

Metropolitan Water Reclamation District of Greater Chicago

RESEARCH AND DEVELOPMENT DEPARTMENT

REPORT NO. 06-39

MONTHLY REPORT OF THE FULTON COUNTY

ENVIRONMENTAL PROTECTION SYSTEM

APRIL 2006

JULY 2006

Protecting Our Water Environment

Metropolitan Water Reclamation District of Greater Chicago

100 EAST ERIE STREET

CHICAGO, ILLINOIS 60611-3154

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July 14, 2006

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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 April 2006 monthly report of the Fulton County Environmental Protection System.

Very truly yours,

Louis Kollias Director

Research and Development

LK:GT:spy Attachment

cc w/enc.:

Mr. Valdis Aistars, USEPA Region V Mr. Ash Sajjad, USEPA Region V

Mr. Matthew Williams, USEPA Region V

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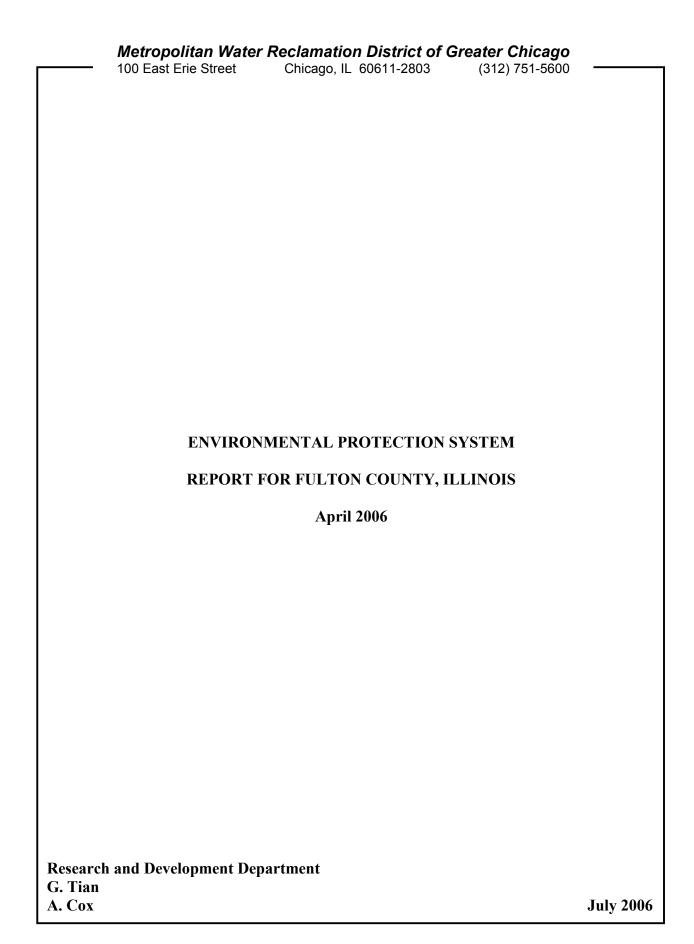


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FOREWORD

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 April 2006.

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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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DEWATERED BIOSOLIDS REPORT

No dewatered biosolids were applied to fields during the month of April 2006. 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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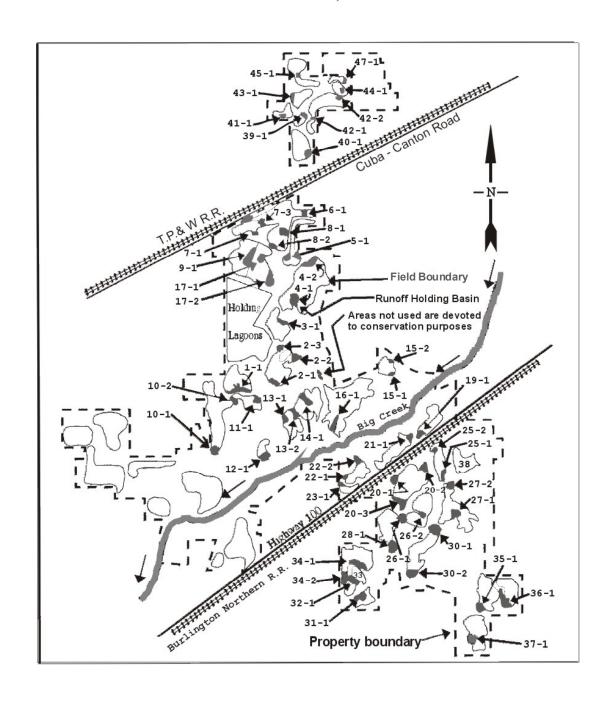
WATER ANALYSIS REPORT

There was no water release and sampling in retention basins during this month. A site plan of farm field and retention basin locations is attached in <u>Figure 1</u>.

The surface water sites (streams, reservoirs, and SP sites) were sampled during the month. A site plan of water monitoring locations is attached in <u>Figure 2</u>. Analytical data of water samples from the surface water sites are presented in <u>Tables 1</u> through <u>3</u>.

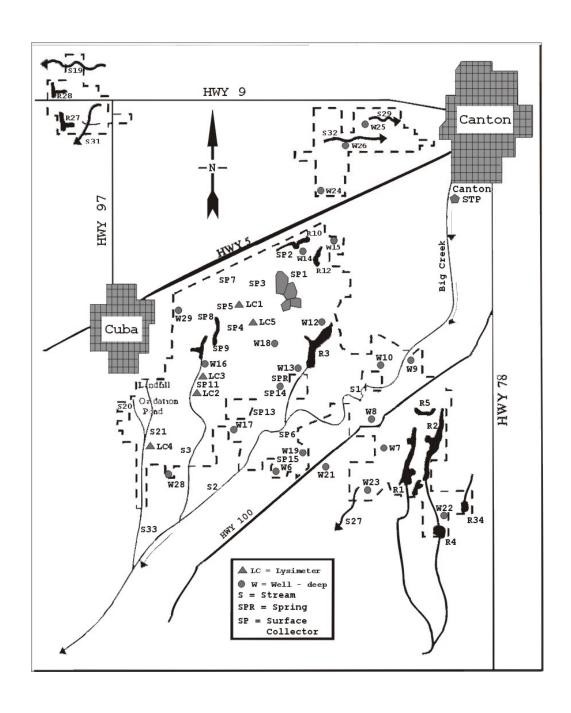
METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO FIGURE 1

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 ${\it TABLE~1}$ FULTON COUNTY LAND RECLAMATION PROJECT SPRING AND STREAM DATA APRIL 2006

| Stream Number | Sample Date | Total P | NH ₃ -N | NO ₂ -N | NO ₃ -N | Cd | Cu | Hg |
|------------------|----------------|---------|--------------------|--------------------|--------------------|--------|-------|------|
| | - | | | mg/l | | | | μg/L |
| Spring01 | 4/4 | 0.07 | 0.000 | 0.000 | 0.000 | 0.0000 | 0.004 | 0.00 |
| S1 | 4/4 | 0.62 | 0.240 | 0.000 | 2.69 | 0.0000 | 0.008 | 0.00 |
| S2 | 4/4 | 0.42 | 0.120 | 0.000 | 2.30 | 0.0000 | 0.008 | 0.00 |
| S3 | 4/4 | 0.08 | 0.080 | 0.000 | 0.125 | 0.0000 | 0.007 | 0.00 |
| S20 | 4/4 | 1.52 | 0.130 | 0.000 | 12.9 | 0.0000 | 0.019 | 0.00 |
| S21 | 4/4 | 0.09 | 0.270 | 0.000 | 0.078 | 0.0000 | 0.008 | 0.00 |
| S27 | 4/4 | 0.08 | 0.040 | 0.000 | 1.35 | 0.0000 | 0.008 | 0.00 |
| S29 | 4/4 | 0.09 | 0.050 | 0.000 | 7.73 | 0.0000 | 0.005 | 0.00 |
| S32 | 4/4 | 0.11 | 0.080 | 0.000 | 4.92 | 0.0000 | 0.007 | 0.00 |
| S33 | 4/4 | 0.28 | 0.000 | 0.000 | 4.90 | 0.0000 | 0.008 | 0.08 |
| MDL* | | 0.04 | 0.020 | 0.150 | 0.005 | 0.0002 | 0.001 | 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 $FULTON \ COUNTY \ LAND \ RECLAMATION \ PROJECT \ RESERVOIR \ DATA \ APRIL 2006$

| Reservoir | Sample | | | | | | | |
|-----------|--------|---------|--------------------|--------------------|--------------------|--------|-------|------|
| Number | Date | Total P | NH ₃ -N | NO ₂ -N | NO ₃ -N | Cd | Cu | Hg |
| | | | | mg | g/L | | | μg/L |
| R 1 | 4/4 | 0.11 | 0.170 | 0.000 | 0.212 | 0.0000 | 0.005 | 0.00 |
| R 2 | 4/4 | 0.15 | 0.070 | 0.000 | 0.064 | 0.0000 | 0.005 | 0.00 |
| R 3 | 4/4 | 0.11 | 0.050 | 0.000 | 0.000 | 0.0000 | 0.007 | 0.00 |
| R 4 | 4/4 | 0.15 | 0.040 | 0.160 | 9.06 | 0.0000 | 0.006 | 0.00 |
| R 5 | 4/4 | 0.08 | 0.020 | 0.000 | 0.000 | 0.0000 | 0.005 | 0.00 |
| R 10 | 4/4 | 0.08 | 0.070 | 0.000 | 0.000 | 0.0000 | 0.007 | 0.00 |
| R 12 | 4/4 | 0.12 | 0.000 | 0.000 | 0.089 | 0.0000 | 0.005 | 0.00 |
| R 34 | 4/4 | 0.11 | 0.160 | 0.000 | 8.63 | 0.0000 | 0.007 | 0.00 |
| MDL* | | 0.04 | 0.020 | 0.150 | 0.005 | 0.0002 | 0.001 | 0.06 |

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

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO TABLE 3 FULTON COUNTY LAND RECLAMATION PROJECT. SURFACE WATERS -

FULTON COUNTY LAND RECLAMATION PROJECT SURFACE WATERS - PUTNAM TOWNSHIP DISTRICT PROPERTY (WESTERN SECTION) APRIL 2006

| Surface Water | Sample Date | Total P | NH ₃ -N | NO ₂ -N | NO ₃ -N | Cd | Cu | Hg |
|------------------|----------------|---------|--------------------|--------------------|--------------------|--------|-------|------|
| | | | | m | g/L | | | μg/L |
| SP 6 | 4/4 | 0.08 | 0.070 | 0.000 | 0.159 | 0.0000 | 0.009 | 0.00 |
| SP 14 | 4/4 | 0.07 | 0.000 | 0.000 | 0.309 | 0.0000 | 0.005 | 0.00 |
| MDL* | | 0.04 | 0.020 | 0.150 | 0.005 | 0.0004 | 0.002 | 0.06 |

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

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CLIMATOLOGICAL OBSERVATIONS

The daily climatological observations for April 2006 are summarized in <u>Table 4</u>. The total precipitation recorded for the month was 5.19 inches.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TABLE 4

RECORD OF CLIMATOLOGICAL OBSERVATIONS FOR APRIL 2006,
FULTON COUNTY, ILLINOIS, STATION SEQ, SEC.10, R3E, T6N

| | 7 | Гетрегаtur | e | Precip | oitation | | Wind | |
|---------|------|------------|------|-----------------------|-------------------|-------------|----------|-----|
| | | °C | | rain, melted snow | snow, sleet, hail | m/S | m/S | |
| Date | Max | Min | Avg | (inches & hundredths) | (inches & tenths) | Avg | Max | Dir |
| 1 | 11.7 | 4.3 | 7.6 | 0.00 | | 2.9 | 13.4 | W |
| 2 | 22.5 | 5.3 | 11.5 | 0.29 | | 6.1 | 20.6 | NE |
| 3 | 14.1 | 3.4 | 7.9 | 0.14 | | 6.4 | 19.7 | W |
| 4 | 16.2 | 0.7 | 8.1 | 0.00 | | 3.4 | 13.0 | SW |
| 5 | 20.9 | 1.2 | 12.0 | 0.04 | | 2.5 | 9.4 | SE |
| 6 | 19.1 | 10.2 | 13.1 | 1.29 | | 4.4 | 13.9 | SE |
| 7 | 25.3 | 1.9 | 14.2 | 0.01 | | 4.5 | 17.0 | N |
| 8 | 12.3 | -1.9 | 4.5 | 0.00 | | 2.6 | 9.8 | N |
| 9 | 16.3 | 0.4 | 8.5 | 0.00 | | 2.5 | 8.0 | SE |
| 10 | 22.5 | 5.2 | 14.1 | 0.00 | | 4.0 | 10.7 | SE |
| 11 | 24.8 | 9.8 | 17.6 | 0.00 | | 5.2 | 16.1 | SE |
| 12 | 25.8 | 10.1 | 19.4 | 0.01 | | 5.0 | 16.1 | SW |
| 13 | 30.1 | 9.6 | 21.1 | 0.00 | | 3.7 | 15.2 | S |
| 14 | 30.7 | 18.6 | 23.8 | 0.06 | | 3.9 | 11.6 | S |
| 15 | 29.2 | 10.3 | 20.1 | 0.01 | | 3.2 | 11.2 | NE |
| 16 | 26.8 | 13.3 | 19.3 | 0.81 | | 3.9 | 16.1 | NE |
| 17 | 21.7 | 8.4 | 13.9 | 0.00 | | 3.6 | 10.3 | NE |
| 18 | 23.7 | 6.9 | 15.8 | 0.16 | | 5.3 | 16.1 | NE |
| 19 | 25.1 | 8.1 | 15.8 | 0.00 | | 1.8 | 10.7 | SW |
| 20 | 25.2 | 6.6 | 16.2 | 0.00 | | 2.5 | 11.2 | SW |
| 21 | 24.2 | 6.2 | 14.9 | 0.00 | | 1.7 | 10.3 | NW |
| 22 | 23.8 | 7.9 | 15.6 | 0.00 | | 2.6 | 13.4 | W |
| 23 | 25.4 | 5.3 | 15.4 | 0.00 | | 1.9 | 9.4 | NW |
| 24 | 24.9 | 8.4 | 16.1 | 0.00 | | 1.2 | 5.4 | SE |
| 25 | 15.9 | 3.8 | 8.3 | 0.35 | | 3.7 | 12.5 | N |
| 26 | 19.3 | 0.9 | 9.8 | 0.00 | | 1.4 | 8.0 | N |
| 27 | 24.5 | 4.9 | 13.9 | 0.00 | | 2.0 | 9.8 | SW |
| 28 | 21.2 | 6.2 | 15.0 | 0.00 | | 2.3 | 9.8 | SE |
| 29 | 15.2 | 12.3 | 13.3 | 1.04 | | 4.3 | 13.0 | NE |
| 30 | 21.4 | 10.2 | 14.5 | 0.98 | | 5.7 | 17.0 | NE |
| | | | | | | | | |
| Sum | | | | 5.19 | 0.0 | Observer: | Josh DeW | ees |
| Avg | 22.0 | 6.6 | 14.0 | | | Station: Ro | &D Lab | |
| Extreme | 30.7 | -1.9 | | 1.29 | 0.0 | | | |

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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 <u>Figure 3</u>.

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

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METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

FIGURE 3

ST. DAVID COAL REFUSE PILE RECLAMATION SITE

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