



**Water and Waste Department • Service des eaux et des déchets**

*Environmental Standards Division • Division des Normes Environnementales*

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January 5, 2018

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

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

Dear Mr. Clarke:

**RE: DECEMBER 2017 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 2017. We have included one corrective action report for a low positive total coliform in the distribution system.

The December on-line and grab sampling turbidity reports include results obtained for the Water Treatment Plant raw water and the eight filters. Please note that on December 13, the turbidity for Filter 5 was greater than 0.3 NTU at start-up after backwashing, and a brief shut-down of DAF train 1 on December 20 caused the turbidities for Filters 1, 3, and 4 to be greater than 0.3 NTU at start-up. The elevated turbidities occurred for short periods of time which did not exceed 12 consecutive hours. 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.

On December 5, a positive total coliform result was reported for a routine sample at the SW04 location. The location was resampled on December 6 and 7 and results were reported negative. Our resampling also indicated that the chlorine levels at the location were normal and provided adequate disinfection. Please see the attached corrective action report for additional details.

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](mailto: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**

December 2017 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
1/12/2017	1.15	0.02	0.04	0.10	0.16	0.03	0.13	0.04	0.10	0.04	0.08	0.07	0.09	0.04	0.09	OL	OL
2/12/2017	1.16	0.03	0.05	0.09	0.16	0.03	0.10	0.04	0.07	0.05	0.09	0.07	0.14	0.04	0.08	OL	OL
3/12/2017	1.15	0.03	0.08	0.08	0.17	0.03	0.05	0.06	0.11	0.05	0.07	0.07	0.15	0.04	0.10	OL	OL
4/12/2017	1.13	0.02	0.07	0.09	0.11	0.03	0.08	0.04	0.11	0.04	0.10	0.05	0.14	0.04	0.06	0.01	0.07
5/12/2017	1.12	0.03	0.05	0.10	0.16	0.03	0.10	0.04	0.07	0.04	0.10	0.08	0.11	0.04	0.09	0.00	0.05
6/12/2017	1.12	0.03	0.08	0.08	0.17	0.02	0.04	0.06	0.13	0.06	0.08	0.06	0.16	0.04	0.11	0.01	0.01
7/12/2017	1.13	0.02	0.08	0.10	0.13	0.04	0.11	0.04	0.13	0.04	0.11	0.05	0.08	0.05	0.07	0.01	0.06
8/12/2017	1.13	0.04	0.09	0.10	0.20	0.03	0.18	0.05	0.10	0.03	0.08	0.07	0.16	0.03	0.10	0.00	0.04
9/12/2017	1.03	0.02	0.07	0.07	0.16	0.02	0.04	0.06	0.13	0.06	0.08	0.05	0.13	0.03	0.08	0.01	0.01
10/12/2017	0.96	0.03	0.10	0.10	0.13	0.05	0.10	0.05	0.14	0.04	0.11	0.05	0.09	0.05	0.07	0.01	0.04
11/12/2017	0.97	0.03	0.05	0.10	0.19	0.03	0.10	0.05	0.08	0.04	0.11	0.08	0.17	0.04	0.08	0.00	0.05
12/12/2017	1.00	0.04	0.09	0.09	0.20	0.03	0.06	0.09	0.14	0.07	0.11	0.07	0.18	0.04	0.13	0.01	0.01
13/12/2017	1.05	0.01	0.05	0.07	0.13	0.03	0.13	0.02	0.09	0.02	0.38	0.04	0.09	0.03	0.07	0.00	0.07
14/12/2017	0.93	0.02	0.07	0.07	0.17	0.02	0.08	0.06	0.10	0.06	0.08	0.05	0.16	0.04	0.11	0.00	0.01
15/12/2017	0.92	0.01	0.04	0.07	0.10	0.02	0.05	0.03	0.10	0.04	0.10	0.04	0.13	0.04	0.06	0.01	0.04
16/12/2017	0.91	0.02	0.03	0.09	0.15	0.02	0.08	0.03	0.05	0.04	0.07	0.07	0.09	0.03	0.09	0.00	0.04
17/12/2017	0.89	0.02	0.06	0.07	0.16	0.02	0.03	0.04	0.10	0.07	0.10	0.05	0.13	0.03	0.10	0.01	0.01
18/12/2017	0.88	0.02	0.06	0.09	0.12	0.03	0.10	0.03	0.11	0.04	0.10	0.04	0.07	0.05	0.08	0.00	0.05
19/12/2017	0.87	0.08	0.11	0.10	0.17	0.03	0.11	0.05	0.09	0.05	0.14	0.10	0.14	0.05	0.13	0.01	0.09
20/12/2017	0.87	0.11	0.42	0.09	0.21	0.05	0.31	0.09	0.38	0.11	0.15	0.08	0.23	0.08	0.17	0.02	0.05
21/12/2017	0.88	0.09	0.16	0.10	0.14	0.04	0.09	0.06	0.18	0.08	0.15	0.08	0.22	0.08	0.09	0.02	0.10
22/12/2017	0.86	0.11	0.13	0.09	0.16	0.03	0.11	0.06	0.08	0.07	0.10	0.11	0.15	0.07	0.15	0.01	0.11
23/12/2017	0.85	0.08	0.17	0.07	0.11	0.03	0.05	0.05	0.16	0.10	0.14	0.06	0.21	0.07	0.08	0.02	0.04
24/12/2017	0.83	0.10	0.12	0.11	0.19	0.03	0.11	0.05	0.08	0.06	0.16	0.11	0.14	0.07	0.16	0.02	0.11
25/12/2017	0.81	0.08	0.17	0.07	0.19	0.02	0.04	0.08	0.16	0.11	0.13	0.08	0.22	0.05	0.17	0.02	0.04
26/12/2017	0.80	0.06	0.12	0.10	0.16	0.03	0.12	0.04	0.16	0.06	0.16	0.09	0.21	0.10	0.14	0.02	0.12
27/12/2017	0.80	0.02	0.07	0.08	0.19	0.01	0.09	0.06	0.07	0.06	0.09	0.10	0.14	0.07	0.17	0.01	0.11
28/12/2017	0.79	0.02	0.06	0.07	0.18	0.01	0.03	0.05	0.15	0.08	0.14	0.07	0.20	0.06	0.10	0.03	0.06
29/12/2017	0.78	0.02	0.03	0.12	0.14	0.02	0.10	0.04	0.15	0.06	0.14	0.06	0.10	0.09	0.16	0.02	0.11
30/12/2017	0.81	0.02	0.07	0.08	0.19	0.01	0.08	0.06	0.08	0.07	0.10	0.10	0.20	0.06	0.16	0.01	0.11
31/12/2017	0.81	0.02	0.08	0.07	0.19	0.02	0.02	0.05	0.15	0.08	0.14	0.07	0.20	0.07	0.12	0.03	0.12

Total Number of Measurements Taken, A:	14160	10805	14508	11360	14985	13591	13373	13342
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:	14128	10805	14502	11334	14984	13591	13373	13342
Compliance with Turbidity Standard, C = B/A X 100%:	99.774%	100.000%	99.959%	99.771%	99.993%	100.000%	100.000%	100.000%

Note: OL - Offline

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2017\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 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-2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	OL	OL	
02-Dec-2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	OL	OL	
03-Dec-2017	0.84	1.11	0.11	0.03	0.08	0.11	0.10	0.04	0.09	0.06	0.09	0.05	OL	OL	0.08	0.04	OL	OL	
04-Dec-2017	0.73	1.11	OL	OL	0.08	0.11	0.10	0.04	OL	OL	0.09	0.07	0.07	0.07	0.08	0.04	0.08	<0.02	
05-Dec-2017	0.73	1.09	0.09	0.02	0.10	0.13	OL	OL	0.10	0.06	0.08	0.05	0.10	0.09	0.12	0.06	OL	OL	
06-Dec-2017	0.92	1.11	0.10	0.04	OL	OL	0.08	0.02	0.09	0.06	0.08	0.05	OL	OL	0.08	0.04	0.08	<0.02	
07-Dec-2017	0.82	1.10	0.08	0.02	0.10	0.12	0.10	0.04	OL	OL	OL	OL	0.09	0.08	0.08	0.04	0.09	0.02	
08-Dec-2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
09-Dec-2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
10-Dec-2017	0.74	0.94	0.09	0.02	0.09	0.13	0.11	0.05	OL	OL	OL	OL	0.10	0.08	0.10	0.05	0.13	0.03	
11-Dec-2017	0.79	0.94	0.08	0.02	0.09	0.12	OL	OL	0.08	0.07	0.07	0.04	0.09	0.08	0.10	0.05	OL	OL	
12-Dec-2017	0.73	0.94	0.12	0.04	OL	OL	0.11	0.05	0.11	0.10	0.09	0.06	0.13	0.12	OL	OL	0.09	0.02	
13-Dec-2017	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	
14-Dec-2017	0.73	0.91	0.08	<0.02	0.10	0.13	OL	OL	0.08	0.05	0.06	0.05	0.09	0.08	OL	OL	0.07	<0.02	
15-Dec-2017	0.76	0.88	OL	OL	0.07	0.10	0.08	0.02	0.12	0.08	0.08	0.06	OL	OL	0.08	0.04	0.09	<0.02	
16-Dec-2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
17-Dec-2017	0.74	0.89	0.09	0.02	OL	OL	0.07	<0.02	0.09	0.06	0.07	0.06	0.13	0.11	0.09	0.04	0.07	<0.02	
18-Dec-2017	0.76	0.84	OL	OL	0.09	0.10	0.11	0.03	OL	OL	0.14	0.08	0.10	0.07	0.12	0.04	0.11	<0.02	
19-Dec-2017	0.65	0.85	0.10	0.10	0.11	0.12	0.19	0.10	0.11	0.07	0.10	0.08	0.12	0.11	0.13	0.08	OL	OL	
20-Dec-2017	0.79	0.86	0.50	0.41	OL	OL	0.46	0.31	0.52	0.39	0.16	0.13	0.19	0.16	OL	OL	0.11	0.04	
21-Dec-2017	0.65	0.87	OL	OL	0.10	0.10	0.12	0.03	0.16	0.11	0.11	0.10	0.11	0.10	0.11	0.06	0.11	0.04	
22-Dec-2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
23-Dec-2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
24-Dec-2017	0.74	0.81	0.11	0.10	0.12	0.13	OL	OL	0.10	0.07	0.09	0.08	0.12	0.12	0.15	0.10	OL	OL	
25-Dec-2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
26-Dec-2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
27-Dec-2017	0.61	0.76	0.10	0.02	0.12	0.14	OL	OL	0.10	0.06	0.10	0.07	0.13	0.10	OL	OL	0.11	0.04	
28-Dec-2017	0.62	0.77	OL	OL	0.08	0.11	0.09	<0.02	0.13	0.09	0.13	0.09	OL	OL	0.13	0.08	0.14	0.05	
29-Dec-2017	0.63	0.76	0.10	<0.02	0.10	0.13	0.13	0.03	0.12	0.07	OL	OL	0.13	0.09	0.13	0.09	0.14	0.06	
30-Dec-2017	NA	NA	NA	NA	NA	NA	0.09	<0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
31-Dec-2017	0.62	0.80	OL	OL	0.10	0.12	0.11	0.02	0.16	0.11	0.13	0.10	OL	OL	0.13	0.08	0.13	0.05	
<b>Total number of measurements taken, A:</b>			14		16		16		16		17		15		16		15		
<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>			13		16		15		15		17		15		16		15		
<b>Compliance with Turbidity Standard, C= B/A X 100%:</b>			93%		100%		94%		94%		100%		100%		100%		100%		

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

**Comments:**

The raw water and filter effluent analyzers were offline on December 13, 2017 due to a scheduled WTP shutdown.

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck

Date Approved: 5-Jan-18



**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 2018**

Report Period: December 2017

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/12/2017	1.11	0.94	1.00	0.91
02/12/2017	1.00	0.93	1.06	0.99
03/12/2017	1.01	0.97	1.09	1.01
04/12/2017	0.96	0.88	1.05	0.98
05/12/2017	0.90	0.84	0.99	0.94
06/12/2017	0.88	0.81	0.94	0.74
07/12/2017	0.90	0.82	0.98	0.86
08/12/2017	0.92	0.84	1.01	0.93
09/12/2017	0.96	0.87	1.05	0.90
10/12/2017	0.90	0.78	0.97	0.85
11/12/2017	0.96	0.87	1.02	0.94
12/12/2017	0.89	0.82	0.92	0.85
13/12/2017	0.84	0.67	0.88	0.66
14/12/2017	1.03	0.88	1.13	1.02
15/12/2017	1.05	0.92	1.11	0.97
16/12/2017	0.96	0.88	1.07	0.99
17/12/2017	0.92	0.84	1.05	0.97
18/12/2017	0.94	0.82	1.09	1.02
19/12/2017	0.94	0.86	1.10	0.98
20/12/2017	1.08	1.00	1.09	1.00
21/12/2017	1.19	1.10	1.08	1.04
22/12/2017	1.17	1.06	1.08	1.01
23/12/2017	1.06	0.95	1.03	0.96
24/12/2017	1.02	0.93	1.04	0.95
25/12/2017	1.05	0.96	1.00	0.85
26/12/2017	1.08	0.99	1.05	0.99
27/12/2017	1.06	0.94	1.06	0.95
28/12/2017	1.03	0.93	1.17	1.09
29/12/2017	1.08	1.00	1.19	1.13
30/12/2017	1.04	0.95	1.13	1.07
31/12/2017	1.01	0.95	1.10	1.07

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\2017\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 Licence No. PWS-09-412-01	Deacon Booster Pumping Station Branch 1		Deacon Booster Pumping Station Branch 2			
	Free Chlorine (mg/L)		Total Chlorine (mg/L)	Free Chlorine (mg/L)		Total Chlorine (mg/L)
Date	Analyser	Grab	Grab	Analyser	Grab	Grab
01-Dec-2017	NA	NA	NA	NA	NA	NA
02-Dec-2017	NA	NA	NA	NA	NA	NA
03-Dec-2017	1.01	1.03	1.17	1.10	1.09	1.27
04-Dec-2017	0.95	1.01	1.18	1.05	1.07	1.28
05-Dec-2017	0.91	0.96	1.11	0.95	1.02	1.25
06-Dec-2017	0.89	0.94	1.05	0.95	0.96	1.14
07-Dec-2017	0.90	0.92	1.07	0.96	0.99	1.16
08-Dec-2017	NA	NA	NA	NA	NA	NA
09-Dec-2017	NA	NA	NA	NA	NA	NA
10-Dec-2017	0.90	0.93	1.12	0.97	0.99	1.18
11-Dec-2017	0.98	0.97	1.23	1.03	1.12	1.28
12-Dec-2017	0.89	0.95	1.13	0.93	0.98	1.20
13-Dec-2017	OL	OL	OL	OL	OL	OL
14-Dec-2017	1.03	1.07	1.29	1.09	1.15	1.31
15-Dec-2017	1.16	1.16	1.38	1.21	1.19	1.40
16-Dec-2017	NA	NA	NA	NA	NA	NA
17-Dec-2017	0.91	0.95	1.08	1.04	1.06	1.20
18-Dec-2017	0.94	1.05	1.18	1.11	1.11	1.22
19-Dec-2017	0.91	1.00	1.21	1.08	1.14	1.31
20-Dec-2017	1.10	1.04	1.23	1.03	1.07	1.26
21-Dec-2017	1.20	1.18	1.43	1.09	1.15	1.32
22-Dec-2017	NA	NA	NA	NA	NA	NA
23-Dec-2017	NA	NA	NA	NA	NA	NA
24-Dec-2017	1.00	1.09	1.27	0.95	1.01	1.24
25-Dec-2017	NA	NA	NA	NA	NA	NA
26-Dec-2017	NA	NA	NA	NA	NA	NA
27-Dec-2017	1.08	1.14	1.32	1.03	1.06	1.27
28-Dec-2017	1.07	1.17	1.34	1.20	1.19	1.43
29-Dec-2017	1.11	1.12	1.30	1.17	1.21	1.45
30-Dec-2017	NA	NA	NA	NA	NA	NA
31-Dec-2017	0.97	1.11	1.28	1.10	1.15	1.39
<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%	

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

**Comments:**

Branch I and II were offline on December 13, 2017, due to a scheduled WTP shutdown. Branch I was offline on December 20, 2017 for maintenance.

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck

Date Approved: 5-Jan-18



**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: **December 2017**

Report Created: **Monday, January 01, 2018**

Date	Transmittance %	UVR-D100A Water Volume [ML]				UVR-D200A Water Volume [ML]				UVR-D300A Water Volume [ML]				UVR-D400A Water Volume [ML]				UVR-D500A Water Volume [ML]				UVR-D600A Water Volume [ML]				Total Water Volume [ML]				% Volume Treated To Dose
		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	
		01/12/2017	93.93	0.00	0.00	0.00	0.00	0.00	0.00	76.32	76.32	0.00	0.00	0.00	0.00	0.00	0.00	45.76	45.76	0.00	0.00	0.00	0.00	0.00	0.00	69.93	69.93	0.00	0.00	
02/12/2017	93.85	0.00	0.00	0.00	0.00	0.00	0.00	76.36	76.36	0.00	0.00	0.00	0.00	0.00	0.00	45.68	45.68	0.00	0.00	0.00	0.00	0.00	0.00	69.94	69.94	0.00	0.00	191.99	191.99	100.00
03/12/2017	93.69	0.00	0.00	0.00	0.00	0.00	0.00	76.43	76.43	0.00	0.00	0.00	0.00	0.00	0.00	45.72	45.72	0.00	0.00	0.00	0.00	0.00	0.00	69.93	69.93	0.00	0.00	192.08	192.08	100.00
04/12/2017	93.98	0.00	0.00	0.00	0.00	0.00	0.00	75.85	75.85	0.00	0.00	0.00	0.00	0.00	0.00	45.99	45.99	0.00	0.00	0.00	0.00	0.00	0.00	70.17	70.17	0.00	0.00	192.01	192.01	100.00
05/12/2017	93.92	0.00	0.00	0.00	0.00	0.00	0.00	75.78	75.78	0.00	0.00	0.00	0.00	0.00	0.00	46.11	46.11	0.00	0.00	0.00	0.00	0.00	0.00	70.15	70.15	0.00	0.00	192.05	192.05	100.00
06/12/2017	93.96	0.00	0.00	0.00	0.00	0.00	0.00	74.44	74.44	0.00	0.00	0.00	0.00	0.00	0.00	47.07	47.07	0.00	0.00	0.00	0.00	0.00	0.00	63.41	63.41	0.00	0.00	184.92	184.92	100.00
07/12/2017	94.04	0.00	0.00	0.00	0.00	0.00	0.00	68.06	68.06	0.00	0.00	0.00	0.00	0.00	0.00	56.75	56.75	0.00	0.00	0.00	0.00	0.00	0.00	57.07	57.07	0.00	0.00	181.88	181.88	100.00
08/12/2017	94.22	0.00	0.00	0.00	0.00	0.00	0.00	75.00	75.00	0.00	0.00	0.00	0.00	0.00	0.00	50.83	50.83	0.00	0.00	0.00	0.00	0.00	0.04	56.19	56.23	0.00	0.04	182.01	182.05	99.98
09/12/2017	94.50	0.00	0.00	0.00	0.00	0.00	0.00	74.87	74.87	0.00	0.00	0.00	0.00	0.00	0.00	50.73	50.73	0.00	0.00	0.00	0.00	0.00	0.00	56.40	56.40	0.00	0.00	182.00	182.00	100.00
10/12/2017	94.10	0.00	0.00	0.00	0.00	0.00	0.00	74.79	74.79	0.00	0.00	0.00	0.00	0.00	0.00	50.65	50.65	0.00	0.00	0.00	0.00	0.00	0.00	56.57	56.57	0.00	0.00	182.02	182.02	100.00
11/12/2017	94.39	0.00	0.00	0.00	0.00	0.00	0.00	74.90	74.90	0.00	0.00	0.00	0.00	0.00	0.00	50.73	50.73	0.00	0.00	0.00	0.00	0.00	0.00	56.38	56.38	0.00	0.00	182.01	182.01	100.00
12/12/2017	94.07	0.00	0.00	0.00	0.00	0.00	0.00	74.83	74.83	0.00	0.00	0.00	0.00	0.00	0.00	50.64	50.64	0.00	0.00	0.00	0.00	0.00	0.00	56.51	56.51	0.00	0.00	181.98	181.98	100.00
13/12/2017	93.60	0.00	0.00	0.00	0.00	0.00	0.00	45.34	45.34	0.00	0.00	0.00	0.00	0.00	0.00	38.87	38.87	0.00	0.00	0.00	0.00	0.00	0.00	32.40	32.40	0.00	0.00	116.62	116.62	100.00
14/12/2017	94.34	0.00	0.00	0.00	0.00	0.00	0.00	75.10	75.10	0.00	0.00	0.00	0.00	0.00	0.00	50.76	50.76	0.00	0.00	0.00	0.00	0.00	0.00	57.13	57.13	0.00	0.00	182.99	182.99	100.00
15/12/2017	94.75	0.00	0.00	0.00	0.00	0.00	0.00	74.97	74.97	0.00	0.00	0.00	0.00	0.00	0.00	50.75	50.75	0.00	0.00	0.00	0.00	0.00	0.00	57.21	57.21	0.00	0.00	182.92	182.92	100.00
16/12/2017	94.69	0.00	0.00	32.39	32.39	0.00	0.00	65.37	65.37	0.00	0.53	0.00	0.53	0.00	0.00	65.18	65.18	0.11	0.29	0.38	0.78	0.03	0.03	17.64	17.71	0.14	0.86	180.96	181.96	99.45
17/12/2017	94.64	0.00	0.00	48.05	48.05	0.00	0.00	60.68	60.68	0.00	0.00	0.00	0.00	0.00	0.00	72.26	72.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	181.00	181.00	100.00
18/12/2017	95.32	0.00	0.00	49.16	49.16	0.00	0.00	62.68	62.68	0.00	0.00	0.12	0.12	0.00	0.00	73.34	73.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	185.31	185.31	100.00
19/12/2017	95.40	0.00	0.00	29.81	29.81	0.00	0.00	38.96	38.96	0.00	0.00	17.98	17.98	0.00	0.00	65.67	65.67	0.00	0.04	0.08	0.12	0.00	0.00	31.90	31.90	0.00	0.04	184.39	184.43	99.98
20/12/2017	94.65	0.00	0.00	32.37	32.37	0.00	0.00	0.73	0.73	0.00	0.00	43.25	43.25	0.00	0.00	59.69	59.69	0.00	0.00	0.00	0.00	0.00	0.00	46.57	46.57	0.00	0.00	182.60	182.60	100.00
21/12/2017	94.97	0.00	0.00	74.41	74.41	0.00	0.00	0.00	0.00	0.00	0.00	43.81	43.81	0.00	0.00	66.80	66.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	185.02	185.02	100.00
22/12/2017	95.05	0.00	0.00	72.77	72.77	0.00	0.00	0.00	0.00	0.00	0.00	42.72	42.72	0.00	0.00	65.20	65.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	180.69	180.69	100.00
23/12/2017	95.05	0.00	0.05	68.62	68.67	0.00	0.00	0.00	0.00	0.00	0.11	39.87	39.98	0.00	0.00	61.16	61.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	169.65	169.81	99.91
24/12/2017	95.01	0.00	0.00	66.57	66.57	0.00	0.00	0.00	0.00	0.00	0.00	39.54	39.54	0.00	0.03	39.43	39.45	0.00	0.04	21.10	21.15	0.00	0.00	0.00	0.00	0.00	0.07	166.65	166.72	99.96
25/12/2017	94.91	0.00	0.00	67.95	67.95	0.00	0.00	0.00	0.00	0.00	0.00	38.05	38.05	0.00	0.00	56.91	56.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	162.91	162.91	100.00
26/12/2017	94.89	0.00	0.00	71.81	71.81	0.00	0.00	0.00	0.00	0.00	0.00	41.16	41.16	0.00	0.00	58.52	58.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	171.50	171.50	100.00
27/12/2017	95.09	0.00	0.00	70.88	70.88	0.00	0.00	0.00	0.00	0.00	0.00	44.69	44.69	0.00	0.00	37.66	37.66	0.00	0.00	21.74	21.74	0.00	0.00	0.00	0.00	0.00	0.00	174.97	174.97	100.00
28/12/2017	95.17	0.00	0.00	60.89	60.89	0.00	0.00	23.00	23.00	0.00	0.00	57.17	57.17	0.00	0.00	0.00	0.00	0.00	0.00	37.48	37.48	0.00	0.00	0.00	0.00	0.00	0.00	178.54	178.54	100.00
29/12/2017	95.03	0.00	0.00	49.87	49.87	0.00	0.00	62.22	62.22	0.00	0.00	70.73	70.73	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	182.82	182.82	100.00
30/12/2017	95.06	0.00	0.00	50.15	50.15	0.00	0.00	62.70	62.70	0.00	0.00	71.18	71.18	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	184.03	184.03	100.00
31/12/2017	94.94	0.00	0.00	50.10	50.10	0.00	0.00	62.75	62.75	0.00	0.00	71.17	71.17	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	184.02	184.02	100.00
<b>Total [ML]:</b>		0.00	0.05	895.83	895.88	0.00	0.00	1532.14	1532.14	0.00	0.64	621.44	622.08	0.00	0.03	1448.85	1448.87	0.11	0.38	80.79	81.27	0.03	0.07	995.50	995.61	0.15	1.16	5574.54	5575.85	

**Water Volume [%]:**  
 Untreated: 0.00 %  
 Below Dose: 0.02 %  
 To Dose: 99.98 %

Submitted By (Print): D.Merredew

Signature: Original signed by D. Merredew



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Monday, December 18, 2017

**Our Incident/Report No: 05-2017**  
LIMS Reference No: **51471**  
Incident Date: **December 5, 2017**

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

## **RE: CORRECTIVE ACTION REPORT**

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<b>WATER SYSTEM, CODE</b>	Winnipeg Public Water System, 252.00
<b>LOCATION OF NON-COMPLIANT INCIDENT</b>	<b>Winnipeg 3-Dist SW04</b>
<b>INCIDENT REPORTED BY</b>	Courtney Diduck, Analytical Services Branch Head
<b>TYPE OF NON-COMPLIANT INCIDENT</b>	Low positive Total Coliform (<10 per100mL), 3 MR 41/2007
<b>DESCRIPTION OF CORRECTIVE ACTIONS</b>	<u>Environmental Standards:</u> AS SOON AS POSSIBLE: Re-sampled original location until two consecutive negative results were reported. Also tested for turbidity, free/total chlorine, temperature and contacted the ODW.
<b>TEST RESULTS</b>	See Attached

### NOTES/COMMENTS:

1. UP/DOWN STREAM testing performed when EC is >0 /100mL, TC is >10 /100mL or when resample/consecutive sample is positive for EC or TC or as directed by the Manager of Environmental Standards Division and/or the Office of Drinking Water

**EMERGENCY REPORTING IS REQUIRED WHERE A POTENTIAL HEALTH RISK IS INVOLVED. FOLLOW THE INSTRUCTIONS OF YOUR DRINKING WATER OFFICER ON SITUATIONS REQUIRING IMMEDIATE REPORTING**

N:\Environmental Standards\Analytical Services\Government Agencies\Office of Drinking Water\Corrective Action Reports



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Sample Name	Sample Number	Date Sampled	bacColiEsch-QT (MPNU/100mL)	bacColiTotal-QT (MPNU/100mL)	bacHPC (cfu/mL)	Chlorine, Free (mg/L)	Chlorine, Total (mg/L)	Temperature (°C)	Turbidity-field (ntu)	Time Sampled (hrs)
SW04	532472	05-Dec-17	<1	1	<1	1.06	1.25	10.8	0.15	10:35
SW04_Resample	533080	06-Dec-17	<1	<1	<1	1.07	1.32	6.7	0.24	15:04
SW04_Resample 2	533082	07-Dec-17	<1	<1	<1	1.02	1.26	6.3	0.13	15:09
SW04_Resample 2 Duplicate	533104	07-Dec-17	<1	<1	<1	NA	NA	NA	NA	15:09

NOTES/COMMENTS:

1. All microbiological tests performed by contract laboratory.
2. N/R-No Result due to laboratory/analyst error.
3. N/A-Not Analyzed.