

Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

***MONITORING AND RESEARCH
DEPARTMENT***

REPORT NO. 17-49

CALUMET EAST AND WEST SOLIDS MANAGEMENT AREAS

MONITORING REPORT FOR

THIRD QUARTER 2017

November 2017



Metropolitan Water Reclamation District of Greater Chicago

CECIL LUE-HING RESEARCH AND DEVELOPMENT COMPLEX
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Edward W. Podczerwinski, P.E.

Director of Monitoring and Research

November 16, 2017

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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 2017

The attached tables contain the monitoring data for the Calumet East and West Solids Management Areas for July, August, and September 2017 as required by Illinois Environmental Protection Agency (IEPA) Operating Permit No. 2015-AO-59622. Biosolids were placed in the Calumet East Solids Management Area in August and September and in the Calumet West Solids Management Area in July, August, and September 2017.

Table 1 Analysis of Water From Lysimeters L-1N through L-6N at the Calumet East Solids Management Area Sampled on August 9, 2017.

Table 2 Analysis of Water From Lysimeters L-1N through L-3N at the Calumet West Solids Management Area Sampled on August 9, 2017.

Table 3 Analysis of Biosolids Placed in the Calumet East Solids Management Area During August 2017.

Table 4 Analysis of Biosolids Placed in the Calumet East Solids Management Area During September 2017.

Table 5 Analysis of Biosolids Placed in the Calumet West Solids Management Area During July 2017.

Table 6 Analysis of Biosolids Placed in the Calumet West Solids Management Area During August 2017.

Mr. S. Alan Keller

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November 16, 2017

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 2017

Table 7 Analysis of Biosolids Placed in the Calumet West Solids Management Area During September 2017.

Very truly yours,

Albert E. Cox
Environmental Monitoring and Research Manager
Monitoring and Research Department

AC:DB:cm

Attachments

cc/att: Mr. J. Patel, IEPA

Records Unit, IEPA

Mr. E. Podczerwinski

Dr. H. Zhang

Dr. G. Tian

Dr. D. Brose

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**CALUMET EAST AND WEST SOLIDS MANAGEMENT AREAS
MONITORING REPORT FOR THIRD QUARTER 2017**

**Monitoring and Research Department
Edward W. Podczewinski, Director**

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TABLE 1: ANALYSIS OF WATER FROM LYSIMETERS L-1N THROUGH L-6N AT THE CALUMET EAST SOLIDS MANAGEMENT AREA SAMPLED ON AUGUST 9, 2017

Parameter	Lysimeter No.					
	L-1N	L-2N	L-3N	L-4N	L-5N	L-6N
pH ¹	7.3	7.5	7.4	7.1	7.6	7.8
	----- mg L ⁻¹ -----					
Cl ⁻	155	136	33	862	240	18
SO ₄ ²⁻	1,959	1,824	1,301	2,500	534	659
NO ₂ +NO ₃ -N	0.41	<0.15	<0.15	<0.15	0.22	0.18

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 9, 2017

Parameter	Lysimeter No.		
	L-1N	L-2N	L-3N
pH ¹	7.7	7.9	7.5
	----- mg L ⁻¹ -----		
Cl ⁻	28	23	60
SO ₄ ²⁻	1,686	1,822	2,152
NO ₂ +NO ₃ -N	<0.15	<0.15	0.25

¹pH analyzed beyond recommended holding time of 15 minutes.

TABLE 3: ANALYSIS OF BIOSOLIDS PLACED IN THE
CALUMET EAST SOLIDS MANAGEMENT AREA
DURING AUGUST 2017

Parameter	Analysis ¹
pH	7.8
	----- % -----
Total Solids	16
Total Volatile Solids ²	53

¹Mean of six samples.

²Total volatile solids as a percentage of total solids.

TABLE 4: ANALYSIS OF BIOSOLIDS PLACED IN THE
CALUMET EAST SOLIDS MANAGEMENT AREA
DURING SEPTEMBER 2017

Parameter	Analysis ¹
pH	8.0
	---- % ----
Total Solids	24
Total Volatile Solids ²	60

¹Mean of four samples.

²Total volatile solids as a percentage of total solids.

TABLE 5: ANALYSIS OF BIOSOLIDS PLACED IN THE
CALUMET WEST SOLIDS MANAGEMENT
AREA DURING JULY 2017

Parameter	Analysis ¹
pH	7.5
Total Solids	---- % ----
Total Volatile Solids ²	47

¹One sample.

²Total volatile solids as a percentage of total solids.

TABLE 6: ANALYSIS OF BIOSOLIDS PLACED IN THE
CALUMET WEST SOLIDS MANAGEMENT AREA
DURING AUGUST 2017

Parameter	Analysis ¹
pH	7.5
	---- % ----
Total Solids	8.0
Total Volatile Solids ²	49

¹Mean of two samples.

²Total volatile solids as a percentage of total solids.

TABLE 7: ANALYSIS OF BIOSOLIDS PLACED IN THE
CALUMET WEST SOLIDS MANAGEMENT AREA
DURING SEPTEMBER 2017

Parameter	Analysis ¹
pH	7.6
Total Solids	---- % ----
Total Volatile Solids ³	49

¹Mean of two samples.

²Total volatile solids as a percentage of total solids.