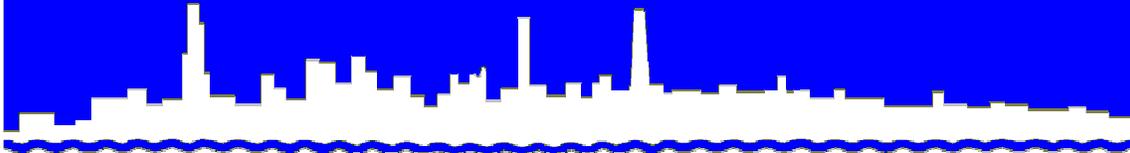


Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

***MONITORING AND RESEARCH
DEPARTMENT***

REPORT NO. 11-49

HARLEM AVENUE SOLIDS MANAGEMENT AREA

MONITORING REPORT FOR

SECOND QUARTER 2011

AUGUST 2011

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August 29, 2011

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 April, May, and June 2011

The attached five tables contain the monitoring data for the Harlem Avenue Solids Management Area for April, May, and June 2011 as required by the 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 May 4, 2011
- Table 2, Analysis of Monthly Composited Biosolids Placed in the Harlem Avenue Solids Management Drying Area During April 2011
- Table 3, Analysis of Monthly Composited Processed Digested Biosolids Removed from the Harlem Avenue Solids Management Drying Area During April 2011
- Table 4, Analysis of Monthly Composited Processed Digested Biosolids Removed from the Harlem Avenue Solids Management Drying Area During May 2011

Subject: Harlem Avenue Solids Management Area – Stickney Water Reclamation Plant, Illinois Environmental Protection Agency Permit No. 2009-AO-2715-1, Monitoring Report for April, May, and June 2011

Table 5, Analysis of Monthly Composited Processed Digested Biosolids Removed from the Harlem Avenue Solids Management Drying Area During June 2011

Biosolids were placed in the solids drying area during April and removed from the site during April, May, and June 2011.

Very truly yours,

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

TCG:PL:cm

Attachments

cc w/att: Mr. Sulski, IEPA
Records Unit, IEPA
C. O'Connor

TABLE 1: ANALYSIS OF WATER FROM LYSIMETERS L-1N1
THROUGH L-3N AT THE HARLEM AVENUE SOLIDS MANAGEMENT
AREA SAMPLED ON MAY 4, 2011

Parameter	Unit	Lysimeter No.		
		L-1N1	L-2N	L-3N
pH ¹		7.9	7.9	7.8
EC	mS/m	194	344	187
Total Dissolved Solids	mg/L	1,672	4,072	1,644
Total Dissolved Organic Carbon	"	37	6	10
Cl ⁻	"	24	53	139
SO ₄ ⁼	"	39	1,776	192
TKN	"	8	0.9	2
NH ₃ -N	"	6	< 0.1	0.8
NO ₂ + NO ₃ -N	"	0.05	6.7	0.57
Total P	"	< 0.10	< 0.10	< 0.10
Alkalinity as CaCO ₃	"	1,140	573	785
Al	"	< 1.0	< 1.0	< 1.0
Ca	"	318	696	254
Cd	"	< 0.001	< 0.001	< 0.001
Cr	"	< 0.003	< 0.003	< 0.003
Cu	"	< 0.005	< 0.005	< 0.005
Fe	"	2	< 0.2	16
Hg	μg/L	< 0.20	< 0.20	< 0.20
K	mg/L	4	1	1
Mg	"	186	203	99.5
Mn	"	0.339	2.61	0.786
Na	"	47	26	60
Ni	"	< 0.008	0.018	< 0.008
Pb	"	< 0.03	< 0.03	< 0.03
Zn	"	< 0.02	0.11	< 0.02

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 APRIL 2011

Parameter	Unit	Concentration ¹
pH		8.1
Total Solids	%	17.2
Total Volatile Solids ²	"	48.0

¹Values are the means of 10 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 APRIL 2011

Parameter	Unit	Concentration ¹
pH		7.8
Total Solids	%	19.1
Total Volatile Solids ²	"	64.0
TKN	mg/kg	59,314
NH ₃ -N	"	51
Total P	"	29,299
Al	"	6,662
As	"	<10
Ca	"	28,536
Cd	"	2
Cr	"	80
Cu	"	694
Fe	"	41,203
Hg	"	1.0
K	"	1,585
Mg	"	5,830
Mn	"	569
Mo	"	8
Na	"	1,075
Ni	"	55
Pb	"	43
Se	"	<5
Zn	"	769

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 MAY 2011

Parameter	Unit	Concentration ¹
pH		7.9
Total Solids	%	21.3
Total Volatile Solids ²	"	62.4
TKN	mg/kg	54,893
NH ₃ -N	"	10,084
Total P	"	27,304
Al	"	7,709
As	"	<10
Ca	"	32,295
Cd	"	3
Cr	"	94
Cu	"	643
Fe	"	39,003
Hg	"	0.95
K	"	1,793
Mg	"	8,157
Mn	"	570
Mo	"	8
Na	"	972
Ni	"	52
Pb	"	45
Se	"	<5
Zn	"	766

¹Values are the means of two 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 JUNE 2011

Parameter	Unit	Concentration ¹
pH		7.1
Total Solids	%	49.3
Total Volatile Solids ²	"	50.5
TKN	mg/kg	36,739
NH ₃ -N	"	3,334
Total P	"	25,771
Al	"	13,336
As	"	<10
Ca	"	34,000
Cd	"	3
Cr	"	119
Cu	"	557
Fe	"	28,562
Hg	"	1.5
K	"	1,669
Mg	"	12,306
Mn	"	557
Mo	"	7
Na	"	636
Ni	"	45
Pb	"	89
Se	"	<5
Zn	"	796

¹Values are the means of two samples.

²Total volatile solids as a percentage of total solids.