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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

October 2, 2007

Mr. Jay Balmer
Compliance Assurance Section
Illinois Environmental
Protection Agency
1021 North Grand Avenue
P.O. Box 19276
Springfield, IL 62794-9276

Dear Mr. Balmer:

Subject: Biomonitoring Report for 2007 – Whole Effluent Toxicity Test Results for the Hanover Park Water Reclamation Plant, Hanover Park, Illinois, National Pollutant Discharge Elimination System Permit Number IL0036137, May 2007

The subject Biomonitoring Report is submitted in compliance with the National Pollutant Discharge Elimination System Permit Number IL0036137, Special Condition 11.

If you have any questions concerning this report, please contact Dr. Geeta Rijal, Microbiologist IV, at 708-588-4224.

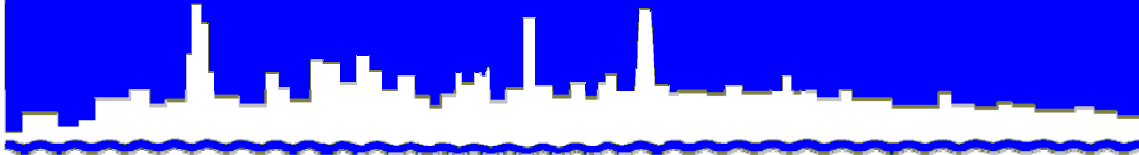
Very truly yours,

Louis Kollias
Director
Research and Development

LK:GR:rag
Attachments

cc: Granato/O'Connor/Rijal/Glymph/Gore
Yamanaka/McNamara/Moe/Garelli/Gronski
Nason (Transmittal letter and report title page)

Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

***RESEARCH AND DEVELOPMENT
DEPARTMENT***

***BIOMONITORING REPORT
2007***

REPORT NO. 07-63

***WHOLE EFFLUENT TOXICITY TEST RESULTS FOR THE
HANOVER PARK WATER RECLAMATION PLANT
HANOVER PARK, ILLINOIS
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT NUMBER IL0036137, MAY 2007***

OCTOBER 2007

Metropolitan Water Reclamation District of Greater Chicago

100 East Erie Street

Chicago, IL 60611-2803

(312) 751-5600

BIOMONITORING REPORT
2007

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HANOVER PARK WATER RECLAMATION PLANT
HANOVER PARK, ILLINOIS
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PERMIT NUMBER IL0036137, MAY 2007

Research and Development Department
Louis Kollias, Director

October 2007

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ACKNOWLEDGMENTS

Ms. Rhonda Griffith is acknowledged 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.

**WHOLE EFFLUENT TOXICITY TEST RESULTS FOR THE HANOVER PARK
WATER RECLAMATION PLANT, HANOVER PARK, ILLINOIS,
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT NUMBER IL0036137, MAY 2007**

Summary

Chronic toxicity tests with *Pimephales promelas* (7 days, static, renewal) and *Ceriodaphnia dubia* (7 days, static, renewal) were conducted on the Hanover Park Water Reclamation Plant (WRP) effluent collected May 14 through May 19, 2007. The results indicated that the tests were valid. No toxic effect on *Pimephales promelas* larval survival or growth was observed. No toxic effect on *Ceriodaphnia dubia* survival or reproduction was observed. Results of quality control chronic toxicity tests with *Pimephales promelas* and *Ceriodaphnia dubia* using the reference toxicant sodium chloride (NaCl) fell within limits prescribed as acceptable by the United States Environmental Protection Agency (USEPA).

Sample Information

Samples of Hanover Park WRP effluent were collected on May 14 through May 19, 2007. These samples were received in the laboratory within 5 hours of sample collection. Sample temperatures at the time of receipt were below 8°C. Samples were stored in the laboratory at 4 ± 1°C. Sample collection information is shown in Table 1.

Whole Effluent Toxicity (WET) Tests

Chronic toxicity tests with *Pimephales promelas* (Fathead minnow) and *Ceriodaphnia dubia* (*C. dubia*) were conducted on the Hanover Park WRP effluent samples collected May 14 through May 19, 2007. Chronic WET test methods and procedures were followed in accordance with *Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, EPA 821/R-02/013, Fourth Edition, October 2002. Fathead minnows were exposed to 12.5, 25, 50, 75, and 100 percent concentrations of final effluent for seven days. *Ceriodaphnia dubia* were exposed to the same concentrations of effluent for seven days. The chronic fathead minnow test was setup on 05/16/07 and completed on 05/23/07. The chronic *C. dubia* test was setup on 05/16/07 and completed on 05/23/07. Hard synthetic water with selenium (HSW) was used as dilution/control water for both test species. The laboratory controls met USEPA test acceptability criteria for both test species. Statistical analyses in the subject report were performed using the CETIS® Software program version 1.1.1 revC (Tidepool Scientific Software, California).

Analysts

WET tests were conducted by G. V. Billett, Laboratory Technician II, Hema Shukla, Laboratory Technician II, and Jon Yamanaka, Biologist I, under the supervision of Geeta Rijal, Microbiologist IV. This report was prepared by Geeta Rijal and Jon Yamanaka.

TABLE 1: SAMPLE COLLECTION INFORMATION

Effluent Collection Point	Hanover Park WRP Effluent Discharge Outfall 007
Effluent Collection Method:	Three 24-hour composite samples. Five 2 1/2 gallon grab samples collected over a 24-hour period were combined to make each 24-hour composite sample. The individual grab samples were collected at 6-hour intervals.
Effluent Collection Times and Dates:	
First Sample Set	0600 May 14, 2007 1200 May 14, 2007 1800 May 14, 2007 2400 May 14, 2007 0600 May 15, 2007
Second Sample Set	0600 May 16, 2007 1200 May 16, 2007 1800 May 16, 2007 2400 May 16, 2007 0600 May 17, 2007
Third Sample Set	0600 May 18, 2007 1200 May 18, 2007 1800 May 18, 2007 2400 May 18, 2007 0600 May 19, 2007

Results

Results of the chronic fathead minnow and *C. dubia* WET tests are shown in Tables 2 and 3, respectively. The WET test results indicated the absence of chronic toxicity to fathead minnow and *C. dubia*. Tabulated summaries of the fathead minnow and *C. dubia* WET tests are presented in Appendices AI and AII, respectively. Raw data for the fathead minnow and *C. dubia* WET tests are presented in Appendices BI and BII, respectively. Chain-of-Custody documentation is provided in Appendix CI. Raw data, statistical calculations, culture data, and control charts for the fathead minnow and *C. dubia* monthly reference toxicant tests are provided in Appendices DI and DII, respectively.

TABLE 2: CHRONIC FATHEAD MINNOW TEST RESULTS

NOEC Value (survival)	100%
NOEC Value (growth)	100%
Minimum Significant Difference (MSD): Fathead minnow (Survival)	8.73% ($\alpha=0.05$)
Minimum Significant Difference (MSD): Fathead minnow (Growth)	17.67% ($\alpha=0.05$)
Toxicity Observed	No
Valid Test	Yes
Concurrent Reference Toxicant Test in Control	Yes

TABLE 3: CHRONIC *CERIODAPHNIA DUBIA* TEST RESULTS

NOEC Value (survival)	100%
NOEC Value (reproduction)	100%
Minimum Significant Difference (MSD): <i>C. dubia</i> (Survival)	29.07% ($\alpha=0.05$)
Minimum Significant Difference (MSD): <i>C. dubia</i> (reproduction)	10.64% ($\alpha=0.05$) 13.72% ($\alpha=0.01$)
Toxicity Observed	No
Valid Test	Yes
Concurrent Reference Toxicant Test in Control	Yes

CERTIFICATION OF ACCURACY

I certify under penalty of law that this document and all appendices were prepared under my supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations 40 C.F.R. 122.22 (d).

Date

Louis Kollias
Director
Research and Development

If you have any questions concerning this report, telephone Dr. Geeta Rijal, Microbiologist IV, at 708-588-4224.