



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

January 7, 2020

RE: DECEMBER 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 December 2019.

The December on-line and grab sampling turbidity reports include results obtained for the Water Treatment Plant raw water and the eight filters. On December 19, 2019 the maximum turbidity recorded for Filter 2 was 4.59 NTU at 14:30; the analyzer had been placed in 'hold' status for cleaning but automatically returned to service prior to the completion of cleaning. The elevated turbidity lasted a few seconds and did not represent the quality of the filter effluent. A grab sample taken prior to cleaning at 14:21 measured 0.06 NTU (analyzer reading was 0.03 NTU) and a grab sample taken after cleaning at 15:40 measured 0.08 NTU (analyzer reading 0.02 NTU). The turbidity results for the filter effluent met the licence requirements.

The December on-line and grab sampling chlorine reports include results obtained for the Deacon Booster Pumping Station at the Water Treatment Plant. On December 27 and 28, 2019 the Branch I analyzer indicated a rapid drop in chlorine readings caused by flow restrictions. During both instances grab samples were taken to confirm that the chlorine levels in the water entering the distribution system were adequate (1.32 mg/L on December 27 and 1.20 mg/L on December 28) and the sample lines and internal components of the analyzer were flushed. A review of the data showed the erroneous analyzer readings lasted for 7.5 minutes on December 27 and 18 minutes on December 28. The free chlorine results at the Water Treatment Plant met the licence requirements.

The December 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 N. Crawford for:

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)
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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

December 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
1/12/2019	0.53	0.06	0.17	0.06	0.16	0.02	0.08	0.05	0.13	0.06	0.08	0.10	0.22	0.04	0.10	0.05	0.08
2/12/2019	0.52	0.06	0.16	0.06	0.15	0.02	0.07	0.03	0.12	0.05	0.13	0.12	0.16	0.06	0.08	0.06	0.12
3/12/2019	0.52	0.07	0.09	0.09	0.11	0.02	0.03	0.03	0.14	0.05	0.15	0.15	0.23	0.05	0.11	0.05	0.12
4/12/2019	0.51	0.06	0.17	0.05	0.16	0.03	0.10	0.04	0.07	0.05	0.08	0.08	0.26	0.05	0.12	0.05	0.11
5/12/2019	0.50	0.04	0.15	0.03	0.11	0.02	0.08	0.03	0.12	0.06	0.13	0.04	0.16	0.06	0.08	0.06	0.08
6/12/2019	0.50	0.04	0.07	0.04	0.06	0.02	0.07	0.02	0.10	0.04	0.14	0.07	0.11	0.07	0.12	0.04	0.11
7/12/2019	0.49	0.06	0.13	0.04	0.12	0.02	0.04	0.02	0.04	0.04	0.12	0.05	0.15	0.05	0.12	0.04	0.11
8/12/2019	0.48	0.05	0.15	0.04	0.12	0.03	0.08	0.04	0.11	0.06	0.08	0.05	0.15	0.05	0.13	0.04	0.07
9/12/2019	0.52	0.05	0.09	0.03	0.06	0.01	0.08	0.02	0.11	0.06	0.14	0.06	0.09	0.06	0.09	OL	OL
10/12/2019	0.51	0.04	0.09	0.03	0.06	0.01	0.03	0.01	0.05	0.04	0.11	0.05	0.10	0.06	0.11	OL	OL
11/12/2019	0.51	0.05	0.10	0.03	0.06	0.01	0.03	0.01	0.06	0.04	0.08	0.05	0.08	0.05	0.09	OL	OL
12/12/2019	0.69	0.03	0.09	0.02	0.09	0.00	0.05	0.01	0.09	0.03	0.13	0.04	0.11	0.04	0.12	0.01	0.08
13/12/2019	0.47	0.03	0.07	0.02	0.05	0.01	0.03	0.01	0.03	0.04	0.06	0.04	0.10	0.05	0.09	0.04	0.06
14/12/2019	0.46	0.03	0.08	0.02	0.04	0.00	0.02	0.01	0.04	0.05	0.08	0.05	0.08	0.06	0.08	0.03	0.07
15/12/2019	0.45	0.04	0.06	0.03	0.06	0.00	0.04	0.01	0.05	0.04	0.08	0.05	0.11	0.03	0.09	0.04	0.05
16/12/2019	0.46	0.04	0.08	0.03	0.06	0.01	0.03	0.01	0.06	0.04	0.08	0.05	0.10	OL	OL	0.04	0.08
17/12/2019	0.44	0.04	0.09	0.03	0.07	0.01	0.05	0.01	0.03	0.04	0.09	0.05	0.11	OL	OL	0.04	0.08
18/12/2019	0.45	0.04	0.08	0.03	0.10	0.01	0.04	0.02	0.06	0.04	0.07	0.05	0.11	OL	OL	0.04	0.09
19/12/2019	0.54	0.03	0.10	0.03	4.59	0.01	0.04	0.03	0.10	0.04	0.09	0.05	0.08	0.02	0.08	0.03	0.08
20/12/2019	0.55	0.07	0.09	0.02	0.07	0.00	0.05	0.04	0.11	0.02	0.07	0.04	0.10	0.04	0.06	0.04	0.05
21/12/2019	0.56	0.05	0.11	0.02	0.06	0.03	0.05	0.05	0.09	0.02	0.04	0.03	0.12	0.05	0.09	0.03	0.08
22/12/2019	0.55	0.05	0.08	0.02	0.05	0.02	0.05	0.04	0.11	0.04	0.09	0.05	0.09	0.04	0.09	0.03	0.08
23/12/2019	0.55	0.07	0.12	0.02	0.06	0.02	0.06	0.04	0.11	0.02	0.08	0.04	0.11	0.04	0.07	0.04	0.06
24/12/2019	0.54	0.04	0.10	0.01	0.06	0.03	0.05	0.05	0.07	0.02	0.04	0.03	0.11	0.05	0.09	0.03	0.08
25/12/2019	0.54	0.04	0.10	0.01	0.04	0.02	0.07	0.05	0.11	0.03	0.07	0.04	0.08	0.04	0.08	0.03	0.08
26/12/2019	0.54	0.05	0.07	0.02	0.07	0.02	0.06	0.04	0.11	0.02	0.08	0.04	0.12	0.04	0.10	0.03	0.05
27/12/2019	0.56	0.04	0.10	0.02	0.06	0.02	0.04	0.04	0.12	0.02	0.07	0.04	0.11	0.06	0.08	0.04	0.09
28/12/2019	0.55	0.05	0.12	0.02	0.07	0.03	0.07	0.07	0.11	0.03	0.05	0.04	0.07	0.04	0.09	0.03	0.09
29/12/2019	0.54	0.07	0.08	0.04	0.08	0.03	0.10	0.05	0.13	0.03	0.09	0.05	0.12	0.03	0.15	0.03	0.07
30/12/2019	0.53	0.06	0.15	0.04	0.11	0.04	0.09	0.05	0.13	0.03	0.10	0.04	0.12	0.06	0.14	0.04	0.10
31/12/2019	0.54	0.05	0.14	0.03	0.09	0.04	0.10	0.08	0.16	0.04	0.06	0.04	0.08	0.04	0.09	0.03	0.09

Total Number of Measurements Taken, A:	11739	12166	11554	12987	14562	14573	12155	13340
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:	11739	12165	11554	12987	14562	14573	12155	13340
Compliance with Turbidity Standard, C = B/A X 100%:	100.000%	99.992%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%

Off Line - OL

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2019\12-December

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-09-412-01																			
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-Dec-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
02-Dec-2019	0.60	0.49	OL	OL	0.10	0.08	OL	OL	0.17	0.07	0.13	0.08	0.11	0.16	0.10	0.05	0.10	0.06	
03-Dec-2019	0.59	0.51	0.11	0.08	0.11	0.09	0.09	0.05	OL	OL	OL	OL	0.11	0.18	0.13	0.06	0.14	0.08	
04-Dec-2019	0.66	0.49	0.14	NA	0.13	0.11	0.10	0.06	0.11	0.05	0.14	0.07	OL	OL	OL	OL	0.12	0.06	
05-Dec-2019	0.55	0.48	OL	OL	OL	OL	0.13	0.07	0.14	0.05	0.11	0.06	0.11	0.07	0.12	0.06	0.10	0.05	
06-Dec-2019	0.54	0.47	0.11	0.06	0.11	0.05	0.08	0.05	OL	OL	OL	OL	0.11	0.07	0.12	0.07	0.13	0.06	
07-Dec-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
08-Dec-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
09-Dec-2019	0.52	0.45	OL	OL	0.07	0.03	0.07	0.04	0.10	0.02	0.08	0.06	0.08	0.06	0.08	0.05	OL	OL	
10-Dec-2019	0.57	0.48	0.08	0.05	0.07	0.04	OL	OL	0.11	0.02	0.09	0.06	0.09	0.06	0.08	0.05	OL	OL	
11-Dec-2019	0.51	0.52	0.09	0.06	0.10	0.04	0.08	0.04	OL	OL	0.10	0.06	0.08	0.06	0.11	0.05	OL	OL	
12-Dec-2019	0.57	0.49	0.09	0.05	0.09	0.04	0.08	0.03	0.09	0.01	OL	OL	0.09	0.06	0.10	0.06	OL	OL	
13-Dec-2019	0.52	0.46	0.09	0.06	OL	OL	0.06	0.04	0.09	0.01	0.08	0.05	0.08	0.06	0.08	0.05	0.09	0.03	
14-Dec-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.09	0.04	
15-Dec-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
16-Dec-2019	0.48	0.42	0.09	0.06	0.10	0.05	0.07	0.04	0.08	0.01	0.08	0.05	OL	OL	OL	OL	0.08	0.04	
17-Dec-2019	0.49	0.42	0.11	0.07	OL	OL	0.07	0.04	0.09	0.02	0.08	0.06	0.09	0.06	OL	OL	0.09	0.04	
18-Dec-2019	0.53	0.42	OL	OL	0.07	0.03	0.07	0.04	0.09	0.02	0.08	0.05	0.10	0.06	OL	OL	0.11	0.05	
19-Dec-2019	0.51	0.42	0.08	0.04	0.08	0.04	0.09	0.05	0.09	0.02	0.08	0.05	0.09	0.06	0.10	0.06	OL	OL	
20-Dec-2019	0.46	0.53	0.08	0.07	0.08	0.03	0.07	0.02	OL	OL	OL	OL	0.10	0.06	0.09	0.04	0.07	0.03	
21-Dec-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.09	0.06	NA	NA	
22-Dec-2019	0.57	0.53	0.12	0.07	0.07	0.02	0.12	0.05	0.09	0.07	OL	OL	0.09	0.06	OL	OL	0.08	0.03	
23-Dec-2019	0.45	0.52	0.08	0.08	0.10	0.04	0.08	0.03	OL	OL	0.15	0.08	0.14	0.08	0.13	0.05	0.07	0.03	
24-Dec-2019	0.52	0.52	OL	OL	OL	OL	0.07	0.03	0.13	0.05	0.07	0.03	0.12	0.05	0.10	0.04	0.09	0.04	
25-Dec-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
26-Dec-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
27-Dec-2019	0.50	0.53	0.08	0.07	0.10	0.03	0.07	0.03	0.08	0.06	0.07	0.03	OL	OL	0.09	0.05	0.08	0.04	
28-Dec-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
29-Dec-2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
30-Dec-2019	0.54	0.52	0.14	0.11	0.17	0.09	0.10	0.06	0.12	0.08	OL	OL	OL	OL	0.10	0.05	0.09	0.04	
31-Dec-2019	0.50	0.51	OL	OL	0.10	0.04	0.10	0.06	0.11	0.08	0.08	0.05	0.12	0.06	0.11	0.07	OL	OL	
Total number of measurements taken, A:			15		17		19		16		15		17		17		16		
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		17		19		16		15		17		17		16		
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 IM: Instrument Maintenance

Comments:

Filter 7 offline for maintenance from December 15 at 17:40 to December 19 at 10:00

Filter 8 offline for maintenance from December 8 at 17:30 to December 12 at 21:55

Report Compiled By: A. Gordon

Authorized By: C. Diduck

Date Authorized: 7-Jan-20



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 January 2020**

Report Period: December 2019

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/12/2019	1.31	1.17	1.35	1.29
02/12/2019	1.33	1.22	1.32	1.23
03/12/2019	1.28	1.14	1.28	1.22
04/12/2019	1.23	1.10	1.26	1.19
05/12/2019	1.20	1.08	1.23	1.16
06/12/2019	1.13	1.00	1.17	1.07
07/12/2019	1.15	1.01	1.16	1.09
08/12/2019	1.15	1.02	1.19	1.05
09/12/2019	1.15	1.05	1.17	1.10
10/12/2019	1.15	1.05	1.19	1.10
11/12/2019	1.21	1.09	1.23	1.16
12/12/2019	1.34	1.14	1.38	1.19
13/12/2019	1.21	1.14	1.25	1.20
14/12/2019	1.14	1.04	1.18	1.14
15/12/2019	1.14	1.05	1.17	1.12
16/12/2019	1.22	1.11	1.24	1.10
17/12/2019	1.19	1.09	1.22	1.11
18/12/2019	1.14	1.04	1.16	1.11
19/12/2019	1.14	1.04	1.15	1.10
20/12/2019	1.18	1.06	1.17	1.11
21/12/2019	1.22	1.11	1.17	1.09
22/12/2019	1.22	1.12	1.17	1.09
23/12/2019	1.19	1.09	1.20	1.14
24/12/2019	1.20	1.07	1.20	1.15
25/12/2019	1.19	1.11	1.18	1.12
26/12/2019	1.25	1.13	1.24	1.15
27/12/2019	1.26	0.46	1.27	1.22
28/12/2019	1.18	0.51	1.18	1.14
29/12/2019	1.17	1.06	1.14	1.09
30/12/2019	1.16	1.06	1.14	1.01
31/12/2019	1.17	1.07	1.19	1.11

Total Number of Measurements, A:	21600	21599
Minimum Free Chlorine Standard:	0.5	0.5
Number of Measurements Meeting Standard, B:	21596	21599
COMPLIANCE, C = B/A X 100%:	99.98	100.00

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2019\12-December

Submitted By (Print): D. Merredew

Signature: Original signed by: D. Merredew



CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT
 ENVIRONMENTAL STANDARDS DIVISION

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-Dec-2019	NA	NA	NA	NA	NA	NA	
02-Dec-2019	1.32	1.40	1.51	1.30	1.30	1.53	
03-Dec-2019	1.27	1.27	1.44	1.29	1.36	1.49	
04-Dec-2019	1.24	1.30	1.44	1.27	1.31	1.49	
05-Dec-2019	1.18	1.19	1.36	1.20	1.21	1.41	
06-Dec-2019	1.15	1.13	1.29	1.17	1.19	1.34	
07-Dec-2019	NA	NA	NA	NA	NA	NA	
08-Dec-2019	NA	NA	NA	NA	NA	NA	
09-Dec-2019	1.12	1.14	1.31	1.15	1.21	1.38	
10-Dec-2019	1.13	1.15	1.34	1.18	1.20	1.46	
11-Dec-2019	1.21	1.24	1.33	1.27	1.35	1.47	
12-Dec-2019	1.39	1.37	1.62	1.44	1.45	1.58	
13-Dec-2019	1.24	1.16	1.35	1.26	1.29	1.43	
14-Dec-2019	NA	NA	NA	NA	NA	NA	
15-Dec-2019	NA	NA	NA	NA	NA	NA	
16-Dec-2019	1.27	1.20	1.39	1.26	1.28	1.46	
17-Dec-2019	1.21	1.26	1.41	1.23	1.24	1.42	
18-Dec-2019	1.13	1.19	1.35	1.15	1.17	1.38	
19-Dec-2019	1.13	1.13	1.41	1.14	1.18	1.36	
20-Dec-2019	1.15	1.19	1.34	1.18	1.19	1.38	
21-Dec-2019	NA	NA	NA	NA	NA	NA	
22-Dec-2019	1.20	1.17	1.37	1.12	1.13	1.35	
23-Dec-2019	1.19	1.13	1.34	1.20	1.17	1.37	
24-Dec-2019	1.21	1.15	1.32	1.17	1.17	1.34	
25-Dec-2019	NA	NA	NA	NA	NA	NA	
26-Dec-2019	NA	NA	NA	NA	NA	NA	
27-Dec-2019	1.25	1.29	1.44	1.26	1.27	1.44	
28-Dec-2019	NA	NA	NA	NA	NA	NA	
29-Dec-2019	NA	NA	NA	NA	NA	NA	
30-Dec-2019	1.13	1.11	1.28	1.12	1.19	1.28	
31-Dec-2019	1.17	1.15	1.35	1.17	1.18	1.35	
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:

Report Compiled By: A. Gordon

Authorized By: C. Diduck

Date Authorized: 7-Jan-20

