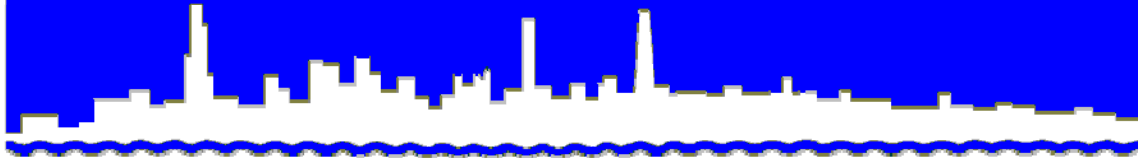


Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

*MONITORING AND RESEARCH
DEPARTMENT*

REPORT NO. 13-43

CALUMET WEST SOLIDS MANAGEMENT AREA

MONITORING REPORT FOR

THIRD QUARTER 2013

NOVEMBER 2013

Protecting Our Water Environment



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

312.751.5190 f: 312.751.5194

thomas.granato@mwr.org

BOARD OF COMMISSIONERS

Kathleen Therese Meany

President

Barbara J McGowan

Vice President

Mariyana T. Spyropoulos

Chairman of Finance

Michael A. Alvarez

Frank Avila

Cynthia M. Santos

Debra Shore

Kari K. Steele

Patrick D. Thompson

November 18, 2013

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 2013

The attached seven tables contain the monitoring data for the Calumet West Solids Management Area for July, August, and September 2013 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 17, 2013

Table 2, Analysis of Monthly Compositied Biosolids Placed in the Calumet West Solids Management Drying Area During July 2013

Table 3, Analysis of Monthly Compositied Biosolids Placed in the Calumet West Solids Management Drying Area During August 2013

Table 4, Analysis of Monthly Compositied Biosolids Placed in the Calumet West Solids Management Drying Area During September 2013

Table 5, Analysis of Monthly Compositied Processed Biosolids Removed from the Calumet West Solids Management Drying Area During July 2013

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 2013

Table 6, Analysis of Monthly Composited Processed Biosolids Removed from the Calumet West Solids Management Drying Area During August 2013

Table 7, Analysis of Monthly Composited Processed Biosolids Removed from the Calumet West Solids Management Drying Area During September 2013

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
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 17, 2013

Parameter	Unit	Lysimeter No.		
		L-1N	L-2N	L-3N
pH ¹			8.0	7.7
EC	mS/m		315	274
Total Dissolved Solids	mg/L		3,430	2,884
Total Dissolved Organic Carbon	"		2	5
Cl ⁻	"		58	23
SO ₄ ⁼	"		1,791	1,765
Alkalinity as CaCO ₃	"	D	315	26
		E		
TKN	"	F	< 1	2
NH ₃ -N	"	E	0.7	1
NO ₂ + NO ₃ -N	"	C	< 0.15	< 0.15
Total P	"	T	< 0.2	< 0.2
		I		
Al	"	V	< 1.0	< 1.0
Ca	"	E	314	498
Cd	"		< 0.001	< 0.001
Cr	"	V	< 0.005	< 0.005
Cu	"	A	< 0.005	< 0.005
		L		
Fe	"	V	< 0.1	< 0.1
Hg	μg/L	E	< 0.20	< 0.20
K	mg/L		13	19
Mg	"		243	17
Mn	"		0.089	0.006
Na	"		165	168
Ni	"		< 0.005	< 0.005
Pb	"		< 0.02	< 0.02
Zn	"		< 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 2013

Parameter	Unit	Concentration ¹
pH		7.6
Total Solids	%	7.5
Total Volatile Solids ²	"	48.6

¹Values are for one sample only.

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 2013

Parameter	Unit	Concentration ¹
pH		7.8
Total Solids	%	8.8
Total Volatile Solids ²	"	48.8

¹Values are for one sample only.

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 2013

Parameter	Unit	Concentration ¹
pH		7.6
Total Solids	%	7.3
Total Volatile Solids ²	"	51.3

¹Values are the means of two samples.

²Total volatile solids as a percentage of total solids.

TABLE 5: ANALYSIS OF MONTHLY COMPOSITED PROCESSED
 BIOSOLIDS REMOVED FROM THE CALUMET WEST SOLIDS
 MANAGEMENT DRYING AREA DURING JULY 2013

Parameter	Unit	Concentration ¹
pH		6.8
Total Solids	%	63.7
Total Volatile Solids ²	"	43.7
TKN	mg/kg	22,853
NH ₃ -N	"	808
Total P	"	27,768
Al	"	12,309
Ca	"	47,575
Cd	"	2
Cr	"	52
Cu	"	386
Fe	"	21,429
Hg	"	1.1
K	"	2,730
Mg	"	15,343
Mn	"	903
Na	"	566
Ni	"	26
Pb	"	77
Zn	"	1,071

¹ Values are the means of two samples.

² Total volatile solids as a percentage of total solids.

TABLE 6: ANALYSIS OF MONTHLY COMPOSITED PROCESSED
BIOSOLIDS REMOVED FROM THE CALUMET WEST SOLIDS
MANAGEMENT DRYING AREA DURING AUGUST 2013

Parameter	Unit	Concentration ¹
pH		7.2
Total Solids	%	71.8
Total Volatile Solids ²	"	43.7
TKN	mg/kg	29,943
NH ₃ -N	"	4,917
Total P	"	26,880
Al	"	11,581
Ca	"	45,095
Cd	"	2
Cr	"	51
Cu	"	363
Fe	"	21,590
Hg	"	0.86
K	"	3,422
Mg	"	16,274
Mn	"	928
Na	"	1,506
Ni	"	26
Pb	"	76
Zn	"	985

¹Values are the means of three samples.

²Total volatile solids as a percentage of total solids.

TABLE 7: ANALYSIS OF MONTHLY COMPOSITED PROCESSED
 BIOSOLIDS REMOVED FROM THE CALUMET WEST SOLIDS
 MANAGEMENT DRYING AREA DURING SEPTEMBER 2013

Parameter	Unit	Concentration ¹
pH		7.1
Total Solids	%	82.9
Total Volatile Solids ²	"	44.3
TKN	mg/kg	29,774
NH ₃ -N	"	2,432
Total P	"	24,047
Al	"	11,007
Ca	"	48,025
Cd	"	2
Cr	"	53
Cu	"	400
Fe	"	21,904
Hg	"	1.1
K	"	2,825
Mg	"	15,649
Mn	"	902
Na	"	1,552
Ni	"	28
Pb	"	82
Zn	"	1,185

¹ Values are the means of three samples.

² Total volatile solids as a percentage of total solids.