



Water and Waste Department • Service des eaux et des déchets

January 6, 2017

Melanie Betsill
Office of Drinking Water
Manitoba Sustainable Development
1007 Century Street
Winnipeg, Manitoba R3H 0W4

Our File: 040-18-18-55-00

Dear Ms. Betsill:

**RE: DECEMBER 2016 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 2016. There are no corrective action reports to be submitted for December 2016.

The December 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 effluent from the filters 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. 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 may 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
Attachments

cc: (e-mail)

Dr. L. Richards, Winnipeg Regional Health Authority
Dr. H. Chang, Winnipeg Regional Health Authority
Dr. S. Roberecki, Manitoba Health, Healthy Living and Seniors
M. L. Geer, CPA, CA
G. Patton, P.Eng.
T. Shanks, P.Eng.
M. Szmon, P.Eng.
C. Diduck

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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 2016 Turbidity (NTU)

Date	Raw		Filter #1		Filter #2		Filter #3		Filter #4		Filter #5		Filter #6		Filter #7		Filter #8	
	Avg	Avg	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
1/12/2016	0.98	0.01	0.05		0.02	0.07	OL	OL	0.01	0.05	0.01	0.05	0.02	0.09	0.01	0.06	0.00	0.01
2/12/2016	0.93	0.03	0.09		0.04	0.11	OL	OL	0.02	0.03	0.03	0.07	0.04	0.06	0.03	0.09	0.01	0.03
3/12/2016	0.89	0.04	0.10		0.05	0.12	OL	OL	0.03	0.10	0.03	0.09	0.04	0.12	0.03	0.10	0.01	0.01
4/12/2016	0.88	0.03	0.09		0.04	0.06	OL	OL	0.02	0.09	0.03	0.08	0.04	0.12	0.03	0.07	0.01	0.04
5/12/2016	0.89	0.05	0.06		0.06	0.11	OL	OL	0.03	0.10	0.03	0.06	0.04	0.13	0.04	0.10	0.01	0.05
6/12/2016	0.89	0.03	0.12		0.02	0.06	0.02	0.15	0.03	0.05	0.03	0.10	0.05	0.07	0.03	0.11	0.01	0.05
7/12/2016	0.89	0.02	0.05		OL	OL	0.00	0.07	0.02	0.08	0.03	0.09	0.04	0.11	0.03	0.05	0.01	0.01
8/12/2016	0.91	0.04	0.09		OL	OL	0.00	0.00	0.02	0.07	0.03	0.05	0.03	0.11	0.03	0.09	0.01	0.03
9/12/2016	0.87	0.04	0.11		OL	OL	0.00	0.07	0.02	0.09	0.04	0.08	0.04	0.06	0.03	0.10	0.01	0.05
10/12/2016	0.86	0.03	0.10		OL	OL	0.00	0.07	0.03	0.08	0.03	0.08	0.04	0.11	0.03	0.07	0.01	0.01
11/12/2016	0.87	0.04	0.05		OL	OL	0.01	0.09	0.03	0.12	0.02	0.07	0.02	0.07	0.02	0.04	0.01	0.01
12/12/2016	0.85	0.06	0.13		OL	OL	0.00	0.01	0.04	0.14	0.03	0.07	0.01	0.07	0.02	0.06	0.01	0.01
13/12/2016	0.82	0.05	0.16		OL	OL	0.01	0.12	0.04	0.09	0.02	0.11	0.02	0.04	0.01	0.05	0.01	0.01
14/12/2016	0.83	0.04	0.12		OL	OL	0.00	0.09	0.04	0.11	0.03	0.07	0.02	0.07	0.01	0.03	0.01	0.01
15/12/2016	0.82	0.05	0.08		OL	OL	0.00	0.09	0.03	0.13	0.02	0.09	0.03	0.07	0.02	0.06	0.01	0.01
16/12/2016	0.82	0.04	0.11		OL	OL	0.00	0.00	0.02	0.11	0.04	0.09	0.04	0.15	0.04	0.12	0.01	0.05
17/12/2016	0.81	0.02	0.07		0.05	0.15	0.00	0.10	0.02	0.06	0.02	0.07	0.04	0.09	0.02	0.10	0.00	0.03
18/12/2016	0.81	0.01	0.01		0.04	0.12	0.00	0.01	0.01	0.06	0.01	0.04	0.01	0.06	0.01	0.03	0.01	0.03
19/12/2016	0.81	0.01	0.04		0.04	0.08	0.00	0.00	0.01	0.05	0.01	0.03	0.01	0.07	0.01	0.05	0.00	0.01
20/12/2016	0.80	0.01	0.06		0.06	0.11	0.00	0.04	0.01	0.02	0.01	0.05	0.02	0.04	0.01	0.07	0.00	0.01
21/12/2016	0.78	0.01	0.03		0.04	0.11	0.00	0.03	0.01	0.05	0.01	0.04	0.02	0.10	0.02	0.04	0.01	0.03
22/12/2016	0.76	0.01	0.05		0.04	0.06	0.00	0.00	0.01	0.05	0.02	0.05	0.01	0.06	0.01	0.07	0.00	0.03
23/12/2016	0.76	0.01	0.04		0.05	0.09	0.00	0.00	0.02	0.02	0.00	0.02	0.01	0.06	0.00	0.05	0.01	0.01
24/12/2016	0.75	0.01	0.02		0.04	0.10	0.00	0.01	0.01	0.02	0.00	0.02	0.00	0.02	0.01	0.01	0.01	0.01
25/12/2016	0.74	0.01	0.03		0.05	0.22	0.00	0.00	0.01	0.03	0.01	0.03	0.01	0.03	0.00	0.03	0.00	0.01
26/12/2016	0.74	0.01	0.03		0.05	0.08	0.00	0.02	0.01	0.02	0.00	0.02	0.01	0.01	0.00	0.02	0.00	0.01
27/12/2016	0.72	0.01	0.02		0.04	0.08	0.00	0.00	0.01	0.02	0.00	0.02	0.00	0.02	0.01	0.01	0.01	0.01
28/12/2016	0.71	0.01	0.03		0.04	0.07	0.00	0.00	0.01	0.02	0.01	0.02	0.00	0.03	0.00	0.02	0.00	0.01
29/12/2016	0.69	0.01	0.05		0.05	0.08	0.00	0.00	0.02	0.02	0.01	0.03	0.01	0.01	0.01	0.04	0.00	0.01
30/12/2016	0.68	0.01	0.03		0.04	0.10	0.00	0.01	0.01	0.05	0.01	0.02	0.01	0.05	0.01	0.03	0.01	0.01
31/12/2016	0.67	0.02	0.04		0.05	0.07	0.00	0.00	0.01	0.05	0.01	0.05	0.01	0.01	0.01	0.05	0.00	0.01

Total Number of Measurements Taken, A:

14974

7629

6302

11443

15759

15544

13904

15149

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:

14974

7629

6302

11443

15759

15544

13904

15149

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%

Note: OL - Off line

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2016\12-December

Submitted By (Print): D. Minor

Signature: Original signed by D. Minor



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT

Water System Code: 252.00	Turbidity (NTU)																	
	Raw Water		Filter 1		Filter 2		Filter 3		Filter 4		Filter 5		Filter 6		Filter 7		Filter 8	
Date	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser
01-Dec-2016	0.82	0.98	0.08	<0.02	0.10	0.03	OL	OL	0.09	<0.02	0.07	<0.02	0.07	<0.02	0.08	0.02	OL	OL
02-Dec-2016	0.76	0.90	0.13	0.05	0.14	0.07	OL	OL	0.12	<0.02	0.12	0.04	0.11	0.04	0.09	0.02	0.09	<0.02
03-Dec-2016	NS	NS	NS	NS	NS	NS	OL	OL	NS									
04-Dec-2016	NS	NS	NS	NS	NS	NS	OL	OL	NS									
05-Dec-2016	0.87	0.86	0.14	0.04	0.13	0.07	OL	OL	0.12	<0.02	0.10	0.03	0.10	0.04	0.14	0.06	0.12	0.02
06-Dec-2016	0.87	0.86	0.14	0.05	0.10	0.05	0.15	0.02	0.12	0.02	0.14	0.06	0.11	0.04	0.10	0.02	0.10	<0.02
07-Dec-2016	0.87	0.87	0.09	<0.02	OL	OL	0.14	<0.02	0.10	<0.02	0.08	0.02	0.13	0.06	0.09	0.02	0.10	<0.02
08-Dec-2016	0.82	0.87	0.11	0.03	OL	OL	0.11	<0.02	0.09	<0.02	0.09	0.02	0.09	0.02	0.11	0.04	0.10	<0.02
09-Dec-2016	0.84	0.86	0.13	0.05	OL	OL	0.12	<0.02	0.12	0.02	0.13	0.06	0.13	0.04	0.10	0.02	0.11	<0.02
10-Dec-2016	NS	NS	NS	NS	OL	OL	NS											
11-Dec-2016	NS	NS	NS	NS	OL	OL	NS											
12-Dec-2016	0.82	0.84	0.13	0.05	OL	OL	0.14	<0.02	0.12	0.02	0.07	<0.02	0.06	<0.02	0.08	0.02	0.07	<0.02
13-Dec-2016	0.83	0.82	0.14	0.05	OL	OL	0.20	0.06	0.18	0.06	0.19	0.09	0.09	0.02	0.07	0.02	0.09	<0.02
14-Dec-2016	0.66	0.84	0.10	0.02	OL	OL	0.14	<0.02	0.13	0.03	0.08	0.02	0.09	0.03	0.06	<0.02	0.06	<0.02
15-Dec-2016	0.67	0.81	0.12	0.04	OL	OL	0.12	<0.02	0.17	0.05	0.09	0.02	0.07	<0.02	0.07	<0.02	0.07	<0.02
16-Dec-2016	0.71	0.82	0.10	0.03	OL	OL	0.10	<0.02	0.09	<0.02	0.10	0.03	0.10	0.03	0.12	0.05	0.08	<0.02
17-Dec-2016	NS	NS	NS	NS	0.14	0.14	NS											
18-Dec-2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
19-Dec-2016	0.75	0.81	0.07	<0.02	0.06	0.06	0.07	<0.02	OL	OL	0.06	<0.02	0.06	<0.02	0.08	0.02	0.08	<0.02
20-Dec-2016	0.62	0.78	0.10	0.02	0.07	0.06	0.09	<0.02	0.07	<0.02	0.08	0.06	0.07	<0.02	0.06	<0.02	0.06	<0.02
21-Dec-2016	0.66	0.77	0.08	<0.02	0.11	0.09	0.06	<0.02	0.09	<0.02	0.07	<0.02	0.10	0.03	0.08	0.02	0.08	<0.02
22-Dec-2016	0.69	0.75	0.08	<0.02	0.07	0.05	0.07	<0.02	0.06	<0.02	0.08	<0.02	0.08	<0.02	0.09	0.02	0.10	<0.02
23-Dec-2016	0.68	0.75	<0.05	<0.02	0.05	0.06	0.07	<0.02	0.05	<0.02	OL	OL	<0.05	<0.02	<0.05	<0.02	0.07	<0.02
24-Dec-2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Dec-2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Dec-2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Dec-2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
28-Dec-2016	0.60	0.71	0.08	<0.02	0.10	0.06	0.07	<0.02	0.06	<0.02	0.08	<0.02	0.08	<0.02	0.10	<0.02	0.08	<0.02
29-Dec-2016	0.56	0.68	0.06	<0.02	0.07	0.07	0.10	<0.02	0.07	<0.02	0.10	0.02	0.08	<0.02	0.07	<0.02	0.05	<0.02
30-Dec-2016	0.57	0.66	0.07	<0.02	0.09	0.11	0.09	<0.02	0.11	<0.02	0.09	<0.02	0.08	<0.02	0.10	<0.02	0.09	<0.02
31-Dec-2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total number of measurements taken, A:			19			13			17			19			19			19
Turbidity Standard for Monitoring Location (NTU):			0.30			0.30			0.30			0.30			0.30			0.30
Number of measurements meeting standard, B:			19			13			17			19			19			19
Compliance with Turbidity Standard, C= B/A X 100%:			100%			100%			100%			100%			100%			100%

NS: No Sample NA: Not Analyzed OL: Off-Line

Comments:
Filter 2 was offline from December 6th to 17th and Filter 3 was offline from November 20th to December 6th for scheduled maintenance.

Report Compiled By: _____ H.Demchenko

Approved in LIMS By: _____ C.Diduck



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: 04 January 2017

Report Period: December 2016

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/12/2016	1.13	0.78	1.05	0.79
02/12/2016	1.26	1.10	1.13	1.05
03/12/2016	1.23	1.13	1.13	1.09
04/12/2016	1.20	1.13	1.12	1.05
05/12/2016	1.22	1.16	1.11	1.05
06/12/2016	1.21	1.15	1.08	0.99
07/12/2016	1.21	1.09	1.08	0.99
08/12/2016	1.20	1.13	1.10	0.93
09/12/2016	1.21	1.10	1.16	1.06
10/12/2016	1.20	1.14	1.17	1.11
11/12/2016	1.17	1.12	1.13	1.08
12/12/2016	1.11	1.00	1.12	1.05
13/12/2016	1.01	0.95	1.04	0.93
14/12/2016	1.01	0.99	0.94	0.90
15/12/2016	1.04	0.98	0.95	0.89
16/12/2016	1.05	0.98	0.98	0.88
17/12/2016	1.08	1.05	1.07	0.99
18/12/2016	1.09	1.06	1.11	1.07
19/12/2016	1.05	0.98	1.07	1.00
20/12/2016	1.07	1.02	1.14	1.03
21/12/2016	1.13	1.06	1.15	1.08
22/12/2016	1.04	0.98	1.11	1.03
23/12/2016	1.16	1.02	1.11	1.01
24/12/2016	1.16	1.06	1.08	1.01
25/12/2016	1.14	0.99	1.08	0.96
26/12/2016	1.14	1.00	1.10	1.02
27/12/2016	1.18	1.14	1.10	1.06
28/12/2016	1.20	1.16	1.11	1.07
29/12/2016	1.18	1.11	1.06	1.02
30/12/2016	1.16	1.11	1.03	0.99
31/12/2016	1.11	1.04	1.00	0.98

Total Number of Measurements, A: 21601 21601
Minimum Free Chlorine Standard: 0.5 0.5

Number of Measurements Meeting Standard, B: 21601 21601

COMPLIANCE, C = B/A X 100%: 100.00 100.00

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2016\12-December

Submitted By (Print): D. Minor

Signature: Original signed by D. Minor



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT CHLORINE GRAB MONITORING REPORT

Water System Code: 252.00 Licence No. PWS-09-412-01	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)	
	Analyser	Grab	Grab	Analyser	Grab	Grab
01-Dec-2016	1.11	1.20	1.31	0.97	1.08	1.21
02-Dec-2016	1.32	1.26	1.43	1.11	1.19	1.31
03-Dec-2016	NS	NS	NS	NS	NS	NS
04-Dec-2016	NS	NS	NS	NS	NS	NS
05-Dec-2016	1.26	1.32	1.50	1.14	1.24	1.36
06-Dec-2016	1.20	1.23	1.42	1.08	1.17	1.30
07-Dec-2016	1.22	1.29	1.43	1.09	1.18	1.30
08-Dec-2016	1.19	1.26	1.38	1.10	1.15	1.28
09-Dec-2016	1.23	1.24	1.44	1.14	1.19	1.33
10-Dec-2016	NS	NS	NS	NS	NS	NS
11-Dec-2016	NS	NS	NS	NS	NS	NS
12-Dec-2016	1.17	1.22	1.33	1.10	1.14	1.28
13-Dec-2016	0.98	1.10	1.23	1.11	1.14	1.25
14-Dec-2016	1.02	1.12	1.24	0.94	1.07	1.19
15-Dec-2016	1.01	1.13	1.22	0.92	1.06	1.20
16-Dec-2016	1.04	1.06	1.21	0.98	1.08	1.19
17-Dec-2016	NS	NS	NS	NS	NS	NS
18-Dec-2016	NS	NS	NS	NS	NS	NS
19-Dec-2016	1.07	1.12	1.29	1.09	1.13	1.27
20-Dec-2016	1.04	1.09	1.24	1.08	1.10	1.25
21-Dec-2016	1.13	1.18	1.32	1.17	1.19	1.34
22-Dec-2016	1.03	1.10	1.31	1.10	1.22	1.38
23-Dec-2016	1.59	1.55	1.68	1.13	1.17	1.33
24-Dec-2016	NS	NS	NS	NS	NS	NS
25-Dec-2016	NS	NS	NS	NS	NS	NS
26-Dec-2016	NS	NS	NS	NS	NS	NS
27-Dec-2016	NS	NS	NS	NS	NS	NS
28-Dec-2016	1.22	1.25	1.42	1.12	1.12	1.28
29-Dec-2016	1.16	1.20	1.36	1.04	1.09	1.26
30-Dec-2016	1.17	1.19	1.33	1.05	1.09	1.23
31-Dec-2016	NS	NS	NS	NS	NS	NS
Total number of measurements taken, A:		20			20	
Chlorine Standard for Monitoring Location (mg/L):		0.50			0.50	
Number of measurements meeting standard, B:		20			20	
Compliance with Chlorine Standard, C= B/A X 100%:		100%			100%	

NS: No Sample NA: Not Analyzed OL: Off-Line

Comments:

Report Compiled By: _____ H.Demchenko

Approved in LIMS By: _____ C.Diduck

