



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

December 7, 2022

RE: NOVEMBER 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 November 2022.

The November 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 for Filters 2, 3, and 4 on November 29 and 30 when a DAF unit was brought online following maintenance; the elevated turbidities occurred for less than 12 consecutive hours. The turbidity results for the filter effluent met the licence requirements.

The November 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 November 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,

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. (e-mail)
M.Szmon, P. 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

November 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
1/11/2022	0.96	0.07	0.11	0.03	0.05	0.04	0.07	0.07	0.11	0.11	0.13	OL	OL	0.03	0.05	0.04	0.07
2/11/2022	0.97	0.07	0.10	0.03	0.06	0.04	0.07	0.10	0.12	0.10	0.15	OL	OL	0.03	0.05	0.05	0.07
3/11/2022	0.97	0.08	0.10	0.03	0.07	0.04	0.07	0.09	0.13	0.10	0.13	OL	OL	0.03	0.05	0.05	0.08
4/11/2022	0.96	0.09	0.11	0.03	0.06	0.05	0.07	0.09	0.14	0.10	0.14	OL	OL	0.03	0.05	0.05	0.08
5/11/2022	1.05	0.08	0.11	0.04	0.08	0.04	0.08	0.10	0.14	0.12	0.14	OL	OL	0.03	0.05	0.05	0.08
6/11/2022	1.03	0.08	0.11	0.04	0.07	0.04	0.07	0.10	0.16	0.12	0.15	OL	OL	0.03	0.05	0.07	0.08
7/11/2022	1.06	0.08	0.11	0.03	0.06	0.04	0.06	0.13	0.16	0.12	0.16	OL	OL	0.03	0.05	0.06	0.09
8/11/2022	1.03	0.09	0.10	0.03	0.06	0.04	0.06	0.11	0.17	0.13	0.17	OL	OL	0.04	0.05	0.06	0.10
9/11/2022	1.04	0.08	0.11	0.03	0.05	0.04	0.06	0.12	0.16	0.13	0.18	OL	OL	0.03	0.05	0.07	0.10
10/11/2022	1.09	0.12	0.19	0.05	0.08	0.04	0.06	0.09	0.16	0.11	0.17	OL	OL	0.04	0.06	0.06	0.10
11/11/2022	1.11	0.11	0.19	0.05	0.09	0.04	0.07	0.06	0.10	0.06	0.09	OL	OL	0.04	0.06	0.05	0.07
12/11/2022	1.04	0.06	0.09	0.05	0.11	0.04	0.07	0.07	0.09	0.06	0.09	OL	OL	0.04	0.05	0.05	0.08
13/11/2022	1.01	0.06	0.08	0.05	0.09	0.03	0.07	0.06	0.09	0.07	0.10	OL	OL	0.05	0.07	0.04	0.07
14/11/2022	0.99	0.07	0.09	0.05	0.09	0.04	0.06	0.05	0.09	0.06	0.09	OL	OL	0.04	0.07	0.05	0.07
15/11/2022	1.00	0.06	0.09	0.06	0.10	0.05	0.07	0.06	0.10	0.06	0.08	OL	OL	0.04	0.06	0.04	0.08
16/11/2022	1.00	0.07	0.10	0.06	0.09	0.05	0.08	0.06	0.12	0.06	0.08	OL	OL	0.04	0.06	0.05	0.07
17/11/2022	1.00	0.06	0.09	0.06	0.10	0.05	0.10	0.07	0.10	0.06	0.08	OL	OL	0.04	0.13	0.05	0.08
18/11/2022	1.01	0.07	0.11	0.06	0.10	0.05	0.08	0.07	0.10	0.06	0.09	OL	OL	0.05	0.10	0.06	0.08
19/11/2022	0.99	0.07	0.09	0.07	0.11	0.05	0.10	0.09	0.11	0.07	0.11	OL	OL	0.05	0.09	0.06	0.10
20/11/2022	0.97	0.08	0.12	0.07	0.11	0.05	0.10	0.07	0.13	0.07	0.11	OL	OL	0.05	0.07	0.07	0.11
21/11/2022	0.96	0.07	0.11	0.07	0.14	0.06	0.08	0.09	0.13	0.07	0.11	OL	OL	0.07	0.10	0.07	0.11
22/11/2022	0.94	0.07	0.11	0.07	0.12	0.07	0.12	0.08	0.12	0.06	0.10	OL	OL	0.06	0.14	0.07	0.12
23/11/2022	0.92	0.07	0.11	0.08	0.13	0.06	0.11	0.08	0.14	0.06	0.09	OL	OL	0.06	0.10	0.07	0.12
24/11/2022	0.91	0.07	0.12	0.08	0.17	0.07	0.15	0.09	0.16	0.07	0.11	OL	OL	0.05	0.13	0.07	0.12
25/11/2022	0.88	0.05	0.07	0.05	0.08	0.04	0.06	0.06	0.11	0.05	0.09	OL	OL	0.04	0.07	0.07	0.10
26/11/2022	0.86	0.04	0.08	0.05	0.08	0.03	0.07	0.07	0.10	0.05	0.08	OL	OL	0.04	0.07	0.06	0.11
27/11/2022	0.85	0.04	0.08	0.04	0.08	0.03	0.07	0.07	0.10	0.05	0.08	OL	OL	0.04	0.06	0.06	0.10
28/11/2022	0.81	0.04	0.07	0.04	0.10	0.02	0.06	0.06	0.12	0.05	0.14	OL	OL	0.04	0.06	0.06	0.09
29/11/2022	0.77	0.07	0.13	0.07	0.83	0.03	0.86	0.08	0.68	0.04	0.08	OL	OL	0.05	0.10	0.05	0.10
30/11/2022	0.74	0.09	0.18	0.05	0.58	0.04	0.58	0.06	0.43	0.04	0.06	OL	OL	0.07	0.09	0.05	0.07

Total Number of Measurements Taken, A:	13483	15676	15700	14941	15133	0	15008	16724
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:	13483	15638	15683	14907	15133	0	15008	16724
Compliance with Turbidity Standard, C = B/A X 100%:	100.000%	99.758%	99.892%	99.772%	100.000%	100.000%	100.000%	100.000%
OL=Offline								

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2022\11-November

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																			
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-Nov-2022	0.91	0.91	0.10	0.08	0.12	0.04	0.11	0.05	0.09	0.08	0.08	0.11	ns	ns	0.08	0.02	0.09	0.04	
02-Nov-2022	0.79	0.90	0.11	0.09	0.12	0.05	0.10	0.04	0.10	0.11	0.09	0.12	o/l	o/l	0.09	0.02	0.09	0.05	
03-Nov-2022	0.89	0.97	0.10	0.10	0.10	0.03	0.11	0.04	0.09	0.11	0.08	0.13	o/l	o/l	0.09	0.03	0.10	0.06	
04-Nov-2022	0.89	0.93	0.11	0.10	0.10	0.05	0.11	0.06	0.11	0.13	0.07	0.12	o/l	o/l	0.09	0.03	0.08	0.05	
05-Nov-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
06-Nov-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
07-Nov-2022	0.77	1.12	0.09	0.09	0.10	0.03	0.10	0.04	0.09	0.12	0.08	0.16	o/l	o/l	0.08	0.03	0.09	0.07	
08-Nov-2022	0.77	1.05	0.09	0.10	0.11	0.03	0.10	0.05	0.10	0.15	0.07	0.15	o/l	o/l	0.09	0.03	0.09	0.08	
09-Nov-2022	0.80	1.02	0.11	0.10	0.10	0.04	0.11	0.04	0.12	0.16	0.07	0.16	o/l	o/l	0.10	0.04	0.09	0.08	
10-Nov-2022	0.82	1.04	0.12	0.10	0.10	0.05	0.11	0.05	0.09	0.15	0.08	0.17	o/l	o/l	0.08	0.03	0.09	0.09	
11-Nov-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
12-Nov-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
13-Nov-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
14-Nov-2022	0.81	0.96	0.10	0.08	0.11	0.06	0.11	0.05	0.09	0.07	0.07	0.08	o/l	o/l	0.09	0.04	0.08	0.04	
15-Nov-2022	0.87	0.96	0.13	0.08	0.12	0.07	0.12	0.06	0.09	0.07	0.08	0.08	o/l	o/l	0.09	0.04	0.09	0.04	
16-Nov-2022	0.75	0.98	0.12	0.08	0.12	0.07	0.11	0.05	0.08	0.07	0.07	0.08	o/l	o/l	0.09	0.05	0.08	0.04	
17-Nov-2022	0.84	0.97	0.11	0.08	0.14	0.09	0.15	0.08	0.10	0.08	0.08	0.08	o/l	o/l	0.08	0.04	0.10	0.05	
18-Nov-2022	0.82	0.99	0.10	0.08	0.12	0.08	0.10	0.05	0.09	0.08	0.08	0.09	o/l	o/l	0.08	0.04	0.09	0.06	
19-Nov-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
20-Nov-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
21-Nov-2022	0.82	0.93	0.15	0.10	0.13	0.09	0.13	0.07	0.12	0.10	0.09	0.08	o/l	o/l	0.11	0.06	0.10	0.07	
22-Nov-2022	0.78	0.88	0.13	0.09	0.13	0.09	0.14	0.07	0.11	0.09	0.09	0.07	o/l	o/l	0.14	0.07	0.10	0.07	
23-Nov-2022	0.77	0.88	0.12	0.08	0.15	0.09	0.15	0.09	0.10	0.10	0.09	0.07	o/l	o/l	0.12	0.06	0.10	0.07	
24-Nov-2022	0.77	0.91	0.14	0.09	0.18	0.11	0.12	0.13	0.12	0.10	0.10	0.09	o/l	o/l	0.11	0.06	0.12	0.09	
25-Nov-2022	0.73	0.86	0.09	0.05	0.12	0.08	0.09	0.04	0.09	0.08	0.10	0.07	o/l	o/l	0.08	0.03	0.08	0.06	
26-Nov-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
27-Nov-2022	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
28-Nov-2022	0.72	0.80	0.08	0.05	0.10	0.06	0.08	0.02	0.09	0.08	0.08	0.08	o/l	o/l	0.08	0.03	0.08	0.07	
29-Nov-2022	0.72	0.75	0.07	0.04	0.07	0.04	0.07	0.02	0.07	0.08	0.07	0.05	o/l	o/l	0.07	0.03	0.09	0.07	
30-Nov-2022	0.63	0.71	0.08	0.12	0.08	0.05	0.10	0.04	0.08	0.07	0.08	0.06	o/l	o/l	0.08	0.07	0.09	0.05	
Total number of measurements taken, A:			21		21		21		21		21		0		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:			21		21		21		21		21		0		21		21		
Compliance with Turbidity Standard, C= B/A X 100%:			100%		100%		100%		100%		100%		*		100%		100%		

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

Comments:

Filter 6 was taken offline for scheduled maintenance on September 28, 2022

Report Date: 1-Dec-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 December 2022**

Report Period: November 2022

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/11/2022	1.49	1.37	1.56	1.51
02/11/2022	1.51	1.40	1.56	1.46
03/11/2022	1.53	1.46	1.58	1.49
04/11/2022	1.46	1.40	1.49	1.39
05/11/2022	1.45	1.37	1.47	1.38
06/11/2022	1.49	1.38	1.53	1.42
07/11/2022	1.51	1.43	1.51	1.43
08/11/2022	1.55	1.47	1.56	1.47
09/11/2022	1.42	1.37	1.51	1.43
10/11/2022	1.43	1.30	1.51	1.43
11/11/2022	1.41	1.33	1.50	1.41
12/11/2022	1.44	1.36	1.52	1.46
13/11/2022	1.44	1.37	1.53	1.47
14/11/2022	1.45	1.36	1.53	1.40
15/11/2022	1.41	1.30	1.48	1.33
16/11/2022	1.32	1.24	1.41	1.31
17/11/2022	1.39	1.33	1.47	1.39
18/11/2022	1.41	1.35	1.43	1.27
19/11/2022	1.46	1.37	1.51	1.34
20/11/2022	1.48	1.38	1.51	1.43
21/11/2022	1.46	1.40	1.45	1.36
22/11/2022	1.40	1.32	1.38	1.30
23/11/2022	1.32	1.27	1.34	1.30
24/11/2022	1.32	1.25	1.42	1.27
25/11/2022	1.45	1.28	1.51	1.39
26/11/2022	1.49	1.31	1.45	1.26
27/11/2022	1.33	1.26	1.29	1.18
28/11/2022	1.30	1.16	1.25	1.12
29/11/2022	1.49	1.32	1.51	1.29
30/11/2022	1.49	1.49	1.56	1.49

Total Number of Measurements, A:	20910	20910
Minimum Free Chlorine Standard:	0.5	0.5
Number of Measurements Meeting Standard, B:	20910	20910
COMPLIANCE, C = B/A X 100%:	100.00	100.00

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2022\11-November

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew



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-Nov-2022	1.50	1.51	1.78	1.55	1.56	1.80
02-Nov-2022	1.47	1.54	1.75	1.55	1.60	1.78
03-Nov-2022	1.65	1.64	1.86	1.67	1.69	1.93
04-Nov-2022	1.44	1.48	1.65	1.47	1.51	1.71
05-Nov-2022	ns	ns	ns	ns	ns	ns
06-Nov-2022	ns	ns	ns	ns	ns	ns
07-Nov-2022	1.53	1.52	1.76	1.51	1.58	1.77
08-Nov-2022	1.56	1.54	1.80	1.58	1.67	1.86
09-Nov-2022	1.43	1.45	1.66	1.53	1.52	1.76
10-Nov-2022	1.45	1.44	1.68	1.51	1.56	1.76
11-Nov-2022	ns	ns	ns	ns	ns	ns
12-Nov-2022	ns	ns	ns	ns	ns	ns
13-Nov-2022	ns	ns	ns	ns	ns	ns
14-Nov-2022	1.45	1.54	1.72	1.46	1.44	1.63
15-Nov-2022	1.52	1.54	1.80	1.57	1.58	1.85
16-Nov-2022	1.37	1.35	1.58	1.42	1.40	1.64
17-Nov-2022	1.35	1.41	1.67	1.48	1.46	1.74
18-Nov-2022	1.40	1.45	1.67	1.32	1.42	1.66
19-Nov-2022	ns	ns	ns	ns	ns	ns
20-Nov-2022	ns	ns	ns	ns	ns	ns
21-Nov-2022	1.45	1.45	1.74	1.48	1.51	1.73
22-Nov-2022	1.41	1.47	1.70	1.38	1.42	1.62
23-Nov-2022	1.33	1.38	1.62	1.34	1.39	1.61
24-Nov-2022	1.34	1.38	1.64	1.44	1.43	1.67
25-Nov-2022	1.43	1.45	1.65	1.43	1.50	1.70
26-Nov-2022	ns	ns	ns	ns	ns	ns
27-Nov-2022	ns	ns	ns	ns	ns	ns
28-Nov-2022	1.30	1.27	1.46	1.27	1.30	1.49
29-Nov-2022	1.49	1.48	1.71	1.55	1.63	1.75
30-Nov-2022	1.33	1.32	1.56	1.58	1.64	1.83
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%		

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

Comments:

Report Date: 1-Dec-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: **November 2022**

Report Created: **Thursday, December 01, 2022**

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	To	Total			
01/11/2022	0.00	0.22	61.23	61.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.93	53.93	0.00	0.00	63.93	63.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	179.09	179.31	99.88
02/11/2022	0.00	0.28	63.68	63.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.81	49.81	0.00	0.09	64.11	64.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	177.60	177.97	99.79	
03/11/2022	0.00	0.69	65.38	66.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.86	42.86	0.00	0.18	22.08	22.26	0.00	0.00	41.34	41.34	0.00	0.00	0.00	0.00	0.00	0.00	0.87	171.66	172.52	99.50		
04/11/2022	0.00	0.99	63.76	64.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.23	42.23	0.00	0.00	0.00	0.00	0.00	0.22	62.83	63.05	0.00	0.00	0.00	0.00	0.00	0.00	1.21	168.82	170.03	99.29		
05/11/2022	0.00	0.89	63.73	64.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.24	42.24	0.00	0.00	0.00	0.00	0.00	0.48	62.66	63.14	0.00	0.00	0.00	0.00	0.00	0.00	1.38	168.63	170.00	99.19		
06/11/2022	0.00	0.87	64.75	65.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	43.01	43.01	0.00	0.00	0.00	0.00	0.00	0.49	63.73	64.22	0.00	0.00	0.00	0.00	0.00	0.00	1.36	171.49	172.85	99.21		
07/11/2022	0.00	0.92	65.66	66.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.24	42.24	0.00	0.00	0.00	0.00	0.00	0.53	62.66	63.18	0.00	0.00	0.00	0.00	0.00	0.00	1.45	170.56	172.01	99.16		
08/11/2022	0.00	1.31	66.02	67.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	43.75	43.75	0.00	0.00	0.00	0.00	0.00	0.49	63.94	64.43	0.00	0.00	0.00	0.00	0.00	0.00	1.80	173.71	175.51	98.97		
09/11/2022	0.00	0.91	68.02	68.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.55	45.55	0.00	0.00	0.00	0.00	0.00	0.55	65.22	65.77	0.00	0.00	0.00	0.00	0.00	0.00	1.46	178.79	180.24	99.19		
10/11/2022	0.00	1.31	68.18	69.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.31	46.31	0.00	0.00	0.00	0.00	0.00	0.59	65.29	65.88	0.00	0.00	0.00	0.00	0.00	0.00	1.90	179.78	181.68	98.95		
11/11/2022	0.00	0.97	68.64	69.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.48	46.48	0.00	0.00	0.00	0.00	0.00	0.55	65.36	65.91	0.00	0.00	0.00	0.00	0.00	0.00	1.52	180.49	182.01	99.16		
12/11/2022	0.00	0.73	68.86	69.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.53	46.53	0.00	0.00	0.00	0.00	0.00	0.55	65.31	65.86	0.00	0.00	0.00	0.00	0.00	0.00	1.28	180.71	181.98	99.30		
13/11/2022	0.00	0.68	68.95	69.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.54	46.54	0.00	0.00	0.00	0.00	0.00	0.50	65.31	65.81	0.00	0.00	0.00	0.00	0.00	0.00	1.18	180.79	181.97	99.35		
14/11/2022	0.00	0.59	69.57	70.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.66	52.66	0.00	0.00	0.00	0.00	0.00	0.49	58.42	58.91	0.00	0.00	0.00	0.00	0.00	0.00	1.08	180.66	181.74	99.41		
15/11/2022	0.00	0.59	70.05	70.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.20	53.20	0.00	0.00	0.00	0.00	0.00	0.45	58.39	58.85	0.00	0.00	0.00	0.00	0.00	0.00	1.04	181.64	182.68	99.43		
16/11/2022	0.00	0.80	71.10	71.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.00	54.00	0.00	0.00	0.00	0.00	0.00	0.46	59.62	60.07	0.00	0.00	0.00	0.00	0.00	0.00	1.26	184.72	185.97	99.32		
17/11/2022	0.00	0.55	71.28	71.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.87	53.87	0.00	0.00	0.00	0.00	0.00	0.46	59.84	60.30	0.00	0.00	0.00	0.00	0.00	0.00	1.01	184.99	186.00	99.46		
18/11/2022	0.00	0.30	61.90	62.20	0.00	0.00	0.00	0.00	0.00	0.00	6.76	6.76	0.00	0.00	53.55	53.55	0.00	0.00	0.00	0.00	0.00	0.80	62.68	63.48	0.00	0.00	0.00	0.00	0.00	0.00	1.10	184.88	185.99	99.41		
19/11/2022	0.01	0.07	9.63	9.70	0.00	0.23	0.34	0.57	0.00	0.11	49.77	49.88	0.00	0.15	53.16	53.30	0.03	0.07	0.92	1.02	0.00	0.98	70.59	71.57	0.04	0.04	0.00	0.00	0.00	0.00	1.60	184.40	186.04	99.12		
20/11/2022	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	50.69	50.72	0.00	0.04	51.93	51.96	0.00	0.00	0.00	0.00	0.00	1.27	82.02	83.29	0.00	0.00	0.00	0.00	0.00	0.00	1.34	184.64	185.98	99.28		
21/11/2022	0.00	0.00	0.00	0.00	0.00	0.00	41.70	41.70	0.00	0.00	46.08	46.08	0.00	0.11	55.65	55.76	0.00	0.00	0.00	0.00	0.00	0.69	41.80	42.49	0.00	0.00	0.00	0.00	0.00	0.00	0.80	185.23	186.03	99.57		
22/11/2022	0.00	0.00	0.00	0.00	0.00	0.00	84.99	84.99	0.00	0.00	41.71	41.71	0.00	0.00	60.22	60.22	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	0.00	0.00	0.00	186.93	186.93	100.00	
23/11/2022	0.00	0.00	0.00	0.00	0.00	0.00	85.00	85.00	0.00	0.00	43.51	43.51	0.00	0.00	61.72	61.72	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	0.00	0.00	190.22	190.22	100.00		
24/11/2022	0.00	0.00	0.00	0.00	0.00	0.00	77.66	77.66	0.00	0.00	44.57	44.57	0.00	0.00	69.57	69.57	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	0.00	0.00	191.81	191.81	100.00		
25/11/2022	0.00	0.00	0.00	0.00	0.00	0.05	71.97	72.02	0.00	0.00	44.77	44.77	0.00	0.00	78.22	78.22	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	0.00	0.05	194.96	195.01	99.98		
26/11/2022	0.00	0.00	0.00	0.00	0.00	0.00	79.68	79.68	0.00	0.00	43.00	43.00	0.00	0.00	77.27	77.27	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	0.00	0.00	199.96	199.96	100.00		
27/11/2022	0.00	0.00	0.00	0.00	0.00	0.00	80.78	80.78	0.00	0.10	52.25	52.35	0.00	0.00	65.83	65.83	0.00	0.10	11.88	11.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	210.74	210.93	99.91		
28/11/2022	0.00	0.03	1.57	1.60	0.00	0.00	42.08	42.08	0.00	0.05	26.40	26.45	0.00	0.05	49.81	49.86	0.00	0.00	59.99	59.99	0.00	0.22	30.03	30.24	0.00	0.00	0.00	0.00	0.00	0.34	209.87	210.22	99.84			
29/11/2022	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	0.00	79.97	79.97	0.00	0.06	39.01	39.06	0.00	0.23	66.33	66.57	0.00	0.00	0.00	0.00	0.00	0.29	185.31	185.60	99.84			
30/11/2022	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	0.00	79.92	79.92	0.00	0.08	38.61	38.69	0.00	0.32	64.86	65.18	0.00	0.00	0.00	0.00	0.00	0.40	183.38	183.78	99.78			
Total [ML]:	0.01	13.67	1211.96	1225.64	0.00	0.28	564.21	564.49	0.00	0.29	449.51	449.80	0.00	0.34	1642.03	1642.37	0.03	0.58	300.53	301.13	0.00	11.33	1338.21	1349.53	0.04	0.26	26.49	5506.45	5532.97							

Water Volume [%]:

Untreated: 0.00 %
 Below Dose: 0.48 %
 To Dose: 99.52 %

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

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

WATER TREATMENT PLANT UV REPORT

Report Period: **November 2022**

Report Created: **Thursday, December 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.
01/11/2022	93.8	93.0	95.0	94.6	17.4	25.9	21.3	OL	OL	OL	OL	OL	OL	18.3	23.3	21.3	17.9	22.1	21.2	OL	OL	OL
02/11/2022	93.8	85.1	95.0	94.6	17.5	26.0	21.3	OL	OL	OL	OL	OL	OL	18.4	25.5	21.4	15.8	29.9	21.3	OL	OL	OL
03/11/2022	93.8	92.8	94.9	94.6	15.9	28.0	21.2	OL	OL	OL	OL	OL	OL	16.3	30.2	21.5	0.0	29.8	21.4	18.8	84.6	24.4
04/11/2022	93.8	85.6	94.9	94.5	16.7	22.7	21.1	OL	OL	OL	OL	OL	OL	18.6	27.9	21.5	OL	OL	OL	17.4	26.3	21.8
05/11/2022	93.8	84.0	95.6	95.0	16.6	22.0	21.1	OL	OL	OL	OL	OL	OL	18.7	28.0	21.5	OL	OL	OL	16.1	25.1	21.2
06/11/2022	93.7	79.2	96.5	96.1	16.4	22.7	21.1	OL	OL	OL	OL	OL	OL	18.7	27.2	21.5	OL	OL	OL	16.2	24.2	21.2
07/11/2022	93.8	86.6	96.6	96.1	16.6	21.9	21.1	OL	OL	OL	OL	OL	OL	18.7	28.2	21.5	OL	OL	OL	16.5	24.4	21.2
08/11/2022	93.8	75.8	96.9	96.5	16.4	22.7	21.1	OL	OL	OL	OL	OL	OL	18.6	27.5	21.4	OL	OL	OL	16.5	23.4	21.2
09/11/2022	93.8	72.4	97.0	96.5	16.2	29.3	21.4	OL	OL	OL	OL	OL	OL	18.5	26.3	21.4	OL	OL	OL	16.5	23.0	21.2
10/11/2022	93.7	90.3	97.0	96.6	16.0	23.2	21.4	OL	OL	OL	OL	OL	OL	18.7	26.4	21.4	OL	OL	OL	16.5	23.0	21.2
11/11/2022	93.6	89.9	97.5	97.1	16.0	22.0	21.4	OL	OL	OL	OL	OL	OL	18.5	25.8	21.4	OL	OL	OL	16.5	23.1	21.2
12/11/2022	93.6	82.2	96.7	0.0	16.1	23.4	21.4	OL	OL	OL	OL	OL	OL	18.4	25.7	21.4	OL	OL	OL	16.6	22.9	21.2
13/11/2022	93.5	79.6	96.2	92.7	16.2	27.8	21.5	OL	OL	OL	OL	OL	OL	18.7	25.7	21.4	OL	OL	OL	16.5	24.4	21.2
14/11/2022	93.3	80.0	96.1	93.4	16.1	40.7	21.5	OL	OL	OL	OL	OL	OL	16.3	32.6	21.6	OL	OL	OL	15.0	37.9	21.3
15/11/2022	93.1	86.5	96.1	93.8	16.1	28.5	21.5	OL	OL	OL	OL	OL	OL	18.7	23.2	21.3	OL	OL	OL	16.6	23.6	21.3
16/11/2022	93.1	86.5	96.2	94.7	16.1	28.5	21.5	OL	OL	OL	OL	OL	OL	18.6	22.7	21.3	OL	OL	OL	16.7	23.6	21.2
17/11/2022	92.9	78.1	95.9	94.1	16.2	27.3	21.5	OL	OL	OL	OL	OL	OL	18.6	22.0	21.3	OL	OL	OL	16.8	23.4	21.2
18/11/2022	92.7	2.8	95.1	94.0	0.0	41.0	21.5	OL	OL	OL	16.7	65.9	21.5	18.3	24.9	21.5	OL	OL	OL	4.0	29.7	21.2
19/11/2022	92.3	89.2	94.9	94.3	0.0	39.7	21.5	0.0	39.1	20.2	17.7	31.0	21.5	15.0	27.0	21.6	0.0	63.5	21.6	0.0	83.5	21.5
20/11/2022	92.1	87.3	94.8	94.4	OL	OL	OL	OL	OL	OL	17.8	27.6	21.4	16.0	30.3	21.3	OL	OL	OL	16.2	29.5	21.2
21/11/2022	92.0	90.4	94.8	94.1	OL	OL	OL	18.1	87.6	21.4	17.7	32.0	22.6	15.7	31.0	21.4	OL	OL	OL	0.0	28.8	21.1
22/11/2022	91.9	77.8	95.0	94.6	OL	OL	OL	18.3	21.8	21.3	19.2	31.4	23.4	18.7	21.9	21.2	OL	OL	OL	OL	OL	OL
23/11/2022	92.0	71.8	95.1	94.7	OL	OL	OL	18.3	21.7	21.3	18.9	31.3	23.1	18.7	22.8	21.2	OL	OL	OL	OL	OL	OL
24/11/2022	91.8	83.9	94.9	94.0	OL	OL	OL	18.4	22.5	21.4	18.2	29.8	22.8	18.7	22.1	21.2	OL	OL	OL	OL	OL	OL
25/11/2022	93.2	2.4	96.0	95.5	OL	OL	OL	15.9	27.1	21.3	19.3	31.0	23.6	18.6	21.7	21.1	OL	OL	OL	OL	OL	OL
26/11/2022	93.5	3.5	96.1	95.7	OL	OL	OL	18.8	25.6	21.1	19.1	35.6	24.3	18.6	31.4	21.1	OL	OL	OL	OL	OL	OL
27/11/2022	93.7	2.4	96.1	9.7	OL	OL	OL	18.7	21.7	21.1	17.9	31.2	23.2	0.0	36.9	21.1	16.1	65.8	21.4	OL	OL	OL
28/11/2022	93.8	2.9	96.2	95.3	0.0	64.7	22.2	0.0	28.3	21.2	0.0	39.4	21.5	16.4	80.0	21.2	15.9	31.5	21.3	16.6	52.6	21.4
29/11/2022	94.0	2.6	96.0	95.1	OL	OL	OL	OL	OL	OL	OL	OL	OL	18.7	22.7	21.1	17.1	32.1	21.5	16.8	24.3	21.2
30/11/2022	93.9	2.6	95.2	91.8	OL	OL	OL	OL	OL	OL	OL	OL	OL	18.7	21.6	21.1	17.4	31.2	21.5	16.6	24.6	21.2

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

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew