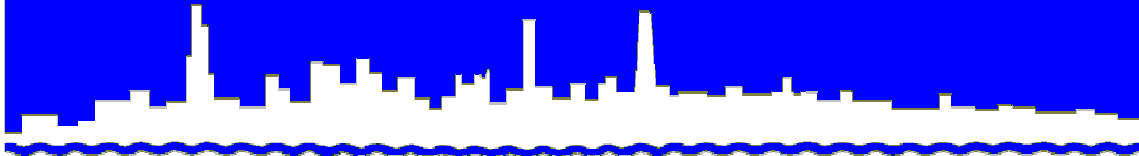


*Protecting Our Water Environment*



***Metropolitan Water Reclamation District of Greater Chicago***

***MONITORING AND RESEARCH  
DEPARTMENT***

***REPORT NO. 09-53***

***RIDGELAND AVENUE SOLIDS MANAGEMENT AREA***

***MONITORING REPORT***

***SECOND QUARTER 2009***

***SEPTEMBER 2009***

**Metropolitan Water Reclamation District of Greater Chicago**

100 EAST ERIE STREET CHICAGO, ILLINOIS 60611-3154 312.751.5190

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September 3, 2009

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 Water Reclamation Plant, Contract No. 89-202-2P, Illinois Environmental Protection Agency Permit No. 2005-AO-4283, Monitoring Report for April, May, and June 2009

The attached six tables contain the monitoring data for the Ridgeland Avenue Solids Management Area for April, May, and June 2009 as required by Illinois Environmental Protection Agency (IEPA) Operating Permit No. 2005-AO-4283.

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 April 8, 2009

Table 2, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue Solids Management Area Sampled on April 22, 2009

Table 3, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue Solids Management Area Sampled on May 6, 2009

Table 4, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue Solids Management Area Sampled on May 20, 2009

Subject: Ridgeland Avenue Solids Management Area - Stickney Water Reclamation Plant, Contract No. 89-202-2P, Illinois Environmental Protection Agency Permit No. 2005-AO-4283, Monitoring Report for April, May, and June 2009

Table 5, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue Solids Management Area Sampled on June 3, 2009

Table 6, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue Solids Management Area Sampled on June 17, 2009

No biosolids were placed in or removed from the solids drying area during April, May, and June 2009.

Very truly yours,

Louis Kollias  
Director  
Monitoring and Research

LK:PL:kq  
Attachments  
cc w/att: Mr. Sulski, IEPA  
Records Unit, IEPA

TABLE 1: ANALYSIS OF WATER FROM LYSIMETERS  
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE  
SOLIDS MANAGEMENT AREA SAMPLED ON APRIL 8, 2009

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH <sup>1</sup>		7.4	7.8	7.9	8.0
EC	mS/m	581	291	240	201
Total Dissolved Solids	mg/L	4,792	1,908	1,508	1,224
Total Diss. Org. Carbon	"	4	8	4	5
Cl <sup>-</sup>	"	1,152	295	390	301
SO <sub>4</sub> <sup>=</sup>	"	908	224	211	145
TKN	"	3	39	1	1
NH <sub>3</sub> -N	"	3	37	0.3	0.4
NO <sub>2</sub> + NO <sub>3</sub> -N	"	<0.1	<0.1	0.4	0.3
Total P	"	<0.25	<0.25	<0.25	0.47
Alkalinity as CaCO <sub>3</sub>	"	685	912	388	429
Al	"	0.128	0.081	0.064	0.049
As	"	<0.025	<0.025	<0.025	<0.025
Ca	"	525	218	167	120
Cd	"	<0.002	<0.002	<0.002	<0.002
Cr	"	<0.003	<0.003	<0.003	<0.003
Cu	"	<0.01	<0.01	<0.01	<0.01
Fe	"	4.9	1.8	0.06	2.7
Hg	μg/L	<0.20	<0.20	<0.20	<0.20
K	mg/L	9	12	5	3
Mg	"	276	132	56	29
Mn	"	0.104	0.179	0.132	0.683
Na	"	194	95	202	224
Ni	"	<0.002	<0.002	<0.002	<0.002
Pb	"	<0.02	<0.02	<0.02	<0.02
Se	"	<0.1	<0.1	<0.1	<0.1
Zn	"	<0.01	<0.01	<0.01	<0.01

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

TABLE 2: ANALYSIS OF WATER FROM LYSIMETERS  
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE  
SOLIDS MANAGEMENT AREA SAMPLED ON APRIL 22, 2009

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH <sup>1</sup>		7.3	7.6	7.6	7.6
EC	mS/m	507	257	206	193
Total Dissolved Solids	mg/L	5,988	2,284	1,700	1,520
Total Diss. Org. Carbon	"	4	7	3	4
Cl <sup>-</sup>	"	1,173	307	392	375
SO <sub>4</sub> <sup>=</sup>	"	937	238	219	204
TKN	"	3	38	1	1
NH <sub>3</sub> -N	"	2	37	0.4	0.5
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.2	0.2	0.2	0.5
Total P	"	<0.25	<0.25	<0.25	0.73
Alkalinity as CaCO <sub>3</sub>	"	695	883	427	446
Al	"	0.125	0.073	0.066	0.061
As	"	<0.025	<0.025	<0.025	<0.025
Ca	"	532	213	168	164
Cd	"	<0.002	<0.002	<0.002	<0.002
Cr	"	<0.003	<0.003	<0.003	<0.003
Cu	"	<0.01	<0.01	<0.01	<0.01
Fe	"	5.2	3.0	0.16	5.2
Hg	μg/L	<0.20	<0.20	<0.20	<0.20
K	mg/L	10	12	4	3
Mg	"	282	124	57	39
Mn	"	0.068	0.142	0.234	0.888
Na	"	199	102	200	232
Ni	"	<0.002	<0.002	<0.002	<0.002
Pb	"	<0.02	<0.02	<0.02	<0.02
Se	"	<0.1	<0.1	<0.1	<0.1
Zn	"	<0.01	<0.01	0.02	<0.01

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

TABLE 3: ANALYSIS OF WATER FROM LYSIMETERS  
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE  
SOLIDS MANAGEMENT AREA SAMPLED ON MAY 6, 2009

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH <sup>1</sup>		7.4	7.6	7.7	7.7
EC	mS/m	485	266	187	199
Total Dissolved Solids	mg/L	4,684	1,916	1,572	1,580
Total Diss. Org. Carbon	"	4	7	2	5
Cl <sup>-</sup>	"	1,145	317	420	443
SO <sub>4</sub> <sup>=</sup>	"	944	239	244	245
TKN	"	4	36	0.4	1
NH <sub>3</sub> -N	"	3	36	0.2	0.6
NO <sub>2</sub> + NO <sub>3</sub> -N	"	<0.1	<0.1	<0.1	0.2
Total P	"	<0.25	<0.25	<0.25	0.37
Alkalinity as CaCO <sub>3</sub>	"	692	886	388	405
Al	"	0.191	0.058	0.054	0.053
As	"	<0.025	<0.025	<0.025	<0.025
Ca	"	572	213	179	191
Cd	"	<0.002	<0.002	<0.002	<0.002
Cr	"	<0.003	<0.003	<0.003	<0.003
Cu	"	<0.01	<0.01	<0.01	<0.01
Fe	"	5.8	3.3	0.58	5.6
Hg	μg/L	<0.20	<0.20	<0.20	<0.20
K	mg/L	9	11	4	4
Mg	"	289	135	60	45
Mn	"	0.065	0.138	0.287	0.947
Na	"	189	102	205	248
Ni	"	<0.002	<0.002	<0.002	<0.002
Pb	"	<0.02	<0.02	<0.02	<0.02
Se	"	<0.1	<0.1	<0.1	<0.1
Zn	"	<0.01	<0.01	<0.01	<0.01

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

TABLE 4: ANALYSIS OF WATER FROM LYSIMETERS  
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE  
SOLIDS MANAGEMENT AREA SAMPLED ON MAY 20, 2009

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH <sup>1</sup>		7.4	7.7	7.9	7.7
EC	mS/m	549	267	233	317
Total Dissolved Solids	mg/L	4,004	1,784	1,528	2,236
Total Diss. Org. Carbon	"	4	7	2	5
Cl <sup>-</sup>	"	1,203	316	437	557
SO <sub>4</sub> <sup>=</sup>	"	969	251	261	493
TKN	"	2	36	0.5	1
NH <sub>3</sub> -N	"	1	36	0.2	0.8
NO <sub>2</sub> + NO <sub>3</sub> -N	"	<0.1	<0.1	<0.1	<0.1
Total P	"	<0.25	<0.25	<0.25	0.28
Alkalinity as CaCO <sub>3</sub>	"	688	898	400	468
Al	"	0.097	0.049	0.044	0.065
As	"	<0.025	<0.025	<0.025	<0.025
Ca	"	563	217	181	279
Cd	"	<0.002	<0.002	<0.002	<0.002
Cr	"	<0.003	<0.003	<0.003	<0.003
Cu	"	<0.01	<0.01	<0.01	<0.01
Fe	"	5.8	3.7	0.40	6.8
Hg	μg/L	<0.20	<0.20	<0.20	<0.20
K	mg/L	10	12	4	5
Mg	"	285	131	59	93
Mn	"	0.065	0.140	0.285	0.965
Na	"	202	102	209	258
Ni	"	<0.002	<0.002	<0.002	<0.002
Pb	"	<0.02	<0.02	<0.02	<0.02
Se	"	<0.1	<0.1	<0.1	<0.1
Zn	"	<0.01	<0.01	<0.01	<0.01

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

TABLE 5: ANALYSIS OF WATER FROM LYSIMETERS  
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE  
SOLIDS MANAGEMENT AREA SAMPLED ON JUNE 3, 2009

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH <sup>1</sup>		7.6	7.8	7.8	7.8
EC	mS/m	510	260	218	270
Total Dissolved Solids	mg/L	5,304	2,112	1,704	1,980
Total Diss. Org. Carbon	"	4	7	3	8
Cl <sup>-</sup>	"	1,144	312	430	411
SO <sub>4</sub> <sup>=</sup>	"	866	233	263	455
TKN	"	2	39	0.9	2
NH <sub>3</sub> -N	"	1	37	0.3	0.7
NO <sub>2</sub> + NO <sub>3</sub> -N	"	<0.1	<0.1	<0.1	<0.1
Total P	"	<0.25	<0.25	<0.25	0.54
Alkalinity as CaCO <sub>3</sub>	"	639	871	385	442
Al	"	0.092	0.059	0.043	0.059
As	"	<0.025	<0.025	<0.025	<0.025
Ca	"	474	213	187	240
Cd	"	<0.002	<0.002	<0.002	<0.002
Cr	"	<0.003	<0.003	<0.003	<0.003
Cu	"	<0.01	<0.01	<0.01	<0.01
Fe	"	5.4	4.3	1.1	9.0
Hg	μg/L	<0.20	<0.20	<0.20	<0.20
K	mg/L	9	12	4	4
Mg	"	271	130	60	55
Mn	"	0.060	0.140	0.360	1.23
Na	"	193	101	213	267
Ni	"	<0.002	<0.002	<0.002	<0.002
Pb	"	<0.02	<0.02	<0.02	<0.02
Se	"	<0.1	<0.1	<0.1	<0.1
Zn	"	<0.01	<0.01	<0.01	<0.01

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



TABLE 6: ANALYSIS OF WATER FROM LYSIMETERS  
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE  
SOLIDS MANAGEMENT AREA SAMPLED ON JUNE 17, 2009

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH <sup>1</sup>		7.4	7.6	7.6	7.7
EC	mS/m	575	282	243	265
Total Dissolved Solids	mg/L	5,644	2,016	1,612	1,808
Total Diss. Org. Carbon	"	4	7	2	7
Cl <sup>-</sup>	"	1,147	309	412	377
SO <sub>4</sub> <sup>=</sup>	"	915	227	258	468
TKN	"	2	38	0.6	2
NH <sub>3</sub> -N	"	1	37	0.3	0.5
NO <sub>2</sub> + NO <sub>3</sub> -N	"	<0.1	<0.1	<0.1	0.2
Total P	"	<0.25	<0.25	<0.25	<0.25
Alkalinity as CaCO <sub>3</sub>	"	650	886	368	462
Al	"	0.094	0.048	0.044	0.054
As	"	<0.025	<0.025	<0.025	<0.025
Ca	"	504	213	179	247
Cd	"	<0.002	<0.002	<0.002	<0.002
Cr	"	<0.003	<0.003	<0.003	<0.003
Cu	"	<0.01	<0.01	<0.01	<0.01
Fe	"	5.4	3.8	0.38	3.3
Hg	μg/L	<0.20	<0.20	<0.20	<0.20
K	mg/L	9	12	4	4
Mg	"	267	131	59	56
Mn	"	0.061	0.129	0.301	1.12
Na	"	194	97	204	249
Ni	"	<0.002	<0.002	<0.002	<0.002
Pb	"	<0.02	<0.02	<0.02	<0.02
Se	"	<0.1	<0.1	<0.1	<0.1
Zn	"	<0.01	<0.01	<0.01	<0.01

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