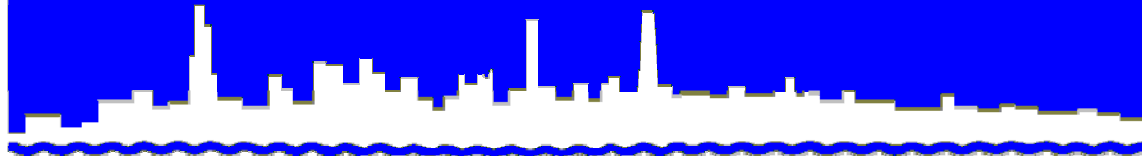


*Protecting Our Water Environment*



*Metropolitan Water Reclamation District of Greater Chicago*

***RESEARCH AND DEVELOPMENT  
DEPARTMENT***

*REPORT NO. 08-26*

*HANOVER PARK WATER RECLAMATION PLANT*

*FISCHER FARM MONITORING REPORT FOR*

*FIRST QUARTER 2008*

*JUNE 2008*

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

*100 East Erie Street Chicago, Illinois 60611-2803 312-751-5600*

**HANOVER PARK WATER RECLAMATION PLANT  
FISCHER FARM MONITORING REPORT**

**FIRST QUARTER 2008**

**Research and Development  
P. Lindo  
A. Cox**

**JUNE 2008**

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Louis Kollias, P.E., BCEE  
*Director of Research and Development*

June 5, 2008

312-751-5190

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 WRP - IEPA Permit No. 2007-SC-295 1, Monitoring  
Report for January, February, and March 2008

The attached report includes seven tables of the monitoring results for the Hanover Park  
Water Reclamation Plant Fischer Farm site for the first quarter of 2008.

Very truly yours,

Louis Kollias  
Director  
Research and Development

LK:PL:kq

Enclosure

cc w/enc: Jay Patel, Manager, IEPA Region II - Des Plaines  
Mr. Valdis Aistars, USEPA Region V  
Ms. Ash Sajjad, USEPA Region V  
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## ACKNOWLEDGMENT

The assistance given by Ms. Minaxi Patel, Sanitary Chemist I, of the Environmental Monitoring and Research Division, and Mr. John Chavich, Sanitary Chemist IV, 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 FIRST QUARTER OF 2008

During January, February, and March 2008, 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. Fields and water monitoring locations are presented in Figure 1.

Water from each of the six monitoring wells was sampled twice monthly in January, February, and March. Analytical data for samples collected during the quarter are presented in Tables 1 through 6.

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 7. The volumes of drainage water returned to the WRP during the first quarter were estimated as 5.88, 8.52, and 13.26 million gallons in January, February, and March, respectively. No lagoon supernatant or biosolids were applied during this quarter.

FIGURE 1: FIELDS AND WELLS AT THE HANOVER PARK FISCHER FARM SITE OF THE METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

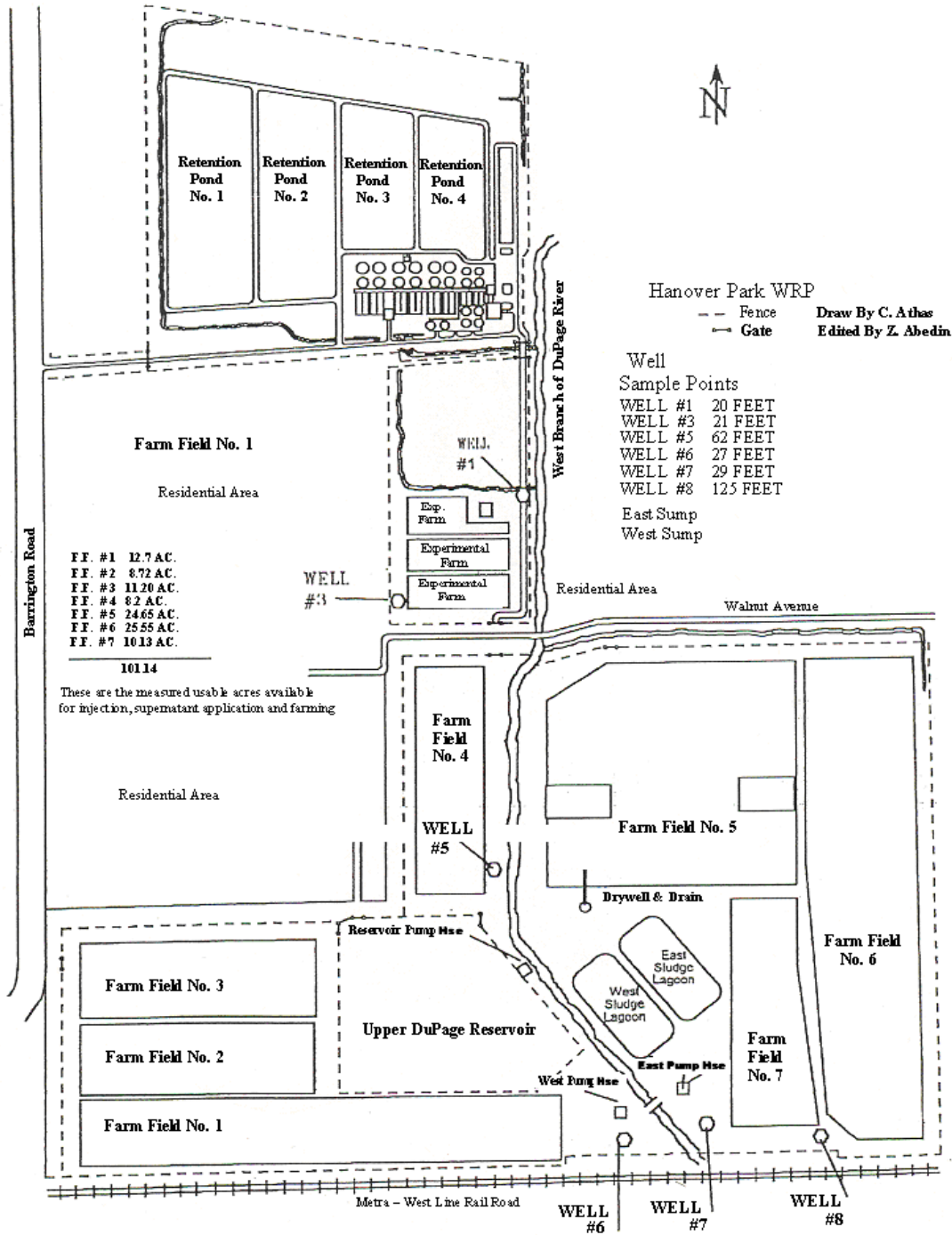


TABLE 1: ANALYSIS OF WATER FROM THE SIX MONITORING WELLS AT  
THE HANOVER PARK FISCHER FARM SITE  
SAMPLED ON JANUARY 8, 2008

Parameter	Unit	Well					
		1	3	5	6	7	8
pH <sup>1</sup>		7.2	7.6	7.6	7.4	7.1	8.0
EC	mS/m	264	106	74	101	127	65
Cl <sup>-</sup>	mg/L	706	16	12	47	45	6.0
SO <sub>4</sub> <sup>=</sup>	''	11	327	99	171	253	60
Alkalinity <sup>2</sup>	''	228	304	318	323	430	286
TKN	''	4.7	0.81	0.34	0.51	7.6	0.39
NH <sub>3</sub> -N	''	3.6	0.11	0.36	0.32	7.2	0.45
NO <sub>2</sub> + NO <sub>3</sub> -N	''	0.11	0.35	0.02	0.02	0.02	0.05
Total P	''	0.14	0.03	<0.02	0.06	<0.02	<0.02
Cd	''	0.0007	<0.0003	<0.0003	0.0005	<0.0003	<0.0003
Cr	''	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cu	''	<0.0005	0.0015	0.0027	0.0681	<0.0005	<0.0005
Fe	''	12.7	6.27	1.60	5.12	4.66	1.09
Mn	''	1.415	0.0373	0.0162	0.0547	0.0665	0.0383
Ni	''	0.0107	0.0020	0.0054	0.0203	0.0020	0.0082
Zn	''	0.0327	0.0516	0.0061	0.0127	0.0592	0.0044
Fecal Coliform MPN		3	<1	<1	<1	<1	<1

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

<sup>2</sup>As CaCO<sub>3</sub>.

MPN = Most probable number/100 mL.

TABLE 2: ANALYSIS OF WATER FROM THE SIX MONITORING WELLS AT  
THE HANOVER PARK FISCHER FARM SITE  
SAMPLED ON JANUARY 29, 2008

Parameter	Unit	Well					
		1	3	5	6	7	8
pH <sup>1</sup>		7.1	7.3	7.4	7.3	7.1	7.9
EC	mS/m	256	122	81	104	NRR	65
Cl <sup>-</sup>	mg/L	704	19	13	56	44	6.0
SO <sub>4</sub> <sup>=</sup>	"	17	380	96	158	1,181	61
Alkalinity <sup>2</sup>	"	215	322	321	322	437	288
TKN	"	3.1	1.1	0.39	0.45	7.4	0.40
NH <sub>3</sub> -N	"	2.4	0.08	0.34	0.29	7.2	0.45
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.16	0.04	<0.02	<0.02	<0.02	<0.02
Total P	"	0.14	0.03	0.02	0.09	0.03	0.02
Cd	"	0.0066	0.0004	0.0003	<0.0003	0.0004	0.0004
Cr	"	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cu	"	<0.0005	0.0055	0.0018	0.0203	0.0036	0.0033
Fe	"	NRR	3.71	5.11	1.94	1.28	1.28
Mn	"	1.752	0.0476	0.0371	0.0175	0.0375	0.0375
Ni	"	0.0044	0.0033	0.0034	0.0018	0.0011	0.0008
Zn	"	0.3394	0.0042	0.0221	0.0102	0.0029	0.0035
Fecal Coliform MPN		1	<1	<1	<1	<1	<1

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

<sup>2</sup>As CaCO<sub>3</sub>.

NRR = No reportable result.

MPN = Most probable number/100 mL.



TABLE 3: ANALYSIS OF WATER FROM THE SIX MONITORING WELLS AT  
THE HANOVER PARK FISCHER FARM SITE  
SAMPLED ON FEBRUARY 19, 2008

Parameter	Unit	Well					
		1	3	5	6	7	8
pH <sup>1</sup>		7.2	7.3	7.3	7.2		
EC	mS/m	247	116	79	102		
Cl <sup>-</sup>	mg/L	666	20	13	36		
SO <sub>4</sub> <sup>=</sup>	"	21	354	101	182		
Alkalinity <sup>2</sup>	"	189	309	322	340	W E	W E
TKN	"	2.9	0.63	0.41	0.54	L	L
NH <sub>3</sub> -N	"	0.36	<0.03	0.30	0.31	L	L
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.56	0.03	0.02	0.02		
Total P	"	1.3	0.93	0.92	0.93	F R	F R
Cd	"	0.0048	<0.0003	<0.0003	<0.0003	O	O
Cr	"	<0.002	<0.002	<0.002	<0.002	Z	Z
Cu	"	<0.0005	0.0112	0.0191	0.0053	E	E
Fe	"	NRR	8.52	1.57	4.93	N	N
Mn	"	1.430	0.0856	0.0147	0.0547		
Ni	"	0.0091	0.0035	0.0018	0.0036		
Zn	"	0.3497	0.0384	0.0039	0.0050		
Fecal Coliform MPN		<1	<1	<1	<1		

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

<sup>2</sup>As CaCO<sub>3</sub>.

NRR = No reportable result.

MPN = Most probable number/100 mL.

TABLE 4: ANALYSIS OF WATER FROM THE SIX MONITORING WELLS AT  
THE HANOVER PARK FISCHER FARM SITE  
SAMPLED ON FEBRUARY 27, 2008

Parameter	Unit	Well					
		1	3	5	6	7	8
pH <sup>1</sup>		6.8	7.3	7.3	7.2		
EC	mS/m	249	117	80	102		
Cl <sup>-</sup>	mg/L	684	18	13	55		
SO <sub>4</sub> <sup>=</sup>	"	12	337	97	150		
Alkalinity <sup>2</sup>	"	223	305	322	324	W E	W E
TKN	"	4.7	0.62	0.39	0.48	L	L
NH <sub>3</sub> -N	"	2.8	0.03	0.32	0.31	L	L
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.20	0.04	0.02	0.03		
Total P	"	0.30	0.10	0.09	0.16	F R	F R
Cd	"	0.0012	<0.0003	<0.0003	0.0323	O	O
Cr	"	<0.002	<0.002	<0.002	0.030	Z	Z
Cu	"	<0.0005	0.0091	0.0068	0.0346	E	E
Fe	"	53.9	2.04	1.59	3.35	N	N
Mn	"	1.802	0.0194	0.0154	0.0727		
Ni	"	0.0064	0.0046	0.0008	0.0338		
Zn	"	0.1347	0.0258	0.0030	0.0364		
Fecal Coliform MPN		1	<1	<1	<1		

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

<sup>2</sup>As CaCO<sub>3</sub>.

MPN = Most probable number/100 mL.

TABLE 5: ANALYSIS OF WATER FROM THE SIX MONITORING WELLS AT  
THE HANOVER PARK FISCHER FARM SITE  
SAMPLED ON MARCH 11, 2008

Parameter	Unit	Well					
		1	3	5	6	7	8
pH <sup>1</sup>		6.9	7.5	7.5	7.4		
EC	mS/m	246	111	78	96		
Cl <sup>-</sup>	mg/L	677	18	13	47		
SO <sub>4</sub> <sup>=</sup>	"	12	305	95	140		
Alkalinity <sup>2</sup>	"	222	303	319	319	W	W
						E	E
TKN	"	5.1	0.90	0.34	0.34	L	L
NH <sub>3</sub> -N	"	3.6	0.04	0.30	0.23	L	L
NO <sub>2</sub> + NO <sub>3</sub> -N	"	0.23	0.04	0.03	0.04		
Total P	"	0.24	0.11	0.02	0.07	F	F
						R	R
Cd	"	0.0025	<0.0003	<0.0003	0.0014	O	O
Cr	"	0.002	<0.002	<0.002	<0.002	Z	Z
Cu	"	<0.0005	<0.0005	0.0123	0.0131	E	E
Fe	"	NRR	7.87	1.65	3.10	N	N
Mn	"	2.669	0.0602	0.0160	0.0439		
Ni	"	0.0100	0.0021	0.0026	0.0050		
Zn	"	0.2589	0.0205	0.0032	0.0067		
Fecal Coliform MPN		1	<1	<1	<1		

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

<sup>2</sup>As CaCO<sub>3</sub>.

NRR = No reportable result.

MPN = Most probable number/100 mL.

TABLE 6: ANALYSIS OF WATER FROM THE SIX MONITORING WELLS AT  
THE HANOVER PARK FISCHER FARM SITE  
SAMPLED ON MARCH 25, 2008

Parameter	Unit	Well					
		1	3	5	6	7	8
pH <sup>1</sup>		6.9	7.5	7.5	7.3	7.1	8.0
EC	mS/m	245	109	78	98	128	61
Cl <sup>-</sup>	mg/L	690	17	13	46	45	6.0
SO <sub>4</sub> <sup>=</sup>	''	5.0	295	95	152	234	56
Alkalinity <sup>2</sup>	''	210	303	318	322	427	277
TKN	''	5.4	0.60	0.27	0.30	6.4	0.40
NH <sub>3</sub> -N	''	4.0	<0.03	0.28	0.21	6.5	0.35
NO <sub>2</sub> + NO <sub>3</sub> -N	''	0.28	0.05	0.03	0.03	0.03	0.03
Total P	''	0.17	0.02	<0.02	0.06	0.03	0.02
Cd	''	0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cr	''	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cu	''	<0.0005	0.0067	0.0126	0.0093	0.0008	0.0041
Fe	''	22.5	4.37	1.47	2.94	4.59	1.04
Mn	''	1.853	0.1423	0.0143	0.0380	0.0641	0.0355
Ni	''	0.0026	0.0030	0.0016	0.0032	0.0029	0.0010
Zn	''	0.0265	0.0272	0.0032	0.0036	0.1412	0.0018
Fecal Coliform MPN		<1	<1	<1	<1	<1	<1

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

<sup>2</sup>As CaCO<sub>3</sub>.

MPN = Most probable number/100 mL.

TABLE 7: ANALYSIS OF COMBINED SURFACE AND SUBSURFACE DRAINAGE FROM THE FISCHER FARM SITE RETURNED TO HANOVER PARK WATER RECLAMATION PLANT DURING JANUARY, FEBRUARY, AND MARCH 2008

Date	Sump	NH <sub>3</sub> -N	TSS <sup>1</sup>	BOD <sub>5</sub>
		..... mg/L .....		
01/08/08	East	14	84	18
01/08/08	West	7.7	100	17
01/29/08	East	271	166	NA
01/29/08	West	6.4	15	8
02/19/08	East	11	8	4
02/19/08	West	0.53	21	3
02/27/08	East	87	54	38
02/27/08	West	2.6	8	<2
03/11/08	East	131	17	13
03/11/08	West	0.40	6	<2
03/25/08	West	2.7	15	4

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

NA = No analysis.