



Kale Black, Sr. Drinking Water Officer  
Office of Drinking Water, Manitoba Conservation and Climate  
309 – 25 Tupper Street North  
Portage La Prairie, MB R1N 3K1

August 5, 2022

**RE: JULY 2022 WATER QUALITY COMPLIANCE SUBMISSION FOR THE CITY OF WINNIPEG WATER SUPPLY SYSTEM**

Please find attached on-line and grab turbidity summary reports, on-line and grab chlorine summary reports and the UV summary report for the Water Treatment Plant for July 2022.

The July on-line and grab sampling turbidity reports include results obtained for the Water Treatment Plant raw water and the eight filters. The maximum turbidity for Filter 8 was greater than 0.30 NTU on July 6; the elevated turbidity occurred for less than 12 consecutive hours. The turbidity results for the filter effluent met the licence requirements.

The July on-line and grab sampling chlorine reports include results obtained for the Deacon Booster Pumping Station at the Water Treatment Plant. The free chlorine results at the Water Treatment Plant met the licence requirements.

The July UV summary report includes results obtained for the six UV reactors at the Water Treatment Plant. The UV disinfection results met the licence requirements.

Please let me know of any concerns or questions respecting this submission. I can be reached by telephone at 204-986-8359 or by e-mail at [rgrosselle@winnipeg.ca](mailto:rgrosselle@winnipeg.ca).

Yours sincerely,

M. Marsland  
Acting Manager of Environmental Standards

Enclosures

cc: Dr. L. Richards, Winnipeg Regional Health Authority (email)  
Dr. H. Chang, Winnipeg Regional Health Authority (email)  
Dr. S. Roberecki, Manitoba Health and Seniors Care (email)  
T. Shanks, M. Eng., P. Eng. (e-mail)  
M.Szmon, M. Eng. (e-mail)  
C. Diduck (email)



**CITY OF WINNIPEG**  
**WATER AND WASTE DEPARTMENT**  
**WATER SERVICES**

Water System Code: 252.00  
 Licence Number: PWS-09-412-02

**WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT**

July 2022 Turbidity (NTU)

Date	Raw	Filter #1		Filter #2		Filter #3		Filter #4		Filter #5		Filter #6		Filter #7		Filter #8	
	Avg	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
1/07/2022	1.64	0.07	0.14	0.08	0.12	0.11	0.15	0.08	0.14	0.06	0.08	0.04	0.12	0.05	0.13	0.08	0.14
2/07/2022	1.58	0.08	0.14	0.07	0.13	0.11	0.17	0.08	0.13	0.06	0.10	0.05	0.07	0.05	0.11	0.10	0.13
3/07/2022	1.51	0.09	0.13	0.07	0.18	0.12	0.18	0.10	0.12	0.06	0.10	0.05	0.12	0.06	0.07	0.08	0.17
4/07/2022	1.47	0.12	0.13	0.07	0.12	0.14	0.16	0.09	0.14	0.06	0.11	0.05	0.12	0.06	0.11	0.09	0.16
5/07/2022	1.49	0.12	0.16	0.09	0.13	0.14	0.20	0.10	0.14	0.07	0.09	0.04	0.12	0.05	0.12	0.09	0.12
6/07/2022	1.55	0.13	0.19	0.07	0.15	0.14	0.24	0.12	0.14	0.07	0.13	0.06	0.09	0.06	0.11	0.11	0.46
7/07/2022	1.65	0.17	0.19	0.09	0.17	0.15	0.24	0.12	0.16	0.08	0.17	0.07	0.16	0.08	0.10	0.12	0.19
8/07/2022	1.65	0.09	0.21	0.08	0.13	0.13	0.30	0.09	0.16	0.06	0.11	0.05	0.12	0.06	0.15	0.09	0.16
9/07/2022	1.45	0.03	0.08	0.05	0.10	0.05	0.08	0.08	0.12	0.04	0.06	0.03	0.14	0.07	0.12	0.06	0.12
10/07/2022	1.45	0.03	0.08	0.06	0.10	0.05	0.10	0.08	0.12	0.03	0.07	0.04	0.06	0.06	0.16	0.08	0.11
11/07/2022	1.44	0.04	0.07	0.06	0.13	0.06	0.13	0.08	0.11	0.04	0.10	0.06	0.11	0.07	0.12	0.08	0.16
12/07/2022	1.37	0.04	0.07	0.05	0.16	0.05	0.10	0.08	0.12	0.04	0.10	0.05	0.12	0.08	0.11	0.07	0.28
13/07/2022	1.40	0.04	0.10	0.08	0.16	0.09	0.12	0.08	0.14	0.03	0.07	0.04	0.10	0.06	0.14	0.07	0.13
14/07/2022	1.29	0.05	0.09	0.09	0.14	0.08	0.12	0.08	0.15	0.04	0.06	0.04	0.06	0.06	0.14	0.09	0.26
15/07/2022	1.44	0.05	0.09	0.09	0.15	0.09	0.16	0.11	0.13	0.04	0.09	0.06	0.11	0.06	0.08	0.10	0.27
16/07/2022	1.46	0.06	0.08	0.10	0.17	0.11	0.16	0.11	0.16	0.04	0.08	0.06	0.12	0.08	0.14	0.10	0.17
17/07/2022	1.52	0.05	0.10	0.13	0.16	0.14	0.17	0.11	0.15	0.03	0.07	0.06	0.14	0.06	0.13	0.09	0.18
18/07/2022	1.89	0.04	0.15	0.07	0.30	0.09	0.23	0.09	0.24	0.05	0.23	0.06	0.23	0.06	0.20	0.10	0.29
19/07/2022	1.58	0.04	0.05	0.04	0.09	0.06	0.12	0.10	0.13	0.05	0.08	0.04	0.12	0.07	0.16	0.07	0.12
20/07/2022	1.46	0.06	0.09	0.04	0.08	0.07	0.10	0.09	0.14	0.05	0.08	0.04	0.11	0.07	0.14	0.08	0.13
21/07/2022	1.65	0.07	0.11	0.05	0.10	0.07	0.10	0.09	0.16	0.06	0.08	0.04	0.10	0.06	0.14	0.07	0.14
22/07/2022	1.87	0.08	0.13	0.05	0.11	0.07	0.15	0.11	0.16	0.07	0.12	0.05	0.09	0.07	0.24	0.10	0.13
23/07/2022	2.46	0.09	0.15	0.06	0.13	0.08	0.14	0.14	0.17	0.08	0.13	0.07	0.13	0.08	0.11	0.09	0.20
24/07/2022	1.81	0.12	0.15	0.05	0.12	0.09	0.11	0.13	0.21	0.09	0.15	0.07	0.15	0.08	0.16	0.10	0.18
25/07/2022	1.92	0.12	0.19	0.07	0.11	0.09	0.19	0.15	0.21	0.11	0.14	0.07	0.18	0.07	0.17	0.09	0.18
26/07/2022	2.29	0.08	0.14	0.05	0.12	0.08	0.13	0.12	0.20	0.07	0.17	0.06	0.10	0.07	0.16	0.11	0.16
27/07/2022	2.44	0.06	0.09	0.05	0.12	0.07	0.14	0.11	0.14	0.07	0.14	0.06	0.22	0.09	0.11	0.10	0.18
28/07/2022	2.52	0.08	0.12	0.05	0.08	0.09	0.11	0.10	0.16	0.07	0.13	0.06	0.13	0.09	0.18	0.10	0.17
29/07/2022	2.48	0.07	0.12	0.07	0.13	0.08	0.25	0.11	0.18	0.09	0.12	0.05	0.15	0.09	0.18	0.11	0.14
30/07/2022	2.09	0.07	0.13	0.06	0.13	0.08	0.15	0.13	0.15	0.08	0.17	0.07	0.11	0.09	0.12	0.13	0.19
31/07/2022	2.12	0.08	0.10	0.06	0.14	0.09	0.14	0.13	0.20	0.11	0.18	0.07	0.15	0.12	0.18	0.13	0.22

Total Number of Measurements Taken, A:	14552	14875	14293	15638	16237	16401	15808	16991
Turbidity Standard for Monitoring Location (NTU):	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Number of Measurements Meeting Standard, B:	14552	14875	14293	15638	16237	16401	15808	16990
Compliance with Turbidity Standard, C = B/A X 100%:	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	99.994%

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2022\07-July

Submitted By (Print): M.Szmon

Signature: Original signed by M.Szmon

**WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT**

Water System Code: 252.00		Turbidity (NTU)																	
Licence No. PWS-09-412-02																			
Date	Raw Water		Filter 1		Filter 2		Filter 3		Filter 4		Filter 5		Filter 6		Filter 7		Filter 8		
	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	
01-Jul-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
02-Jul-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
03-Jul-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
04-Jul-2022	1.03	1.49	0.10	0.12	0.09	0.08	0.09	0.14	0.10	0.12	0.08	0.07	0.14	0.08	0.11	0.06	0.09	0.09	
05-Jul-2022	1.18	1.45	0.12	0.16	0.10	0.10	0.11	0.17	0.08	0.09	0.09	0.08	0.10	0.06	0.13	0.06	0.10	0.10	
06-Jul-2022	1.04	1.51	0.09	0.14	0.13	0.12	0.09	0.16	0.09	0.12	0.10	0.09	0.11	0.06	0.10	0.05	0.11	0.11	
07-Jul-2022	1.11	1.61	0.10	0.18	0.10	0.10	0.11	0.18	0.11	0.14	0.09	0.10	0.17	0.11	0.12	0.07	0.19	0.17	
08-Jul-2022	1.05	1.69	0.12	0.20	0.11	0.12	0.12	0.20	0.12	0.11	0.11	0.11	0.13	0.07	0.18	0.11	0.12	0.12	
09-Jul-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
10-Jul-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
11-Jul-2022	1.02	1.24	0.10	0.05	0.12	0.08	0.09	0.06	0.10	0.09	0.13	0.07	0.14	0.07	0.14	0.07	0.15	0.09	
12-Jul-2022	1.04	1.44	0.10	0.05	0.09	0.07	0.09	0.07	0.10	0.09	0.10	0.04	0.18	0.08	0.14	0.08	0.16	0.10	
13-Jul-2022	1.05	1.34	0.10	0.07	0.10	0.09	0.10	0.10	0.09	0.09	0.09	0.05	0.10	0.04	0.16	0.13	0.10	0.08	
14-Jul-2022	1.04	1.21	0.13	0.08	0.12	0.11	0.13	0.11	0.09	0.10	0.10	0.04	0.12	0.05	0.10	0.05	0.11	0.08	
15-Jul-2022	1.03	1.49	0.11	0.05	0.11	0.10	0.11	0.10	0.12	0.11	0.15	0.09	0.14	0.07	0.12	0.06	0.14	0.11	
16-Jul-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
17-Jul-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
18-Jul-2022	1.20	1.83	0.16	0.11	0.19	0.24	0.14	0.09	0.20	0.20	0.23	0.15	0.26	0.19	0.24	0.14	0.25	0.21	
19-Jul-2022	1.22	1.53	0.10	0.04	0.10	0.04	0.10	0.07	0.10	0.10	0.10	0.05	0.15	0.06	0.13	0.06	0.16	0.10	
20-Jul-2022	1.28	1.45	0.11	0.07	0.10	0.05	0.10	0.08	0.13	0.12	0.10	0.06	0.16	0.08	0.16	0.08	0.13	0.07	
21-Jul-2022	1.50	1.60	0.13	0.10	0.11	0.07	0.11	0.09	0.09	0.10	0.10	0.07	0.13	0.04	0.10	0.05	0.11	0.07	
22-Jul-2022	1.26	1.74	0.11	0.09	0.13	0.08	0.15	0.11	0.11	0.12	0.13	0.10	0.14	0.06	0.13	0.06	0.14	0.09	
23-Jul-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
24-Jul-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
25-Jul-2022	1.22	1.84	0.15	0.16	0.12	0.08	0.13	0.11	0.11	0.16	0.13	0.13	0.14	0.07	0.16	0.08	0.14	0.10	
26-Jul-2022	1.43	2.02	0.11	0.14	0.15	0.09	0.14	0.10	0.11	0.18	0.13	0.14	0.15	0.09	0.13	0.06	0.15	0.11	
27-Jul-2022	1.72	2.39	0.12	0.08	0.11	0.06	0.12	0.09	0.13	0.13	0.17	0.12	0.16	0.08	0.15	0.09	0.20	0.15	
28-Jul-2022	1.54	2.47	0.13	0.08	0.12	0.06	0.12	0.09	0.15	0.13	0.11	0.08	0.14	0.05	0.18	0.11	0.13	0.09	
29-Jul-2022	1.87	2.48	0.15	0.10	0.14	0.08	0.15	0.11	0.11	0.12	0.12	0.10	0.15	0.06	0.13	0.08	0.14	0.11	
30-Jul-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
31-Jul-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
<b>Total number of measurements taken, A:</b>			20		20		20		20		20		20		20		20		
<b>Turbidity Standard for Monitoring Location (NTU):</b>			0.30		0.30		0.30		0.30		0.30		0.30		0.30		0.30		
<b>Number of measurements meeting standard, B:</b>			20		20		20		20		20		20		20		20		
<b>Compliance with Turbidity Standard, C= B/A X 100%:</b>			100%		100%		100%		100%		100%		100%		100%		100%		

na: not analyzed nr: no result ns: no sample o/l: offline im: instrument maintenance

**Comments:**

The raw water analyzer is cleaned daily during warm water months because it is susceptible to frequent fouling

**Report Date:** 4-Aug-2022

**WATER TREATMENT PLANT FREE CHLORINE ON-LINE MONITORING REPORT**  
Deacon Booster Pumping Station

Water System Code: **252.00**  
Licence Number: **PWS-09-412-02**  
Report Created: **01 August 2022**

Report Period: July 2022

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/07/2022	1.39	1.23	1.30	1.13
02/07/2022	1.46	1.30	1.43	1.29
03/07/2022	1.44	1.21	1.43	0.97
04/07/2022	1.37	1.19	1.43	1.17
05/07/2022	1.54	1.36	1.29	1.15
06/07/2022	1.41	1.23	1.43	1.23
07/07/2022	1.52	1.23	1.51	1.23
08/07/2022	1.39	1.28	1.36	1.23
09/07/2022	1.44	1.28	1.42	1.27
10/07/2022	1.42	1.26	1.36	1.28
11/07/2022	1.40	1.23	1.39	1.23
12/07/2022	1.25	0.67	1.37	1.09
13/07/2022	1.48	1.17	1.49	1.26
14/07/2022	1.40	1.19	1.44	1.14
15/07/2022	1.41	1.06	1.40	1.18
16/07/2022	1.42	1.28	1.40	1.28
17/07/2022	1.43	1.31	1.48	1.36
18/07/2022	1.46	0.56	1.52	0.92
19/07/2022	1.49	1.35	1.53	1.37
20/07/2022	1.46	1.26	1.52	1.35
21/07/2022	1.55	1.24	1.64	1.31
22/07/2022	1.62	1.50	1.67	1.53
23/07/2022	1.71	1.59	1.81	1.64
24/07/2022	1.98	1.68	2.10	1.76
25/07/2022	1.46	1.30	1.50	1.35
26/07/2022	1.45	1.34	1.46	1.37
27/07/2022	1.38	1.08	1.41	1.04
28/07/2022	1.51	1.37	1.56	1.44
29/07/2022	1.45	1.26	1.53	1.42
30/07/2022	1.41	1.31	1.45	1.32
31/07/2022	1.53	1.37	1.57	1.38

Total Number of Measurements, A:	21599	21600
Minimum Free Chlorine Standard:	0.5	0.5
Number of Measurements Meeting Standard, B:	21599	21600
COMPLIANCE, C = B/A X 100%:	100.00	100.00

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2022\07-July

Submitted By (Print): M.Szmon

Signature: Original signed by M.Szmon



WATER TREATMENT PLANT CHLORINE GRAB MONITORING REPORT						
Water System Code: 252.00	Deacon Booster Pumping Station Branch 1			Deacon Booster Pumping Station Branch 2		
Licence No. PWS-09-412-02						
Date	Free Chlorine (mg/L)		Total Chlorine (mg/L)	Free Chlorine (mg/L)		Total Chlorine (mg/L)
	Analyser	Grab	Grab	Analyser	Grab	Grab
01-Jul-2022	ns	ns	ns	ns	ns	ns
02-Jul-2022	ns	ns	ns	ns	ns	ns
03-Jul-2022	ns	ns	ns	ns	ns	ns
04-Jul-2022	1.43	1.34	1.57	1.51	1.53	1.70
05-Jul-2022	1.58	1.53	1.73	1.28	1.34	1.51
06-Jul-2022	1.27	1.26	1.54	1.43	1.45	1.65
07-Jul-2022	1.62	1.62	1.84	1.65	1.64	1.82
08-Jul-2022	1.37	1.40	1.58	1.32	1.39	1.58
09-Jul-2022	ns	ns	ns	ns	ns	ns
10-Jul-2022	ns	ns	ns	ns	ns	ns
11-Jul-2022	1.46	1.46	1.71	1.32	1.47	1.65
12-Jul-2022	1.37	1.38	1.58	1.44	1.38	1.59
13-Jul-2022	1.47	1.48	1.70	1.39	1.44	1.66
14-Jul-2022	1.37	1.37	1.57	1.47	1.52	1.75
15-Jul-2022	1.47	1.46	1.69	1.48	1.49	1.68
16-Jul-2022	ns	ns	ns	ns	ns	ns
17-Jul-2022	ns	ns	ns	ns	ns	ns
18-Jul-2022	1.59	1.42	1.60	1.54	1.49	1.65
19-Jul-2022	1.44	1.47	1.69	1.48	1.47	1.68
20-Jul-2022	1.42	1.38	1.61	1.46	1.41	1.59
21-Jul-2022	1.91	1.83	1.94	1.99	2.00	2.20
22-Jul-2022	1.66	1.74	1.97	1.70	1.75	1.95
23-Jul-2022	ns	ns	ns	ns	ns	ns
24-Jul-2022	ns	ns	ns	ns	ns	ns
25-Jul-2022	1.43	1.46	1.68	1.47	1.56	1.75
26-Jul-2022	1.47	1.43	1.67	1.47	1.47	1.69
27-Jul-2022	1.22	1.24	1.42	1.21	1.26	1.46
28-Jul-2022	1.41	1.49	1.73	1.47	1.51	1.72
29-Jul-2022	1.28	1.50	1.73	1.55	1.55	1.72
30-Jul-2022	ns	ns	ns	ns	ns	ns
31-Jul-2022	ns	ns	ns	ns	ns	ns
<b>Total number of measurements taken, A:</b>			20			20
<b>Chlorine Standard for Monitoring Location (mg/L):</b>			0.50			0.50
<b>Number of measurements meeting standard, B:</b>			20			20
<b>Compliance with Chlorine Standard, C= B/A X 100%:</b>			100%			100%

na: not analyzed nr: no result ns: no sample o/l: offline im: instrument maintenance

Comments:

Report Date: 2-Aug-2022



**CITY OF WINNIPEG**  
**WATER AND WASTE DEPARTMENT**  
**WATER SERVICES**

Water System Code: **252.00**  
 Licence Number: **PWS-09-412-02**

**WATER TREATMENT PLANT UV REPORT**

Report Period: **July 2022**

Report Created: **Monday, August 01, 2022**

Date	UVR-D100A				UVR-D200A				UVR-D300A				UVR-D400A				UVR-D500A				UVR-D600A				Total				% Volume Treated To Dose		
	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total		Untreated	Below
01/07/2022	0.00	0.41	73.80	74.21	0.00	0.00	0.00	0.00	0.00	0.00	50.39	50.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	62.88	63.41	0.00	0.94	187.07	188.01	99.50		
02/07/2022	0.00	0.58	75.78	76.37	0.00	0.00	0.00	0.00	0.00	0.00	51.97	51.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	65.44	65.90	0.00	1.04	193.19	194.23	99.46		
03/07/2022	0.00	0.37	77.07	77.44	0.00	0.00	0.47	0.47	0.00	0.00	51.45	51.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	1.52	63.63	65.22	0.07	1.89	192.62	194.58	98.99		
04/07/2022	0.00	0.76	57.82	58.58	0.18	0.18	56.38	56.74	0.00	0.00	72.50	72.50	0.00	0.00	0.00	0.00	0.00	1.54	10.81	12.34	0.00	0.00	0.00	0.00	0.18	2.47	197.52	200.17	98.68		
05/07/2022	0.00	1.06	84.05	85.11	0.00	0.00	0.00	0.00	0.00	0.00	69.66	69.66	0.00	0.00	0.00	0.00	0.00	0.00	24.05	26.18	50.23	0.00	0.00	0.00	0.00	0.00	25.11	179.89	205.00	87.75	
06/07/2022	0.00	0.93	78.22	79.15	0.01	0.42	13.30	13.73	0.00	0.00	46.61	46.61	0.00	0.00	49.42	49.42	0.00	12.40	3.40	15.80	0.00	0.00	0.00	0.00	0.01	13.75	190.96	204.72	93.28		
07/07/2022	0.00	1.24	82.40	83.64	0.00	0.35	2.83	3.18	0.00	0.00	50.82	50.82	0.00	0.00	67.37	67.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.59	203.42	205.01	99.22		
08/07/2022	0.00	1.01	84.00	85.01	0.00	0.00	0.00	0.00	0.00	0.00	51.43	51.43	0.00	0.00	72.07	72.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01	207.50	208.51	99.52		
09/07/2022	0.00	1.24	83.87	85.11	0.00	0.00	0.00	0.00	0.00	0.00	51.97	51.97	0.00	0.00	72.90	72.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.24	208.74	209.99	99.41		
10/07/2022	0.00	1.30	83.77	85.06	0.00	0.00	0.00	0.00	0.00	0.00	52.04	52.04	0.00	0.00	72.89	72.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30	208.69	209.99	99.38	
11/07/2022	0.00	1.18	83.90	85.09	0.00	0.00	0.00	0.00	0.00	0.00	51.89	51.89	0.00	0.00	72.99	72.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.18	208.79	209.98	99.44		
12/07/2022	0.02	0.57	69.26	69.85	0.01	0.08	27.69	27.78	0.00	0.00	29.71	29.71	0.00	0.00	40.28	40.29	0.03	0.03	3.27	3.33	0.00	0.27	27.18	27.45	0.07	0.95	197.39	198.40	99.49		
13/07/2022	0.00	0.39	82.57	82.96	0.00	0.54	4.59	5.13	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	41.45	41.45	0.00	1.01	79.41	80.41	0.00	1.94	208.02	209.96	99.08		
14/07/2022	0.00	0.12	31.16	31.28	0.02	0.32	54.80	55.14	0.00	0.00	28.95	28.95	0.00	0.00	0.00	0.00	0.00	0.00	15.49	15.49	0.00	0.71	78.45	79.16	0.02	1.15	208.85	210.02	99.44		
15/07/2022	0.00	0.06	52.49	52.55	0.00	0.00	26.44	26.44	0.00	0.00	49.57	49.57	0.00	0.00	0.99	0.99	0.00	0.00	55.20	55.20	0.00	0.27	24.49	24.76	0.00	0.33	209.18	209.51	99.84		
16/07/2022	0.00	0.60	77.86	78.46	0.00	0.00	0.00	0.00	0.00	0.00	51.04	51.04	0.00	0.00	0.00	0.00	0.00	0.00	80.51	80.51	0.00	0.00	0.00	0.00	0.00	0.60	209.41	210.01	99.71		
17/07/2022	0.00	0.44	78.01	78.45	0.00	0.00	0.00	0.00	0.00	0.00	51.05	51.05	0.00	0.00	0.00	0.00	0.00	0.06	80.46	80.52	0.00	0.00	0.00	0.00	0.00	0.49	209.53	210.02	99.77		
18/07/2022	0.01	0.25	72.27	72.53	0.00	0.00	0.00	0.00	0.01	0.01	45.83	45.84	0.00	0.00	0.51	0.51	0.00	0.00	69.47	69.47	0.00	0.00	0.00	0.00	0.01	0.26	188.08	188.35	99.85		
19/07/2022	0.00	0.77	78.97	79.74	0.00	0.00	0.00	0.00	0.00	0.00	51.61	51.61	0.00	0.00	0.00	0.00	0.00	0.00	82.25	82.25	0.00	0.00	0.00	0.00	0.00	0.77	212.84	213.61	99.64		
20/07/2022	0.00	0.49	77.48	77.97	0.00	0.00	0.00	0.00	0.00	0.00	51.12	51.12	0.00	0.00	0.00	0.00	0.00	0.00	80.46	80.46	0.00	0.00	0.00	0.00	0.00	0.49	209.06	209.54	99.77		
21/07/2022	0.00	0.38	77.60	77.98	0.00	0.00	0.00	0.00	0.00	0.00	50.94	50.94	0.00	0.00	0.00	0.00	0.00	0.00	80.05	80.05	0.00	0.00	0.00	0.00	0.00	0.38	208.59	208.97	99.82		
22/07/2022	0.00	0.38	77.69	78.07	0.00	0.00	0.00	0.00	0.00	0.00	50.95	50.95	0.00	0.00	0.00	0.00	0.00	0.00	80.01	80.01	0.00	0.00	0.00	0.00	0.00	0.38	208.64	209.02	99.82		
23/07/2022	0.00	0.65	77.17	77.82	0.00	0.00	0.00	0.00	0.00	0.00	51.00	51.00	0.00	0.00	0.00	0.00	0.00	0.00	80.19	80.19	0.00	0.00	0.00	0.00	0.00	0.65	208.35	209.01	99.69		
24/07/2022	0.00	0.53	76.23	76.76	0.00	0.00	0.00	0.00	0.00	0.00	50.20	50.20	0.00	0.00	0.00	0.00	0.00	0.00	79.06	79.06	0.00	0.00	0.00	0.00	0.00	0.53	205.49	206.02	99.74		
25/07/2022	0.00	0.62	74.09	74.71	0.00	0.00	0.00	0.00	0.00	0.00	48.37	48.37	0.01	0.01	0.15	0.17	0.00	0.00	59.73	59.73	0.00	0.21	16.26	16.47	0.01	0.85	198.59	199.44	99.57		
26/07/2022	0.00	0.51	73.20	73.71	0.00	0.00	0.00	0.00	0.00	0.00	47.83	47.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	73.85	74.83	0.00	1.50	194.88	196.37	99.24		
27/07/2022	0.00	0.35	71.94	72.29	0.00	0.00	0.00	0.00	0.00	0.00	46.71	46.71	0.00	0.00	0.00	0.00	0.00	0.05	29.39	29.44	0.00	0.51	43.25	43.76	0.00	0.91	191.28	192.20	99.52		
28/07/2022	0.00	0.35	70.84	71.19	0.00	0.00	0.00	0.00	0.00	0.00	45.85	45.85	0.00	0.00	0.00	0.00	0.00	0.00	71.87	71.87	0.00	0.00	0.00	0.00	0.00	0.35	188.56	188.91	99.82		
29/07/2022	0.00	0.67	67.98	68.65	0.00	0.00	0.00	0.00	0.00	0.00	43.73	43.73	0.00	0.00	0.00	0.00	0.00	0.00	68.08	68.08	0.00	0.00	0.00	0.00	0.00	0.67	179.78	180.45	99.63		
30/07/2022	0.00	0.47	67.14	67.61	0.00	0.00	0.00	0.00	0.00	0.00	43.03	43.03	0.00	0.00	0.00	0.00	0.00	0.00	66.35	66.35	0.00	0.00	0.00	0.00	0.00	0.47	176.52	176.99	99.73		
31/07/2022	0.00	0.54	69.86	70.40	0.00	0.00	0.00	0.00	0.00	0.00	45.27	45.27	0.00	0.00	0.00	0.00	0.00	0.00	70.54	70.54	0.00	0.00	0.00	0.00	0.00	0.54	185.67	186.21	99.71		
<b>Total [ML]:</b>	<b>0.03</b>	<b>19.24</b>	<b>2288.48</b>	<b>2307.74</b>	<b>0.22</b>	<b>1.88</b>	<b>186.50</b>	<b>188.61</b>	<b>0.01</b>	<b>0.01</b>	<b>1483.50</b>	<b>1483.52</b>	<b>0.01</b>	<b>0.01</b>	<b>449.57</b>	<b>449.60</b>	<b>0.03</b>	<b>38.12</b>	<b>1234.21</b>	<b>1272.36</b>	<b>0.07</b>	<b>6.48</b>	<b>534.82</b>	<b>541.38</b>	<b>0.38</b>	<b>65.74</b>	<b>6177.08</b>	<b>6243.20</b>			

**Water Volume [%]:**

Untreated: 0.01 %  
 Below Dose: 1.05 %  
 To Dose: 98.94 %

**Notes:** 1. UV Comparative Dose: 18.1 mj/cm<sup>2</sup>

**Submitted By (Print):**     M.Szmon    

**Signature:**     Original signed by M.Szmon



**CITY OF WINNIPEG**  
**WATER AND WASTE DEPARTMENT**  
**WATER SERVICES**

Water System Code: **252.00**  
 Licence Number: **PWS-09-412-02**

**WATER TREATMENT PLANT UV REPORT**

Report Period: **July 2022**

Report Created: **Monday, August 01, 2022**

Date	Transmittance (%)				UVR_D100A			UVR_D200A			UVR_D300A			UVR_D400A			UVR_D500A			UVR_D600A		
	Branch 1		Branch 2		UV Dose [mJ/cm]²			UV Dose [mJ/cm]²			UV Dose [mJ/cm]²			UV Dose [mJ/cm]²			UV Dose [mJ/cm]²			UV Dose [mJ/cm]²		
	Avg.	Min.	Avg.	Min.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.
01/07/2022	96.1	2.4	96.7	96.2	17.3	26.6	21.2	OL	OL	OL	24.8	32.0	30.5	OL	OL	OL	OL	OL	OL	15.7	25.1	21.6
02/07/2022	96.1	3.3	96.6	96.0	17.3	24.7	21.2	OL	OL	OL	24.2	31.4	29.4	OL	OL	OL	OL	OL	OL	15.2	23.3	21.4
03/07/2022	96.1	3.6	96.6	95.5	15.9	29.9	21.2	17.3	71.9	22.5	19.6	49.6	29.1	OL	OL	OL	OL	OL	OL	0.0	30.7	19.5
04/07/2022	96.2	71.4	96.5	95.6	16.4	28.8	21.3	0.0	29.6	21.3	18.1	28.2	22.8	OL	OL	OL	13.7	40.9	19.7	OL	OL	OL
05/07/2022	96.1	80.6	96.6	95.4	15.7	29.5	21.2	OL	OL	OL	18.4	24.8	22.6	OL	OL	OL	13.9	20.9	18.3	OL	OL	OL
06/07/2022	96.0	70.6	96.4	95.3	16.2	28.4	21.2	0.0	80.6	21.5	0.0	98.3	25.8	0.0	96.5	21.3	0.0	36.3	18.1	OL	OL	OL
07/07/2022	95.7	83.2	96.1	95.0	17.0	23.5	21.1	0.0	67.9	20.7	18.1	36.9	27.9	0.0	101.5	21.3	OL	OL	OL	OL	OL	OL
08/07/2022	95.8	0.0	96.3	95.6	16.9	21.6	21.1	OL	OL	OL	22.8	30.0	27.9	18.6	23.0	21.2	OL	OL	OL	OL	OL	OL
09/07/2022	95.9	77.3	96.3	94.8	17.0	23.4	21.1	OL	OL	OL	22.2	29.5	27.5	18.5	21.8	21.2	OL	OL	OL	OL	OL	OL
10/07/2022	95.7	0.5	96.2	95.1	16.9	22.0	21.1	OL	OL	OL	22.5	29.2	27.5	18.4	22.7	21.2	OL	OL	OL	OL	OL	OL
11/07/2022	95.3	0.0	95.9	93.9	17.1	23.4	21.1	OL	OL	OL	22.1	28.8	27.1	18.3	21.8	21.1	OL	OL	OL	OL	OL	OL
12/07/2022	95.4	0.0	95.5	0.0	0.0	101.1	22.2	0.0	74.3	21.5	0.0	105.0	27.8	0.0	41.8	21.3	0.0	95.7	29.7	0.0	84.6	21.8
13/07/2022	94.8	91.2	95.0	93.0	17.0	24.4	21.2	0.0	32.1	20.8	0.0	0.0	0.0	OL	OL	OL	29.6	95.7	32.3	16.5	24.3	21.1
14/07/2022	95.9	93.8	96.3	95.6	0.0	99.5	21.6	0.0	76.7	21.3	0.0	104.2	29.3	OL	OL	OL	0.0	43.1	29.9	16.5	22.0	21.1
15/07/2022	95.8	92.5	96.1	94.8	16.1	104.1	21.4	0.0	31.6	21.3	20.4	42.5	27.4	0.0	104.4	33.9	18.4	95.7	21.8	0.0	64.7	21.2
16/07/2022	95.7	93.7	96.1	94.9	17.2	25.6	21.2	OL	OL	OL	22.1	28.7	27.0	OL	OL	OL	18.1	24.1	21.2	OL	OL	OL
17/07/2022	95.8	93.7	96.1	95.2	17.2	25.9	21.2	OL	OL	OL	21.8	28.4	26.8	OL	OL	OL	18.0	23.5	21.2	OL	OL	OL
18/07/2022	95.5	84.8	95.8	92.4	0.0	101.0	21.9	OL	OL	OL	0.0	105.0	26.6	0.0	101.7	39.6	0.0	95.7	21.7	OL	OL	OL
19/07/2022	95.9	89.4	96.2	95.3	17.4	25.6	21.2	OL	OL	OL	21.3	27.8	26.1	OL	OL	OL	18.4	23.4	21.2	OL	OL	OL
20/07/2022	95.8	92.8	96.1	95.0	17.4	25.8	21.2	OL	OL	OL	21.2	27.4	26.0	OL	OL	OL	19.2	23.2	21.2	OL	OL	OL
21/07/2022	95.8	93.5	96.1	95.3	17.4	25.7	21.2	OL	OL	OL	20.9	27.4	25.7	OL	OL	OL	19.4	22.6	21.2	OL	OL	OL
22/07/2022	95.6	83.5	95.9	94.8	17.4	24.1	21.2	OL	OL	OL	20.5	26.5	25.0	OL	OL	OL	18.7	23.4	21.2	OL	OL	OL
23/07/2022	95.4	89.7	95.7	94.7	17.3	23.6	21.2	OL	OL	OL	19.7	25.8	24.1	OL	OL	OL	18.1	21.7	21.2	OL	OL	OL
24/07/2022	95.5	90.8	95.7	94.5	17.4	23.4	21.2	OL	OL	OL	19.0	25.1	23.4	OL	OL	OL	18.3	23.1	21.2	OL	OL	OL
25/07/2022	95.6	89.8	95.9	94.7	17.2	24.5	21.2	OL	OL	OL	19.5	38.9	24.4	0.0	59.7	37.0	0.0	36.8	21.2	15.3	80.9	21.4
26/07/2022	95.7	92.3	96.1	95.0	17.2	25.0	21.2	OL	OL	OL	19.5	26.2	23.9	OL	OL	OL	OL	OL	OL	16.6	24.1	21.1
27/07/2022	95.6	86.0	96.0	93.2	17.3	25.0	21.2	OL	OL	OL	19.3	28.9	24.0	OL	OL	OL	0.0	86.0	21.7	0.0	38.6	21.2
28/07/2022	95.7	91.7	96.1	95.2	17.4	25.0	21.2	OL	OL	OL	19.7	27.0	25.1	OL	OL	OL	18.2	25.2	21.3	OL	OL	OL
29/07/2022	95.7	87.8	96.1	95.5	17.4	25.3	21.2	OL	OL	OL	20.8	28.1	26.0	OL	OL	OL	18.1	24.9	21.3	OL	OL	OL
30/07/2022	95.7	91.7	96.1	95.2	17.4	25.1	21.2	OL	OL	OL	21.1	28.0	26.1	OL	OL	OL	18.1	26.1	21.3	OL	OL	OL
31/07/2022	95.5	88.4	95.8	94.8	17.2	24.6	21.2	OL	OL	OL	19.4	27.5	24.5	OL	OL	OL	18.1	26.8	21.3	OL	OL	OL

**Notes:**  
 1. UV Comparative Dose: 18.1 mJ/cm²  
 2. OL - Off Line

Submitted By (Print):     M.Szmon    

Signature:     Original signed by M.Szmon