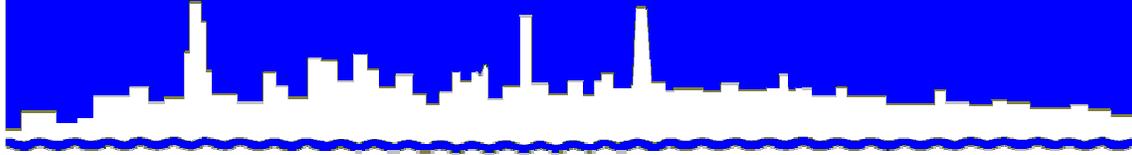


Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

***MONITORING AND RESEARCH
DEPARTMENT***

REPORT NO. 11-47

CALUMET EAST 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: Calumet East Solids Management Area - Calumet Water Reclamation Plant, Illinois Environmental Protection Agency Permit No. 2010-AO-0265, Monitoring Report for April, May, and June 2011

The attached four tables contain the monitoring data for the Calumet East Solids Management Area for April, May, and June 2011 as required by the Illinois Environmental Protection Agency (IEPA) Operating Permit No. 2010-AO-0265.

The data reported are as follows:

Table 1, Analysis of Water from Lysimeters L-1N Through L-6N at the Calumet East Solids Management Area Sampled on May 11, 2011.

Table 2, Analysis of Monthly Compositated Biosolids Placed in the Calumet East Solids Management Drying Area During May 2011.

Table 3, Analysis of Monthly Compositated Biosolids Placed in the Calumet East Solids Management Drying Area During June 2011.

Table 4, Analysis of Monthly Compositated Processed Digested Biosolids Removed from the Calumet East Solids Management Drying Area During May 2011.

Mr. S. Allan Keller

2

August 29, 2011

Subject: Calumet East Solids Management Area – Calumet Water Reclamation
Plant, Illinois Environmental Protection Agency Permit No. 2010-AO-
0265, Monitoring Report for April, May, and June 2011

Biosolids were placed in the solids drying area during May and June and removed from
the site during May 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-1N
THROUGH L-6N AT THE CALUMET EAST SOLIDS MANAGEMENT
AREA SAMPLED ON MAY 11, 2011

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH ¹		7.8	7.7	7.9	7.6
EC	mS/m	405	365	294	676
Total Dissolved Solids	mg/L	4,140	3,796	3,004	6,338
Total Dissolved Organic Carbon	"	9	18	6	11
Cl ⁻	"	215	140	55	895
SO ₄ ⁼	"	1,929	1,554	1,303	2,242
TKN	"	13	4	1	3
NH ₃ -N	"	4	2	0.5	2
NO ₂ + NO ₃ -N	"	0.11	2.7	0.05	0.09
Total P	"	0.16	4.0	0.13	0.35
Alkalinity as CaCO ₃	"	531	560	435	640
Al	"	< 1.0	< 1.0	< 1.0	< 1.0
Ca	"	498	518	417	618
Cd	"	< 0.001	< 0.001	< 0.001	< 0.001
Cr	"	< 0.003	< 0.003	< 0.003	< 0.003
Cu	"	< 0.005	< 0.005	< 0.005	< 0.005
Fe	"	11	25	4	80
Hg	μg/L	< 0.20	< 0.20	< 0.20	< 0.20
K	mg/L	10	11	6	13
Mg	"	280	239	199	325
Mn	"	0.203	0.722	0.591	0.607
Na	"	186	114	63	703
Ni	"	< 0.008	< 0.008	< 0.008	< 0.008
Pb	"	< 0.03	< 0.03	< 0.03	< 0.03
Zn	"	< 0.02	< 0.02	< 0.02	< 0.02

TABLE 1 (Continued): ANALYSIS OF WATER FROM LYSIMETERS L-1N THROUGH L-6N AT THE CALUMET EAST SOLIDS MANAGEMENT AREA SAMPLED ON MAY 11, 2011

Parameter	Unit	Lysimeter No.	
		L-5	L-6N
pH ¹		7.8	8.1
EC	mS/m	194	168
Total Dissolved Solids	mg/L	1,608	1,512
Total Dissolved Organic Carbon	"	2	9
Cl ⁻	"	211	24
SO ₄ ⁼	"	512	579
TKN	"	< 0.5	1
NH ₃ -N	"	< 0.1	0.9
NO ₂ + NO ₃ -N	"	0.47	0.21
Total P	"	0.18	4.1
Alkalinity as CaCO ₃	"	233	351
Al	"	< 1.0	< 1.0
Ca	"	204	200
Cd	"	< 0.001	< 0.001
Cr	"	< 0.003	< 0.003
Cu	"	< 0.005	< 0.005
Fe	"	< 0.2	2
Hg	μg/L	< 0.20	< 0.20
K	mg/L	4	5
Mg	"	95.0	87.3
Mn	"	0.046	0.221
Na	"	91	81
Ni	"	< 0.008	0.018
Pb	"	< 0.03	< 0.03
Zn	"	< 0.02	< 0.02

¹pH analyzed beyond recommended holding time of 15 minutes.

TABLE 2: ANALYSIS OF MONTHLY COMPOSITED BIOSOLIDS
 PLACED IN THE CALUMET EAST SOLIDS MANAGEMENT DRYING AREA
 DURING MAY 2011

Parameter	Unit	Concentration ¹
pH		7.7
Total Solids	%	7.1
Total Volatile Solids ²	"	47.4

¹Values are for one sample.

²Total volatile solids as a percentage of total solids.

TABLE 3: ANALYSIS OF MONTHLY COMPOSITED BIOSOLIDS
PLACED IN THE CALUMET EAST SOLIDS MANAGEMENT DRYING AREA
DURING JUNE 2011

Parameter	Unit	Concentration ¹
pH		7.7
Total Solids	%	8.7
Total Volatile Solids ²	"	45.7

¹Values are the means of three samples.

²Total volatile solids as a percentage of total solids.

TABLE 4: ANALYSIS OF MONTHLY COMPOSITED PROCESSED DIGESTED BIOSOLIDS REMOVED FROM THE CALUMET EAST SOLIDS MANAGEMENT DRYING AREA DURING MAY 2011

Parameter	Unit	Concentration ¹
pH		7.4
Total Solids	%	36.9
Total Volatile Solids ²	"	41.7
TKN	mg/kg	27,567
NH ₃ -N	"	4,657
Total P	"	25,378
Al	"	9,141
Ca	"	47,200
Cd	"	2
Cr	"	75
Cu	"	384
Fe	"	22,343
Hg	"	1.0
K	"	2,683
Mg	"	16,441
Mn	"	999
Na	"	683
Ni	"	38
Pb	"	75
Zn	"	984

¹Values are the means of four samples.

²Total volatile solids as a percentage of total solids.