



Water and Waste Department • Service des eaux et des déchets

November 6, 2015

Melanie Betsill
Office of Drinking Water
Manitoba Conservation and Water Stewardship
1007 Century Street
Winnipeg, Manitoba
R3H 0W4

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

Dear Ms. Betsill:

**RE: OCTOBER 2015 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 October 2015. We have included one corrective action report for a low chlorine residual in the distribution system.

The October 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 October 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 October 15, a distribution system free chlorine result of 0.06 mg/L was reported at the SW03 location. As corrective actions to the low free chlorine result, we sampled upstream and downstream of the location, flushed the area and checked the infrastructure for possible closed or broken valves. We confirmed through resampling that the chlorine level at the SW03 location had been reestablished to provide adequate disinfection. Please see the attached corrective action report for additional details. An investigation was launched to determine the cause of the low chlorine residual; the findings of this investigation will be provided to the Office of Drinking Water once complete.

The October 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

c:(e-mail)

Dr. L. Richards, Winnipeg Regional Health Authority
Dr. H. Chang, Winnipeg Regional Health Authority
Dr. S. Roberecki, Manitoba Health
D.P. Sacher, P.Eng.
G. Patton, P.Eng.
T. Shanks, P.Eng.
A. J. Weremy, 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 AA

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

October 2015 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
1/10/2015	1.99	0.08	0.14	0.06	0.07	0.08	0.18	0.06	0.12	0.05	0.06	0.05	0.12	0.06	0.12	0.02	0.03
2/10/2015	1.91	0.07	0.10	0.08	0.13	0.11	0.13	0.06	0.13	0.04	0.09	0.07	0.08	0.06	0.11	0.02	0.09
3/10/2015	1.79	0.09	0.14	0.06	0.13	0.09	0.17	0.07	0.10	0.04	0.10	0.06	0.20	0.07	0.16	0.02	0.12
4/10/2015	2.54	0.07	0.13	0.06	0.09	0.09	0.18	0.07	0.13	0.05	0.07	0.05	0.11	0.07	0.11	0.03	0.04
5/10/2015	2.18	0.07	0.10	0.09	0.13	0.10	0.13	0.08	0.17	0.04	0.09	0.06	0.08	0.06	0.17	0.02	0.06
6/10/2015	1.79	0.07	0.12	0.08	0.12	0.07	0.13	0.10	0.13	0.03	0.06	0.04	0.10	0.06	0.08	0.01	0.02
7/10/2015	1.66	0.03	0.15	0.06	0.21	0.05	0.16	0.07	0.25	0.03	0.14	0.03	0.15	0.04	0.10	0.01	0.12
8/10/2015	1.66	0.07	0.09	0.07	0.13	0.07	0.14	0.10	0.11	0.04	0.07	0.04	0.08	0.06	0.07	0.01	0.05
9/10/2015	1.63	0.05	0.10	0.08	0.09	0.06	0.08	0.07	0.14	0.04	0.05	0.03	0.08	0.06	0.10	0.01	0.02
10/10/2015	1.68	0.07	0.08	0.07	0.12	0.07	0.12	0.09	0.10	0.03	0.06	0.04	0.05	0.05	0.09	0.01	0.05
11/10/2015	1.60	0.06	0.10	0.07	0.12	0.06	0.13	0.08	0.13	0.04	0.05	0.03	0.07	0.07	0.07	0.01	0.02
12/10/2015	1.73	0.06	0.11	0.09	0.10	0.07	0.09	0.08	0.13	0.04	0.06	0.04	0.05	0.06	0.10	0.01	0.08
13/10/2015	1.78	0.07	0.09	0.07	0.12	0.06	0.12	0.09	0.10	0.03	0.06	0.04	0.07	0.07	0.07	0.01	0.01
14/10/2015	1.71	0.06	0.21	0.08	0.09	0.06	0.07	0.07	0.13	0.04	0.05	0.03	0.06	0.06	0.10	0.01	0.04
15/10/2015	1.62	0.08	0.09	0.08	0.14	0.08	0.14	0.10	0.11	0.04	0.08	0.05	0.06	0.07	0.09	0.02	0.07
16/10/2015	1.59	0.07	0.13	0.10	0.11	0.07	0.09	0.11	0.16	0.05	0.07	0.04	0.08	0.08	0.11	0.03	0.04
17/10/2015	1.57	0.09	0.10	0.09	0.15	0.09	0.16	0.10	0.12	0.05	0.08	0.05	0.06	0.07	0.15	0.03	0.08
18/10/2015	1.50	0.08	0.14	0.09	0.16	0.08	0.16	0.10	0.17	0.05	0.07	0.04	0.10	0.10	0.12	0.03	0.05
19/10/2015	1.57	0.06	0.11	0.10	0.13	0.07	0.11	0.08	0.13	0.04	0.11	0.04	0.06	0.08	0.11	0.02	0.08
20/10/2015	1.57	0.07	0.26	0.07	0.12	0.05	0.11	0.09	0.10	0.03	0.06	0.03	0.06	0.08	0.09	0.01	0.02
21/10/2015	1.58	0.06	0.10	0.08	0.09	0.05	0.07	0.07	0.13	0.04	0.05	0.03	0.07	0.08	0.20	0.02	0.05
22/10/2015	1.48	0.07	0.08	0.07	0.12	0.05	0.10	0.08	0.09	0.03	0.07	0.04	0.06	0.08	0.09	0.01	0.04
23/10/2015	1.39	0.06	0.11	0.08	0.09	0.04	0.11	0.07	0.12	0.04	0.05	0.03	0.07	0.09	0.12	0.01	0.02
24/10/2015	1.40	0.07	0.08	0.07	0.12	0.06	0.10	0.08	0.09	0.04	0.06	0.04	0.05	0.07	0.13	0.01	0.04
25/10/2015	1.34	0.06	0.10	0.07	0.09	0.05	0.10	0.09	0.13	0.04	0.05	0.03	0.07	0.10	0.11	0.01	0.02
26/10/2015	1.24	0.07	0.08	0.09	0.12	0.06	0.07	0.07	0.12	0.04	0.07	0.04	0.05	0.08	0.13	0.01	0.04
27/10/2015	1.24	0.07	0.11	0.07	0.12	0.05	0.10	0.09	0.11	0.04	0.06	0.03	0.07	0.10	0.11	0.01	0.02
28/10/2015	1.25	0.05	0.09	0.09	0.11	0.06	0.07	0.07	0.10	0.05	0.07	0.04	0.05	0.09	0.18	0.01	0.04
29/10/2015	1.31	0.05	0.08	0.08	0.13	0.05	0.09	0.06	0.07	0.04	0.07	0.04	0.08	0.12	0.13	0.01	0.02
30/10/2015	1.31	0.03	0.07	0.11	0.12	0.06	0.07	0.04	0.10	0.05	0.06	0.03	0.05	0.09	0.14	0.02	0.04
31/10/2015	1.31	0.04	0.06	0.07	0.15	0.06	0.10	0.05	0.08	0.03	0.08	0.04	0.07	0.08	0.16	0.01	0.05

Total Number of Measurements Taken, A:	16073	12906	14195	12635	16800	16647	15041	16465
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:	16073	12906	14195	12635	16800	16647	15041	16465
Compliance with Turbidity Standard, C = B/A X 100%:	100%	100%	100%	100%	100%	100%	100%	100%

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2015\10-October

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 AA																		
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-Oct-2015	1.37	1.89	0.16	0.10	0.11	0.06	0.13	0.07	0.18	0.07	0.13	0.05	0.12	0.05	0.11	0.06	0.11	0.03
02-Oct-2015	1.37	1.79	0.10	0.07	0.13	0.08	0.14	0.09	0.11	0.05	0.11	0.06	0.11	0.06	0.10	0.06	0.12	0.06
03-Oct-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
04-Oct-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05-Oct-2015	1.49	2.47	0.09	0.07	0.12	0.08	0.12	0.09	0.10	0.05	0.09	0.05	0.09	0.06	0.08	0.05	0.11	0.06
06-Oct-2015	1.31	1.79	0.10	0.07	0.10	0.09	0.11	0.07	0.10	0.10	0.07	0.04	0.10	0.05	0.09	0.06	0.07	0.02
07-Oct-2015	1.18	1.74	0.06	0.05	0.06	0.08	0.07	0.04	0.06	0.07	0.05	0.03	0.05	0.03	0.10	0.07	0.07	<0.02
08-Oct-2015	1.25	1.65	0.09	0.06	0.11	0.10	0.13	0.08	0.10	0.08	0.07	0.04	0.08	0.04	0.12	0.06	0.07	0.02
09-Oct-2015	1.25	1.53	0.08	0.05	0.07	0.08	0.08	0.05	0.12	0.09	0.07	0.03	0.06	0.03	0.08	0.06	0.07	0.02
10-Oct-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
11-Oct-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
12-Oct-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
13-Oct-2015	1.20	1.71	0.13	0.06	0.11	0.10	0.17	0.07	0.11	0.07	0.12	0.04	0.11	0.03	0.08	0.06	0.12	0.02
14-Oct-2015	1.03	1.59	0.07	0.05	0.08	0.08	0.10	0.05	0.13	0.10	0.10	0.04	0.09	0.02	0.11	0.08	0.08	0.03
15-Oct-2015	1.10	1.61	0.12	0.07	0.21	0.11	0.19	0.08	0.15	0.08	0.13	0.03	0.12	0.04	0.11	0.07	0.11	0.03
16-Oct-2015	1.19	1.56	0.09	0.07	0.11	0.10	0.12	0.06	0.16	0.11	0.09	0.05	0.09	0.03	0.11	0.09	0.10	0.04
17-Oct-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
18-Oct-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
19-Oct-2015	1.27	1.50	0.07	0.06	0.08	0.09	0.09	0.05	0.07	0.07	0.07	0.04	0.08	0.03	0.07	0.07	0.07	0.04
20-Oct-2015	1.52	1.54	0.07	0.06	0.08	0.08	0.10	0.06	0.07	0.07	0.06	0.03	0.07	0.02	0.07	0.08	0.08	0.03
21-Oct-2015	1.08	1.56	0.09	0.06	0.09	0.08	0.09	0.04	0.14	0.09	0.11	0.04	0.08	0.03	0.10	0.11	0.08	0.03
22-Oct-2015	1.19	1.46	0.06	0.06	0.07	0.09	0.08	0.05	0.06	0.07	0.05	0.03	0.06	0.04	0.06	0.08	0.05	0.02
23-Oct-2015	1.10	1.38	0.09	0.07	0.09	0.08	0.11	0.04	0.11	0.08	0.10	0.04	0.07	0.03	0.10	0.09	0.08	0.03
24-Oct-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Oct-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Oct-2015	1.16	1.25	0.09	0.06	0.07	0.09	0.08	0.04	0.06	0.07	0.07	0.05	0.07	0.03	0.06	0.09	0.10	0.04
27-Oct-2015	1.10	1.23	0.09	0.07	0.07	0.09	0.08	0.04	0.09	0.08	0.06	0.04	0.09	0.04	0.06	0.09	0.06	0.02
28-Oct-2015	1.18	1.20	0.06	0.06	0.06	0.09	0.07	0.04	0.06	0.07	0.07	0.05	0.08	0.03	0.11	0.11	0.08	0.03
29-Oct-2015	0.96	1.25	0.07	0.03	0.06	0.10	0.11	0.05	0.07	0.05	0.07	0.04	0.08	0.04	0.09	0.11	0.06	0.03
30-Oct-2015	1.20	1.26	0.08	0.03	0.07	0.11	0.09	0.04	0.11	0.05	0.07	0.04	0.07	0.03	0.07	0.12	0.06	0.03
31-Oct-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total number of measurements taken, A:			21		21		21		21		21		21		21		21	
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:			21		21		21		21		21		21		21		21	
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:

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck

Date Approved: 5-Nov-15



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

Water System Code: **252.00**
Licence Number: **PWS-09-412 AA**
Report Created: **01 November 2015**

Report Period: October 2015

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
1/10/2015	1.13	1.05	1.06	0.96
2/10/2015	1.23	1.17	1.15	1.10
3/10/2015	1.30	1.24	1.19	1.13
4/10/2015	1.43	1.34	1.31	1.21
5/10/2015	1.34	1.29	1.22	1.18
6/10/2015	1.29	1.21	1.28	1.16
7/10/2015	1.55	1.05	1.59	0.95
8/10/2015	1.17	1.12	1.20	1.11
9/10/2015	1.21	1.16	1.30	1.24
10/10/2015	1.18	1.12	1.30	1.30
11/10/2015	1.18	1.13	1.30	1.30
12/10/2015	1.18	1.14	1.30	1.30
13/10/2015	1.23	1.19	1.26	1.20
14/10/2015	1.25	1.22	1.32	1.19
15/10/2015	1.33	1.24	1.30	1.20
16/10/2015	1.39	1.09	1.25	1.19
17/10/2015	1.30	1.20	1.25	1.20
18/10/2015	1.33	1.23	1.33	1.27
19/10/2015	1.31	1.17	1.35	1.28
20/10/2015	1.20	0.96	1.16	0.96
21/10/2015	1.08	0.97	1.00	0.96
22/10/2015	1.05	0.95	1.05	0.91
23/10/2015	1.01	0.92	1.08	0.98
24/10/2015	0.99	0.92	1.03	0.95
25/10/2015	1.02	0.97	1.09	0.93
26/10/2015	1.12	0.99	1.15	1.06
27/10/2015	1.17	1.08	1.16	1.08
28/10/2015	1.14	1.07	1.16	1.10
29/10/2015	1.16	1.09	1.20	1.14
30/10/2015	1.18	1.13	1.15	1.02
31/10/2015	1.18	1.06	1.07	1.02

Total Number of Measurements, A:	21615	21600
Minimum Free Chlorine Standard:	0.50	0.50
Number of Measurements Meeting Standard, B:	21615	21600
COMPLIANCE, C = B/A X 100%:	100	100

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2015\10-October

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 AA	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-Oct-2015	1.10	1.18	1.35	1.03	1.10	1.27
02-Oct-2015	1.21	1.26	1.41	1.13	1.18	1.34
03-Oct-2015	NS	NS	NS	NS	NS	NS
04-Oct-2015	NS	NS	NS	NS	NS	NS
05-Oct-2015	1.30	1.44	1.60	1.20	1.28	1.45
06-Oct-2015	1.32	1.35	1.51	1.19	1.27	1.44
07-Oct-2015	1.79	1.90	2.08	1.87	1.84	2.18
08-Oct-2015	1.17	1.14	1.30	1.14	1.12	1.31
09-Oct-2015	1.22	1.23	1.38	1.36	1.27	1.52
10-Oct-2015	NS	NS	NS	NS	NS	NS
11-Oct-2015	NS	NS	NS	NS	NS	NS
12-Oct-2015	NS	NS	NS	NS	NS	NS
13-Oct-2015	1.24	1.22	1.44	1.24	1.21	1.44
14-Oct-2015	1.27	1.28	1.44	1.31	1.36	1.48
15-Oct-2015	1.33	1.39	1.55	1.24	1.35	1.46
16-Oct-2015	1.37	1.33	1.55	1.25	1.33	1.49
17-Oct-2015	NS	NS	NS	NS	NS	NS
18-Oct-2015	NS	NS	NS	NS	NS	NS
19-Oct-2015	1.33	1.46	1.64	1.35	1.36	1.55
20-Oct-2015	1.36	1.37	1.51	1.26	1.31	1.42
21-Oct-2015	1.08	1.17	1.33	0.99	1.08	1.22
22-Oct-2015	1.10	1.20	1.34	1.07	1.19	1.33
23-Oct-2015	1.02	1.08	1.25	1.08	1.17	1.35
24-Oct-2015	NS	NS	NS	NS	NS	NS
25-Oct-2015	NS	NS	NS	NS	NS	NS
26-Oct-2015	1.15	1.19	1.34	1.13	1.20	1.37
27-Oct-2015	1.16	1.24	1.44	1.15	1.24	1.43
28-Oct-2015	1.15	1.23	1.40	1.17	1.26	1.42
29-Oct-2015	1.18	1.25	1.36	1.21	1.28	1.38
30-Oct-2015	1.20	1.25	1.40	1.19	1.20	1.44
31-Oct-2015	NS	NS	NS	NS	NS	NS
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: H.Demchenko

Approved in LIMS By: C.Diduck

Date Approved: 5-Nov-15



CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT
 WATER SERVICES

Water System Code: **252.00**
 Licence Number: **PWS-09-412 AA**

WATER TREATMENT PLANT UV REPORT

Report Period: **October 2015**

Report Created: **Sunday, November 01, 2015**

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
01/10/2015	96.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	74.65	74.65	0.00	0.00	0.00	0.00	0.00	0.00	44.59	44.59	0.00	0.00	80.01	80.01	0.00	0.00	199.25	199.25	100.00	
02/10/2015	96.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.33	76.33	0.00	0.00	0.00	0.00	0.00	0.00	45.45	45.45	0.00	0.00	82.16	82.16	0.00	0.00	203.94	203.94	100.00	
03/10/2015	96.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.23	76.23	0.00	0.00	0.00	0.00	0.00	0.00	45.46	45.46	0.00	0.00	82.27	82.27	0.00	0.00	203.96	203.96	100.00	
04/10/2015	95.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	75.39	75.39	0.00	0.00	0.00	0.00	0.00	0.00	45.03	45.03	0.00	0.06	81.54	81.60	0.00	0.06	201.97	202.02	99.97	
05/10/2015	96.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.92	76.92	0.00	0.00	0.00	0.00	0.00	0.00	48.61	48.61	0.00	0.00	76.46	76.46	0.00	0.00	201.99	201.99	100.00	
06/10/2015	95.90	0.00	0.05	2.16	2.22	0.00	0.00	43.31	43.31	0.00	0.00	63.46	63.46	0.00	0.17	0.00	0.18	0.00	0.00	60.68	60.68	0.00	0.00	32.15	32.15	0.00	0.23	201.76	201.99	99.89	
07/10/2015	94.74	0.00	0.00	0.00	0.00	0.00	0.00	55.19	55.19	0.00	0.00	33.87	33.87	0.00	0.00	0.00	0.00	0.00	0.00	22.98	23.32	0.00	0.03	23.80	23.83	0.13	0.23	135.84	136.21	99.74	
08/10/2015	96.15	0.00	0.00	0.00	0.00	0.00	0.00	79.96	79.96	0.00	0.00	47.09	47.09	0.00	0.00	0.00	0.00	0.00	0.00	31.63	31.64	0.00	0.00	43.47	43.47	0.00	0.00	202.15	202.16	100.00	
09/10/2015	96.29	0.00	0.00	0.00	0.00	0.00	0.11	77.68	77.79	0.00	0.00	28.88	28.88	0.00	0.00	16.99	16.99	0.00	0.00	71.63	71.63	0.00	0.00	0.00	0.00	0.00	0.11	195.18	195.28	99.95	
10/10/2015	96.24	0.00	0.00	0.00	0.00	0.00	0.11	77.23	77.34	0.00	0.00	29.53	29.53	0.00	0.00	67.66	67.66	0.18	0.18	18.04	18.40	0.00	0.00	0.00	0.00	0.18	0.29	192.46	192.93	99.76	
11/10/2015	96.26	0.00	0.00	0.00	0.00	0.00	0.00	78.73	78.73	0.00	0.00	40.62	40.62	0.00	0.00	76.47	76.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	195.83	195.83	100.00	
12/10/2015	96.25	0.00	0.00	0.00	0.00	0.00	0.11	76.20	76.31	0.00	0.00	39.69	39.69	0.00	0.00	74.08	74.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	189.98	190.08	99.94	
13/10/2015	96.36	0.00	0.00	0.00	0.00	0.00	0.05	76.38	76.43	0.00	0.00	39.49	39.49	0.00	0.00	74.06	74.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	189.92	189.97	99.97	
14/10/2015	96.40	0.00	0.00	0.00	0.00	0.00	0.00	66.66	66.66	0.00	0.00	55.63	55.63	0.00	0.00	26.79	26.79	0.00	0.00	40.86	40.86	0.00	0.00	0.00	0.00	0.00	0.00	189.95	189.95	100.00	
15/10/2015	96.22	0.00	0.00	0.00	0.00	0.00	0.00	77.51	77.51	0.00	0.00	20.37	20.37	0.00	0.00	0.00	0.00	0.00	0.00	45.42	45.42	0.00	0.00	46.71	46.71	0.00	0.00	190.00	190.01	100.00	
16/10/2015	96.07	0.00	0.00	32.76	32.76	0.00	0.09	35.87	35.96	0.00	0.00	41.77	41.77	0.00	0.00	0.00	0.00	0.00	0.00	13.33	13.33	0.00	0.05	65.67	65.72	0.00	0.13	189.41	189.54	99.93	
17/10/2015	95.98	0.00	0.00	60.97	60.97	0.00	0.00	0.00	0.00	0.00	0.00	67.09	67.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.43	66.43	0.00	0.00	194.49	194.49	100.00	
18/10/2015	95.96	0.00	0.00	59.92	59.92	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	0.00	0.00	0.00	0.00	65.88	65.88	0.00	0.00	192.02	192.02	100.00	
19/10/2015	96.08	0.00	0.00	58.88	58.88	0.00	0.00	0.00	0.00	0.00	0.00	64.86	64.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.00	64.00	0.00	0.00	187.74	187.74	100.00		
20/10/2015	96.03	0.00	0.00	58.41	58.41	0.00	0.00	0.00	0.00	0.00	0.00	65.15	65.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.00	64.00	0.00	0.00	187.56	187.56	100.00		
21/10/2015	95.98	0.00	0.00	58.42	58.42	0.00	0.00	0.00	0.00	0.00	0.00	65.47	65.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.12	64.12	0.00	0.00	188.01	188.01	100.00		
22/10/2015	96.05	0.00	0.00	25.06	25.06	0.00	0.04	34.17	34.21	0.00	0.00	64.10	64.10	0.00	0.00	0.00	0.00	0.00	0.00	38.23	38.23	0.00	0.00	24.76	24.76	0.00	0.04	186.31	186.36	99.98	
23/10/2015	96.16	0.00	0.00	0.00	0.00	0.00	0.04	60.19	60.24	0.00	0.00	63.34	63.34	0.00	0.00	0.00	0.00	0.00	0.00	62.42	62.42	0.00	0.00	0.00	0.00	0.00	0.04	185.96	186.00	99.98	
24/10/2015	96.16	0.00	0.00	0.00	0.00	0.00	0.13	59.92	60.05	0.00	0.00	62.40	62.40	0.00	0.00	0.00	0.00	0.00	0.00	61.86	61.86	0.00	0.00	0.00	0.00	0.00	0.13	184.18	184.31	99.93	
25/10/2015	96.21	0.00	0.00	0.00	0.00	0.00	0.04	59.90	59.94	0.00	0.00	63.00	63.00	0.00	0.00	0.00	0.00	0.00	0.00	62.02	62.02	0.00	0.00	0.00	0.00	0.00	0.04	184.93	184.97	99.98	
26/10/2015	96.27	0.00	0.00	37.50	37.50	0.00	0.08	20.32	20.40	0.00	0.00	63.53	63.53	0.00	0.00	0.00	0.00	0.00	0.00	62.57	62.57	0.00	0.00	0.00	0.00	0.00	0.08	183.92	184.00	99.96	
27/10/2015	96.18	0.00	0.00	57.16	57.16	0.00	0.00	0.00	0.00	0.00	0.00	63.81	63.81	0.00	0.00	0.00	0.00	0.00	0.00	63.06	63.06	0.00	0.00	0.00	0.00	0.00	0.00	184.02	184.02	100.00	
28/10/2015	96.09	0.00	0.00	57.23	57.23	0.00	0.00	0.00	0.00	0.00	0.00	63.69	63.69	0.00	0.00	0.00	0.00	0.00	0.00	63.11	63.11	0.00	0.00	0.00	0.00	0.00	0.00	184.02	184.02	100.00	
29/10/2015	96.16	0.00	0.00	57.31	57.31	0.00	0.00	0.00	0.00	0.00	0.00	63.55	63.55	0.00	0.00	0.00	0.00	0.00	0.00	63.13	63.13	0.00	0.00	0.00	0.00	0.00	0.00	183.99	183.99	100.00	
30/10/2015	96.09	0.00	0.00	56.70	56.70	0.00	0.00	0.00	0.00	0.00	0.00	62.88	62.88	0.00	0.00	0.00	0.00	0.18	0.18	42.95	43.31	0.00	0.07	19.15	19.23	0.18	0.25	181.68	182.11	99.77	
31/10/2015	96.00	0.00	0.00	56.33	56.33	0.00	0.00	0.00	0.00	0.00	0.00	62.82	62.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	61.79	61.84	0.00	0.04	180.94	180.99	99.98	
		0.00	0.06	678.80	678.86	0.00	0.79	979.23	980.02	0.00	0.00	1781.81	1781.81	0.00	0.17	336.06	336.24	0.49	0.57	1053.09	1054.14	0.00	0.25	1044.38	1044.63	0.49	1.83	5873.37	5875.69		

Water Volume [%]:
 Untreated: 0.01 %
 Below Dose: 0.03 %
 To Dose: 99.96 %

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew



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Friday, December 4, 2015

Our Incident/Report No: **08-2015**
LIMS Reference No: **44079, 44149, 44220**
Incident Date: **October 15, 2015**

Ms. Melanie Betsill
Drinking Water Officer
Manitoba Water Stewardship, Office of Drinking Water
1007 Century Street
Winnipeg MB R3H 0W4

RE: CORRECTIVE ACTION REPORT

WATER SYSTEM, CODE	Winnipeg Public Water System, 252.00
LOCATION OF NON-COMPLIANT INCIDENT	Winnipeg 3-Dist SW03
INCIDENT REPORTED BY	Courtney Diduck, Analytical Services Branch Head
TYPE OF NON-COMPLIANT INCIDENT	1. Low disinfection residual in the distribution system, 22(1) MR 40/2007
DESCRIPTION OF CORRECTIVE ACTIONS	<p><u>Environmental Standards:</u> IMMEDIATELY: Re-sampled original location and tested additional samples upstream and downstream for free/total chlorine, turbidity and temperature, and contacted the ODW. Retesting continued until free chlorines residuals were re-established to acceptable levels.</p> <p><u>Water Services:</u> Water Services Division was contacted and the area was checked for closed valves and spot flushed. Spot flushing resolved the issue and free chlorine residuals were re-established to acceptable levels on each occurrence.</p> <p>An investigation was launched to determine the cause of the low chlorine. The findings of the investigation will be provided in a separate submission once complete.</p>
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)
SW03	449598	15-Oct-15	<1	<1	1	0.06	0.19	14.7	0.58	9:46
SW03_Downstream	450216	15-Oct-15				<0.02	0.14	14.2	0.46	10:16
SW03_Upstream	450217	15-Oct-15				0.73	0.93	16.3	0.16	10:28
Water Service Hydrant @ SW03 follow Spot Flush		15-Oct-15				0.58	N/A	N/A	N/A	N/A
SW03_Resample (After Flushing)	450368	15-Oct-15				1.09	1.29	14.5	2.79	14:25
SW03_Downstream (After Flushing)	450369	15-Oct-15				1.25	1.41	15.5	3.26	14:48
SW03_Resample 2	450382	16-Oct-15				0.72	0.86	15.1	0.22	14:16
SW03	450285	21-Oct-15	<1	<1	7	0.02	0.16	14.0	0.49	9:32
SW03_Downstream	451020	21-Oct-15				0.02	0.15	13.8	0.52	9:55
SW03_Downstream	451036	21-Oct-15				0.06	0.19	13.8	0.56	10:18
SW03_Upstream	451037	21-Oct-15				0.57	0.75	14.8	0.17	10:42
SW03_Downstream	451038	21-Oct-15				0.14	0.24	13.2	0.85	14:45
SW03_Resample (After Flushing)	451039	21-Oct-15				1.00	1.27	13.9	1.73	15:15
SW03_Resample 2	451086	22-Oct-15				0.47	0.59	14.1	1.31	14:28
SW03_Resample 3	451087	23-Oct-15				0.08	0.17	13.8	0.42	11:03
SW03_Resample 4	452609	23-Oct-15				0.12	0.22	N/A	N/A	11:08
Water Service Hydrant @ SW03 follow Spot Flush		23-Oct-15				0.57	N/A	N/A	N/A	N/A
SW03_Water Services Sample		23-Oct-15				0.57	N/A	N/A	N/A	N/A
SW03	451154	28-Oct-15	<1	<1	4	0.50	0.71	13.6	0.49	9:49

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.