

*Protecting Our Water Environment*



***Metropolitan Water Reclamation District of Greater Chicago***

***RESEARCH AND DEVELOPMENT  
DEPARTMENT***

***REPORT NO. 06-18***

***MONTHLY REPORT OF THE FULTON COUNTY***

***ENVIRONMENTAL PROTECTION SYSTEM***

***DECEMBER 2005***

***APRIL 2006***

## Protecting Our Water Environment

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*Director of Research & Development*  
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April 24, 2006

Mr. S. Alan Keller, P.E.  
Manager, Permit Section  
Illinois Environmental  
Protection Agency  
P.O. Box 19276  
Springfield, IL 62794-9276

Dear Mr. Keller:

Attached for your information and use is the December 2005 monthly report of the Fulton County Environmental Protection System. In addition to data collected in December 2005, this report contains the 2004 soil and crop data, and a summary of all 2005 monitoring data.

Very truly yours,

Richard Lanyon  
Director  
Research and Development

RL:TCG:AC:GT:spy  
Attachment

cc w/enc.: Mr. Valdis Aistars, USEPA Region V  
Mr. Ash Sajjad, USEPA Region V  
Mr. Matthew Williams, USEPA Region V  
IEPA Permit Section, Springfield  
IEPA Surveillance Section, Peoria  
Chairman of the Fulton County Board  
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**ENVIRONMENTAL PROTECTION SYSTEM  
REPORT FOR FULTON COUNTY, ILLINOIS  
DECEMBER 2005**

**Research and Development Department  
G. Tian  
A. Cox**

**April 2006**

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## FOREWORD

The data and information in this report fulfill the frequency of monitoring and the reporting requirements for the Land Application of Biosolids at the Fulton County Land Reclamation Project as specified in the Illinois Environmental Protection Agency Permit No. 2005-SC-5073 for December 2005.

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## ACKNOWLEDGMENT

Thanks are due to the staff of the Analytical Laboratories Division for assistance in conducting analyses and Ms. Sabina Yarn for typing this report.

## DISCLAIMER

Mention of proprietary equipment and chemicals in this report does not constitute endorsement by the Metropolitan Water Reclamation District of Greater Chicago.



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**FULTON COUNTY**  
**DEWATERED BIOSOLIDS REPORT**  
**December 2005**

## DEWATERED BIOSOLIDS REPORT

No dewatered biosolids were applied to fields during the month of December 2005. In addition, no supernatant was available for application to fields during this month. The last supernatant application was made in 1995, and the last biosolids application was made in 2004.

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**FULTON COUNTY**  
**WATER ANALYSIS REPORT**  
**December 2005**

## WATER ANALYSIS REPORT

During the month, there was no retention basin discharge. A site plan of farm field and retention basin locations is attached in Figure 1.

The surface water sites (Streams, Reservoirs, and SP Sites) were also not sampled during the month. The wells were sampled during the month. A site plan of water monitoring locations is attached in Figure 2. Analytical data of water samples from the wells are presented in Table 1.

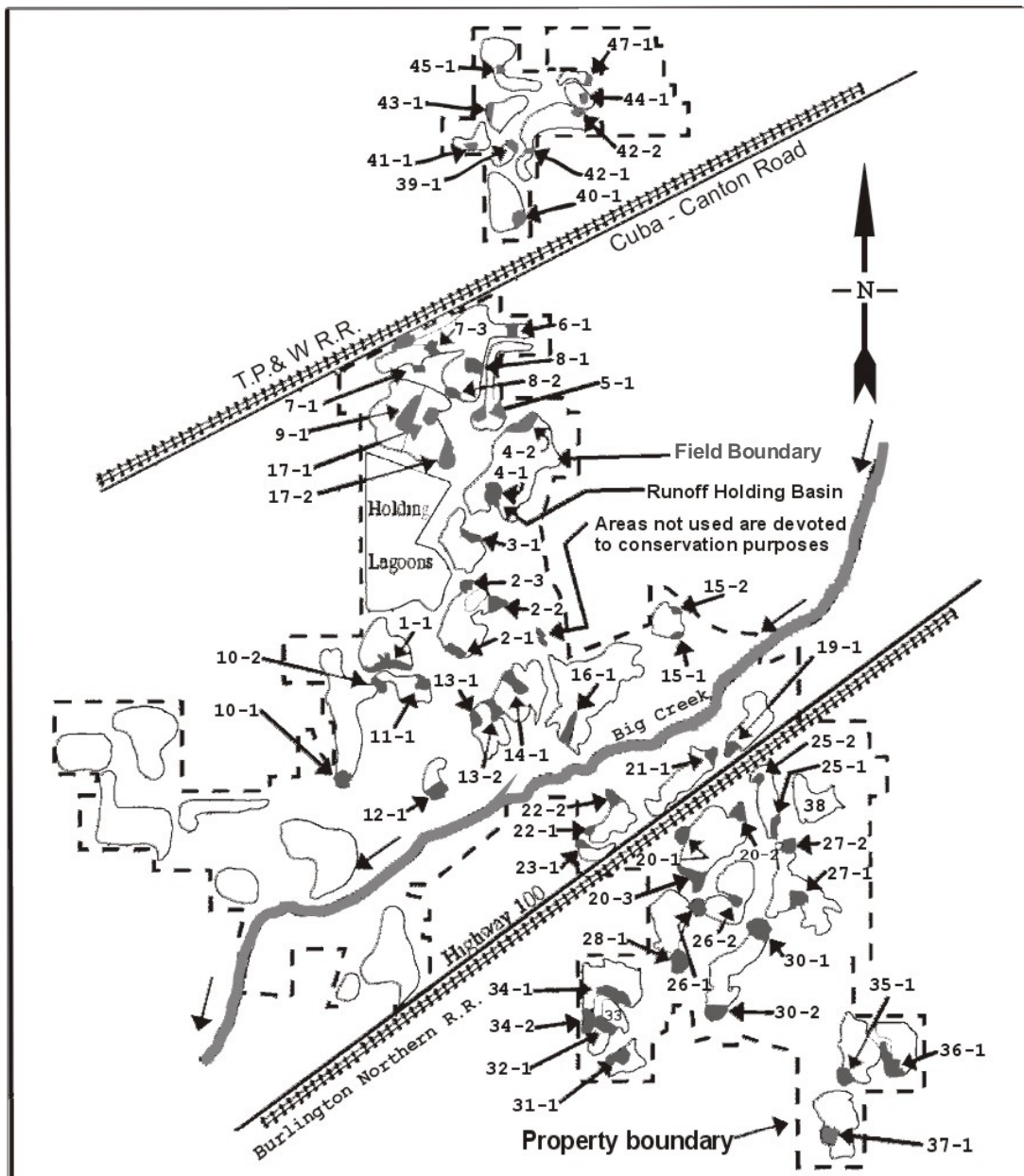
Water quality of samples taken in 2005 from the permitted monitoring stations is summarized in the following tables:

1. Well water, Table 2
2. Spring and stream waters, Table 3
3. Reservoir water, Table 4
4. Surface water (SP sites) Table 5

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

FIGURE 1

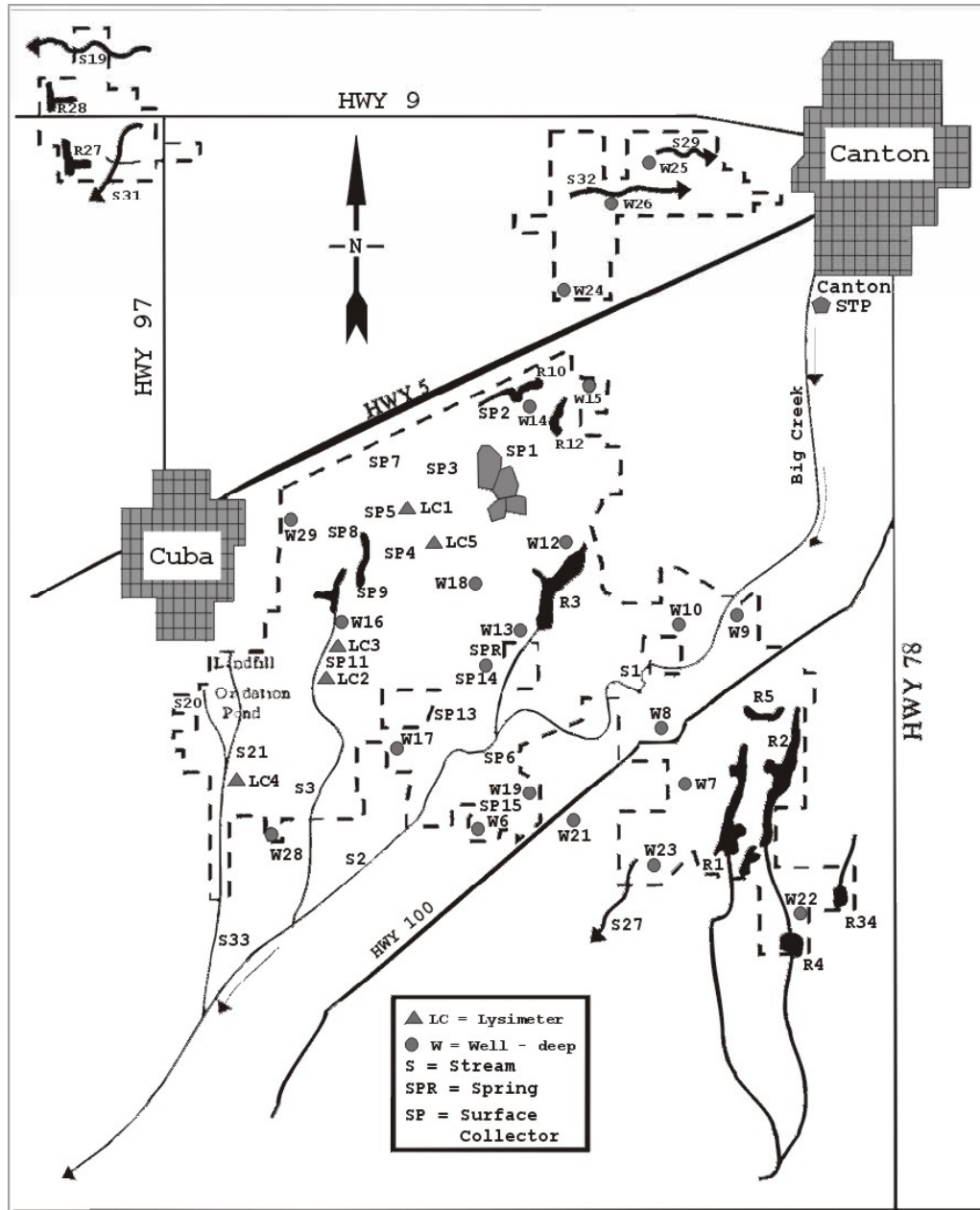
FARM FIELDS AND RUNOFF BASINS AT THE LAND RECLAMATION PROJECT AT FULTON COUNTY, ILLINOIS



METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

FIGURE 2

WATER MONITORING LOCATIONS AT THE LAND RECLAMATION PROJECT AT FULTON COUNTY, ILLINOIS



METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 1

FULTON COUNTY LAND RECLAMATION PROJECT WELL DATA  
DECEMBER 2005

Well Number	Sample Date	NH <sub>3</sub> -N	NO <sub>2</sub> -N	NO <sub>3</sub> -N	Cd	Cu	Hg	
		----- mg/L -----					μg/L	
W 6	12/15	0.07	0.000	0.105	0.0000	0.000	0.00	
W 7	12/15	1.74	0.000	0.174	0.0000	0.000	0.08	
W 8	12/15	1.21	0.000	0.065	0.0000	0.000	0.00	
W 9	12/15	7.32	0.000	0.263	0.0000	0.000	0.08	
W10	12/15	0.92	0.000	0.079	0.0000	0.000	0.00	
W12	12/15	0.37	0.000	0.109	0.0000	0.000	0.00	
W14	12/15	0.79	0.000	0.157	0.0000	0.007	0.06	
W15	12/15	0.65	0.000	0.797	0.0000	0.009	0.00	
W16	12/15	0.03	0.000	0.091	0.0000	0.000	0.00	
W17	12/15	0.03	0.000	4.696	0.0000	0.000	0.00	
W18	12/15	0.92	0.000	0.039	0.0000	0.005	0.00	
W19	12/15	0.97	0.000	0.148	0.0000	0.000	0.00	
W21	12/15	1.54	0.000	0.031	0.0000	0.000	0.00	
W22	12/15	1.60	0.000	0.098	0.0000	0.000	0.00	
W23	12/15	0.03	0.000	0.060	0.0000	0.000	0.00	
W24	12/15	0.24	0.000	0.465	0.0000	0.020	0.09	
W25	12/15	0.00	0.000	0.045	0.0000	0.000	0.00	
W26	12/15	1.53	0.000	0.114	0.0000	0.004	0.00	
W28	12/15	0.08	0.000	0.049	0.0000	0.000	0.00	
W29	12/15	1.37	0.160	0.578	0.0000	0.000	0.00	
MDL*		0.02	0.015	0.005	0.0004	0.003	0.06	

\*MDL = Method detection limit of laboratory; values less than these are reported as zeros.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 2

FULTON COUNTY LAND RECLAMATION PROJECT WELL DATA  
YEARLY SUMMARY - 2005

Well	NH <sub>3</sub> -N			NO <sub>2</sub> -N		
	Mean *	Maximum	Minimum	Mean *	Maximum	Minimum
	----- mg/L -----			----- m/L -----		
W 6	0.51	1.37	0.07	0.000	0.000	0.000
W 7	1.00	1.74	0.70	0.007	0.026	0.000
W 8	0.81	1.21	0.42	0.000	0.000	0.000
W 9	11.42	14.33	7.32	0.002	0.007	0.000
W10	1.21	3.44	0.23	0.000	0.000	0.000
W12	0.24	0.37	0.06	0.004	0.016	0.000
W14	0.45	0.79	0.06	4.275	11.000	0.000
W15	0.49	0.65	0.29	0.008	0.030	0.000
W16	0.02	0.06	0.00	0.000	0.000	0.000
W17	0.02	0.05	0.00	0.007	0.029	0.000
W18	0.96	1.18	0.72	0.003	0.012	0.000
W19	0.76	0.97	0.63	0.000	0.000	0.000
W21	1.38	1.54	1.24	0.000	0.000	0.000
W22	1.18	1.60	0.79	0.001	0.005	0.000
W23	0.07	0.23	0.00	0.045	0.180	0.000
W24	0.20	0.57	0.00	0.000	0.000	0.000
W25	0.02	0.06	0.00	0.000	0.000	0.000
W26	1.17	1.53	0.60	0.000	0.000	0.000
W28	0.04	0.08	0.00	0.000	0.000	0.000
W29	1.47	1.92	1.04	0.072	0.160	0.000
MDL **	0.02	0.02	0.02	0.080	0.150	0.005



METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 2 (Continued)

FULTON COUNTY LAND RECLAMATION PROJECT WELL DATA  
YEARLY SUMMARY - 2005

Well	NO <sub>3</sub> -N			Cd		
	Mean *	Maximum	Minimum	Mean *	Maximum	Minimum
	----- mg/L -----			----- m/L -----		
W 6	0.182	0.272	0.080	0.0000	0.0000	0.0000
W 7	0.152	0.174	0.141	0.0000	0.0000	0.0000
W 8	0.102	0.139	0.063	0.0000	0.0000	0.0000
W 9	0.240	0.263	0.225	0.0000	0.0000	0.0000
W10	0.179	0.252	0.079	0.0000	0.0000	0.0000
W12	0.254	0.357	0.109	0.0000	0.0000	0.0000
W14	5.335	7.998	0.157	0.0000	0.0000	0.0000
W15	0.357	0.797	0.138	0.0000	0.0000	0.0000
W16	0.156	0.203	0.091	0.0000	0.0000	0.0000
W17	4.075	4.696	3.863	0.0000	0.0000	0.0000
W18	0.158	0.204	0.039	0.0000	0.0000	0.0000
W19	0.225	0.284	0.148	0.0000	0.0000	0.0000
W21	0.071	0.102	0.031	0.0000	0.0000	0.0000
W22	0.117	0.136	0.096	0.0000	0.0000	0.0000
W23	0.881	1.674	0.060	0.0000	0.0000	0.0000
W24	0.397	0.793	0.165	0.0000	0.0000	0.0000
W25	0.079	0.091	0.045	0.0000	0.0000	0.0000
W26	0.158	0.212	0.092	0.0000	0.0000	0.0000
W28	0.088	0.119	0.049	0.0000	0.0000	0.0000
W29	0.629	0.927	0.083	0.0000	0.0000	0.0000
MDL**	0.005	0.005	0.005	0.0004	0.0004	0.0003

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 2 (Continued)

FULTON COUNTY LAND RECLAMATION PROJECT WELL DATA  
YEARLY SUMMARY - 2005

Well	Cu			Hg		
	Mean *	Maximum	Minimum	Mean *	Maximum	Minimum
	----- mg/L -----			----- µg/L -----		
W 6	0.002	0.005	0.000	0.02	0.09	0.00
W 7	0.000	0.000	0.000	0.02	0.08	0.00
W 8	0.001	0.003	0.000	0.00	0.00	0.00
W 9	0.001	0.002	0.000	0.02	0.08	0.00
W10	0.000	0.000	0.000	0.02	0.07	0.00
W12	0.000	0.000	0.000	0.01	0.05	0.00
W14	0.002	0.007	0.000	0.02	0.06	0.00
W15	0.003	0.009	0.000	0.02	0.07	0.00
W16	0.002	0.004	0.000	0.00	0.00	0.00
W17	0.001	0.003	0.000	0.01	0.05	0.00
W18	0.001	0.005	0.000	0.02	0.07	0.00
W19	0.000	0.000	0.000	0.02	0.07	0.00
W21	0.001	0.006	0.000	0.03	0.11	0.00
W22	0.000	0.000	0.000	0.02	0.06	0.00
W23	0.000	0.000	0.000	0.01	0.05	0.00
W24	0.013	0.020	0.009	0.02	0.09	0.00
W25	0.001	0.002	0.000	0.00	0.00	0.00
W26	0.002	0.004	0.000	0.00	0.00	0.00
W28	0.000	0.000	0.000	0.00	0.00	0.00
W29	0.000	0.000	0.000	0.02	0.06	0.00
MDL**	0.003	0.003	0.002	0.06	0.06	0.05

\*In computing the mean, values below the method detection limit (MDL) were considered as zero. The mean is based on four samples per year.

\*\*Values less than MDL at a given sampling date are reported as zero.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 3

FULTON COUNTY LAND RECLAMATION PROJECT SPRING AND STREAM DATA  
YEARLY SUMMARY - 2005

Stream Number		Total P	NH <sub>3</sub> -N	NO <sub>2</sub> -N	NO <sub>3</sub> -N	Cd	Cu	Hg
		----- mg/L -----					µg/L	
Spring 01	Mean*	0.04	0.18	0.02	0.06	0.00	0.01	0.04
	Maximum	0.07	0.32	0.05	0.14	0.00	0.02	0.12
	Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00
S1	Mean	0.86	0.15	0.02	3.20	0.00	0.01	0.00
	Maximum	1.28	0.26	0.07	6.26	0.00	0.02	0.00
	Minimum	0.22	0.00	0.00	1.31	0.00	0.00	0.00
S2	Mean	0.88	0.26	0.02	2.98	0.00	0.01	0.03
	Maximum	1.89	0.42	0.07	4.09	0.00	0.01	0.08
	Minimum	0.25	0.00	0.00	2.00	0.00	0.00	0.00
S3	Mean	0.05	0.02	0.00	0.13	0.00	0.01	0.00
	Maximum	0.08	0.05	0.01	0.20	0.00	0.01	0.00
	Minimum	0.00	0.00	0.00	0.06	0.00	0.00	0.00
S20	Mean	2.20	0.01	0.00	16.84	0.00	0.02	0.00
	Maximum	3.81	0.04	0.00	21.95	0.00	0.03	0.00
	Minimum	1.21	0.00	0.00	9.00	0.00	0.01	0.00
S21	Mean	0.07	1.10	0.00	0.31	0.00	0.01	0.05
	Maximum	0.10	1.79	0.01	0.53	0.00	0.01	0.15
	Minimum	0.05	0.15	0.00	0.11	0.00	0.01	0.00
S27	Mean	0.23	0.81	0.02	1.94	0.00	0.01	0.00
	Maximum	0.39	1.40	0.05	3.25	0.00	0.02	0.00
	Minimum	0.07	0.21	0.00	0.63	0.00	0.01	0.00
S29	Mean	0.13	0.06	0.01	3.75	0.00	0.01	0.00
	Maximum	0.18	0.10	0.03	10.71	0.00	0.01	0.00
	Minimum	0.08	0.00	0.00	0.08	0.00	0.00	0.00

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 3 (Continued)

FULTON COUNTY LAND RECLAMATION PROJECT SPRING AND STREAM DATA  
YEARLY SUMMARY - 2005

Stream Number		Total P	NH <sub>3</sub> -N	NO <sub>2</sub> -N	NO <sub>3</sub> -N	Cd	Cu	Hg	
		----- mg/L -----							µg/L
S32	Mean	0.31	0.02	0.03	0.75	0.00	0.01	0.00	
	Maximum	0.70	0.05	0.10	2.11	0.00	0.02	0.00	
	Minimum	0.07	0.00	0.00	0.06	0.00	0.00	0.00	
S33	Mean	0.61	0.05	0.01	8.71	0.00	0.01	0.00	
	Maximum	0.92	0.12	0.03	10.58	0.00	0.02	0.00	
	Minimum	0.25	0.00	0.00	5.81	0.00	0.00	0.00	
MDL **	Mean	0.04	0.02	0.10	0.01	0.00	0.00	0.06	
	Maximum	0.04	0.02	0.15	0.01	0.00	0.00	0.06	
	Minimum	0.04	0.02	0.01	0.01	0.00	0.00	0.05	

\* In computing the mean, values below the method detection limit (MDL) were considered as zero. The mean is based on three samples per year.

\*\* Values less than the MDL at a given sampling date are reported as zero.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 4

FULTON COUNTY LAND RECLAMATION PROJECT RESERVOIR DATA  
YEARLY SUMMARY - 2005

Reservoir Number		Total P	NH <sub>3</sub> -N	NO <sub>2</sub> -N	NO <sub>3</sub> -N	Cd	Cu	Hg
		----- mg/L -----					µg/L	
R 1	Mean*	0.07	0.22	0.00	0.09	0.00	0.01	0.00
	Maximum	0.14	0.48	0.00	0.13	0.00	0.01	0.00
	Minimum	0.00	0.00	0.00	0.05	0.00	0.00	0.00
R 2	Mean	0.25	0.60	0.01	0.32	0.00	0.00	0.00
	Maximum	0.46	1.50	0.02	0.56	0.00	0.01	0.00
	Minimum	0.09	0.12	0.00	0.13	0.00	0.00	0.00
R 3	Mean	0.06	0.10	0.00	0.06	0.00	0.01	0.00
	Maximum	0.09	0.19	0.00	0.08	0.00	0.01	0.00
	Minimum	0.00	0.00	0.00	0.04	0.00	0.00	0.00
R 4	Mean	0.21	0.54	0.02	6.87	0.00	0.01	0.00
	Maximum	0.40	1.06	0.07	14.6	0.00	0.02	0.00
	Minimum	0.08	0.23	0.00	1.82	0.00	0.00	0.00
R 5	Mean	0.05	0.08	0.00	0.08	0.00	0.01	0.00
	Maximum	0.07	0.23	0.01	0.12	0.00	0.01	0.00
	Minimum	0.00	0.00	0.00	0.06	0.00	0.00	0.00
R 10	Mean	0.04	0.06	0.00	0.06	0.00	0.01	0.00
	Maximum	0.07	0.13	0.00	0.09	0.00	0.02	0.00
	Minimum	0.00	0.00	0.00	0.04	0.00	0.00	0.00
R 12	Mean	0.07	0.19	0.00	0.04	0.00	0.01	0.00
	Maximum	0.15	0.54	0.00	0.06	0.00	0.02	0.00
	Minimum	0.00	0.00	0.00	0.03	0.00	0.00	0.00

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 4 (continued)

FULTON COUNTY LAND RECLAMATION PROJECT RESERVOIR DATA  
YEARLY SUMMARY - 2005

Reservoir Number		Total P	NH <sub>3</sub> -N	NO <sub>2</sub> -N	NO <sub>3</sub> -N	Cd	Cu	Hg
		----- mg/L -----						µg/L
R 34	Mean	0.28	0.23	0.03	3.73	0.00	0.04	0.09
	Maximum	0.46	0.51	0.09	8.85	0.00	0.12	0.28
	Minimum	0.09	0.04	0.00	0.20	0.00	0.00	0.00
MDL**	Mean	0.04	0.02	0.10	0.01	0.00	0.00	0.06
	Maximum	0.04	0.02	0.15	0.01	0.00	0.00	0.06
	Minimum	0.04	0.02	0.01	0.01	0.00	0.00	0.05

\* In computing the mean, values below the method detection limit (MDL) were considered as zero. The mean is based on three samples per year.

\*\* Values less than the MDL at a given sampling date are reported as zero.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 5

FULTON COUNTY LAND RECLAMATION PROJECT SURFACE WATERS - PUTNAM TOWNSHIP, DISTRICT PROPERTY (WESTERN SECTION)  
YEARLY SUMMARY - 2005

Surface Water		Total P	NH <sub>3</sub> -N	NO <sub>2</sub> -N	NO <sub>3</sub> -N	Cd	Cu	Hg
		----- mg/L -----						µg/L
SP 6	Mean*	0.11	0.00	0.11	0.16	0.00	0.00	0.00
	Maximum	0.17	0.00	0.22	0.23	0.00	0.01	0.00
	Minimum	0.07	0.00	0.00	0.07	0.00	0.00	0.00
SP 14	Mean*	0.14	0.39	0.00	2.34	0.00	0.01	0.00
	Maximum	0.27	1.17	0.00	6.49	0.00	0.01	0.00
	Minimum	0.06	0.00	0.00	0.18	0.00	0.00	0.00
MDL**	Mean*	0.04	0.02	0.10	0.01	0.00	0.00	0.06
	Maximum	0.04	0.02	0.15	0.01	0.00	0.00	0.06
	Minimum	0.04	0.02	0.01	0.01	0.00	0.00	0.06

\* In computing the mean, values below the method detection limit (MDL) were considered as zero. The mean is based on three samples per year.

\*\* Values less than MDL at a given sampling date are reported as zero.

**Metropolitan Water Reclamation District of Greater Chicago**  
100 East Erie Street Chicago, IL 60611-2803 (312) 751-5600

**FULTON COUNTY**  
**CLIMATOLOGICAL OBSERVATIONS**  
**December 2005**



## CLIMATOLOGICAL OBSERVATIONS

The daily climatological observations for December 2005 are summarized in Table 6.

The total precipitation recorded for the month was 0.73 inches.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 6

RECORD OF CLIMATOLOGICAL OBSERVATIONS FOR DECEMBER 2005,  
FULTON COUNTY, ILLINOIS, STATION SEQ, SEC.10, R3E, T6N

Date	Temperature °C			Precipitation		Wind		
	Max	Min	Avg	rain, melted snow	snow, sleet, hail	m/S	m/S	Dir
				(inches & hundredths)	(inches & tenths)	Avg	Max	
1	-0.7	-11.1	-3.8	0.00	3.5	2.9	13.0	NE
2	-1.3	-11.8	-7.8	0.00		2.2	7.2	SW
3	0.6	-7.2	-4.1	0.03		3.5	8.9	NE
4	-1.8	-13.4	-6.5	0.00		3.2	8.9	W
5	-6.3	-17.0	-12.4	0.00		1.9	7.6	SW
6	0.6	-17.7	-10.4	0.00		2.3	8.0	NE
7	-5.5	-20.6	-15.2	0.00		1.3	4.9	SW
8	-4.2	-13.9	-10.1	0.00	4.0	3.6	13.0	SW
9	-5.2	-19.2	-12.3	0.00		3.2	9.8	SW
10	1.6	-12.4	-3.8	0.06	1.0	4.7	13.4	SE
11	3.4	-3.1	0.4	0.04	1.0	4.3	15.2	W
12	2.6	-4.3	-2.2	0.01		1.4	6.3	NE
13	3.8	-3.3	-0.7	0.01		2.8	9.8	NE
14	2.2	-0.9	0.4	0.16	trace	4.3	13.9	E
15	4.2	-4.3	-1.1	0.00		3.1	13.0	SW
16	-0.5	-11.3	-4.3	0.00	1.0	4.1	14.8	SW
17	-1.8	-12.8	-8.2	0.00		1.3	6.7	W
18	-5.8	-14.7	-9.8	0.00		2.6	8.5	W
19	-6.4	-17.1	-13.1	0.00		2.1	9.4	W
20	0.8	-13.5	-8.0	0.00		1.8	6.7	SW
21	2.2	-13.9	-7.1	0.00		0.8	5.8	SW
22	7.7	-10.3	0.0	0.00		2.6	9.8	SE
23	11.1	1.1	5.1	0.00		2.4	9.8	SW
24	5.7	0.8	2.8	0.14		1.3	6.7	SW
25	1.9	0.2	1.0	0.09		3.3	10.3	NW
26	1.0	-0.4	0.2	0.00		2.9	8.0	W
27	11.5	-0.7	4.2	0.00		2.1	6.3	NE
28	4.3	0.1	1.5	0.02		3.4	9.8	W
29	2.4	0.1	1.1	0.00		1.8	6.7	W
30	3.4	0.8	1.9	0.17		4.1	11.2	SE
	4.8	-2.7	1.0	0.00		3.6	11.6	SW
Sum				0.73	10.5	Observer: Josh DeWees Station: R&D Lab		
Avg	1.2	-8.2	-3.9					
Extreme	11.5	-20.6		0.17	4.0			

***Metropolitan Water Reclamation District of Greater Chicago***  
100 East Erie Street Chicago, IL 60611-2803 (312) 751-5600

**FULTON COUNTY**  
**RECLAMATION OF COAL REFUSE PILES WITH BIOSOLIDS**  
**December 2005**

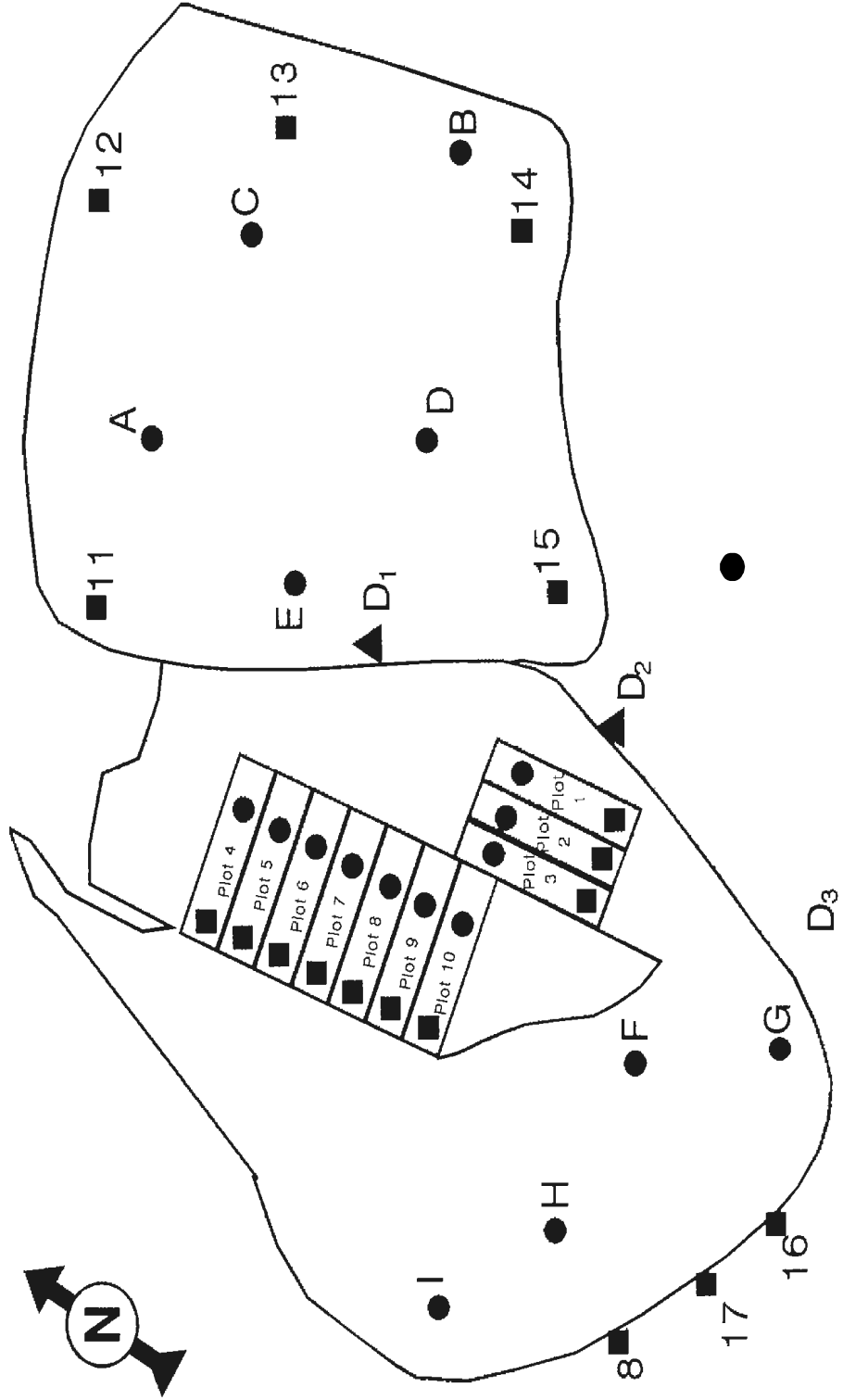
## RECLAMATION OF COAL REFUSE PILES WITH BIOSOLIDS

Lysimeters and drainage tiles at the St. David coal refuse pile reclamation site were not sampled during the month. Locations for all lysimeters and drainage tile sampling sites are shown in Figure 3.

Lysimeters at the Big Ten (Morgan Mine) coal refuse pile site and the United Electric coal refuse pile sites were also not sampled during the month.

FIGURE 3

ST. DAVID COAL REFUSE PILE RECLAMATION SITE



**Metropolitan Water Reclamation District of Greater Chicago**  
100 East Erie Street Chicago, IL 60611-2803 (312) 751-5600

**FULTON COUNTY CROP YIELDS AND PLANT TISSUE ANALYSES FOR 2004**

## FULTON COUNTY CROP YIELDS AND PLANT TISSUE ANALYSES FOR 2004

Fulton County crops are sampled annually to monitor yield and to determine metal concentrations in harvested portions of the crops.

Crop yields for 2004 are presented in Table 7.

Crop tissue analyses for 2004 are presented as follows:

1. Table 8, 2004 corn leaf.
2. Table 9, 2004 corn grain.
3. Table 10, 2004 soybean grain.
4. Table 11, 2004 hay.
5. Table 12, 2004 oat grain.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 7

2004 FULTON COUNTY CROP YIELD DATA

Field Number	Soil Type <sup>1</sup>	Corn bu/acre	Soybeans bu/acre	Oats bu/acre
2	MS	138		
4	MS	138		
5	MS	165		
7E	MS		37	
7W	MS		38	
8	MS		41	
9	MS	165		
11	MS	175		
12	MS	175		
16E	1/4 MS	175		
16W	1/4 MS	175		
17	MS	165		
18	1/2 MS	200	36	
19	PL		47	
20	PL	195		
21	PL		47	
22	PL		47	
23	PL		47	
24	MS	175		
25	MS		40	
26	MS		40	
27	2/3 MS		39	
28	MS		41	
29	MS			85
30	MS		45	
31	PL		45	
34	PL		46	



METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 7 (Continued)

2004 FULTON COUNTY CROP YIELD DATA

Field Number	Soil Type <sup>1</sup>	Corn bu/acre	Soybeans bu/acre	Oats bu/acre
35	PL		47	
36	PL		41	
37	PL	155		
38A	MS		35	
38C	MS		38	
40	1/2 MS	180		
42	MS	137		
45	3/4 MS	150		
50	5/6 MS	120	45	
51	1/4 MS	150		
52	MS	120		
54	MS	179		
55	MS	179		
56	MS	179		
59	PL	149		
63-8	MS		48	
75	MS		30	
80	PL		49	
82	PL		36	
83	PL	115		
84	MS		32	

<sup>1</sup>MS = mine-spoil; fractions appearing before MS indicate the proportion of the field that consists of mine-spoil with the remainder of the surface being placed land. PL = placed land indicating that the field has not been strip mined.

<sup>2</sup>Through 2004.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 8

MEAN CONCENTRATIONS OF METALS IN CORN LEAF SAMPLES COLLECTED AT THE FULTON COUNTY RECLAMATION SITE IN 2004

Field Number	Zn	Cd	Cu	Cr	Ni	Pb	K	Ca	Mg
2	183	8.5	17	0.32	0.20	<0.20	19,566	8,041	5,689
4	105	4.9	14	0.36	0.11	<0.20	18,681	7,639	4,660
5	216	4.6	19	0.48	0.21	<0.20	21,622	8,216	5,485
9	124	3.2	15	0.30	0.16	<0.20	25,667	6,159	3,888
11	198	5.7	18	0.36	0.31	<0.20	25,930	6,318	3,314
12	156	3.7	18	0.42	0.20	<0.20	19,446	8,092	5,003
16E	98	2.5	11	0.44	0.24	<0.20	23,060	5,100	2,894
16W	141	3.4	14	0.36	0.40	<0.20	21,817	6,345	3,342
17	180	10	18	0.34	0.28	<0.20	23,884	6,223	2,974
18-2 <sup>1</sup>	25	<0.02	10	0.26	0.34	<0.20	20,988	6,381	4,327
20-1 <sup>2</sup>	138	3.7	12	0.35	0.42	<0.20	21,263	7,595	4,429
20-2 <sup>2</sup>	108	3.2	13	0.41	0.30	<0.20	11,476	10,873	7,173
24	ND <sup>3</sup>	ND	ND	ND	ND	ND	ND	ND	ND
37	77	4.7	12	0.34	0.18	<0.20	21,663	6,555	4,020
40-1 <sup>2</sup>	97	5.8	11	0.38	0.40	<0.20	14,708	6,755	4,848
40-2 <sup>2</sup>	64	2.1	11	0.58	0.14	<0.20	12,582	6,688	6,649

----- mg/kg -----

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 8 (Continued)

MEAN CONCENTRATIONS OF METALS IN CORN LEAF SAMPLES COLLECTED AT THE FULTON COUNTY RECLAMATION SITE IN 2004

Field Number	Zn	Cd	Cu	Cr	Ni	Pb	K	Ca	Mg
42	132	9.2	16	0.32	0.10	<0.20	22,698	6,464	3,523
45	90	6.0	13	0.27	<0.07	<0.20	19,943	6,296	4,342
50-1 <sup>1</sup>	29	<0.02	12	0.28	0.18	<0.20	15,042	6,855	4,349
51	42	0.45	11	0.28	0.10	<0.20	19,426	6,763	3,533
52	21	<0.02	13	0.30	0.12	<0.20	19,781	6,610	4,105
54	48	<0.02	12	0.28	<0.07	<0.20	24,241	7,033	3,184
55	49	<0.02	14	0.32	0.18	<0.20	23,745	6,702	3,590
56	50	<0.02	12	0.28	0.12	<0.20	23,144	7,048	3,578
59	ND	ND	ND	ND	ND	ND	ND	ND	ND
83	40	0.10	9.2	0.25	0.26	<0.20	23,855	5,045	2,000

----- mg/kg -----

<sup>1</sup>Only this half of the fields were planted in corn.

<sup>2</sup>These fields were broken down into two sections each for special leaf sampling.

<sup>3</sup>ND=No data. These fields were inadvertently missed during leaf sampling.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 9

MEAN CONCENTRATIONS OF METALS IN CORN GRAIN SAMPLES COLLECTED AT THE FULTON COUNTY RECLAMATION SITE IN 2004

Field Number	Zn	Cd	Cu	Cr	Ni	Pb	K	Ca	Mg
2	41	0.26	2.4	1.1	1.1	0.48	3,949	55	1,276
4	34	0.07	2.2	0.18	0.38	<0.10	3,870	44	1,249
5	35	0.17	1.8	0.19	1.1	<0.10	3,395	42	1,191
9	36	0.04	1.8	0.11	0.58	<0.10	3,708	29	1,128
11	36	<0.01	1.8	0.18	0.59	<0.10	4,123	42	1,295
12	34	<0.01	1.3	0.23	0.80	<0.10	3,510	38	1,162
16E	34	<0.01	1.1	0.12	0.70	<0.10	3,736	36	1,217
16W	33	<0.01	1.1	0.11	0.47	<0.10	3,867	33	1,269
17	38	0.18	1.7	0.13	1.0	<0.10	3,578	42	1,272
18-2 <sup>1</sup>	24	<0.01	1.1	0.12	0.44	<0.10	3,669	35	1,083
20	21	<0.01	0.99	0.15	0.25	<0.10	3,667	26	1,153
24	20	<0.01	0.94	0.12	0.26	<0.10	3,561	26	1,102
37	24	0.06	1.7	0.31	0.92	<0.10	3,445	40	1,115
40	25	<0.01	1.4	0.16	1.0	<0.10	2,938	40	1,042
42	25	<0.01	1.7	0.14	0.59	<0.10	4,043	35	1,225
45	25	<0.01	1.5	0.17	0.62	<0.10	3,994	36	1,338

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 9 (Continued)

MEAN CONCENTRATIONS OF METALS IN CORN GRAIN SAMPLES COLLECTED AT THE FULTON COUNTY RECLAMATION SITE IN 2004

Field Number	Zn	Cd	Cu	Cr	Ni	Pb	K	Ca	Mg
50-1 <sup>1</sup>	21	<0.01	2.2	0.16	0.40	<0.10	3,078	38	953
51	23	<0.01	1.4	0.16	0.26	<0.10	3,433	41	1,157
52	21	<0.01	2.0	1.0	1.7	<0.10	4,429	29	1,211
54	30	<0.01	1.5	0.16	0.48	<0.10	4,450	35	1,369
55	23	<0.01	1.1	0.12	0.24	<0.10	3,904	32	1,191
56	26	<0.01	1.4	0.12	0.69	<0.10	4,029	37	1,135
59	22	<0.01	1.4	0.13	0.22	<0.10	4,118	39	1,322
83	19	<0.01	1.6	0.13	0.78	<0.10	3,238	36	1,009

-----mg/kg-----

<sup>1</sup>Only this section of this field was planted in corn.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 10

MEAN CONCENTRATIONS OF METALS IN SOYBEAN GRAIN SAMPLES COLLECTED AT THE FULTON COUNTY RECLAMATION SITE IN 2004

Field Number	Zn	Cd	Cu	Cr	Ni	Pb	K	Ca	Mg
7E	58	0.88	13	0.32	11	<0.10	20,515	2,654	2,840
7W	64	1.0	14	0.28	12	<0.10	22,937	2,838	3,130
8	64	0.96	14	0.27	12	<0.10	22,301	2,800	3,094
18-1 <sup>1</sup>	40	<0.01	14	0.26	4.1	<0.10	20,343	3,106	2,484
19	63	0.98	10	0.31	11	<0.10	19,986	2,714	2,648
21	67	1.2	9.8	0.32	15	<0.10	21,463	2,572	2,886
22	68	1.4	10	0.58	13	<0.10	21,567	2,713	2,885
23	67	1.2	10	0.29	16	<0.10	20,260	2,688	2,780
25	56	0.84	9.8	0.22	7.6	<0.10	22,948	2,416	2,632
26	61	1.4	11	0.24	11	<0.10	23,170	2,696	2,890
27	62	0.34	12	0.24	12	<0.10	22,797	2,666	3,069
28	58	0.33	10	0.22	7.7	<0.10	22,548	2,720	3,016
30	58	0.77	11	0.23	5.8	<0.10	22,872	2,437	2,849
31	59	1.1	10	0.30	13	<0.10	22,312	2,643	2,853
34	68	1.9	10	0.32	15	<0.10	23,992	2,649	3,074

-----mg/kg-----

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 10 (Continued)

MEAN CONCENTRATIONS OF METALS IN SOYBEAN GRAIN SAMPLES COLLECTED AT THE FULTON COUNTY RECLAMATION SITE IN 2004

Field Number	Zn	Cd	Cu	Cr	Ni	Pb	K	Ca	Mg
35	64	0.69	10	0.35	13	<0.10	22,606	2,395	3,069
36	65	1.2	10	0.65	13	<0.10	21,490	2,665	2,811
38A	55	<0.01	18	0.22	4.7	<0.10	22,572	3,139	2,551
38C	52	<0.01	18	1.9	5.5	<0.10	19,296	3,170	2,299
50-2 <sup>1</sup>	44	<0.01	15	0.33	5.3	<0.10	22,407	2,708	2,701
63-8 <sup>1</sup>	50	<0.01	17	0.23	3.1	<0.10	20,763	3,261	2,654
75	46	<0.01	14	0.26	19	<0.10	22,725	2,811	2,671
80	47	<0.01	15	0.27	19	<0.10	23,503	2,863	2,753
82	46	<0.01	14	0.28	20	<0.10	23,082	2,811	2,657
84	46	<0.01	14	0.61	19	<0.10	22,443	2,740	2,633

<sup>1</sup>Only this section of these fields was planted in soybeans.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 11

MEAN CONCENTRATIONS OF METALS IN HAY SAMPLES COLLECTED AT THE FULTON COUNTY RECLAMATION SITE IN 2004

Field Number	Cutting	Zn	Cd	Cu	Cr	Ni	Pb	K	Ca	Mg
10-1	1	87	3.8	8.7	1.6	9.3	<0.10	25,671	10,776	2,651
10-2	1	91	3.5	7.7	1.1	2.6	<0.10	21,457	5,252	1,771
62-1	1	16	<0.01	8.5	0.22	0.66	<0.10	19,085	11,376	2,787
62-2	1	19	<0.01	8.4	0.26	0.74	<0.10	16,509	9,588	2,924
63-1-2	1	24	<0.01	8.3	0.32	0.82	<0.10	20,703	8,703	2,615
63-2-1	1	20	<0.01	9.3	0.16	0.74	<0.10	22,139	10,914	3,021
63-2-2	1	21	<0.01	11	0.20	0.52	<0.10	20,294	12,411	2,974
63-3-1	1	12	<0.01	6.8	0.15	0.52	<0.10	16,588	8,930	2,578
63-3-2	1	18	0.05	4.5	0.41	0.24	<0.10	17,636	4,347	1,890
63-4-1	1	18	<0.01	5.4	0.57	0.45	<0.10	21,085	4,976	2,083
63-4-2	1	17	<0.01	6.2	0.33	0.58	<0.10	21,788	6,211	1,913
63-5-1	1	18	<0.01	5.1	0.19	0.30	<0.10	20,588	6,114	2,421
63-5-2	1	18	<0.01	7.3	0.28	0.73	<0.10	18,190	9,976	2,241
63-6-1	1	15	<0.01	7.8	0.25	0.57	<0.10	18,566	10,382	2,947
63-6-2	1	20	<0.01	7.8	0.26	0.70	<0.10	16,406	13,354	3,465
63-7-1	1	24	<0.01	7.6	0.47	0.90	<0.10	16,822	13,824	3,448

mg/kg



METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 11 (Continued)

MEAN CONCENTRATIONS OF METALS IN HAY SAMPLES COLLECTED AT THE FULTON COUNTY RECLAMATION SITE IN 2004

Field Number	Cutting	Zn	Cd	Cu	Cr	Ni	Pb	K	Ca	Mg
63-7-2	1	22	<0.01	8.7	0.15	1.9	<0.10	17,869	14,025	2,749
73-1	1	27	0.02	5.6	0.26	0.68	<0.10	20,768	6,399	1,793
73-2	1	21	<0.01	7.2	0.21	0.51	<0.10	21,317	10,391	2,047
76-1	1	19	<0.01	8.8	0.18	0.76	<0.10	18,747	10,129	2,560
76-2	1	20	<0.01	7.6	0.17	0.55	<0.10	17,805	10,496	2,821
10-1	2	95	4.1	9.4	1.3	12	<0.10	22,072	11,585	3,604
10-2	2	86	4.3	9.7	2.3	7.6	<0.10	27,943	10,619	2,558
62-1	2	16	<0.01	8.5	0.16	0.84	<0.10	18,153	11,428	2,256
62-2	2	12	<0.01	9.4	0.28	0.69	<0.10	11,685	13,626	3,914
63-1-2	2	24	<0.01	11	0.20	0.46	<0.10	14,173	11,242	2,761
63-2-1	2	20	<0.01	10	0.24	0.62	<0.10	21,719	10,470	2,387
63-2-2	2	21	<0.01	10	0.18	0.60	<0.10	21,122	9,683	2,577
63-3-1	2	14	<0.01	7.8	0.18	0.71	<0.10	22,450	11,046	2,772
63-3-2	2	18	<0.01	9.5	0.24	0.62	<0.10	22,282	9,489	2,296
63-4-1	2	20	<0.01	10	0.15	0.70	<0.10	25,500	8,395	2,764

----- mg/kg-----

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 11 (Continued)

MEAN CONCENTRATIONS OF METALS IN HAY SAMPLES COLLECTED AT THE FULTON COUNTY RECLAMATION SITE IN 2004

Field Number	Cutting	Zn	Cd	Cu	Cr	Ni	Pb	K	Ca	Mg
63-4-2	2	17	<0.01	9.6	0.19	0.76	<0.10	20,006	8,522	2,344
63-5-1	2	15	<0.01	8.4	0.16	0.55	<0.10	22,748	9,588	2,714
63-5-2	2	17	<0.01	7.7	0.16	0.64	<0.10	24,831	7,573	1,706
63-6-1	2	13	<0.01	7.7	0.20	0.68	<0.10	17,888	10,916	2,236
63-6-2	2	13	<0.01	8.5	0.17	0.90	<0.10	12,515	13,867	3,381
63-7-1	2	14	<0.01	7.0	0.17	0.54	<0.10	9,136	8,624	2,350
63-7-2	2	16	<0.01	8.5	0.18	0.51	<0.10	10,726	9,437	2,589
73-1	2	19	<0.01	6.8	0.16	0.76	<0.10	22,140	9,350	2,076
73-2	2	20	<0.01	8.2	0.18	0.52	<0.10	20,524	10,060	3,060
76-1	2	17	<0.01	8.7	0.13	0.62	<0.10	15,936	8,343	2,618
76-2	2	16	<0.01	8.9	0.15	0.70	<0.10	17,880	8,718	2,744

----- mg/kg-----

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 12

MEAN CONCENTRATIONS OF METALS IN OAT GRAIN SAMPLES COLLECTED AT THE FULTON COUNTY RECLAMATION SITE IN 2004

Field Number	Zn	Cd	Cu	Cr	Ni	Pb	K	Ca	Mg
29	31	<0.01	3.2	2.5	3.7	0.25	5,614	718	1,309

-----mg/kg-----

**Metropolitan Water Reclamation District of Greater Chicago**  
100 East Erie Street Chicago, IL 60611-2803 (312) 751-5600

**FULTON COUNTY FIELDS SOIL ANALYSES FOR 2004**

## FULTON COUNTY FIELDS SOIL ANALYSES FOR 2004

Fulton County fields are sampled (0-6 inch depth) annually to monitor plant nutrient and metal concentrations. Table 13 presents the analysis of Fulton County field soil samples taken in 2004.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 13

MEAN pH, ELECTRICAL CONDUCTIVITY (EC), AND CONCENTRATIONS OF ORGANIC CARBON, NUTRIENTS AND METALS FOR BERMED BIOSOLIDS APPLICATION FIELDS AT THE FULTON COUNTY RECLAMATION SITE SAMPLED IN 2004<sup>1</sup>

Field Number	Cumulative Biosolids Applied <sup>2</sup>	pH	EC (dS/m)	Organic Carbon (%)	TKN	Tot.-P	NH <sub>3</sub> -N <sup>3</sup>	NO <sub>2</sub> -N <sup>+</sup>	NO <sub>3</sub> -N <sup>3</sup>	Zn	Cd	Cu	Cr	Ni	Pb
	Mg/ha														
1	1,735	775	6.6	0.19	5.94	9,428	6.95	23.91	1076	66.0	542	830	122	260	
2	1,816	810	6.6	0.31	6.08	11,227	3.50	49.77	977	53.5	462	672	104	228	
3	1,814	810	6.6	0.26	6.37	8,399	4.40	29.99	827	42.0	392	557	85	189	
4	1,522	680	6.6	0.38	5.76	8,879	3.75	33.50	890	43.7	404	582	92	193	
5	1,562	698	6.7	0.47	5.81	9,342	12.70	66.46	874	43.0	417	561	89	189	
6	614	274	7.2	0.14	2.70	3,205	0.85	3.71	315	18.9	142	235	48	73	
7E	1,494	667	6.6	0.36	5.25	7,988	4.60	25.95	895	54.6	448	688	102	218	
7W	1,494	667	7.0	0.21	3.15	3,977	2.85	10.38	425	23.4	199	292	55	94	
8	1,320	589	6.6	0.20	4.57	7,628	6.35	15.72	774	46.2	389	577	89	182	
9	1,602	716	6.6	0.49	5.53	8,433	13.90	85.75	799	42.4	392	562	88	178	
10	1,073	479	6.3	0.17	5.84	10,147	1.90	15.83	1,150	77.7	624	980	122	300	
11	1,485	663	6.5	0.37	4.92	7,696	3.00	106.5	914	57.5	451	720	107	233	
12	1,398	624	6.8	0.27	4.40	7,096	3.15	90.53	751	46.0	370	571	86	182	
13	1,367	610	6.8	0.18	4.81	8,091	1.65	20.91	916	57.7	460	721	98	229	
14	1,473	657	6.8	0.16	4.68	8,502	1.30	16.05	827	48.0	401	615	91	203	

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 13 (Continued)

MEAN pH, ELECTRICAL CONDUCTIVITY (EC), AND CONCENTRATIONS OF ORGANIC CARBON, NUTRIENTS AND METALS FOR BERMED BIOSOLIDS APPLICATION FIELDS AT THE FULTON COUNTY RECLAMATION SITE SAMPLED IN 2004<sup>1</sup>

Field Number	Cumulative Biosolids Applied <sup>2</sup>	pH	EC (dS/m)	Organic Carbon (%)	TKN	Tot.-P	NH <sub>3</sub> -N <sup>3</sup>	NO <sub>2</sub> -N+	NO <sub>3</sub> -N <sup>3</sup>	Zn	Cd	Cu	Cr	Ni	Pb
15	1,482	6.8	0.20	4.82	4,465	8,056	1.00	21.70	838	45.8	392	581	85	194	
16E	1,510	6.7	0.41	4.14	3,923	6,222	3.90	86.18	692	42.7	337	540	79	171	
16W	1,510	6.6	0.32	4.81	4,405	7,593	4.10	97.04	784	48.8	384	607	86	192	
17	1,722	6.7	0.57	6.50	6,506	10,765	16.55	75.62	961	52.5	471	659	101	223	
19	644	6.6	0.13	3.13	2,974	4,285	5.50	10.31	507	33.5	243	437	53	140	
20	531	6.7	0.13	3.92	3,797	5,657	4.35	10.18	630	41.9	314	530	69	166	
21	618	6.6	0.14	3.27	3,604	5,091	8.65	12.40	595	39.8	282	494	64	159	
22	455	6.6	0.15	3.79	3,619	6,308	5.60	14.76	690	46.8	341	583	73	186	
23	473	6.5	0.16	3.60	3,619	5,554	8.30	10.46	688	46.0	332	569	73	181	
25	869	6.7	0.13	4.46	4,183	6,222	3.85	12.14	722	40.2	328	503	75	171	
26	1,086	7.1	0.26	4.58	4,428	6,959	7.70	18.01	737	42.7	349	537	82	176	
27	847	6.8	0.57	4.58	4,635	7,833	6.00	48.70	762	43.8	356	562	79	188	
28	903	6.9	0.39	5.32	5,229	8,605	7.90	30.78	932	57.6	478	726	110	229	
30	1,169	7.0	0.49	4.86	4,947	7,782	4.60	13.26	820	44.6	386	572	92	187	

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 13 (Continued)

MEAN pH, ELECTRICAL CONDUCTIVITY (EC), AND CONCENTRATIONS OF ORGANIC CARBON, NUTRIENTS AND METALS FOR BERMED BIOSOLIDS APPLICATION FIELDS AT THE FULTON COUNTY RECLAMATION SITE SAMPLED IN 2004<sup>1</sup>

Field Number	Cumulative Biosolids Applied <sup>2</sup>	pH	EC (dS/m)	Organic Carbon (%)	TKN	Tot.-P	NH <sub>3</sub> -N <sup>3</sup>	NO <sub>2</sub> -N+ NO <sub>3</sub> -N <sup>3</sup>	Zn	Cd	Cu	Cr	Ni	Pb
31	557	249	6.6	0.14	3.02	5,365	7.60	10.81	633	43.7	320	531	77	167
32	601	269	7.0	0.20	4.18	6,788	8.95	9.80	735	43.3	345	545	88	175
33	1,109	495	6.9	0.42	5.49	9,976	7.70	47.70	1,003	60.1	516	764	112	232
34	566	253	6.8	0.15	3.19	6,068	5.05	14.97	706	47.4	341	583	77	184
35	1,048	468	6.8	0.24	4.40	7,319	6.25	28.01	759	43.2	360	567	74	183
36	1,083	483	6.8	0.24	4.08	7,165	9.55	22.15	744	43.5	356	551	78	173
37	801	358	6.8	0.18	3.78	6,685	2.70	18.97	733	44.5	352	560	79	174
39	646	288	7.1	0.19	3.60	5,262	4.15	13.55	570	30.3	265	391	66	124
40	497	222	6.8	0.13	3.81	5,828	4.60	9.14	712	46.9	361	582	83	178
41	979	437	7.1	0.25	5.39	8,382	6.35	20.44	702	32.0	318	414	67	147
42	858	384	7.0	0.47	4.58	7,593	6.80	48.88	801	48.4	381	598	84	191
43	984	439	7.2	0.24	4.85	7,799	5.00	20.61	674	34.6	318	448	68	150
44	806	360	7.1	0.22	4.31	6,994	5.45	24.47	719	43.0	354	544	82	170
45	1,659	741	7.0	0.75	4.98	7,439	8.55	67.54	707	38.0	345	484	71	160
47	1,122	500	7.0	0.32	6.87	10,987	8.35	24.65	1,643	78.5	535	921	130	304



METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 13 (Continued)

MEAN pH, ELECTRICAL CONDUCTIVITY (EC), AND CONCENTRATIONS OF ORGANIC CARBON, NUTRIENTS AND METALS FOR BERMED BIOSOLIDS APPLICATION FIELDS AT THE FULTON COUNTY RECLAMATION SITE SAMPLED IN 2004<sup>1</sup>

Field Number	Cumulative Biosolids Applied <sup>2</sup>	pH	EC (dS/m)	Organic Carbon (%)	TKN	Tot.-P	NH <sub>3</sub> -N <sup>3</sup>	NO <sub>2</sub> -N <sup>+</sup> NO <sub>3</sub> -N <sup>3</sup>	Zn	Cd	Cu	Cr	Ni	Pb	
-----Dry Solids----- Mg/ha Tons/acre		-----mg/kg-----													
63-8 <sup>4</sup>	21.5	9.6	7.4	0.18	1.85	2,121	636	6.15	7.18	71	1.5	19	28	30	11
83 <sup>4,5</sup>	0	0	6.9	0.21	2.08	1,506	542	4.15	4.77	96	1.4	8	15	14	24

<sup>1</sup>Sampling depth 0-15 cm or 0-6 inch.

<sup>2</sup>Through 2004.

<sup>3</sup>1-M KCl-extractable.

<sup>4</sup>These fields are included because biosolids phosphorus studies are currently conducted in these fields.

<sup>5</sup>Only commercial fertilizer was applied to this field.