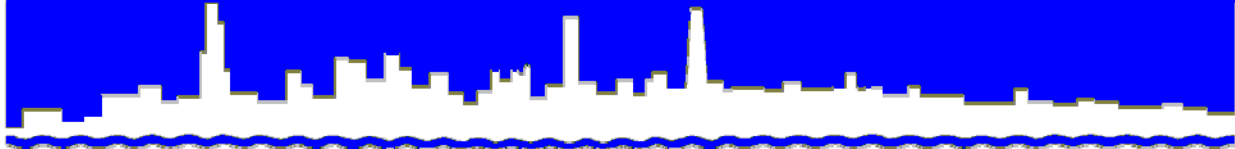


Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

*MONITORING AND RESEARCH
DEPARTMENT*

REPORT NO. 16-41

CALUMET EAST AND WEST SOLIDS MANAGEMENT AREAS

MONITORING REPORT FOR

THIRD QUARTER 2016

December 2016

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THOMAS C. GRANATO, Ph.D., BCES

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December 16, 2016

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 and West Solids Management Areas - Calumet Water Reclamation Plant, Illinois Environmental Protection Agency Permit No. 2015-AO-59622, Monitoring Report for July, August, and September 2016

The attached tables contain the monitoring data for the Calumet East and West Solids Management Areas for July, August, and September 2016 as required by Illinois Environmental Protection Agency Operating Permit No. 2015-AO-59622. Biosolids were placed in the Calumet East and West Solids Management Areas in July, August, and September 2016.

Table 1 Analysis of Water From Lysimeters L-1N through L-6N at the Calumet East Solids Management Area Sampled on August 17, 2016.

Table 2 Analysis of Water From Lysimeters L-1N through L-3N at the Calumet West Solids Management Area Sampled on August 17, 2016.

Table 3 Analysis of Biosolids Placed in the Calumet East Solids Management Area During July 2016.

Table 4 Analysis of Biosolids Placed in the Calumet East Solids Management Area During August 2016.

Table 5 Analysis of Biosolids Placed in the Calumet East Solids Management Area During September 2016.

Subject: Calumet East and West Solids Management Areas - Calumet Water Reclamation Plant, Illinois Environmental Protection Agency Permit Nos. 2015-AO-59622, Monitoring Report for July, August, and September 2016

Table 6 Analysis of Biosolids Placed in the Calumet West Solids Management Area During July 2016.

Table 7 Analysis of Biosolids Placed in the Calumet West Solids Management Area During August 2016.

Table 8 Analysis of Biosolids Placed in the Calumet West Solids Management Area During September 2016.

Very truly yours,

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

TCG:HZ:DB:cm

Attachments

cc/att: Mr. J. Patel, IEPA
Records Unit, IEPA
Mr. E. Podczerwinski
Dr. H. Zhang
Dr. A. Cox
Dr. G. Tian
Dr. D. Brose

TABLE 1: ANALYSIS OF WATER FROM LYSIMETERS L-1N THROUGH L-6N AT THE CALUMET EAST SOLIDS MANAGEMENT AREA SAMPLED ON AUGUST 17, 2016

Parameter	Lysimeter No.					
	L-1N	L-2N	L-3N	L-4N	L-5N	L-6N
pH ¹	7.6	7.4	7.5	7.4	7.6	7.9
	----- mg L ⁻¹ -----					
Cl ⁻	164	127	38	842	225	19
SO ₄ ²⁻	1,960	1,797	1,393	2,390	532	671
NO ₂ +NO ₃ -N	0.67	<0.15	<0.15	<0.15	0.39	0.16

¹pH analyzed beyond recommended holding time of 15 minutes.

TABLE 2: ANALYSIS OF WATER FROM LYSIMETERS L-1N THROUGH L-3N
 AT THE CALUMET WEST SOLIDS MANAGEMENT AREA SAMPLED ON
 AUGUST 17, 2016

Parameter	Lysimeter No.		
	L-1N	L-2N	L-3N
pH ¹	7.8	8.1	7.6
	----- mg L ⁻¹ -----		
Cl ⁻	37	23	59
SO ₄ ²⁻	1,785	1,881	2,156
NO ₂ +NO ₃ -N	<0.15	<0.15	0.19

¹pH analyzed beyond recommended holding time of 15 minutes.

TABLE 3: ANALYSIS OF BIOSOLIDS PLACED IN THE CALUMET
EAST SOLIDS MANAGEMENT AREA DURING
JULY 2016

Parameter	Analysis ¹
pH	7.6
	---- % ----
Total Solids	12
Total Volatile Solids ²	42

¹Mean of three samples.

²Total volatile solids as a percentage of total solids.

TABLE 4: ANALYSIS OF BIOSOLIDS PLACED IN THE CALUMET EAST SOLIDS MANAGEMENT AREA DURING AUGUST 2016

Parameter	Analysis ¹
pH	7.3
	---- % ----
Total Solids	11
Total Volatile Solids ²	49

¹Mean of four samples.

²Total volatile solids as a percentage of total solids.

TABLE 5: ANALYSIS OF BIOSOLIDS PLACED IN THE CALUMET
EAST SOLIDS MANAGEMENT AREA DURING
SEPTEMBER 2016

Parameter	Analysis ¹
pH	7.5
	---- % ----
Total Solids	7.9
Total Volatile Solids ²	50

¹Mean of two samples.

²Total volatile solids as a percentage of total solids.

TABLE 6: ANALYSIS OF BIOSOLIDS PLACED IN THE CALUMET
WEST SOLIDS MANAGEMENT AREA DURING
JULY 2016

Parameter	Analysis ¹
pH	7.8
	---- % ----
Total Solids	13
Total Volatile Solids ²	39

¹One sample.

²Total volatile solids as a percentage of total solids.

TABLE 7: ANALYSIS OF BIOSOLIDS PLACED IN THE CALUMET
WEST SOLIDS MANAGEMENT AREA DURING
AUGUST 2016

Parameter	Analysis ¹
pH	7.5
	---- % ----
Total Solids	7.3
Total Volatile Solids ²	51

¹Mean of two samples.

²Total volatile solids as a percentage of total solids.

TABLE 8: ANALYSIS OF BIOSOLIDS PLACED IN THE CALUMET
WEST SOLIDS MANAGEMENT AREA DURING
SEPTEMBER 2016

Parameter	Analysis ¹
pH	7.6
	---- % ----
Total Solids	12
Total Volatile Solids ²	48

¹Mean of five samples.

²Total volatile solids as a percentage of total solids.