

*Protecting Our Water Environment*



*Metropolitan Water Reclamation District of Greater Chicago*

***RESEARCH AND DEVELOPMENT  
DEPARTMENT***

**REPORT NO. 06-55**

**LAWNDALE AVENUE SOLIDS MANAGEMENT AREA**

**MONITORING DATA FOR**

**SECOND QUARTER 2006**

**August 2006**

August 31, 2006

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 Data for April, May, and June 2006

The attached ten tables contain the monitoring data for the Lawndale Avenue Solids Management Area for April, May, and June 2006 as required by IEPA Operating Permit No. 2005-AO-4283. During the quarter, Lysimeters L-1 and L-6N yielded no samples on two of the three scheduled sampling dates. Lysimeter L-6 yielded a small volume of sample twice, permitting only limited analysis. The District will continue to sample the old and new lysimeters simultaneously while a request to the IEPA is in process for permission to terminate monitoring of the old lysimeters.

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 April 12, 2006

Table 2, Analysis of Water from Lysimeters L-1 through L-9N at the Lawndale Avenue Solids Management Area Sampled on April 12, 2006

Table 3, Analysis of Water from Lysimeters L-1 through L-9N at the Lawndale Avenue Solids Management Area Sampled on May 10, 2006

Table 4, Analysis of Water from Lysimeters L-1 through L-9N at the Lawndale Avenue Solids Management Area Sampled on June 7, 2006

Subject: Lawndale Avenue Solids Management Area - Stickney WRP, Contract No. 80-159-2P, IEPA Permit No. 2005-AO-4283, Monitoring Data for April, May, and June 2006

Table 5, Analysis of Monthly Compositated Digested Biosolids Placed in the Lawndale Avenue Solids Management Drying Area During April 2006

Table 6, Analysis of Monthly Compositated Digested Biosolids Placed in the Lawndale Avenue Solids Management Drying Area During May 2006

Table 7, Analysis of Monthly Compositated Digested Biosolids Placed in the Lawndale Avenue Solids Management Drying Area During June 2006

Table 8, Analysis of Monthly Compositated Processed Digested Biosolids Removed from the Lawndale Avenue Solids Management Drying Area During April 2006

Table 9, Analysis of Monthly Compositated Processed Digested Biosolids Removed from the Lawndale Avenue Solids Management Drying Area During May 2006

Table 10, Analysis of Monthly Compositated Processed Digested Biosolids Removed from the Lawndale Avenue Solids Management Drying Area During June 2006

Biosolids were placed in and removed from the drying site during the months of April, May, and June 2006.

Very truly yours,

Louis Kollias  
Director  
Research and Development

LK:PL:spy

Enclosure

cc w/enc: Records Unit (IEPA)  
Sulski (IEPA)

cc via MWRDGC Web Site:  
Levy/Sharma  
Stuba/Granato  
O'Connor/Cox  
Lindo/Patel, M.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 1

ANALYSIS OF WATER FROM MONITORING WELLS M-11 THROUGH M-15  
 AT THE LAWNSDALE AVENUE SOLIDS MANAGEMENT AREA  
 SAMPLED ON APRIL 12, 2006

Parameter	Unit	Monitoring Well No.				
		W-11	W-12	W-13	W-14	W-15
pH <sup>1</sup>		7.4	7.5	7.3	7.4	7.6
EC	mS/m	91	121	159	82	184
Total Dissolved Solids	mg/L	626	836	1,328	506	1,742
Total Dissolved Organic Carbon	"	1	1	1	0.8	2
Cl <sup>-</sup>	"	6	16	11	10	10
SO <sub>4</sub> <sup>=</sup>	"	189	349	629	124	834
TKN	"	1.1	0.51	0.65	0.40	0.69
NH <sub>3</sub> -N	"	0.75	0.20	0.38	0.20	0.44
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.20	0.14	< 0.02	0.03	< 0.02
Total P	"	0.06	< 0.04	< 0.04	0.24	0.04
Alkalinity as CaCO <sub>3</sub>	"	351	304	332	323	360
Al	"	< 0.007	0.012	0.009	0.013	0.010
As	"	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
B	"	1.37	1.84	1.54	1.36	1.22
Ca	"	92	82	169	74	243
Cd	"	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Cr	"	< 0.0005	0.0005	< 0.0005	< 0.0005	< 0.0005
Cu	"	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Fe	"	0.052	< 0.004	0.004	0.005	0.462
Hg	μg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
K	mg/L	9	10	10	9	11
Mg	"	44.3	38.9	80.0	41.6	110
Mn	"	0.0223	0.0031	0.0083	0.0028	0.0179
Na	"	58	142	93	44	66
Ni	"	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Pb	"	0.004	0.004	0.005	< 0.004	< 0.004
Se	"	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zn	"	1.73	0.540	1.17	0.733	3.96
Fecal Coliform	#/100mL	< 1	< 1	< 1	< 1	< 1

<sup>1</sup>pH analyzed beyond recommended holding time of 15 minutes.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 2

ANALYSIS OF WATER FROM LYSIMETERS L-1 THROUGH L-9N  
 AT THE LAWNSDALE AVENUE SOLIDS MANAGEMENT AREA  
 SAMPLED ON APRIL 12, 2006

Parameter	Unit	Lysimeter No.				
		L-1	L-2	L-3	L-3N	L-4
pH <sup>1</sup>		7.6	7.9	8.0	7.8	7.5
EC	mS/m	158	284	129	229	373
Total Dissolved Solids	mg/L	1,362	2,640	1,080	1,526	4,218
Total Dissolved Organic Carbon	"	7	2	6	17	16
Cl <sup>-</sup>	"	50	543	195	140	68
SO <sub>4</sub> <sup>=</sup>	"	509	595	132	239	1,996
TKN	"	5.0	0.62	4.0	2.9	14
NH <sub>3</sub> -N	"	4.2	< 0.04	3.0	1.1	9.5
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.15	0.45	0.05	0.12	0.50
Total P	"	0.15	< 0.10	0.87	0.05	0.26
Alkalinity as CaCO <sub>3</sub>	"	468	382	327	1,099	927
Al	"	0.013	0.024	0.008	0.008	0.015
As	"	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01
B	"	0.498	0.210	0.216	0.153	0.206
Ca	"	217	251	112	324	609
Cd	"	< 0.0004	< 0.0008	< 0.0004	< 0.0004	< 0.0004
Cr	"	< 0.0005	0.0010	0.0008	0.0008	< 0.0005
Cu	"	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002
Fe	"	4.46	0.204	1.39	1.10	16.6
Hg	μg/L	< 0.05	< 0.10	< 0.05	< 0.05	< 0.05
K	mg/L	6	3	3	3	8
Mg	"	91.7	114	51.6	133	333
Mn	"	0.0931	0.0798	0.1005	0.9263	0.8180
Na	"	43	265	94	75	31
Ni	"	< 0.0004	< 0.0008	< 0.0004	0.0012	< 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	"	0.004	0.008	0.004	0.009	0.010

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 2 (Continued)

ANALYSIS OF WATER FROM LYSIMETERS L-1 THROUGH L-9N  
 AT THE LAWNDALE AVENUE SOLIDS MANAGEMENT AREA  
 SAMPLED ON APRIL 12, 2006

Parameter	Unit	Lysimeter No.					L-6N
		L-4N	L-5	L-5N	L-6	L-6N	
pH <sup>1</sup>		7.8	8.0	7.9	7.9		
EC	mS/m	317	145	478	172		
Total Dissolved Solids	mg/L	2,854	1,306	4,812	1,510		
Total Dissolved Organic Carbon	"	15	0.6	5	4		
Cl <sup>-</sup>	"	48	51	661	99		
SO <sub>4</sub> <sup>=</sup>	"	1,383	618	2,138	618		
TKN	"	18	0.18	2.3	0.66		
NH <sub>3</sub> -N	"	13	< 0.02	1.0	< 0.02		
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.04	0.04	0.51	0.15		
Total P	"	0.06	< 0.05	0.22	0.07		L
Alkalinity as CaCO <sub>3</sub>	"	823	263	452	399		Y
Al	"	0.015	0.013	0.023	0.012		S
As	"	< 0.01	< 0.01	< 0.01	< 0.01		I
B	"	0.151	0.761	0.401	0.241		M
Ca	"	517	162	417	236		E
Cd	"	< 0.0004	< 0.0004	< 0.0004	< 0.0004		T
Cr	"	< 0.0005	< 0.0005	< 0.0005	< 0.0005		E
Cu	"	< 0.002	< 0.002	< 0.002	< 0.002		R
Fe	"	0.173	0.018	0.047	0.014		D
Hg	μg/L	0.05	< 0.05	< 0.05	< 0.05		R
K	mg/L	8	3	36	7		Y
Mg	"	237	107	275	109		
Mn	"	1.156	0.1063	0.1719	0.0371		
Na	"	21	43	315	39		
Ni	"	< 0.0004	< 0.0004	0.0012	< 0.0004		
Pb	"	< 0.004	< 0.004	< 0.004	< 0.004		
Se	"	< 0.02	< 0.02	< 0.02	< 0.02		
Zn	"	0.011	0.004	0.009	0.006		

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 2 (Continued)

ANALYSIS OF WATER FROM LYSIMETERS L-1 THROUGH L-9N  
AT THE LAWDALE AVENUE SOLIDS MANAGEMENT AREA  
SAMPLED ON APRIL 12, 2006

Parameter	Unit	Lysimeter No.		
		L-7N	L-8N	L-9N
pH <sup>1</sup>		8.0	7.9	7.9
EC	mS/m	121	217	243
Total Dissolved Solids	mg/L	848	1,500	1,826
Total Dissolved Organic Carbon	"	8	4	26
Cl <sup>-</sup>	"	137	449	154
SO <sub>4</sub> <sup>=</sup>	"	176	206	282
TKN	"	1.2	1.8	3.1
NH <sub>3</sub> -N	"	0.30	0.95	1.3
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.05	0.07	0.15
Total P	"	< 0.10	< 0.05	0.07
Alkalinity as CaCO <sub>3</sub>	"	372	394	1,087
Al	"	< 0.014	0.016	0.012
As	"	< 0.02	< 0.01	< 0.01
B	"	0.256	0.201	0.350
Ca	"	118	151	173
Cd	"	< 0.0008	< 0.0004	< 0.0004
Cr	"	0.0012	< 0.0005	0.0011
Cu	"	0.014	< 0.002	< 0.002
Fe	"	0.274	0.023	3.38
Hg	μg/L	< 0.10	< 0.05	< 0.05
K	mg/L	9	6	7
Mg	"	74.2	71.7	94.8
Mn	"	0.0410	0.1091	0.1839
Na	"	57	231	334
Ni	"	0.0032	< 0.0004	0.0011
Pb	"	0.008	0.004	< 0.004
Se	"	< 0.04	< 0.02	< 0.02
Zn	"	0.008	0.007	0.011

<sup>1</sup>pH analyzed beyond recommended holding time of 15 minutes.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 3

ANALYSIS OF WATER FROM LYSIMETERS L-1 THROUGH L-9N  
 AT THE LAWNDALE AVENUE SOLIDS MANAGEMENT AREA  
 SAMPLED ON MAY 10, 2006

Parameter	Unit	Lysimeter No.				
		L-1	L-2	L-3	L-3N	L-4
pH <sup>1</sup>			7.5	7.7	7.4	7.0
EC	mS/m		288	122	243	376
Total Dissolved Solids	mg/L		2,252	958	1,716	4,526
Total Dissolved Organic Carbon	"		2	6	18	14
Cl <sup>-</sup>	"		504	173	121	62
SO <sub>4</sub> <sup>=</sup>	"		608	89	338	2,140
TKN	"		0.90	3.8	3.2	11
NH <sub>3</sub> -N	"		< 0.04	2.9	1.3	7.6
NO <sub>2</sub> + NO <sub>3</sub> -N	"		0.56	0.12	0.14	0.07
Total P	"	L	< 0.10	1.6	< 0.05	0.47
Alkalinity as CaCO <sub>3</sub>	"	Y	374	277	928	750
		S				
Al	"	I	< 0.014	< 0.007	< 0.007	< 0.007
As	"	M	< 0.02	< 0.01	< 0.01	< 0.01
B	"	E	0.260	0.256	0.135	0.244
Ca	"	T	247	102	343	576
Cd	"	E	0.0022	0.0014	0.0007	< 0.0004
		R				
Cr	"		0.0028	0.0015	0.0028	0.0024
Cu	"	D	< 0.004	< 0.002	< 0.002	< 0.002
Fe	"	R	0.030	1.78	4.96	9.77
Hg	μg/L	Y	< 0.10	< 0.05	0.09	< 0.05
K	mg/L		3	3	3	8
Mg	"		112	46.4	149	353
Mn	"		0.0082	0.0841	1.168	0.7053
Na	"		262	99	79	33
Ni	"		< 0.0008	< 0.0004	0.0009	< 0.0004
Pb	"		0.022	0.007	0.014	0.011
Se	"		< 0.04	< 0.02	< 0.02	< 0.02
Zn	"		0.010	0.003	0.015	0.006



METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 3 (Continued)

ANALYSIS OF WATER FROM LYSIMETERS L-1 THROUGH L-9N  
 AT THE LAWNDALE AVENUE SOLIDS MANAGEMENT AREA  
 SAMPLED ON MAY 10, 2006

Parameter	Unit	Lysimeter No.					L-6N
		L-4N	L-5	L-5N	L-6	L-6N	
pH <sup>1</sup>		7.4	7.6	7.5	8.0		
EC	mS/m	324	149	494	174		
Total Dissolved Solids	mg/L	3,164	1,380	5,048	NA		
Total Dissolved Organic Carbon	"	12	0.5	4	NA		
Cl <sup>-</sup>	"	45	47	629	NA		
SO <sub>4</sub> <sup>=</sup>	"	1,515	648	2,019	NA		
TKN	"	17	0.38	2.8	NA		
NH <sub>3</sub> -N	"	13	< 0.02	1.5	NA		
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.35	0.23	0.26	NA		
Total P	"	0.07	< 0.05	< 0.05	NA		L
Alkalinity as CaCO <sub>3</sub>	"	792	239	498	NA		Y
Al	"	< 0.007	< 0.007	< 0.007	NA		S
As	"	< 0.01	< 0.01	< 0.01	NA		I
B	"	0.168	0.849	0.432	NA		M
Ca	"	534	162	446	NA		E
Cd	"	0.0020	0.0012	0.0021	NA		T
Cr	"	0.0028	0.0017	0.0021	NA		E
Cu	"	< 0.002	< 0.002	< 0.002	NA		R
Fe	"	3.31	0.020	0.326	NA		R
Hg	μg/L	< 0.05	0.06	< 0.05	NA		Y
K	mg/L	9	4	39	NA		
Mg	"	256	108	367	NA		
Mn	"	1.341	0.0060	0.2663	NA		
Na	"	48	45	373	NA		
Ni	"	< 0.0004	< 0.0004	0.0013	NA		
Pb	"	0.010	0.011	0.006	NA		
Se	"	< 0.02	< 0.02	< 0.02	NA		
Zn	"	0.013	0.005	0.009	NA		

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 3 (Continued)

ANALYSIS OF WATER FROM LYSIMETERS L-1 THROUGH L-9N  
AT THE LAWDALE AVENUE SOLIDS MANAGEMENT AREA  
SAMPLED ON MAY 10, 2006

Parameter	Unit	Lysimeter No.		
		L-7N	L-8N	L-9N
pH <sup>1</sup>		8.1	7.7	7.7
EC	mS/m	124	244	246
Total Dissolved Solids	mg/L	976	1,918	1,686
Total Dissolved Organic Carbon	"	8	7	24
Cl <sup>-</sup>	"	123	373	145
SO <sub>4</sub> <sup>=</sup>	"	160	289	286
TKN	"	2.4	3.7	2.8
NH <sub>3</sub> -N	"	0.32	2.3	0.84
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.35	0.23	0.16
Total P	"	< 0.10	0.07	0.18
Alkalinity as CaCO <sub>3</sub>	"	346	533	856
Al	"	< 0.014	< 0.007	< 0.007
As	"	< 0.02	< 0.01	< 0.01
B	"	0.266	0.256	0.285
Ca	"	115	212	166
Cd	"	0.0016	0.0013	0.0020
Cr	"	0.0016	0.0021	0.0019
Cu	"	< 0.004	< 0.002	< 0.002
Fe	"	0.040	0.265	0.088
Hg	μg/L	< 0.10	< 0.05	< 0.05
K	mg/L	8	7	7
Mg	"	68.1	106	93.0
Mn	"	0.0784	0.3304	0.0792
Na	"	53	226	382
Ni	"	0.0014	< 0.0004	< 0.0004
Pb	"	0.018	0.011	0.010
Se	"	< 0.04	< 0.02	< 0.02
Zn	"	0.022	0.011	0.006

<sup>1</sup>pH analyzed beyond recommended holding time of 15 minutes.

NA = No analysis; insufficient sample.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 4

ANALYSIS OF WATER FROM LYSIMETERS L-1 THROUGH L-9N  
 AT THE LAWNDALE AVENUE SOLIDS MANAGEMENT AREA  
 SAMPLED ON JUNE 7, 2006

Parameter	Unit	Lysimeter No.				
		L-1	L-2	L-3	L-3N	L-4
pH <sup>1</sup>			7.8	7.9	7.7	7.3
EC	mS/m		299	134	235	407
Total Dissolved Solids	mg/L		NA	998	1,684	4,474
Total Dissolved Organic Carbon	"		3	6	17	15
Cl <sup>-</sup>	"		485	172	NA	59
SO <sub>4</sub> <sup>=</sup>	"		540	105	279	2,079
TKN	"		0.96	4.0	2.7	12
NH <sub>3</sub> -N	"		0.14	3.2	1.0	8.5
NO <sub>2</sub> + NO <sub>3</sub> -N	"		0.15	0.03	0.07	0.17
Total P	"	L	0.18	1.6	< 0.05	0.51
Alkalinity as CaCO <sub>3</sub>	"	Y	394	299	NA	803
		S				
Al	"	I	< 0.014	< 0.007	< 0.007	< 0.007
As	"	M	< 0.02	< 0.01	< 0.01	< 0.01
B	"	E	0.286	0.251	0.142	0.244
Ca	"	T	260	110	352	593
Cd	"	E	0.0010	0.0007	0.0011	0.0010
		R				
Cr	"		0.0026	0.0014	0.0025	0.0010
Cu	"	D	< 0.004	< 0.002	< 0.002	< 0.002
Fe	"	R	0.124	1.51	3.19	9.68
Hg	μg/L	Y	0.10	< 0.05	< 0.05	0.08
K	mg/L		3	3	3	9
Mg	"		120	51.2	144	378
Mn	"		0.0678	0.0939	1.162	0.7213
Na	"		288	99	82	35
Ni	"		< 0.0008	< 0.0004	0.0009	< 0.0004
Pb	"		0.016	0.005	0.007	< 0.004
Se	"		< 0.04	< 0.02	< 0.02	< 0.02
Zn	"		0.010	0.003	0.011	0.009

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 4 (Continued)

ANALYSIS OF WATER FROM LYSIMETERS L-1 THROUGH L-9N  
 AT THE LAWNDALE AVENUE SOLIDS MANAGEMENT AREA  
 SAMPLED ON JUNE 7, 2006

Parameter	Unit	Lysimeter No.					L-6N
		L-4N	L-5	L-5N	L-6	L-6N	
pH <sup>1</sup>		7.8	7.8	7.8	8.2		
EC	mS/m	344	155	481	164		
Total Dissolved Solids	mg/L	NA	1,504	4,962	NA		
Total Dissolved Organic Carbon	"	14	0.7	3	NA		
Cl <sup>-</sup>	"	46	62	620	NA		
SO <sub>4</sub> <sup>=</sup>	"	1,606	641	1,924	NA		
TKN	"	18	0.25	2.6	NA		
NH <sub>3</sub> -N	"	13	< 0.02	1.3	NA		
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.26	0.07	0.21	NA		
Total P	"	< 0.05	< 0.05	< 0.05	NA		L
Alkalinity as CaCO <sub>3</sub>	"	576	269	391	NA		Y
							S
Al	"	< 0.007	< 0.007	< 0.007	NA		I
As	"	< 0.01	< 0.01	< 0.01	NA		M
B	"	0.177	0.869	0.441	NA		E
Ca	"	729	177	546	NA		T
Cd	"	0.0021	0.0005	0.0014	NA		E
							R
Cr	"	0.0014	0.0011	< 0.0005	NA		
Cu	"	< 0.002	< 0.002	< 0.002	NA		D
Fe	"	11.3	0.016	0.246	NA		R
Hg	μg/L	0.05	< 0.05	< 0.05	NA		Y
K	mg/L	9	4	39	NA		
Mg	"	267	118	340	NA		
Mn	"	1.411	0.0072	0.2268	NA		
Na	"	102	53	400	NA		
Ni	"	< 0.0004	< 0.0004	0.0027	NA		
Pb	"	0.005	0.005	0.007	NA		
Se	"	< 0.02	< 0.02	< 0.02	NA		
Zn	"	0.049	0.004	0.016	NA		

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 4 (Continued)

ANALYSIS OF WATER FROM LYSIMETERS L-1 THROUGH L-9N  
AT THE LAWDALE AVENUE SOLIDS MANAGEMENT AREA  
SAMPLED ON JUNE 7, 2006

Parameter	Unit	Lysimeter No.		
		L-7N	L-8N	L-9N
pH <sup>1</sup>		8.2	8.1	7.9
EC	mS/m	141	236	244
Total Dissolved Solids	mg/L	NA	1,878	NA
Total Dissolved Organic Carbon	"	10	8	26
Cl <sup>-</sup>	"	296	54	77
SO <sub>4</sub> <sup>=</sup>	"	195	216	263
TKN	"	1.4	3.5	3.2
NH <sub>3</sub> -N	"	0.22	2.2	1.3
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.42	0.13	0.17
Total P	"	< 0.10	< 0.05	< 0.05
Alkalinity as CaCO <sub>3</sub>	"	2,958	468	842
Al	"	< 0.014	< 0.007	< 0.007
As	"	< 0.02	< 0.01	< 0.01
B	"	0.306	0.259	0.357
Ca	"	141	211	181
Cd	"	0.0010	0.0010	0.0011
Cr	"	0.0018	0.0013	0.0019
Cu	"	< 0.004	< 0.002	< 0.002
Fe	"	0.116	0.107	5.72
Hg	μg/L	< 0.10	< 0.05	< 0.05
K	mg/L	10	7	7
Mg	"	84.0	106	103
Mn	"	0.0604	0.3282	0.2570
Na	"	55	230	385
Ni	"	0.0010	< 0.0004	< 0.0004
Pb	"	< 0.008	0.006	0.007
Se	"	< 0.04	< 0.02	< 0.02
Zn	"	0.012	0.013	0.009

<sup>1</sup>pH analyzed beyond recommended holding time of 15 minutes.

NA = No analysis; insufficient sample.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 5

ANALYSIS OF MONTHLY COMPOSITED DIGESTED BIOSOLIDS  
PLACED IN THE LAWNSDALE AVENUE  
SOLIDS MANAGEMENT DRYING AREA DURING APRIL 2006

Parameter	Unit	Concentration*
pH		7.8
Total Solids	%	24.5
Total Volatile Solids	''	53.1
TKN	mg/kg	48,362
NH <sub>3</sub> -N	''	6,191

\*Values for one sample only.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 6

ANALYSIS OF MONTHLY COMPOSITED DIGESTED BIOSOLIDS  
PLACED IN THE LAWNSDALE AVENUE  
SOLIDS MANAGEMENT DRYING AREA DURING MAY 2006

Parameter	Unit	Concentration*
pH		7.8
Total Solids	%	11.5
Total Volatile Solids	”	46.2
TKN	mg/kg	51,579
NH <sub>3</sub> -N	”	12,731

\*Values are the means of six samples.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 7

ANALYSIS OF MONTHLY COMPOSITED DIGESTED BIOSOLIDS  
PLACED IN THE LAWNSDALE AVENUE  
SOLIDS MANAGEMENT DRYING AREA DURING JUNE 2006

Parameter	Unit	Concentration*
pH		7.8
Total Solids	%	12.3
Total Volatile Solids	''	47
TKN	mg/kg	45,318
NH <sub>3</sub> -N	''	11,725

\*Values are the means of six samples.



METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 8

ANALYSIS OF MONTHLY COMPOSITED PROCESSED DIGESTED BIOSOLIDS  
 REMOVED FROM THE LAWDALE AVENUE  
 SOLIDS MANAGEMENT DRYING AREA DURING APRIL 2006

Parameter	Unit	Concentration*
pH		7.5
Total Solids	%	29.1
Total Volatile Solids	"	46.4
TKN	mg/kg	38,113
NH <sub>3</sub> -N	"	7,480
Total P	"	18,575
Al	"	23,475
As	"	< 0.9
Ca	"	34,596
Cd	"	4
Cr	"	287
Cu	"	419
Fe	"	17,220
Hg	"	0.79
K	"	4,490
Mg	"	15,965
Mn	"	418
Mo	"	22
Na	"	733
Ni	"	104
Pb	"	131
Se	"	1
Zn	"	904

\*Values for one sample only.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 9

ANALYSIS OF MONTHLY COMPOSITED PROCESSED DIGESTED BIOSOLIDS  
 REMOVED FROM THE LAWNSDALE AVENUE  
 SOLIDS MANAGEMENT DRYING AREA DURING MAY 2006

Parameter	Unit	Concentration*
pH		7.4
Total Solids	%	31
Total Volatile Solids	"	42
TKN	mg/kg	39,471
NH <sub>3</sub> -N	"	9,108
Total P	"	21,129
Al	"	25,093
As	"	< 0.9
Ca	"	37,832
Cd	"	4
Cr	"	260
Cu	"	414
Fe	"	18,535
Hg	"	1.1
K	"	5,565
Mg	"	17,723
Mn	"	501
Mo	"	19
Na	"	1,230
Ni	"	63
Pb	"	144
Se	"	1
Zn	"	914

\*Values are the means of eleven samples.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 10

ANALYSIS OF MONTHLY COMPOSITED PROCESSED DIGESTED BIOSOLIDS  
 REMOVED FROM THE LAWNSDALE AVENUE  
 SOLIDS MANAGEMENT DRYING AREA DURING JUNE 2006

Parameter	Unit	Concentration*
pH		7.0
Total Solids	%	50.6
Total Volatile Solids	"	32
TKN	mg/kg	25,284
NH <sub>3</sub> -N	"	5,378
Total P	"	17,125
Al	"	20,903
As	"	1
Ca	"	45,229
Cd	"	6
Cr	"	208
Cu	"	327
Fe	"	18,615
Hg	"	0.89
K	"	4,576
Mg	"	22,883
Mn	"	456
Mo	"	14
Na	"	1,383
Ni	"	49
Pb	"	120
Se	"	0.9
Zn	"	752

\*Values are the means of fifteen samples.