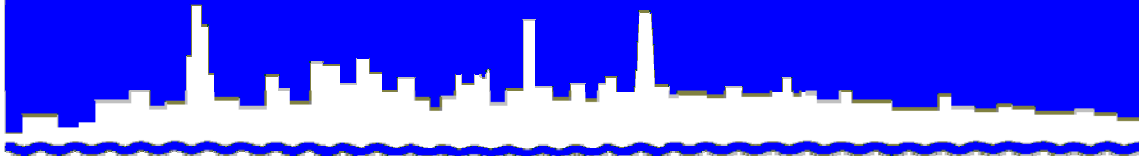


Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

***MONITORING AND RESEARCH
DEPARTMENT***

REPORT NO. 09-40

RIDGELAND AVENUE SOLIDS MANAGEMENT AREA

MONITORING REPORT

FIRST QUARTER 2009

JUNE 2009

Metropolitan Water Reclamation District of Greater Chicago

100 EAST ERIE STREET CHICAGO, ILLINOIS 60611-3154 312.751.5190

Louis Kollias, P.E., BCEE
Director of Monitoring and Research
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June 23, 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 January, February, and March 2009

The attached six tables contain the monitoring data for the Ridgeland Avenue Solids Management Area for January, February, and March 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 January 21, 2009

Table 2, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue Solids Management Area Sampled on January 28, 2009

Table 3, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue Solids Management Area Sampled on February 10, 2009

Table 4, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue Solids Management Area Sampled on February 25, 2009

Table 5, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue Solids Management Area Sampled on March 16, 2009

Table 6, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue Solids Management Area Sampled on March 25, 2009

Mr. S. Alan Keller

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June 23, 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 January, February, and March 2009

No biosolids were placed in or removed from the solids drying area during January, February, and March 2009.

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: ANALYSIS OF WATER FROM LYSIMETERS
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON JANUARY 21, 2009

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH ¹					8.1
EC	mS/m				140
Total Dissolved Solids	mg/L				1,340
Total Diss. Org. Carbon	"				6
Cl ⁻	"				322
SO ₄ ⁼	"				197
TKN	"				1
NH ₃ -N	"	L	L	L	0.6
NO ₂ + NO ₃ -N	"	Y	Y	Y	0.37
Total P	"	S	S	S	<0.1
Alkalinity as CaCO ₃	"	I	I	I	398
Al	"	M	M	M	<1
As	"	E	E	E	<0.05
Ca	"	T	T	T	118
Cd	"	E	E	E	<0.01
Cr	"	R	R	R	<0.003
Cu	"	F	F	F	<0.01
Fe	"	R	R	R	0.9
Hg	μg/L	O	O	O	<0.20
K	mg/L	Z	Z	Z	3
Mg	"	E	E	E	27
Mn	"	N	N	N	0.451
Na	"				297
Ni	"				<0.01
Pb	"				0.059
Se	"				<0.1
Zn	"				<0.015

¹pH 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 JANUARY 28, 2009

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH ¹					7.8
EC	mS/m				153
Total Dissolved Solids	mg/L				1,368
Total Diss. Org. Carbon	"				6
Cl ⁻	"				310
SO ₄ ⁼	"	L	L	L	237
		Y	Y	Y	
TKN	"	S	S	S	0.9
NH ₃ -N	"	I	I	I	0.6
NO ₂ + NO ₃ -N	"	M	M	M	0.53
Total P	"	E	E	E	0.2
Alkalinity as CaCO ₃	"	T	T	T	436
		E	E	E	
Al	"	R	R	R	<1
As	"				<0.05
Ca	"	I	I	I	112
Cd	"	N	N	N	<0.01
Cr	"	A	A	A	<0.003
		C	C	C	
Cu	"	C	C	C	<0.01
Fe	"	E	E	E	0.3
Hg	μg/L	S	S	S	<0.20
K	mg/L	S	S	S	3
Mg	"	I	I	I	26
		B	B	B	
Mn	"	L	L	L	0.460
Na	"	E	E	E	296
Ni	"				<0.01
Pb	"				0.048
Se	"				<0.1
Zn	"				<0.015

¹pH analyzed beyond recommended holding time of 15 minutes.

All lysimeters except L-4N inaccessible due to snow accumulation.

TABLE 3: ANALYSIS OF WATER FROM LYSIMETERS
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON FEBRUARY 10, 2009

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH ¹		7.4	7.6	7.8	8.0
EC	mS/m	411	287	217	167
Total Dissolved Solids ²	mg/L	4,488	2,168	1,756	1,372
Total Diss. Org. Carbon	"	4	7	3	6
Cl ⁻	"	1,039	363	443	295
SO ₄ ⁼	"	757	253	244	183
TKN	"	2	37	3	1
NH ₃ -N	"	1	36	3	0.5
NO ₂ + NO ₃ -N	"	<0.04	<0.04	0.06	0.15
Total P	"	<0.1	<0.1	<0.1	0.3
Alkalinity as CaCO ₃	"	628	910	446	458
Al	"	<1	<1	<1	<1
As	"	<0.05	<0.05	<0.05	<0.05
Ca	"	485	222	189	112
Cd	"	<0.01	<0.01	<0.01	<0.01
Cr	"	<0.003	<0.003	<0.003	<0.003
Cu	"	<0.01	<0.01	<0.01	<0.01
Fe	"	4	1	0.4	1
Hg	μg/L	<0.20	<0.20	<0.20	<0.20
K	mg/L	8	12	5	3
Mg	"	259	141	66	27
Mn	"	0.062	0.103	0.237	0.465
Na	"	176	103	207	296
Ni	"	<0.01	<0.01	<0.01	<0.01
Pb	"	0.058	0.052	0.059	0.059
Se	"	<0.1	<0.1	<0.1	<0.1
Zn	"	<0.015	<0.015	<0.015	<0.015

¹pH analyzed beyond recommended holding time of 15 minutes.

²Total dissolved solids analyzed beyond recommended holding time of 7 days.

TABLE 4: ANALYSIS OF WATER FROM LYSIMETERS
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON FEBRUARY 25, 2009

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH ¹		7.7	7.9	8.0	8.2
EC	mS/m	208	373	183	143
Total Dissolved Solids	mg/L	4,860	1,640	1,488	1,244
Total Diss. Org. Carbon	"	4	7	2	8
Cl ⁻	"	1,082	301	385	239
SO ₄ ⁼	"	962	254	256	170
TKN	"	3	39	0.8	2
NH ₃ -N	"	2	36	0.4	0.8
NO ₂ + NO ₃ -N	"	0.22	0.14	0.06	0.09
Total P	"	<0.1	<0.1	<0.1	0.4
Alkalinity as CaCO ₃	"	664	830	383	512
Al	"	<1	<1	<1	<1
As	"	<0.05	<0.05	<0.05	<0.05
Ca	"	430	210	170	107
Cd	"	<0.01	<0.01	<0.01	<0.01
Cr	"	<0.003	<0.003	<0.003	<0.003
Cu	"	<0.01	<0.01	<0.01	<0.01
Fe	"	5	3	0.3	0.7
Hg	μg/L	<0.20	<0.20	<0.20	<0.20
K	mg/L	9	12	4	3
Mg	"	228	134	59	31
Mn	"	0.081	0.137	0.260	0.422
Na	"	198	109	205	286
Ni	"	<0.01	<0.01	<0.01	<0.01
Pb	"	0.058	0.065	0.064	0.057
Se	"	<0.1	<0.1	<0.1	<0.1
Zn	"	<0.015	<0.015	<0.015	<0.015

¹pH 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 MARCH 16, 2009

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH ¹		7.2	7.6	7.6	7.9
EC	mS/m	549	277	230	117
Total Dissolved Solids	mg/L	4,828	1,672	1,440	1,128
Total Diss. Org. Carbon	"	4	7	2	7
Cl ⁻	"	1,180	315	402	247
SO ₄ ⁼	"	945	248	244	145
TKN	"	3	37	0.7	1
NH ₃ -N	"	2	37	0.3	0.5
NO ₂ + NO ₃ -N	"	0.09	<0.04	0.09	0.21
Total P	"	<0.1	<0.1	<0.1	0.2
Alkalinity as CaCO ₃	"	674	892	396	508
Al	"	<1	<1	<1	<1
As	"	<0.05	<0.05	<0.05	<0.05
Ca	"	543	217	170	96
Cd	"	<0.01	<0.01	<0.01	<0.01
Cr	"	<0.003	<0.003	<0.003	<0.003
Cu	"	<0.01	<0.01	<0.01	<0.01
Fe	"	6	0.6	0.2	<0.1
Hg	μg/L	<0.20	<0.20	<0.20	<0.20
K	mg/L	9	12	4	3
Mg	"	264	128	55	24
Mn	"	0.069	0.121	0.244	0.334
Na	"	182	95	185	226
Ni	"	<0.01	<0.01	<0.01	<0.01
Pb	"	0.020	0.026	0.043	0.039
Se	"	<0.1	<0.1	<0.1	<0.1
Zn	"	<0.015	<0.015	<0.015	<0.015

¹pH analyzed beyond recommended holding time of 15 minutes.

All lysimeters inaccessible on 3/11/09; lock on gate frozen. Sampling re-scheduled for 3/16/09.

TABLE 6: ANALYSIS OF WATER FROM LYSIMETERS
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON MARCH 25, 2009

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH ¹		7.3	7.5	7.6	7.7
EC	mS/m	620	268	255	201
Total Dissolved Solids	mg/L	2,386	876	724	566
Total Diss. Org. Carbon	"	4	6	3	5
Cl ⁻	"	1,145	298	373	237
SO ₄ ⁼	"	967	247	234	145
TKN	"	4	36	1	0.9
NH ₃ -N	"	3	36	0.5	0.3
NO ₂ + NO ₃ -N	"	<0.04	0.08	<0.04	0.30
Total P	"	<0.1	<0.1	<0.1	0.2
Alkalinity as CaCO ₃	"	699	877	428	462
Al	"	<1	<1	<1	<1
As	"	<0.05	<0.05	<0.05	<0.05
Ca	"	517	202	168	99
Cd	"	<0.01	<0.01	<0.01	<0.01
Cr	"	<0.003	<0.003	<0.003	<0.003
Cu	"	<0.01	<0.01	<0.01	<0.01
Fe	"	6	1	0.2	<0.1
Hg	μg/L	<0.20	<0.20	<0.20	<0.20
K	mg/L	10	12	5	3
Mg	"	260	119	59	25
Mn	"	0.068	0.115	0.217	0.456
Na	"	176	93	186	198
Ni	"	<0.01	<0.01	<0.01	<0.01
Pb	"	0.037	0.041	0.041	0.048
Se	"	<0.1	<0.1	<0.1	<0.1
Zn	"	<0.015	<0.015	<0.015	<0.015

¹pH analyzed beyond recommended holding time of 15 minutes.