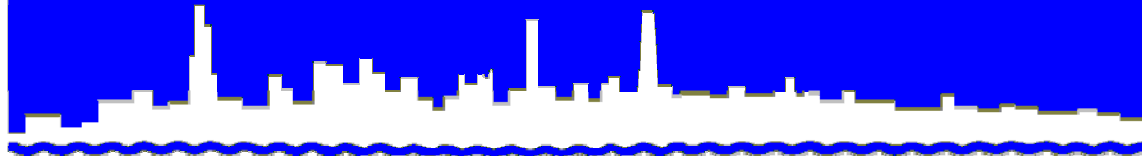


Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

***MONITORING AND RESEARCH
DEPARTMENT***

REPORT NO. 09-06

RIDGELAND AVENUE SOLIDS MANAGEMENT AREA

MONITORING REPORT FOR

THIRD QUARTER 2008

JANUARY 2009

Metropolitan Water Reclamation District of Greater Chicago

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

Louis Kollias, P.E., BCEE
Director of Research and Development
312-751-5190

January 9, 2009

Mr. S. Allan 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, IEPA Permit No. 2005-AO-4283, Monitoring Report for July, August, and September 2008

The attached six tables contain the monitoring data for the Ridgeland Avenue Solids Management Area (SMA) for July, August, and September 2008 as required by IEPA Operating Permit No. 2005-AO-4283.

The data are as follows:

Table 1, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue SMA Sampled on July 16, 2008

Table 2, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue SMA Sampled on July 30, 2008

Table 3, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue SMA Sampled on August 14, 2008

Table 4, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue SMA Sampled on August 27, 2008

Table 5, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue SMA Sampled on September 10, 2008

Mr. S. Alan Keller

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January 9, 2009

Subject: Ridgeland Avenue Solids Management Area – Stickney Water Reclamation Plant, Contract No. 89-202-2P, IEPA Permit No. 2005-AO-4283, Monitoring Report for July, August, and September 2008

Table 6, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue SMA Sampled on September 24, 2008

No biosolids were placed in or removed from the solids drying area during July, August, and September, 2008.

Very truly yours,

Louis Kollias
Director
Monitoring and Research

LK:PL:kq
Attachments
cc: Mr. R. Sulski, IEPA
Records Unit, IEPA
Stuba/Granato/Cox/Lindo/M. Patel

TABLE 1: ANALYSIS¹ OF WATER FROM LYSIMETERS
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON JULY 16, 2008

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH ²		7.4	7.5	7.5	7.6
EC	mS/m	514	292	229	284
Total Dissolved Solids	mg/L	5,248	2,328	2,208	2,484
Total Diss. Org. Carbon	"	3	6	2	2
Cl ⁻	"	518	294	386	415
SO ₄ ⁼	"	981	303	281	126
TKN	"	2	37	4	1
NH ₃ -N	"	1	35	4	0.7
NO ₂ + NO ₃ -N	"	<0.1	<0.1	<0.1	0.2
Total P	"	<0.25	<0.25	<0.25	<0.25
Alkalinity as CaCO ₃	"	605	768	398	325
Al	"	0.072	0.043	0.038	0.039
As	"	<0.025	<0.025	<0.025	<0.025
Ca	"	587	249	193	240
Cd	"	0.003	<0.002	<0.002	<0.002
Cr	"	<0.0025	<0.0025	<0.0025	<0.0025
Cu	"	<0.01	<0.01	<0.01	<0.01
Fe	"	5.0	4.9	0.66	4.9
Hg	μg/L	<0.25	<0.25	<0.25	<0.25
K	mg/L	8	12	5	4
Mg	"	315	150	68	58
Mn	"	0.072	0.131	0.262	1.06
Na	"	170	103	209	244
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	"	0.02	<0.01	<0.01	<0.01

¹Limit of quantitation (LOQ) instead of MDL was used as reporting limit.

²pH analyzed beyond recommended holding time of 15 minutes.

TABLE 2: ANALYSIS¹ OF WATER FROM LYSIMETERS
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON JULY 30, 2008

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH ²		7.3	7.4	7.6	7.4
EC	mS/m	527	277	246	295
Total Dissolved Solids	mg/L	5,848	2,252	1,944	2,520
Total Diss. Org. Carbon	"	3	7	1	2
Cl ⁻	"	565	270	425	588
SO ₄ ⁼	"	763	211	238	129
TKN	"	2	39	0.7	4
NH ₃ -N	"	1	37	0.5	4
NO ₂ + NO ₃ -N	"	<0.1	<0.1	<0.1	<0.1
Total P	"	<0.25	<0.25	<0.25	0.35
Alkalinity as CaCO ₃	"	606	810	353	360
Al	"	0.066	0.045	0.039	0.038
As	"	<0.025	<0.025	<0.025	<0.025
Ca	"	546	235	204	242
Cd	"	0.004	<0.002	<0.002	<0.002
Cr	"	<0.0025	<0.0025	<0.0025	<0.0025
Cu	"	<0.01	<0.01	<0.01	<0.01
Fe	"	5.5	5.2	1.5	9.8
Hg	μg/L	<0.25	<0.25	<0.25	<0.25
K	mg/L	8	12	4	4
Mg	"	275	143	63	63
Mn	"	0.091	0.137	0.390	1.08
Na	"	177	102	234	255
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

¹Limit of quantitation (LOQ) instead of MDL was used as reporting limit.

²pH analyzed beyond recommended holding time of 15 minutes.

TABLE 3: ANALYSIS¹ OF WATER FROM LYSIMETERS
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON AUGUST 14, 2008

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH ²		7.3	7.5	7.6	7.5
EC	mS/m	468	277	247	275
Total Dissolved Solids	mg/L	5,616	2,196	1,848	1,956
Total Diss. Org. Carbon	"	3	6	2	3
Cl ⁻	"	582	213	50	151
SO ₄ ⁼	"	868	246	304	134
TKN	"	4	39	0.9	1
NH ₃ -N	"	3	36	0.3	0.7
NO ₂ + NO ₃ -N	"	<0.1	<0.1	<0.1	0.2
Total P	"	<0.25	<0.25	<0.25	0.29
Alkalinity as CaCO ₃	"	589	756	346	348
Al	"	0.075	0.037	<0.035	0.038
As	"	<0.025	<0.025	<0.025	<0.025
Ca	"	547	223	200	230
Cd	"	<0.002	<0.002	<0.002	<0.002
Cr	"	<0.0025	<0.0025	<0.0025	<0.0025
Cu	"	<0.01	<0.01	<0.01	<0.01
Fe	"	5.0	4.6	0.29	7.3
Hg	μg/L	<0.25	<0.25	<0.25	<0.25
K	mg/L	8	11	4	3
Mg	"	281	135	67	57
Mn	"	0.074	0.136	0.240	1.01
Na	"	171	103	218	263
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

¹Limit of quantitation (LOQ) instead of MDL was used as reporting limit.

²pH analyzed beyond recommended holding time of 15 minutes.

TABLE 4: ANALYSIS¹ OF WATER FROM LYSIMETERS
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON AUGUST 27, 2008

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH ²		7.2	7.4	7.4	7.4
EC	mS/m	536	298	266	288
Total Dissolved Solids	mg/L	6,268	2,304	2,032	2,132
Total Diss. Org. Carbon	"	2	6	2	2
Cl ⁻	"	<10	275	390	571
SO ₄ ⁼	"	910	257	268	117
TKN	"	3	36	0.9	1
NH ₃ -N	"	2	35	0.6	0.6
NO ₂ + NO ₃ -N	"	<0.1	<0.1	<0.1	0.2
Total P	"	<0.25	<0.25	0.76	<0.25
Alkalinity as CaCO ₃	"	606	791	381	343
Al	"	0.085	0.045	0.038	0.039
As	"	<0.025	<0.025	<0.025	<0.025
Ca	"	544	228	195	211
Cd	"	<0.002	<0.002	<0.002	<0.002
Cr	"	<0.0025	<0.0025	<0.0025	<0.0025
Cu	"	<0.01	<0.01	<0.01	<0.01
Fe	"	4.6	5.7	0.68	6.3
Hg	µg/L	<0.25	<0.25	<0.25	<0.25
K	mg/L	8	11	4	3
Mg	"	281	135	68	55
Mn	"	0.077	0.152	0.257	0.895
Na	"	170	103	215	261
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

¹Limit of quantitation (LOQ) instead of MDL was used as reporting limit.

²pH analyzed beyond recommended holding time of 15 minutes.

TABLE 5: ANALYSIS¹ OF WATER FROM LYSIMETERS
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON SEPTEMBER 10, 2008

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH ²		7.4	7.5	7.7	7.6
EC	mS/m	491	277	253	270
Total Dissolved Solids	mg/L	5,256	2,368	1,972	2,044
Total Diss. Org. Carbon	"	3	6	2	2
Cl ⁻	"	540	290	405	576
SO ₄ ⁼	"	924	280	276	124
TKN	"	2	38	2	1
NH ₃ -N	"	1	35	2	0.6
NO ₂ + NO ₃ -N	"	<0.1	<0.1	<0.1	0.2
Total P	"	<0.25	<0.25	<0.25	<0.25
Alkalinity as CaCO ₃	"	581	756	372	306
Al	"	0.041	<0.035	<0.035	<0.035
As	"	<0.025	<0.025	<0.025	<0.025
Ca	"	522	232	194	193
Cd	"	<0.002	<0.002	<0.002	<0.002
Cr	"	<0.0025	<0.0025	<0.0025	<0.0025
Cu	"	<0.01	<0.01	<0.01	<0.01
Fe	"	3.5	2.2	0.28	3.3
Hg	μg/L	<0.20	<0.20	<0.20	<0.20
K	mg/L	8	11	4	4
Mg	"	262	133	62	45
Mn	"	0.100	0.135	0.257	0.821
Na	"	166	97	210	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

¹Limit of quantitation (LOQ) instead of MDL was used as reporting limit.

²pH analyzed beyond recommended holding time of 15 minutes.

TABLE 6: ANALYSIS¹ OF WATER FROM LYSIMETERS
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON SEPTEMBER 24, 2008

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH ²		7.2	7.3	7.4	7.4
EC	mS/m	525	291	257	277
Total Dissolved Solids	mg/L	4,692	2,040	1,688	1,892
Total Diss. Org. Carbon	"	3	6	1	4
Cl ⁻	"	561	292	404	521
SO ₄ ⁼	"	870	257	279	111
TKN	"	2	38	2	2
NH ₃ -N	"	1	36	2	0.8
NO ₂ + NO ₃ -N	"	<0.1	<0.1	<0.1	0.2
Total P	"	<0.25	<0.25	<0.25	0.61
Alkalinity as CaCO ₃	"	596	793	366	408
Al	"	0.108	0.065	0.055	0.058
As	"	<0.025	<0.025	<0.025	<0.025
Ca	"	506	229	190	193
Cd	"	0.015	0.003	0.004	0.005
Cr	"	<0.0025	<0.0025	<0.0025	<0.0025
Cu	"	<0.01	<0.01	<0.01	<0.01
Fe	"	3.9	3.4	1.0	5.9
Hg	μg/L	<0.20	<0.20	<0.20	<0.20
K	mg/L	7	11	4	3
Mg	"	260	135	64	55
Mn	"	0.087	0.141	0.271	0.846
Na	"	158	96	211	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

¹Limit of quantitation (LOQ) instead of MDL was used as reporting limit.

²pH analyzed beyond recommended holding time of 15 minutes.