



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 6, 2021

RE: JULY 2021 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 2021.

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 was greater than 0.30 NTU on Filter 3 on July 1, Filter 5 on July 28, and Filter 8 on July 29; the elevated turbidities occurred for less than 12 consecutive hours. On July 11 the turbidity on Filter 8 exceeded 1.00 NTU, and on July 29 the turbidity on Filter 6 exceeded 1.00 NTU; additional information for the exceedances is provided separately in Corrective Action Reports. With the exception of these events, 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.

Yours sincerely,

*Original signed by C. Diduck for,
(Signed original available upon request)*

R. Grosselle
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, Seniors and Active Living (email)
M. L. Geer, CPA, CA (email)
T. Shanks, M. Eng., P. Eng. (e-mail)
C. Wiebe, P. Eng., CAMP (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 2021 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
1/07/2021	1.21	O/L	O/L	0.09	0.29	0.00	0.31	0.01	0.03	0.01	0.04	0.01	0.11	0.01	0.10	0.01	0.05
2/07/2021	2.09	O/L	O/L	0.03	0.07	0.01	0.03	0.01	0.03	0.00	0.05	0.00	0.05	0.01	0.05	0.01	0.03
3/07/2021	1.32	O/L	O/L	0.02	0.06	0.00	0.02	0.00	0.02	0.00	0.15	0.00	0.02	0.01	0.11	0.01	0.13
4/07/2021	1.22	O/L	O/L	0.02	0.23	0.00	0.02	0.00	0.03	0.00	0.05	0.01	0.04	0.01	0.12	0.00	0.01
5/07/2021	1.21	O/L	O/L	0.02	0.06	0.00	0.03	0.01	0.03	0.00	0.13	0.01	0.04	0.02	0.10	0.02	0.07
6/07/2021	1.35	O/L	O/L	0.02	0.06	0.01	0.02	0.01	0.03	0.00	0.05	0.01	0.06	0.02	0.07	0.04	0.07
7/07/2021	1.27	O/L	O/L	0.03	0.09	0.01	0.03	0.01	0.03	0.02	0.08	0.02	0.09	0.04	0.08	0.04	0.09
8/07/2021	1.95	O/L	O/L	0.04	0.17	0.01	0.04	0.01	0.05	0.06	0.11	0.02	0.08	0.07	0.14	0.04	0.08
9/07/2021	3.06	O/L	O/L	0.06	0.11	0.03	0.11	0.03	0.07	0.09	0.13	0.03	0.10	0.10	0.17	0.05	0.09
10/07/2021	1.38	O/L	O/L	0.06	0.09	0.03	0.08	0.04	0.08	0.08	0.13	0.04	0.09	0.09	0.21	0.05	0.11
11/07/2021	1.61	O/L	O/L	0.06	0.11	0.03	0.07	0.03	0.06	0.06	0.20	0.04	0.10	0.08	0.14	0.05	2.23
12/07/2021	1.45	O/L	O/L	0.05	0.11	0.03	0.17	0.03	0.06	0.07	0.21	0.05	0.08	0.08	0.17	0.05	0.16
13/07/2021	1.23	0.01	0.22	0.05	0.10	0.03	0.07	0.04	0.07	0.07	0.30	0.06	0.10	0.08	0.15	0.05	0.10
14/07/2021	2.01	0.01	0.05	0.05	0.12	0.03	0.07	0.03	0.06	0.07	0.13	0.07	0.26	0.07	0.10	0.05	0.12
15/07/2021	1.54	0.02	0.06	0.06	0.12	0.03	0.11	0.04	0.07	0.07	0.11	0.07	0.12	0.08	0.13	0.05	0.11
16/07/2021	1.45	0.02	0.05	0.06	0.11	0.04	0.09	0.04	0.08	0.08	0.12	0.07	0.24	0.08	0.15	0.06	0.16
17/07/2021	1.68	0.02	0.05	0.06	0.10	0.03	0.09	0.04	0.08	0.07	0.12	0.07	0.12	0.08	0.14	0.06	0.13
18/07/2021	2.30	0.02	0.04	0.06	0.11	0.03	0.05	0.04	0.07	0.07	0.12	0.07	0.12	0.08	0.14	0.06	0.11
19/07/2021	1.70	0.02	0.06	0.06	0.14	0.03	0.10	0.05	0.08	0.08	0.10	0.08	0.13	0.08	0.18	0.06	0.10
20/07/2021	2.18	0.02	0.04	0.06	0.14	0.03	0.09	0.05	0.10	0.08	0.13	0.08	0.15	0.09	0.17	0.07	0.12
21/07/2021	1.81	0.02	0.07	0.06	0.12	0.03	0.06	0.06	0.10	0.08	0.12	0.11	0.12	0.09	0.12	0.07	0.14
22/07/2021	1.74	0.02	0.10	0.05	0.15	0.03	0.05	0.06	0.10	0.08	0.13	0.10	0.16	0.10	0.16	0.09	0.13
23/07/2021	1.71	0.02	0.06	0.05	0.20	0.03	0.05	0.07	0.09	0.10	0.22	0.11	0.18	0.10	0.15	0.07	0.14
24/07/2021	2.39	0.02	0.08	0.08	0.12	0.03	0.09	0.07	0.11	0.10	0.13	0.13	0.17	0.11	0.18	0.08	0.27
25/07/2021	2.49	0.03	0.05	0.09	0.13	0.05	0.10	0.09	0.13	0.12	0.17	0.15	0.21	0.14	0.16	0.10	0.19
26/07/2021	2.21	0.04	0.11	0.07	0.15	0.05	0.11	0.08	0.12	0.08	0.15	0.08	0.24	0.08	0.21	0.09	0.21
27/07/2021	2.41	0.04	0.09	0.04	0.09	0.06	0.14	0.06	0.11	0.04	0.08	0.03	0.09	0.05	0.13	0.05	0.25
28/07/2021	2.37	0.03	0.07	0.05	0.10	0.05	0.14	0.07	0.11	0.04	0.55	0.03	0.30	0.05	0.10	0.05	0.20
29/07/2021	2.38	0.04	0.14	0.05	0.11	0.05	0.11	0.06	0.09	0.04	0.10	0.03	1.38	0.05	0.10	0.05	0.31
30/07/2021	3.12	0.03	0.07	0.04	0.07	0.05	0.10	0.06	0.09	0.03	0.07	0.02	0.08	0.04	0.09	0.05	0.13
31/07/2021	2.30	0.04	0.07	0.05	0.09	0.05	0.10	0.07	0.09	0.04	0.10	0.03	0.08	0.05	0.12	0.05	0.15

Total Number of Measurements Taken, A:	8308	16053	14045	16124	14898	16105	16089	16778
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:	8308	16053	14044	16124	14897	16104	16089	16777
Compliance with Turbidity Standard, C = B/A X 100%:	100.000%	100.000%	99.993%	100.000%	99.993%	99.994%	100.000%	99.994%

O/L - Offline

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2021\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 Licence No. PWS-09-412-02	Turbidity (NTU)																	
	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-2021	NS	NS	OL	OL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
02-Jul-2021	0.85	1.03	OL	OL	0.07	0.03	0.08	0.02	0.06	<0.02	0.08	0.02	0.08	<0.02	0.07	<0.02	0.09	<0.02
03-Jul-2021	NS	NS	OL	OL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
04-Jul-2021	NS	NS	OL	OL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05-Jul-2021	1.13	1.25	OL	OL	0.06	0.02	0.07	<0.02	0.06	<0.02	0.07	<0.02	0.08	0.02	0.07	<0.02	0.09	IM
06-Jul-2021	0.92	1.07	OL	OL	0.08	0.03	0.09	<0.02	0.07	0.02	0.08	<0.02	0.08	0.02	0.09	<0.02	0.09	0.04
07-Jul-2021	1.04	1.12	OL	OL	0.08	0.04	0.07	0.02	0.08	0.02	0.07	0.04	0.07	<0.02	0.07	0.03	0.07	0.04
08-Jul-2021	0.89	1.58	OL	OL	0.08	0.03	0.08	0.02	0.09	0.02	0.08	0.04	0.09	0.02	0.09	0.04	0.10	0.05
09-Jul-2021	1.05	5.57	OL	OL	0.09	0.07	0.10	0.02	0.13	0.07	0.09	0.10	0.08	0.03	0.08	0.10	0.12	0.07
10-Jul-2021	NS	NS	OL	OL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
11-Jul-2021	NS	NS	OL	OL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
12-Jul-2021	1.07	1.12	OL	OL	0.09	0.06	0.11	0.06	0.07	0.04	0.08	0.09	0.09	0.06	0.08	0.08	0.10	0.05
13-Jul-2021	1.06	1.17	0.10	0.07	0.10	0.07	0.09	0.04	0.07	0.04	0.08	0.09	0.09	0.07	0.07	0.07	0.07	0.04
14-Jul-2021	1.10	1.39	0.07	0.02	0.09	0.07	0.09	0.04	0.07	0.04	0.10	0.12	0.08	0.07	0.07	0.07	0.06	0.04
15-Jul-2021	1.10	1.32	0.07	0.02	0.12	0.08	0.09	0.03	0.08	0.04	0.09	0.10	0.10	0.09	0.10	0.08	0.08	0.05
16-Jul-2021	1.23	1.37	0.10	0.04	0.12	0.08	0.09	0.04	0.10	0.05	0.09	0.10	0.15	0.12	0.12	0.10	0.11	0.07
17-Jul-2021	NS	NS	0.08	0.02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
18-Jul-2021	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
19-Jul-2021	1.32	1.59	0.08	0.02	0.11	0.06	0.11	0.05	0.11	0.05	0.08	0.08	0.10	0.09	0.10	0.09	0.10	0.07
20-Jul-2021	1.29	1.77	0.09	0.02	0.11	0.07	0.13	0.06	0.10	0.06	0.09	0.09	0.10	0.11	0.09	0.08	0.13	0.10
21-Jul-2021	1.39	1.75	0.11	0.03	0.11	0.08	0.09	0.03	0.08	0.06	0.11	0.11	0.10	0.11	0.10	0.09	0.10	0.08
22-Jul-2021	1.26	1.87	0.10	0.04	0.10	0.07	0.10	0.03	0.10	0.07	0.11	0.11	0.15	0.15	0.12	0.11	0.11	0.09
23-Jul-2021	1.28	1.94	0.08	0.02	0.09	0.07	0.11	0.04	0.09	0.07	0.09	0.11	0.10	0.13	0.10	0.10	0.12	0.09
24-Jul-2021	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Jul-2021	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Jul-2021	1.38	2.05	0.12	0.05	0.12	0.06	0.11	0.06	0.11	0.11	0.11	0.15	0.16	0.22	0.13	0.15	0.12	0.12
27-Jul-2021	1.57	2.18	0.11	0.04	0.10	0.04	0.11	0.06	0.10	0.07	0.10	0.05	0.14	0.06	0.15	0.08	0.12	0.07
28-Jul-2021	1.52	1.94	0.12	0.04	0.11	0.05	0.11	0.08	0.11	0.07	0.10	0.04	0.11	0.03	0.14	0.06	0.17	0.10
29-Jul-2021	1.86	2.30	0.10	0.04	0.10	0.06	0.13	0.08	0.10	0.07	0.10	0.05	0.11	0.03	0.10	0.04	0.12	0.07
30-Jul-2021	1.68	2.22	0.11	0.05	0.11	0.06	0.12	0.07	0.10	0.08	0.11	0.07	0.08	0.03	0.08	0.04	0.08	0.04
31-Jul-2021	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total number of measurements taken, A:			15		21		21		21		21		21		21		21	
Turbidity Standard for Monitoring Location (NTU):			0.30		0.30		0.30		0.30		0.30		0.30		0.30		0.30	
Number of measurements meeting standard, B:			15		21		21		21		21		21		21		21	
Compliance with Turbidity Standard, C= B/A X 100%:			100%		100%		100%		100%		100%		100%		100%		100%	

NS: No Sample NA: Not Analyzed OL: Off-Line NR: No Result IM: Instrument Maintenance

Comments:

Note: The raw water analyser is cleaned daily during warm water months because it is susceptible to frequent fouling
Filter 1 was taken offline for maintenance on April 14th at 4:24 pm and remained offline until July 13th at 6:16pm.

Compiled By: H. Demchenko

Authorized By: C. Diduck

Report Date: 6-Aug-21



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 2021**

Report Period: July 2021

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/07/2021	1.31	1.14	1.29	1.04
02/07/2021	1.30	1.10	1.31	1.09
03/07/2021	1.42	1.22	1.50	1.31
04/07/2021	1.40	1.24	1.41	1.19
05/07/2021	1.48	1.31	1.44	1.23
06/07/2021	1.45	1.24	1.40	1.24
07/07/2021	1.31	1.20	1.35	1.24
08/07/2021	1.29	1.02	1.31	1.10
09/07/2021	1.25	1.03	1.25	1.08
10/07/2021	1.36	1.16	1.35	1.18
11/07/2021	1.38	1.22	1.30	1.14
12/07/2021	1.51	1.30	1.41	1.23
13/07/2021	1.52	1.35	1.49	1.30
14/07/2021	1.48	1.23	1.49	1.21
15/07/2021	1.23	1.12	1.34	1.19
16/07/2021	1.32	1.14	1.39	1.23
17/07/2021	1.40	1.26	1.47	1.34
18/07/2021	1.44	1.24	1.51	1.34
19/07/2021	1.58	1.43	1.61	1.40
20/07/2021	1.58	1.44	1.57	1.41
21/07/2021	1.53	1.44	1.53	1.41
22/07/2021	1.53	1.41	1.52	1.39
23/07/2021	1.55	1.41	1.50	1.34
24/07/2021	1.46	1.31	1.43	1.28
25/07/2021	1.36	1.08	1.40	1.12
26/07/2021	1.34	1.15	1.37	1.24
27/07/2021	1.28	1.17	1.32	1.22
28/07/2021	1.29	1.21	1.32	1.21
29/07/2021	1.87	1.26	1.89	1.28
30/07/2021	1.34	1.21	1.37	1.24
31/07/2021	1.39	1.21	1.38	1.22

Total Number of Measurements, A:	21551	21551
Minimum Free Chlorine Standard:	0.5	0.5
Number of Measurements Meeting Standard, B:	21551	21551
COMPLIANCE, C = B/A X 100%:	100.00	100.00

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2021\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 Licence No. PWS-09-412-02	Deacon Booster Pumping Station Branch 1			Deacon Booster Pumping Station Branch 2		
	Free Chlorine (mg/L)		Total Chlorine (mg/L)	Free Chlorine (mg/L)		Total Chlorine (mg/L)
	Date	Analyser	Grab	Grab	Analyser	Grab
01-Jul-2021	NS	NS	NS	NS	NS	NS
02-Jul-2021	1.27	1.30	1.52	1.26	1.36	1.53
03-Jul-2021	NS	NS	NS	NS	NS	NS
04-Jul-2021	NS	NS	NS	NS	NS	NS
05-Jul-2021	1.52	1.56	1.77	1.50	1.58	1.80
06-Jul-2021	1.32	1.37	1.57	1.31	1.39	1.57
07-Jul-2021	1.32	1.38	1.59	1.41	1.37	1.60
08-Jul-2021	1.32	1.35	1.56	1.28	1.35	1.57
09-Jul-2021	1.21	1.33	1.53	1.26	1.33	1.53
10-Jul-2021	NS	NS	NS	NS	NS	NS
11-Jul-2021	NS	NS	NS	NS	NS	NS
12-Jul-2021	1.39	1.44	1.61	1.35	1.36	1.58
13-Jul-2021	1.47	1.39	1.63	1.45	1.37	1.57
14-Jul-2021	1.46	1.47	1.69	1.46	1.42	1.62
15-Jul-2021	1.19	1.25	1.41	1.30	1.33	1.55
16-Jul-2021	1.35	1.37	1.54	1.37	1.43	1.64
17-Jul-2021	NS	NS	NS	NS	NS	NS
18-Jul-2021	NS	NS	NS	NS	NS	NS
19-Jul-2021	1.51	1.54	1.80	1.68	1.64	1.80
20-Jul-2021	1.59	1.55	1.84	1.59	1.54	1.76
21-Jul-2021	1.54	1.57	1.80	1.53	1.56	1.79
22-Jul-2021	1.43	1.48	1.75	1.42	1.49	1.72
23-Jul-2021	1.64	1.60	1.88	1.61	1.57	1.78
24-Jul-2021	NS	NS	NS	NS	NS	NS
25-Jul-2021	NS	NS	NS	NS	NS	NS
26-Jul-2021	1.36	1.53	1.74	1.33	1.43	1.61
27-Jul-2021	1.35	1.44	1.63	1.33	1.37	1.67
28-Jul-2021	1.38	1.42	1.65	1.38	1.42	1.61
29-Jul-2021	1.35	1.43	1.67	1.35	1.43	1.67
30-Jul-2021	1.41	1.46	1.64	1.43	1.42	1.62
31-Jul-2021	NS	NS	NS	NS	NS	NS
Total number of measurements taken, A:		21			21	
Chlorine Standard for Monitoring Location (mg/L):		0.50			0.50	
Number of measurements meeting standard, B:		21			21	
Compliance with Chlorine Standard, C= B/A X 100%:		100%			100%	

NS: No Sample NA: Not Analyzed OL: Off-Line NR: No Result IM: Instrument Maintenance

Comments:

Compiled By: H. Demchenko

Authorized By: C. Diduck

Report Date: 6-Aug-21



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 2021**

Report Created: **Sunday, August 01, 2021**

Date	UVR-D100A				UVR-D200A				UVR-D300A				UVR-D400A				UVR-D500A				UVR-D600A				Total				% Volume Treated To Dose		
	Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]						
	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
01/07/2021	0.00	0.22	64.76	64.99	0.00	0.00	0.00	0.00	0.00	0.10	46.09	46.18	0.00	0.15	71.22	71.37	0.00	0.00	0.00	0.00	0.00	0.95	79.03	79.98	0.00	1.42	261.10	262.52	99.46		
02/07/2021	0.00	0.80	70.71	71.51	0.00	0.00	0.00	0.00	0.00	0.30	47.40	47.70	0.00	0.05	73.97	74.02	0.00	0.00	0.00	0.00	0.00	0.55	78.95	79.50	0.00	1.71	271.03	272.74	99.37		
03/07/2021	0.00	0.56	74.11	74.68	0.00	0.00	0.00	0.00	0.00	0.13	47.67	47.81	0.00	0.16	74.17	74.33	0.00	0.00	0.00	0.00	0.00	1.12	75.97	77.10	0.00	1.98	271.93	273.91	99.28		
04/07/2021	0.00	0.92	72.13	73.05	0.00	0.00	0.00	0.00	0.00	0.24	47.01	47.24	0.00	0.15	73.15	73.30	0.00	0.00	0.00	0.00	0.00	1.17	75.23	76.40	0.00	2.48	267.51	269.99	99.08		
05/07/2021	0.00	0.86	71.84	72.70	0.00	0.00	0.00	0.00	0.00	0.10	46.88	46.98	0.00	0.05	73.30	73.35	0.00	0.00	0.00	0.00	0.00	1.18	75.84	77.01	0.00	2.19	267.86	270.05	99.19		
06/07/2021	0.00	0.94	70.10	71.04	0.00	0.00	0.00	0.00	0.00	0.17	45.39	45.56	0.00	0.10	72.24	72.34	0.00	0.00	0.00	0.00	0.00	1.06	75.22	76.27	0.00	2.26	262.95	265.21	99.15		
07/07/2021	0.00	0.49	64.70	65.19	0.00	0.00	0.00	0.00	0.00	0.11	38.91	39.02	0.00	0.15	66.36	66.51	0.00	0.00	0.00	0.00	0.00	0.62	73.40	74.02	0.00	1.38	243.37	244.74	99.44		
08/07/2021	0.00	0.49	63.21	63.70	0.00	0.00	0.00	0.00	0.00	0.08	37.23	37.31	0.00	0.00	64.62	64.62	0.00	0.00	0.00	0.00	0.00	0.88	72.99	73.87	0.00	1.44	238.06	239.50	99.40		
09/07/2021	0.00	0.45	64.35	64.80	0.00	0.00	0.00	0.00	0.00	0.14	39.30	39.44	0.00	0.00	66.79	66.79	0.00	0.00	0.00	0.00	0.00	0.88	73.53	74.41	0.00	1.47	243.98	245.45	99.40		
10/07/2021	0.00	0.55	66.95	67.50	0.00	0.00	0.00	0.00	0.00	0.09	41.64	41.72	0.00	0.15	68.57	68.72	0.00	0.00	0.00	0.00	0.00	0.62	74.71	75.34	0.00	1.41	251.87	253.28	99.44		
11/07/2021	0.00	0.63	82.03	82.66	0.00	0.00	0.00	0.00	0.00	0.19	43.75	43.94	0.00	0.05	58.66	58.72	0.00	0.00	0.00	0.00	0.00	1.00	79.21	80.22	0.00	1.88	263.66	265.54	99.29		
12/07/2021	0.00	0.77	84.23	85.00	0.00	0.00	0.00	0.00	0.00	0.09	43.67	43.77	0.00	0.15	54.59	54.75	0.00	0.00	0.00	0.00	0.00	1.06	82.96	84.03	0.00	2.07	265.46	267.54	99.22		
13/07/2021	0.00	0.53	84.48	85.01	0.00	0.00	0.00	0.00	0.00	0.19	43.86	44.05	0.00	0.00	55.18	55.18	0.00	0.00	0.00	0.00	0.00	0.88	83.82	84.70	0.00	1.60	267.33	268.94	99.40		
14/07/2021	0.00	0.75	84.23	84.98	0.00	0.00	0.00	0.00	0.00	0.03	42.30	42.33	0.00	0.00	53.28	53.28	0.00	0.00	0.00	0.00	0.00	0.99	81.99	82.98	0.00	1.77	261.79	263.56	99.33		
15/07/2021	0.00	0.53	84.46	85.00	0.00	0.00	0.00	0.00	0.00	0.16	44.28	44.43	0.00	0.00	55.55	55.55	0.00	0.00	0.00	0.00	0.00	1.01	84.01	85.02	0.00	1.70	268.31	270.01	99.37		
16/07/2021	0.00	1.06	83.94	85.00	0.00	0.00	0.00	0.00	0.00	0.12	44.20	44.33	0.00	0.00	55.68	55.68	0.00	0.00	0.00	0.00	0.00	0.77	84.23	84.99	0.00	1.95	268.05	270.00	99.28		
17/07/2021	0.00	1.19	83.80	84.99	0.00	0.00	0.00	0.00	0.00	0.12	43.78	43.91	0.00	0.00	56.06	56.06	0.00	0.00	0.00	0.00	0.00	1.00	84.00	85.00	0.00	2.31	267.64	269.95	99.14		
18/07/2021	0.00	0.83	84.19	85.02	0.00	0.00	0.00	0.00	0.00	0.03	43.43	43.46	0.00	0.00	56.01	56.01	0.00	0.00	0.00	0.00	0.00	1.42	83.56	84.98	0.00	2.28	267.19	269.47	99.15		
19/07/2021	0.00	1.42	83.57	84.99	0.00	0.00	0.00	0.00	0.00	0.12	40.81	40.92	0.00	0.00	51.89	51.89	0.00	0.00	0.00	0.00	0.00	0.80	81.01	81.81	0.00	2.35	257.27	259.62	99.10		
20/07/2021	0.00	0.89	84.08	84.96	0.00	0.00	0.00	0.00	0.00	0.17	51.51	51.68	0.00	0.00	22.68	22.68	0.00	0.00	0.00	0.00	0.00	1.18	76.40	77.59	0.00	2.24	234.67	236.91	99.05		
21/07/2021	0.00	1.22	78.40	79.63	0.00	0.00	0.00	0.00	0.00	0.23	53.53	53.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	67.24	68.00	0.00	2.21	199.17	201.38	98.90		
22/07/2021	0.00	0.90	75.30	76.20	0.00	0.00	0.00	0.00	0.00	0.11	52.09	52.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	65.91	66.60	0.00	1.70	193.30	195.00	99.13		
23/07/2021	0.00	1.08	80.46	81.54	0.00	0.00	0.00	0.00	0.00	0.36	56.50	56.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	71.26	71.94	0.00	2.12	208.22	210.34	98.99		
24/07/2021	0.00	1.06	83.93	84.99	0.00	0.00	0.00	0.00	0.00	0.59	69.85	70.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86	81.69	82.56	0.00	2.52	235.47	237.99	98.94		
25/07/2021	0.00	0.92	77.22	78.13	0.00	0.00	13.57	13.57	0.19	0.61	60.46	61.26	0.00	0.13	11.32	11.45	0.00	0.00	0.00	0.00	0.00	0.90	77.57	78.47	0.19	2.56	240.14	242.89	98.87		
26/07/2021	0.00	0.21	40.51	40.72	0.00	0.00	53.09	53.09	0.00	0.00	0.10	0.10	0.00	0.05	72.44	72.49	0.00	0.08	0.06	0.14	0.00	1.29	75.48	76.78	0.00	1.63	241.68	243.31	99.33		
27/07/2021	0.00	0.03	41.67	41.70	0.00	0.00	68.25	68.25	0.00	0.00	0.00	0.00	0.00	0.10	70.00	70.09	0.00	0.00	0.00	0.00	0.00	0.89	73.90	74.78	0.00	1.01	253.81	254.83	99.60		
28/07/2021	0.00	0.00	41.60	41.60	0.00	0.00	68.53	68.53	0.00	0.00	0.00	0.00	0.00	0.15	71.31	71.45	0.00	0.00	0.00	0.00	0.00	1.60	72.78	74.38	0.00	1.75	254.21	255.97	99.32		
29/07/2021	0.00	0.12	41.46	41.58	0.00	0.00	68.58	68.58	0.00	0.00	0.00	0.00	0.00	0.00	71.15	71.15	0.00	0.00	0.00	0.00	0.00	1.20	73.40	74.59	0.00	1.31	254.59	255.90	99.49		
30/07/2021	0.00	0.20	41.43	41.63	0.00	0.00	69.09	69.09	0.00	0.00	0.00	0.00	0.00	0.05	68.94	68.99	0.00	0.00	0.00	0.00	0.00	1.02	75.34	76.36	0.00	1.27	254.79	256.06	99.51		
31/07/2021	0.00	0.18	42.13	42.31	0.00	0.00	69.53	69.53	0.00	0.00	0.00	0.00	0.00	0.00	71.24	71.24	0.00	0.00	0.00	0.00	0.00	1.38	75.13	76.50	0.00	1.55	258.04	259.59	99.40		
Total [ML]:	0.00	20.81	2165.99	2186.81	0.00	0.00	410.64	410.64	0.19	4.59	1171.63	1176.41	0.00	1.64	1660.38	1662.02	0.00	0.08	0.06	0.14	0.00	30.43	2385.74	2416.17	0.19	57.54	7794.45	7852.18			

Water Volume [%]:

Untreated: 0.00 %
 Below Dose 0.73 %
 To Dose 99.26 %

Notes: 1. UV Comparative Dose: 18.1 mJ/cm²

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 2021

Report Created: Sunday, August 01, 2021

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.
01/07/2021	83.7	0.0	92.9	92.5	17.3	23.3	21.1	OL	OL	OL	17.2	23.4	21.3	17.5	22.4	21.3	OL	OL	OL	17.2	22.1	21.1
02/07/2021	94.0	90.1	92.9	92.3	17.3	23.7	21.1	OL	OL	OL	17.2	24.4	21.3	17.6	23.4	21.3	OL	OL	OL	17.1	22.0	21.1
03/07/2021	94.1	92.6	92.9	92.1	17.0	23.3	21.1	OL	OL	OL	17.3	22.9	21.3	17.5	22.3	21.3	OL	OL	OL	17.2	21.8	21.1
04/07/2021	94.2	91.9	92.9	92.1	17.1	22.1	21.1	OL	OL	OL	17.3	23.1	21.3	17.3	22.4	21.3	OL	OL	OL	16.9	21.7	21.1
05/07/2021	94.2	93.4	92.9	92.2	16.7	22.1	21.1	OL	OL	OL	16.8	22.9	21.3	17.4	22.4	21.3	OL	OL	OL	16.8	23.5	21.1
06/07/2021	94.2	93.0	92.9	92.5	16.7	22.1	21.1	OL	OL	OL	16.8	23.4	21.3	17.6	22.4	21.3	OL	OL	OL	17.0	22.1	21.1
07/07/2021	94.4	92.8	93.0	92.7	17.2	23.5	21.2	OL	OL	OL	17.1	25.1	21.6	17.6	22.5	21.4	OL	OL	OL	16.7	22.3	21.1
08/07/2021	94.4	90.9	93.8	93.5	17.3	21.9	21.2	OL	OL	OL	17.2	27.3	22.1	17.9	22.4	21.4	OL	OL	OL	17.0	23.4	21.1
09/07/2021	93.0	90.8	94.2	93.8	17.4	22.3	21.2	OL	OL	OL	16.9	27.0	21.8	17.2	22.5	21.4	OL	OL	OL	16.8	23.6	21.1
10/07/2021	91.4	88.5	94.3	93.8	17.4	28.0	21.2	OL	OL	OL	16.8	31.3	21.5	17.5	42.2	21.4	OL	OL	OL	17.0	39.6	21.1
11/07/2021	89.8	86.8	94.6	93.8	17.2	22.1	21.1	OL	OL	OL	17.2	29.9	21.4	17.7	24.5	21.5	OL	OL	OL	17.2	23.4	21.1
12/07/2021	91.6	36.2	94.5	93.7	17.2	21.8	21.1	OL	OL	OL	17.3	24.7	21.4	17.8	22.3	21.5	OL	OL	OL	17.0	22.9	21.1
13/07/2021	94.1	90.7	95.0	93.6	17.2	22.0	21.1	OL	OL	OL	17.6	25.3	21.4	17.9	22.4	21.5	OL	OL	OL	16.8	21.9	21.1
14/07/2021	94.1	91.8	95.7	94.5	16.7	32.7	21.1	OL	OL	OL	17.4	31.3	21.6	16.2	34.1	21.5	OL	OL	OL	17.1	28.3	21.1
15/07/2021	93.8	91.4	95.0	94.2	16.5	24.0	21.4	OL	OL	OL	17.2	24.8	21.4	18.2	21.9	21.3	OL	OL	OL	17.1	22.8	21.1
16/07/2021	93.6	91.8	95.1	94.4	16.7	22.6	21.3	OL	OL	OL	17.4	24.1	21.4	18.0	21.8	21.3	OL	OL	OL	16.9	21.9	21.1
17/07/2021	93.5	91.7	95.3	94.0	16.8	24.2	21.3	OL	OL	OL	17.1	23.8	21.4	18.2	21.8	21.2	OL	OL	OL	17.2	21.9	21.1
18/07/2021	92.9	90.6	95.5	94.1	16.6	23.4	21.3	OL	OL	OL	17.5	24.3	21.4	18.2	21.8	21.2	OL	OL	OL	16.0	22.3	21.1
19/07/2021	93.0	91.1	95.7	94.9	15.8	29.5	21.2	OL	OL	OL	17.4	25.2	21.5	18.2	21.9	21.3	OL	OL	OL	16.3	23.3	21.1
20/07/2021	96.5	91.1	95.0	94.6	16.7	21.8	21.0	OL	OL	OL	17.3	25.4	21.9	0.0	27.6	21.3	OL	OL	OL	16.7	24.0	21.1
21/07/2021	97.5	2.6	95.1	94.7	16.8	23.2	21.0	OL	OL	OL	17.5	22.0	21.2	OL	OL	OL	OL	OL	OL	17.1	23.3	21.2
22/07/2021	96.5	95.3	95.2	94.7	16.8	21.6	21.1	OL	OL	OL	17.4	23.2	21.2	OL	OL	OL	OL	OL	OL	16.9	22.0	21.2
23/07/2021	96.3	95.1	95.2	94.5	16.7	21.6	21.0	OL	OL	OL	17.4	22.7	21.2	OL	OL	OL	OL	OL	OL	16.9	21.9	21.1
24/07/2021	95.6	93.9	95.0	94.1	16.7	21.8	21.0	OL	OL	OL	17.2	21.8	21.1	OL	OL	OL	OL	OL	OL	16.9	21.8	21.1
25/07/2021	95.0	93.8	94.9	94.3	16.8	33.3	21.2	0.0	92.2	28.7	0.0	21.8	21.1	0.0	39.4	21.4	OL	OL	OL	0.0	96.4	21.3
26/07/2021	94.7	92.6	94.8	94.1	0.0	102.2	22.5	0.0	105.9	26.4	0.0	80.5	31.0	17.5	22.9	21.3	0.0	101.0	40.7	16.0	25.6	21.3
27/07/2021	94.6	93.4	94.8	94.2	17.8	40.3	22.1	21.3	26.8	24.8	OL	OL	OL	17.7	22.3	21.4	OL	OL	OL	16.1	23.8	21.3
28/07/2021	94.4	91.7	95.1	93.4	17.8	41.3	22.2	20.7	26.7	24.1	OL	OL	OL	17.6	23.9	21.3	OL	OL	OL	16.3	23.8	21.3
29/07/2021	94.3	91.2	94.7	93.9	17.3	40.9	21.9	19.3	26.2	23.3	OL	OL	OL	17.6	22.2	21.3	OL	OL	OL	15.9	22.6	21.3
30/07/2021	94.4	92.9	94.9	94.2	17.2	38.6	21.7	20.3	26.6	23.4	OL	OL	OL	17.5	22.4	21.4	OL	OL	OL	16.3	22.8	21.3
31/07/2021	94.4	90.6	95.1	93.8	17.3	38.7	21.5	20.2	26.7	23.2	OL	OL	OL	17.4	22.3	21.3	OL	OL	OL	16.1	22.7	21.3

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

Submitted By (Print): M.Szmon

Signature: Original signed by M.Szmon