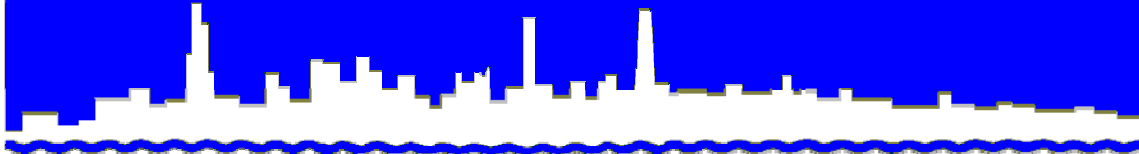


Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

***RESEARCH AND DEVELOPMENT
DEPARTMENT***

REPORT NO. 07-35

RIDGELAND AVENUE SOLIDS MANAGEMENT AREA

MONITORING REPORT FOR

FIRST QUARTER 2007

MAY 2007

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

May 24, 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 January, February, and March 2007

The attached four tables contain the monitoring data for the Ridgeland Avenue Solids Management Area for January, February, and March 2007 as required by IEPA Operating Permit No. 2005-AO-4283. During February, all lysimeters were frozen and could not be sampled. 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 January 3, 2007

Table 2, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue Solids Management Area Sampled on March 1, 2007

Table 3, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue Solids Management Area Sampled on March 14, 2007

Table 4, Analysis of Water from Lysimeters L-1N through L-4N at the Ridgeland Avenue Solids Management Area Sampled on March 28, 2007

Subject: Ridgeland Avenue Solids Management Area - Stickney WRP, Contract No. 89-202-2P, IEPA Permit No. 2005-AO-4283, Monitoring Report for January, February, and March 2007

No biosolids were placed in or removed from the solids drying area during January, February, and March 2007.

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

TABLE 1: ANALYSIS OF WATER FROM LYSIMETERS
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON JANUARY 3, 2007

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH ¹		7.3	7.5	7.6	7.9
EC	mS/m	374	234	235	117
Total Dissolved Solids	mg/L	4,710	1,796	1,676	896
Total Diss. Org. Carbon	"	4	8	2	7
Cl ⁻	"	864	257	403	94
SO ₄ ⁼	"	857	222	215	105
TKN	"	2.2	37	1.1	1.8
NH ₃ -N	"	0.89	29	0.28	0.83
NO ₂ + NO ₃ -N	"	<0.02	0.13	<0.02	<0.02
Total P	"	<0.05	<0.05	<0.05	0.80
Alkalinity as CaCO ₃	"	634	852	355	467
Al	"	0.082	0.044	0.045	0.028
As	"	<0.01	<0.01	<0.01	<0.01
Ca	"	508	199	169	121
Cd	"	0.0007	0.0004	0.0005	<0.0004
Cr	"	<0.0005	<0.0005	<0.0005	0.0008
Cu	"	<0.002	<0.002	<0.002	<0.002
Fe	"	5.02	1.37	0.105	0.084
Hg	μg/L	0.06	<0.05	0.06	0.06
K	mg/L	9	13	5	3
Mg	"	272	134	64.3	30.9
Mn	"	0.0968	0.1257	0.1890	0.5169
Na	"	138	83	224	122
Ni	"	<0.0004	<0.0004	<0.0004	<0.0004
Pb	"	<0.004	0.004	0.006	0.005
Se	"	<0.02	<0.02	<0.02	<0.02
Zn	"	0.006	0.111	0.006	0.002

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 MARCH 1, 2007

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH ¹			7.6		8.1
EC	mS/m		226		122
Total Dissolved Solids	mg/L		1,262		826
Total Diss. Org. Carbon	"		8		7
Cl ⁻	"		252		89
SO ₄ ⁼	"		224		103
TKN	"		40		1.3
NH ₃ -N	"	L	34	L	0.19
NO ₂ + NO ₃ -N	"	Y	0.08	Y	0.33
Total P	"	S	0.05	S	0.59
Alkalinity as CaCO ₃	"	I	837	I	468
		M		M	
Al	"	E	0.035	E	0.024
As	"	T	<0.01	T	<0.01
Ca	"	E	199	E	123
Cd	"	R	<0.0004	R	<0.0004
Cr	"		<0.0005		<0.0005
		F		F	
Cu	"	R	<0.002	R	<0.002
Fe	"	O	0.139	O	0.028
Hg	μg/L	Z	<0.05	Z	<0.05
K	mg/L	E	13	E	3
Mg	"	N	134	N	31.3
Mn	"		0.1487		0.3962
Na	"		83		110
Ni	"		<0.0004		0.0010
Pb	"		<0.004		0.004
Se	"		<0.02		<0.02
Zn	"		0.021		0.007

¹pH 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 MARCH 14, 2007

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH ¹		7.6	7.6	7.7	8.3
EC	mS/m	450	250	212	105
Total Dissolved Solids	mg/L	4,280	1,548	1,550	NA
Total Diss. Org. Carbon	"	4	8	3	NA
Cl ⁻	"	905	260	431	NA
SO ₄ ⁼	"	802	200	193	NA
TKN	"	2.1	39	1.0	1.4
NH ₃ -N	"	0.95	35	0.16	<0.04
NO ₂ + NO ₃ -N	"	0.27	0.60	0.44	0.46
Total P	"	0.06	<0.05	0.11	0.64
Alkalinity as CaCO ₃	"	567	874	358	NA
Al	"	0.082	0.051	0.037	NA
As	"	<0.01	<0.01	<0.01	NA
Ca	"	467	212	160	NA
Cd	"	0.0004	0.0004	<0.0004	NA
Cr	"	<0.0005	<0.0005	<0.0005	NA
Cu	"	<0.002	<0.002	<0.002	NA
Fe	"	6.20	5.57	0.995	NA
Hg	μg/L	<0.05	<0.05	<0.05	NA
K	mg/L	8	12	4	NA
Mg	"	259	135	62.7	NA
Mn	"	0.0727	0.1563	0.1719	NA
Na	"	129	84	217	NA
Ni	"	<0.0004	<0.0004	<0.0004	NA
Pb	"	<0.004	<0.004	<0.004	NA
Se	"	<0.02	<0.02	<0.02	NA
Zn	"	0.008	0.007	0.008	NA

¹pH analyzed beyond recommended holding time of 15 minutes.

NA = No analysis; insufficient sample.

TABLE 4: ANALYSIS OF WATER FROM LYSIMETERS
L-1N THROUGH L-4N AT THE RIDGELAND AVENUE
SOLIDS MANAGEMENT AREA SAMPLED ON MARCH 28, 2007

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH ¹		7.3	7.4	7.6	8.3
EC	mS/m	231	219	204	109
Total Dissolved Solids	mg/L	4,724	1,728	1,578	788
Total Diss. Org. Carbon	"	4	7	2	NA
Cl ⁻	"	1,014	262	418	93
SO ₄ ⁼	"	911	205	205	NA
TKN	"	2.2	40	1.0	1.4
NH ₃ -N	"	0.91	34	0.24	<0.04
NO ₂ + NO ₃ -N	"	0.25	0.15	0.39	1.2
Total P	"	<0.05	<0.05	<0.05	1.1
Alkalinity as CaCO ₃	"	711	870	390	402
Al	"	0.118	0.057	0.047	0.044
As	"	<0.01	<0.01	<0.01	<0.02
Ca	"	571	207	164	116
Cd	"	<0.0004	<0.0004	0.0004	<0.0008
Cr	"	0.0014	0.0011	0.0009	<0.0010
Cu	"	<0.002	<0.002	<0.002	<0.004
Fe	"	4.31	3.42	0.443	0.026
Hg	μg/L	<0.05	<0.05	<0.05	<0.10
K	mg/L	8	12	4	2
Mg	"	280	130	62.7	30.4
Mn	"	0.1001	0.1505	0.2102	0.1576
Na	"	134	83	209	78
Ni	"	<0.0004	<0.0004	<0.0004	<0.0008
Pb	"	<0.004	<0.004	<0.004	<0.008
Se	"	0.03	<0.02	<0.02	0.04
Zn	"	0.007	0.006	0.013	0.012

¹pH analyzed beyond recommended holding time of 15 minutes.

NA = No analysis; insufficient sample.