



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

November 7, 2023

**RE: OCTOBER 2023 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 October 2023.

The October on-line and grab sampling turbidity reports include results obtained for the Water Treatment Plant raw water and the eight filters. There was no analyser reading for the raw water on October 10 due to an instrument malfunction at the time of sampling. The maximum turbidity was greater than 0.30 NTU on Filter 3 on October 1; the elevated turbidity occurred for less than 12 consecutive hours. On October 31 the turbidity on Filter 3 exceeded 1.00 NTU, additional information for the exceedance is provided separately in a Corrective Action Report. With the exception of this event, the turbidity results for the filter effluent met the licence requirements.

The October 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 October 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,

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. T. Hilderman, Manitoba Health and Seniors Care (email)  
T. Shanks, M. Eng., P. Eng. (email)  
M. Szmon, P. Eng. (email)  
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L. McCusker, P. Eng. (email)  
C. Diduck (email)



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

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

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

October 2023 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
1/10/2023	1.71	0.09	0.14	0.09	0.25	0.09	0.64	0.07	0.16	0.04	0.09	0.04	0.07	OL	OL	0.11	0.16
2/10/2023	1.75	0.07	0.13	0.07	0.13	0.08	0.15	0.06	0.12	0.04	0.07	0.05	0.07	OL	OL	0.13	0.18
3/10/2023	1.92	0.07	0.13	0.07	0.12	0.08	0.15	0.06	0.12	0.04	0.06	0.05	0.08	OL	OL	0.15	0.18
4/10/2023	1.77	0.07	0.13	0.08	0.10	0.08	0.11	0.04	0.11	0.04	0.06	0.04	0.08	OL	OL	0.16	0.21
5/10/2023	1.31	0.06	0.10	0.06	0.11	0.07	0.13	0.04	0.09	0.05	0.13	0.05	0.08	OL	OL	0.08	0.25
6/10/2023	2.48	0.06	0.11	0.05	0.08	0.06	0.10	0.04	0.08	0.06	0.10	0.06	0.08	OL	OL	0.05	0.08
7/10/2023	1.59	0.08	0.11	0.05	0.14	0.06	0.11	0.04	0.08	0.07	0.10	0.06	0.11	OL	OL	0.05	0.07
8/10/2023	2.36	0.06	0.09	0.05	0.09	0.05	0.09	0.03	0.08	0.08	0.13	0.07	0.09	OL	OL	0.04	0.07
9/10/2023	3.86	0.06	0.09	0.04	0.06	0.04	0.08	0.03	0.21	0.07	0.11	0.08	0.10	OL	OL	0.05	0.07
10/10/2023	2.78	0.06	0.10	0.05	0.09	0.05	0.07	0.03	0.06	0.08	0.11	0.09	0.11	OL	OL	0.05	0.08
11/10/2023	1.28	0.06	0.10	0.04	0.09	0.05	0.09	0.03	0.06	0.09	0.17	0.08	0.11	OL	OL	0.05	0.09
12/10/2023	1.26	0.07	0.09	0.05	0.09	0.05	0.09	0.03	0.12	0.08	0.11	0.08	0.12	OL	OL	0.05	0.07
13/10/2023	1.36	0.06	0.10	0.05	0.08	0.05	0.09	0.03	0.06	0.08	0.10	0.09	0.13	OL	OL	0.05	0.08
14/10/2023	1.35	0.06	0.10	0.04	0.08	0.04	0.08	0.02	0.07	0.09	0.12	0.11	0.12	OL	OL	0.05	0.08
15/10/2023	1.58	0.06	0.10	0.04	0.09	0.04	0.07	0.02	0.05	0.08	0.12	0.11	0.16	OL	OL	0.05	0.07
16/10/2023	1.52	0.07	0.10	0.04	0.08	0.04	0.06	0.03	0.05	0.08	0.14	0.10	0.13	OL	OL	0.05	0.08
17/10/2023	1.45	0.07	0.10	0.06	0.09	0.05	0.09	0.02	0.05	0.09	0.21	0.12	0.15	OL	OL	0.05	0.08
18/10/2023	1.44	0.06	0.09	0.05	0.13	0.04	0.08	0.03	0.08	0.09	0.29	0.12	0.16	OL	OL	0.05	0.07
19/10/2023	1.43	0.07	0.26	0.05	0.14	0.05	0.19	0.04	0.23	0.08	0.13	0.13	0.17	OL	OL	0.05	0.08
20/10/2023	1.21	0.09	0.22	0.07	0.23	0.06	0.25	0.03	0.11	0.09	0.14	0.12	0.18	OL	OL	0.05	0.08
21/10/2023	1.21	0.08	0.11	0.06	0.10	0.04	0.08	0.03	0.08	0.10	0.13	0.09	0.18	OL	OL	0.06	0.10
22/10/2023	1.13	0.07	0.10	0.06	0.11	0.04	0.09	0.03	0.26	0.09	0.13	0.06	0.08	OL	OL	0.05	0.07
23/10/2023	1.09	0.09	0.26	0.09	0.24	0.07	0.25	0.04	0.18	0.09	0.14	0.05	0.08	OL	OL	0.06	0.09
24/10/2023	1.06	0.07	0.10	0.08	0.18	0.05	0.08	0.03	0.07	0.09	0.14	0.05	0.08	OL	OL	0.05	0.08
25/10/2023	1.06	0.08	0.24	0.11	0.23	0.04	0.16	0.03	0.05	0.10	0.13	0.05	0.08	OL	OL	0.05	0.12
26/10/2023	1.07	0.07	0.10	0.14	0.17	0.03	0.07	0.03	0.07	0.10	0.15	0.05	0.08	OL	OL	0.05	0.08
27/10/2023	1.07	0.09	0.10	0.15	0.21	0.03	0.06	0.02	0.05	0.11	0.15	0.05	0.10	OL	OL	0.05	0.08
28/10/2023	1.10	0.08	0.11	0.18	0.26	0.03	0.06	0.02	0.05	0.12	0.15	0.05	0.08	OL	OL	0.06	0.09
29/10/2023	1.13	0.08	0.12	0.16	0.21	0.03	0.06	0.02	0.07	0.13	0.16	0.05	0.09	OL	OL	0.06	0.10
30/10/2023	1.17	0.06	0.11	0.11	0.20	0.04	0.08	0.02	0.06	0.09	0.17	0.04	0.09	OL	OL	0.05	0.09
31/10/2023	1.21	0.05	0.07	0.04	0.06	0.07	2.06	0.01	0.04	0.06	0.10	0.02	0.05	OL	OL	0.03	0.07

Total Number of Measurements Taken, A:	14294	15807	15760	16491	16943	17068	OL	17404
Turbidity Standard for Monitoring Location (NTU):	0.3	0.3	0.3	0.3	0.3	0.3	OL	0.3
Number of Measurements Meeting Standard, B:	14294	15807	15747	16491	16943	17068	OL	17404
Compliance with Turbidity Standard, C = B/A X 100%:	100.000%	100.000%	99.918%	100.000%	100.000%	100.000%	OL	100.000%

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2023\10-October

Submitted By (Print): D. Merredew

Signature: Original signed by D. Merredew



WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT																		
Water System Code: 252.00		Turbidity (NTU)																
Licence No. PWS-09-412-02 A																		
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-Oct-2023	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
02-Oct-2023	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
03-Oct-2023	1.35	1.76	0.14	0.10	0.14	0.09	0.14	0.10	0.12	0.08	0.09	0.05	0.08	0.06	o/l	o/l	0.09	0.15
04-Oct-2023	1.04	1.64	0.11	0.08	0.12	0.09	0.13	0.09	0.09	0.05	0.08	0.05	0.11	0.09	o/l	o/l	0.09	0.18
05-Oct-2023	0.84	1.22	0.12	0.07	0.13	0.08	0.13	0.08	0.10	0.05	0.09	0.08	0.10	0.07	o/l	o/l	0.10	0.07
06-Oct-2023	0.69	1.25	0.10	0.07	0.14	0.08	0.13	0.08	0.11	0.05	0.09	0.08	0.08	0.07	o/l	o/l	0.09	0.05
07-Oct-2023	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
08-Oct-2023	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
09-Oct-2023	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
10-Oct-2023	0.86	nr	0.10	0.07	0.10	0.06	0.10	0.05	0.09	0.04	0.09	0.09	0.10	0.10	o/l	o/l	0.10	0.06
11-Oct-2023	0.77	1.28	0.10	0.07	0.12	0.08	0.11	0.06	0.09	0.03	0.08	0.10	0.08	0.10	o/l	o/l	0.09	0.10
12-Oct-2023	0.82	1.22	0.11	0.09	0.10	0.06	0.13	0.08	0.11	0.05	0.09	0.11	0.09	0.10	o/l	o/l	0.09	0.04
13-Oct-2023	0.88	1.44	0.10	0.09	0.09	0.04	0.11	0.06	0.10	0.05	0.08	0.10	0.08	0.10	o/l	o/l	0.08	0.04
14-Oct-2023	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
15-Oct-2023	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
16-Oct-2023	0.83	1.44	0.09	0.08	0.09	0.06	0.10	0.05	0.08	0.03	0.08	0.10	0.09	0.13	o/l	o/l	0.09	0.05
17-Oct-2023	0.84	1.43	0.09	0.07	0.09	0.06	0.10	0.06	0.08	0.03	0.09	0.11	0.10	0.15	o/l	o/l	0.09	0.07
18-Oct-2023	0.85	1.44	0.11	0.08	0.11	0.06	0.12	0.06	0.10	0.03	0.09	0.10	0.10	0.14	o/l	o/l	0.11	0.06
19-Oct-2023	0.85	1.65	0.09	0.08	0.10	0.06	0.12	0.07	0.09	0.03	0.08	0.11	0.08	0.14	o/l	o/l	0.12	0.09
20-Oct-2023	0.85	1.49	0.10	0.09	0.11	0.08	0.13	0.07	0.10	0.04	0.08	0.11	0.09	0.15	o/l	o/l	0.08	0.05
21-Oct-2023	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
22-Oct-2023	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
23-Oct-2023	0.73	1.07	0.12	0.08	0.10	0.10	0.11	0.06	0.09	0.04	0.09	0.13	0.09	0.07	o/l	o/l	0.09	0.06
24-Oct-2023	0.75	1.02	0.08	0.08	0.09	0.09	0.10	0.05	0.08	0.02	0.09	0.06	0.10	0.08	o/l	o/l	0.09	0.06
25-Oct-2023	0.78	1.03	0.09	0.08	0.10	0.12	0.11	0.06	0.10	0.03	0.09	0.12	0.14	0.06	o/l	o/l	0.11	0.06
26-Oct-2023	0.67	1.07	0.09	0.09	0.10	0.16	0.13	0.06	0.10	0.04	0.09	0.12	0.08	0.06	o/l	o/l	0.11	0.06
27-Oct-2023	0.66	0.99	0.10	0.09	0.12	0.19	0.12	0.05	0.11	0.03	0.10	0.13	0.09	0.06	o/l	o/l	0.11	0.05
28-Oct-2023	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
29-Oct-2023	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
30-Oct-2023	0.69	1.10	0.10	0.11	0.09	0.18	0.09	0.03	0.10	0.03	0.09	0.15	0.11	0.06	o/l	o/l	0.09	0.06
31-Oct-2023	0.76	1.16	0.11	0.06	0.09	0.05	0.10	0.05	0.10	0.02	0.10	0.09	0.10	0.03	o/l	o/l	0.10	0.02
<b>Total number of measurements taken, A:</b>			20		20		20		20		20		20		0		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		0		20	
<b>Compliance with Turbidity Standard, C= B/A X 100%:</b>			100%		100%		100%		100%		100%		100%		*		100%	

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

Comments:

Report Date: November 7, 2023



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

Water System Code: 252.00  
Licence Number: PWS-09-412-02 A  
Report Created: 01 November 2023

Report Period: October 2023

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/10/2023	1.37	1.26	1.44	1.29
02/10/2023	1.41	1.32	1.50	1.37
03/10/2023	1.42	1.29	1.51	1.36
04/10/2023	1.39	1.25	1.47	1.38
05/10/2023	1.38	1.19	1.43	1.16
06/10/2023	1.42	1.18	1.38	1.19
07/10/2023	1.50	1.38	1.45	1.32
08/10/2023	1.29	1.18	1.42	1.32
09/10/2023	1.29	1.20	1.37	1.30
10/10/2023	1.37	1.32	1.38	1.29
11/10/2023	1.42	1.34	1.50	1.39
12/10/2023	1.46	1.34	1.49	1.39
13/10/2023	1.50	1.32	1.48	1.36
14/10/2023	1.38	1.29	1.43	1.32
15/10/2023	1.40	1.32	1.42	1.32
16/10/2023	1.44	1.38	1.47	1.38
17/10/2023	1.48	1.40	1.50	1.41
18/10/2023	1.46	1.12	1.51	1.17
19/10/2023	1.52	1.43	1.55	1.45
20/10/2023	1.60	1.54	1.57	1.48
21/10/2023	1.57	1.47	1.49	1.38
22/10/2023	1.53	1.45	1.40	1.32
23/10/2023	1.50	1.16	1.36	1.11
24/10/2023	1.62	1.36	1.56	1.35
25/10/2023	1.51	1.39	1.50	1.35
26/10/2023	1.39	1.31	1.38	1.28
27/10/2023	1.39	1.22	1.36	1.26
28/10/2023	1.55	1.46	1.52	1.45
29/10/2023	1.58	1.50	1.59	1.53
30/10/2023	1.55	1.47	1.64	1.41
31/10/2023	1.57	1.44	1.73	1.52

Total Number of Measurements, A:	21608	21604
Minimum Free Chlorine Standard:	0.5	0.5
Number of Measurements Meeting Standard, B:	21608	21604
COMPLIANCE, C = B/A X 100%:	100.00	100.00

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2023\10-October

Submitted By (Print): D. Merredew

Signature: Original signed by D. Merredew



WATER TREATMENT PLANT CHLORINE GRAB MONITORING REPORT						
Water System Code: 252.00 Licence No. PWS-09-412-02 A	Deacon Booster Pumping Station Branch 1			Deacon Booster Pumping Station Branch 2		
Date	Free Chlorine (mg/L)		Total Chlorine (mg/L)	Free Chlorine (mg/L)		Total Chlorine (mg/L)
	Analyser	Grab	Grab	Analyser	Grab	Grab
01-Oct-2023	ns	ns	ns	ns	ns	ns
02-Oct-2023	ns	ns	ns	ns	ns	ns
03-Oct-2023	1.40	1.38	1.66	1.45	1.46	1.71
04-Oct-2023	1.39	1.38	1.68	1.47	1.51	1.78
05-Oct-2023	1.38	1.41	1.71	1.44	1.46	1.74
06-Oct-2023	1.22	1.48	1.76	1.19	1.41	1.70
07-Oct-2023	ns	ns	ns	ns	ns	ns
08-Oct-2023	ns	ns	ns	ns	ns	ns
09-Oct-2023	ns	ns	ns	ns	ns	ns
10-Oct-2023	1.32	1.27	1.56	1.32	1.33	1.63
11-Oct-2023	1.40	1.39	1.68	1.50	1.52	1.82
12-Oct-2023	1.36	1.45	1.73	1.46	1.46	1.76
13-Oct-2023	1.48	1.43	1.82	1.51	1.49	1.81
14-Oct-2023	ns	ns	ns	ns	ns	ns
15-Oct-2023	ns	ns	ns	ns	ns	ns
16-Oct-2023	1.42	1.39	1.83	1.48	1.49	1.90
17-Oct-2023	1.42	1.38	1.82	1.45	1.48	1.82
18-Oct-2023	1.42	1.51	1.80	1.46	1.53	1.82
19-Oct-2023	1.49	1.56	1.85	1.64	1.59	1.88
20-Oct-2023	1.63	1.66	2.05	1.60	1.57	1.91
21-Oct-2023	ns	ns	ns	ns	ns	ns
22-Oct-2023	ns	ns	ns	ns	ns	ns
23-Oct-2023	1.51	1.51	1.92	1.34	1.35	1.72
24-Oct-2023	1.61	1.58	1.87	1.54	1.51	1.79
25-Oct-2023	1.57	1.61	1.88	1.55	1.56	1.84
26-Oct-2023	1.42	1.46	1.79	1.40	1.42	1.69
27-Oct-2023	1.36	1.34	1.63	1.34	1.41	1.69
28-Oct-2023	ns	ns	ns	ns	ns	ns
29-Oct-2023	ns	ns	ns	ns	ns	ns
30-Oct-2023	1.55	1.63	1.88	1.53	1.51	1.80
31-Oct-2023	1.61	1.68	1.95	1.73	1.83	2.20
<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: November 7, 2023



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

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

**WATER TREATMENT PLANT UV REPORT**

Report Period: **October 2023**

Report Created: **Wednesday, November 01, 2023**

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
01/10/2023	0.00	0.19	55.52	55.71	0.00	0.04	52.27	52.31	0.00	0.45	70.68	71.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.79	7.83	20.61	0.00	13.47	186.29	199.76	93.26		
02/10/2023	0.00	0.18	52.63	52.81	0.00	0.05	74.18	74.23	0.00	0.61	71.24	71.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.84	198.05	198.89	99.58		
03/10/2023	0.00	0.38	54.75	55.13	0.00	0.05	37.01	37.06	0.00	0.44	69.07	69.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	33.81	34.28	0.00	1.34	194.64	195.98	99.32		
04/10/2023	0.00	0.24	57.98	58.22	0.00	0.00	0.00	0.00	0.00	0.47	66.44	66.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	66.39	66.53	0.00	0.85	190.81	191.66	99.56		
05/10/2023	0.00	0.54	61.85	62.39	0.00	0.00	0.00	0.00	0.00	0.37	60.04	60.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	67.32	67.87	0.00	1.46	189.22	190.68	99.23		
06/10/2023	0.00	0.24	66.50	66.73	0.00	0.00	0.00	0.00	0.00	0.07	43.52	43.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.27	64.77	66.04	0.00	1.58	174.79	176.36	99.11		
07/10/2023	0.00	0.31	63.80	64.11	0.00	0.00	0.00	0.00	0.00	0.09	42.15	42.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.37	62.26	63.63	0.00	1.77	168.21	169.99	98.96		
08/10/2023	0.00	1.20	62.83	64.03	0.00	0.00	0.00	0.00	0.00	0.15	42.31	42.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.29	62.24	63.53	0.00	2.63	167.38	170.01	98.45		
09/10/2023	0.00	1.17	63.46	64.63	0.00	0.00	0.00	0.00	0.00	0.15	42.59	42.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59	63.48	64.07	0.00	1.90	169.53	171.43	98.89		
10/10/2023	0.00	1.39	65.05	66.43	0.00	0.00	0.00	0.00	0.00	0.03	22.49	22.52	0.00	0.00	21.20	21.20	0.00	0.00	0.00	0.00	0.00	1.75	62.80	64.55	0.00	3.17	171.53	174.70	98.18		
11/10/2023	0.00	1.26	71.72	72.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	49.21	0.00	0.00	0.00	0.00	0.00	1.37	68.87	70.24	0.00	2.64	189.80	192.43	98.63		
12/10/2023	0.00	1.03	62.01	63.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.84	55.84	0.00	0.00	9.13	9.13	0.00	1.97	64.88	66.85	0.00	3.01	191.86	194.87	98.46		
13/10/2023	0.00	0.00	0.00	0.00	0.00	0.38	55.05	55.43	0.00	0.00	0.16	0.16	0.00	0.00	55.35	55.35	0.00	0.00	30.91	30.91	0.00	0.86	52.33	53.19	0.00	1.24	193.80	195.04	99.36		
14/10/2023	0.00	0.00	0.00	0.00	0.00	0.97	76.62	77.60	0.00	0.00	0.00	0.00	0.00	0.00	47.87	47.87	0.00	0.00	0.00	0.00	0.00	0.87	68.66	69.53	0.00	1.85	193.16	195.01	99.05		
15/10/2023	0.00	0.00	0.00	0.00	0.00	0.42	74.56	74.98	0.00	0.00	0.00	0.00	0.00	0.00	49.28	49.28	0.00	0.00	0.00	0.00	0.00	1.08	69.68	70.76	0.00	1.50	193.52	195.02	99.23		
16/10/2023	0.00	0.00	0.00	0.00	0.17	1.21	72.69	74.06	0.00	0.04	0.75	0.78	0.00	0.00	49.34	49.34	0.00	0.00	0.00	0.00	0.00	1.04	69.89	70.93	0.17	2.29	192.65	195.11	98.74		
17/10/2023	0.00	0.00	0.00	0.00	0.00	2.30	72.71	75.01	0.00	0.00	0.00	0.00	0.00	0.00	50.32	50.32	0.00	0.00	0.00	0.00	0.00	0.92	72.20	73.12	0.00	3.22	195.23	198.44	98.38		
18/10/2023	0.00	0.00	0.00	0.00	0.00	62.08	12.95	75.03	0.00	0.00	0.00	0.00	0.00	0.00	50.77	50.77	0.00	0.10	39.55	39.65	0.02	0.85	33.71	34.58	0.02	63.03	136.98	200.03	68.48		
19/10/2023	0.00	0.00	0.00	0.00	0.00	7.70	33.14	40.84	0.00	0.31	44.82	45.13	0.00	0.00	31.38	31.38	0.00	0.51	79.92	80.43	0.00	0.00	0.00	0.00	0.00	8.52	189.26	197.78	95.69		
20/10/2023	0.00	0.00	0.00	0.00	0.00	0.28	79.45	79.73	0.00	0.20	46.83	47.03	0.00	0.00	0.00	0.00	0.00	0.46	72.80	73.26	0.00	0.00	0.00	0.00	0.00	0.93	199.08	200.01	99.53		
21/10/2023	0.00	0.00	0.00	0.00	0.00	0.00	76.68	76.68	0.00	0.22	44.32	44.54	0.00	0.00	0.00	0.00	0.00	0.20	69.71	69.91	0.00	0.00	0.00	0.00	0.00	0.41	190.71	191.12	99.78		
22/10/2023	0.00	0.00	0.00	0.00	0.00	0.05	75.56	75.61	0.00	0.24	42.89	43.13	0.00	0.00	0.00	0.00	0.00	0.48	67.91	68.38	0.00	0.00	0.00	0.00	0.00	0.77	186.36	187.13	99.59		
23/10/2023	0.00	0.00	0.00	0.00	0.00	0.16	76.54	76.70	0.00	0.62	43.72	44.34	0.00	0.00	0.00	0.00	0.00	1.65	67.97	69.62	0.00	0.00	0.00	0.00	0.00	2.44	188.22	190.66	98.72		
24/10/2023	0.00	0.00	0.00	0.00	0.00	0.26	73.71	73.96	0.00	0.24	39.00	39.24	0.00	0.26	7.22	7.48	0.00	0.18	42.50	42.68	0.00	0.00	30.63	30.63	0.00	0.94	193.05	193.98	99.52		
25/10/2023	0.00	0.00	0.00	0.00	0.00	0.11	77.19	77.29	0.00	0.74	55.25	55.99	0.00	0.00	0.00	0.00	0.00	0.03	19.27	19.31	0.00	0.00	75.56	75.56	0.00	0.88	227.27	228.15	99.61		
26/10/2023	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.29	67.28	68.56	0.00	0.00	0.00	0.00	0.00	0.03	44.22	44.25	0.00	0.00	79.25	79.25	0.00	1.32	266.43	267.75	99.51		
27/10/2023	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	59.70	60.53	0.00	0.00	30.74	30.74	0.00	0.00	42.66	42.66	0.00	0.00	82.25	82.25	0.00	0.83	215.35	216.18	99.61		
28/10/2023	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	55.86	56.85	0.00	0.00	64.32	64.32	0.00	0.00	41.95	41.95	0.00	0.00	83.88	83.88	0.00	0.99	246.00	246.99	99.60		
29/10/2023	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06	59.91	60.97	0.00	0.00	70.26	70.26	0.00	0.00	0.00	0.00	0.00	2.01	70.50	72.51	0.00	3.07	200.67	203.73	98.50		
30/10/2023	0.00	0.71	7.29	8.00	0.00	0.00	0.00	0.00	0.00	0.83	57.78	58.60	0.32	0.37	56.81	57.50	0.00	0.00	26.91	26.91	0.00	0.93	42.58	43.50	0.32	2.84	191.35	194.51	98.38		
31/10/2023	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	52.23	53.11	0.00	0.00	57.81	57.81	0.00	0.06	40.85	40.91	0.00	0.52	42.45	42.97	0.00	1.46	193.34	194.81	99.25		
<b>Total [ML]:</b>	0.00	8.86	745.37	754.23	0.17	76.06	1020.29	1096.52	0.00	11.29	1201.02	1212.31	0.32	0.64	747.71	748.67	0.00	3.70	654.31	658.01	0.02	32.64	1498.21	1530.87	0.51	133.19	5984.53	6118.23			

**Water Volume [%]:**  
 Untreated: 0.01 %  
 Below Dose: 2.20 %  
 To Dose: 97.79 %

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

**Submitted By (Print):**   D. Merredew  

**Signature:**   Original signed by D. Merredew



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

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

**WATER TREATMENT PLANT UV REPORT**

Report Period: **October 2023**

Report Created: **Wednesday, November 01, 2023**

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.
01/10/2023	94.3	92.9	92.5	92.0	16.2	27.8	21.3	15.8	66.3	21.3	17.3	22.2	21.1	OL	OL	OL	OL	OL	OL	0.0	36.3	17.8
02/10/2023	94.5	93.3	92.7	92.1	16.7	27.7	21.3	17.4	25.7	21.3	15.8	30.3	21.2	OL	OL	OL	OL	OL	OL	0.0	0.0	0.0
03/10/2023	94.5	93.4	92.7	91.7	16.9	25.6	21.3	0.0	29.9	21.2	17.3	23.2	21.1	OL	OL	OL	OL	OL	OL	16.6	83.7	21.4
04/10/2023	94.5	93.2	92.7	91.1	16.7	24.9	21.3	OL	OL	OL	17.3	23.5	21.2	OL	OL	OL	OL	OL	OL	16.9	22.1	21.1
05/10/2023	94.6	93.1	92.8	91.8	15.6	35.6	21.3	OL	OL	OL	17.5	38.4	21.6	OL	OL	OL	OL	OL	OL	15.5	46.2	21.3
06/10/2023	94.7	94.0	93.0	92.3	15.8	30.1	21.2	OL	OL	OL	17.8	27.7	22.8	OL	OL	OL	OL	OL	OL	16.1	22.5	21.4
07/10/2023	94.8	94.2	93.1	92.5	16.5	28.3	21.2	OL	OL	OL	17.2	28.2	22.3	OL	OL	OL	OL	OL	OL	16.3	22.4	21.4
08/10/2023	95.0	94.2	93.2	92.8	14.7	22.4	21.4	OL	OL	OL	17.4	29.6	21.6	OL	OL	OL	OL	OL	OL	16.0	22.8	21.4
09/10/2023	95.0	94.4	93.3	92.8	14.2	29.2	21.4	OL	OL	OL	17.4	30.1	21.5	OL	OL	OL	OL	OL	OL	16.0	23.5	21.4
10/10/2023	95.0	94.2	93.2	92.8	14.0	22.4	21.3	OL	OL	OL	0.0	29.1	21.5	0.0	88.0	26.7	OL	OL	OL	16.1	23.1	21.4
11/10/2023	94.7	94.0	93.0	92.3	14.1	22.1	21.3	OL	OL	OL	OL	OL	OL	20.5	25.7	21.6	OL	OL	OL	14.9	22.3	20.6
12/10/2023	94.6	93.6	92.9	92.4	0.0	31.8	21.3	OL	OL	OL	OL	OL	OL	18.1	23.5	21.3	8.9	29.3	21.3	14.2	24.6	20.0
13/10/2023	94.6	93.4	92.8	92.1	OL	OL	OL	13.8	48.9	21.0	0.0	71.5	26.0	18.6	22.9	21.3	0.0	31.0	21.2	0.0	83.9	21.1
14/10/2023	94.7	92.4	92.9	92.1	OL	OL	OL	16.7	21.7	20.6	OL	OL	OL	20.5	22.2	21.4	OL	OL	OL	16.2	29.8	21.1
15/10/2023	94.7	0.1	93.1	92.5	OL	OL	OL	17.0	21.9	21.1	OL	OL	OL	20.5	22.3	21.4	OL	OL	OL	16.1	22.1	21.4
16/10/2023	94.8	93.8	93.1	91.8	OL	OL	OL	0.0	52.1	20.5	0.0	69.5	22.5	18.8	23.0	21.4	OL	OL	OL	16.2	24.4	21.4
17/10/2023	94.8	93.9	93.0	92.2	OL	OL	OL	15.2	20.3	18.9	OL	OL	OL	20.5	22.3	21.3	OL	OL	OL	16.1	24.2	21.3
18/10/2023	94.7	93.7	93.0	91.4	OL	OL	OL	14.4	18.6	17.6	OL	OL	OL	20.0	22.6	21.3	11.3	27.4	21.3	0.0	34.1	21.3
19/10/2023	94.6	93.3	92.9	92.0	OL	OL	OL	0.0	80.2	20.6	16.2	64.2	21.4	0.0	26.1	21.3	17.2	23.2	21.3	0.0	0.0	0.0
20/10/2023	94.4	92.7	92.9	91.2	OL	OL	OL	17.6	21.8	21.2	17.2	27.4	21.4	OL	OL	OL	16.8	22.8	21.3	OL	OL	OL
21/10/2023	94.5	93.0	93.0	89.0	OL	OL	OL	17.5	22.0	21.2	17.0	26.1	21.4	OL	OL	OL	17.4	22.9	21.4	OL	OL	OL
22/10/2023	94.5	93.1	93.1	92.2	OL	OL	OL	17.5	21.8	21.2	17.2	25.5	21.4	OL	OL	OL	17.3	22.7	21.4	0.0	0.0	0.0
23/10/2023	94.0	92.5	92.7	91.5	OL	OL	OL	17.5	21.8	21.2	16.0	30.4	21.6	OL	OL	OL	17.6	22.8	21.4	0.0	0.0	0.0
24/10/2023	94.3	93.4	93.1	92.5	OL	OL	OL	0.0	68.5	21.2	0.0	72.2	21.4	0.0	26.3	21.2	0.0	29.8	21.4	0.0	84.3	21.3
25/10/2023	94.1	92.1	93.1	91.7	OL	OL	OL	0.0	32.3	21.2	15.7	27.0	21.4	OL	OL	OL	16.1	33.3	21.3	18.8	29.9	21.4
26/10/2023	94.0	92.7	93.2	92.2	OL	OL	OL	OL	OL	OL	16.8	22.5	21.4	0.0	0.0	0.0	17.7	22.8	21.3	0.0	22.0	21.4
27/10/2023	93.7	92.6	93.3	92.7	OL	OL	OL	OL	OL	OL	16.3	26.6	21.4	0.0	83.8	25.0	0.0	27.5	21.3	19.7	22.3	21.3
28/10/2023	93.4	92.3	93.5	92.8	OL	OL	OL	OL	OL	OL	16.2	30.3	21.5	0.0	22.6	21.4	OL	OL	OL	18.6	21.6	20.0
29/10/2023	93.1	91.8	94.1	93.1	OL	OL	OL	OL	OL	OL	16.7	22.7	21.5	20.6	21.7	21.2	OL	OL	OL	17.5	21.3	19.2
30/10/2023	92.9	91.0	95.4	94.5	0.0	32.4	19.0	OL	OL	OL	14.4	27.8	21.5	0.0	105.7	21.4	0.0	95.7	21.4	0.0	36.7	20.4
31/10/2023	92.7	91.2	96.2	95.0	OL	OL	OL	OL	OL	OL	15.5	23.8	21.6	18.8	22.9	21.2	0.0	95.7	21.3	0.0	84.6	21.4

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

Submitted By (Print):  D. Merredew

Signature:  Original signed by D. Merredew