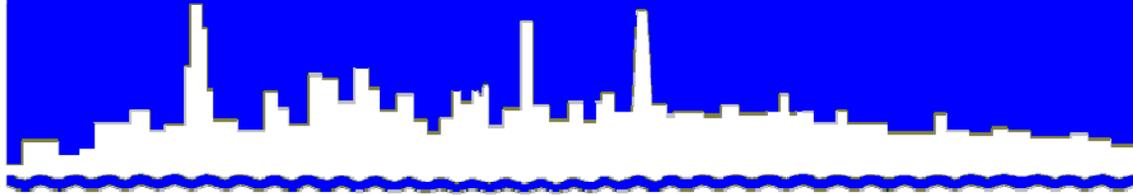


Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

*MONITORING AND RESEARCH
DEPARTMENT*

REPORT NO. 13-33

HANOVER PARK WATER RECLAMATION PLANT

FISCHER FARM MONITORING REPORT FOR

SECOND QUARTER 2013

AUGUST 2013

Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

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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. 2012-SC-2255, Monitoring Report for April, May, and June 2013

The attached report provides the monitoring results for the Hanover Park Fischer Farm site for the second quarter of 2013.

Very truly yours,

Thomas C. Granato, Ph.D.
Director
Monitoring and Research

TCG:PL:cm

Enclosures

cc: Mr. J. Patel, Manager, IEPA Region 2 - Des Plaines

Mr. V. Aistars, USEPA Region 5

Mr. P. Kuefler, USEPA Region 5

Metropolitan Water Reclamation District of Greater Chicago
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**HANOVER PARK WATER RECLAMATION PLANT
FISCHER FARM MONITORING REPORT FOR**

SECOND QUARTER 2012

**Monitoring and Research Department
Thomas C. Granato, Director**

September 2012

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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. 2012-SC-2255 for the second quarter of 2013.

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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 SECOND QUARTER OF 2013

During April, May, and June 2013, 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. 2012-SC-2255. Fields and water monitoring locations are presented in Figure 1.

Analytical data for well water 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 April, May, and June. Analytical data for these samples are presented in Table 3. The volumes of drainage water returned to the WRP during the second quarter were estimated as 15.9, 13.5, and 0.63 million gallons in April, May, and June, respectively. The analytical data for the lagoon supernatant are presented in Table 4. The volume and dry weight applied are reported in Table 5.

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

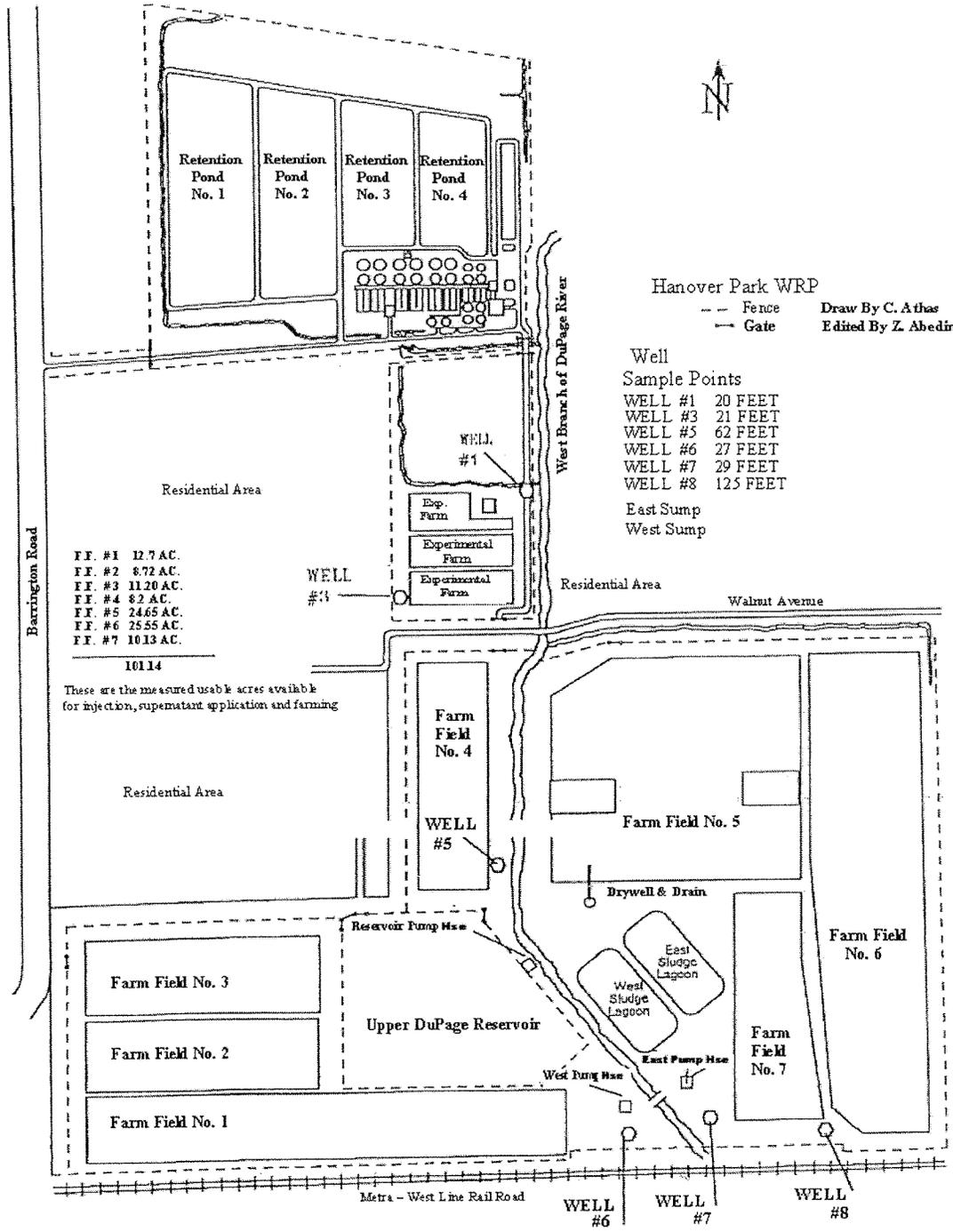


TABLE 1: ANALYSIS OF WATER FROM MONITORING WELL W-7
 AT THE HANOVER PARK FISCHER FARM SITE
 SAMPLED DURING APRIL, MAY, AND JUNE 2013

Parameter	Unit	Date Sampled			
		04/02/13	04/16/13	05/07/13	05/21/13
pH ¹		7.4	7.2	7.2	7.3
EC	mS/m	142	142	134	133
Cl ⁻	mg/L	61	68	67	69
SO ₄ ⁼	"	223	215	221	219
Alkalinity as CaCO ₃	"	484	450	440	435
TKN	"	20	18	20	19
NH ₃ -N	"	18	17	19	18
NO ₂ + NO ₃ -N	"	< 0.15	< 0.15	< 0.15	< 0.15
Total P	"	< 0.20	< 0.20	< 0.20	< 0.20
Cd	"	< 0.001	< 0.001	< 0.001	< 0.001
Cr	"	< 0.005	< 0.005	< 0.005	< 0.005
Cu	"	< 0.005	< 0.005	< 0.005	0.012
Fe	"	4	5	4	4
Mn	"	0.051	0.057	0.051	0.055
Ni	"	< 0.005	< 0.005	< 0.005	< 0.005
Zn	"	0.06	0.13	0.07	0.11

TABLE 1 (Continued): ANALYSIS OF WATER FROM MONITORING WELL W-7
 AT THE HANOVER PARK FISCHER FARM SITE
 SAMPLED DURING APRIL, MAY, AND JUNE 2013

Parameter	Unit	Date Sampled	
		06/04/13	06/11/13
pH ¹		7.4	7.2
EC	mS/m	134	124
Cl ⁻	mg/L	73	70
SO ₄ ⁼	"	229	231
Alkalinity as CaCO ₃	"	429	431
TKN	"	19	20
NH ₃ -N	"	18	19
NO ₂ + NO ₃ -N	"	< 0.15	< 0.15
Total P	"	< 0.20	< 0.20
Cd	"	< 0.001	< 0.001
Cr	"	< 0.005	< 0.005
Cu	"	< 0.005	0.013
Fe	"	4	4
Mn	"	0.045	0.055
Ni	"	< 0.005	< 0.005
Zn	"	0.07	0.13

¹pH analyzed beyond recommended holding time of 15 minutes.

TABLE 2: ANALYSIS OF WATER FROM MONITORING WELLS
W-3, W-5, W-6 AND W-8 AT THE
HANOVER PARK FISCHER FARM SITE SAMPLED ON JUNE 4, 2013

Parameter ¹	Unit	Monitoring Well No.			
		W-3	W-5	W-6	W-8
pH ¹		7.9	7.8	7.8	8.4
EC	mS/m	87	76	82	55
Cl ⁻	mg/L	14	14	16	< 10
SO ₄ ⁼	"	191	95	125	53
Alkalinity as CaCO ₃	"	283	313	314	256
TKN	"	< 1	< 1	< 1	14
NH ₃ -N	"	< 0.1	0.3	0.3	0.4
NO ₂ + NO ₃ -N	"	< 0.15	< 0.15	< 0.15	< 0.15
Total P	"	< 0.20	< 0.20	< 0.20	2.2
Cd	"	< 0.001	< 0.001	< 0.001	< 0.001
Cr	"	< 0.005	< 0.005	< 0.005	< 0.005
Cu	"	0.007	0.009	0.006	< 0.005
Fe	"	7	3	2	0.4
Mn	"	0.043	0.035	0.018	0.018
Ni	"	< 0.005	< 0.005	< 0.005	< 0.005
Zn	"	0.03	< 0.01	< 0.01	< 0.01

¹pH analyzed beyond recommended holding time of 15 minutes.

TABLE 3: ANALYSIS OF COMBINED SURFACE AND SUBSURFACE DRAINAGE FROM THE FISCHER FARM SITE RETURNED TO THE HANOVER PARK WATER RECLAMATION PLANT DURING APRIL, MAY, AND JUNE 2013

Date	Sump	NH ₃ -N	TSS ¹	BOD ₅
	 mg/L		
04/02/13	East	80	9	4
04/02/13	West	0.3	14	<2
04/16/13	East	17	7	3
04/16/13	West	0.9	8	2
05/07/13	East	7	11	5
05/07/13	West	1	12	<2
05/21/13	East	12	12	10
05/21/13	West	0.2	4	<2
06/04/13	East	30	10	17
06/04/13	West	32	27	31
06/11/13	East	42	7	8
06/11/13	West	8	8	6

¹Total suspended solids.

TABLE 4: ANALYSIS OF LAGOON SUPERNATANT APPLIED TO FIELD 2
AT THE HANOVER PARK FISCHER FARM SITE
DURING MAY 2013

Parameter	Unit	Concentration ¹
pH		8.1
Total Solids	%	0.2
Total Volatile Solids ²	"	59.8
TKN	mg/L	769
NH ₃ -N	"	686
Total P	"	52
As	"	<0.05
Cd	"	<0.001
Cr	"	0.011
Cu	"	0.26
Hg	"	<0.20
Mn	"	0.418
Mo	"	<0.01
Ni	"	0.028
Pb	"	<0.02
Se	"	0.03
Zn	"	0.38

¹ Values are for one sample.

² Total volatile solids as a percentage of total solids.

TABLE 5: VOLUME AND DRY WEIGHT OF LAGOON SUPERNATANT
 APPLIED TO FIELD 2 AT THE HANOVER PARK FISCHER FARM SITE
 DURING MAY 2013

Field	Date	Biosolids Type	Volume (Gallons)	Dry Weight (Tons)
2	05/30/13	Supernatant	410,000	2.91
Total			410,000	2.91