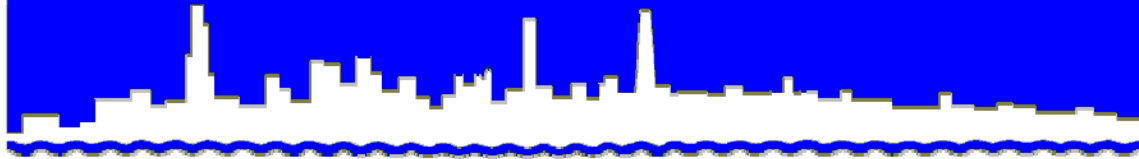


*Protecting Our Water Environment*



**Metropolitan Water Reclamation District of Greater Chicago**

*MONITORING AND RESEARCH  
DEPARTMENT*

**REPORT NO. 13-4**

**CALUMET EAST SOLIDS MANAGEMENT AREA**

**MONITORING REPORT FOR**

**FOURTH QUARTER 2012**

**March 2013**



**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

**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

March 8, 2013

312.751.5190 f: 312.751.5194  
thomas.granato@mwrdd.org

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 October, November, and December 2012

The attached three tables contain the monitoring data for the Calumet East Solids Management Area for October, November, and December 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-6N at the Calumet East Solids Management Area Sampled on November 14, 2012
- Table 2, Analysis of Monthly Compositied Biosolids Placed in the Calumet East Solids Management Drying Area During October 2012
- Table 3, Analysis of Monthly Compositied Processed Digested Biosolids Removed from the Calumet East Solids Management Drying Area During November 2012

Biosolids were placed in the solids drying area during October and removed from the site during November 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-1N  
THROUGH L-6N AT THE CALUMET EAST SOLIDS MANAGEMENT  
AREA SAMPLED ON NOVEMBER 14, 2012

Parameter	Unit	Lysimeter No.			
		L-1N	L-2N	L-3N	L-4N
pH <sup>1</sup>		8.0	8.0	8.0	7.9
EC	mS/m	383	337	272	840
Total Dissolved Solids	mg/L	3,796	3,672	2,952	6,220
Total Dissolved Organic Carbon	"	8	11	6	11
Cl <sup>-</sup>	"	203	155	61	942
SO <sub>4</sub> <sup>=</sup>	"	2,059	1,791	1,492	2,459
TKN	"	12	2	< 1	2
NH <sub>3</sub> -N	"	4	2	0.6	2
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.43	< 0.15	< 0.15	< 0.15
Total P	"	0.12	2.3	1.2	0.16
Alkalinity as CaCO <sub>3</sub>	"	331	378	296	384
Al	"	< 1.0	< 1.0	< 1.0	< 1.0
Ca	"	494	501	411	582
Cd	"	< 0.001	< 0.001	< 0.001	< 0.001
Cr	"	< 0.005	< 0.005	< 0.005	< 0.005
Cu	"	< 0.005	< 0.005	< 0.005	< 0.005
Fe	"	14	19	11	72
Hg	μg/L	< 0.20	< 0.20	< 0.20	< 0.20
K	mg/L	9	8	6	12
Mg	"	274	238	200	315
Mn	"	0.216	0.589	0.498	0.537
Na	"	175	105	59	687
Ni	"	0.006	< 0.005	< 0.005	< 0.005
Pb	"	< 0.02	< 0.02	< 0.02	< 0.02
Zn	"	< 0.01	< 0.01	< 0.01	0.03

TABLE 1 (Continued): ANALYSIS OF WATER FROM LYSIMETERS L-1N THROUGH L-6N AT THE CALUMET EAST SOLIDS MANAGEMENT AREA SAMPLED ON NOVEMBER 14, 2012

Parameter	Unit	Lysimeter No.	
		L-5	L-6N
pH <sup>1</sup>		7.9	
EC	mS/m	210	
Total Dissolved Solids	mg/L	1,696	
Total Dissolved Organic Carbon	"	< 1	
Cl <sup>-</sup>	"	268	
SO <sub>4</sub> <sup>=</sup>	"	713	
TKN	"	< 1	D
NH <sub>3</sub> -N	"	< 0.1	E
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.48	F
Total P	"	< 0.10	E
Alkalinity as CaCO <sub>3</sub>	"	254	C
			T
Al	"	< 1.0	I
Ca	"	209	V
Cd	"	< 0.001	E
Cr	"	< 0.005	
Cu	"	< 0.005	V
			A
Fe	"	0.7	L
Hg	μg/L	< 0.20	V
K	mg/L	4	E
Mg	"	101	
Mn	"	0.051	
Na	"	105	
Ni	"	< 0.005	
Pb	"	< 0.02	
Zn	"	< 0.01	

<sup>1</sup>pH 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 OCTOBER 2012

Parameter	Unit	Concentration <sup>1</sup>
pH		7.8
Total Solids	%	6.3
Total Volatile Solids <sup>2</sup>	"	50.0

<sup>1</sup>Values are the means of three samples.

<sup>2</sup>Total volatile solids as a percentage of total solids.

TABLE 3: ANALYSIS OF MONTHLY COMPOSITED PROCESSED DIGESTED BIOSOLIDS REMOVED FROM THE CALUMET EAST SOLIDS MANAGEMENT DRYING AREA DURING NOVEMBER 2012

Parameter	Unit	Concentration <sup>1</sup>
pH		7.3
Total Solids	%	51.2
Total Volatile Solids <sup>2</sup>	"	40.0
TKN	mg/kg	24,648
NH <sub>3</sub> -N	"	4,360
Total P	"	21,524
Al	"	10,235
Ca	"	46,040
Cd	"	2
Cr	"	49
Cu	"	353
Fe	"	21,729
Hg	"	0.85
K	"	2,642
Mg	"	17,048
Mn	"	906
Na	"	1,178
Ni	"	25
Pb	"	85
Zn	"	987

<sup>1</sup>Values are the means of three samples.

<sup>2</sup>Total volatile solids as a percentage of total solids.