

*Protecting Our Water Environment*



*Metropolitan Water Reclamation District of Greater Chicago*

***MONITORING AND RESEARCH  
DEPARTMENT***

*REPORT NO. 10-22*

*HANOVER PARK WATER RECLAMATION PLANT*

*FISCHER FARM MONITORING REPORT FOR*

*FIRST QUARTER 2010*

*MAY 2010*

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May 27, 2010

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: Hanover Park Water Reclamation Plant - Illinois Environmental Protection Agency Permit No. 2007-SC-2951-1, Monitoring Report for January, February, and March 2010

The attached report includes five tables of the monitoring results for the Hanover Park Water Reclamation Plant Fischer Farm site for the first quarter of 2010.

Very truly yours,

Louis Kollias  
Director  
Monitoring and Research

LK:PL:kq  
Enclosures

cc: Mr. Jay Patel, Manager, IEPA Region II - Des Plaines  
Mr. Valdis Aistars, USEPA Region V  
Mr. Ash Sajjad, USEPA Region V  
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**HANOVER PARK WATER RECLAMATION PLANT  
FISCHER FARM MONITORING REPORT**

**FIRST QUARTER 2010**

## TABLE OF CONTENTS

	<u>Page</u>
FOREWORD	ii
LIST OF TABLES	iii
LIST OF FIGURES	iv
ACKNOWLEDGEMENT	v
DISCLAIMER	v
HANOVER PARK WATER RECLAMATION PLANT FISCHER FARM REPORT FOR FIRST QUARTER OF 2010	1

## FOREWORD

The data and information in this report fulfill the frequency of monitoring and the reporting requirements for the Hanover Park Fischer Farm Site as specified in the Illinois Environmental Protection Agency Permit No. 2007-SC-2951-1 for the first quarter of 2010.

## LIST OF TABLES

<u>Table No.</u>		<u>Page</u>
1	Analysis of Water from Monitoring Well 7 at the Hanover Park Fischer Farm Site Sampled During March 2010	3
2	Analysis of Water from Monitoring Wells at the Hanover Park Fischer Farm Site Sampled on March 30, 2010	4
3	Analysis of Combined Surface and Subsurface Drainage from the Fischer Farm Site Returned to the Hanover Park Water Reclamation Plant During January, February, and March 2010	5
4	Analysis of Lagoon Supernatant Applied to Fields at the Hanover Park Fischer Farm Site During February and March 2010	6
5	Volumes and Dry Weights of Lagoon Supernatant Applied to Fields at the Hanover Park Fischer Farm Site During February and March 2010	7

## LIST OF FIGURES

<u>Figure No.</u>		<u>Page</u>
1	Fields and Wells at the Hanover Park Fischer Farm Site of the Metropolitan Water Reclamation District of Greater Chicago	2

## ACKNOWLEDGEMENT

The assistance given by Ms. Minaxi Patel, Assistant Environmental Chemist, of the Environmental Monitoring and Research Division, and Mr. John Chavich, Supervising Environmental Chemist, of the John E. Egan Analytical Laboratory Section, is greatly appreciated.

## DISCLAIMER

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

## HANOVER PARK WATER RECLAMATION PLANT FISCHER FARM REPORT FOR THE FIRST QUARTER OF 2010

During January, February, and March 2010, activities at the Hanover Park Water Reclamation Plant (WRP) Fischer Farm included well and field drainage water sampling, and flow measurements. These monitoring activities are required by the Illinois Environmental Protection Agency Operating Permit No. 2007-SC-2951-1. Fields and water monitoring locations are presented in Figure 1.

A supplemental permit was issued by the IEPA on July 30, 2009, to modify the monitoring schedule for wells at the Fischer Farm site from bi-weekly to quarterly, except for Well 7, which will be monitored bi-weekly. In addition, monitoring of Well 1 is no longer required.

The four monitoring wells were sampled on March 30, and Well 7 was sampled on March 9 and 30, 2010. Because Well 7 was frozen in January and February, sampling was not possible. Analytical data for samples collected during the quarter are presented in Tables 1 and 2.

Drainage water (combined surface and subsurface) returned to the Hanover Park WRP from the farm fields was sampled twice per month in January, February, and March. Analytical data for these samples are presented in Table 3. The volumes of drainage water returned to the WRP during the first quarter were estimated as 10.75, 3.10, and 23.90 million gallons in January, February, and March, respectively. The analytical data for the lagoon supernatant applied to Fischer Farm fields during the quarter are presented in Table 4. The volumes and dry weights applied are reported in Table 5.

TABLE 1: ANALYSIS OF WATER FROM MONITORING WELL 7 AT  
THE HANOVER PARK FISCHER FARM SITE SAMPLED  
DURING MARCH<sup>1</sup> 2010

	Unit	March 9, 2010	March 30, 2010
		Well 7	
pH <sup>2</sup>		7.2	7.3
EC	mS/m	122	133
Cl <sup>-</sup>	mg/L	60	62
SO <sub>4</sub> <sup>=</sup>	"	216	215
Alkalinity as CaCO <sub>3</sub>	"	526	473
TKN	"	10	10
NH <sub>3</sub> -N	"	10	9
NO <sub>2</sub> +NO <sub>3</sub> -N	"	<0.135	<0.135
Total P	"	<0.1	<0.1
Cd	"	<0.001	<0.001
Cr	"	<0.005	<0.005
Cu	"	<0.004	<0.004
Fe	"	5.3	5.0
Mn	"	0.063	0.062
Ni	"	<0.003	<0.003
Zn	"	0.204	0.047
Fecal Coliform	MPN <sup>3</sup>	<1	<1

<sup>1</sup>No samples during January and February, well frozen.

<sup>2</sup>Samples analyzed beyond the recommended holding time of 15 minutes.

<sup>3</sup>Most probable number/100 mL.

TABLE 2: ANALYSIS OF WATER FROM MONITORING WELLS AT THE HANOVER PARK FISCHER FARM SITE SAMPLED ON MARCH 30, 2010

Parameter	Unit	Well No.			
		3	5	6	8
pH <sup>1</sup>		7.8	7.7	7.7	8.4
EC	mS/m	94	75	85	57
Cl <sup>-</sup>	mg/L	36	15	18	7
SO <sub>4</sub> <sup>=</sup>	"	158	97	139	45
Alkalinity as CaCO <sub>3</sub>	"	342	332	336	272
TKN	"	<0.3	1	0.9	0.3
NH <sub>3</sub> -N	"	<0.1	0.3	0.3	0.4
NO <sub>2</sub> +NO <sub>3</sub> -N	"	<0.135	<0.135	<0.135	<0.135
Total P	"	<0.1	<0.1	<0.1	<0.1
Cd	"	<0.001	<0.001	<0.001	<0.001
Cr	"	<0.005	<0.005	<0.005	<0.005
Cu	"	<0.004	0.033	0.012	0.007
Fe	"	1.6	1.5	2.9	0.91
Mn	"	0.013	0.021	0.039	0.037
Ni	"	<0.003	<0.003	<0.003	<0.003
Zn	"	0.016	<0.003	<0.003	<0.003
Fecal Coliform	MPN <sup>2</sup>	<1	<1	<1	<2

<sup>1</sup>Samples analyzed beyond the recommended holding time of 15 minutes.

<sup>2</sup>Most probable number/100 mL.

TABLE 3: ANALYSIS OF COMBINED SURFACE AND SUBSURFACE DRAINAGE FROM THE FISCHER FARM SITE RETURNED TO THE HANOVER PARK WATER RECLAMATION PLANT DURING JANUARY, FEBRUARY, AND MARCH 2010

Date	Sump	NH <sub>3</sub> -N	TSS <sup>1</sup>	BOD <sub>5</sub>
		----- mg/L -----		
1/20/2010	East	24	23	15
1/19/2010	West	0.2	4	4
1/26/2010	East	256	392	NA <sup>2</sup>
1/26/2010	West	0.5	11	8
2/16/2010	East	185	76	NA <sup>2</sup>
2/16/2010	West	8	9	8
2/23/2010	East	138	157	77
2/23/2010	West	10	6	7
3/9/2010	East	37	15	21
3/9/2010	West	0.2	10	4
3/30/2010	East	76	84	77
3/30/2010	West	6	6	13

<sup>1</sup>Total Suspended Solids.

<sup>2</sup>No analysis; insufficient sample volume.

TABLE 4: ANALYSIS OF LAGOON SUPERNATANT APPLIED TO FIELDS  
AT THE HANOVER PARK FISCHER FARM SITE DURING  
FEBRUARY AND MARCH 2010

Parameter	Unit	Concentration <sup>1</sup>
pH		7.8
TS	%	0.17
TVS <sup>2</sup>	“	62.2
TKN	mg/kg	402,786
NH <sub>3</sub> -N	“	333,884
Volatile Acids <sup>3</sup>	“	2,632
Total P	“	39,387
As	“	21
Cd	“	<0.001
Cr	“	11
Cu	“	240
Hg	“	398
Mn	“	361
Mo	“	5
Ni	“	25
Pb	“	<0.01
Se	“	4
Zn	“	259

<sup>1</sup>Values are the means of two samples.

<sup>2</sup>Total volatile solids as a percentage of total solids.

<sup>3</sup>As acetic acid.

TABLE 5: VOLUMES AND DRY WEIGHTS OF LAGOON SUPERNATANT  
 APPLIED TO FIELDS AT THE HANOVER PARK FISCHER FARM SITE  
 DURING FEBRUARY AND MARCH 2010

Field	Date	Biosolids Type	Volume (Gallons)	Dry Weight (Tons)
1	02/04	Supernatant	60,000	0.33
1	03/16	“	1,250,000	9.90
Total			1,310,000	10.23