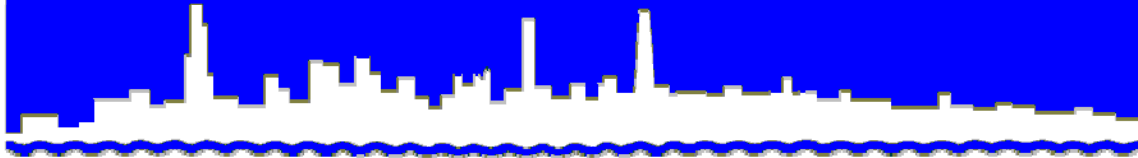


Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

*MONITORING AND RESEARCH
DEPARTMENT*

REPORT NO. 12-50

CALUMET WEST SOLIDS MANAGEMENT AREA

MONITORING REPORT FOR

THIRD QUARTER 2012

DECEMBER 2012

Metropolitan Water Reclamation District of Greater Chicago

100 East Erie Street

Chicago, Illinois 60611-3154

312.751.5190

Thomas C. Granato, Ph.D.

Director of Monitoring and Research Department
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December 21, 2012

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 West Solids Management Area - Calumet Water Reclamation Plant, Illinois Environmental Protection Agency Permit No. 2010-AO-0265, Monitoring Report for July, August, and September 2012

The attached seven tables contain the monitoring data for the Calumet West Solids Management Area for July, August, and September 2012 as required by 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-3N at the Calumet West Solids Management Area Sampled on July 18, 2012
- Table 2, Analysis of Monthly Compositated Biosolids Placed in the Calumet West Solids Management Drying Area During July 2012
- Table 3 Analysis of Monthly Compositated Biosolids Placed in the Calumet West Solids Management Drying Area During August 2012
- Table 4, Analysis of Monthly Compositated Biosolids Placed in the Calumet West Solids Management Drying Area During September 2012
- Table 5, Analysis of Monthly Compositated Processed Digested Biosolids Removed from the Calumet West Solids Management Drying Area During July 2012
- Table 6, Analysis of Monthly Compositated Processed Digested Biosolids Removed from the Calumet West Solids Management Drying Area During August 2012

Subject: Calumet West Solids Management Area - Calumet Water Reclamation Plant, Illinois Environmental Protection Agency Permit No. 2010-AO-0265, Monitoring Report for July, August, and September 2012

Table 7, Analysis of Monthly Composited Processed Digested Biosolids Removed from the Calumet West Solids Management Drying Area During September 2012

Biosolids were placed in the solids drying area and removed from the site during July, August, and September.

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-1N
THROUGH L-3N AT THE CALUMET WEST SOLIDS MANAGEMENT
AREA SAMPLED ON JULY 18, 2012

Parameter	Unit	Lysimeter No.		
		L-1N	L-2N	L-3N
pH ¹		8.2	7.9	7.9
EC	mS/m	305	281	366
Total Dissolved Solids	mg/L	3,748	2,910	4,488
Total Dissolved Organic Carbon	"	2	5	2
Cl ⁻	"	31	24	58
SO ₄ ⁼	"	1,768	1,771	2,256
TKN	"	< 1	2	2
NH ₃ -N	"	0.7	1	1
NO ₂ + NO ₃ -N	"	< 0.15	< 0.15	< 0.15
Total P	"	< 0.10	< 0.10	< 0.10
Alkalinity as CaCO ₃	"	379	22	279
Al	"	< 1.0	< 1.0	< 1.0
Ca	"	317	541	397
Cd	"	< 0.001	< 0.001	< 0.001
Cr	"	< 0.005	< 0.005	< 0.005
Cu	"	< 0.005	< 0.005	< 0.005
Fe	"	0.8	< 0.1	4
Hg	μg/L	< 0.20	< 0.20	< 0.20
K	mg/L	12	22	9
Mg	"	220	6	264
Mn	"	0.082	< 0.001	0.225
Na	"	161	194	201
Ni	"	< 0.005	0.006	0.009
Pb	"	< 0.02	< 0.02	< 0.02
Zn	"	< 0.01	< 0.01	< 0.01

¹pH analyzed beyond recommended holding time of 15 minutes.

TABLE 2: ANALYSIS OF MONTHLY COMPOSITED BIOSOLIDS
PLACED IN THE CALUMET WEST SOLIDS MANAGEMENT DRYING AREA
DURING JULY 2012

Parameter	Unit	Concentration ¹
pH		7.8
Total Solids	%	9.7
Total Volatile Solids ²	"	46.1

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 WEST SOLIDS MANAGEMENT DRYING AREA
 DURING AUGUST 2012

Parameter	Unit	Concentration ¹
pH		7.5
Total Solids	%	8.7
Total Volatile Solids ²	"	47.0

¹Values are for one sample.

²Total volatile solids as a percentage of total solids.

TABLE 4: ANALYSIS OF MONTHLY COMPOSITED BIOSOLIDS
PLACED IN THE CALUMET WEST SOLIDS MANAGEMENT DRYING AREA
DURING SEPTEMBER 2012

Parameter	Unit	Concentration ¹
pH		8.0
Total Solids	%	5.8
Total Volatile Solids ²	”	51.2

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 CALUMET WEST SOLIDS MANAGEMENT DRYING AREA DURING JULY 2012

Parameter	Unit	Concentration ¹
pH		6.8
Total Solids	%	71.0
Total Volatile Solids ²	"	39.3
TKN	mg/kg	19,175
NH ₃ -N	"	2,797
Total P	"	23,919
Al	"	11,463
Ca	"	44,596
Cd	"	2
Cr	"	54
Cu	"	404
Fe	"	21,608
Hg	"	0.89
K	"	2,497
Mg	"	17,844
Mn	"	935
Na	"	630
Ni	"	27
Pb	"	83
Zn	"	1,014

¹Values are the means of two samples.

²Total volatile solids as a percentage of total solids.

TABLE 6: ANALYSIS OF MONTHLY COMPOSITED PROCESSED DIGESTED
BIOSOLIDS REMOVED FROM THE CALUMET WEST SOLIDS
MANAGEMENT DRYING AREA DURING AUGUST 2012

Parameter	Unit	Concentration ¹
pH		7.1
Total Solids	%	72.7
Total Volatile Solids ²	"	43.8
TKN	mg/kg	26,850
NH ₃ -N	"	3,451
Total P	"	32,927
Al	"	12,414
Ca	"	46,035
Cd	"	2
Cr	"	51
Cu	"	408
Fe	"	22,604
Hg	"	0.78
K	"	4,322
Mg	"	16,865
Mn	"	946
Na	"	1,703
Ni	"	27
Pb	"	74
Zn	"	1,048

¹Values are the means of two samples.

²Total volatile solids as a percentage of total solids.

TABLE 7: ANALYSIS OF MONTHLY COMPOSITED PROCESSED DIGESTED BIOSOLIDS REMOVED FROM THE CALUMET WEST SOLIDS MANAGEMENT DRYING AREA DURING SEPTEMBER 2012

Parameter	Unit	Concentration ¹
pH		7.0
Total Solids	%	69.6
Total Volatile Solids ²	"	42.0
TKN	mg/kg	21,944
NH ₃ -N	"	3,755
Total P	"	27,097
Al	"	11,954
Ca	"	46,726
Cd	"	2
Cr	"	52
Cu	"	401
Fe	"	22,526
Hg	"	0.79
K	"	3,785
Mg	"	16,326
Mn	"	932
Na	"	1,447
Ni	"	26
Pb	"	77
Zn	"	1,045

¹Values are the means of two samples.

²Total volatile solids as a percentage of total solids.