

Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

***RESEARCH AND DEVELOPMENT
DEPARTMENT***

REPORT NO. 06-11

122nd STREET AND STONY ISLAND AVENUE SOLIDS

MANAGEMENT AREA MONITORING DATA FOR

FOURTH QUARTER 2005

MARCH 2006

March 10, 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: 122nd Stony Island Avenue Solids Drying Site - Stickney WRP
IEPA Permit No. 2005-AO-4283, Monitoring Data for October,
November, and December 2005

The attached five tables contain the monitoring data for 122nd and Stony Island Avenue site for October, November, and December 2005 as required by IEPA Operating Permit No. 2005-AO-4283.

The data reported are as follows:

Table 1, Analysis of Water from Lysimeters L-1 through L-4 at the 122nd and Stony Island Avenue Solids Management Area Sampled on October 5, 2005

Table 2, Analysis of Water from Lysimeters L-1 through L-4 at the 122nd and Stony Island Avenue Solids Management Area Sampled on November 2, 2005

Table 3, Analysis of Water from Lysimeters L-1 through L-4 at the 122nd and Stony Island Avenue Solids Management Area Sampled on December 14, 2005

Table 4, Analysis of Monthly Compositated Processed Digested Biosolids Removed from the 122nd and Stony Island Avenue Solids Management Area During October 2005

Table 5, Analysis of Monthly Compositated Processed Digested Biosolids Removed from the 122nd and Stony Island Avenue Solids Management Area During November 2005

Mr. S. Alan Keller

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March 10, 2006

Subject: 122nd Stony Island Avenue Solids Drying Site - Stickney WRP IEPA
Permit No. 2005-AO-4283, Monitoring Data for October, November,
and December 2005

No biosolids were placed in the drying site during the months of October, November, and December, but material was removed from the site during October and November.

Very truly yours,

Richard Lanyon
Director
Research and Development

RL:PL:spy

Enclosure

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

cc via MWRDGC web site:
Levy/Kollias/Sharma
Granato/O'Connor
Cox/Lindo/Patel

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 1

ANALYSIS OF WATER FROM LYSIMETERS L-1 THROUGH L-4 AT THE
122nd AND STONY ISLAND AVENUE SOLIDS MANAGEMENT AREA SAMPLED ON
OCTOBER 5, 2005

Parameter	Units	Lysimeter No.			
		L-1	L-2	L-3	L-4
pH*		7.6	7.7	7.6	7.7
EC	mS/m	290	236	308	186
Total Dissolved Solids	mg/L	2,064	1,686	2,580	1,214
Total Dissolved Organic Carbon	"	33	13	41	17
Cl ⁻	"	234	483	80	282
SO ₄ ⁼	"	314	207	719	55
TKN	"	38	3.7	11	5.1
NH ₃ -N	"	35	2.5	6.6	3.8
NO ₂ +NO ₃ -N	"	0.028	0.147	NRR	0.192
Total P	"	0.16	0.05	0.05	0.05
Alkalinity as CaCO ₃	"	1,185	338	1,219	562
Al	"	<0.07	<0.07	<0.07	<0.07
B	"	6.07	1.37	0.501	1.49
Ca	"	267	108	470	123
Cd	"	0.0018	0.0057	<0.0003	<0.0003
Cr	"	<0.0007	<0.0007	<0.0007	<0.0007
Cu	"	<0.002	<0.002	<0.002	<0.002
Fe	"	0.578	0.450	1.88	0.421
Hg	µg/L	0.06	<0.05	<0.05	0.08
K	mg/L	30	42	6	9
Mg	"	136	71.4	158	58.3
Mn	"	0.3198	0.6668	0.5642	0.1340
Na	"	161	248	43	178
Ni	"	<0.002	0.004	<0.002	<0.002
Pb	"	<0.0009	<0.0009	<0.0009	<0.0009
Zn	"	0.007	0.004	0.006	<0.002

*pH analyzed beyond recommended holding time of 15 minutes.

NRR = No reportable result.

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TABLE 2

ANALYSIS OF WATER FROM LYSIMETERS L-1 THROUGH L-4 AT THE
122nd AND STONY ISLAND AVENUE SOLIDS MANAGEMENT AREA SAMPLED ON
NOVEMBER 2, 2005

Parameter	Units	Lysimeter No.			
		L-1	L-2	L-3	L-4
pH*		7.8	7.9	7.8	7.9
EC	mS/m	287	276	282	185
Total Dissolved Solids	mg/L	2,040	1,812	2,646	1,238
Total Dissolved Organic Carbon	"	32	14	41	17
Cl ⁻	"	248	600	86	298
SO ₄ ⁼	"	294	136	736	60
TKN	"	37	4.4	9.7	5.2
NH ₃ -N	"	32	3.0	5.9	3.7
NO ₂ +NO ₃ -N	"	0.339	0.051	0.042	0.027
Total P	"	0.07	<0.04	0.19	<0.04
Alkalinity as CaCO ₃	"	1,236	360	1,287	595
Al	"	0.09	<0.07	0.13	<0.07
B	"	4.67	1.12	0.381	1.11
Ca	"	280	112	488	134
Cd	"	<0.0003	<0.0003	<0.0003	<0.0003
Cr	"	0.0010	0.0010	0.0010	<0.0007
Cu	"	<0.002	<0.002	<0.002	<0.002
Fe	"	0.183	0.086	1.41	0.247
Hg	µg/L	<0.05	<0.05	0.05	0.05
K	mg/L	29	46	5	8
Mg	"	136	75.7	159	61.8
Mn	"	0.4010	0.5892	0.4876	0.1201
Na	"	164	283	41	176
Ni	"	<0.002	0.006	<0.002	0.002
Pb	"	0.0010	<0.0009	<0.0009	<0.0009
Zn	"	0.068	0.023	0.130	0.070

*pH analyzed beyond recommended holding time of 15 minutes.

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TABLE 3

ANALYSIS OF WATER FROM LYSIMETERS L-1 THROUGH L-4 AT THE
122nd AND STONY ISLAND AVENUE SOLIDS MANAGEMENT AREA SAMPLED ON
DECEMBER 14, 2005

Parameter	Units	Lysimeter No.			
		L-1	L-2	L-3	L-4
pH*		7.9	8.1	7.9	8.0
EC	mS/m	285	283	275	174
Total Dissolved Solids	mg/L	2,110	1,856	2,642	1,212
Total Dissolved Organic Carbon	"	34	16	42	17
Cl ⁻	"	243	684	85	293
SO ₄ ⁼	"	398	91	747	41
TKN	"	34	4.8	8.7	4.8
NH ₃ -N	"	32	3.5	5.7	3.7
NO ₂ +NO ₃ -N	"	0.425	0.045	0.115	0.123
Total P	"	0.04	0.05	0.04	0.04
Alkalinity as CaCO ₃	"	1,160	444	1,231	571
Al	"	<0.07	<0.07	<0.07	<0.07
B	"	4.62	1.19	0.380	1.16
Ca	"	293	107	476	120
Cd	"	<0.0003	0.0022	<0.0003	<0.0003
Cr	"	<0.0007	<0.0007	<0.0007	<0.0007
Cu	"	<0.002	<0.002	<0.002	<0.002
Fe	"	0.109	0.043	2.04	0.295
Hg	µg/L	<0.05	<0.05	<0.05	<0.05
K	mg/L	28	47	5	10
Mg	"	138	75.6	159	55.5
Mn	"	0.3233	0.5943	0.4850	0.1197
Na	"	164	332	41	183
Ni	"	<0.002	0.007	<0.002	0.002
Pb	"	<0.0009	<0.0009	<0.0009	<0.0009
Zn	"	0.008	0.004	0.006	0.003

*pH analyzed beyond recommended holding time of 15 minutes.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 4

ANALYSIS OF MONTHLY COMPOSITED PROCESSED DIGESTED BIOSOLIDS
REMOVED FROM THE 122nd AND STONY ISLAND AVENUE SOLIDS MANAGEMENT
AREA DURING OCTOBER 2005

Constituent	Units	Concentration*
pH		7.7
Total Solids	%	71.7
Total Volatile Solids	%	39.7
TKN	mg/dry kg	12,384
NH ₃ -N	"	2,714
Total P	"	10,114
Al	"	23,362
As	"	9
Ca	"	37,789
Cd	"	5
Cr	"	324
Cu	"	451
Fe	"	20,149
Hg	"	1.6
K	"	4,096
Mg	"	17,849
Mn	"	597
Mo	"	18
Na	"	1,008
Ni	"	61
Pb	"	162
Se	"	<0.7
Zn	"	1,009

* Values are the means of two samples.

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TABLE 5

ANALYSIS OF MONTHLY COMPOSITED PROCESSED DIGESTED BIOSOLIDS
REMOVED FROM THE 122nd AND STONY ISLAND AVENUE SOLIDS MANAGEMENT
AREA DURING NOVEMBER 2005

Constituent	Units	Concentration*
pH		6.8
Total Solids	%	65.8
Total Volatile Solids	%	43.1
TKN	mg/dry kg	9,898
NH ₃ -N	"	2,681
Total P	"	7,354
Al	"	26,123
As	"	4
Ca	"	39,326
Cd	"	4
Cr	"	225
Cu	"	481
Fe	"	20,515
Hg	"	1.8
K	"	4,406
Mg	"	17,366
Mn	"	470
Mo	"	21
Na	"	671
Ni	"	66
Pb	"	171
Se	"	1
Zn	"	1,093

* Values are the data for one sample.