

Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

*MONITORING AND RESEARCH
DEPARTMENT*

REPORT NO. 14-06

HARLEM AVENUE SOLIDS MANAGEMENT AREA

MONITORING REPORT FOR

FOURTH QUARTER 2013

February 2014

Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

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February 20, 2014

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: Harlem Avenue Solids Management Area – Stickney Water Reclamation Plant, Illinois Environmental Protection Agency Permit No. 2009-AO-2715-1, Monitoring Report for October, November, and December 2013

The attached three tables contain the monitoring data for the Harlem Avenue Solids Management Area for October, November, and December 2013 as required by Illinois Environmental Protection Agency (IEPA) Operating Permit No. 2009-AO-2715-1.

The data reported are as follows:

Table 1, Analysis of Water from Lysimeters L-1N1 Through L-3N at the Harlem Avenue Solids Management Area Sampled on November 6, 2013

Table 2, Analysis of Monthly Compositated Biosolids Placed in the Harlem Avenue Solids Management Drying Area During October 2013

Table 3, Analysis of Monthly Compositated Processed Digested Biosolids Removed from the Harlem Avenue Solids Management Drying Area During October 2013

Biosolids were placed in the solids drying area and removed from the site during October.

Very truly yours,

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

TCG:PL:cm

Attachments

cc w/att: Mr. J. Patel, IEPA
Records Unit, IEPA

TABLE 1: ANALYSIS OF WATER FROM LYSIMETERS L-1N1
THROUGH L-3N AT THE HARLEM AVENUE SOLIDS MANAGEMENT
AREA SAMPLED ON NOVEMBER 6, 2013

Parameter	Unit	Lysimeter No.		
		L-1N1	L-2N	L-3N
pH ¹		7.8	7.5	7.6
EC	mS/m	167	276	148
Total Dissolved Solids	mg/L	1,854	3,560	1,546
Total Dissolved Organic Carbon	"	39	6	15
Cl ⁻	"	99	38	97
SO ₄ ⁼	"	6	1,852	97
Alkalinity as CaCO ₃	"	1,470	629	1,096
TKN	"	11	< 1	3
NH ₃ -N	"	6	< 0.1	0.9
NO ₂ + NO ₃ -N	"	< 0.15	6.6	0.33
Total P	"	< 0.20	< 0.20	< 0.20
Al	"	< 1.0	< 1.0	< 1.0
Ca	"	275	530	258
Cd	"	< 0.001	< 0.001	< 0.001
Cr	"	< 0.005	< 0.005	< 0.005
Cu	"	< 0.005	< 0.005	< 0.005
Fe	"	5	< 0.1	8
Hg	μg/L	< 0.20	< 0.20	< 0.20
K	mg/L	5	2	< 1
Mg	"	182	176	118
Mn	"	0.260	1.89	0.840
Na	"	44	23	41
Ni	"	< 0.005	0.009	< 0.005
Pb	"	< 0.02	< 0.02	< 0.02
Zn	"	< 0.01	0.09	0.03

¹pH analyzed beyond recommended holding time of 15 minutes.

TABLE 2: ANALYSIS OF MONTHLY COMPOSITED BIOSOLIDS
 PLACED IN THE HARLEM AVENUE SOLIDS MANAGEMENT DRYING AREA
 DURING OCTOBER 2013

Parameter	Unit	Concentration ¹
pH		7.2
Total Solids	%	9.8
Total Volatile Solids ²	"	45.0

¹Values are the means of seven samples.

²Total volatile solids as a percentage of total solids.

TABLE 3: ANALYSIS OF MONTHLY COMPOSITED PROCESSED DIGESTED BIOSOLIDS REMOVED FROM THE HARLEM AVENUE SOLIDS MANAGEMENT DRYING AREA DURING OCTOBER 2013

Parameter	Unit	Concentration ¹
pH		7.1
Total Solids	%	26.6
Total Volatile Solids ²	"	43.5
TKN	mg/kg	31,995
NH ₃ -N	"	4,176
Total P	"	21,179
Al	"	17,667
Ca	"	42,181
Cd	"	3
Cr	"	143
Cu	"	450
Fe	"	19,508
Hg	"	1.0
K	"	3,451
Mg	"	19,084
Mn	"	519
Mo	"	9
Na	"	1,619
Ni	"	46
Pb	"	107
Zn	"	859

¹Values are the means of two samples.

²Total volatile solids as a percentage of total solids.