

*Protecting Our Water Environment*



*Metropolitan Water Reclamation District of Greater Chicago*

***MONITORING AND RESEARCH  
DEPARTMENT***

*REPORT NO. 21-30*

*HANOVER PARK WATER RECLAMATION PLANT*

*FISCHER FARM MONITORING REPORT FOR*

*SECOND QUARTER 2021*

*August 2021*

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## Metropolitan Water Reclamation District of Greater Chicago

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**Edward W. Podczewinski, P.E.**  
Director of Monitoring and Research

August 12, 2021

Ms. Catherine Siders  
Illinois Environmental Protection Agency  
Bureau of Water  
DWPC Compliance Section #19  
1021 North Grand Avenue East  
P.O. Box 19276  
Springfield, Illinois 62794-9274

Dear Ms. Siders:

Subject: Hanover Park Water Reclamation Plant - Illinois Environmental Protection Agency Permit No. 2016-SC-61315, Monitoring Report for April, May, and June 2021

The attached tables contain the monitoring data for the Hanover Park Water Reclamation Plant (WRP) Fischer Farm site for April, May, and June 2021, as required by Illinois Environmental Protection Agency (IEPA) Operating Permit No. 2016-SC-61315. Analytical data for well water samples collected during the quarter are presented in [Table 1](#).

Drainage water (combined surface and subsurface) returned to the Hanover Park WRP from the farm fields was sampled in April, May, and June 2021, and data for these samples are presented in [Table 2](#). The volumes of drainage water returned to the WRP during the first quarter were estimated as 1.4, 0.47, and 16 million gallons in April, May, and June, respectively. The analytical data for lagoon supernatant applied to Fischer Farm fields in June are presented in [Table 3](#). The volume of lagoon supernatant and the associated dry weight of biosolids applied are shown in [Table 4](#). Field and water monitoring locations are presented in [Figure 1](#).

Based on the investigation of the high levels of NH<sub>3</sub>-N in Well 7, it appears that the source of these high levels is seepage from adjacent lagoons and subsurface drainage associated with supernatant application, both of which have high NH<sub>3</sub>-N levels. Since implementing management practices to reduce the loading in adjacent lagoons and application of supernatant to the closest farm field, NH<sub>3</sub>-N in Well 7 has shown a consistent pattern of decline with some significant fluctuation that may be associated with seasonality or management. We will continue implementing these practices.

The data reported are as follows:

[Table 1](#) Analysis of Water From Monitoring Wells W-3, W-5, W-6, W-7, and W-8 at the Hanover Park Fischer Farm Site Sampled in May 2021.

Subject: Hanover Park Water Reclamation Plant - Illinois Environmental Protection Agency Permit No. 2016-SC-61315, Monitoring Report for April, May, and June 2021

Table 2 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 2021.

Table 3 Analysis of Lagoon Supernatant applied to Fields at the Hanover Park Fischer Farm Site During June 2021.

Table 4 Volumes and Dry Weights of Lagoon Supernatant Applied to Fields During June 2021 at the Hanover Park Fischer Farm Site

Figure 1 Map of Fields and Wells at the Hanover Park Fischer Farm Site of the Metropolitan Water Reclamation District of Greater Chicago.

Very truly yours,



Albert Cox

Environmental Monitoring and Research Manager  
Monitoring and Research Department

AC:BM:lf

Attachments

cc: Mr. J. Patel, Manager, IEPA – Des Plaines  
Mr. T. Bennett, IEPA  
Mr. B. Fleming, IEPA  
Mr. J. Colletti, USEPA, Region 5  
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**HANOVER PARK WATER RECLAMATION PLANT**  
**FISCHER FARM MONITORING REPORT FOR**  
**SECOND QUARTER 2021**

TABLE 1: ANALYSIS OF WATER FROM MONITORING WELLS W-3, W-5, W-6, W-7, AND W-8 AT THE HANOVER PARK FISCHER FARM SITE SAMPLED IN MAY 2021

	Unit	W-3	W-5	W-6	W-7	W-8
pH		7.9	7.9	7.9	7.7	8.2
Conductivity	mS m <sup>-1</sup>	117	72	77	130	64
Cl	mg L <sup>-1</sup>	15	17	19	24	10
SO <sub>4</sub>	"	330	94	107	235	71
Alkalinity	"	322	313	298	477	281
TKN	"	<1.0	<1.0	<1.0	34	<1.0
NH <sub>3</sub> -N	"	<0.30	0.35	0.32	32	0.42
NO <sub>2</sub> <sup>-</sup> +NO <sub>3</sub> <sup>-</sup> -N	"	<0.25	<0.25	<0.25	<0.25	<0.25
Total P	"	<0.15	<0.15	<0.15	1.1	<0.15
Cd	"	<0.002	<0.002	<0.002	<0.002	<0.002
Cr	"	<0.004	<0.004	<0.004	<0.004	<0.004
Cu	"	0.004	0.002	0.002	0.004	<0.002
Fe	"	6.1	2.6	1.3	12	0.80
Mn	"	0.10	0.026	0.032	0.31	0.021
Ni	"	<0.002	<0.002	<0.002	0.008	<0.002
Zn	"	0.039	<0.010	<0.010	0.28	<0.010

TABLE 2: 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 2021

Date	Sump	NH <sub>3</sub> -N	TSS <sup>1</sup>	BOD <sub>5</sub>
04/06/21	East	13	2	3
04/06/21	West	<0.30	3	3
04/20/21	East	14	2	6
04/20/21	West	0.53	2	3
05/11/21	East	30	3	2
05/11/21	West	2.7	<2	4
05/25/21	East	53	5	4
05/25/21	West	17	3	8
06/08/21	East	43	3	5
06/08/21	West	13	2	27
06/22/21	East	4.1	<2	NA <sup>2</sup>
06/22/21	West	<0.30	2	NA <sup>2</sup>
06/23/21	East	NRR <sup>3</sup>	263	418
06/23/21	West	NRR <sup>3</sup>	3	<2

<sup>1</sup>Total suspended solids.

<sup>2</sup>Sample could not be analyzed because it was not thermally preserved.

<sup>3</sup>No reportable result. Sample was not chemically preserved within 10 hours of collection.

TABLE 3: ANALYSIS OF LAGOON SUPERNATANT APPLIED TO FIELDS AT THE HANOVER PARK FISCHER FARM SITE DURING JUNE 2021

Constituent	Unit	Concentration
pH		8.0
TSW %	%	0.22
VTSW%	"	63
TKN	mg L <sup>-1</sup>	955
NH <sub>3</sub> -N	"	818
NO <sub>2</sub> <sup>-</sup> +NO <sub>3</sub> <sup>-</sup> -N	"	0
Total P	"	83
Volatile Acids	"	<5
Cd	"	<0.002
Cr	"	<0.004
Cu	"	0.264
Mn	"	0.431
Ni	"	0.027
Pb	"	0.005
Zn	"	0.428

TABLE 4: VOLUMES AND DRY WEIGHTS OF LAGOON SUPERNATANT APPLIED TO FIELDS DURING JUNE 2021 AT THE HANOVER PARK FISCHER FARM SITE

Field	Date	Biosolids Type	Volume (Gallons)	Dry Weight (Tons)
5	06/23/21	Supernatant	175,000	1.6
6	06/23/21	Supernatant	175,000	1.6
5	06/24/21	Supernatant	135,000	1.18
6	06/24/21	Supernatant	135,000	1.18
Total			620,000	5.56



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

