

Metropolitan Water Reclamation District of Greater Chicago

MONITORING AND RESEARCH DEPARTMENT

REPORT NO. 13-27

122ND AND STONY ISLAND AVENUE SOLIDS MANAGEMENT

AREA MONITORING REPORT FOR

SECOND QUARTER 2013

AUGUST 2013

Protecting Our Water Environment

Metropolitan Water Reclamation District of Greater Chicago

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August 22, 2013

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: 122nd and Stony Island Avenue Solids Management Area – Stickney Water

Reclamation Plant, Illinois Environmental Protection Agency Permit No.

2010-AO-0267, Monitoring Report for April, May, and June 2013

The attached two tables contain the monitoring data for the 122nd and Stony Island Avenue Solids Management Area for April, May, and June 2013 as required by Illinois Environmental Protection Agency (IEPA) Operating Permit No. 2010-AO-0267.

The data reported are as follows:

Table 1, Analysis of Water from Lysimeter L-1 at the 122nd and Stony Island Avenue Solids Management Area Sampled During April, May, and June 2013

Table 2, Analysis of Water from Lysimeters L-2 Through L-4 at the 122nd and Stony Island Avenue Solids Management Area Sampled on May 8, 2013

No biosolids were placed in or removed from the solids drying area during April, May, and June 2013.

Very truly yours,

Thomas C. Granato, Ph.D. Director Monitoring and Research

TCG:PL:cm Attachments

cc w/att: Mr. Patel, IEPA

Records Unit, IEPA

TABLE 1: ANALYSIS OF WATER FROM LYSIMETER L-1 AT THE 122ND AND STONY ISLAND AVENUE SOLIDS MANAGEMENT AREA SAMPLED DURING APRIL, MAY, AND JUNE 2013

		Date Sampled		
Parameter	Unit	04/03/13	05/08/13	06/05/13
pH^1		7.6	7.7	7.4
EC	mS/m	309	316	311
Total Dissolved Solids	mg/L	2,242	2,252	2,258
Total Dissolved Organic Carbon	"	12	41	38
Cl-	,,	209	201	194
$SO_4^{=}$,,	169	200	216
Alkalinity as CaCO ₃	53	NRR ²	1,443	1,449
TKN	,,	NRR^2	35	34
NH ₃ -N	,,	33	32	31
$NO_2 + NO_3 - N$,,	< 0.15	< 0.15	< 0.15
Total P	"	< 0.20	< 0.20	< 0.20
Al	71	< 1.0	< 1.0	< 1.0
В	1)	12	8.2	7.3
Ca	>>	307	297	311
Cd	,,	< 0.001	< 0.001	< 0.001
Cr	,,	< 0.005	< 0.005	< 0.005
Cu	,,	< 0.005	< 0.005	< 0.005
Fe	"	22	21	23
Hg	μ g/L	< 0.20	< 0.20	< 0.20
K	mg/L	33	30	36
Mg	**1	144	148	157
Mn	1)	0.354	0.347	
Na	**	216	195	187
Ni	,,	0.008	< 0.005	
Pb	"	< 0.02	< 0.02	< 0.02
Zn	17	< 0.01	< 0.01	< 0.01

¹pH analyzed beyond recommended holding time of 15 minutes.

²No reportable result.

TABLE 2: ANALYSIS OF WATER FROM LYSIMETERS L-2 THROUGH L-4 AT THE $122^{\rm ND}$ AND STONY ISLAND AVENUE SOLIDS MANAGEMENT AREA SAMPLED ON MAY 8, 2013

Parameter Unit L-2 L-3 L-4 pH¹ 8.2 8.0 7.9 EC mS/m 213 284 194 Total Dissolved Solids mg/L 1,776 2,478 1,234 Total Dissolved Organic Carbon " 19 48 18 Cl⁻ " < 10 95 242 SO₄ * " 147 492 13 Alkalinity as CaCO₃ " 498 1,045 669 TKN " 4 10 6 NH₃-N " 4 10 6 NH₃-N " 2 7 4 NO₂-N N " 0.20 < 0.15 < 0.15 Total P " 1.3 < 0.20 < 0.15 Al " < 1.0 < 1.0 < 1.0 Al " < 1.0 < 1.0 < 1.0 B " 1.4 0.40 1.5		Unit	Lysimeter No.		
EC mS/m 213 284 194 Total Dissolved Solids mg/L 1,776 2,478 1,234 Total Dissolved Organic Carbon " 19 48 18 CI	Parameter		L-2	L-3	L-4
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	pH ¹		8.2	8.0	7.9
Total Dissolved Organic Carbon 19 48 18 Cl ⁻ " < 10		mS/m	213	284	194
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Total Dissolved Solids	mg/L	1,776	2,478	1,234
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Total Dissolved Organic Carbon	-	19	48	18
TKN " 4 10 6 NH3-N " 2 7 4 NO2 + NO3-N " 0.20 < 0.15	Cl	>>	< 10	95	242
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$SO_4^{=}$	35	147	492	13
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Alkalinity as CaCO ₃	,,	498	1,045	669
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	TKN	22	4	10	6
Total P " 1.3 < 0.20 < 0.20 Al " < 1.0 < 1.0 < 1.0 B " 1.4 0.40 1.5 Ca " 123 430 118 Cd " < 0.001 < 0.001 < 0.001 Cr " < 0.005 < 0.005 < 0.005 Fe " < 0.005 < 0.005 < 0.005 Fe " < 0.20 < 0.20 < 0.20 K mg/L < 0.20 < 0.20 < 0.20 K mg/L < 0.00 < 0.00 < 0.00 Mn " < 0.00 < 0.005 < 0.005 Na " < 0.005 < 0.005 < 0.005 Pb " < 0.005 < 0.005 < 0.005	NH ₃ -N	"	2	7	4
Al	$NO_2 + NO_3 - N$	"	0.20	< 0.15	< 0.15
B " 1.4 0.40 1.5 Ca " 123 430 118 Cd " < 0.001	Total P	22	1.3	< 0.20	< 0.20
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Al	**	< 1.0	< 1.0	< 1.0
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	В	,,	1.4	0.40	1.5
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Ca	,,	123	430	118
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Cd	"			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Cr	"	< 0.005	< 0.005	< 0.005
Hg μg/L < 0.20 < 0.20 < 0.20 K mg/L 57 7 23 Mg " 88 160 68 Mn " 1.09 0.365 0.106 Na " 255 58 196 Ni " < 0.005	Cu	"	< 0.005	< 0.005	< 0.005
K mg/L 57 7 23 Mg " 88 160 68 Mn " 1.09 0.365 0.106 Na " 255 58 196 Ni " < 0.005	Fe	"			1
Mg " 88 160 68 Mn " 1.09 0.365 0.106 Na " 255 58 196 Ni " < 0.005	Hg	μ g/L			
Mn " 1.09 0.365 0.106 Na " 255 58 196 Ni " < 0.005 < 0.005 < 0.005 Pb " < 0.02 < 0.02 < 0.02	K	mg/L			
Na " 255 58 196 Ni " < 0.005	Mg	,,	88	160	68
Ni " < 0.005 < 0.005 < 0.005 Pb " < 0.02 < 0.02 < 0.02	Mn	"	1.09	0.365	0.106
Pb " < 0.02 < 0.02 < 0.02	Na	1,			
	Ni	"			
Zn $< 0.01 < 0.01 < 0.01$	Pb	,,			
	Zn	11	< 0.01	< 0.01	< 0.01

¹pH analyzed beyond recommended holding time of 15 minutes.