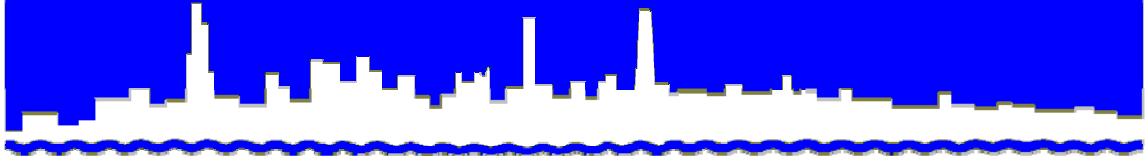


Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

***RESEARCH AND DEVELOPMENT
DEPARTMENT***

REPORT NO. 07-32

CALUMET EAST SOLIDS MANAGEMENT AREA

MONITORING REPORT FOR

FIRST QUARTER 2007

MAY 2007

Metropolitan Water Reclamation District of Greater Chicago

100 EAST ERIE STREET CHICAGO, ILLINOIS 60611-3154 312-751-5600

Louis Kollias, P.E., BCEE
Director of Research and Development
312-751-5190

May 18, 2007

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 - Stickney WRP, Contract No.
85-273-2P, L170401, IEPA Permit No. 2005-AO-4281-1, Monitoring
Report for January, February, and March 2007

The attached three tables contain the monitoring data for the Calumet East Solids Management Area for January, February, and March 2007 as required by IEPA Operating Permit No. 2005-AO-4281-1. In a letter dated January 19, 2007, the IEPA granted permission to terminate the monitoring of lysimeter L-1. Therefore, monitoring data for this lysimeter will not be included in this and subsequent reports.

The data reported are as follows:

Table 1, Analysis of Water from Lysimeters L-1N through L-6 at the Calumet East Solids Management Area Sampled on January 10, 2007

Table 2, Analysis of Water from Lysimeters L-1N through L-6 at the Calumet East Solids Management Area Sampled on February 21, 2007

Table 3, Analysis of Water from Lysimeters L-1N through L-6 at the Calumet East Solids Management Area Sampled on March 7, 2007

Mr. S. Alan Keller

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May 18, 2007

Subject: Calumet East Solids Management Area - Stickney WRP, Contract No. 85-273-2P, L170401, IEPA Permit No. 2005-AO-4281-1, Monitoring Report for January, February, and March 2007

No biosolids were placed in or removed from the solids drying area during January, February, and March 2007.

Very truly yours,

Louis Kollias
Director
Research and Development

LK:PL:spy
Attachments

cc w/att: Mr. Sulski, IEPA
Records Unit, IEPA
Mr. W. Stuba
Dr. T. Granato
Dr. A. Cox
Dr. P. Lindo
Ms. M. Patel

cc wo/att: Ms. M. Sharma
Mr. S. Levy
Mr. O. Jamjun
Mr. A. Quintanilla
Mr. A. Ryzak

TABLE 1: ANALYSIS OF WATER FROM LYSIMETERS
L-1N THROUGH L-6 AT THE CALUMET EAST
SOLIDS MANAGEMENT AREA SAMPLED ON JANUARY 10, 2007

Parameter	Unit	Lysimeter No.				
		L-1N	L-2	L-3	L-4	L-5
pH ¹			7.4			
EC	mS/m		404			
Total Dissolved Solids	mg/L		4,204			
Total Diss. Org. Carbon	"		6			
Cl ⁻	"		178			
SO ₄ ⁼	"		2,121			
		L		L	L	L
TKN	"	Y	1.5	Y	Y	Y
NH ₃ -N	"	S	<0.04	S	S	S
NO ₂ + NO ₃ -N	"	I	5.4	I	I	I
Total P	"	M	<0.10	M	M	M
Alkalinity as CaCO ₃	"	E	460	E	E	E
		T		T	T	T
Al	"	E	0.068	E	E	E
Ca	"	R	579	R	R	R
Cd	"		<0.0008			
Cr	"	F	<0.0010	F	F	F
Cu	"	R	<0.004	R	R	R
		O		O	O	O
Fe	"	Z	0.020	Z	Z	Z
Hg	μg/L	E	<0.10	E	E	E
K	mg/L	N	6	N	N	N
Mg	"		266			
Mn	"		0.0078			
Na	"		144			
Ni	"		0.0014			
Pb	"		<0.008			
Zn	"		0.044			

TABLE 1 (Continued): ANALYSIS OF WATER FROM LYSIMETERS
L-1N THROUGH L-6 AT THE CALUMET EAST
SOLIDS MANAGEMENT AREA SAMPLED ON JANUARY 10, 2007

Parameter	Unit	Lysimeter No. L-6
pH ¹		
EC	mS/m	
Total Dissolved Solids	mg/L	
Total Diss. Org. Carbon	"	
Cl ⁻	"	
SO ₄ ⁼	"	
		L
TKN	"	Y
NH ₃ -N	"	S
NO ₂ + NO ₃ -N	"	I
Total P	"	M
Alkalinity as CaCO ₃	"	E
		T
Al	"	E
Ca	"	R
Cd	"	
Cr	"	F
Cu	"	R
		O
Fe	"	Z
Hg	μg/L	E
K	mg/L	N
Mg	"	
Mn	"	
Na	"	
Ni	"	
Pb	"	
Zn	"	

¹pH analyzed beyond recommended holding time of 15 minutes.

TABLE 2: ANALYSIS OF WATER FROM LYSIMETERS
L-1N THROUGH L-6 AT THE CALUMET EAST
SOLIDS MANAGEMENT AREA SAMPLED ON FEBRUARY 21, 2007

Parameter	Unit	Lysimeter No.				
		L-1N	L-2	L-3	L-4	L-5
pH ¹		7.6	7.4	7.5	7.1	7.5
EC	mS/m	385	386	185	426	185
Total Dissolved Solids	mg/L	3,842	4,092	1,592	3,988	1,598
Total Diss. Org. Carbon	"	10	5	7	3	2
Cl ⁻	"	173	177	41	540	233
SO ₄ ⁼	"	1,822	2,090	570	1,579	531
TKN	"	14	1.5	0.63	1.6	0.81
NH ₃ -N	"	4.6	0.27	<0.02	0.62	0.32
NO ₂ + NO ₃ -N	"	0.03	0.13	0.05	0.20	0.10
Total P	"	0.05	<0.05	0.05	0.08	0.08
Alkalinity as CaCO ₃	"	534	464	513	367	244
Al	"	0.061	0.072	0.034	0.063	0.035
Ca	"	450	543	195	500	208
Cd	"	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Cr	"	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Cu	"	<0.002	<0.002	<0.002	<0.002	<0.002
Fe	"	6.62	0.014	0.016	16.5	4.02
Hg	μg/L	<0.05	<0.05	0.05	<0.05	<0.05
K	mg/L	11	6	2	6	4
Mg	"	265	265	126	260	96.6
Mn	"	0.2599	0.0090	0.0024	0.1267	0.0515
Na	"	168	136	54	143	86
Ni	"	<0.0004	0.0034	0.0015	<0.0004	<0.0004
Pb	"	<0.004	<0.004	<0.004	<0.004	<0.004
Zn	"	0.012	0.043	0.018	0.008	0.005

TABLE 2 (Continued): ANALYSIS OF WATER FROM LYSIMETERS
L-1N THROUGH L-6 AT THE CALUMET EAST
SOLIDS MANAGEMENT AREA SAMPLED ON FEBRUARY 21, 2007

Parameter	Unit	Lysimeter No. L-6
pH ¹		7.7
EC	mS/m	152
Total Dissolved Solids	mg/L	1,346
Total Diss. Org. Carbon	”	1
Cl ⁻	”	15
SO ₄ ⁼	”	574
TKN	”	0.31
NH ₃ -N	”	<0.02
NO ₂ + NO ₃ -N	”	0.53
Total P	”	0.06
Alkalinity as CaCO ₃	”	276
Al	”	0.029
Ca	”	165
Cd	”	<0.0004
Cr	”	<0.0005
Cu	”	<0.002
Fe	”	0.059
Hg	μg/L	<0.05
K	mg/L	3
Mg	”	82.6
Mn	”	0.0350
Na	”	69
Ni	”	<0.0004
Pb	”	<0.004
Zn	”	0.011

¹pH analyzed beyond recommended holding time of 15 minutes.

TABLE 3: ANALYSIS OF WATER FROM LYSIMETERS
L-1N THROUGH L-6 AT THE CALUMET EAST
SOLIDS MANAGEMENT AREA SAMPLED ON MARCH 7, 2007

Parameter	Unit	Lysimeter No.				
		L-1N	L-2	L-3	L-4	L-5
pH ¹		7.3	7.6			7.4
EC	mS/m	364	352			200
Total Dissolved Solids	mg/L	3,798	3,524			1,560
Total Diss. Org. Carbon	"	9	5			2
Cl ⁻	"	173	156			227
SO ₄ ⁼	"	1,717	1,685			512
				L	L	
TKN	"	14	2.0	Y	Y	1.0
NH ₃ -N	"	3.2	<0.04	S	S	0.45
NO ₂ + NO ₃ -N	"	0.21	0.80	I	I	0.30
Total P	"	0.06	0.10	M	M	0.06
Alkalinity as CaCO ₃	"	554	406	E	E	243
				T	T	
Al	"	0.065	0.084	E	E	0.036
Ca	"	465	487	R	R	203
Cd	"	<0.0004	<0.0008			<0.0004
Cr	"	<0.0005	<0.0010	F	F	<0.0005
Cu	"	<0.002	<0.004	R	R	<0.002
				O	O	
Fe	"	5.44	0.010	Z	Z	3.45
Hg	μg/L	<0.05	<0.10	E	E	<0.05
K	mg/L	10	5	N	N	4
Mg	"	261	234			95.5
Mn	"	0.3002	<0.0004			0.0435
Na	"	164	124			87
Ni	"	<0.0004	0.0012			<0.0004
Pb	"	<0.004	<0.008			<0.004
Zn	"	0.010	0.036			0.007

TABLE 3 (Continued): ANALYSIS OF WATER FROM LYSIMETERS
L-1N THROUGH L-6 AT THE CALUMET EAST
SOLIDS MANAGEMENT AREA SAMPLED ON MARCH 7, 2007

Parameter	Unit	Lysimeter No. L-6
pH ¹		7.6
EC	mS/m	153
Total Dissolved Solids	mg/L	1,346
Total Diss. Org. Carbon	”	2
Cl ⁻	”	14
SO ₄ ⁼	”	572
TKN	”	1.0
NH ₃ -N	”	0.30
NO ₂ + NO ₃ -N	”	0.35
Total P	”	0.05
Alkalinity as CaCO ₃	”	270
Al	”	0.036
Ca	”	167
Cd	”	<0.0004
Cr	”	<0.0005
Cu	”	<0.002
Fe	”	0.474
Hg	μg/L	<0.05
K	mg/L	4
Mg	”	83.1
Mn	”	0.0386
Na	”	72
Ni	”	0.0021
Pb	”	<0.004
Zn	”	0.010

¹pH analyzed beyond recommended holding time of 15 minutes.