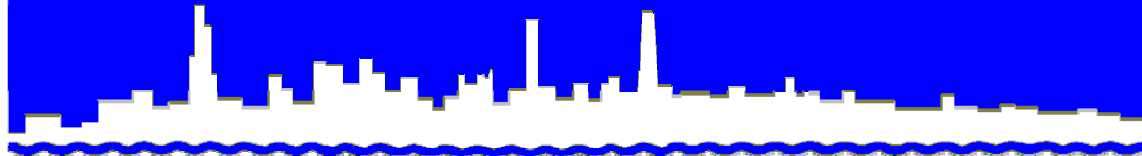


*Protecting Our Water Environment*



*Metropolitan Water Reclamation District of Greater Chicago*

***MONITORING AND RESEARCH  
DEPARTMENT***

*REPORT NO. 09-19*

*122<sup>ND</sup> STONY ISLAND AVENUE SOLIDS MANAGEMENT AREA*

*MONITORING REPORT*

*FOURTH QUARTER 2008*

*MARCH 2009*

# Protecting Our Water Environment

## BOARD OF COMMISSIONERS

Terrence J. O'Brien  
*President*  
Kathleen Therese Meany  
*Vice President*  
Gloria Alitto Majewski  
*Chairman of Finance*  
Frank Avila  
Patricia Horton  
Barbara J. McGowan  
Cynthia M. Santos  
Debra Shore  
Patricia Young

## 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

March 12, 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: 122<sup>nd</sup> and Stony Island Avenue Solids Management Area – Stickney Water Reclamation Plant, Illinois Environmental Protection Agency Permit No. 2005-AO-4283, Monitoring Report for October, November, and December 2008

The attached five tables contain the monitoring data for the 122<sup>nd</sup> and Stony Island Avenue Solids Management Area (SMA) for October, November, and December 2008 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-1 through L-4 at the 122<sup>nd</sup> and Stony Island Avenue SMA Sampled on October 6, 2008

Table 2, Analysis of Water from Lysimeters L-1 through L-4 at the 122<sup>nd</sup> and Stony Island Avenue SMA Sampled on November 12, 2008

Table 3, Analysis of Water from Lysimeters L-1 through L-4 at the 122<sup>nd</sup> and Stony Island Avenue SMA Sampled on December 10, 2008

Table 4, Analysis of Monthly Compositated Processed Digested Biosolids Removed from the 122<sup>nd</sup> and Stony Island Avenue SMA during November 2008

Table 5, Analysis of Monthly Compositated Processed Digested Biosolids Removed from the 122<sup>nd</sup> and Stony Island Avenue SMA during December 2008

Mr. S. Alan Keller

2

March 12, 2009

Subject: 122<sup>nd</sup> and Stony Island Avenue Solids Management Area – Stickney Water Reclamation Plant, Illinois Environmental Protection Agency Permit No. 2005-AO-4283, Monitoring Report for October, November, and December 2008

No biosolids were placed in the solids drying area during October, November, and December 2008. Biosolids were removed from the solids drying area during November and December 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: ANALYSIS<sup>1</sup> OF WATER FROM LYSIMETERS  
L-1 THROUGH L-4 AT THE 122<sup>ND</sup> AND STONY ISLAND AVENUE  
SOLIDS MANAGEMENT AREA SAMPLED ON OCTOBER 6, 2008

Parameter	Unit	Lysimeter No.			
		L-1	L-2	L-3	L-4
pH <sup>2</sup>		7.4	7.5	7.1	7.5
EC	mS/m	271	218	282	192
Total Dissolved Solids	mg/L	2,124	1,568	2,720	1,308
Total Diss. Org. Carbon	"	40	13	40	19
Cl <sup>-</sup>	"	209	369	96	270
SO <sub>4</sub> <sup>=</sup>	"	261	158	662	24
TKN	"	34	2	10	6
NH <sub>3</sub> -N	"	33	0.9	6	4
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	<0.25
Alkalinity as CaCO <sub>3</sub>	"	1,046	443	1,124	611
Al	"	0.051	<0.035	0.081	<0.035
B	"	4.1	1.0	0.38	1.4
Ca	"	263	130	508	134
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	"	1.2	1.3	7.5	0.64
Hg	μg/L	<0.20	<0.20	<0.20	<0.20
K	mg/L	29	35	6	18
Mg	"	132	68	160	68
Mn	"	0.310	1.08	0.553	0.131
Na	"	189	226	50	201
Ni	"	<0.002	<0.002	<0.002	<0.002
Pb	"	<0.02	<0.02	<0.02	<0.02
Zn	"	<0.01	0.02	<0.01	<0.01

<sup>1</sup>Limit of quantitation (LOQ) instead of MDL was used as reporting limit.

<sup>2</sup>pH analyzed beyond recommended holding time of 15 minutes.

TABLE 2: ANALYSIS<sup>1</sup> OF WATER FROM LYSIMETERS  
L-1 THROUGH L-4 AT THE 122<sup>ND</sup> AND STONY ISLAND AVENUE  
SOLIDS MANAGEMENT AREA SAMPLED ON NOVEMBER 12, 2008

Parameter	Unit	Lysimeter No.			
		L-1	L-2	L-3	L-4
pH <sup>2</sup>		7.6	7.6	7.4	7.7
EC	mS/m	304	263	320	218
Total Dissolved Solids	mg/L	2,048	1,660	2,720	1,372
Total Diss. Org. Carbon	"	37	15	37	21
Cl <sup>-</sup>	"	214	432	112	292
SO <sub>4</sub> <sup>=</sup>	"	250	100	365	38
TKN	"	39	4	10	7
NH <sub>3</sub> -N	"	31	2	6	5
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.2	<0.1	<0.1	<0.1
Total P	"	<0.25	<0.25	<0.25	<0.25
Alkalinity as CaCO <sub>3</sub>	"	1,190	537	1,247	716
Al	"	0.036	<0.035	0.064	<0.035
B	"	3.9	1.2	0.36	1.2
Ca	"	261	140	498	144
Cd	"	<0.002	0.003	<0.002	<0.002
Cr	"	<0.003	<0.003	<0.003	<0.003
Cu	"	<0.01	<0.01	<0.01	<0.01
Fe	"	4.1	12	19	5.4
Hg	µg/L	<0.20	<0.20	<0.20	<0.20
K	mg/L	28	38	6	17
Mg	"	127	73	153	69
Mn	"	0.318	1.25	0.541	0.147
Na	"	183	241	52	190
Ni	"	<0.002	<0.002	<0.002	<0.002
Pb	"	0.04	0.04	0.04	0.04
Zn	"	<0.01	<0.01	<0.01	<0.01

<sup>1</sup>Limit of quantitation (LOQ) instead of MDL was used as reporting limit.

<sup>2</sup>pH analyzed beyond recommended holding time of 15 minutes.

TABLE 3: ANALYSIS<sup>1</sup> OF WATER FROM LYSIMETERS  
L-1 THROUGH L-4 AT THE 122<sup>ND</sup> AND STONY ISLAND AVENUE  
SOLIDS MANAGEMENT AREA SAMPLED ON DECEMBER 10, 2008

Parameter	Unit	Lysimeter No.			
		L-1	L-2	L-3	L-4
pH <sup>2</sup>		7.6	7.7	7.4	7.8
EC	mS/m	234	185	234	172
Total Dissolved Solids	mg/L	1,840	1,508	2,588	1,268
Total Diss. Org. Carbon	"	36	15	NA	19
Cl <sup>-</sup>	"	197	375	101	251
SO <sub>4</sub> <sup>=</sup>	"	250	78	676	40
TKN	"	34	4	10	7
NH <sub>3</sub> -N	"	31	2	6	4
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.3	0.2	<0.1	0.3
Total P	"	<0.25	<0.25	<0.25	<0.25
Alkalinity as CaCO <sub>3</sub>	"	1,088	502	1,079	606
Al	"	0.040	<0.035	0.052	<0.035
B	"	3.7	1.2	0.40	1.3
Ca	"	275	137	520	149
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	"	0.44	1.7	10	0.91
Hg	μg/L	<0.20	<0.20	<0.20	<0.20
K	mg/L	29	39	7	17
Mg	"	130	74	162	71
Mn	"	0.312	1.08	0.562	0.132
Na	"	190	259	59	202
Ni	"	<0.002	<0.002	<0.002	<0.002
Pb	"	0.05	0.05	0.04	<0.02
Zn	"	<0.01	<0.01	<0.01	<0.01

<sup>1</sup>Limit of quantitation (LOQ) instead of MDL was used as reporting limit.

<sup>2</sup>pH analyzed beyond recommended holding time of 15 minutes.

NA = No analysis; insufficient sample.

TABLE 4: ANALYSIS<sup>1</sup> OF MONTHLY COMPOSITED PROCESSED DIGESTED BIOSOLIDS REMOVED FROM THE 122<sup>ND</sup> AND STONY ISLAND AVENUE SOLIDS MANAGEMENT DRYING AREA DURING NOVEMBER 2008

Parameter	Unit	Concentration
pH		6.1
Total Solids	%	66.5
Total Volatile Solids <sup>2</sup>	%	32.8
TKN	mg/kg	15,181
NH <sub>3</sub> -N	"	72
Total P	"	23,690
Al	"	22,047
As	"	<10
Ca	"	42,908
Cd	"	5
Cr	"	262
Cu	"	469
Fe	"	20,364
Hg	"	1.5
K	"	3,097
Mg	"	18,406
Mn	"	559
Mo	"	18
Na	"	<800
Ni	"	53
Pb	"	174
Se	"	<8
Zn	"	1,043

<sup>1</sup>Values are the means of five samples.

<sup>2</sup>Total volatile solids as a percentage of total solids.

TABLE 5: ANALYSIS<sup>1</sup> OF MONTHLY COMPOSITED PROCESSED DIGESTED BIOSOLIDS REMOVED FROM THE 122<sup>ND</sup> AND STONY ISLAND AVENUE SOLIDS MANAGEMENT DRYING AREA DURING DECEMBER 2008

Parameter	Unit	Concentration
pH		7.1
Total Solids	%	59.5
Total Volatile Solids <sup>2</sup>	%	35.3
TKN	mg/kg	21,587
NH <sub>3</sub> -N	"	4,113
Total P	"	21,701
Al	"	22,745
As	"	<10
Ca	"	42,766
Cd	"	5
Cr	"	307
Cu	"	465
Fe	"	20,472
Hg	"	1.5
K	"	3,451
Mg	"	18,026
Mn	"	648
Mo	"	19
Na	"	<800
Ni	"	57
Pb	"	180
Se	"	<8
Zn	"	1,010

<sup>1</sup>Values are the means of five samples.

<sup>2</sup>Total volatile solids as a percentage of total solids.