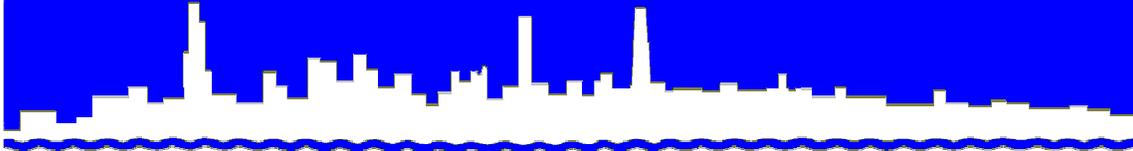


*Protecting Our Water Environment*



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

***RESEARCH AND DEVELOPMENT  
DEPARTMENT***

***REPORT NO.06-12***

***RIDGELAND AVENUE SOLIDS MANAGEMENT AREA***

***MONITORING DATA FOR***

***FOURTH QUARTER 2005***

***MARCH 2006***

March 10, 2006

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 (RASMA) Solids Drying Site - Stickney WRP,  
Contract No. 89-202-2P IEPA Permit No. 2005-AO-4283, Monitoring  
Data for October, November, and December 2005

The attached six tables contain the monitoring results for the RASMA site for October, November, and December 2005 as required by IEPA Operating Permit No. 2005-AO-4283. The four older lysimeters yielded no samples when sampling was attempted during this reporting period. However, three new lysimeters installed in May 2005 were sampled, and the analytical results for these samples are presented in Tables 1-5. The second biweekly sampling for December was attempted on December 21, 2005, but no samples were collected because all the lysimeters were frozen. The District will continue to sample the old and new lysimeters simultaneously until the end of the first quarter of 2006, and will then submit a request to the IEPA for approval to cease using the old lysimeters.

The data reported are as follows:

Table 1, Analysis of Water from Lysimeters L-1N through L-3N at the 119<sup>th</sup> and Ridgeland Avenue Solids Management Area Sampled on October 12, 2005

Table 2, Analysis of Water from Lysimeters L-1N through L-3N at the 119<sup>th</sup> and Ridgeland Avenue Solids Management Area Sampled on October 26, 2005

Table 3, Analysis of Water from Lysimeters L-1N through L-3N at the 119<sup>th</sup> and Ridgeland Avenue Solids Management Area Sampled on November 15, 2005

Table 4, Analysis of Water from Lysimeters L-1N through L-3N at the 119<sup>th</sup> and Ridgeland Avenue Solids Management Area Sampled on November 22, 2005

Subject: Ridgeland Avenue (RASMA) Solids Drying Site - Stickney WRP, Contract No. 89-202-2P IEPA Permit No. 2005-AO-4283, Monitoring Data for October, November, and December 2005

Table 5, Analysis of Water from Lysimeters L-1N through L-3N at the 119<sup>th</sup> and Ridgeland Avenue Solids Management Area Sampled on December 7, 2005

Table 6, Analysis of Monthly Composited Processed Digested Biosolids Removed from the 119<sup>th</sup> and Ridgeland Avenue Solids Management Drying Area During October 2005

No biosolids were placed in the solids drying area during the period of October to December. However, biosolids were removed from the area only during the month of October.

Very truly yours,

Richard Lanyon  
Director  
Research and Development

RL:PL:spy

Enclosure

cc w/enc: Sulski (IEPA)  
Records Unit (IEPA)

cc via MWRDGC web site:  
Levy/Kollias/Sharma  
Granato/O'Connor  
Cox/Lindo/Patel

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 1

ANALYSIS OF WATER FROM LYSIMETERS L-1N THROUGH L-3N AT THE 119th AND RIDGELAND AVENUE SOLIDS MANAGEMENT AREA SAMPLED ON OCTOBER 12, 2005

Parameter	Units	Lysimeter No.		
		L-1N	L-2N	L-3N
pH*		7.8	7.8	7.9
EC	mS/m	393	231	175
Total Dissolved Solids	mg/L	3,892	1,664	1,266
Total Dissolved Organic Carbon	"	6	9	3
Cl <sup>-</sup>	"	708	207	283
SO <sub>4</sub> <sup>=</sup>	"	794	215	219
TKN	"	1.8	35	2.1
NH <sub>3</sub> -N	"	0.86	33	1.7
NO <sub>2</sub> +NO <sub>3</sub> -N	"	2.28	0.089	0.286
Total P	"	0.11	0.08	0.08
Alkalinity as CaCO <sub>3</sub>	"	643	890	321
Al	"	<0.07	<0.07	<0.07
Ca	"	411	205	117
Cd	"	0.0026	0.0020	0.0020
Cr	"	<0.0007	<0.0007	<0.0007
Cu	"	<0.002	<0.002	<0.002
Fe	"	3.02	1.83	0.336
Hg	µg/L	<0.05	<0.05	<0.05
K	mg/L	9	17	5
Mg	"	231	128	56.2
Mn	"	0.1127	0.1995	0.0878
Na	"	110	57	148
Ni	"	<0.002	<0.002	<0.002
Pb	"	<0.0009	0.0020	<0.0009
Zn	"	0.014	0.012	0.008

\*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-3N AT THE 119th AND  
RIDGELAND AVENUE SOLIDS MANAGEMENT AREA SAMPLED ON  
OCTOBER 26, 2005

Parameter	Units	Lysimeter No.		
		L-1N	L-2N	L-3N
pH*		7.4	7.6	7.7
EC	mS/m	420	198	183
Total Dissolved Solids	mg/L	3,700	1,570	1,446
Total Dissolved Organic Carbon	"	5	9	4
Cl <sup>-</sup>	"	705	223	320
SO <sub>4</sub> <sup>=</sup>	"	785	187	237
TKN	"	3.4	35	1.0
NH <sub>3</sub> -N	"	2.1	26	0.47
NO <sub>2</sub> +NO <sub>3</sub> -N	"	0.022	0.062	0.100
Total P	"	<0.04	<0.04	<0.04
Alkalinity as CaCO <sub>3</sub>	"	661	861	385
Al	"	0.12	0.07	<0.07
Ca	"	431	204	143
Cd	"	<0.0003	<0.0003	<0.0003
Cr	"	<0.0007	<0.0007	<0.0007
Cu	"	<0.002	<0.002	<0.002
Fe	"	3.41	3.23	0.155
Hg	µg/L	0.12	0.12	0.12
K	mg/L	9	16	5
Mg	"	239	131	67.8
Mn	"	0.1439	0.2334	0.0874
Na	"	111	63	169
Ni	"	<0.002	<0.002	<0.002
Pb	"	<0.0009	<0.0009	0.0010
Zn	"	0.031	0.016	0.008

\* 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-3N AT THE 119th AND RIDGELAND AVENUE SOLIDS MANAGEMENT AREA SAMPLED ON NOVEMBER 15, 2005

Parameter	Units	Lysimeter No.		
		L-1N	L-2N	L-3N
pH*		7.5	7.6	7.9
EC	mS/m	379	225	174
Total Dissolved Solids	mg/L	3,416	1,480	1,316
Total Dissolved Organic Carbon	"	4	7	2
Cl <sup>-</sup>	"	763	205	321
SO <sub>4</sub> <sup>=</sup>	"	802	185	256
TKN	"	2.2	34	0.66
NH <sub>3</sub> -N	"	0.96	31	<0.02
NO <sub>2</sub> +NO <sub>3</sub> -N	"	0.050	0.015	0.174
Total P	"	0.09	0.17	0.09
Alkalinity as CaCO <sub>3</sub>	"	583	794	298
Al	"	<0.07	<0.07	<0.07
Ca	"	430	199	133
Cd	"	<0.0003	<0.0003	0.0003
Cr	"	<0.0007	<0.0007	<0.0007
Cu	"	<0.002	<0.002	<0.002
Fe	"	2.75	0.087	0.021
Hg	µg/L	<0.05	0.05	<0.05
K	mg/L	8	16	4
Mg	"	235	129	65.0
Mn	"	0.0970	0.2018	0.0525
Na	"	109	58	171
Ni	"	<0.002	<0.002	<0.002
Pb	"	<0.0009	<0.0009	<0.0009
Zn	"	0.022	0.011	0.01

\*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-3N AT THE 119th AND RIDGELAND AVENUE SOLIDS MANAGEMENT AREA SAMPLED ON NOVEMBER 22, 2005

Parameter	Units	Lysimeter No.		
		L-1N	L-2N	L-3N
pH*		7.3	7.5	7.7
EC	mS/m	381	239	204
Total Dissolved Solids	mg/L	3,414	1,388	1,396
Total Dissolved Organic Carbon	"	4	7	2
Cl <sup>-</sup>	"	729	218	329
SO <sub>4</sub> <sup>=</sup>	"	785	180	235
TKN	"	1.6	39	1.3
NH <sub>3</sub> -N	"	0.76	31	0.48
NO <sub>2</sub> +NO <sub>3</sub> -N	"	0.006	0.011	0.144
Total P	"	<0.04	<0.04	<0.08
Alkalinity as CaCO <sub>3</sub>	"	607	778	340
Al	"	<0.07	<0.07	<0.14
Ca	"	425	210	137
Cd	"	0.0003	<0.0003	0.0006
Cr	"	<0.0007	<0.0007	<0.0014
Cu	"	<0.002	<0.002	<0.004
Fe	"	4.24	1.05	0.076
Hg	µg/L	<0.05	<0.05	<0.10
K	mg/L	7	15	4
Mg	"	234	129	65.6
Mn	"	0.0969	0.2375	0.0778
Na	"	108	56	169
Ni	"	<0.002	<0.002	<0.004
Pb	"	<0.0009	<0.0009	<0.0018
Zn	"	0.015	0.010	0.012

\*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-3N AT THE 119th AND RIDGELAND AVENUE SOLIDS MANAGEMENT AREA SAMPLED ON DECEMBER 7, 2005

Parameter	Units	Lysimeter No.		
		L-1N	L-2N	L-3N
pH*				7.8
EC	mS/m			208
Total Dissolved Solids	mg/L			1,446
Total Dissolved Organic Carbon	"			3
Cl <sup>-</sup>	"			357
SO <sub>4</sub> <sup>=</sup>	"			1,981
		L	L	
TKN	"	Y	Y	0.88
NH <sub>3</sub> -N	"	S	S	0.21
NO <sub>2</sub> +NO <sub>3</sub> -N	"	I	I	0.208
Total P**	"	M	M	0.11
Alkalinity as CaCO <sub>3</sub>	"	E	E	355
		T	T	
Al	"	E	E	<0.07
Ca	"	R	R	148
Cd	"			<0.0003
Cr	"	F	F	<0.0007
Cu	"	R	R	<0.002
		O	O	
Fe	"	Z	Z	0.057
Hg	µg/L	E	E	0.06
K	mg/L	N	N	4
Mg	"			69.4
Mn	"			0.0744
Na	"			177
Ni	"			<0.002
Pb	"			<0.0009
Zn	"			0.012

\* pH analyzed beyond recommended holding time of 15 minutes.

\*\* Less than 10X method blank criteria for Total P not met.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 6

ANALYSIS OF MONTHLY COMPOSITED PROCESSED DIGESTED BIOSOLIDS  
REMOVED FROM THE 119th AND RIDGELAND AVENUE SOLIDS MANAGEMENT  
AREA DURING OCTOBER 2005

Constituent	Units	Concentration*
pH*		6.7
Total Solids	%	61.3
Total Volatile Solids	%	39.0
TKN	mg/dry kg	23,248
NH <sub>3</sub> -N	"	1,809
Total P	"	25,428
Al	"	20,582
As	"	8
Ca	"	39,137
Cd	"	6
Cr	"	292
Cu	"	423
Fe	"	19,100
Hg	"	1.4
K	"	3,621
Mg	"	17,945
Mn	"	521
Mo	"	17
Na	"	1,120
Ni	"	64
Pb	"	153
Se	"	<0.7
Zn	"	927

\*Values are the data for one sample.