



Derek Clarke, Drinking Water Officer
Office of Drinking Water, Manitoba Sustainable Development
Box 6000
Gimli, MB R0C 1B0

September 6, 2019

RE: AUGUST 2019 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 August 2019.

The August on-line and grab sampling turbidity reports include results obtained for the Water Treatment Plant raw water and the eight filters. The turbidity results for the filter effluent met the licence requirements.

The August 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 August 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:

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)
G. Patton, P.Eng. (email)
T. Shanks, P.Eng. (email)
M. Szmon, P.Eng. (email)
C. Diduck (email)



CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT
 WATER SERVICES

Water System Code: 252.00
 Licence Number: PWS-09-412-01

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

August 2019 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
1/08/2019	1.51	0.06	0.14	0.06	0.14	0.06	0.15	0.07	0.15	0.07	0.16	0.07	0.15	0.13	0.19	0.10	0.20
2/08/2019	1.43	0.01	0.07	0.00	0.01	0.03	0.09	0.06	0.12	0.05	0.10	0.06	0.10	0.06	0.11	0.07	0.16
3/08/2019	1.47	0.01	0.04	0.00	0.03	0.03	0.09	0.05	0.12	0.04	0.09	0.05	0.12	0.06	0.11	0.07	0.14
4/08/2019	1.95	0.02	0.07	0.00	0.02	0.04	0.06	0.06	0.08	0.05	0.10	0.05	0.12	0.05	0.12	0.07	0.15
5/08/2019	2.71	0.02	0.10	0.00	0.03	0.04	0.10	0.07	0.13	0.05	0.11	0.05	0.11	0.06	0.08	0.08	0.11
6/08/2019	1.90	0.03	0.10	0.00	0.06	0.05	0.12	0.08	0.15	0.07	0.08	0.06	0.08	0.08	0.13	0.08	0.16
7/08/2019	2.37	0.03	0.06	0.01	0.03	0.05	0.13	0.08	0.16	0.06	0.14	0.08	0.15	0.08	0.16	0.09	0.17
8/08/2019	2.29	0.04	0.11	0.01	0.06	0.06	0.16	0.08	0.12	0.06	0.14	0.07	0.15	0.07	0.16	0.08	0.17
9/08/2019	2.18	0.04	0.11	0.01	0.08	0.06	0.14	0.08	0.17	0.06	0.13	0.07	0.14	0.08	0.11	0.10	0.15
10/08/2019	2.10	0.03	0.09	0.00	0.05	0.04	0.08	0.07	0.15	0.07	0.10	0.07	0.11	0.08	0.15	0.08	0.17
11/08/2019	2.01	0.03	0.04	0.00	0.02	0.04	0.13	0.07	0.16	0.06	0.12	0.08	0.13	0.07	0.16	0.08	0.17
12/08/2019	1.91	0.05	0.10	0.01	0.05	0.05	0.10	0.08	0.16	0.06	0.12	0.07	0.13	0.07	0.16	0.08	0.17
13/08/2019	2.10	0.04	0.11	0.01	0.05	0.05	0.14	0.09	0.14	0.06	0.13	0.07	0.13	0.07	0.14	0.09	0.12
14/08/2019	3.42	0.03	0.06	0.00	0.05	0.04	0.10	0.07	0.18	0.06	0.08	0.06	0.10	0.08	0.12	0.08	0.16
15/08/2019	2.28	0.03	0.05	0.01	0.02	0.05	0.13	0.08	0.22	0.06	0.12	0.08	0.12	0.07	0.15	0.09	0.17
16/08/2019	3.06	0.05	0.10	0.01	0.06	0.06	0.09	0.08	0.17	0.06	0.12	0.07	0.14	0.07	0.14	0.08	0.16
17/08/2019	3.52	0.04	0.09	0.01	0.07	0.06	0.11	0.10	0.17	0.06	0.13	0.07	0.13	0.06	0.16	0.09	0.12
18/08/2019	3.38	0.04	0.11	0.01	0.07	0.06	0.15	0.09	0.16	0.06	0.09	0.06	0.10	0.08	0.12	0.08	0.16
19/08/2019	2.58	0.04	0.06	0.02	0.04	0.06	0.16	0.09	0.18	0.06	0.12	0.08	0.13	0.07	0.16	0.08	0.14
20/08/2019	2.05	0.06	0.12	0.03	0.08	0.07	0.12	0.10	0.14	0.06	0.13	0.07	0.13	0.07	0.16	0.08	0.16
21/08/2019	2.16	0.05	0.12	0.02	0.08	0.06	0.15	0.10	0.18	0.06	0.09	0.07	0.14	0.08	0.10	0.10	0.14
22/08/2019	2.12	0.05	0.12	0.03	0.05	0.06	0.16	0.09	0.18	0.07	0.13	0.09	0.11	0.08	0.17	0.09	0.16
23/08/2019	2.13	0.07	0.09	0.04	0.10	0.07	0.09	0.08	0.19	0.07	0.13	0.08	0.22	0.08	0.16	0.09	0.17
24/08/2019	2.13	0.07	0.14	0.05	0.12	0.09	0.16	0.12	0.17	0.07	0.14	0.08	0.15	0.07	0.10	0.10	0.12
25/08/2019	2.12	0.06	0.14	0.05	0.11	0.08	0.18	0.11	0.20	0.08	0.10	0.07	0.10	0.09	0.18	0.09	0.17
26/08/2019	2.22	0.04	0.08	0.04	0.07	0.06	0.15	0.09	0.17	0.07	0.11	0.08	0.14	0.07	0.14	0.08	0.16
27/08/2019	2.06	0.05	0.11	0.04	0.10	0.07	0.10	0.09	0.12	0.06	0.12	0.07	0.13	0.06	0.13	0.07	0.15
28/08/2019	2.09	0.04	0.09	0.03	0.08	0.06	0.16	0.09	0.18	0.06	0.11	0.07	0.14	0.08	0.09	0.09	0.11
29/08/2019	1.81	0.03	0.09	0.02	0.04	0.05	0.13	0.08	0.16	0.08	0.12	0.08	0.15	0.07	0.15	0.08	0.19
30/08/2019	1.83	0.04	0.06	0.03	0.07	0.06	0.09	0.08	0.10	0.05	0.16	0.07	0.17	0.06	0.13	0.07	0.14
31/08/2019	2.04	0.04	0.11	0.03	0.08	0.07	0.14	0.10	0.16	0.06	0.08	0.06	0.13	0.07	0.08	0.09	0.13

Total Number of Measurements Taken, A:	13104	10163	14338	14990	15449	15758	15488	16910
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:	13104	10163	14338	14990	15449	15758	15488	16910
Compliance with Turbidity Standard, C = B/A X 100%:	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2019\08-August

Submitted By (Print): D. Minor

Signature: Original signed by D. Minor

WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT

Water System Code: 252.00		Turbidity (NTU)																	
Licence No. PWS-09-412-01																			
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-Aug-2019	1.49	1.48	OL	OL	0.15	0.13	0.18	0.14	0.16	0.10	0.12	0.11	0.13	0.10	0.14	0.16	0.14	0.12	
02-Aug-2019	1.49	1.49	0.11	0.02	0.12	<0.02	0.12	0.05	OL	OL	0.14	0.06	0.14	0.07	0.15	0.06	0.19	0.10	
03-Aug-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
04-Aug-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
05-Aug-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
06-Aug-2019	1.71	1.55	0.13	0.03	0.14	<0.02	OL	OL	0.17	0.10	0.13	0.07	0.14	0.07	0.15	0.07	0.16	0.09	
07-Aug-2019	1.93	1.72	0.16	0.05	0.16	<0.02	0.17	0.08	0.18	0.08	0.19	0.09	0.20	0.09	0.27	0.15	0.18	0.08	
08-Aug-2019	1.98	1.77	0.17	0.05	0.19	0.02	0.17	0.08	0.17	0.08	0.15	0.06	OL	OL	0.16	0.06	0.16	0.08	
09-Aug-2019	1.88	1.83	OL	OL	OL	OL	0.20	0.10	0.18	0.10	0.14	0.07	0.15	0.07	0.17	0.07	0.18	0.09	
10-Aug-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
11-Aug-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
12-Aug-2019	2.37	1.69	0.17	0.06	0.19	0.02	0.17	0.08	0.19	0.09	OL	OL	0.24	0.11	0.19	0.07	0.16	0.08	
13-Aug-2019	2.16	1.97	0.18	0.06	OL	OL	0.18	0.08	0.20	0.09	0.15	0.06	0.15	0.08	0.15	0.07	0.17	0.09	
14-Aug-2019	2.16	NR	0.14	0.03	0.16	<0.02	OL	OL	0.22	0.14	0.16	0.07	0.14	0.07	0.18	0.06	0.17	0.09	
15-Aug-2019	2.09	2.21	0.17	0.04	0.16	<0.02	0.16	0.08	0.15	0.09	0.17	0.08	0.18	0.09	0.20	0.10	OL	OL	
16-Aug-2019	2.25	2.66	0.17	0.05	0.18	0.02	0.17	0.09	0.17	0.10	OL	OL	0.21	0.11	0.16	0.07	0.16	0.08	
17-Aug-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
18-Aug-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
19-Aug-2019	2.42	2.13	0.16	0.05	0.17	0.02	0.19	0.09	0.21	0.09	0.18	0.08	0.16	0.08	0.18	0.09	OL	OL	
20-Aug-2019	2.00	2.06	0.19	0.07	0.21	0.05	0.19	0.10	0.18	0.10	0.13	0.08	OL	OL	0.15	0.07	0.16	0.08	
21-Aug-2019	2.41	2.08	OL	OL	OL	OL	0.22	0.11	0.21	0.12	0.15	0.07	0.15	0.08	0.16	0.07	0.16	0.09	
22-Aug-2019	2.39	2.10	0.17	<0.02	0.18	0.03	0.18	0.09	OL	OL	0.19	0.08	0.18	0.09	0.21	0.10	0.25	0.14	
23-Aug-2019	2.01	2.00	0.18	0.07	0.20	0.04	0.20	0.10	0.18	0.10	OL	OL	0.20	0.10	OL	OL	0.16	0.09	
24-Aug-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
25-Aug-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
26-Aug-2019	1.94	1.84	0.16	0.05	0.17	0.05	0.17	0.09	0.18	0.11	0.15	0.08	0.16	0.08	0.18	0.08	OL	OL	
27-Aug-2019	1.93	1.95	0.20	0.06	0.20	0.06	0.18	0.10	0.18	0.10	OL	OL	0.19	0.10	0.17	0.06	0.14	0.07	
28-Aug-2019	2.09	1.78	0.20	0.08	OL	OL	0.18	0.10	0.16	0.10	0.14	0.07	0.15	0.08	0.15	0.06	0.15	0.09	
29-Aug-2019	1.93	1.76	0.13	0.03	0.14	0.03	0.13	0.08	OL	OL	0.17	0.08	0.16	0.09	0.21	0.08	0.23	0.14	
30-Aug-2019	1.76	1.75	0.14	0.04	0.15	0.04	0.14	0.09	0.13	0.09	0.16	0.09	0.16	0.09	OL	OL	0.12	0.07	
31-Aug-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Total number of measurements taken, A:			18		17		19		18		17		19		19		18		
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:			18		17		19		18		17		19		19		18		
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

Comments:

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

NR-instrument malfunction

Report Compiled By: N. Crawford

Authorized in Sample Manager By: C. Diduck

Date Authorized: 6-Sep-19



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

Water System Code: **252.00**
Licence Number: **PWS-09-412-01**
Report Created: 01 September 2019

Report Period: August 2019

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/08/2019	1.48	1.34	1.46	1.38
02/08/2019	1.42	1.21	1.32	1.13
03/08/2019	1.31	1.18	1.25	1.13
04/08/2019	1.48	1.38	1.41	1.32
05/08/2019	1.37	1.26	1.31	1.20
06/08/2019	1.29	1.22	1.25	1.17
07/08/2019	1.39	1.30	1.33	1.26
08/08/2019	1.42	1.35	1.35	1.30
09/08/2019	1.48	1.33	1.43	1.29
10/08/2019	1.58	1.48	1.52	1.40
11/08/2019	1.47	1.35	1.41	1.34
12/08/2019	1.40	1.31	1.42	1.36
13/08/2019	1.35	1.21	1.45	1.36
14/08/2019	1.37	1.23	1.41	1.27
15/08/2019	1.38	1.25	1.51	1.40
16/08/2019	1.30	1.22	1.42	1.34
17/08/2019	1.34	1.24	1.38	1.32
18/08/2019	1.31	1.21	1.38	1.30
19/08/2019	1.34	1.23	1.38	1.30
20/08/2019	1.24	1.11	1.34	1.29
21/08/2019	1.39	1.20	1.48	1.31
22/08/2019	1.63	1.32	1.68	1.30
23/08/2019	1.40	1.27	1.49	1.38
24/08/2019	1.27	1.12	1.34	1.21
25/08/2019	1.33	1.02	1.37	1.12
26/08/2019	1.37	1.21	1.44	1.28
27/08/2019	1.28	1.19	1.38	1.32
28/08/2019	1.36	1.29	1.42	1.32
29/08/2019	1.43	1.37	1.51	1.45
30/08/2019	1.27	1.04	1.35	1.14
31/08/2019	1.23	0.99	1.25	1.07

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

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2019\08-August

Submitted By (Print): D. Minor

Signature: Original signed by D. Minor



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-09-412-01							
Date	Free Chlorine (mg/L)		Total Chlorine (mg/L)	Free Chlorine (mg/L)		Total Chlorine (mg/L)	
	Analyser	Grab	Grab	Analyser	Grab	Grab	
01-Aug-2019	1.48	1.48	1.6	1.52	1.51	1.69	
02-Aug-2019	1.53	1.45	1.65	1.42	1.44	1.6	
03-Aug-2019	NA	NA	NA	NA	NA	NA	
04-Aug-2019	NA	NA	NA	NA	NA	NA	
05-Aug-2019	NA	NA	NA	NA	NA	NA	
06-Aug-2019	1.33	1.37	1.54	1.29	1.34	1.54	
07-Aug-2019	1.37	1.43	1.68	1.29	1.47	1.63	
08-Aug-2019	1.39	1.5	1.7	1.33	1.47	1.66	
09-Aug-2019	1.44	1.45	1.69	1.35	1.45	1.65	
10-Aug-2019	NA	NA	NA	NA	NA	NA	
11-Aug-2019	NA	NA	NA	NA	NA	NA	
12-Aug-2019	1.38	1.42	1.61	1.41	1.47	1.6	
13-Aug-2019	1.34	1.45	1.67	1.47	1.53	1.64	
14-Aug-2019	1.41	1.48	1.66	1.36	1.53	1.68	
15-Aug-2019	1.47	1.54	1.72	1.54	1.57	1.74	
16-Aug-2019	1.36	1.47	1.66	1.48	1.58	1.74	
17-Aug-2019	NA	NA	NA	NA	NA	NA	
18-Aug-2019	NA	NA	NA	NA	NA	NA	
19-Aug-2019	1.4	1.47	1.63	1.44	1.49	1.65	
20-Aug-2019	1.21	1.25	1.43	1.31	1.37	1.53	
21-Aug-2019	1.24	1.35	1.49	1.35	1.45	1.58	
22-Aug-2019	1.75	1.44	1.57	1.75	1.46	1.61	
23-Aug-2019	1.3	1.32	1.49	1.41	1.48	1.65	
24-Aug-2019	NA	NA	NA	NA	NA	NA	
25-Aug-2019	NA	NA	NA	NA	NA	NA	
26-Aug-2019	1.29	1.32	1.52	1.37	1.44	1.56	
27-Aug-2019	1.25	1.41	1.59	1.41	1.46	1.62	
28-Aug-2019	1.33	1.38	1.58	1.38	1.55	1.67	
29-Aug-2019	1.48	1.45	1.63	1.54	1.56	1.73	
30-Aug-2019	1.38	1.3	1.5	1.42	1.49	1.62	
31-Aug-2019	NA	NA	NA	NA	NA	NA	
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

Comments:

Report Compiled By: N. Crawford

Authorized By: C. Diduck

Date Authorized: 6-Sep-19



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

Water System Code: 252.00
Licence Number: PWS-09-412-01

WATER TREATMENT PLANT UV REPORT

Report Period: August 2019

Report Created: Sunday, September 01, 2019

Table with columns: Date, Transmittance %, UVR-D100A, UVR-D200A, UVR-D300A, UVR-D400A, UVR-D500A, UVR-D600A, Total Water Volume [ML], % Volume Treated To Dose. Rows include dates from 01/08/2019 to 31/08/2019 and a Total [ML] summary row.

Water Volume [ML]:
Untreated: 0.01 %
Below Dose: 0.24 %
To Dose: 99.76 %

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

Submitted By (Print): D_Minor

Signature: Original Signed by D_Minor