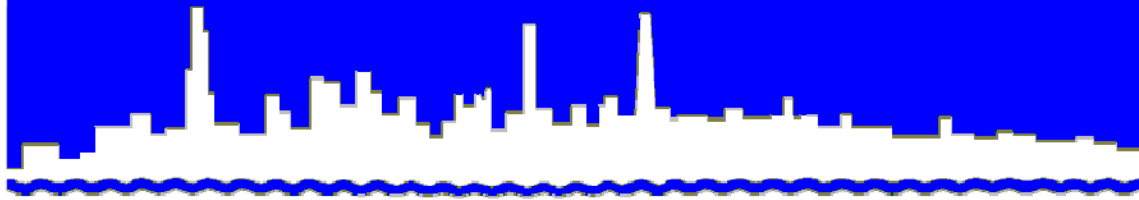


Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

*MONITORING AND RESEARCH
DEPARTMENT*

REPORT NO. 12-51

HANOVER PARK WATER RECLAMATION PLANT

FISCHER FARM MONITORING REPORT FOR

THIRD QUARTER 2012

DECEMBER 2012

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 FOR**

THIRD QUARTER 2012

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

December 2012

Metropolitan Water Reclamation District of Greater Chicago

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Thomas C. Granato, Ph.D.

Director of Monitoring and Research Department
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December 21, 2012

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 July, August, and September 2012

The attached report includes five tables of the monitoring results for the Hanover Park Fischer Farm site for the third quarter of 2012.

Very truly yours,

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

TCG:PL:cm

Attachments

cc: Mr. J. Patel, IEPA Region 2 - Des Plaines
Mr. V. Aistars, USEPA Region 5
Mr. A. Sajjad, USEPA Region 5

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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 third quarter of 2012.

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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 THIRD QUARTER OF 2012

During July, August, and September 2012, 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 July, August, and September. Analytical data for these samples are presented in Table 3. The volumes of drainage water returned to the WRP during the third quarter were estimated as 0.275, 0.112, and 0.047 million gallons in July, August, and September, respectively. The analytical data for the lagoon supernatant are presented in Table 4. The volumes and dry weights applied are reported in Table 5.

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

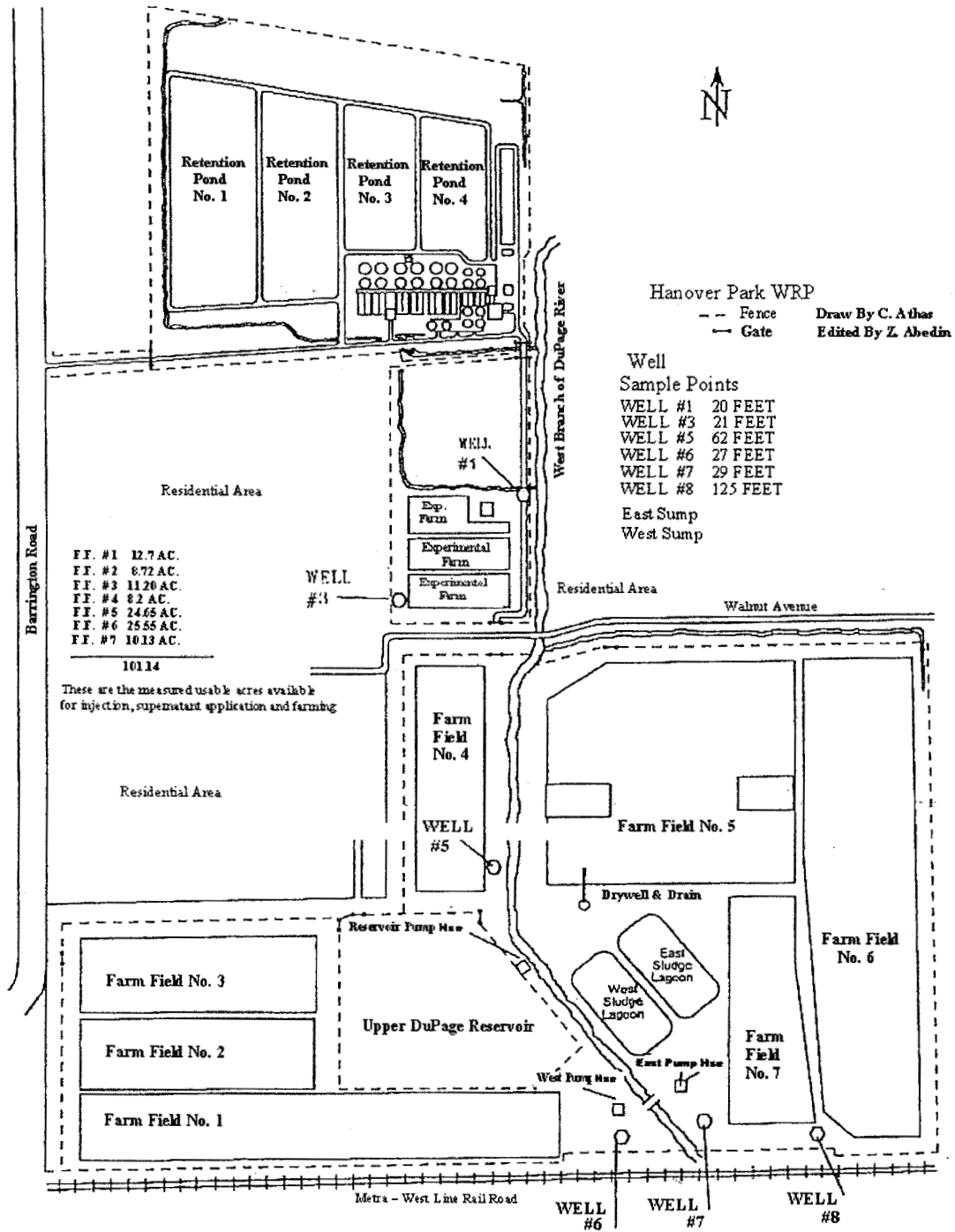


TABLE 1: ANALYSIS OF WATER FROM MONITORING WELL W-7
 AT THE HANOVER PARK FISCHER FARM SITE
 SAMPLED DURING JULY, AUGUST, AND SEPTEMBER 2012

Parameter	Unit	Date Sampled			
		07/17/12	07/24/12	08/07/12	08/21/12
pH ¹		7.5	7.1	7.2	7.2
EC	mS/m	152	163	149	164
Cl ⁻	mg/L	62	63	62	64
SO ₄ ⁼	"	199	232	232	236
Alkalinity as CaCO ₃	"	592	603	590	576
TKN	"	24	34	34	31
NH ₃ -N	"	24	31	33	30
NO ₂ + NO ₃ -N	"	< 0.15	< 0.15	< 0.15	< 0.15
Total P	"	< 0.10	0.11	< 0.10	0.11
Cd	"	< 0.001	< 0.001	< 0.001	< 0.001
Cr	"	< 0.005	< 0.005	< 0.005	< 0.005
Cu	"	< 0.005	< 0.005	0.006	< 0.005
Fe	"	11	4.6	4.4	4.5
Mn	"	0.139	0.055	0.051	0.055
Ni	"	< 0.005	< 0.005	< 0.005	< 0.005
Zn	"	0.33	0.14	0.11	0.15
Fecal coliform	MPN ²	< 1	< 1	< 1	NA ³

TABLE 1 (Continued): ANALYSIS OF WATER FROM MONITORING WELL W-7
 AT THE HANOVER PARK FISCHER FARM SITE
 SAMPLED DURING JULY, AUGUST, AND SEPTEMBER 2012

Parameter	Unit	Date Sampled	
		09/04/12	09/18/12
pH ¹		7.1	7.4
EC	mS/m	165	162
Cl ⁻	mg/L	63	62
SO ₄ ⁼	"	227	233
Alkalinity as CaCO ₃	"	564	548
TKN	"	31	29
NH ₃ -N	"	30	29
NO ₂ + NO ₃ -N	"	< 0.15	< 0.15
Total P	"	< 0.10	0.14
Cd	"	< 0.001	< 0.001
Cr	"	< 0.005	< 0.005
Cu	"	< 0.005	0.015
Fe	"	4.6	4.8
Mn	"	0.051	0.058
Ni	"	< 0.005	< 0.005
Zn	"	0.09	0.16
Fecal coliform	MPN ²	NA ³	NA ³

¹pH analyzed beyond recommended holding time of 15 minutes.

²Most probable number per 100 mL.

³No analysis. Fecal Coliform analysis will no longer be reported.

TABLE 2: ANALYSIS OF WATER FROM MONITORING WELLS
W-5, W-6 AND W-8 AT THE
HANOVER PARK FISCHER FARM SITE SAMPLED ON AUGUST 7, 2012

Parameter ¹	Unit	Monitoring Well No.		
		W-5	W-6	W-8
pH ¹		7.2	7.2	8.2
EC	mS/m	73	83	60
Cl ⁻	mg/L	16	25	< 10
SO ₄ ⁼	"	97	122	49
Alkalinity as CaCO ₃	"	314	305	262
TKN	"	< 1	< 1	< 1
NH ₃ -N	"	0.3	0.2	0.4
NO ₂ + NO ₃ -N	"	< 0.15	< 0.15	< 0.15
Total P	"	< 0.10	< 0.10	< 0.10
Cd	"	< 0.001	< 0.001	< 0.001
Cr	"	< 0.005	< 0.005	< 0.005
Cu	"	0.012	0.009	0.006
Fe	"	2.6	2.2	0.58
Mn	"	0.025	0.031	0.026
Ni	"	< 0.005	< 0.005	< 0.005
Zn	"	< 0.01	< 0.01	< 0.01
Fecal coliform	MPN ²	< 1	< 1	< 1

¹pH analyzed beyond recommended holding time of 15 minutes.

²Most probable number per 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 JULY, AUGUST, AND SEPTEMBER 2012

Date	Sump	NH ₃ -N	TSS ¹	BOD ₅
..... mg/L				
07/17/12	East	74	44	7
07/17/12	West	0.32	11	<2
07/24/12	East	65	10	5
07/24/12	West	0.96	<4	6
08/07/12	East	136	246	175
08/07/12	West	67	287	264
08/21/12	East	216	29	60
08/21/12	West	17	58	44
09/04/12	East	330	190	161
09/04/12	West	57	77	281
09/18/12	East	254	35	41
09/18/12	West	44	7	13

¹Total suspended solids.

TABLE 4: ANALYSIS OF LAGOON SUPERNATANT APPLIED TO FIELDS
 AT THE HANOVER PARK FISCHER FARM SITE
 DURING SEPTEMBER 2012

Parameter	Unit	Concentration ¹
pH		7.9
Total Solids	%	0.2
Total Volatile Solids ²	"	60.9
Volatile Acids ³	mg/kg	3,031
TKN	"	236,186
NH ₃ -N	"	156,208
Total P	"	26,974
As	"	25
Cd	"	0.495
Cr	"	2.48
Cu	"	40
Hg	"	< 0.20
Mn	"	132
Mo	"	5.0
Ni	"	17
Pb	"	9.9
Se	"	17
Zn	"	56

¹ Values are the means of two samples.

² Total volatile solids as a percentage of total solids.

³ As acetic acid.

TABLE 5: VOLUMES AND DRY WEIGHTS OF LAGOON SUPERNATANT
 APPLIED TO FIELDS AT THE HANOVER PARK FISCHER FARM SITE
 DURING JULY AND AUGUST 2012

Field	Date	Type	Volume (Gallons)	Dry Weight (Tons)
2	07/25/12	Supernatant	290,000	2.90
5	08/30/12	"	450,000	3.38
Total			740,000	6.28