

Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

***RESEARCH AND DEVELOPMENT
DEPARTMENT***

REPORT NO. 06-53

CALUMET WEST SOLIDS MANAGEMENT AREA

MONITORING DATA FOR

SECOND QUARTER 2006

August 2006

August 31, 2006

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 - Stickney WRP, Contract No. 84-270-2P, C175399, IEPA Permit No. 2005-AO-4281-1, Monitoring Data for April, May, and June 2006

The attached five tables contain the monitoring data for the Calumet West Solids Management Area for April, May, and June 2006 as required by IEPA Operating Permit No. 2005-AO-4281-1.

The data reported are as follows:

Table 1, Analysis of Water from Lysimeters L-1 through L-3 at the Calumet West Solids Management Area Sampled on April 5, 2006

Table 2, Analysis of Water from Lysimeters L-1 through L-3 at the Calumet West Solids Management Area Sampled on May 3, 2006

Table 3, Analysis of Water from Lysimeters L-1 through L-3 at the Calumet West Solids Management Area Sampled on June 28, 2006

Table 4, Analysis of Monthly Compositing Digested Biosolids Placed in the Calumet West Solids Management Drying Area During May 2006

Table 5, Analysis of Monthly Compositing Digested Biosolids Placed in the Calumet West Solids Management Drying Area During June 2006

Subject: Calumet West Solids Management Area - Stickney WRP, Contract No. 84-270-2P, C175399, IEPA Permit No. 2005-AO-4281-1, Monitoring Data for April, May, and June 2006

Biosolids were placed in the solids drying area during May and June. However, no biosolids were removed from the area during this quarter.

Very truly yours,

Louis Kollias
Director
Research and Development

LK:PL:spy

Enclosure

cc w/enc: Records Unit (IEPA)
Sulski (IEPA)

cc via MWRDGC Web Site:
Levy/Sharma
Stuba/Granato
O'Connor/Cox
Lindo/Patel, M.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 1

ANALYSIS OF WATER FROM LYSIMETERS L-1 THROUGH L-3
AT THE CALUMET WEST SOLIDS MANAGEMENT AREA
SAMPLED ON APRIL 5, 2006

Parameter	Unit	Lysimeter No.		
		L-1	L-2	L-3
pH ¹		7.7	7.8	7.8
EC	mS/m	264	286	291
Total Dissolved Solids	mg/L	2,932	3,260	3,578
Total Dissolved Organic Carbon	"	0.9	2	1
Cl ⁻	"	129	35	27
SO ₄ ⁼	"	1,639	1,923	2,002
TKN	"	0.50	0.32	0.28
NH ₃ -N	"	0.05	0.03	< 0.02
NO ₂ + NO ₃ -N	"	0.10	0.49	0.52
Total P	"	< 0.05	< 0.05	< 0.05
Alkalinity as CaCO ₃	"	154	184	156
Al	"	0.010	0.010	0.020
Ca	"	319	366	379
Cd	"	0.0004	< 0.0004	< 0.0004
Cr	"	< 0.0005	< 0.0005	< 0.0005
Cu	"	< 0.002	< 0.002	< 0.002
Fe	"	0.504	0.071	0.017
Hg	μg/L	< 0.05	< 0.05	< 0.05
K	mg/L	8	8	7
Mg	"	158	190	198
Mn	"	0.1557	0.0446	0.0184
Na	"	203	195	199
Ni	"	< 0.0004	0.0060	< 0.0004
Pb	"	< 0.004	< 0.004	< 0.004
Zn	"	0.007	0.007	0.005

¹pH analyzed beyond recommended holding time of 15 minutes.

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TABLE 2

ANALYSIS OF WATER FROM LYSIMETERS L-1 THROUGH L-3
 AT THE CALUMET WEST SOLIDS MANAGEMENT AREA
 SAMPLED ON MAY 3, 2006

Parameter	Unit	Lysimeter No.		
		L-1	L-2	L-3
pH ¹		7.5	7.6	7.6
EC	mS/m	262	289	294
Total Dissolved Solids	mg/L	2,834	3,382	3,548
Total Dissolved Organic Carbon	"	1	2	1
Cl ⁻	"	114	30	25
SO ₄ ⁼	"	1,618	2,018	2,109
TKN	"	0.59	0.43	0.58
NH ₃ -N	"	0.24	0.05	0.04
NO ₂ + NO ₃ -N	"	0.21	0.41	0.56
Total P	"	0.05	< 0.05	0.34
Alkalinity as CaCO ₃	"	129	158	144
Al	"	< 0.007	< 0.007	< 0.007
Ca	"	304	366	391
Cd	"	0.0014	0.0016	0.0010
Cr	"	0.0013	0.0008	< 0.0005
Cu	"	< 0.002	< 0.002	< 0.002
Fe	"	1.29	0.039	0.031
Hg	μg/L	0.05	< 0.05	0.06
K	mg/L	8	9	8
Mg	"	150	201	216
Mn	"	0.0919	0.0474	0.0291
Na	"	220	213	221
Ni	"	< 0.0004	0.0072	< 0.0004
Pb	"	0.012	0.009	0.011
Zn	"	0.012	0.015	0.011

¹pH analyzed beyond recommended holding time of 15 minutes.

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TABLE 3

ANALYSIS OF WATER FROM LYSIMETERS L-1 THROUGH L-3
 AT THE CALUMET WEST SOLIDS MANAGEMENT AREA
 SAMPLED ON JUNE 28, 2006

Parameter	Unit	Lysimeter No.		
		L-1	L-2	L-3
pH ¹		7.4	7.6	7.5
EC	mS/m	274	289	298
Total Dissolved Solids	mg/L	2,756	3,158	3,280
Total Dissolved Organic Carbon	"	0.9	2	0.9
Cl ⁻	"	124	33	28
SO ₄ ⁼	"	1,369	1,663	1,526
TKN	"	0.68	0.43	0.37
NH ₃ -N	"	0.27	< 0.02	< 0.02
NO ₂ + NO ₃ -N	"	0.14	0.26	0.49
Total P	"	< 0.05	0.05	< 0.05
Alkalinity as CaCO ₃	"	159	181	149
Al	"	0.038	0.093	0.036
Ca	"	318	354	369
Cd	"	< 0.0004	< 0.0004	< 0.0004
Cr	"	< 0.0005	< 0.0005	< 0.0005
Cu	"	< 0.002	< 0.002	< 0.002
Fe	"	1.99	0.046	0.024
Hg	μg/L	< 0.05	< 0.05	< 0.05
K	mg/L	7	8	6
Mg	"	148	184	192
Mn	"	0.1416	0.1112	0.0224
Na	"	196	188	193
Ni	"	< 0.0004	0.0058	< 0.0004
Pb	"	< 0.004	< 0.004	< 0.004
Zn	"	0.007	0.009	0.006

¹pH analyzed beyond recommended holding time of 15 minutes.

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TABLE 4

ANALYSIS OF MONTHLY COMPOSITED DIGESTED BIOSOLIDS
PLACED IN THE CALUMET WEST
SOLIDS MANAGEMENT DRYING AREA DURING MAY 2006

Parameter	Unit	Concentration*
pH		7.8
Total Solids	%	8.6
Total Volatile Solids	''	48.7
TKN	mg/kg	43,119
NH ₃ -N	''	16,016

*Values for one sample only.

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TABLE 5

ANALYSIS OF MONTHLY COMPOSITED DIGESTED BIOSOLIDS
 PLACED IN THE CALUMET WEST
 SOLIDS MANAGEMENT DRYING AREA DURING JUNE 2006

Parameter	Unit	Concentration*
pH		7.7
Total Solids	%	9.1
Total Volatile Solids	”	48.1
TKN	mg/kg	43,653
NH ₃ -N	”	15,972

*Values are the means of eight samples.