



Water and Waste Department • Service des eaux et des déchets

Environmental Standards Division • Division des Normes Environnementales

December 7, 2017

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: NOVEMBER 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 November 2017. We have included one corrective action report for a low chlorine residual in the distribution system.

The November on-line and grab sampling turbidity reports include results obtained for the Water Treatment Plant raw water and the eight filters. Please note that a plant shut-down on November 29 caused the maximum turbidities for Filters 2, 3, and 4 to be greater than 0.3 NTU at start-up on November 30; the elevated turbidities occurred for a short period of time which did not exceed 12 consecutive hours. The turbidity results for the effluent from the filters 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. On November 1, a distribution system low free chlorine result was reported during routine monitoring at SW16. Corrective actions included sampling an additional location at an adjacent building and monitoring chlorine levels until acceptable results for free chlorine were obtained. Please see the attached corrective action report for additional details.

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 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

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

November 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
1/11/2017	1.74	0.04	0.07	0.05	0.15	0.04	0.17	0.05	0.07	0.05	0.10	0.11	0.24	OL	OL	0.02	0.12
2/11/2017	1.20	0.03	0.11	0.05	0.12	0.03	0.05	0.05	0.14	0.06	0.07	0.10	0.20	OL	OL	0.01	0.08
3/11/2017	1.30	0.03	0.11	0.05	0.07	0.04	0.15	0.04	0.13	0.05	0.09	0.10	0.20	OL	OL	0.01	0.07
4/11/2017	1.19	0.03	0.09	0.05	0.12	0.03	0.13	0.04	0.13	0.05	0.10	0.11	0.13	OL	OL	0.01	0.02
5/11/2017	1.23	0.03	0.05	0.05	0.11	0.03	0.15	0.04	0.13	0.06	0.12	0.13	0.22	OL	OL	0.01	0.08
6/11/2017	1.20	0.04	0.12	0.05	0.13	0.02	0.15	0.06	0.11	0.07	0.08	0.13	0.25	OL	OL	0.01	0.11
7/11/2017	1.22	0.03	0.12	0.05	0.07	0.02	0.06	0.05	0.12	0.06	0.11	0.10	0.19	OL	OL	0.01	0.10
8/11/2017	1.19	0.02	0.11	0.05	0.16	0.03	0.16	0.03	0.14	0.03	0.09	0.06	0.23	OL	OL	0.01	0.14
9/11/2017	1.18	0.02	0.12	0.03	0.07	0.01	0.07	0.03	0.10	0.04	0.10	0.06	0.17	OL	OL	0.01	0.10
10/11/2017	1.16	0.01	0.05	0.03	0.13	0.00	0.00	0.03	0.08	0.05	0.07	0.05	0.12	OL	OL	0.01	0.03
11/11/2017	1.16	0.03	0.10	0.11	0.12	0.02	0.10	0.04	0.12	0.05	0.09	0.06	0.16	OL	OL	0.01	0.07
12/11/2017	1.16	0.03	0.12	0.11	0.18	0.03	0.16	0.04	0.14	0.05	0.10	0.07	0.09	OL	OL	0.01	0.02
13/11/2017	1.15	0.04	0.06	0.10	0.18	0.02	0.15	0.04	0.05	0.05	0.10	0.08	0.17	OL	OL	0.01	0.08
14/11/2017	1.14	0.03	0.11	0.09	0.18	0.02	0.03	0.05	0.13	0.06	0.08	0.07	0.11	OL	OL	0.01	0.08
15/11/2017	1.14	0.02	0.07	0.10	0.11	0.02	0.14	0.03	0.13	0.04	0.10	0.05	0.17	0.06	0.19	0.00	0.01
16/11/2017	1.20	0.02	0.04	0.07	0.17	0.01	0.12	0.03	0.05	0.04	0.09	0.08	0.11	0.04	0.12	0.01	0.08
17/11/2017	1.13	0.02	0.06	0.07	0.14	0.01	0.02	0.04	0.11	0.05	0.07	0.06	0.16	0.03	0.12	0.01	0.07
18/11/2017	1.15	0.02	0.06	0.08	0.11	0.01	0.11	0.03	0.11	0.04	0.09	0.05	0.16	0.05	0.07	0.00	0.01
19/11/2017	1.15	0.02	0.03	0.09	0.15	0.01	0.11	0.03	0.12	0.04	0.10	0.08	0.10	0.04	0.12	0.01	0.06
20/11/2017	1.17	0.03	0.06	0.09	0.16	0.02	0.14	0.05	0.07	0.05	0.07	0.06	0.16	0.05	0.12	0.00	0.01
21/11/2017	1.18	0.02	0.09	0.08	0.16	0.02	0.04	0.04	0.12	0.06	0.11	0.07	0.17	0.05	0.07	OL	OL
22/11/2017	1.18	0.02	0.08	0.10	0.12	0.02	0.12	0.04	0.12	0.05	0.11	0.07	0.09	0.05	0.12	OL	OL
23/11/2017	1.17	0.03	0.05	0.09	0.16	0.02	0.14	0.04	0.12	0.05	0.09	0.08	0.18	0.04	0.13	OL	OL
24/11/2017	1.17	0.03	0.11	0.09	0.16	0.02	0.08	0.05	0.09	0.05	0.07	0.06	0.16	0.04	0.12	OL	OL
25/11/2017	1.18	0.02	0.09	0.08	0.14	0.01	0.04	0.04	0.10	0.05	0.10	0.06	0.14	0.04	0.10	OL	OL
26/11/2017	1.16	0.02	0.08	0.08	0.15	0.02	0.08	0.04	0.10	0.05	0.08	0.06	0.14	0.04	0.06	OL	OL
27/11/2017	1.16	0.03	0.08	0.11	0.14	0.03	0.13	0.04	0.11	0.05	0.10	0.06	0.09	0.04	0.09	OL	OL
28/11/2017	1.16	0.03	0.05	0.09	0.15	0.02	0.12	0.04	0.05	0.04	0.09	0.07	0.14	0.04	0.09	OL	OL
29/11/2017	1.16	0.03	0.07	0.09	0.15	0.02	0.03	0.05	0.11	0.05	0.07	0.06	0.14	0.04	0.09	OL	OL
30/11/2017	1.19	0.02	0.15	0.08	0.38	0.04	0.39	0.05	0.37	0.03	0.08	0.05	0.14	0.04	0.06	OL	OL

Total Number of Measurements Taken, A:	15106	11373	14669	12093	15638	13912	7386	9699
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:	15106	11356	14652	12079	15638	13912	7386	9699
Compliance with Turbidity Standard, C = B/A X 100%:	100.000%	99.851%	99.884%	99.884%	100.000%	100.000%	100.000%	100.000%

Note: OL - Offline

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2017\11-November

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-Nov-2017	0.68	1.18	0.11	0.04	OL	OL	0.11	0.04	0.14	0.07	0.12	0.06	0.16	0.13	OL	OL	0.16	0.02	
02-Nov-2017	0.80	1.15	0.11	0.03	0.08	0.05	0.09	0.03	0.10	0.06	0.09	0.05	OL	OL	OL	OL	0.08	0.02	
03-Nov-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	OL	OL	NS	NS	
04-Nov-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	OL	OL	NS	NS	
05-Nov-2017	0.76	1.15	0.09	0.02	OL	OL	0.09	0.02	0.09	0.05	0.08	0.05	0.11	0.15	OL	OL	0.10	0.04	
06-Nov-2017	0.77	1.21	0.11	0.03	0.09	0.06	0.11	0.02	0.10	0.05	0.09	0.06	0.14	0.18	OL	OL	OL	OL	
07-Nov-2017	0.77	1.20	OL	OL	0.10	0.06	0.11	0.02	0.14	0.08	0.11	0.07	0.10	0.09	OL	OL	0.09	0.03	
08-Nov-2017	0.77	1.16	0.09	0.02	0.09	0.06	0.14	0.06	0.09	0.05	OL	OL	0.09	0.08	OL	OL	0.09	0.04	
09-Nov-2017	0.81	1.15	0.07	<0.02	0.06	0.04	0.07	<0.02	0.07	0.03	0.07	0.05	0.11	0.10	OL	OL	OL	OL	
10-Nov-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	OL	OL	NS	NS	
11-Nov-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	OL	OL	NS	NS	
12-Nov-2017	0.66	1.13	0.11	0.03	0.12	0.13	0.19	0.11	0.10	0.05	0.07	0.04	0.09	0.08	OL	OL	0.09	0.02	
13-Nov-2017	0.63	1.10	0.10	0.03	OL	OL	0.09	<0.02	0.09	0.05	0.08	0.05	0.10	0.09	OL	OL	0.10	0.03	
14-Nov-2017	0.77	1.11	0.11	0.02	0.08	0.11	0.09	0.02	0.10	0.05	0.08	0.05	0.11	0.10	OL	OL	OL	OL	
15-Nov-2017	0.78	1.11	0.07	<0.02	0.09	0.11	0.10	0.03	OL	OL	OL	OL	0.10	0.07	0.10	0.05	0.09	<0.02	
16-Nov-2017	0.68	1.11	0.07	<0.02	0.10	0.11	OL	OL	0.08	0.04	0.07	0.04	0.10	0.08	0.11	0.06	0.09	0.02	
17-Nov-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.08	0.04	NS	NS	
18-Nov-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
19-Nov-2017	0.85	1.11	0.08	<0.02	0.09	0.12	OL	OL	0.08	0.04	0.08	0.05	0.10	0.09	OL	OL	0.10	0.02	
20-Nov-2017	1.02	1.13	0.08	0.02	OL	OL	0.08	0.02	0.08	0.05	0.08	0.05	0.11	0.10	0.08	0.04	OL	OL	
21-Nov-2017	0.81	1.12	OL	OL	0.08	0.10	0.09	0.02	0.11	0.06	0.09	0.06	0.10	0.08	0.09	0.04	OL	OL	
22-Nov-2017	0.77	1.14	0.09	<0.02	0.09	0.11	0.11	0.03	0.08	0.04	OL	OL	0.09	0.08	0.10	0.05	OL	OL	
23-Nov-2017	0.74	1.14	0.09	0.02	0.10	0.12	0.08	<0.02	0.08	0.04	0.08	0.05	0.11	0.09	OL	OL	OL	OL	
24-Nov-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	OL	OL	
25-Nov-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	OL	OL	
26-Nov-2017	0.85	1.12	0.07	<0.02	0.08	0.10	0.09	0.02	OL	OL	0.09	0.06	0.08	0.08	0.08	0.04	OL	OL	
27-Nov-2017	0.83	1.12	0.08	<0.02	0.08	0.11	0.11	0.05	0.08	0.04	OL	OL	0.09	0.08	0.09	0.04	OL	OL	
28-Nov-2017	0.86	1.14	0.08	<0.02	0.09	0.12	OL	OL	0.08	0.05	0.06	0.04	0.08	0.08	0.10	0.05	OL	OL	
29-Nov-2017	0.79	1.16	0.11	0.02	0.08	0.10	0.09	0.02	0.09	0.05	0.08	0.04	OL	OL	0.09	0.03	OL	OL	
30-Nov-2017	0.83	1.13	0.06	<0.02	0.07	0.10	0.09	0.03	OL	OL	0.08	0.05	0.07	0.07	0.08	0.03	OL	OL	
Total number of measurements taken, A:			20		18		19		19		18		20		11		10		
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:			20		18		19		19		18		20		11		10		
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:

Filter 7 was taken offline for maintenance October 30th and put back into service November 15th.
 Filter 8 was taken offline for maintenance November 20th.

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck

Date Approved: 7-Dec-17



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 December 2017

Report Period: November 2017

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/11/2017	1.12	1.06	1.14	1.03
02/11/2017	1.15	1.09	1.21	1.08
03/11/2017	1.18	1.08	1.35	1.25
04/11/2017	1.18	1.07	1.35	1.18
05/11/2017	1.11	0.96	1.22	1.02
06/11/2017	1.06	0.99	1.17	1.00
07/11/2017	1.09	1.01	1.19	1.03
08/11/2017	1.02	0.81	1.14	0.92
09/11/2017	1.12	1.00	1.28	1.17
10/11/2017	1.25	1.14	1.40	1.22
11/11/2017	1.12	0.98	1.29	1.12
12/11/2017	1.03	0.96	1.18	1.07
13/11/2017	1.05	0.97	1.17	1.08
14/11/2017	1.04	0.97	1.18	1.09
15/11/2017	1.06	0.97	1.23	1.16
16/11/2017	1.09	0.98	1.26	1.13
17/11/2017	1.06	0.96	1.24	1.12
18/11/2017	1.01	0.91	1.19	1.10
19/11/2017	1.03	0.95	1.19	1.11
20/11/2017	1.12	0.99	1.14	1.04
21/11/2017	1.18	1.01	1.07	0.99
22/11/2017	1.11	1.03	1.05	0.99
23/11/2017	1.14	1.06	1.06	1.03
24/11/2017	1.11	1.00	1.02	0.98
25/11/2017	1.15	1.08	1.07	1.01
26/11/2017	1.16	1.07	1.04	0.97
27/11/2017	1.16	1.10	1.00	0.97
28/11/2017	1.15	1.06	1.07	0.97
29/11/2017	1.12	1.05	1.10	1.05
30/11/2017	1.04	0.68	0.95	0.67

Total Number of Measurements, A:	20907	20904
Minimum Free Chlorine Standard:	0.5	0.5
Number of Measurements Meeting Standard, B:	20907	20904
COMPLIANCE, C = B/A X 100%:	100	100

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2017\11-November

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-Nov-2017	1.16	1.21	1.41	1.13	1.23	1.39
02-Nov-2017	1.17	1.21	1.38	1.18	1.19	1.40
03-Nov-2017	NS	NS	NS	NS	NS	NS
04-Nov-2017	NS	NS	NS	NS	NS	NS
05-Nov-2017	1.16	1.26	1.43	1.25	1.31	1.49
06-Nov-2017	1.10	1.18	1.36	1.09	1.27	1.43
07-Nov-2017	1.04	1.12	1.33	1.14	1.22	1.39
08-Nov-2017	1.10	1.24	1.34	1.22	1.31	1.52
09-Nov-2017	1.09	1.23	1.38	1.26	1.30	1.52
10-Nov-2017	NS	NS	NS	NS	NS	NS
11-Nov-2017	NS	NS	NS	NS	NS	NS
12-Nov-2017	1.02	1.15	1.30	1.21	1.26	1.48
13-Nov-2017	1.03	1.13	1.29	1.16	1.28	1.48
14-Nov-2017	1.13	1.17	1.37	1.31	1.39	1.56
15-Nov-2017	1.02	1.08	1.27	1.19	1.28	1.42
16-Nov-2017	1.11	1.17	1.35	1.28	1.34	1.53
17-Nov-2017	NS	NS	NS	NS	NS	NS
18-Nov-2017	NS	NS	NS	NS	NS	NS
19-Nov-2017	1.01	1.09	1.25	1.19	1.30	1.49
20-Nov-2017	1.04	1.10	1.25	1.09	1.18	1.32
21-Nov-2017	1.27	1.21	1.45	1.08	1.19	1.35
22-Nov-2017	1.10	1.16	1.35	1.04	1.09	1.32
23-Nov-2017	1.16	1.22	1.42	1.10	1.16	1.37
24-Nov-2017	NS	NS	NS	NS	NS	NS
25-Nov-2017	NS	NS	NS	NS	NS	NS
26-Nov-2017	1.16	1.22	1.42	1.07	1.13	1.36
27-Nov-2017	1.17	1.16	1.38	1.01	1.07	1.25
28-Nov-2017	1.15	1.20	1.39	1.13	1.09	1.30
29-Nov-2017	1.13	1.18	1.39	1.12	1.10	1.30
30-Nov-2017	1.04	1.10	1.34	1.05	1.08	1.24
Total number of measurements taken, A:		22			22	
Chlorine Standard for Monitoring Location (mg/L):		0.50			0.50	
Number of measurements meeting standard, B:		22			22	
Compliance with Chlorine Standard, C= B/A X 100%:		100%			100%	

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

Comments:

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck

Date Approved: 7-Dec-17



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: **November 2017**

Report Created: **Friday, December 01, 2017**

Date	Transmittance %	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
01/11/2017	94.79	0.00	0.00	69.15	69.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	43.71	43.71	0.00	0.00	63.17	63.17	0.00	0.00	0.00	0.00	0.00	0.00	176.03	176.03	100.00	
02/11/2017	95.28	0.00	0.00	70.04	70.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.90	47.90	0.00	0.00	61.11	61.11	0.00	0.00	0.00	0.00	0.00	0.00	179.05	179.05	100.00	
03/11/2017	95.11	0.00	0.00	71.24	71.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.99	52.99	0.00	0.00	58.71	58.71	0.00	0.00	0.00	0.00	0.00	0.00	182.95	182.95	100.00	
04/11/2017	94.99	0.00	0.00	71.14	71.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.89	52.89	0.00	0.00	58.95	58.95	0.00	0.00	0.00	0.00	0.00	0.00	182.98	182.98	100.00	
05/11/2017	94.93	0.00	0.29	37.33	37.63	0.00	0.00	36.85	36.85	0.00	0.00	0.00	0.00	0.00	0.00	51.25	51.25	0.00	0.00	57.25	57.25	0.00	0.00	0.00	0.00	0.00	0.29	182.67	182.97	99.84	
06/11/2017	94.81	0.00	0.00	0.00	0.00	0.00	0.00	69.83	69.83	0.00	0.00	0.00	0.00	0.00	0.00	56.14	56.14	0.00	0.00	56.92	56.92	0.00	0.00	0.00	0.00	0.00	0.00	182.89	182.89	100.00	
07/11/2017	94.90	0.00	0.00	5.33	5.33	0.00	0.00	56.63	56.63	0.00	0.03	23.56	23.60	0.00	0.00	37.96	37.96	0.00	0.00	59.47	59.47	0.00	0.00	0.00	0.00	0.00	0.03	182.96	182.99	99.98	
08/11/2017	94.21	0.00	0.00	0.00	0.00	0.00	0.00	48.64	48.64	0.00	0.00	36.85	36.85	0.00	0.00	0.00	0.00	0.00	0.00	42.56	42.56	0.00	0.00	0.00	0.00	0.00	0.00	128.04	128.04	100.00	
09/11/2017	95.22	0.00	0.00	0.00	0.00	0.00	0.00	73.97	73.97	0.00	0.00	42.03	42.03	0.00	0.00	0.00	0.00	0.00	0.00	64.80	64.80	0.00	0.00	0.00	0.00	0.00	0.00	180.80	180.80	100.00	
10/11/2017	95.48	0.00	0.00	0.00	0.00	0.00	0.00	74.76	74.76	0.00	0.00	42.85	42.85	0.00	0.00	0.00	0.00	0.00	0.00	65.94	65.94	0.00	0.00	0.35	0.35	0.00	0.00	183.91	183.91	100.00	
11/11/2017	94.98	0.00	0.00	0.00	0.00	0.00	0.00	74.51	74.51	0.00	0.00	42.90	42.90	0.00	0.00	0.00	0.00	0.00	0.00	66.58	66.58	0.00	0.00	0.00	0.00	0.00	0.00	183.99	183.99	100.00	
12/11/2017	94.87	0.00	0.00	0.00	0.00	0.00	0.00	74.66	74.66	0.00	0.00	42.92	42.92	0.00	0.00	0.00	0.00	0.00	0.00	66.39	66.39	0.00	0.00	0.00	0.00	0.00	0.00	183.97	183.97	100.00	
13/11/2017	94.84	0.00	0.00	0.00	0.00	0.00	0.00	74.84	74.84	0.00	0.00	42.95	42.95	0.00	0.00	0.00	0.00	0.00	0.00	66.22	66.22	0.00	0.00	0.00	0.00	0.00	0.00	184.01	184.01	100.00	
14/11/2017	94.86	0.00	0.00	0.00	0.00	0.00	0.00	74.91	74.91	0.00	0.00	42.93	42.93	0.00	0.00	0.00	0.00	0.00	0.00	66.14	66.14	0.00	0.00	0.00	0.00	0.00	0.00	183.98	183.98	100.00	
15/11/2017	94.90	0.00	0.00	0.00	0.00	0.00	0.00	74.94	74.94	0.00	0.00	42.94	42.94	0.00	0.00	0.00	0.00	0.00	0.00	66.12	66.12	0.00	0.00	0.00	0.00	0.00	0.00	184.00	184.00	100.00	
16/11/2017	94.88	0.00	0.00	0.00	0.00	0.00	0.00	75.08	75.08	0.00	0.00	42.93	42.93	0.00	0.00	0.00	0.00	0.00	0.00	66.05	66.05	0.00	0.00	0.00	0.00	0.00	0.00	184.06	184.06	100.00	
17/11/2017	94.92	0.00	0.00	0.00	0.00	0.00	0.00	75.61	75.61	0.00	0.00	43.37	43.37	0.00	0.00	0.00	0.00	0.00	0.00	66.98	66.98	0.00	0.00	0.00	0.00	0.00	0.00	185.97	185.97	100.00	
18/11/2017	94.82	0.00	0.00	0.00	0.00	0.00	0.00	75.23	75.23	0.00	0.00	43.32	43.32	0.00	0.00	0.00	0.00	0.00	0.00	67.11	67.11	0.00	0.00	0.00	0.00	0.00	0.00	185.66	185.66	100.00	
19/11/2017	94.71	0.00	0.00	0.00	0.00	0.00	0.00	74.74	74.74	0.00	0.00	42.93	42.93	0.00	0.00	0.00	0.00	0.00	0.00	66.37	66.37	0.00	0.00	0.00	0.00	0.00	0.00	184.04	184.04	100.00	
20/11/2017	94.40	0.00	0.00	24.36	24.36	0.00	0.00	49.20	49.20	0.00	0.12	16.47	16.59	0.00	0.00	27.60	27.60	0.00	0.00	41.29	41.29	0.00	0.00	24.98	24.98	0.00	0.12	183.90	184.02	99.93	
21/11/2017	94.20	0.00	0.00	71.03	71.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.75	45.75	0.00	0.00	0.00	0.00	0.00	0.00	67.22	67.22	0.00	0.00	184.00	184.00	100.00	
22/11/2017	94.17	0.00	0.00	71.04	71.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.80	45.80	0.00	0.00	0.00	0.00	0.00	0.00	67.12	67.12	0.00	0.00	183.96	183.96	100.00	
23/11/2017	94.20	0.00	0.00	71.10	71.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.89	45.89	0.00	0.00	0.00	0.00	0.00	0.00	67.08	67.08	0.00	0.00	184.07	184.07	100.00	
24/11/2017	94.21	0.00	0.00	71.09	71.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.88	45.88	0.00	0.00	0.00	0.00	0.00	0.00	67.03	67.03	0.00	0.00	184.00	184.00	100.00	
25/11/2017	94.22	0.00	0.00	71.00	71.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.82	45.82	0.00	0.00	0.00	0.00	0.00	0.00	67.15	67.15	0.00	0.00	183.97	183.97	100.00	
26/11/2017	94.16	0.00	0.00	70.97	70.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.82	45.82	0.00	0.00	0.00	0.00	0.00	0.00	67.20	67.20	0.00	0.00	183.99	183.99	100.00	
27/11/2017	94.04	0.00	0.00	71.00	71.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.81	45.81	0.00	0.00	0.00	0.00	0.00	0.00	67.19	67.19	0.00	0.00	184.00	184.00	100.00	
28/11/2017	94.05	0.00	0.00	70.91	70.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.51	50.51	0.00	0.00	0.00	0.00	0.00	0.04	62.42	62.46	0.00	0.04	183.84	183.88	99.98	
29/11/2017	93.97	0.00	0.00	71.20	71.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.42	53.42	0.00	0.00	0.00	0.00	0.00	0.00	59.38	59.38	0.00	0.00	184.00	184.00	100.00	
30/11/2017	93.62	0.00	0.00	20.83	20.83	0.00	0.00	41.82	41.82	0.00	0.00	0.00	0.00	0.00	0.00	41.00	41.00	0.00	0.00	0.00	0.00	0.00	0.00	54.56	54.56	0.00	0.00	158.22	158.22	100.00	
Total [ML]:		0.00	0.29	1008.77	1009.06	0.00	0.00	1126.21	1126.21	0.00	0.15	548.95	549.10	0.00	0.00	836.15	836.15	0.00	0.00	1228.13	1228.13	0.00	0.05	671.68	671.73	0.01	0.49	5419.89	5420.38		

Water Volume [%]:
 Untreated: 0.00 %
 Below Dose 0.01 %
 To Dose 99.99 %

Submitted By (Print): D.Merredew

Signature: Original signed by D. Merredew



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Thursday, December 7, 2017

Our Incident/Report No: 04-2017
LIMS Reference No: **51153**
Incident Date: **November 1, 2017**

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

RE: CORRECTIVE ACTION REPORT

WATER SYSTEM, CODE	Winnipeg Public Water System, 252.00
LOCATION OF NON-COMPLIANT INCIDENT	Winnipeg 3-Dist SW16
INCIDENT REPORTED BY	Courtney Diduck, Analytical Services Branch Head
TYPE OF NON-COMPLIANT INCIDENT	Low disinfection residual in the distribution system, 22(1) MR 40/2007
DESCRIPTION OF CORRECTIVE ACTIONS	<u>Environmental Standards:</u> IMMEDIATELY: Re-sampled original location and tested an additional location at an adjacent building for free/total chlorine, turbidity and temperature. At the time of sampling the original location was experiencing discoloured water, the adjacent building was not. Monitoring continued until free chlorine residuals were re-established to acceptable levels. The ODW was advised of the incident. <u>Water Services:</u> Water Services Division was contacted to confirm if any work in the area contributed to the discoloured water event. No operational activities were found to contribute to the event.
TEST RESULTS	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)
SW16	528874	01-Nov-17	<1	<1	5	0.08	0.29	12.8	1.94	11:27
SW16_Adjacent	530974	01-Nov-17	<1	<1	NA	0.71	1.04	12.1	0.70	11:40
SW16_Resample	529575	02-Nov-17	NA	NA	NA	0.43	0.47	13.3	0.93	12:08

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.