/13 10:00	11/13/13 11:03	EPA 6010B	
Cadmium	**2.84**	0.635	mg/kg dry	2	B3K0226	11/08/13 10:00	11/13/13 11:03	EPA 6010B	
Chromium	**31.9**	0.794	mg/kg dry	2	B3K0226	11/08/13 10:00	11/13/13 11:03	EPA 6010B	
Copper	**656**	1.59	mg/kg dry	2	B3K0226	11/08/13 10:00	11/13/13 11:03	EPA 6010B	
Lead	**20.9**	15.9	mg/kg dry	2	B3K0226	11/08/13 10:00	11/13/13 11:03	EPA 6010B	
Mercury	**0.78**	0.26	mg/kg dry	1	B3K0266	11/11/13 10:34	11/11/13 16:03	EPA 7471A	
Molybdenum	**20.7**	3.17	mg/kg dry	2	B3K0226	11/08/13 10:00	11/13/13 11:03	EPA 6010B	
Nickel	**30.3**	3.17	mg/kg dry	2	B3K0226	11/08/13 10:00	11/13/13 11:03	EPA 6010B	
Selenium	<31.7	31.7	mg/kg dry	2	B3K0226	11/08/13 10:00	11/13/13 11:03	EPA 6010B	
Zinc	**929**	3.17	mg/kg dry	2	B3K0226	11/08/13 10:00	11/13/13 11:03	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	<7.94	7.94	mg/kg dry	1	[CALC]	11/08/13 10:25	11/08/13 15:10	Calculation	
Organic Nitrogen	**54700**	3970	mg/kg dry	10	[CALC]	11/08/13 10:25	11/13/13 13:58	Calculation	
Total Nitrogen	**57900**	3970	mg/kg dry	1	[CALC]	11/08/13 10:25	11/08/13 14:42	Calculation	
Ammonia as N	**3200**	397	mg/kg dry	10	B3K0329	11/13/13 13:58	11/13/13 13:58	EPA 350.1	
Nitrate + Nitrite as N	<7.94	7.94	mg/kg dry	1	B3K0208	11/08/13 10:25	11/08/13 10:25	SM 4500 NO3 F	
Nitrite as N	<4.0	4.0	mg/kg dry wt. dry	1	B3K0220	11/08/13 15:10	11/08/13 15:10	SM 4500 NO2 B	M2
Total Kjeldahl Nitrogen	**57900**	3970	mg/kg dry	1	B3K0222	11/08/13 10:10	11/08/13 14:42	EPA 351.2	M1
Total Phosphorous	**25700**	9920	mg/kg dry	1	B3K0343	11/13/13 10:00	11/13/13 15:50	EPA 365.3	M1
Total Fixed Solids	**39**	1	%	1	B3K0174	11/07/13 15:30	11/07/13 15:30	SM 2540 G	
% Solids	**25**	1	%	1	B3K0174	11/07/13 15:30	11/07/13 15:30	SM 2540 G	
Total Volatile Solids	**61**	1	%	1	B3K0174	11/07/13 15:30	11/07/13 15:30	SM 2540 G	

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3K0226 - EPA 3050B Dry										
Blank (B3K0226-BLK1)				*Prepared: 11/08/13 Analyzed: 11/13/13*						
Arsenic	<0.20	0.20	mg/kg wet							
Cadmium	<0.004	0.004	mg/kg wet							
Chromium	<0.005	0.005	mg/kg wet							
Copper	<0.01	0.01	mg/kg wet							
Lead	<0.100	0.100	mg/kg wet							
Molybdenum	<0.02	0.02	mg/kg wet							
Nickel	<0.02	0.02	mg/kg wet							
Selenium	<0.2	0.2	mg/kg wet							
Zinc	<0.02	0.02	mg/kg wet							
LCS (B3K0226-BS1)				*Prepared: 11/08/13 Analyzed: 11/13/13*						
Arsenic	1.90	0.20	mg/kg wet	2.00		95	85-115			
Cadmium	0.368	0.004	mg/kg wet	0.400		92	85-115			
Chromium	0.481	0.005	mg/kg wet	0.500		96	85-115			
Copper	0.96	0.01	mg/kg wet	1.00		96	85-115			
Lead	0.921	0.100	mg/kg wet	1.00		92	85-115			
Molybdenum	0.20	0.02	mg/kg wet	0.200		99	85-115			
Nickel	0.93	0.02	mg/kg wet	1.00		93	85-115			
Selenium	1.0	0.2	mg/kg wet	1.00		95	85-115			
Zinc	0.90	0.02	mg/kg wet	1.00		90	85-115			
LCS Dup (B3K0226-BSD1)				*Prepared: 11/08/13 Analyzed: 11/13/13*						
Arsenic	1.90	0.20	mg/kg wet	2.00		95	85-115	0.4	20	
Cadmium	0.368	0.004	mg/kg wet	0.400		92	85-115	0.1	20	
Chromium	0.480	0.005	mg/kg wet	0.500		96	85-115	0.06	20	
Copper	0.95	0.01	mg/kg wet	1.00		95	85-115	1	20	
Lead	0.921	0.100	mg/kg wet	1.00		92	85-115	0.09	20	
Molybdenum	0.20	0.02	mg/kg wet	0.200		99	85-115	0.1	20	
Nickel	0.93	0.02	mg/kg wet	1.00		93	85-115	0.2	20	
Selenium	1.0	0.2	mg/kg wet	1.00		95	85-115	0.2	20	
Zinc	0.90	0.02	mg/kg wet	1.00		90	85-115	0.03	20	

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3K0226 - EPA 3050B Dry										
Matrix Spike (B3K0226-MS2)		**Source: 3110586-01**		*Prepared: 11/08/13*	*Analyzed: 11/13/13*					
Arsenic	79.4	8.00	mg/kg wet	80.0	1.51	97	75-125			
Cadmium	15.8	0.160	mg/kg wet	16.0	1.16	91	75-125			
Chromium	55.8	0.200	mg/kg wet	20.0	36.8	95	75-125			
Copper	191	0.40	mg/kg wet	40.0	154	93	75-125			
Lead	42.5	4.00	mg/kg wet	40.0	6.71	89	75-125			
Molybdenum	8.72	0.80	mg/kg wet	8.00	1.11	95	75-125			
Nickel	77.3	0.80	mg/kg wet	40.0	41.3	90	75-125			
Selenium	39.9	8.0	mg/kg wet	40.0	1.4	96	75-125			
Zinc	187	0.80	mg/kg wet	40.0	151	90	75-125			
Matrix Spike Dup (B3K0226-MSD2)		**Source: 3110586-01**		*Prepared: 11/08/13*	*Analyzed: 11/13/13*					
Arsenic	79.1	8.00	mg/kg wet	80.0	1.51	97	75-125	0.3	20	
Cadmium	15.6	0.160	mg/kg wet	16.0	1.16	91	75-125	0.7	20	
Chromium	55.6	0.200	mg/kg wet	20.0	36.8	94	75-125	0.5	20	
Copper	193	0.40	mg/kg wet	40.0	154	97	75-125	0.8	20	
Lead	42.5	4.00	mg/kg wet	40.0	6.71	89	75-125	0.05	20	
Molybdenum	8.74	0.80	mg/kg wet	8.00	1.11	95	75-125	0.2	20	
Nickel	77.1	0.80	mg/kg wet	40.0	41.3	90	75-125	0.3	20	
Selenium	40.4	8.0	mg/kg wet	40.0	1.4	97	75-125	1	20	
Zinc	186	0.80	mg/kg wet	40.0	151	88	75-125	0.5	20	
Batch B3K0266 - EPA 7471A Prep										
Blank (B3K0266-BLK1)				*Prepared & Analyzed: 11/11/13*						
Mercury	<0.0004	0.0004	mg/kg wet							
LCS (B3K0266-BS1)				*Prepared & Analyzed: 11/11/13*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		101	85-115			

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3K0266 - EPA 7471A Prep										
LCS Dup (B3K0266-BSD1)				*Prepared & Analyzed: 11/11/13*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		100	85-115	0.6	20	
Matrix Spike (B3K0266-MS1)		**Source: 3110521-01**		*Prepared & Analyzed: 11/11/13*						
Mercury	4.00	0.34	mg/kg dry	3.40	0.86	92	85-115			
Matrix Spike Dup (B3K0266-MSD1)		**Source: 3110521-01**		*Prepared & Analyzed: 11/11/13*						
Mercury	4.00	0.34	mg/kg dry	3.40	0.86	92	85-115	0.1	20	

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3K0174 - NO PREP										
Blank (B3K0174-BLK1)				*Prepared & Analyzed: 11/07/13*						
% Solids	<1	1	%							
Total Fixed Solids	<1	1	%							
Total Volatile Solids	<1	1	%							
Duplicate (B3K0174-DUP1)		**Source: 3110339-01**		*Prepared & Analyzed: 11/07/13*						
% Solids	26	1	%		25			2	5	
Total Fixed Solids	38	1	%		39			0.5	5	
Total Volatile Solids	62	1	%		61			0.3	5	
Batch B3K0208 - NO PREP										
Blank (B3K0208-BLK1)				*Prepared & Analyzed: 11/08/13*						
Nitrate + Nitrite as N	<0.20	0.20	mg/kg wet							
LCS (B3K0208-BS1)				*Prepared & Analyzed: 11/08/13*						
Nitrate + Nitrite as N	10.3	0.20	mg/kg wet	10.0		103	90-110			
LCS Dup (B3K0208-BSD1)				*Prepared & Analyzed: 11/08/13*						
Nitrate + Nitrite as N	10.3	0.20	mg/kg wet	10.0		103	90-110	0	20	
Matrix Spike (B3K0208-MS1)		**Source: 3110339-01**		*Prepared & Analyzed: 11/08/13*						
Nitrate + Nitrite as N	396	7.94	mg/kg dry	397	<7.94	100	80-120			
Matrix Spike Dup (B3K0208-MSD1)		**Source: 3110339-01**		*Prepared & Analyzed: 11/08/13*						
Nitrate + Nitrite as N	387	7.94	mg/kg dry	397	<7.94	98	80-120	2	20	

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3K0220 - NO PREP										
Blank (B3K0220-BLK1)				*Prepared & Analyzed: 11/08/13*						
Nitrite as N	<0.1	0.1	mg/kg dry wt. wet							
LCS (B3K0220-BS1)				*Prepared & Analyzed: 11/08/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		102	80-120			
LCS Dup (B3K0220-BSD1)				*Prepared & Analyzed: 11/08/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		102	80-120	0	20	
Matrix Spike (B3K0220-MS1)		**Source: 3110339-01**		*Prepared & Analyzed: 11/08/13*						
Nitrite as N	6.1	4.0	mg/kg dry wt. dry	7.94	0.9	66	80-120			M2
Matrix Spike Dup (B3K0220-MSD1)		**Source: 3110339-01**		*Prepared & Analyzed: 11/08/13*						
Nitrite as N	6.2	4.0	mg/kg dry wt. dry	7.94	0.9	66	80-120	0.8	20	M2
Batch B3K0222 - NO PREP										
Blank (B3K0222-BLK1)				*Prepared & Analyzed: 11/08/13*						
Total Kjeldahl Nitrogen	<1.00	1.00	mg/kg wet							
LCS (B3K0222-BS1)				*Prepared & Analyzed: 11/08/13*						
Total Kjeldahl Nitrogen	5.05	1.00	mg/kg wet	5.00		101	90-110			
LCS Dup (B3K0222-BSD1)				*Prepared & Analyzed: 11/08/13*						
Total Kjeldahl Nitrogen	5.09	1.00	mg/kg wet	5.00		102	90-110	0.8	20	
Matrix Spike (B3K0222-MS1)		**Source: 3110339-01**		*Prepared & Analyzed: 11/08/13*						
Total Kjeldahl Nitrogen	81700	7940	mg/kg dry	19800	57900	120	90-110			M1

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3K0222 - NO PREP										
Matrix Spike Dup (B3K0222-MSD1)		**Source: 3110339-01**		*Prepared & Analyzed: 11/08/13*						
Total Kjeldahl Nitrogen	81700	7940	mg/kg dry	19800	57900	120	90-110	0	20	M1
Batch B3K0329 - NO PREP										
Blank (B3K0329-BLK1)				*Prepared & Analyzed: 11/13/13*						
Ammonia as N	<1.00	1.00	mg/kg wet							
LCS (B3K0329-BS1)				*Prepared & Analyzed: 11/13/13*						
Ammonia as N	10.2	1.00	mg/kg wet	10.0		102	90-110			
LCS Dup (B3K0329-BSD1)				*Prepared & Analyzed: 11/13/13*						
Ammonia as N	10.2	1.00	mg/kg wet	10.0		102	90-110	0	20	
Matrix Spike (B3K0329-MS1)		**Source: 3110750-01**		*Prepared & Analyzed: 11/13/13*						
Ammonia as N	13500	1000	mg/kg wet	10000	3250	102	90-110			
Matrix Spike Dup (B3K0329-MSD1)		**Source: 3110750-01**		*Prepared & Analyzed: 11/13/13*						
Ammonia as N	13500	1000	mg/kg wet	10000	3250	102	90-110	0	20	
Batch B3K0343 - NO PREP										
Blank (B3K0343-BLK1)				*Prepared & Analyzed: 11/13/13*						
Total Phosphorous	<0.05	0.05	mg/kg wet							
LCS (B3K0343-BS1)				*Prepared & Analyzed: 11/13/13*						
Total Phosphorous	0.10	0.05	mg/kg wet	0.100		96	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3K0343 - NO PREP										
LCS Dup (B3K0343-BSD1)				*Prepared & Analyzed: 11/13/13*						
Total Phosphorous	0.09	0.05	mg/kg wet	0.100		95	90-110	1	20	
Matrix Spike (B3K0343-MS1)		**Source: 3110339-01**		*Prepared & Analyzed: 11/13/13*						
Total Phosphorous	70100	9920	mg/kg dry	19800	25700	224	90-110			M1
Matrix Spike Dup (B3K0343-MSD1)		**Source: 3110339-01**		*Prepared & Analyzed: 11/13/13*						
Total Phosphorous	69900	9920	mg/kg dry	19800	25700	223	90-110	0.3	20	M1

Notes and Definitions

M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
M1	Matrix spike recovery was high; the method control sample recovery was acceptable.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

3110339

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center	Sampler/s: Plant Operators	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name: Richard Pitchford	Contact Name: Richard Pitchford	31 Day Composite from Daily Grab Samples.
Phone: (858) 614-5509	Phone: (858) 614-5509	

Sample Information: (All information is required) Number of attachments: 1

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)
10/01 - 10/31 2013 / 2400	OPR	MBCDEWN	Dewatered Sludge Cake	1000	1	Plastic Bag	ICE	See Attached	P682539 -01

Chain-of-Custody

Relinquished by	Received by	Date & Time / Location	Comments
Name: Keith Rivenbark Sign:	Name: George Wendorf Sign:	Date & Time 11/01/13 Location: 09:00 MBC A51 Lab	5.4°C Received temp
Relinquished by: Name: George Wendorf Sign:	Received by: Name: Courier Sign:	Date & Time Location:	
Relinquished by: Name: Courier Sign:	Received by: Name: Christy McFarlin Sign:	Date & Time 11/5/13 800 Location: legend lab	

See instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

3110339

CITY OF SAN DIEGO
Public Utilities Department
Wastewater Treatment and Disposal

DATE: November 1, 2013

TO: Legend Technical Services of Arizona, Inc.

FROM: Metropolitan Biosolids Center
Attn: Richard Pitchford

SUBJECT: Lab Analysis of the following listed samples.

Please perform the following Analysis listed for the samples supplied.
If there are questions, please contact:

George Wendorf
Wastewater Plant Operator at the Metropolitan Biosolids Center.
(858) 614-5821
gwendorf@sandiego.gov

Analysis to be performed:

Log Number

P682539: MBC, Dewatered Sludge Cake
Fixed.
Metals: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Zinc, Phosphorus and Nitrogen Series: KJELDAHL Nitrogen, Ammonium Nitrogen, Nitrate, Nitrite, Organic Nitrogen.

LEGEND
Technical Services, Inc.
www.legend-group.com

17631 North 25th Avenue • Phoenix, AZ 85023
P (602) 324-6100 • F (602) 324-6101

13 December 2013

Barry Ayers
City of San Diego, Metro Biosolids Center
5240 Convoy St.
San Diego, CA 92111-1227

RE: Monthly Biosolids Analysis

Laboratory Work Order No.: 3120303

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 12/03/13 11:50.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

Lisa Parrish

Lisa Parrish
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
MBCDEWN (Dewatered Sludge Cake) P687315	3120303-01	Solid (Dry Weight)	Composite	11/30/13 23:59	12/03/13 11:50

Sample Condition Upon Receipt:

Temperature: 5.30 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.

Comments: There were no problems encountered during the processing of the samples, unless otherwise noted. All samples were analyzed on a "wet" basis unless designated as "dry weight".

MBCDEWN (Dewatered Sludge Cake) P687315 (3120303-01) Solid (Dry Weight) (Composite) Sampled: 11/30/13 23:59 Received: 12/03/13 11:50

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Legend Technical Services of Arizona, Inc.								
Total Metals									
Arsenic	<31.0	31.0	mg/kg dry	2	B3L0247	12/09/13 11:45	12/10/13 19:22	EPA 6010B	
Cadmium	**2.88**	0.620	mg/kg dry	2	B3L0247	12/09/13 11:45	12/10/13 19:22	EPA 6010B	
Chromium	**33.4**	0.775	mg/kg dry	2	B3L0247	12/09/13 11:45	12/10/13 19:22	EPA 6010B	
Copper	**642**	1.55	mg/kg dry	2	B3L0247	12/09/13 11:45	12/10/13 19:22	EPA 6010B	
Lead	**20.9**	15.5	mg/kg dry	2	B3L0247	12/09/13 11:45	12/10/13 19:22	EPA 6010B	
Mercury	**1.2**	0.26	mg/kg dry	1	B3L0317	12/11/13 09:44	12/11/13 15:28	EPA 7471A	
Molybdenum	**19.9**	3.10	mg/kg dry	2	B3L0247	12/09/13 11:45	12/10/13 19:22	EPA 6010B	
Nickel	**29.4**	3.10	mg/kg dry	2	B3L0247	12/09/13 11:45	12/10/13 19:22	EPA 6010B	
Selenium	<31.0	31.0	mg/kg dry	2	B3L0247	12/09/13 11:45	12/10/13 19:22	EPA 6010B	
Zinc	**913**	3.10	mg/kg dry	2	B3L0247	12/09/13 11:45	12/10/13 19:22	EPA 6010B	M2
Inorganic Chemistry									
Nitrate as N	<7.75	7.75	mg/kg dry	1	[CALC]	12/09/13 09:15	12/09/13 09:53	Calculation	
Organic Nitrogen	**48400**	3880	mg/kg dry	10	[CALC]	12/09/13 09:15	12/11/13 12:08	Calculation	
Total Nitrogen	**51600**	3880	mg/kg dry	1	[CALC]	12/09/13 09:15	12/09/13 15:12	Calculation	
Ammonia as N	**3200**	388	mg/kg dry	10	B3L0309	12/11/13 12:08	12/11/13 12:08	EPA 350.1	
Nitrate + Nitrite as N	<7.75	7.75	mg/kg dry	1	B3L0190	12/06/13 10:50	12/06/13 10:50	SM 4500 NO3 F	
Nitrite as N	<3.9	3.9	mg/kg dry wt. dry	1	B3L0244	12/09/13 09:53	12/09/13 09:53	SM 4500 NO2 B	M2
Total Kjeldahl Nitrogen	**51600**	3880	mg/kg dry	1	B3L0257	12/09/13 09:15	12/09/13 15:12	EPA 351.2	
Total Phosphorous	**27100**	9690	mg/kg dry	1	B3L0340	12/11/13 10:00	12/11/13 16:55	EPA 365.3	M1
Total Fixed Solids	**39**	1	%	1	B3L0185	12/05/13 15:50	12/05/13 15:50	SM 2540 G	
% Solids	**26**	1	%	1	B3L0185	12/05/13 15:50	12/05/13 15:50	SM 2540 G	
Total Volatile Solids	**61**	1	%	1	B3L0185	12/05/13 15:50	12/05/13 15:50	SM 2540 G	

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3L0247 - EPA 3050B Dry										
Blank (B3L0247-BLK1)				*Prepared: 12/09/13 Analyzed: 12/10/13*						
Arsenic	<0.20	0.20	mg/kg wet							
Cadmium	<0.004	0.004	mg/kg wet							
Chromium	<0.005	0.005	mg/kg wet							
Copper	<0.01	0.01	mg/kg wet							
Lead	<0.100	0.100	mg/kg wet							
Molybdenum	<0.02	0.02	mg/kg wet							
Nickel	<0.02	0.02	mg/kg wet							
Selenium	<0.2	0.2	mg/kg wet							
Zinc	<0.02	0.02	mg/kg wet							
LCS (B3L0247-BS1)				*Prepared: 12/09/13 Analyzed: 12/10/13*						
Arsenic	1.99	0.20	mg/kg wet	2.00		99	85-115			
Cadmium	0.389	0.004	mg/kg wet	0.400		97	85-115			
Chromium	0.516	0.005	mg/kg wet	0.500		103	85-115			
Copper	1.01	0.01	mg/kg wet	1.00		101	85-115			
Lead	0.959	0.100	mg/kg wet	1.00		96	85-115			
Molybdenum	0.21	0.02	mg/kg wet	0.200		104	85-115			
Nickel	0.99	0.02	mg/kg wet	1.00		99	85-115			
Selenium	1.0	0.2	mg/kg wet	1.00		98	85-115			
Zinc	0.96	0.02	mg/kg wet	1.00		96	85-115			
LCS Dup (B3L0247-BSD1)				*Prepared: 12/09/13 Analyzed: 12/10/13*						
Arsenic	1.95	0.20	mg/kg wet	2.00		97	85-115	2	20	
Cadmium	0.382	0.004	mg/kg wet	0.400		96	85-115	2	20	
Chromium	0.508	0.005	mg/kg wet	0.500		102	85-115	2	20	
Copper	0.99	0.01	mg/kg wet	1.00		99	85-115	2	20	
Lead	0.942	0.100	mg/kg wet	1.00		94	85-115	2	20	
Molybdenum	0.20	0.02	mg/kg wet	0.200		102	85-115	1	20	
Nickel	0.97	0.02	mg/kg wet	1.00		97	85-115	2	20	
Selenium	1.0	0.2	mg/kg wet	1.00		97	85-115	2	20	
Zinc	0.95	0.02	mg/kg wet	1.00		95	85-115	2	20	

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3L0247 - EPA 3050B Dry										
Matrix Spike (B3L0247-MS2)		**Source: 3120303-01**		*Prepared: 12/09/13 Analyzed: 12/10/13*						
Arsenic	311	31.0	mg/kg dry	310	5.20	98	75-125			
Cadmium	58.1	0.620	mg/kg dry	62.0	2.88	89	75-125			
Chromium	107	0.775	mg/kg dry	77.5	33.4	95	75-125			
Copper	785	1.55	mg/kg dry	155	642	93	75-125			
Lead	155	15.5	mg/kg dry	155	20.9	86	75-125			
Molybdenum	49.5	3.10	mg/kg dry	31.0	19.9	95	75-125			
Nickel	168	3.10	mg/kg dry	155	29.4	90	75-125			
Selenium	147	31.0	mg/kg dry	155	<31.0	95	75-125			
Zinc	1020	3.10	mg/kg dry	155	913	70	75-125			M2
Matrix Spike Dup (B3L0247-MSD2)		**Source: 3120303-01**		*Prepared: 12/09/13 Analyzed: 12/10/13*						
Arsenic	315	31.0	mg/kg dry	310	5.20	100	75-125	1	20	
Cadmium	58.9	0.620	mg/kg dry	62.0	2.88	90	75-125	1	20	
Chromium	108	0.775	mg/kg dry	77.5	33.4	96	75-125	0.8	20	
Copper	794	1.55	mg/kg dry	155	642	98	75-125	1	20	
Lead	157	15.5	mg/kg dry	155	20.9	88	75-125	1	20	
Molybdenum	50.0	3.10	mg/kg dry	31.0	19.9	97	75-125	1	20	
Nickel	170	3.10	mg/kg dry	155	29.4	91	75-125	0.9	20	
Selenium	148	31.0	mg/kg dry	155	<31.0	95	75-125	0.7	20	
Zinc	1030	3.10	mg/kg dry	155	913	78	75-125	1	20	
Batch B3L0317 - EPA 7471A Prep										
Blank (B3L0317-BLK1)				*Prepared & Analyzed: 12/11/13*						
Mercury	<0.0004	0.0004	mg/kg wet							
LCS (B3L0317-BS1)				*Prepared & Analyzed: 12/11/13*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		101	85-115			

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3L0317 - EPA 7471A Prep										
LCS Dup (B3L0317-BSD1)				*Prepared & Analyzed: 12/11/13*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		99	85-115	1	20	
Matrix Spike (B3L0317-MS1)		**Source: 3120303-01**		*Prepared & Analyzed: 12/11/13*						
Mercury	3.79	0.26	mg/kg dry	2.58	1.17	101	85-115			
Matrix Spike Dup (B3L0317-MSD1)		**Source: 3120303-01**		*Prepared & Analyzed: 12/11/13*						
Mercury	3.50	0.26	mg/kg dry	2.58	1.17	90	85-115	8	20	

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3L0185 - NO PREP										
Blank (B3L0185-BLK1)				*Prepared & Analyzed: 12/05/13*						
% Solids	<1	1	%							
Total Fixed Solids	<1	1	%							
Total Volatile Solids	<1	1	%							
Duplicate (B3L0185-DUP1)		**Source: 3120303-01**		*Prepared & Analyzed: 12/05/13*						
% Solids	26	1	%		26			2	5	
Total Fixed Solids	39	1	%		39			1	5	
Total Volatile Solids	61	1	%		61			0.7	5	
Batch B3L0190 - NO PREP										
Blank (B3L0190-BLK1)				*Prepared & Analyzed: 12/06/13*						
Nitrate + Nitrite as N	<0.20	0.20	mg/kg wet							
LCS (B3L0190-BS1)				*Prepared & Analyzed: 12/06/13*						
Nitrate + Nitrite as N	10.3	0.20	mg/kg wet	10.0		103	90-110			
LCS Dup (B3L0190-BSD1)				*Prepared & Analyzed: 12/06/13*						
Nitrate + Nitrite as N	10.3	0.20	mg/kg wet	10.0		103	90-110	0	20	
Matrix Spike (B3L0190-MS1)		**Source: 3120303-01**		*Prepared & Analyzed: 12/06/13*						
Nitrate + Nitrite as N	430	7.75	mg/kg dry	388	1.08	111	80-120			
Matrix Spike Dup (B3L0190-MSD1)		**Source: 3120303-01**		*Prepared & Analyzed: 12/06/13*						
Nitrate + Nitrite as N	422	7.75	mg/kg dry	388	1.08	109	80-120	2	20	

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3L0244 - NO PREP										
Blank (B3L0244-BLK1)				*Prepared & Analyzed: 12/09/13*						
Nitrite as N	<0.1	0.1	mg/kg dry wt. wet							
LCS (B3L0244-BS1)				*Prepared & Analyzed: 12/09/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		102	80-120			
LCS Dup (B3L0244-BSD1)				*Prepared & Analyzed: 12/09/13*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		102	80-120	0	20	
Matrix Spike (B3L0244-MS1)		**Source: 3120303-01**		*Prepared & Analyzed: 12/09/13*						
Nitrite as N	5.1	3.9	mg/kg dry wt. dry	7.75	0.6	58	80-120			M2
Matrix Spike Dup (B3L0244-MSD1)		**Source: 3120303-01**		*Prepared & Analyzed: 12/09/13*						
Nitrite as N	5.1	3.9	mg/kg dry wt. dry	7.75	0.6	58	80-120	0.9	20	M2
Batch B3L0257 - NO PREP										
Blank (B3L0257-BLK1)				*Prepared & Analyzed: 12/09/13*						
Total Kjeldahl Nitrogen	<1.00	1.00	mg/kg wet							
LCS (B3L0257-BS1)				*Prepared & Analyzed: 12/09/13*						
Total Kjeldahl Nitrogen	5.02	1.00	mg/kg wet	5.00		100	90-110			
LCS Dup (B3L0257-BSD1)				*Prepared & Analyzed: 12/09/13*						
Total Kjeldahl Nitrogen	4.81	1.00	mg/kg wet	5.00		96	90-110	4	20	
Matrix Spike (B3L0257-MS1)		**Source: 3120303-01**		*Prepared & Analyzed: 12/09/13*						
Total Kjeldahl Nitrogen	72100	3880	mg/kg dry	19400	51600	106	90-110			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3L0257 - NO PREP										
Matrix Spike Dup (B3L0257-MSD1)		**Source: 3120303-01**		*Prepared & Analyzed: 12/09/13*						
Total Kjeldahl Nitrogen	71300	3880	mg/kg dry	19400	51600	102	90-110	1	20	
Batch B3L0309 - NO PREP										
Blank (B3L0309-BLK1)				*Prepared & Analyzed: 12/11/13*						
Ammonia as N	<1.00	1.00	mg/kg wet							
LCS (B3L0309-BS1)				*Prepared & Analyzed: 12/11/13*						
Ammonia as N	10.2	1.00	mg/kg wet	10.0		102	90-110			
LCS Dup (B3L0309-BSD1)				*Prepared & Analyzed: 12/11/13*						
Ammonia as N	10.0	1.00	mg/kg wet	10.0		100	90-110	2	20	
Matrix Spike (B3L0309-MS1)		**Source: 3120303-01**		*Prepared & Analyzed: 12/11/13*						
Ammonia as N	7020	388	mg/kg dry	3880	3200	98	90-110			
Matrix Spike Dup (B3L0309-MSD1)		**Source: 3120303-01**		*Prepared & Analyzed: 12/11/13*						
Ammonia as N	7050	388	mg/kg dry	3880	3200	100	90-110	0.6	20	
Batch B3L0340 - NO PREP										
Blank (B3L0340-BLK1)				*Prepared & Analyzed: 12/11/13*						
Total Phosphorous	<0.05	0.05	mg/kg wet							
LCS (B3L0340-BS1)				*Prepared & Analyzed: 12/11/13*						
Total Phosphorous	0.10	0.05	mg/kg wet	0.100		96	90-110			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3L0340 - NO PREP										
LCS Dup (B3L0340-BSD1)				*Prepared & Analyzed: 12/11/13*						
Total Phosphorous	0.10	0.05	mg/kg wet	0.100		96	90-110	0	20	
Matrix Spike (B3L0340-MS1)		**Source: 3120303-01**		*Prepared & Analyzed: 12/11/13*						
Total Phosphorous	65100	9690	mg/kg dry	19400	27100	196	90-110			M1
Matrix Spike Dup (B3L0340-MSD1)		**Source: 3120303-01**		*Prepared & Analyzed: 12/11/13*						
Total Phosphorous	64800	9690	mg/kg dry	19400	27100	194	90-110	0.5	20	M1

Notes and Definitions

M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
M1	Matrix spike recovery was high; the method control sample recovery was acceptable.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

3120303

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center	Sampler/s: Plant Operators	Type of Sampling Equipment/How sample obtained/other sampling notes:
Contact Name: Richard Pitchford	Contact Name: Richard Pitchford	30 Day Composite from Daily Grab Samples.
Phone: (858) 614-5509	Phone: (858) 614-5509	

Sample Information: (All information is required) Number of attachments: 1

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)
11/01 - 11/30 2013 / 2400	OPR	MBCDEWN	Dewatered Sludge Cake	1000	1	Plastic Bag	ICE	See Attached	P687315 -01

Chain-of-Custody

Relinquished by: Lee N. King Name: Sign:	Received by: Name: George Wendorf Sign:	Date & Time 12/2/13 930 hrs Location: MBC A51 Lab	Comments 5.3C
Relinquished by: Name: George Wendorf Sign:	Received by: Legend Lab Name: Kristi Peterson Sign:	Date & Time Location: 12/3/13 1150	
Relinquished by: Name: Sign:	Received by: Name: Sign:	Date & Time Location:	

See instructions, on reverse, for completing this form.

Original - retained by Lab.
1st copy - Transporter
Last copy - for sample originator

3120303

CITY OF SAN DIEGO
Public Utilities Department
Wastewater Treatment and Disposal

DATE: December 2, 2013

TO: Legend Technical Services of Arizona, Inc.

FROM: Metropolitan Biosolids Center
Attn: Richard Pitchford

SUBJECT: Lab Analysis of the following listed samples.

Please perform the following Analysis listed for the samples supplied.
If there are questions, please contact:

George Wendorf
Wastewater Plant Operator at the Metropolitan Biosolids Center.
(858) 614-5821
gwendorf@sandiego.gov

Analysis to be performed:

Log Number

P687315: MBC, Dewatered Sludge Cake
Fixed.
Metals: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Zinc, Phosphorus and Nitrogen Series: KJELDAHL Nitrogen, Ammonium Nitrogen, Nitrate, Nitrite, Organic Nitrogen.

LEGEND
Technical Services, Inc.
www.legend-group.com

17631 North 25th Avenue • Phoenix, AZ 85023
P (602) 324-6100 • F (602) 324-6101

10 January 2014

Barry Ayers
City of San Diego, Metro Biosolids Center
5240 Convoy St.
San Diego, CA 92111-1227

RE: Monthly Biosolids Analysis

Laboratory Work Order No.: 4010138

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 01/03/14 11:30.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

Lisa Parrish

Lisa Parrish
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
MBCDEWN (Dewatered Sludge Cake) P690536	4010138-01	Solid (Dry Weight)	Composite	12/31/13 23:59	01/03/14 11:30

Sample Condition Upon Receipt:

Temperature: 4.60 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.

Comments: There were no problems encountered during the processing of the samples, unless otherwise noted. All samples were analyzed on a "wet" basis unless designated as "dry weight".

MBCDEWN (Dewatered Sludge Cake) P690536 (4010138-01) Solid (Dry Weight) (Composite) Sampled: 12/31/13 23:59 Received: 01/03/14 11:30

Legend Technical Services of Arizona, Inc.

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Metals									
Arsenic	<29.5	29.5	mg/kg dry	2	B4A0104	01/07/14 09:30	01/07/14 15:17	EPA 6010B	
Cadmium	**2.22**	0.590	mg/kg dry	2	B4A0104	01/07/14 09:30	01/07/14 15:17	EPA 6010B	
Chromium	**36.8**	0.738	mg/kg dry	2	B4A0104	01/07/14 09:30	01/07/14 15:17	EPA 6010B	
Copper	**620**	1.48	mg/kg dry	2	B4A0104	01/07/14 09:30	01/07/14 15:17	EPA 6010B	
Lead	**19.3**	14.8	mg/kg dry	2	B4A0104	01/07/14 09:30	01/07/14 15:17	EPA 6010B	
Mercury	**1.1**	0.25	mg/kg dry	1	B4A0210	01/09/14 11:45	01/09/14 15:08	EPA 7471A	
Molybdenum	**17.2**	2.95	mg/kg dry	2	B4A0104	01/07/14 09:30	01/07/14 15:17	EPA 6010B	
Nickel	**31.2**	2.95	mg/kg dry	2	B4A0104	01/07/14 09:30	01/07/14 15:17	EPA 6010B	
Selenium	<29.5	29.5	mg/kg dry	2	B4A0104	01/07/14 09:30	01/07/14 15:17	EPA 6010B	
Zinc	**847**	2.95	mg/kg dry	2	B4A0104	01/07/14 09:30	01/07/14 15:17	EPA 6010B	
Inorganic Chemistry									
Nitrate as N	**12.0**	7.38	mg/kg dry	1	[CALC]	01/07/14 11:50	01/08/14 16:40	Calculation	
Organic Nitrogen	**51000**	3690	mg/kg dry	10	[CALC]	01/07/14 11:50	01/08/14 10:38	Calculation	
Total Nitrogen	**53100**	3690	mg/kg dry	1	[CALC]	01/07/14 11:50	01/07/14 11:50	Calculation	
Ammonia as N	**2150**	369	mg/kg dry	10	B4A0151	01/08/14 10:38	01/08/14 10:38	EPA 350.1	
Nitrate + Nitrite as N	**12.0**	7.38	mg/kg dry	1	B4A0121	01/07/14 11:50	01/07/14 11:50	SM 4500 NO3 F	
Nitrite as N	<3.7	3.7	mg/kg dry wt. dry	1	B4A0170	01/08/14 16:40	01/08/14 16:40	SM 4500 NO2 B	M2
Total Kjeldahl Nitrogen	**53100**	3690	mg/kg dry	1	B4A0106	01/06/14 10:10	01/06/14 13:28	EPA 351.2	
Total Phosphorous	**44500**	9230	mg/kg dry	1	B4A0162	01/08/14 10:00	01/08/14 14:30	EPA 365.3	M2
Total Fixed Solids	**38**	1	%	1	B4A0109	01/06/14 15:45	01/06/14 15:45	SM 2540 G	
% Solids	**27**	1	%	1	B4A0109	01/06/14 15:45	01/06/14 15:45	SM 2540 G	
Total Volatile Solids	**62**	1	%	1	B4A0109	01/06/14 15:45	01/06/14 15:45	SM 2540 G	

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4A0104 - EPA 3050B Dry										
Blank (B4A0104-BLK1)				*Prepared & Analyzed: 01/07/14*						
Arsenic	<0.20	0.20	mg/kg wet							
Cadmium	<0.004	0.004	mg/kg wet							
Chromium	<0.005	0.005	mg/kg wet							
Copper	<0.01	0.01	mg/kg wet							
Lead	<0.100	0.100	mg/kg wet							
Molybdenum	<0.02	0.02	mg/kg wet							
Nickel	<0.02	0.02	mg/kg wet							
Selenium	<0.2	0.2	mg/kg wet							
Zinc	<0.02	0.02	mg/kg wet							
LCS (B4A0104-BS1)				*Prepared & Analyzed: 01/07/14*						
Arsenic	1.87	0.20	mg/kg wet	2.00		94	85-115			
Cadmium	0.378	0.004	mg/kg wet	0.400		94	85-115			
Chromium	0.489	0.005	mg/kg wet	0.500		98	85-115			
Copper	0.96	0.01	mg/kg wet	1.00		96	85-115			
Lead	0.938	0.100	mg/kg wet	1.00		94	85-115			
Molybdenum	0.20	0.02	mg/kg wet	0.200		101	85-115			
Nickel	0.95	0.02	mg/kg wet	1.00		95	85-115			
Selenium	1.0	0.2	mg/kg wet	1.00		95	85-115			
Zinc	0.93	0.02	mg/kg wet	1.00		93	85-115			
LCS Dup (B4A0104-BSD1)				*Prepared & Analyzed: 01/07/14*						
Arsenic	1.80	0.20	mg/kg wet	2.00		90	85-115	4	20	
Cadmium	0.364	0.004	mg/kg wet	0.400		91	85-115	4	20	
Chromium	0.470	0.005	mg/kg wet	0.500		94	85-115	4	20	
Copper	0.92	0.01	mg/kg wet	1.00		92	85-115	4	20	
Lead	0.906	0.100	mg/kg wet	1.00		91	85-115	3	20	
Molybdenum	0.19	0.02	mg/kg wet	0.200		97	85-115	4	20	
Nickel	0.91	0.02	mg/kg wet	1.00		91	85-115	4	20	
Selenium	0.9	0.2	mg/kg wet	1.00		92	85-115	3	20	
Zinc	0.90	0.02	mg/kg wet	1.00		90	85-115	4	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4A0104 - EPA 3050B Dry										
Matrix Spike (B4A0104-MS2)		**Source: 4010101-03**		*Prepared & Analyzed: 01/07/14*						
Arsenic	394	36.0	mg/kg dry	360	39.4	98	75-125			
Cadmium	68.0	0.721	mg/kg dry	72.1	0.794	93	75-125			
Chromium	144	0.901	mg/kg dry	90.1	55.7	98	75-125			
Copper	441	1.80	mg/kg dry	180	259	101	75-125			
Lead	169	18.0	mg/kg dry	180	5.65	91	75-125			
Molybdenum	42.9	3.60	mg/kg dry	36.0	7.21	99	75-125			
Nickel	178	3.60	mg/kg dry	180	9.36	94	75-125			
Selenium	192	36.0	mg/kg dry	180	7.6	102	75-125			
Zinc	696	3.60	mg/kg dry	180	530	92	75-125			
Matrix Spike Dup (B4A0104-MSD2)		**Source: 4010101-03**		*Prepared & Analyzed: 01/07/14*						
Arsenic	385	36.0	mg/kg dry	360	39.4	96	75-125	2	20	
Cadmium	66.6	0.721	mg/kg dry	72.1	0.794	91	75-125	2	20	
Chromium	141	0.901	mg/kg dry	90.1	55.7	95	75-125	2	20	
Copper	430	1.80	mg/kg dry	180	259	95	75-125	2	20	
Lead	166	18.0	mg/kg dry	180	5.65	89	75-125	2	20	
Molybdenum	41.9	3.60	mg/kg dry	36.0	7.21	96	75-125	2	20	
Nickel	175	3.60	mg/kg dry	180	9.36	92	75-125	2	20	
Selenium	188	36.0	mg/kg dry	180	7.6	100	75-125	2	20	
Zinc	681	3.60	mg/kg dry	180	530	84	75-125	2	20	
Batch B4A0210 - EPA 7471A Prep										
Blank (B4A0210-BLK1)				*Prepared & Analyzed: 01/09/14*						
Mercury	<0.0004	0.0004	mg/kg wet							
LCS (B4A0210-BS1)				*Prepared & Analyzed: 01/09/14*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		98	85-115			

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4A0210 - EPA 7471A Prep										
LCS Dup (B4A0210-BSD1)				*Prepared & Analyzed: 01/09/14*						
Mercury	0.004	0.0004	mg/kg wet	0.00400		100	85-115	2	20	
Matrix Spike (B4A0210-MS1)		**Source: 3122288-01**		*Prepared & Analyzed: 01/09/14*						
Mercury	17.1	1.8	mg/kg dry	17.5	<1.8	97	85-115			
Matrix Spike Dup (B4A0210-MSD1)		**Source: 3122288-01**		*Prepared & Analyzed: 01/09/14*						
Mercury	17.0	1.8	mg/kg dry	17.5	<1.8	97	85-115	0.6	20	

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4A0106 - NO PREP										
Blank (B4A0106-BLK1)				*Prepared & Analyzed: 01/06/14*						
Total Kjeldahl Nitrogen	<1.00	1.00	mg/kg wet							
LCS (B4A0106-BS1)				*Prepared & Analyzed: 01/06/14*						
Total Kjeldahl Nitrogen	4.96	1.00	mg/kg wet	5.00		99	90-110			
LCS Dup (B4A0106-BSD1)				*Prepared & Analyzed: 01/06/14*						
Total Kjeldahl Nitrogen	4.95	1.00	mg/kg wet	5.00		99	90-110	0.2	20	
Matrix Spike (B4A0106-MS1)		**Source: 4010101-03**		*Prepared & Analyzed: 01/06/14*						
Total Kjeldahl Nitrogen	110000	9010	mg/kg dry	22500	89200	92	90-110			
Matrix Spike Dup (B4A0106-MSD1)		**Source: 4010101-03**		*Prepared & Analyzed: 01/06/14*						
Total Kjeldahl Nitrogen	110000	9010	mg/kg dry	22500	89200	92	90-110	0	20	
Batch B4A0109 - NO PREP										
Blank (B4A0109-BLK1)				*Prepared & Analyzed: 01/06/14*						
% Solids	<1	1	%							
Total Fixed Solids	<1	1	%							
Total Volatile Solids	<1	1	%							
Duplicate (B4A0109-DUP1)		**Source: 4010138-01**		*Prepared & Analyzed: 01/06/14*						
% Solids	27	1	%		27			0	5	
Total Fixed Solids	39	1	%		38			1	5	
Total Volatile Solids	61	1	%		62			0.8	5	

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4A0121 - NO PREP										
Blank (B4A0121-BLK1)				*Prepared & Analyzed: 01/07/14*						
Nitrate + Nitrite as N	<0.20	0.20	mg/kg wet							
LCS (B4A0121-BS1)				*Prepared & Analyzed: 01/07/14*						
Nitrate + Nitrite as N	10.4	0.20	mg/kg wet	10.0		104	90-110			
LCS Dup (B4A0121-BSD1)				*Prepared & Analyzed: 01/07/14*						
Nitrate + Nitrite as N	10.2	0.20	mg/kg wet	10.0		102	90-110	2	20	
Matrix Spike (B4A0121-MS1)		**Source: 4010101-03**		*Prepared & Analyzed: 01/07/14*						
Nitrate + Nitrite as N	455	9.01	mg/kg dry	450	5.41	100	80-120			
Matrix Spike Dup (B4A0121-MSD1)		**Source: 4010101-03**		*Prepared & Analyzed: 01/07/14*						
Nitrate + Nitrite as N	464	9.01	mg/kg dry	450	5.41	102	80-120	2	20	
Batch B4A0151 - NO PREP										
Blank (B4A0151-BLK1)				*Prepared & Analyzed: 01/08/14*						
Ammonia as N	<1.00	1.00	mg/kg wet							
LCS (B4A0151-BS1)				*Prepared & Analyzed: 01/08/14*						
Ammonia as N	10.0	1.00	mg/kg wet	10.0		100	90-110			
LCS Dup (B4A0151-BSD1)				*Prepared & Analyzed: 01/08/14*						
Ammonia as N	10.1	1.00	mg/kg wet	10.0		101	90-110	1	20	
Matrix Spike (B4A0151-MS1)		**Source: 3122288-01**		*Prepared & Analyzed: 01/08/14*						
Ammonia as N	8110	526	mg/kg dry	5260	2790	101	90-110			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4A0151 - NO PREP										
Matrix Spike Dup (B4A0151-MSD1)		**Source: 3122288-01**		*Prepared & Analyzed: 01/08/14*						
Ammonia as N	8110	526	mg/kg dry	5260	2790	101	90-110	0	20	
Batch B4A0162 - NO PREP										
Blank (B4A0162-BLK1)				*Prepared & Analyzed: 01/08/14*						
Total Phosphorous	<0.05	0.05	mg/kg wet							
LCS (B4A0162-BS1)				*Prepared & Analyzed: 01/08/14*						
Total Phosphorous	0.11	0.05	mg/kg wet	0.100		106	90-110			
LCS Dup (B4A0162-BSD1)				*Prepared & Analyzed: 01/08/14*						
Total Phosphorous	0.11	0.05	mg/kg wet	0.100		106	90-110	0.4	20	
Matrix Spike (B4A0162-MS1)		**Source: 4010138-01**		*Prepared & Analyzed: 01/08/14*						
Total Phosphorous	56300	9230	mg/kg dry	18500	44500	64	90-110			M2
Matrix Spike Dup (B4A0162-MSD1)		**Source: 4010138-01**		*Prepared & Analyzed: 01/08/14*						
Total Phosphorous	55800	9230	mg/kg dry	18500	44500	61	90-110	0.8	20	M2
Batch B4A0170 - NO PREP										
Blank (B4A0170-BLK1)				*Prepared & Analyzed: 01/08/14*						
Nitrite as N	<0.1	0.1	mg/kg dry wt. wet							
LCS (B4A0170-BS1)				*Prepared & Analyzed: 01/08/14*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		108	80-120			

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4A0170 - NO PREP										
LCS Dup (B4A0170-BSD1)				*Prepared & Analyzed: 01/08/14*						
Nitrite as N	0.2	0.1	mg/kg dry wt. wet	0.200		106	80-120	1	20	
Matrix Spike (B4A0170-MS1)		**Source: 4010138-01**		*Prepared & Analyzed: 01/08/14*						
Nitrite as N	6.4	3.7	mg/kg dry wt. dry	7.38	1.0	73	80-120			M2
Matrix Spike Dup (B4A0170-MSD1)		**Source: 4010138-01**		*Prepared & Analyzed: 01/08/14*						
Nitrite as N	6.5	3.7	mg/kg dry wt. dry	7.38	1.0	74	80-120	0.7	20	M2

Notes and Definitions

M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

4010138

CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
ENVIRONMENTAL MONITORING & TECHNICAL SERVICES DIVISION
WASTEWATER CHEMISTRY LABORATORY
5530 Kiowa Drive
La Mesa, Ca 91942
(619) 668-3215

SAMPLING REPORT & CHAIN OF CUSTODY RECORD

Project/Client: Metro Biosolids Center Contact Name: Richard Pitchford Phone: (858) 614-5509	Sampler/s: Plant Operators Contact Name: Richard Pitchford Phone: (858) 614-5509	Type of Sampling Equipment/How sample obtained/other sampling notes: 30 Day Composite from Daily Grab Samples.

Sample Information: (All information is required) Number of attachments: 1

Date/Time Sample Taken	Sampler	Source / Location	Sample Type/Description Grab / Composite	Total Vol/wt mLs / Gms	Number of Containers	Container Type	Preservative	Analyses Requested	Sample Log Number (Lab use only)
12/01 - 12/31 2013 / 2400	OPR	MBCDEWN	Dewatered Sludge Cake	1000	1	Plastic Bag	ICE	See Attached	P690536

Chain-of-Custody

Relinquished by:	Received by:	Date & Time / Location:	Comments
Name: Keith Ruehmeln Sign:	Name: George Wendorf Sign:	1/2/14 @ 1200 MBC A51 Lab	4-6°C
Relinquished by: Name: George Wendorf Sign:	Received by: Name: Courier Sign:	Date & Time Location:	
Relinquished by: Name: Courier Sign:	Received by: Name: Clifford Lmcfivin Sign:	Date & Time 1/3/14 1130 Location: Legend Lab	

See instructions, on reverse, for completing this form.

Original - retained by Lab
1st copy - Transporter
Last copy - for sample originator

4010138

City of San Diego
PUBLIC UTILITIES
Water & Wastewater

CITY OF SAN DIEGO
Public Utilities Department
Wastewater Treatment and Disposal

DATE: January 2, 2014

TO: Legend Technical Services of Arizona, Inc.

FROM: Metropolitan Biosolids Center
Attn: Richard Pitchford

SUBJECT: Lab Analysis of the following listed samples.

Please perform the following Analysis listed for the samples supplied.
If there are questions, please contact:

George Wendorf
Wastewater Plant Operator at the Metropolitan Biosolids Center.
(858) 614-5821
gwendorf@sandiego.gov

Analysis to be performed:

Log Number

P690536: MBC, Dewatered Sludge Cake
% - TS, VS, Fixed.
Metals: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Zinc, Phosphorus and Nitrogen Series: KJELDAHL Nitrogen, Ammonium Nitrogen, Nitrate, Nitrite, Organic Nitrogen.