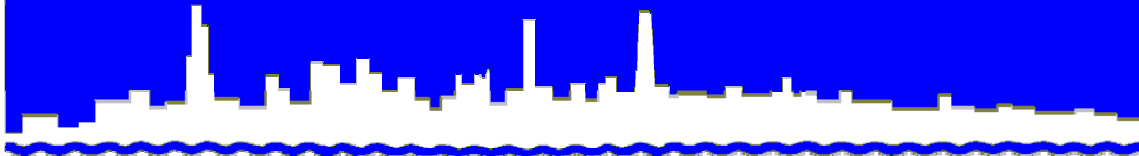


*Protecting Our Water Environment*



*Metropolitan Water Reclamation District of Greater Chicago*

***RESEARCH AND DEVELOPMENT  
DEPARTMENT***

*REPORT NO. 07-16*

*RIDGELAND AVENUE SOLIDS MANAGEMENT AREA*

*MONITORING DATA FOR*

*FOURH QUARTER 2006*

*MARCH 2007*

March 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: Ridgeland Avenue Solids Management Area - Stickney WRP, Contract No. 89-202-2P, IEPA Permit No. 2005-AO-4283, Monitoring Report for October, November, and December 2006

The attached six tables contain the monitoring data for the Ridgeland Avenue Solids Management Area for October, November, and December 2006 as required by IEPA Operating Permit No. 2005-AO-4283. During the quarter, lysimeters L-1, L-2, L-3, and L-4 yielded no samples. In a letter dated January 19, 2007, the IEPA granted permission to terminate the monitoring of lysimeters L-1, L-2, and L-3. 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 Lysimeters L-1N through L-4N at the Ridgeland Avenue Solids Management Area Sampled on October 11, 2006

Table 2, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue Solids Management Area Sampled on October 25, 2006

Table 3, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue Solids Management Area Sampled on November 8, 2006

Table 4, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue Solids Management Area Sampled on November 21, 2006

Table 5, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue Solids Management Area Sampled on December 6, 2006

Subject: Ridgeland Avenue Solids Management Area - Stickney WRP, Contract No. 89-202-2P, IEPA Permit No. 2005-AO-4283, Monitoring Report for October, November, and December 2006

Table 6, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue Solids Management Area Sampled on December 20, 2006

No biosolids were placed in or removed from the solids drying area during October, November, and December 2006.

Very truly yours,

Louis Kollias  
Director  
Research and Development

LK:PL:spy  
Attachments

cc w/att: Mr. Sulski, IEPA  
Records Unit, IEPA  
Mr. W. Stuba  
Dr. T. Granato  
Dr. A. Cox  
Dr. P. Lindo  
Ms. M. Patel

cc wo/att: Ms. M. Sharma  
Mr. S. Levy  
Mr. O. Jamjun  
Mr. A. Quintanilla  
Mr. A. Ryzak

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 1

ANALYSIS OF WATER FROM LYSIMETERS  
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE  
SOLIDS MANAGEMENT AREA SAMPLED ON OCTOBER 11, 2006

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH <sup>1</sup>		7.6	7.9	7.9	8.2
EC	mS/m	402	275	270	134
Total Dissolved Solids	mg/L	4,210	1,900	1,910	750
Total Diss. Org. Carbon	"	5	7	2	7
Cl <sup>-</sup>	"	846	242	480	147
SO <sub>4</sub> <sup>=</sup>	"	807	283	312	83
TKN	"	3.6	39	0.92	1.8
NH <sub>3</sub> -N	"	2.1	33	0.25	0.76
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.04	<0.02	<0.02	0.05
Total P	"	0.07	0.05	<0.05	2.2
Alkalinity as CaCO <sub>3</sub>	"	686	790	359	340
Al	"	0.059	0.034	0.036	0.017
As	"	<0.01	<0.01	<0.01	<0.01
Ca	"	477	219	196	76
Cd	"	0.0006	<0.0004	<0.0004	0.0007
Cr	"	<0.0005	<0.0005	<0.0005	0.0005
Cu	"	<0.002	<0.002	<0.002	0.002
Fe	"	4.87	4.51	0.473	0.183
Hg	μg/L	0.08	0.06	0.08	0.07
K	mg/L	8	13	6	3
Mg	"	244	135	77.4	21.8
Mn	"	0.0915	0.1521	0.2052	0.2633
Na	"	130	82	234	144
Ni	"	<0.0004	<0.0004	<0.0004	0.0011
Pb	"	<0.004	<0.004	<0.004	<0.004
Se	"	<0.02	<0.02	<0.02	<0.02
Zn	"	0.012	0.006	0.008	0.412

<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-1N THROUGH L-4N AT THE RIDGELAND AVENUE  
SOLIDS MANAGEMENT AREA SAMPLED ON OCTOBER 25, 2006

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH <sup>1</sup>		7.5	7.7	7.9	8.1
EC	mS/m	320	232	222	107
Total Dissolved Solids	mg/L	4,270	1,840	1,686	754
Total Diss. Org. Carbon	"	5	7	2	5
Cl <sup>-</sup>	"	869	273	476	153
SO <sub>4</sub> <sup>=</sup>	"	829	284	248	64
TKN	"	2.2	36	2.4	1.5
NH <sub>3</sub> -N	"	0.99	34	1.8	0.76
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.06	0.03	0.08	0.06
Total P	"	0.05	0.16	0.11	1.0
Alkalinity as CaCO <sub>3</sub>	"	724	896	402	354
Al	"	0.068	0.038	0.036	0.017
As	"	<0.01	<0.01	<0.01	<0.01
Ca	"	487	216	171	78
Cd	"	0.0004	<0.0004	0.0004	<0.0004
Cr	"	<0.0005	<0.0005	<0.0005	<0.0005
Cu	"	<0.002	<0.002	<0.002	<0.002
Fe	"	5.31	3.78	0.586	0.118
Hg	μg/L	0.05	<0.05	<0.05	0.06
K	mg/L	8	12	5	3
Mg	"	256	135	67.5	22.1
Mn	"	0.1243	0.1371	0.1693	0.1704
Na	"	128	82	218	137
Ni	"	<0.0004	<0.0004	0.0006	0.0013
Pb	"	<0.004	<0.004	<0.004	<0.004
Se	"	<0.02	<0.02	<0.02	<0.02
Zn	"	1.12	0.507	0.299	0.107

<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-1N THROUGH L-4N AT THE RIDGELAND AVENUE  
SOLIDS MANAGEMENT AREA SAMPLED ON NOVEMBER 8, 2006

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH <sup>1</sup>		7.3	7.4	7.6	8.0
EC	mS/m	312	227	237	106
Total Dissolved Solids	mg/L	4,144	1,612	1,616	714
Total Diss. Org. Carbon	"	4	7	2	5
Cl <sup>-</sup>	"	845	234	437	115
SO <sub>4</sub> <sup>=</sup>	"	858	238	219	76
TKN	"	1.7	37	0.80	1.3
NH <sub>3</sub> -N	"	0.71	32	0.26	0.74
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.05	0.05	0.10	0.06
Total P	"	0.07	0.06	0.06	2.0
Alkalinity as CaCO <sub>3</sub>	"	645	834	339	347
Al	"	0.080	0.047	0.040	0.026
As	"	<0.01	<0.01	<0.01	<0.01
Ca	"	499	208	173	82
Cd	"	0.0004	<0.0004	<0.0004	0.0004
Cr	"	<0.0005	<0.0005	<0.0005	0.0008
Cu	"	<0.002	<0.002	<0.002	<0.002
Fe	"	5.43	5.12	0.127	0.162
Hg	μg/L	<0.05	<0.05	<0.05	<0.05
K	mg/L	8	13	4	3
Mg	"	261	130	63.0	21.1
Mn	"	0.0943	0.1618	0.2236	0.3521
Na	"	130	80	220	127
Ni	"	<0.0004	<0.0004	0.0014	0.0014
Pb	"	<0.004	<0.004	<0.004	<0.004
Se	"	<0.02	<0.02	<0.02	<0.02
Zn	"	0.014	0.009	0.009	0.004

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

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 4

ANALYSIS OF WATER FROM LYSIMETERS  
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE  
SOLIDS MANAGEMENT AREA SAMPLED ON NOVEMBER 21, 2006

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH <sup>1</sup>		7.3	7.5	7.7	7.9
EC	mS/m	318	227	223	120
Total Dissolved Solids	mg/L	3,736	1,608	1,582	786
Total Diss. Org. Carbon	"	4	7	2	6
Cl <sup>-</sup>	"	899	234	459	123
SO <sub>4</sub> <sup>=</sup>	"	427	232	319	156
TKN	"	2.8	38	1.1	2.4
NH <sub>3</sub> -N	"	0.70	33	0.09	0.79
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.66	0.47	0.55	0.48
Total P	"	<0.05	0.05	0.05	1.7
Alkalinity as CaCO <sub>3</sub>	"	669	828	364	410
Al	"	0.075	0.032	0.036	0.024
As	"	<0.01	<0.01	<0.01	<0.01
Ca	"	495	204	182	103
Cd	"	0.0006	0.0005	0.0005	0.0005
Cr	"	<0.0005	<0.0005	<0.0005	<0.0005
Cu	"	<0.002	<0.002	<0.002	<0.002
Fe	"	5.68	5.34	0.081	0.529
Hg	μg/L	<0.05	<0.05	<0.05	<0.05
K	mg/L	9	13	5	3
Mg	"	286	130	67.2	26.4
Mn	"	0.0932	0.1547	0.1884	0.4550
Na	"	144	82	238	141
Ni	"	<0.0004	<0.0004	0.0006	0.0016
Pb	"	<0.004	<0.004	<0.004	<0.004
Se	"	<0.02	<0.02	<0.02	<0.02
Zn	"	0.009	0.009	0.007	0.005

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

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 5

ANALYSIS OF WATER FROM LYSIMETERS  
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE  
SOLIDS MANAGEMENT AREA SAMPLED ON DECEMBER 6, 2006

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH <sup>1</sup>		7.2	7.3	7.5	7.8
EC	mS/m	323	256	222	126
Total Dissolved Solids	mg/L	4,276	1,578	1,540	866
Total Diss. Org. Carbon	"	4	7	2	6
Cl <sup>-</sup>	"	853	247	444	112
SO <sub>4</sub> <sup>=</sup>	"	927	237	227	105
TKN	"	2.1	43	0.61	2.0
NH <sub>3</sub> -N	"	0.90	34	0.14	0.88
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.02	0.03	0.09	0.03
Total P	"	0.10	0.28	0.08	1.3
Alkalinity as CaCO <sub>3</sub>	"	624	828	355	445
Al	"	0.080	0.045	0.037	0.021
As	"	<0.01	<0.01	<0.01	<0.01
Ca	"	511	214	173	116
Cd	"	0.0006	0.0008	0.0006	0.0006
Cr	"	<0.0005	<0.0005	<0.0005	<0.0005
Cu	"	<0.002	<0.002	<0.002	<0.002
Fe	"	4.77	3.81	0.085	0.078
Hg	μg/L	<0.05	<0.05	<0.05	<0.05
K	mg/L	8	13	4	3
Mg	"	276	139	65.7	29.8
Mn	"	0.0884	0.1570	0.1731	0.4900
Na	"	140	88	233	138
Ni	"	<0.0004	<0.0004	<0.0004	0.0009
Pb	"	<0.004	<0.004	<0.004	<0.004
Se	"	<0.02	<0.02	<0.02	<0.02
Zn	"	0.007	0.006	0.007	0.006

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



METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 6

ANALYSIS OF WATER FROM LYSIMETERS  
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE  
SOLIDS MANAGEMENT AREA SAMPLED ON DECEMBER 20, 2006

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH <sup>1</sup>		7.3		7.6	8.0
EC	mS/m	354		230	124
Total Dissolved Solids	mg/L	4,354		1,580	880
Total Diss. Org. Carbon	"	4		2	7
Cl <sup>-</sup>	"	933		455	105
SO <sub>4</sub> <sup>=</sup>	"	948		244	114
TKN	"	2.7		0.90	2.0
NH <sub>3</sub> -N	"	0.86		0.14	0.86
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.57		0.74	0.94
Total P	"	<0.05	L	<0.05	0.86
Alkalinity as CaCO <sub>3</sub>	"	681	Y S	382	480
Al	"	0.092	I	0.044	0.032
As	"	<0.01	M	<0.01	<0.01
Ca	"	527	E	175	121
Cd	"	0.0006	T	0.0004	0.0004
Cr	"	<0.0005	E R	0.0006	0.0010
Cu	"	<0.002		<0.002	<0.002
Fe	"	5.86	D	0.106	0.126
Hg	μg/L	<0.05	R	<0.05	<0.05
K	mg/L	8	Y	4	3
Mg	"	273		65.8	30.5
Mn	"	0.0985		0.1833	0.5132
Na	"	137		225	127
Ni	"	<0.0004		<0.0004	0.0007
Pb	"	<0.004		0.007	0.007
Se	"	<0.02		<0.02	<0.02
Zn	"	0.008		0.008	0.004

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