

Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

***RESEARCH AND DEVELOPMENT
DEPARTMENT***

REPORT NO. 07-75

LAWNDALE AVENUE SOLIDS MANAGEMENT AREA

MONITORING REPORT FOR

THIRD QUARTER 2007

NOVEMBER 2007

Metropolitan Water Reclamation District of Greater Chicago

100 EAST ERIE STREET CHICAGO, ILLINOIS 60611-3154 312-751-5600

Louis Kollias, P.E., BCEE
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312-751-5190

November 29, 2007

Mr. S. Alan Keller, P.E.
Manager, Permit Section
Illinois Environmental
Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Dear Mr. Keller:

Subject: Lawndale Avenue Solids Management Area - Stickney WRP, Contract No. 80-159-2P, IEPA Permit No. 2005-AO-4283, Monitoring Report for July, August, and September 2007

The attached nine tables contain the monitoring data for the Lawndale Avenue Solids Management Area for July, August, and September 2007 as required by IEPA Operating Permit No. 2005-AO-4283. In a letter dated January 19, 2007, the IEPA granted permission to terminate the monitoring of lysimeters L-7 and L-8. Therefore, monitoring data for these lysimeters will not be included in this and subsequent reports.

The data reported are as follows:

Table 1, Analysis of Water from Monitoring Wells M-11 through M-15 at the Lawndale Avenue Solids Management Area Sampled on July 18, 2007

Table 2, Analysis of Water from Lysimeters L-1 through L-9N at the Lawndale Avenue Solids Management Area Sampled on July 18, 2007

Table 3, Analysis of Water from Lysimeters L-1 through L-9N at the Lawndale Avenue Solids Management Area Sampled on August 1, 2007

Table 4, Analysis of Water from Lysimeters L-1 through L-9N at the Lawndale Avenue Solids Management Area Sampled on September 12, 2007

Table 5, Analysis of Monthly Compositing Digested Biosolids Placed in the Lawndale Avenue Solids Management Drying Area During July 2007

Subject: Lawndale Avenue Solids Management Area - Stickney WRP, Contract No. 80-159-2P, IEPA Permit No. 2005-AO-4283, Monitoring Report for July, August, and September 2007

Table 6, Analysis of Monthly Compositated Digested Biosolids Placed in the Lawndale Avenue Solids Management Drying Area During September 2007

Table 7, Analysis of Monthly Compositated Processed Digested Biosolids Removed from the Lawndale Avenue Solids Management Drying Area During July 2007

Table 8, Analysis of Monthly Compositated Processed Digested Biosolids Removed from the Lawndale Avenue Solids Management Drying Area During August 2007

Table 9, Analysis of Monthly Compositated Processed Digested Biosolids Removed from the Lawndale Avenue Solids Management Drying Area During September 2007

Biosolids were placed in the solids drying area during July and September 2007. Biosolids were removed from the solids drying area during July, August, and September 2007.

Very truly yours,

Louis Kollias
Director
Research and Development

LK:PL:spy
Attachments

cc w/att: Mr. Sulski, IEPA
Records Unit, IEPA
Stuba/Granato/Cox/Lindo/M. Patel

cc wo/att: Sharma/Garelli/Jamjun/Conway

TABLE 1: ANALYSIS OF WATER FROM MONITORING WELLS
M-11 THROUGH M-15 AT THE LAWNSDALE AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON JULY 18, 2007

Parameter	Unit	Monitoring Well No.				
		M-11	M-12	M-13	M-14	M-15
pH ¹		7.2	7.6	8.1	7.8	8.0
EC	mS/m	46	65	90	59	99
Total Diss. Org. Carbon	mg/L	1	1	1	1	2
Cl ⁻	"	11	17	13	12	12
SO ₄ ⁼	"	168	305	539	106	710
TKN	"	1.3	0.20	0.41	0.16	0.44
NH ₃ -N	"	1.2	0.20	0.41	0.18	0.42
NO ₂ + NO ₃ -N	"	0.03	0.10	<0.02	0.08	0.04
Total P	"	<0.05	<0.05	<0.05	<0.05	<0.05
Alkalinity as CaCO ₃	"	369	307	336	337	369
Al	"	0.017	0.009	0.026	0.009	0.034
As	"	<0.01	<0.01	<0.01	<0.01	<0.01
B	"	1.37	1.84	1.56	1.35	1.24
Ca	"	93	78	166	73	240
Cd	"	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Cr	"	0.0007	0.0006	0.0007	0.0005	0.0008
Cu	"	<0.002	<0.002	<0.002	<0.002	<0.002
Fe	"	0.097	0.039	0.243	0.065	0.627
Hg	μg/L	<0.05	<0.05	<0.05	<0.05	<0.05
K	mg/L	8	10	10	8	10
Mg	"	43.5	36.9	78.2	39.8	106
Mn	"	0.0259	0.0039	0.0084	0.0036	0.0261
Na	"	56	132	90	41	63
Ni	"	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Pb	"	<0.004	<0.004	<0.004	<0.004	<0.004
Se	"	<0.02	<0.02	<0.02	<0.02	<0.02
Zn	"	2.37	1.11	0.874	1.28	4.87
FC	MPN*	<1	<1	<1	<1	<1
Static H ₂ O Elev.	ft	628	632	629	623	605

¹pH analyzed beyond recommended holding time of 15 minutes.

*MPN = Most probable number per 100 mL.

TABLE 2: ANALYSIS OF WATER FROM LYSIMETERS
L-1 THROUGH L-9N AT THE LAWNDALE AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON JULY 18, 2007

Parameter	Unit	Lysimeter No.				
		L-1	L-2	L-3	L-3N	L-4
pH ¹		7.4	7.8	7.5	7.4	6.9
EC	mS/m	176	274	142	247	356
Total Dissolved Solids	mg/L	1,568	2,280	1,172	1,868	4,120
Total Diss. Org. Carbon	"	7	4	6	20	11
Cl ⁻	"	79	505	204	150	73
SO ₄ ⁼	"	551	534	190	198	1,775
TKN	"	4.3	0.84	5.7	2.7	11
NH ₃ -N	"	3.9	<0.04	4.0	1.1	8.2
NO ₂ + NO ₃ -N	"	0.07	0.11	<0.02	0.09	0.03
Total P	"	<0.05	<0.10	2.1	0.57	0.39
Alkalinity as CaCO ₃	"	465	428	393	1,212	866
Al	"	0.029	0.050	0.019	0.047	0.055
As	"	<0.01	<0.02	<0.01	<0.01	<0.01
B	"	0.485	0.190	0.215	0.067	0.189
Ca	"	231	235	140	330	593
Cd	"	<0.0004	<0.0008	<0.0004	<0.0004	<0.0004
Cr	"	0.0012	0.0022	0.0015	0.0022	0.0019
Cu	"	<0.002	<0.004	<0.002	<0.002	<0.002
Fe	"	5.30	0.250	2.02	11.1	10.9
Hg	μg/L	<0.05	<0.10	0.06	0.10	0.08
K	mg/L	6	3	3	2	7
Mg	"	95.6	106	61.6	130	285
Mn	"	0.0889	0.0094	0.1382	0.7969	0.8081
Na	"	52	262	93	78	31
Ni	"	0.0040	0.0008	<0.0004	0.0014	<0.0004
Pb	"	<0.004	<0.008	<0.004	<0.004	<0.004
Se	"	<0.02	<0.04	<0.02	<0.02	<0.02
Zn	"	0.009	0.024	<0.002	0.018	0.003

TABLE 2 (Continued): ANALYSIS OF WATER FROM LYSIMETERS
L-1 THROUGH L-9N AT THE LAWNDALE AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON JULY 18, 2007

Parameter	Unit	Lysimeter No.				
		L-4N	L-5	L-5N	L-6	L-6N
pH ¹		7.5	8.1	7.6		7.4
EC	mS/m	358	84	448		262
Total Dissolved Solids	mg/L	3,556	1,360	4,988		3,332
Total Diss. Org. Carbon	"	6	4	2		52
Cl ⁻	"	74	64	898		89
SO ₄ ⁼	"	1,506	532	1,399		1,151
TKN	"	8.1	1.2	3.5		20
NH ₃ -N	"	6.7	0.04	1.9		16
NO ₂ + NO ₃ -N	"	0.27	0.75	0.06		0.13
Total P	"	<0.05	0.14	<0.05	L	<0.05
Alkalinity as CaCO ₃	"	734	288	515	Y	881
Al	"	0.054	0.044	0.043	S	0.052
As	"	<0.01	<0.02	<0.01	I	<0.01
B	"	0.132	0.766	0.333	M	0.192
Ca	"	564	164	476	E	601
Cd	"	<0.0004	<0.0008	0.0013	T	<0.0004
Cr	"	0.0018	0.0020	0.0016	E	0.0018
Cu	"	<0.002	0.010	<0.002	R	<0.002
Fe	"	7.54	0.406	5.15	D	27.7
Hg	μg/L	<0.05	<0.10	<0.05	R	<0.05
K	mg/L	7	4	22	Y	9
Mg	"	158	105	259		149
Mn	"	1.184	0.0194	0.2388		0.4593
Na	"	215	42	434		71
Ni	"	<0.0004	0.0010	0.0013		0.0098
Pb	"	<0.004	<0.008	<0.004		<0.004
Se	"	<0.02	<0.04	<0.02		<0.02
Zn	"	0.013	0.024	0.012		0.016

TABLE 2 (Continued): ANALYSIS OF WATER FROM LYSIMETERS
L-1 THROUGH L-9N AT THE LAWNDALE AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON JULY 18, 2007

Parameter	Unit	Lysimeter No.		
		L-7N	L-8N	L-9N
pH ¹		7.9	7.7	7.7
EC	mS/m	134	267	258
Total Dissolved Solids	mg/L	1,040	1,948	1,956
Total Diss. Org. Carbon	"	9	12	27
Cl ⁻	"	158	422	179
SO ₄ ⁼	"	108	173	260
TKN	"	2.8	5.1	3.1
NH ₃ -N	"	0.41	3.4	0.75
NO ₂ + NO ₃ -N	"	0.08	0.25	0.22
Total P	"	<0.05	<0.05	<0.05
Alkalinity as CaCO ₃	"	433	803	1,106
Al	"	0.025	0.028	0.025
As	"	<0.01	<0.01	<0.01
B	"	0.238	0.211	0.200
Ca	"	127	223	209
Cd	"	<0.0004	<0.0004	<0.0004
Cr	"	0.0011	0.0014	0.0019
Cu	"	<0.002	<0.002	<0.002
Fe	"	0.146	6.27	6.28
Hg	μg/L	<0.05	<0.05	<0.05
K	mg/L	7	5	6
Mg	"	68.7	111	113
Mn	"	0.0972	0.3144	0.2341
Na	"	66	192	270
Ni	"	0.0022	<0.0004	0.0015
Pb	"	<0.004	<0.004	<0.004
Se	"	<0.02	<0.02	<0.02
Zn	"	0.013	0.004	0.002

¹pH analyzed beyond recommended holding time of 15 minutes.

TABLE 3: ANALYSIS OF WATER FROM LYSIMETERS
L-1 THROUGH L-9N AT THE LAWNDALE AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON AUGUST 1, 2007

Parameter	Unit	Lysimeter No.				
		L-1	L-2	L-3	L-3N	L-4
pH ¹		7.4	8.0	7.8	7.4	7.1
EC	mS/m	172	336	132	261	365
Total Dissolved Solids	mg/L	1,402	NA	934	2,006	3,810
Total Diss. Org. Carbon	"	8	NA	6	23	13
Cl ⁻	"	53	551	208	154	71
SO ₄ ⁼	"	521	NA	86	222	1,695
TKN	"	5.2	0.92	4.0	2.8	11
NH ₃ -N	"	4.4	0.36	3.4	0.95	9.8
NO ₂ + NO ₃ -N	"	0.06	0.18	<0.02	0.15	0.07
Total P	"	<0.05	<0.10	2.5	0.41	0.35
Alkalinity as CaCO ₃	"	477	408	338	1,262	882
Al	"	0.032	0.032	0.009	0.039	0.052
As	"	<0.01	<0.02	<0.01	<0.01	<0.01
B	"	0.528	0.234	0.234	0.071	0.205
Ca	"	216	276	105	361	589
Cd	"	0.0008	0.0016	0.0008	0.0015	0.0010
Cr	"	0.0008	0.0012	0.0009	0.0015	<0.0005
Cu	"	<0.002	<0.004	<0.002	<0.002	<0.002
Fe	"	4.81	1.09	0.581	11.5	14.9
Hg	μg/L	<0.05	<0.10	<0.05	<0.05	<0.05
K	mg/L	6	6	3	2	8
Mg	"	91.4	133	46.7	141	257
Mn	"	0.0758	0.0464	0.0702	0.8463	0.8539
Na	"	44	295	97	79	25
Ni	"	0.0021	<0.0008	<0.0004	0.0022	0.0004
Pb	"	<0.004	<0.008	<0.004	<0.004	<0.004
Se	"	<0.02	<0.04	<0.02	<0.02	<0.02
Zn	"	0.007	0.008	0.004	0.031	0.004

TABLE 3 (Continued): ANALYSIS OF WATER FROM LYSIMETERS
L-1 THROUGH L-9N AT THE LAWNDALE AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON AUGUST 1, 2007

Parameter	Unit	Lysimeter No.				
		L-4N	L-5	L-5N	L-6	L-6N
pH ¹			7.7	7.5		7.3
EC	mS/m		156	513		336
Total Dissolved Solids	mg/L		1,374	4,802		4,878
Total Diss. Org. Carbon	"		0.9	4		55
Cl ⁻	"		60	898		87
SO ₄ ⁼	"		581	1,420		1,175
		L				
TKN	"	Y	0.13	3.5		23
NH ₃ -N	"	S	<0.02	2.5		16
NO ₂ + NO ₃ -N	"	I	0.09	0.09		0.08
Total P	"	M	0.48	<0.05	L	<0.05
Alkalinity as CaCO ₃	"	E	284	544	Y	939
		T			S	
Al	"	E	0.014	0.052	I	0.051
As	"	R	<0.01	<0.01	M	<0.01
B	"		0.830	0.321	E	0.191
Ca	"	M	169	570	T	634
Cd	"	A	0.0008	0.0011	E	0.0009
		L			R	
Cr	"	F	<0.0005	0.0006		0.0014
Cu	"	U	<0.002	<0.002	D	<0.002
Fe	"	N	0.070	5.69	R	26.5
Hg	μg/L	C	<0.05	<0.05	Y	<0.05
K	mg/L	T	3	21		9
		I				
Mg	"	O	107	289		153
Mn	"	N	0.0039	0.2342		0.5261
Na	"		42	418		73
Ni	"		0.0007	0.0025		0.0090
Pb	"		0.004	<0.004		<0.004
Se	"		<0.02	<0.02		<0.02
Zn	"		0.005	0.012		0.019

TABLE 3 (Continued): ANALYSIS OF WATER FROM LYSIMETERS
L-1 THROUGH L-9N AT THE LAWNDALE AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON AUGUST 1, 2007

Parameter	Unit	Lysimeter No.		
		L-7N	L-8N	L-9N
pH ¹		7.9	7.8	7.6
EC	mS/m	133	248	256
Total Dissolved Solids	mg/L	3,436	906	1,944
Total Diss. Org. Carbon	"	8	9	27
Cl ⁻	"	150	459	182
SO ₄ ⁼	"	107	184	273
TKN	"	0.89	4.5	2.6
NH ₃ -N	"	0.16	3.0	0.60
NO ₂ + NO ₃ -N	"	0.06	0.22	0.26
Total P	"	<0.05	0.12	<0.05
Alkalinity as CaCO ₃	"	430	656	1,127
Al	"	0.016	0.024	0.024
As	"	<0.01	<0.01	<0.01
B	"	0.259	0.227	0.193
Ca	"	120	195	208
Cd	"	0.0007	0.0011	0.0010
Cr	"	0.0005	0.0009	0.0012
Cu	"	<0.002	<0.002	<0.002
Fe	"	0.234	0.652	4.62
Hg	µg/L	<0.05	<0.05	0.06
K	mg/L	6	5	6
Mg	"	63.6	94.2	113
Mn	"	0.0729	0.2703	0.2076
Na	"	59	200	259
Ni	"	0.0023	0.0011	0.0015
Pb	"	<0.004	<0.004	<0.004
Se	"	<0.02	<0.02	<0.02
Zn	"	0.009	0.006	0.006

¹pH analyzed beyond recommended holding time of 15 minutes.

NA = No analysis; insufficient sample.

TABLE 4: ANALYSIS OF WATER FROM LYSIMETERS
L-1 THROUGH L-9N AT THE LAWNDALE AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON SEPTEMBER 12, 2007

Parameter	Unit	Lysimeter No.				
		L-1	L-2	L-3	L-3N	L-4
pH ¹		7.3	7.7	7.8	7.4	
EC	mS/m	162	291	126	247	
Total Dissolved Solids	mg/L	1,448	2,464	932	1,912	
Total Diss. Org. Carbon	"	7	6	7	18	
Cl ⁻	"	53	466	210	178	
SO ₄ ⁼	"	544	498	70	249	
TKN	"	4.5	1.3	3.6	2.4	
NH ₃ -N	"	4.0	0.54	3.1	0.85	
NO ₂ + NO ₃ -N	"	0.32	0.56	0.08	0.29	
Total P	"	<0.05	<0.10	1.9	<0.05	L
Alkalinity as CaCO ₃	"	481	544	348	1,215	Y
Al	"	0.041	0.054	0.018	0.058	S
As	"	<0.01	<0.02	<0.01	<0.01	I
B	"	0.478	0.370	0.218	0.100	M
Ca	"	221	250	100	339	E
Cd	"	<0.0004	0.0010	<0.0004	0.0006	T
Cr	"	<0.0005	0.0014	0.0007	0.0008	E
Cu	"	<0.002	<0.004	<0.002	<0.002	R
Fe	"	4.19	0.058	0.586	0.202	D
Hg	μg/L	<0.05	<0.10	<0.05	<0.05	R
K	mg/L	6	3	3	1	Y
Mg	"	94.1	115	43.5	133	
Mn	"	0.0748	0.0376	0.0573	0.7038	
Na	"	42	244	95	91	
Ni	"	0.0017	<0.0008	<0.0004	0.0005	
Pb	"	<0.004	<0.008	<0.004	<0.004	
Se	"	<0.02	<0.04	<0.02	<0.02	
Zn	"	0.005	0.009	<0.002	0.008	

TABLE 4 (Continued): ANALYSIS OF WATER FROM LYSIMETERS
L-1 THROUGH L-9N AT THE LAWNSDALE AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON SEPTEMBER 12, 2007

Parameter	Unit	Lysimeter No.				
		L-4N	L-5	L-5N	L-6	L-6N
pH ¹			7.7	7.5		7.4
EC	mS/m		146	550		324
Total Dissolved Solids	mg/L		1,392	5,064		2,870
Total Diss. Org. Carbon	"		0.6	2		49
Cl ⁻	"		56	874		86
SO ₄ ⁼	"		598	1,760		1,404
		L				
TKN	"	Y	0.06	1.8		19
NH ₃ -N	"	S	<0.02	1.7		15
NO ₂ + NO ₃ -N	"	I	1.5	0.59		0.65
Total P	"	M	<0.05	<0.05	L	<0.05
Alkalinity as CaCO ₃	"	E	271	489	Y	690
		T			S	
Al	"	E	0.030	0.075	I	0.083
As	"	R	<0.01	<0.01	M	<0.01
B	"		0.734	0.339	E	0.226
Ca	"	M	166	516	T	569
Cd	"	A	<0.0004	0.0008	E	<0.0004
		L			R	
Cr	"	F	<0.0005	<0.0005		0.0005
Cu	"	U	<0.002	<0.002	D	<0.002
Fe	"	N	0.015	0.306	R	0.431
Hg	µg/L	C	<0.05	<0.05	Y	<0.05
K	mg/L	T	3	21		8
		I				
Mg	"	O	105	246		141
Mn	"	N	0.0132	0.2214		0.4530
Na	"		41	430		70
Ni	"		<0.0004	<0.0004		0.0063
Pb	"		<0.004	<0.004		<0.004
Se	"		<0.02	<0.02		<0.02
Zn	"		0.004	0.007		0.007

TABLE 4 (Continued): ANALYSIS OF WATER FROM LYSIMETERS
L-1 THROUGH L-9N AT THE LAWNDALE AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON SEPTEMBER 12, 2007

Parameter	Unit	Lysimeter No.		
		L-7N	L-8N	L-9N
pH ¹		7.8	7.7	7.8
EC	mS/m	142	238	226
Total Dissolved Solids	mg/L	1,236	1,928	1,668
Total Diss. Org. Carbon	"	12	8	23
Cl ⁻	"	128	449	167
SO ₄ ⁼	"	228	226	288
TKN	"	2.6	3.4	2.1
NH ₃ -N	"	1.8	2.5	0.51
NO ₂ + NO ₃ -N	"	0.18	0.48	0.58
Total P	"	<0.05	<0.05	<0.05
Alkalinity as CaCO ₃	"	450	590	929
Al	"	0.024	0.032	0.035
As	"	<0.01	<0.01	<0.01
B	"	0.248	0.211	0.173
Ca	"	159	197	186
Cd	"	<0.0004	0.0005	0.0005
Cr	"	<0.0005	<0.0005	0.0019
Cu	"	<0.002	<0.002	<0.002
Fe	"	0.075	0.065	0.150
Hg	μg/L	<0.05	<0.05	<0.05
K	mg/L	7	5	5
Mg	"	69.4	92.2	104
Mn	"	0.1127	0.2579	0.1917
Na	"	53	207	233
Ni	"	0.0018	<0.0004	0.0012
Pb	"	<0.004	<0.004	<0.004
Se	"	<0.02	<0.02	<0.02
Zn	"	0.006	0.007	0.007

¹pH analyzed beyond recommended holding time of 15 minutes.

TABLE 5: ANALYSIS OF MONTHLY COMPOSITED DIGESTED
BIOSOLIDS PLACED IN THE LAWNSDALE AVENUE
SOLIDS MANAGEMENT DRYING AREA DURING JULY 2007

Parameter	Unit	Concentration ¹
pH		8.1
Total Solids	%	19.5
Total Volatile Solids ²	%	46.0
TKN	mg/kg	44,606
NH ₃ -N	”	14,828

¹Values are the means of four samples.

²Total volatile solids as a percentage of total solids.

TABLE 6: ANALYSIS OF MONTHLY COMPOSITED DIGESTED
BIOSOLIDS PLACED IN THE LAWNSDALE AVENUE
SOLIDS MANAGEMENT DRYING AREA DURING SEPTEMBER 2007

Parameter	Unit	Concentration ¹
pH		7.7
Total Solids	%	9.1
Total Volatile Solids ²	%	45.3
TKN	mg/kg	46,490
NH ₃ -N	”	12,482

¹Values for one sample only.

²Total volatile solids as a percentage of total solids.

TABLE 7: ANALYSIS OF MONTHLY COMPOSITED PROCESSED DIGESTED BIOSOLIDS REMOVED FROM THE LAWNSDALE AVENUE SOLIDS MANAGEMENT DRYING AREA DURING JULY 2007

Parameter	Unit	Concentration ¹
pH		7.3
Total Solids	%	33.8
Total Volatile Solids ²	%	42.9
TKN	mg/kg	31,996
NH ₃ -N	”	7,892
Total P	”	20,015
Al	”	20,862
As	”	<5
Ca	”	41,888
Cd	”	7
Cr	”	283
Cu	”	455
Fe	”	20,135
Hg	”	0.70
K	”	3,720
Mg	”	19,682
Mn	”	692
Mo	”	16
Na	”	1,003
Ni	”	58
Pb	”	173
Se	”	4
Zn	”	1,075

¹Values are the means of three samples.

²Total volatile solids as a percentage of total solids.

TABLE 8: ANALYSIS OF MONTHLY COMPOSITED PROCESSED DIGESTED BIOSOLIDS REMOVED FROM THE LAWNSDALE AVENUE SOLIDS MANAGEMENT DRYING AREA DURING AUGUST 2007

Parameter	Unit	Concentration ¹
pH		7.8
Total Solids	%	32.2
Total Volatile Solids ²	%	45.4
TKN	mg/kg	39,977
NH ₃ -N	”	10,238
Total P	”	22,127
Al	”	24,391
As	”	<5
Ca	”	39,002
Cd	”	7
Cr	”	250
Cu	”	396
Fe	”	19,595
Hg	”	0.88
K	”	5,666
Mg	”	18,277
Mn	”	614
Mo	”	15
Na	”	1,340
Ni	”	53
Pb	”	143
Se	”	<4
Zn	”	961

¹Values are the means of four samples.

²Total volatile solids as a percentage of total solids.

TABLE 9: ANALYSIS OF MONTHLY COMPOSITED PROCESSED DIGESTED
BIOSOLIDS REMOVED FROM THE LAWNSDALE AVENUE
SOLIDS MANAGEMENT DRYING AREA DURING SEPTEMBER 2007

Parameter	Unit	Concentration ¹
pH		8.2
Total Solids	%	20.0
Total Volatile Solids ²	%	48.2
TKN	mg/kg	49,563
NH ₃ -N	”	13,743
Total P	”	22,787
Al	”	22,957
As	”	<5
Ca	”	35,346
Cd	”	4
Cr	”	174
Cu	”	404
Fe	”	18,236
Hg	”	1.1
K	”	5,378
Mg	”	16,193
Mn	”	611
Mo	”	15
Na	”	1,352
Ni	”	51
Pb	”	123
Se	”	<4
Zn	”	864

¹Values are the means of four samples.

²Total volatile solids as a percentage of total solids.