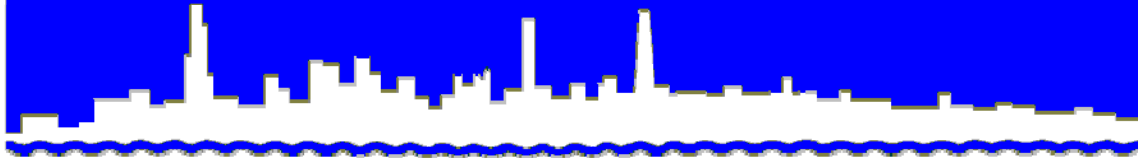


Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

*MONITORING AND RESEARCH
DEPARTMENT*

REPORT NO. 13-6

HARLEM AVENUE SOLIDS MANAGEMENT AREA

MONITORING REPORT FOR

FOURTH QUARTER 2012

March 2013

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March 8, 2013

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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 2012

The attached six tables contain the monitoring data for the Harlem Avenue Solids Management Area for October, November, and December 2012 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 7, 2012
- Table 2, Analysis of Monthly Compositated Biosolids Placed in the Harlem Avenue Solids Management Drying Area During November 2012
- Table 3, Analysis of Monthly Compositated Biosolids Placed in the Harlem Avenue Solids Management Drying Area During December 2012
- Table 4, Analysis of Monthly Compositated Processed Digested Biosolids Removed from the Harlem Avenue Solids Management Drying Area During October 2012

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 2012

Table 5, Analysis of Monthly Compositated Processed Digested Biosolids Removed from the Harlem Avenue Solids Management Drying Area During November 2012

Table 6, Analysis of Monthly Compositated Processed Digested Biosolids Removed from the Harlem Avenue Solids Management Drying Area During December 2012

Biosolids were placed in the solids drying area during November and December and removed from the site during October, November, and December 2012.

Very truly yours,

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

TCG:PL:cm

Attachments

cc w/att: Mr. J. Patel, IEPA
Region 2 – Des Plaines
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 7, 2012

Parameter	Unit	Lysimeter No.		
		L-1N1	L-2N	L-3N
pH ¹		8.3	7.9	8.1
EC	mS/m	176	305	156
Total Dissolved Solids	mg/L	1,708	3,552	1,720
Total Dissolved Organic Carbon	"	36	5	16
Cl ⁻	"	101	44	102
SO ₄ ⁼	"	9	1,757	NA ²
TKN	"	7	< 1	2
NH ₃ -N	"	6	< 0.1	1
NO ₂ + NO ₃ -N	"	< 0.15	1.5	< 0.15
Total P	"	< 0.10	< 0.10	0.63
Alkalinity as CaCO ₃	"	872	133	560
Al	"	< 1.0	< 1.0	< 1.0
Ca	"	313	638	305
Cd	"	< 0.001	< 0.001	< 0.001
Cr	"	< 0.005	< 0.005	< 0.005
Cu	"	< 0.005	< 0.005	< 0.005
Fe	"	3	< 0.1	34
Hg	μg/L	< 0.20	< 0.20	< 0.20
K	mg/L	4	< 1	< 1
Mg	"	190	178	125
Mn	"	0.271	2.10	0.955
Na	"	45	23	34
Ni	"	0.006	0.009	< 0.005
Pb	"	< 0.02	< 0.02	< 0.02
Zn	"	0.06	0.03	0.05

¹pH analyzed beyond recommended holding time of 15 minutes.

²No analysis.

TABLE 2: ANALYSIS OF MONTHLY COMPOSITED BIOSOLIDS
 PLACED IN THE HARLEM AVENUE SOLIDS MANAGEMENT DRYING AREA
 DURING NOVEMBER 2012

Parameter	Unit	Concentration ¹
pH		8.0
Total Solids	%	19.7
Total Volatile Solids ²	"	45.3

¹Values are the means of four samples.

²Total volatile solids as a percentage of total solids.

TABLE 3: ANALYSIS OF MONTHLY COMPOSITED BIOSOLIDS
 PLACED IN THE HARLEM AVENUE SOLIDS MANAGEMENT DRYING AREA
 DURING DECEMBER 2012

Parameter	Unit	Concentration ¹
pH		8.2
Total Solids	%	21.1
Total Volatile Solids ²	"	45.7

¹Values are for one sample.

²Total volatile solids as a percentage of total solids.

TABLE 4: ANALYSIS OF MONTHLY COMPOSITED PROCESSED DIGESTED
BIOSOLIDS REMOVED FROM THE HARLEM AVENUE SOLIDS
MANAGEMENT DRYING AREA DURING OCTOBER 2012

Parameter	Unit	Concentration ¹
pH		6.7
Total Solids	%	69.7
Total Volatile Solids ²	"	40.6
TKN	mg/kg	22,711
NH ₃ -N	"	2,278
Total P	"	22,835
Al	"	22,388
Ca	"	42,387
Cd	"	3
Cr	"	161
Cu	"	435
Fe	"	18,282
Hg	"	1.0
K	"	2,953
Mg	"	18,147
Mn	"	581
Mo	"	10
Na	"	723
Ni	"	42
Pb	"	125
Zn	"	875

¹Values are the means of seven samples.

²Total volatile solids as a percentage of total solids.

TABLE 5: ANALYSIS OF MONTHLY COMPOSITED PROCESSED DIGESTED
BIOSOLIDS REMOVED FROM THE HARLEM AVENUE SOLIDS
MANAGEMENT DRYING AREA DURING NOVEMBER 2012

Parameter	Unit	Concentration ¹
pH		6.8
Total Solids	%	57.8
Total Volatile Solids ²	"	40.8
TKN	mg/kg	24,623
NH ₃ -N	"	3,740
Total P	"	22,115
Al	"	22,760
Ca	"	42,431
Cd	"	3
Cr	"	149
Cu	"	409
Fe	"	17,590
Hg	"	0.93
K	"	3,563
Mg	"	19,272
Mn	"	593
Mo	"	10
Na	"	900
Ni	"	39
Pb	"	120
Zn	"	812

¹Values are the means of 11 samples.

²Total volatile solids as a percentage of total solids.

TABLE 6: ANALYSIS OF MONTHLY COMPOSITED PROCESSED DIGESTED BIOSOLIDS REMOVED FROM THE HARLEM AVENUE SOLIDS MANAGEMENT DRYING AREA DURING DECEMBER 2012

Parameter	Unit	Concentration ¹
pH		7.2
Total Solids	%	54.1
Total Volatile Solids ²	"	49.4
TKN	mg/kg	28,827
NH ₃ -N	"	4,392
Total P	"	17,285
Al	"	17,732
Ca	"	38,635
Cd	"	3
Cr	"	136
Cu	"	475
Fe	"	22,788
Hg	"	0.88
K	"	2,954
Mg	"	16,364
Mn	"	569
Mo	"	9
Na	"	803
Ni	"	44
Pb	"	90
Zn	"	790

¹Values are the means of three samples.

²Total volatile solids as a percentage of total solids.