



Water and Waste Department • Service des eaux et des déchets

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September 5, 2014

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

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

Dear Ms. Betsill:

**RE: AUGUST 2014 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 August 2014. We have also included a corrective action report for a positive total coliform in the distribution system.

The August 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 are in compliance with the licence requirements.

The August 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 have met the licence requirements.

The UV submission includes the summary report for August 2014 in accordance with Section 4.13, Table 2 of the Operating Licence. The UV licence requirement has been met for August.

On August 11, a positive total coliform result was reported for a routine sample [REDACTED]. On August 13, the location was resampled and results were reported to be negative. Our resampling also indicated that the chlorine levels at the location were normal and provided adequate disinfection.

Please let me know of any concerns or questions respecting this submission. I may be reached by telephone at 204-986-4807 or by e-mail at [kkjartanson@winnipeg.ca](mailto:kkjartanson@winnipeg.ca).

Please note that I will be retiring from the City effective September 6, 2014. You will be advised of my replacement in due course.

Thank you for your on-going cooperation over the last several years.

Yours sincerely,

*Original signed by: Renee Grosselle for:*

K.J.T. Kjartanson, P.Eng.  
Manager of Environmental Standards

KTJK:rg  
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 A

**WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT**

| August 2014 Turbidity (NTU) |         | Filter #1 |      | Filter #2 |      | Filter #3 |      | Filter #4 |      | Filter #5 |      | Filter #6 |      | Filter #7 |      | Filter #8 |      |
|-----------------------------|---------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|
| Date                        | Raw Avg | Avg       | Max  |
| 1/08/2014                   | 1.19    | 0.03      | 0.06 | 0.03      | 0.10 | 0.04      | 0.09 | 0.05      | 0.12 | 0.03      | 0.10 | 0.03      | 0.05 | 0.02      | 0.08 | 0.00      | 0.04 |
| 2/08/2014                   | 1.23    | 0.03      | 0.10 | 0.03      | 0.05 | 0.01      | 0.02 | 0.03      | 0.11 | 0.05      | 0.07 | 0.03      | 0.08 | 0.02      | 0.07 | 0.00      | 0.02 |
| 3/08/2014                   | 1.14    | 0.03      | 0.05 | 0.06      | 0.12 | 0.02      | 0.09 | 0.03      | 0.06 | 0.04      | 0.10 | 0.02      | 0.10 | 0.01      | 0.10 | 0.01      | 0.01 |
| 4/08/2014                   | 1.17    | 0.03      | 0.09 | 0.05      | 0.12 | 0.01      | 0.09 | 0.05      | 0.11 | 0.03      | 0.10 | 0.02      | 0.08 | 0.02      | 0.04 | 0.00      | 0.02 |
| 5/08/2014                   | 1.11    | 0.03      | 0.09 | 0.06      | 0.15 | 0.01      | 0.09 | 0.03      | 0.11 | 0.04      | 0.06 | 0.03      | 0.05 | 0.02      | 0.07 | 0.00      | 0.02 |
| 6/08/2014                   | 1.11    | 0.03      | 0.09 | 0.07      | 0.10 | 0.01      | 0.02 | 0.03      | 0.11 | 0.05      | 0.11 | 0.03      | 0.09 | 0.02      | 0.09 | 0.00      | 0.06 |
| 7/08/2014                   | 1.09    | 0.03      | 0.06 | 0.12      | 0.18 | 0.02      | 0.12 | 0.04      | 0.15 | 0.05      | 0.13 | 0.04      | 0.10 | 0.02      | 0.14 | 0.01      | 0.01 |
| 8/08/2014                   | 1.18    | 0.06      | 0.11 | 0.05      | 0.23 | 0.03      | 0.14 | 0.05      | 0.09 | 0.05      | 0.16 | 0.04      | 0.17 | 0.03      | 0.14 | 0.01      | 0.09 |
| 9/08/2014                   | 1.24    | 0.05      | 0.13 | 0.03      | 0.11 | 0.03      | 0.14 | 0.06      | 0.15 | 0.05      | 0.16 | 0.04      | 0.07 | 0.04      | 0.06 | 0.01      | 0.10 |
| 10/08/2014                  | 1.50    | 0.05      | 0.10 | 0.04      | 0.12 | 0.03      | 0.15 | 0.05      | 0.17 | 0.06      | 0.09 | 0.06      | 0.15 | 0.04      | 0.13 | 0.01      | 0.11 |
| 11/08/2014                  | 1.53    | 0.05      | 0.15 | 0.04      | 0.07 | 0.04      | 0.06 | 0.05      | 0.15 | 0.08      | 0.18 | 0.06      | 0.17 | 0.04      | 0.16 | 0.01      | 0.12 |
| 12/08/2014                  | 1.41    | 0.04      | 0.14 | 0.04      | 0.09 | 0.02      | 0.14 | 0.04      | 0.09 | 0.05      | 0.18 | 0.04      | 0.18 | 0.04      | 0.14 | 0.01      | 0.02 |
| 13/08/2014                  | 1.37    | 0.05      | 0.13 | 0.02      | 0.10 | 0.02      | 0.14 | 0.04      | 0.07 | 0.04      | 0.15 | 0.03      | 0.08 | 0.03      | 0.12 | 0.01      | 0.09 |
| 14/08/2014                  | 1.37    | 0.04      | 0.12 | 0.02      | 0.10 | 0.02      | 0.12 | 0.05      | 0.15 | 0.04      | 0.08 | 0.04      | 0.12 | 0.03      | 0.05 | 0.01      | 0.09 |
| 15/08/2014                  | 1.47    | 0.04      | 0.14 | 0.03      | 0.10 | 0.02      | 0.11 | 0.04      | 0.14 | 0.06      | 0.08 | 0.05      | 0.07 | 0.04      | 0.13 | 0.01      | 0.10 |
| 16/08/2014                  | 1.53    | 0.04      | 0.09 | 0.03      | 0.05 | 0.03      | 0.05 | 0.04      | 0.15 | 0.07      | 0.15 | 0.05      | 0.15 | 0.04      | 0.13 | 0.02      | 0.12 |
| 17/08/2014                  | 1.62    | 0.04      | 0.13 | 0.04      | 0.10 | 0.03      | 0.12 | 0.04      | 0.13 | 0.06      | 0.16 | 0.04      | 0.15 | 0.04      | 0.09 | 0.03      | 0.05 |
| 18/08/2014                  | 1.67    | 0.07      | 0.09 | 0.04      | 0.10 | 0.03      | 0.12 | 0.05      | 0.08 | 0.06      | 0.16 | 0.05      | 0.16 | 0.04      | 0.15 | 0.05      | 0.13 |
| 19/08/2014                  | 1.62    | 0.07      | 0.15 | 0.04      | 0.12 | 0.03      | 0.14 | 0.07      | 0.16 | 0.06      | 0.19 | 0.05      | 0.15 | 0.05      | 0.08 | 0.06      | 0.17 |
| 20/08/2014                  | 1.60    | 0.06      | 0.16 | 0.03      | 0.11 | 0.02      | 0.14 | 0.05      | 0.18 | 0.06      | 0.10 | 0.06      | 0.09 | 0.04      | 0.14 | 0.06      | 0.19 |
| 21/08/2014                  | 1.81    | 0.06      | 0.16 | 0.04      | 0.08 | 0.02      | 0.07 | 0.04      | 0.16 | 0.06      | 0.22 | 0.04      | 0.16 | 0.03      | 0.14 | 0.04      | 0.11 |
| 22/08/2014                  | 1.97    | 0.06      | 0.09 | 0.03      | 0.05 | 0.02      | 0.11 | 0.03      | 0.16 | 0.05      | 0.18 | 0.05      | 0.15 | 0.03      | 0.14 | 0.01      | 0.02 |
| 23/08/2014                  | 2.30    | 0.07      | 0.17 | 0.02      | 0.14 | 0.02      | 0.14 | 0.06      | 0.08 | 0.04      | 0.22 | 0.05      | 0.08 | 0.04      | 0.06 | 0.01      | 0.13 |
| 24/08/2014                  | 2.44    | 0.05      | 0.17 | 0.02      | 0.04 | 0.02      | 0.04 | 0.04      | 0.17 | 0.07      | 0.09 | 0.06      | 0.16 | 0.04      | 0.16 | 0.00      | 0.11 |
| 25/08/2014                  | 2.64    | 0.06      | 0.09 | 0.03      | 0.12 | 0.03      | 0.12 | 0.04      | 0.16 | 0.04      | 0.21 | 0.04      | 0.16 | 0.03      | 0.12 | 0.01      | 0.01 |
| 26/08/2014                  | 2.51    | 0.07      | 0.16 | 0.02      | 0.11 | 0.02      | 0.13 | 0.06      | 0.09 | 0.04      | 0.18 | 0.04      | 0.11 | 0.04      | 0.06 | 0.01      | 0.10 |
| 27/08/2014                  | 2.58    | 0.02      | 0.10 | 0.01      | 0.09 | 0.01      | 0.02 | 0.03      | 0.14 | 0.04      | 0.07 | 0.05      | 0.14 | 0.04      | 0.12 | 0.00      | 0.08 |
| 28/08/2014                  | 2.64    | 0.01      | 0.09 | 0.01      | 0.03 | 0.02      | 0.11 | 0.03      | 0.13 | 0.04      | 0.16 | 0.04      | 0.13 | 0.03      | 0.11 | 0.00      | 0.01 |
| 29/08/2014                  | 2.78    | 0.04      | 0.14 | 0.01      | 0.10 | 0.03      | 0.14 | 0.03      | 0.21 | 0.04      | 0.15 | 0.04      | 0.15 | 0.03      | 0.08 | 0.01      | 0.09 |
| 30/08/2014                  | 2.83    | 0.06      | 0.13 | 0.01      | 0.09 | 0.02      | 0.05 | 0.03      | 0.17 | 0.05      | 0.07 | 0.06      | 0.08 | 0.03      | 0.12 | 0.00      | 0.08 |
| 31/08/2014                  | 2.81    | 0.05      | 0.18 | 0.02      | 0.04 | 0.05      | 0.12 | 0.03      | 0.18 | 0.05      | 0.17 | 0.05      | 0.16 | 0.03      | 0.13 | 0.01      | 0.01 |

|   |         |         |         |         |         |         |         |         |
|---|---------|---------|---------|---------|---------|---------|---------|---------|
| Total Number of Measurements Taken, A:              | 14265   | 14264   | 14049   | 11637   | 14673   | 14655   | 13540   | 14171   |
| 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:         | 14265   | 14264   | 14049   | 11637   | 14673   | 14655   | 13540   | 14171   |
| Compliance with Turbidity Standard, C = B/A X 100%: | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2014\08-August

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<br>Licence No. PWS-09-412 A     | Turbidity (NTU) |           |          |          |          |          |          |          |          |
|---|-----------------|-----------|----------|----------|----------|----------|----------|----------|----------|
|   | Date            | Raw Water | Filter 1 | Filter 2 | Filter 3 | Filter 4 | Filter 5 | Filter 6 | Filter 7 |
| 01-Aug-2014   | 0.99            | 0.09      | 0.11     | 0.06     | 0.08     | 0.05     | 0.08     | 0.08     | 0.07     |
| 02-Aug-2014   | NS              | NS        | NS       | NS       | NS       | NS       | NS       | NS       | NS       |
| 03-Aug-2014   | NS              | NS        | NS       | NS       | NS       | NS       | NS       | NS       | NS       |
| 04-Aug-2014   | 1.06            | 0.07      | 0.08     | 0.12     | 0.07     | 0.06     | 0.06     | 0.08     | 0.08     |
| 05-Aug-2014   | 1.07            | 0.12      | 0.06     | 0.06     | 0.12     | 0.05     | 0.06     | 0.05     | 0.06     |
| 06-Aug-2014   | 1.18            | 0.08      | <0.05    | 0.07     | 0.07     | 0.05     | 0.07     | 0.15     | 0.06     |
| 07-Aug-2014   | 1.16            | 0.06      | 0.10     | 0.10     | 0.09     | 0.06     | 0.09     | 0.09     | 0.10     |
| 08-Aug-2014   | 1.10            | 0.12      | 0.14     | 0.12     | 0.09     | 0.11     | 0.09     | 0.08     | 0.11     |
| 09-Aug-2014   | NS              | NS        | NS       | NS       | NS       | NS       | NS       | NS       | NS       |
| 10-Aug-2014   | NS              | NS        | NS       | NS       | NS       | NS       | NS       | NS       | NS       |
| 11-Aug-2014   | 1.08            | 0.08      | 0.09     | 0.10     | 0.13     | 0.08     | 0.11     | 0.11     | 0.08     |
| 12-Aug-2014   | 1.43            | 0.09      | 0.09     | 0.10     | 0.07     | 0.10     | 0.09     | 0.07     | 0.09     |
| 13-Aug-2014   | 1.29            | 0.08      | 0.09     | 0.10     | 0.06     | 0.09     | 0.06     | 0.06     | 0.06     |
| 14-Aug-2014   | 1.14            | 0.10      | 0.10     | 0.07     | 0.11     | 0.05     | 0.07     | 0.07     | 0.08     |
| 15-Aug-2014   | 1.31            | 0.09      | 0.06     | 0.07     | 0.10     | 0.07     | 0.09     | 0.07     | 0.06     |
| 16-Aug-2014   | NS              | NS        | NS       | NS       | NS       | NS       | NS       | NS       | NS       |
| 17-Aug-2014   | NS              | NS        | NS       | NS       | NS       | NS       | NS       | NS       | NS       |
| 18-Aug-2014   | 1.38            | 0.08      | 0.11     | 0.11     | 0.08     | 0.12     | 0.08     | 0.07     | 0.08     |
| 19-Aug-2014   | 1.57            | 0.10      | 0.11     | 0.13     | 0.13     | 0.08     | 0.08     | 0.08     | 0.10     |
| 20-Aug-2014   | 1.29            | 0.11      | 0.07     | 0.08     | 0.13     | 0.06     | 0.07     | 0.10     | 0.12     |
| 21-Aug-2014   | 1.33            | 0.13      | 0.09     | 0.09     | 0.12     | 0.08     | 0.11     | 0.10     | 0.07     |
| 22-Aug-2014   | 1.51            | 0.09      | 0.09     | 0.11     | 0.09     | 0.13     | 0.11     | 0.08     | 0.08     |
| 23-Aug-2014   | NS              | NS        | NS       | NS       | NS       | NS       | NS       | NS       | NS       |
| 24-Aug-2014   | NS              | NS        | NS       | NS       | NS       | NS       | NS       | NS       | NS       |
| 25-Aug-2014   | 2.44            | 0.09      | 0.10     | 0.10     | 0.08     | 0.11     | 0.11     | 0.09     | 0.08     |
| 26-Aug-2014   | 1.92            | 0.09      | 0.11     | 0.15     | 0.09     | 0.08     | 0.08     | 0.08     | 0.10     |
| 27-Aug-2014   | 2.11            | 0.08      | 0.07     | 0.08     | 0.10     | 0.07     | 0.07     | 0.08     | 0.07     |
| 28-Aug-2014   | 2.58            | 0.07      | 0.08     | 0.09     | 0.07     | 0.08     | 0.10     | 0.10     | 0.08     |
| 29-Aug-2014   | 2.12            | 0.07      | 0.09     | 0.08     | 0.07     | 0.09     | 0.06     | 0.07     | 0.08     |
| 30-Aug-2014   | NS              | NS        | NS       | NS       | NS       | NS       | NS       | NS       | NS       |
| 31-Aug-2014   | NS              | NS        | NS       | NS       | NS       | NS       | NS       | NS       | NS       |
| <b>Total number of measurements taken, A:</b>             |                 | 21        | 21       | 21       | 21       | 21       | 21       | 21       | 21       |
| <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>        |                 | 21        | 21       | 21       | 21       | 21       | 21       | 21       | 21       |
| <b>Compliance with Turbidity Standard, C= B/A X 100%:</b> |                 | 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: S.Fletcher/ A.Vanderstel

Date Approved: 3-Sep-14





CITY OF WINNIPEG  
 WATER AND WASTE DEPARTMENT  
 ENVIRONMENTAL STANDARDS DIVISION

**WATER TREATMENT PLANT CHLORINE GRAB MONITORING REPORT**

| Water System Code: 252.00<br>Licence No. PWS-09-412 A    | Deacon Booster Pumping<br>Station Branch 1 |                          | Deacon Booster Pumping<br>Station Branch 2 |                          |
|--|--|--------------------------|--|--------------------------|
|  | Free Chlorine<br>(mg/L)                    | Total Chlorine<br>(mg/L) | Free Chlorine<br>(mg/L)                    | Total Chlorine<br>(mg/L) |
| Date   |  |                          |  |                          |
| 01-Aug-2014  | 1.32                                       | 1.46                     | 1.32                                       | 1.49                     |
| 02-Aug-2014  | NS   | NS                       | NS   | NS                       |
| 03-Aug-2014  | NS   | NS                       | NS   | NS                       |
| 04-Aug-2014  | 1.28                                       | 1.41                     | 1.32                                       | 1.48                     |
| 05-Aug-2014  | 1.16                                       | 1.33                     | 1.15                                       | 1.39                     |
| 06-Aug-2014  | 1.27                                       | 1.42                     | 1.29                                       | 1.46                     |
| 07-Aug-2014  | 1.28                                       | 1.45                     | 1.30                                       | 1.51                     |
| 08-Aug-2014  | 1.39                                       | 1.55                     | 1.32                                       | 1.53                     |
| 09-Aug-2014  | NS   | NS                       | NS   | NS                       |
| 10-Aug-2014  | NS   | NS                       | NS   | NS                       |
| 11-Aug-2014  | 1.38                                       | 1.51                     | 1.40                                       | 1.53                     |
| 12-Aug-2014  | 1.43                                       | 1.60                     | 1.42                                       | 1.61                     |
| 13-Aug-2014  | 1.39                                       | 1.54                     | 1.36                                       | 1.56                     |
| 14-Aug-2014  | 1.44                                       | 1.57                     | 1.35                                       | 1.52                     |
| 15-Aug-2014  | 1.53                                       | 1.69                     | 1.48                                       | 1.66                     |
| 16-Aug-2014  | NS   | NS                       | NS   | NS                       |
| 17-Aug-2014  | NS   | NS                       | NS   | NS                       |
| 18-Aug-2014  | 1.38                                       | 1.57                     | 1.48                                       | 1.67                     |
| 19-Aug-2014  | 1.35                                       | 1.55                     | 1.43                                       | 1.65                     |
| 20-Aug-2014  | 1.41                                       | 1.64                     | 1.38                                       | 1.63                     |
| 21-Aug-2014  | 1.27                                       | 1.42                     | 1.34                                       | 1.54                     |
| 22-Aug-2014  | 1.24                                       | 1.44                     | 1.33                                       | 1.52                     |
| 23-Aug-2014  | NS   | NS                       | NS   | NS                       |
| 24-Aug-2014  | NS   | NS                       | NS   | NS                       |
| 25-Aug-2014  | 1.35                                       | 1.55                     | 1.35                                       | 1.59                     |
| 26-Aug-2014  | 1.40                                       | 1.63                     | 1.48                                       | 1.67                     |
| 27-Aug-2014  | 1.64                                       | 1.77                     | 1.59                                       | 1.83                     |
| 28-Aug-2014  | 1.56                                       | 1.66                     | 1.67                                       | 1.80                     |
| 29-Aug-2014  | 1.49                                       | 1.68                     | 1.57                                       | 1.73                     |
| 30-Aug-2014  | NS   | NS                       | NS   | NS                       |
| 31-Aug-2014  | NS   | NS                       | NS   | NS                       |
| <b>Total number of measurements taken, A:</b>            | 21   |                          | 21   |                          |
| <b>Chlorine Standard for Monitoring Location (mg/L):</b> | 0.50                                       |                          | 0.50                                       |                          |
| <b>Number of measurements meeting standard, B:</b>       | 21   |                          | 21   |                          |
| <b>Compliance with Chlorine Standard, C= B/A X 100%:</b> | 100%                                       |                          | 100%                                       |                          |

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

Comments:

Report Compiled By: H.Demchenko

Approved in LIMS By: S.Fletcher/ A.Vanderstel



**CITY OF WINNIPEG**  
**WATER AND WASTE DEPARTMENT**  
**WATER SERVICES**

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

**WATER TREATMENT PLANT UV REPORT**

Report Period: **August 2014**

Report Created: **Monday, September 01, 2014**

| Date       | Transmittance % | UVR-D100A<br>Water Volume [ML] |       |        |        | UVR-D200A<br>Water Volume [ML] |       |         |         | UVR-D300A<br>Water Volume [ML] |       |        |        | UVR-D400A<br>Water Volume [ML] |       |         |         | UVR-D500A<br>Water Volume [ML] |       |         |         | UVR-D600A<br>Water Volume [ML] |       |        |        | Total<br>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   |                          |
| 1/08/2014  | 96.73           | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 84.99   | 84.99   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 0.00    | 0.00    | 0.00                           | 75.55 | 75.55   | 0.00    | 1.01                           | 74.03 | 75.04  | 0.00   | 0.00                       | 234.58 | 235.59  | 99.57   |                          |
| 2/08/2014  | 96.60           | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 85.00   | 85.00   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 20.04   | 20.04   | 0.00                           | 0.00  | 80.52   | 80.52   | 0.00                           | 0.75  | 49.89  | 50.64  | 0.00                       | 0.75   | 235.45  | 236.20  | 99.68                    |
| 3/08/2014  | 96.57           | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 84.99   | 84.99   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 66.99   | 66.99   | 0.00                           | 0.00  | 85.00   | 85.00   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                       | 0.00   | 236.98  | 236.98  | 100.00                   |
| 4/08/2014  | 96.71           | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 85.02   | 85.02   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 63.03   | 63.03   | 0.00                           | 0.00  | 85.02   | 85.02   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                       | 0.00   | 233.07  | 233.07  | 100.00                   |
| 5/08/2014  | 96.63           | 0.00                           | 0.00  | 0.35   | 0.35   | 0.00                           | 0.00  | 84.81   | 84.81   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 64.11   | 64.11   | 0.00                           | 0.00  | 84.92   | 84.92   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                       | 0.00   | 234.19  | 234.19  | 100.00                   |
| 6/08/2014  | 96.49           | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 85.01   | 85.01   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 65.02   | 65.02   | 0.00                           | 0.00  | 84.99   | 84.99   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                       | 0.00   | 235.03  | 235.03  | 100.00                   |
| 7/08/2014  | 96.38           | 0.00                           | 0.00  | 44.38  | 44.38  | 0.00                           | 0.35  | 40.12   | 40.48   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 66.70   | 66.70   | 0.00                           | 0.00  | 85.01   | 85.01   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                       | 0.00   | 236.21  | 236.56  | 99.85                    |
| 8/08/2014  | 96.17           | 0.00                           | 0.04  | 78.11  | 78.16  | 0.03                           | 0.03  | 0.16    | 0.23    | 0.05                           | 0.19  | 2.48   | 2.72   | 0.00                           | 0.00  | 73.80   | 73.80   | 0.00                           | 0.00  | 84.98   | 84.98   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                       | 0.00   | 239.54  | 239.89  | 99.86                    |
| 9/08/2014  | 96.21           | 0.00                           | 0.00  | 2.97   | 2.97   | 0.00                           | 0.00  | 81.33   | 81.33   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 67.69   | 67.69   | 0.00                           | 0.00  | 84.21   | 84.21   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                       | 0.00   | 236.20  | 236.20  | 100.00                   |
| 10/08/2014 | 96.12           | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 84.14   | 84.14   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 65.47   | 65.47   | 0.00                           | 0.00  | 83.10   | 83.10   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                       | 0.00   | 232.70  | 232.70  | 100.00                   |
| 11/08/2014 | 95.99           | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 84.99   | 84.99   | 0.01                           | 0.02  | 0.01   | 0.04   | 0.00                           | 0.00  | 65.07   | 65.07   | 0.00                           | 0.00  | 84.89   | 84.89   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                       | 0.00   | 234.95  | 234.98  | 99.99                    |
| 12/08/2014 | 96.40           | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 85.00   | 85.00   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 64.92   | 64.92   | 0.00                           | 0.00  | 85.09   | 85.09   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                       | 0.00   | 235.02  | 235.02  | 100.00                   |
| 13/08/2014 | 96.61           | 0.00                           | 0.00  | 14.82  | 14.82  | 0.00                           | 0.00  | 78.79   | 78.79   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 64.00   | 64.00   | 0.00                           | 0.00  | 82.96   | 82.96   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                       | 0.00   | 240.56  | 240.56  | 100.00                   |
| 14/08/2014 | 96.60           | 0.00                           | 0.00  | 43.78  | 43.78  | 0.00                           | 0.00  | 66.63   | 66.63   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 55.49   | 55.49   | 0.00                           | 0.00  | 79.11   | 79.11   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                       | 0.00   | 245.02  | 245.02  | 100.00                   |
| 15/08/2014 | 96.50           | 0.00                           | 0.00  | 43.74  | 43.74  | 0.00                           | 0.00  | 66.65   | 66.65   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 55.49   | 55.49   | 0.00                           | 0.00  | 79.13   | 79.13   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                       | 0.00   | 245.01  | 245.01  | 100.00                   |
| 16/08/2014 | 96.46           | 0.00                           | 0.00  | 43.70  | 43.70  | 0.00                           | 0.00  | 66.68   | 66.68   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 55.47   | 55.47   | 0.00                           | 0.05  | 79.09   | 79.14   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                       | 0.00   | 244.94  | 245.00  | 99.98                    |
| 17/08/2014 | 96.38           | 0.00                           | 0.00  | 43.59  | 43.59  | 0.00                           | 0.00  | 66.69   | 66.69   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 55.51   | 55.51   | 0.00                           | 0.00  | 79.23   | 79.23   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                       | 0.00   | 245.03  | 245.03  | 100.00                   |
| 18/08/2014 | 96.29           | 0.00                           | 0.00  | 11.85  | 11.85  | 0.00                           | 0.05  | 82.38   | 82.43   | 0.05                           | 0.38  | 3.48   | 3.92   | 0.00                           | 0.00  | 39.13   | 39.13   | 0.00                           | 0.00  | 53.74   | 53.74   | 0.02                           | 0.02  | 52.55  | 52.59  | 0.07                       | 0.45   | 243.15  | 243.67  | 99.78                    |
| 19/08/2014 | 96.08           | 0.00                           | 0.00  | 35.39  | 35.39  | 0.00                           | 0.00  | 46.27   | 46.27   | 0.00                           | 0.00  | 32.34  | 32.34  | 0.00                           | 0.00  | 0.00    | 0.00    | 0.00                           | 0.00  | 78.22   | 78.22   | 0.00                           | 0.00  | 52.65  | 52.65  | 0.00                       | 0.00   | 244.88  | 244.88  | 100.00                   |
| 20/08/2014 | 96.29           | 0.00                           | 0.00  | 39.36  | 39.36  | 0.00                           | 0.00  | 33.20   | 33.20   | 0.25                           | 0.25  | 47.83  | 48.34  | 0.00                           | 0.05  | 37.92   | 37.97   | 0.00                           | 0.00  | 78.46   | 78.46   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.25                       | 0.31   | 236.77  | 237.33  | 99.76                    |
| 21/08/2014 | 96.43           | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 76.27   | 76.27   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 77.02   | 77.02   | 0.00                           | 0.00  | 70.05   | 70.05   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                       | 0.00   | 223.34  | 223.35  | 100.00                   |
| 22/08/2014 | 96.45           | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 68.94   | 68.94   | 0.00                           | 0.00  | 51.22  | 51.22  | 0.00                           | 0.00  | 21.61   | 21.61   | 0.00                           | 0.00  | 68.96   | 68.96   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                       | 0.00   | 210.73  | 210.73  | 100.00                   |
| 23/08/2014 | 96.43           | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 62.81   | 62.81   | 0.00                           | 0.00  | 67.61  | 67.61  | 0.00                           | 0.00  | 0.00    | 0.00    | 0.00                           | 0.00  | 1.53    | 1.53    | 0.00                           | 0.00  | 64.02  | 64.02  | 0.00                       | 0.00   | 195.98  | 195.98  | 100.00                   |
| 24/08/2014 | 96.52           | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 66.03   | 66.03   | 0.00                           | 0.00  | 51.53  | 51.53  | 0.00                           | 0.00  | 0.00    | 0.00    | 0.00                           | 0.00  | 0.00    | 0.00    | 0.00                           | 0.00  | 67.39  | 67.39  | 0.00                       | 0.00   | 184.95  | 184.95  | 100.00                   |
| 25/08/2014 | 96.61           | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 69.59   | 69.59   | 0.00                           | 0.00  | 58.30  | 58.30  | 0.00                           | 0.00  | 0.00    | 0.00    | 0.00                           | 0.00  | 0.00    | 0.00    | 0.00                           | 0.00  | 72.90  | 72.90  | 0.00                       | 0.00   | 200.79  | 200.79  | 100.00                   |
| 26/08/2014 | 96.53           | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 72.98   | 72.98   | 0.00                           | 0.00  | 61.13  | 61.13  | 0.00                           | 0.00  | 0.00    | 0.00    | 0.00                           | 0.00  | 0.00    | 0.00    | 0.00                           | 0.00  | 77.07  | 77.07  | 0.00                       | 0.00   | 211.18  | 211.18  | 100.00                   |
| 27/08/2014 | 96.76           | 0.00                           | 0.00  | 2.42   | 2.42   | 0.00                           | 0.00  | 75.37   | 75.37   | 0.00                           | 0.00  | 58.57  | 58.57  | 0.00                           | 0.00  | 0.00    | 0.00    | 0.00                           | 0.00  | 0.00    | 0.00    | 0.00                           | 0.05  | 78.58  | 78.63  | 0.00                       | 0.05   | 214.93  | 214.99  | 99.98                    |
| 28/08/2014 | 96.66           | 0.00                           | 0.00  | 34.28  | 34.28  | 0.01                           | 0.01  | 70.40   | 70.42   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 18.86   | 18.86   | 0.00                           | 0.00  | 0.00    | 0.00    | 0.00                           | 0.00  | 74.47  | 74.48  | 0.02                       | 0.02   | 198.01  | 198.04  | 99.98                    |
| 29/08/2014 | 95.86           | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 66.88   | 66.88   | 0.02                           | 0.15  | 0.04   | 0.21   | 0.00                           | 0.00  | 62.69   | 62.69   | 0.15                           | 0.15  | 1.75    | 2.06    | 0.54                           | 0.54  | 60.03  | 61.12  | 0.72                       | 0.85   | 191.40  | 192.97  | 99.19                    |
| 30/08/2014 | 96.74           | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 68.52   | 68.52   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 68.61   | 68.61   | 0.00                           | 0.00  | 0.00    | 0.00    | 0.00                           | 0.00  | 63.49  | 63.49  | 0.00                       | 0.00   | 200.63  | 200.63  | 100.00                   |
| 31/08/2014 | 96.65           | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 70.02   | 70.02   | 0.00                           | 0.00  | 0.00   | 0.00   | 0.00                           | 0.00  | 70.47   | 70.47   | 0.00                           | 0.00  | 0.00    | 0.00    | 0.00                           | 0.00  | 64.47  | 64.47  | 0.00                       | 0.00   | 204.97  | 204.97  | 100.00                   |
|            |                 | 0.00                           | 0.05  | 438.77 | 438.82 | 0.05                           | 0.45  | 2160.70 | 2161.19 | 0.38                           | 1.00  | 434.55 | 435.93 | 0.00                           | 0.05  | 1365.13 | 1365.18 | 0.15                           | 0.21  | 1755.50 | 1755.86 | 0.57                           | 2.38  | 851.54 | 854.49 | 1.15                       | 4.14   | 7006.19 | 7011.47 |                          |

**Water Volume [%]:**  
 Untreated: 0.02 %  
 Below Dose 0.06 %  
 To Dose 99.92 %

Submitted By (Print): D.Minor

Signature: Original signed by D.Minor



Water and Waste Department • Service des eaux et des déchets

Friday, September 5, 2014

**Our Incident/Report No: 02-2014**

**LIMS Reference No: 40081**

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

## **RE: CORRECTIVE ACTION REPORT**

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|   |  |
|---|--|
| <b>WATER SYSTEM</b>                       | Winnipeg Public Water System   |
| <b>WATER SYSTEM CODE</b>                  | 252.00   |
| <b>LOCATION OF NON-COMPLIANT INCIDENT</b> | <b>Winnipeg 4-Dist SW03</b>  |
| <b>OPERATOR IN CHARGE</b>                 | NA   |
| <b>INCIDENT REPORTED BY</b>               | Gerry Levesque, acting Supervisor of Analytical Services Branch  |
| <b>TYPE OF NON-COMPLIANT INCIDENT</b>     | Low positive total coliform (<10 per100mL), 3 MR 41/2007   |
| <b>INCIDENT DATE</b>                      | August 11, 2014  |
| <b>DESCRIPTION OF CORRECTIVE ACTIONS</b>  | AS SOON AS POSSIBLE: Resampled original location, also tested for turbidity, free/total chlorine, temperature and contacted the ODW. |
| <b>TEST RESULTS</b>                       | See Attached Report  |

**NOTES/COMMENTS:**

1. All microbiological tests performed by contract laboratory.
2. 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
3. INITIAL chlorine, turbidity and temperature only tested at the required 39 sample locations.
4. NR-No Result due to laboratory/analyst error.
5. NA-Not Analyzed.

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

**DISTRIBUTION**

FORWARD THE ORIGINAL TO THE DRINKING WATER OFFICER WITH THE MONTHLY COMPLIANCE SUBMISSIONS.

**Contact the Drinking Water Officer for any comments, questions or concerns**

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REFERENCE: ODW-RF-016

*Embrace the spirit • Vivez l'esprit*

Environmental Standards Division • Division des normes environnementales  
2230 Main Street • 2230, rue Main • Winnipeg • Manitoba R2V 4T8  
fax/téléc. (204) 339-2147 • www.winnipeg.ca

| Sample Name      | Sample Number | Date Sampled | E. Coli-QT (MPNU/100 mL) | Total Coliform-QT (MPNU/100 mL) | HPC (cfu/mL) | Chlorine, Free (mg/L) | Chlorine, Total (mg/L) | Temperature (°C) | TimeSpeld (hrs) | Turbidity (ntu) |
|------------------|---------------|--------------|--------------------------|---------------------------------|--------------|-----------------------|------------------------|------------------|-----------------|-----------------|
| SW03_ [REDACTED] | 405523        | 11-Aug-14    | <1                       | 2                               | 10           | 0.59                  | 0.79                   | 13.5             | 13:04           | 0.17            |
| SW03_ [REDACTED] | 406083        | 13-Aug-14    | <1                       | <1                              | <10          | 0.62                  | 0.81                   | 13.5             | 10:44           | 0.14            |