



Water and Waste Department • Service des eaux et des déchets

July 5, 2013

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: JUNE 2013 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 reports for the Water Treatment Plant for June 2013. There are three corrective action reports to be submitted for June 2013 for positive total coliforms in the distribution system.

The June 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 June 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 a summary report and reports for each reactor for June 2013 in accordance with Section 4.13, Table 2 of the Operating Licence. You will note that all 6 UV reactors are in compliance with the licence requirements.

On June 3, three positive total coliform results were reported [REDACTED]

[REDACTED] On June 4, the locations were resampled and results were reported to be negative. Upstream and downstream locations were sampled for the [REDACTED] location.

On June 17, a positive total coliform result was reported [REDACTED]

[REDACTED] On June 20, the location was resampled and results were reported to be negative.

On June 24, three positive total coliform results were reported [REDACTED]

[REDACTED] On June 26, the locations were resampled and results were reported to be negative. Upstream and downstream locations were sampled for the [REDACTED] location. The resampling for all positive coliform samples in June also indicated that the chlorine levels at the locations were normal and provided adequate disinfection.

Please let me know of any concerns or questions respecting this submission. I may be reached at the below address, by telephone at 204-986-4807 or by e-mail at kkjartanson@winnipeg.ca.

Thanks for your ongoing cooperation and understanding in this matter.

Yours sincerely,

Original signed by:

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

KJTK:rg
Attachments

c: Dr. L. Richards, Winnipeg Regional Health Authority
Dr. S. Roberecki, Manitoba Health
D.P. Sacher, P.Eng (e-mail)
G. Patton, P.Eng.
T. Josephson, P.Eng (e-mail)
A. J. Weremy, P.Eng
S. Fletcher (e-mail)

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WATER TREATMENT PLANT CHLORINE GRAB MONITORING REPORT

Water System Code: 252.00 Licence No. PWS-09-412 A	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				
01-Jun-2013	NS	NS	NS	NS
02-Jun-2013	NS	NS	NS	NS
03-Jun-2013	1.01	1.15	1.16	1.27
04-Jun-2013	0.95	1.19	1.13	1.25
05-Jun-2013	1.01	1.18	1.08	1.22
06-Jun-2013	0.99	1.22	1.00	1.17
07-Jun-2013	0.78	0.97	1.10	1.29
08-Jun-2013	NS	NS	NS	NS
09-Jun-2013	NS	NS	NS	NS
10-Jun-2013	0.93	1.08	0.81	1.09
11-Jun-2013	0.96	1.11	0.97	1.12
12-Jun-2013	1.08	1.23	1.10	1.23
13-Jun-2013	1.05	1.14	0.99	1.19
14-Jun-2013	0.89	1.06	0.91	1.09
15-Jun-2013	NS	NS	NS	NS
16-Jun-2013	NS	NS	NS	NS
17-Jun-2013	1.09	1.20	1.00	1.18
18-Jun-2013	0.97	1.15	0.97	1.19
19-Jun-2013	0.99	1.14	1.03	1.20
20-Jun-2013	1.11	1.24	1.08	1.21
21-Jun-2013	1.16	1.32	1.10	1.31
22-Jun-2013	NS	NS	NS	NS
23-Jun-2013	NS	NS	NS	NS
24-Jun-2013	1.16	1.31	1.09	1.30
25-Jun-2013	1.22	1.47	1.27	1.36
26-Jun-2013	1.31	1.49	1.14	1.33
27-Jun-2013	1.33	1.53	1.22	1.39
28-Jun-2013	1.18	1.35	1.20	1.40
29-Jun-2013	NS	NS	NS	NS
30-Jun-2013	NS	NS	NS	NS
Total number of measurements taken, A:	20		20	
Chlorine Standard for Monitoring Location (mg/L):	0.50		0.50	
Number of measurements meeting standard, B:	20		20	
Compliance with Chlorine Standard, C= B/A X 100%:	100%		100%	

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

Comments:

Report Compiled By: H.Demchenko

Approved in LIMS By: S. Fletcher



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

Water System Code: **252.00**
Licence Number: **PWS-09-412 A**
Report Created: 02 July 2013

Report Period: June 2013

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/06/2013	0.99	0.90	1.13	1.00
02/06/2013	0.97	0.88	1.08	1.02
03/06/2013	0.95	0.84	1.06	0.99
04/06/2013	0.93	0.85	1.05	0.91
05/06/2013	0.93	0.80	1.01	0.89
06/06/2013	1.00	0.94	1.02	0.94
07/06/2013	1.01	0.88	1.05	0.93
08/06/2013	0.88	0.75	1.01	0.92
09/06/2013	0.84	0.76	0.96	0.92
10/06/2013	0.86	0.81	0.93	0.87
11/06/2013	0.87	0.80	0.92	0.87
12/06/2013	0.98	0.80	1.09	0.89
13/06/2013	0.98	0.83	1.09	0.97
14/06/2013	0.83	0.72	0.94	0.84
15/06/2013	0.85	0.72	0.90	0.84
16/06/2013	1.02	0.96	1.01	0.93
17/06/2013	1.05	0.88	1.11	0.93
18/06/2013	1.08	0.97	1.11	1.03
19/06/2013	1.17	0.98	1.16	1.06
20/06/2013	1.22	1.07	1.20	1.10
21/06/2013	1.13	1.04	1.26	1.17
22/06/2013	1.08	0.99	1.20	1.11
23/06/2013	0.96	0.72	1.05	0.78
24/06/2013	1.18	0.89	1.19	0.89
25/06/2013	1.31	1.24	1.24	1.14
26/06/2013	1.30	1.25	1.19	1.04
27/06/2013	1.23	1.13	1.17	1.09
28/06/2013	1.33	1.05	1.49	1.25
29/06/2013	1.33	0.64	0.98	0.66
30/06/2013	1.29	1.18	1.22	0.90

Total Number of Measurements, A:	21597	20998
Minimum Free Chlorine Standard:	0.50	0.50
Number of Measurements Meeting Standard, B:	21597	20998
COMPLIANCE, C = B/A X 100%:	100	100

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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 A	Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7	Filter 8
Date	Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7	Filter 8
01-Jun-2013	NS	NS	NS	NS	NS	NS	NS	NS	NS
02-Jun-2013	NS	NS	NS	NS	NS	NS	NS	NS	NS
03-Jun-2013	0.98	0.07	0.06	0.10	0.08	0.09	0.09	0.09	0.06
04-Jun-2013	1.00	0.06	0.06	0.10	0.07	0.07	0.06	0.08	0.09
05-Jun-2013	0.88	0.07	0.07	0.08	0.09	0.07	0.07	0.08	0.08
06-Jun-2013	0.98	0.07	0.06	0.07	0.07	0.07	0.08	0.05	0.07
07-Jun-2013	0.84	0.07	0.09	0.06	0.08	0.07	0.08	0.06	0.07
08-Jun-2013	NS	NS	NS	NS	NS	NS	NS	NS	NS
09-Jun-2013	NS	NS	NS	NS	NS	NS	NS	NS	NS
10-Jun-2013	1.02	0.06	0.08	0.08	0.07	0.06	0.07	0.07	0.06
11-Jun-2013	1.23	0.07	0.06	0.07	0.07	0.08	0.09	0.12	0.08
12-Jun-2013	1.14	0.07	0.07	0.06	0.10	0.08	0.05	0.06	0.08
13-Jun-2013	1.14	0.07	0.09	0.10	0.05	0.09	0.05	0.05	0.06
14-Jun-2013	1.15	0.06	0.06	0.07	0.06	0.06	0.05	0.05	0.05
15-Jun-2013	NS	NS	NS	NS	NS	NS	NS	NS	NS
16-Jun-2013	NS	NS	NS	NS	NS	NS	NS	NS	NS
17-Jun-2013	1.08	0.06	0.06	0.11	0.07	0.05	0.06	0.07	0.07
18-Jun-2013	1.18	0.09	0.06	0.06	0.07	0.08	0.05	0.06	0.06
19-Jun-2013	1.13	0.10	0.05	0.06	0.05	0.05	0.09	0.06	0.06
20-Jun-2013	1.19	0.07	0.06	0.07	0.06	0.06	0.06	0.06	0.07
21-Jun-2013	1.54	0.06	0.06	0.08	0.07	0.06	0.05	0.08	0.06
22-Jun-2013	NS	NS	NS	NS	NS	NS	NS	NS	NS
23-Jun-2013	NS	NS	NS	NS	NS	NS	NS	NS	NS
24-Jun-2013	1.10	0.07	0.06	0.05	0.06	0.06	0.07	0.06	0.06
25-Jun-2013	1.25	0.09	0.12	0.10	0.10	0.07	0.10	0.16	0.06
26-Jun-2013	1.18	0.12	0.11	0.10	0.12	0.08	0.07	0.07	0.16
27-Jun-2013	1.23	0.11	0.07	0.08	0.09	0.08	0.08	0.06	0.06
28-Jun-2013	1.24	0.08	0.08	0.12	0.09	0.09	0.08	0.07	0.07
29-Jun-2013	NS	NS	NS	NS	NS	NS	NS	NS	NS
30-Jun-2013	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total number of measurements taken, A:	20	20	20	20	20	20	20	20	20
Turbidity Standard for Monitoring Location (NTU):	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Number of measurements meeting standard, B:	20	20	20	20	20	20	20	20	20
Compliance with Turbidity Standard, C= B/A X 100%:	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: S. Fletcher

Date Approved: 5-Jul-13



CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT
 WATER SERVICES DIVISION

Water System Code: 252.00

Licence Number: PWS-09-412 A

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

June 2013 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
1/06/2013	1.38	0.04	0.07	0.03	0.05	0.06	0.08	0.03	0.04	0.06	0.09	0.03	0.07	0.02	0.04	0.01	0.02
2/06/2013	1.30	0.04	0.06	0.03	0.04	0.04	0.09	0.03	0.06	0.06	0.13	0.03	0.08	0.03	0.04	0.02	0.03
3/06/2013	1.10	0.05	0.09	0.03	0.07	0.05	0.07	0.02	0.07	0.07	0.09	0.04	0.05	0.02	0.11	0.01	0.05
4/06/2013	1.05	0.03	0.06	0.03	0.04	0.04	0.08	0.03	0.05	0.06	0.11	0.03	0.08	0.02	0.03	0.02	0.03
5/06/2013	1.13	0.04	0.06	0.03	0.06	0.04	0.06	0.02	0.05	0.07	0.08	0.04	0.05	0.03	0.06	0.01	0.05
6/06/2013	1.13	0.04	0.07	0.03	0.05	0.05	0.08	0.03	0.04	0.06	0.12	0.03	0.08	0.02	0.05	0.01	0.03
7/06/2013	1.09	0.04	0.06	0.03	0.04	0.04	0.07	0.02	0.05	0.06	0.10	0.03	0.06	0.02	0.03	0.02	0.04
8/06/2013	1.13	0.04	0.06	0.03	0.05	0.05	0.06	0.02	0.04	0.07	0.08	0.04	0.05	0.02	0.05	0.01	0.04
9/06/2013	1.23	0.03	0.08	0.03	0.05	0.04	0.08	0.03	0.05	0.06	0.11	0.03	0.06	0.02	0.03	0.02	0.03
10/06/2013	1.27	0.04	0.06	0.03	0.06	0.04	0.07	0.02	0.05	0.07	0.08	0.04	0.05	0.02	0.05	0.01	0.04
11/06/2013	1.37	0.03	0.07	0.03	0.05	0.05	0.07	0.03	0.05	0.06	0.10	0.04	0.06	0.02	0.05	0.02	0.03
12/06/2013	1.37	0.04	0.06	0.04	0.07	0.05	0.08	0.02	0.05	0.07	0.09	0.03	0.06	0.02	0.03	0.01	0.04
13/06/2013	1.35	0.04	0.07	0.03	0.07	0.05	0.07	0.03	0.03	0.08	0.10	0.04	0.05	0.01	0.04	0.01	0.03
14/06/2013	1.35	0.04	0.09	0.04	0.06	0.05	0.08	0.02	0.05	0.06	0.10	0.03	0.05	0.02	0.03	0.02	0.03
15/06/2013	1.45	0.04	0.08	0.03	0.07	0.04	0.06	0.02	0.04	0.07	0.09	0.03	0.05	0.01	0.03	0.01	0.03
16/06/2013	1.49	0.03	0.06	0.03	0.05	0.05	0.07	0.02	0.03	0.06	0.09	0.03	0.05	0.01	0.03	0.01	0.03
17/06/2013	1.43	0.04	0.06	0.04	0.06	0.04	0.08	0.02	0.05	0.06	0.08	0.02	0.05	0.01	0.05	0.01	0.03
18/06/2013	1.42	0.02	0.07	0.03	0.08	0.04	0.06	0.01	0.04	0.08	0.11	0.04	0.05	0.01	0.02	0.01	0.03
19/06/2013	1.44	0.02	0.08	0.03	0.06	0.05	0.11	0.02	0.03	0.05	0.10	0.02	0.07	0.01	0.02	0.02	0.03
20/06/2013	1.45	0.04	0.05	0.03	0.07	0.03	0.09	0.01	0.06	0.07	0.08	0.03	0.05	0.01	0.02	0.02	0.04
21/06/2013	1.42	0.04	0.07	0.03	0.05	0.05	0.07	0.02	0.06	0.08	0.10	0.04	0.06	0.01	0.02	0.03	0.05
22/06/2013	1.64	0.05	0.11	0.04	0.06	0.08	0.12	0.04	0.05	0.08	0.12	0.05	0.09	0.01	0.03	0.04	0.05
23/06/2013	1.61	0.05	0.08	0.04	0.09	0.05	0.14	0.03	0.06	0.08	0.11	0.04	0.07	0.01	0.02	0.03	0.08
24/06/2013	1.56	0.04	0.07	0.04	0.08	0.06	0.08	0.02	0.06	0.07	0.10	0.04	0.06	0.01	0.04	0.03	0.06
25/06/2013	1.54	0.05	0.07	0.06	0.07	0.10	0.14	0.04	0.06	0.07	0.12	0.04	0.08	0.01	0.03	0.04	0.06
26/06/2013	1.54	0.08	0.11	0.06	0.12	0.07	0.12	0.04	0.09	0.10	0.11	0.05	0.06	0.01	0.02	0.05	0.09
27/06/2013	1.49	0.05	0.12	0.04	0.10	0.07	0.10	0.03	0.05	0.08	0.11	0.04	0.16	0.01	0.04	0.05	0.06
28/06/2013	1.57	0.07	0.08	0.06	0.08	0.07	0.14	0.03	0.07	0.08	0.10	0.04	0.08	0.01	0.02	0.06	0.09
29/06/2013	1.89	0.08	0.13	0.07	0.13	0.08	0.11	0.04	0.06	0.09	0.12	0.06	0.09	0.01	0.02	0.05	0.14
30/06/2013	2.46	0.06	0.11	0.08	0.10	0.12	0.25	0.07	0.12	0.07	0.18	0.05	0.15	0.02	0.08	0.09	0.11

Total Number of Measurements Taken, A:	15591	15711	15722	12996	15978	15975	15688	16146
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:	15591	15711	15722	12996	15978	15975	15688	16146
Compliance with Turbidity Standard, C = B/A X 100%:	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2013\06-June

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew



CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT
 WATER SERVICES DIVISION

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

WATER TREATMENT PLANT UV REPORT

Report Period: **June 2013**

Report Created: **Tuesday, July 02, 2013**

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	
1/06/2013	94.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	43.84	43.84	0.00	0.00	44.90	44.90	0.00	0.00	41.07	41.07	0.00	0.06	77.57	77.62	0.00	0.06	207.37	207.43	99.97
2/06/2013	94.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.46	42.46	0.00	0.00	43.45	43.45	0.00	0.00	39.48	39.48	0.00	0.00	74.63	74.63	0.00	0.00	200.02	200.02	100.00
3/06/2013	94.72	0.00	0.14	0.01	0.15	0.00	0.00	0.00	0.00	0.00	0.00	42.35	42.35	0.00	0.00	43.18	43.18	0.00	0.00	39.52	39.52	0.00	0.00	74.81	74.81	0.00	0.14	199.88	200.02	99.93
4/06/2013	94.71	0.00	0.64	45.96	46.60	0.00	0.00	7.80	7.80	0.00	0.00	20.89	20.89	0.00	0.40	47.52	47.93	0.00	0.00	51.87	51.87	0.00	0.00	24.87	24.87	0.00	0.00	198.91	199.96	99.47
5/06/2013	94.81	0.00	0.47	44.60	45.07	0.00	0.38	32.31	32.68	0.00	0.06	3.08	3.14	0.00	0.00	54.22	54.22	0.00	0.10	40.74	40.84	0.00	0.00	27.32	27.32	0.00	1.01	202.26	203.27	99.50
6/06/2013	94.78	0.00	0.03	13.73	13.76	0.00	0.00	84.42	84.42	0.00	0.00	0.00	0.00	0.00	0.00	18.72	18.72	0.00	0.00	19.45	19.45	0.00	0.00	81.85	81.85	0.00	0.03	218.16	218.20	99.99
7/06/2013	94.74	0.00	0.27	31.42	31.70	0.00	0.00	37.56	37.56	0.00	0.00	21.07	21.07	0.00	0.00	25.48	25.48	0.02	0.13	32.92	33.07	0.00	0.10	79.08	79.18	0.02	0.51	227.54	228.07	99.77
8/06/2013	93.90	0.00	0.06	26.74	26.80	0.00	0.00	52.29	52.29	0.00	0.00	35.34	35.34	0.00	0.00	38.23	38.23	0.00	0.06	47.40	47.46	0.00	0.06	23.51	23.57	0.00	0.18	223.52	223.70	99.92
9/06/2013	94.86	0.00	0.00	45.49	45.49	0.00	0.00	68.95	68.95	0.00	0.00	47.64	47.64	0.00	0.00	0.00	0.00	0.00	0.00	58.96	58.96	0.00	0.00	0.00	0.00	0.00	0.00	221.03	221.03	100.00
10/06/2013	94.85	0.00	0.00	48.65	48.65	0.00	0.00	74.13	74.13	0.00	0.00	16.70	16.70	0.00	0.00	0.00	0.00	0.00	0.00	37.94	37.94	0.00	0.05	43.52	43.57	0.00	0.05	220.94	220.98	99.98
11/06/2013	94.73	0.00	0.00	50.03	50.03	0.00	0.00	76.45	76.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.78	29.78	0.00	0.00	64.75	64.75	0.00	0.00	220.99	220.99	100.00
12/06/2013	94.64	0.00	0.00	20.45	20.45	0.00	0.00	78.48	78.48	0.00	0.00	41.66	41.66	0.00	0.00	0.00	0.00	0.00	0.00	13.98	13.98	0.00	0.00	69.92	69.92	0.00	0.00	224.49	224.49	100.00
13/06/2013	94.61	0.00	0.00	0.00	0.00	0.00	0.00	37.77	37.77	0.00	0.00	68.51	68.51	0.00	0.00	39.51	39.51	0.00	0.00	0.00	0.00	0.00	0.05	72.46	72.52	0.00	0.05	218.26	218.31	99.98
14/06/2013	94.61	0.00	0.00	0.00	0.00	0.00	0.00	79.56	79.56	0.00	0.00	79.56	79.56	0.00	0.00	7.95	7.95	0.00	0.00	0.00	0.00	0.00	0.10	74.88	74.98	0.00	0.10	224.97	225.07	99.95
15/06/2013	94.73	0.00	0.00	0.00	0.00	0.00	0.00	70.00	70.00	0.00	0.00	76.65	76.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	74.99	74.99	0.00	0.00	221.64	221.64	100.00
16/06/2013	94.82	0.00	0.00	0.00	0.00	0.00	0.00	69.99	69.99	0.00	0.00	75.28	75.28	0.00	0.00	0.00	0.00	0.00	0.00	27.10	27.10	0.00	0.00	47.29	47.29	0.00	0.00	219.66	219.66	100.00
17/06/2013	94.68	0.00	0.08	11.08	11.16	0.00	0.00	64.41	64.41	0.00	0.08	32.26	32.34	0.00	0.00	39.27	39.27	0.00	0.00	39.07	39.07	0.00	0.00	33.20	33.20	0.00	0.16	219.29	219.45	99.93
18/06/2013	94.81	0.00	0.00	0.00	0.00	0.00	0.00	70.01	70.01	0.00	0.05	47.32	47.37	0.00	0.00	17.16	17.16	0.00	0.00	10.44	10.44	0.00	0.00	74.99	74.99	0.00	0.05	219.92	219.97	99.98
19/06/2013	94.65	0.00	0.01	27.49	27.51	0.00	0.00	47.21	47.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	66.92	67.01	0.00	0.00	78.15	78.15	0.00	0.10	219.77	219.87	99.95
20/06/2013	94.48	0.00	0.03	83.55	83.59	0.00	0.00	2.32	2.32	0.00	0.00	24.21	24.21	0.00	0.00	0.00	0.00	0.00	0.26	44.13	44.39	0.00	0.09	64.71	64.79	0.00	0.38	218.93	219.31	99.83
21/06/2013	94.70	0.00	0.00	57.99	57.99	0.00	0.00	67.45	67.45	0.00	0.00	56.44	56.44	0.00	0.00	6.91	6.91	0.00	0.00	0.00	0.00	0.00	0.00	37.66	37.66	0.00	0.00	226.45	226.45	100.00
22/06/2013	95.66	0.00	0.00	64.18	64.18	0.00	0.00	84.99	84.99	0.00	0.00	80.87	80.87	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	230.03	230.03	100.00
23/06/2013	95.96	0.02	0.02	57.10	57.14	0.01	0.01	65.45	65.47	0.01	0.01	65.08	65.11	0.00	0.00	2.14	2.14	0.00	0.04	1.42	1.46	0.00	0.00	0.77	0.77	0.05	0.09	191.95	192.09	99.93
24/06/2013	95.19	0.00	0.00	87.06	87.06	0.00	0.00	0.11	0.11	0.00	0.00	49.63	49.63	0.00	0.00	69.28	69.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	206.09	206.09	100.00
25/06/2013	96.20	0.00	0.00	85.00	85.00	0.00	0.00	0.00	0.00	0.00	0.00	57.71	57.71	0.00	0.00	78.51	78.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	221.21	221.21	100.00
26/06/2013	96.28	0.00	0.00	84.98	84.98	0.00	0.00	0.00	0.00	0.00	0.00	59.37	59.37	0.00	0.00	80.64	80.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	224.98	224.98	100.00
27/06/2013	95.88	0.00	0.00	83.94	83.94	0.00	0.00	3.57	3.57	0.00	0.00	60.20	60.20	0.00	0.00	77.32	77.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	225.02	225.02	100.00
28/06/2013	96.27	0.00	0.00	64.08	64.08	0.00	0.00	81.40	81.40	0.00	0.00	79.50	79.50	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	224.98	224.98	100.00
29/06/2013	96.05	0.00	0.00	65.72	65.72	0.00	0.00	66.82	66.82	0.00	0.00	73.54	73.54	0.00	0.00	0.00	0.00	0.00	0.00	12.09	12.09	0.00	0.00	0.00	0.00	0.00	0.00	218.17	218.17	100.00
30/06/2013	96.17	0.00	0.00	85.00	85.00	0.00	0.00	0.00	0.00	0.00	0.00	56.26	56.26	0.00	0.00	0.00	0.00	0.00	0.00	72.65	72.65	0.00	0.00	0.00	0.00	0.00	0.00	213.92	213.92	100.00
		0.02	1.77	1184.24	1186.03	0.01	0.39	1306.44	1306.85	0.01	0.21	1357.43	1357.65	0.00	0.40	734.38	734.78	0.03	0.69	726.94	727.65	0.00	0.51	1200.92	1201.43	0.07	3.97	6510.34	6514.38	

Water Volume [%]:
 Untreated: 0.00 %
 Below Dose: 0.06 %
 To Dose: 99.94 %

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES DIVISION

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

WATER TREATMENT PLANT UV REPORT

Report Period: **June 2013**

Report Created: **Tuesday, July 02, 2013**

Reactor: **UVR-100A**

Date	UV Dose			Reactor Flow			Average UV Lamp Intensity										UV Lamp Status										% Volume Treated	Daily Totals				
	mJ/cm ²			MLD			W/m ²										Hours											to Validate	Water Volume [ML]			
	Min.	Max.	Avg.	Min.	Max.	Avg.	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	Conditions	Untreated			Below Dose	To Dose	Total	
1/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	1812	1683	2085	984	3683	3681	2849	1515	4339	OL	0.00	0.00	0.00	0.00			
2/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	1812	1683	2085	984	3683	3681	2849	1515	4339	OL	0.00	0.00	0.00	0.00			
3/06/2013	0.0	34.2	18.6	0.0	74.6	47.8	81.3	60.2	27.9	80.6	55.1	47.9	114.2	63.7	66.0	1812	1683	2085	984	3683	3681	2849	1515	4339	6.54	0.00	0.14	0.01	0.15			
4/06/2013	0.0	60.1	23.1	4.0	83.7	69.6	200.8	71.2	79.8	139.1	70.9	65.0	200.4	72.1	104.2	1828	1699	2101	1001	3699	3698	2865	1532	4355	98.62	0.00	0.64	45.96	46.60			
5/06/2013	0.0	50.5	21.9	0.0	86.6	70.9	130.8	72.5	72.6	104.3	72.5	61.3	175.8	73.0	80.6	1843	1714	2117	1016	3714	3713	2880	1547	4370	98.95	0.00	0.47	44.60	45.07			
6/06/2013	0.0	37.0	24.2	0.0	56.8	54.7	102.6	56.3	56.2	90.2	56.2	55.5	163.3	56.7	77.8	1850	1720	2123	1022	3721	3719	2886	1553	4376	99.76	0.00	0.03	13.73	13.76			
7/06/2013	13.9	45.1	23.8	3.7	86.0	56.7	93.4	58.5	58.3	91.9	58.5	56.6	175.5	60.3	83.8	1863	1734	2136	1035	3734	3732	2900	1567	4390	99.14	0.00	0.27	31.42	31.70			
8/06/2013	0.0	50.8	24.1	0.0	85.1	54.4	85.2	56.7	55.7	90.7	56.7	55.1	178.1	60.7	83.8	1875	1746	2148	1047	3746	3744	2912	1578	4402	99.78	0.00	0.06	26.74	26.80			
9/06/2013	18.4	26.1	24.4	43.1	48.5	45.5	74.8	47.3	47.1	96.7	49.7	47.1	189.9	68.7	95.6	1899	1770	2172	1071	3770	3768	2936	1602	4426	100.00	0.00	0.00	45.49	45.49			
10/06/2013	17.6	26.3	24.4	42.3	52.8	48.6	81.8	50.5	50.2	102.7	52.1	50.2	156.2	71.1	98.0	1923	1794	2196	1095	3794	3792	2960	1626	4450	100.00	0.00	0.00	48.65	48.65			
11/06/2013	18.4	37.3	24.3	8.4	53.0	50.0	85.9	51.8	51.6	102.6	52.0	51.7	164.8	72.8	98.4	1947	1818	2220	1119	3818	3816	2984	1650	4474	100.00	0.00	0.00	50.03	50.03			
12/06/2013	0.0	36.1	24.3	0.0	53.1	50.1	83.6	51.7	51.6	101.0	52.4	51.8	165.1	71.2	93.9	1957	1827	2230	1129	3828	3826	2994	1660	4484	100.00	0.00	0.00	20.45	20.45			
13/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	1957	1827	2230	1129	3828	3826	2994	1660	4484	OL	0.00	0.00	0.00	0.00			
14/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	1957	1827	2230	1129	3828	3826	2995	1660	4484	OL	0.00	0.00	0.00	0.00			
15/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	1957	1827	2230	1129	3828	3826	2996	1660	4484	OL	0.00	0.00	0.00	0.00			
16/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	1957	1827	2230	1129	3828	3826	2997	1660	4484	OL	0.00	0.00	0.00	0.00			
17/06/2013	0.0	40.1	23.7	0.0	66.5	55.1	56.2	56.6	54.4	82.1	56.7	55.7	148.2	61.3	84.2	1962	1832	2235	1134	3833	3831	2998	1665	4489	99.29	0.00	0.08	11.08	11.16			
18/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	1962	1832	2235	1134	3833	3831	2998	1665	4489	OL	0.00	0.00	0.00	0.00			
19/06/2013	0.0	104.9	24.0	4.0	107.9	85.0	187.5	135.4	133.2	150.4	134.5	135.0	221.0	81.0	137.4	1969	1840	2242	1141	3840	3838	2999	1666	4489	99.95	0.00	0.01	27.49	27.51			
20/06/2013	0.0	66.3	24.1	0.0	93.0	84.2	123.5	99.9	99.0	112.2	99.7	99.9	188.9	85.3	85.7	1993	1864	2266	1165	3864	3862	3016	1683	4506	99.96	0.00	0.03	83.55	83.59			
21/06/2013	0.0	105.5	24.2	0.0	86.9	66.4	165.0	89.6	88.9	137.7	90.2	90.2	193.8	70.3	78.9	2014	1885	2287	1186	3885	3883	3027	1693	4517	100.00	0.00	0.00	57.99	57.99			
22/06/2013	19.5	25.9	24.0	55.9	72.8	64.2	173.7	103.0	103.2	149.6	103.0	103.0	OL	OL	OL	2038	1909	2311	1210	3909	3907	3027	1693	4517	100.00	0.00	0.00	64.18	64.18			
23/06/2013	0.0	99.6	24.1	0.0	100.5	62.6	188.5	102.3	101.0	154.0	103.4	101.7	178.3	54.5	68.1	2060	1930	2333	1232	3931	3929	3027	1694	4517	99.93	0.02	0.02	57.10	57.14			
24/06/2013	19.5	26.1	23.9	48.6	98.1	87.1	199.5	139.2	139.2	160.9	139.2	139.2	OL	OL	OL	2084	1954	2357	1256	3955	3953	3027	1694	4517	100.00	0.00	0.00	87.06	87.06			
25/06/2013	19.6	24.8	23.9	80.8	89.3	85.0	212.8	135.9	136.0	172.3	135.9	135.9	OL	OL	OL	2108	1978	2381	1280	3979	3977	3027	1694	4517	100.00	0.00	0.00	85.00	85.00			
26/06/2013	19.6	24.7	23.9	80.7	89.1	85.0	208.5	135.9	135.9	178.5	135.9	135.9	OL	OL	OL	2132	2002	2405	1304	4003	4001	3027	1694	4517	100.00	0.00	0.00	84.98	84.98			
27/06/2013	17.7	25.7	23.9	51.6	89.5	83.9	194.0	134.7	134.3	187.4	135.3	134.3	OL	OL	OL	2156	2026	2429	1328	4027	4025	3027	1694	4517	100.00	0.00	0.00	83.94	83.94			
28/06/2013	18.8	25.4	24.1	56.6	71.3	64.1	217.7	104.7	103.0	203.7	122.5	103.8	OL	OL	OL	2180	2050	2453	1352	4051	4049	3027	1694	4517	100.00	0.00	0.00	64.08	64.08			
29/06/2013	19.5	29.3	25.1	51.8	93.6	65.7	278.7	114.6	111.4	211.9	127.1	118.7	OL	OL	OL	2204	2074	2477	1376	4075	4073	3027	1694	4517	100.00	0.00	0.00	65.72	65.72			
30/06/2013	19.2	26.4	23.9	79.9	89.4	85.0	267.6	135.9	135.9	209.6	136.0	135.9	OL	OL	OL	2228	2098	2501	1400	4099	4097	3027	1694	4517	100.00	0.00	0.00	85.00	85.00			

Total [ML]: 0.02 1.77 1184.24 1186.03

Water Volume [%]:
 Untreated: 0.00 %
 Below Dose 0.15 %
 To Dose 99.85 %

Notes: 1. UV Comparative Dose: 18.1 mJ/cm²
 2. OL - Off Line

N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\UV\2013\06-June



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES DIVISION

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

WATER TREATMENT PLANT UV REPORT

Report Period: **June 2013**

Report Created: **Tuesday, July 02, 2013**

Reactor: **UVR-200A**

Date	UV Dose			Reactor Flow			Average UV Lamp Intensity									UV Lamp Status									% Volume Treated	Daily Totals				
	mJ/cm ²			MLD			W/m ²									Hours										to Validate	Water Volume [ML]			
	Min.	Max.	Avg.	Min.	Max.	Avg.	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3			Conditions	Untreated	Below Dose	To Dose
1/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2544	2027	4642	3251	3252	3251	OL	0.00	0.00	0.00	0.00	
2/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2544	2027	4642	3251	3252	3251	OL	0.00	0.00	0.00	0.00	
3/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2544	2027	4642	3251	3252	3251	OL	0.00	0.00	0.00	0.00	
4/06/2013	0.0	70.7	24.2	0.0	74.6	69.0	OL	OL	OL	111.2	111.5	149.5	121.2	109.8	115.1	3197	3196	3197	2547	2030	4645	3254	3255	3254	100.00	0.00	0.00	7.80	7.80	
5/06/2013	0.0	105.3	24.0	0.0	87.9	82.9	182.6	86.0	142.8	85.2	84.7	111.9	131.4	84.1	85.7	3206	3206	3206	2556	2040	4654	3264	3265	3264	98.85	0.00	0.38	32.31	32.68	
6/06/2013	20.8	25.2	24.1	69.2	109.2	84.4	118.3	85.8	92.7	85.9	85.9	86.0	141.8	85.8	85.8	3230	3230	3230	2580	2064	4678	3288	3289	3288	100.00	0.00	0.00	84.42	84.42	
7/06/2013	0.0	28.0	24.1	0.0	88.1	83.0	86.2	86.2	86.2	86.6	86.3	86.1	143.6	86.1	85.8	3240	3240	3241	2591	2075	4689	3299	3299	3299	100.00	0.00	0.00	37.56	37.56	
8/06/2013	17.9	74.9	24.2	3.3	90.1	82.2	83.7	83.5	83.3	85.9	83.6	83.3	146.0	83.7	83.3	3256	3255	3256	2606	2090	4704	3314	3315	3314	100.00	0.00	0.00	52.29	52.29	
9/06/2013	20.9	25.1	24.3	65.6	72.1	68.9	70.5	70.5	70.4	82.3	71.0	70.4	167.5	70.5	70.4	3280	3279	3280	2630	2114	4728	3338	3339	3338	100.00	0.00	0.00	68.95	68.95	
10/06/2013	20.6	25.1	24.2	64.6	79.5	74.2	75.7	75.6	75.6	86.3	76.4	75.6	172.6	75.7	75.5	3304	3303	3304	2654	2138	4752	3362	3363	3362	100.00	0.00	0.00	74.13	74.13	
11/06/2013	19.7	24.9	24.2	72.3	101.7	76.5	77.9	77.9	77.7	87.3	78.1	77.9	171.8	77.9	77.8	3328	3327	3328	2678	2162	4776	3386	3387	3386	100.00	0.00	0.00	76.45	76.45	
12/06/2013	18.8	25.0	23.6	65.4	93.0	78.5	79.9	79.9	76.4	87.8	80.0	79.8	171.0	79.9	79.8	3352	3351	3352	2702	2186	4800	3410	3411	3410	100.00	0.00	0.00	78.48	78.48	
13/06/2013	0.0	32.6	22.9	0.0	82.7	79.9	81.3	81.3	75.2	89.3	81.8	81.4	172.2	81.3	81.3	3363	3363	3363	2714	2197	4812	3421	3422	3421	100.00	0.00	0.00	37.77	37.77	
14/06/2013	15.2	52.0	24.2	6.6	99.2	70.6	72.2	72.0	71.4	92.7	77.7	72.0	181.4	72.3	72.0	3384	3383	3384	2734	2218	4832	3442	3443	3442	100.00	0.00	0.00	62.58	62.58	
15/06/2013	20.8	24.9	24.2	66.9	73.0	70.0	71.6	71.5	71.4	104.2	85.5	71.5	233.9	71.6	71.5	3408	3407	3408	2758	2242	4856	3466	3467	3466	100.00	0.00	0.00	70.00	70.00	
16/06/2013	20.8	25.0	24.2	58.7	78.3	70.0	71.5	71.5	71.4	106.2	86.2	71.5	258.6	71.6	71.5	3432	3431	3432	2782	2266	4880	3490	3491	3490	100.00	0.00	0.00	69.99	69.99	
17/06/2013	19.0	34.8	24.3	4.8	81.0	64.4	69.5	66.5	66.2	110.5	85.1	66.0	268.4	70.3	66.1	3456	3455	3456	2806	2290	4904	3514	3515	3514	100.00	0.00	0.00	64.41	64.41	
18/06/2013	18.9	24.9	22.9	66.9	75.8	70.0	71.5	71.5	71.2	79.4	73.1	68.1	266.2	71.6	71.5	3480	3479	3480	2830	2314	4928	3538	3539	3538	100.00	0.00	0.00	70.01	70.01	
19/06/2013	0.0	36.5	20.5	0.0	73.3	70.0	71.6	71.6	70.4	71.4	71.4	57.3	264.1	71.8	71.5	3497	3496	3497	2847	2331	4945	3555	3556	3555	100.00	0.00	0.00	47.21	47.21	
20/06/2013	20.9	103.6	35.4	3.5	105.9	54.2	166.4	174.1	154.9	223.0	213.3	153.8	218.1	80.1	112.5	3497	3497	3497	2848	2331	1	3555	3556	3555	100.00	0.00	0.00	2.32	2.32	
21/06/2013	19.5	41.0	27.5	44.3	91.6	67.5	166.8	103.3	108.3	193.0	172.7	140.4	229.1	86.2	86.1	3521	3521	3521	2872	2355	25	3565	3566	3565	100.00	0.00	0.00	67.45	67.45	
22/06/2013	20.3	25.6	24.2	74.9	93.3	85.0	140.3	86.5	86.4	170.5	148.0	95.0	248.0	86.4	86.4	3545	3545	3545	2896	2379	49	3589	3590	3589	100.00	0.00	0.00	84.99	84.99	
23/06/2013	0.0	100.7	24.3	0.0	99.9	84.7	141.4	86.6	86.3	171.2	150.1	91.8	256.0	86.4	86.3	3564	3564	3564	2915	2399	68	3609	3609	3609	99.96	0.01	0.01	65.45	65.47	
24/06/2013	0.0	106.1	36.0	0.0	72.1	45.5	95.5	88.9	73.5	137.5	143.5	81.7	185.6	78.1	75.2	3564	3564	3565	2915	2399	68	3609	3609	3609	100.00	0.00	0.00	0.11	0.11	
25/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3564	3564	3565	2915	2399	68	3609	3609	3609	OL	0.00	0.00	0.00	0.00	0.00
26/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3564	3564	3565	2915	2399	68	3609	3609	3609	OL	0.00	0.00	0.00	0.00	0.00
27/06/2013	18.9	94.7	24.5	6.7	100.8	84.4	97.9	86.6	85.8	156.2	133.5	85.7	215.8	87.0	86.6	3565	3565	3565	2916	2399	69	3609	3610	3609	100.00	0.00	0.00	3.57	3.57	
28/06/2013	20.5	25.7	24.2	73.4	91.0	81.4	151.3	82.9	82.8	188.3	158.2	98.1	293.5	82.9	82.9	3589	3589	3589	2940	2423	93	3633	3634	3633	100.00	0.00	0.00	81.40	81.40	
29/06/2013	0.0	54.4	24.3	0.0	86.6	79.9	164.5	81.7	81.3	205.1	168.2	101.9	291.0	81.4	81.6	3610	3609	3610	2960	2444	113	3654	3655	3654	100.00	0.00	0.00	66.82	66.82	
30/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3610	3609	3610	2960	2444	113	3654	3655	3654	OL	0.00	0.00	0.00	0.00	0.00
Total [ML]:																									0.01	0.39	1306.44	1306.85		

Water Volume [%]:

Untreated: 0.00 %
 Below Dose: 0.03 %
 To Dose: 99.97 %

Notes: 1. UV Comparative Dose: 18.1 mJ/cm²
 2. OL - Off Line

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CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES DIVISION

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

WATER TREATMENT PLANT UV REPORT

Report Period: **June 2013**

Report Created: **Tuesday, July 02, 2013**

Reactor: **UVR-300A**

Date	UV Dose			Reactor Flow			Average UV Lamp Intensity									UV Lamp Status									% Volume Treated	Daily Totals				
	mJ/cm ²			MLD			W/m ²									Hours										to Validate	Water Volume [ML]			
	Min.	Max.	Avg.	Min.	Max.	Avg.	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3			Conditions	Untreated	Below Dose	To Dose
1/06/2013	20.6	26.2	24.5	39.7	49.5	43.8	46.4	45.6	45.4	66.2	62.3	45.5	45.7	45.7	45.6	588	202	587	595	595	570	571	571	100.00	0.00	0.00	43.84	43.84		
2/06/2013	20.7	26.3	24.6	39.9	45.3	42.5	45.2	44.2	44.0	68.3	63.0	44.2	45.5	44.9	44.2	612	226	611	619	619	594	595	595	100.00	0.00	0.00	42.46	42.46		
3/06/2013	19.3	30.0	24.6	19.8	45.1	42.4	45.1	44.1	43.9	69.6	62.4	44.1	49.2	48.6	44.2	636	250	635	643	643	643	618	619	100.00	0.00	0.00	42.35	42.35		
4/06/2013	0.0	43.6	24.9	0.0	49.8	37.6	45.2	40.2	38.9	72.3	62.1	39.5	54.4	54.6	45.5	649	263	649	656	656	631	632	632	100.00	0.00	0.00	20.89	20.89		
5/06/2013	0.0	35.4	23.2	0.0	62.6	41.1	48.0	42.3	36.6	61.6	59.1	42.3	58.8	57.4	49.8	651	265	651	658	658	658	634	634	634	97.99	0.00	0.06	3.08	3.14	
6/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	651	265	651	658	658	658	634	634	634	OL	0.00	0.00	0.00	0.00	
7/06/2013	20.2	92.6	25.4	4.6	67.3	36.9	114.8	62.7	116.7	108.3	72.2	123.2	68.2	71.4	74.1	665	279	665	659	658	658	647	648	648	100.00	0.00	0.00	21.07	21.07	
8/06/2013	19.1	27.6	24.4	21.1	64.8	35.4	78.5	57.9	73.5	OL	OL	OL	57.9	58.0	57.9	689	303	689	659	658	658	671	672	672	100.00	0.00	0.00	35.34	35.34	
9/06/2013	21.1	25.9	24.3	43.3	51.2	47.5	77.0	77.0	77.0	OL	OL	OL	77.0	77.0	77.0	713	327	713	659	658	658	695	696	696	100.00	0.00	0.00	47.64	47.64	
10/06/2013	0.0	27.6	24.3	0.0	51.1	47.5	76.9	76.8	76.8	OL	OL	OL	77.0	77.0	76.9	722	335	721	659	658	658	704	705	704	100.00	0.00	0.00	16.70	16.70	
11/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	722	335	721	659	658	658	704	705	704	OL	0.00	0.00	0.00	0.00	
12/06/2013	21.3	93.4	24.4	0.0	74.9	70.2	119.0	112.8	156.7	117.6	113.2	114.5	45.4	111.0	119.6	736	350	735	673	673	704	705	705	100.00	0.00	0.00	41.66	41.66		
13/06/2013	20.8	35.0	24.3	62.9	83.7	70.9	81.8	82.0	84.7	87.6	81.7	82.3	72.3	77.7	72.3	759	373	759	696	696	696	722	723	723	100.00	0.00	0.00	68.51	68.51	
14/06/2013	20.7	27.1	24.2	60.8	85.7	79.5	81.0	80.9	80.9	81.1	80.9	80.9	80.9	81.2	81.0	783	397	783	720	720	720	746	747	747	100.00	0.00	0.00	79.56	79.56	
15/06/2013	20.8	25.4	24.2	71.1	84.8	76.7	78.2	78.1	78.1	78.1	78.1	78.1	79.8	78.1	807	421	807	744	744	744	770	771	771	100.00	0.00	0.00	76.65	76.65		
16/06/2013	20.3	27.2	24.3	48.4	83.7	75.3	76.9	76.8	76.7	77.5	76.7	76.7	76.8	79.5	76.8	831	445	831	768	768	768	794	795	795	100.00	0.00	0.00	75.28	75.28	
17/06/2013	0.0	31.3	24.3	0.0	117.1	57.9	71.2	67.8	64.4	80.9	74.9	67.2	80.3	81.5	79.1	845	459	845	782	782	782	804	805	805	99.75	0.00	0.08	32.26	32.34	
18/06/2013	0.0	62.1	23.0	0.0	80.1	74.9	76.6	76.2	71.7	79.1	76.3	76.2	76.3	80.9	76.3	860	474	860	798	797	797	819	820	820	99.89	0.00	0.05	47.32	47.37	
19/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	861	474	860	798	798	797	819	820	820	OL	0.00	0.00	0.00	0.00	
20/06/2013	20.8	91.9	24.5	3.0	119.4	62.2	126.3	99.8	191.5	128.0	102.9	104.7	55.9	85.6	96.8	869	483	869	806	806	806	820	820	820	100.00	0.00	0.00	24.21	24.21	
21/06/2013	20.9	32.7	24.4	15.1	85.9	56.6	97.0	70.3	127.4	111.7	79.9	75.5	82.2	82.4	82.9	893	507	893	830	830	830	830	831	830	100.00	0.00	0.00	56.44	56.44	
22/06/2013	20.7	25.3	24.2	75.8	86.3	80.8	90.3	82.3	93.2	106.3	82.2	82.2	82.2	82.3	82.4	917	531	917	854	854	854	854	855	854	100.00	0.00	0.00	80.87	80.87	
23/06/2013	0.0	73.4	24.3	0.0	85.3	75.0	89.8	79.0	79.3	107.8	80.4	80.8	81.0	79.7	80.6	938	552	938	874	874	874	874	875	875	99.96	0.01	0.01	65.08	65.11	
24/06/2013	20.9	27.3	24.2	28.3	58.5	49.6	90.3	80.3	80.4	OL	OL	OL	82.6	80.3	81.9	962	576	962	874	874	874	898	899	899	100.00	0.00	0.00	49.63	49.63	
25/06/2013	21.2	25.3	24.2	51.6	64.1	57.7	97.7	92.9	93.0	OL	OL	OL	93.4	92.9	93.6	986	600	986	874	874	874	922	923	923	100.00	0.00	0.00	57.71	57.71	
26/06/2013	21.0	25.6	24.2	54.6	63.7	59.4	98.8	95.5	95.7	OL	OL	OL	96.0	95.5	95.9	1010	624	1010	874	874	874	946	947	947	100.00	0.00	0.00	59.37	59.37	
27/06/2013	21.2	25.6	24.2	50.9	83.6	60.2	98.2	96.9	96.9	OL	OL	OL	97.0	96.8	97.3	1034	648	1034	874	874	874	970	971	971	100.00	0.00	0.00	60.20	60.20	
28/06/2013	21.3	25.0	24.1	74.9	84.2	79.5	127.2	127.2	127.3	OL	OL	OL	127.2	127.2	127.2	1058	672	1058	874	874	874	994	995	995	100.00	0.00	0.00	79.50	79.50	
29/06/2013	21.1	27.3	24.1	37.5	84.2	73.5	118.0	117.8	117.9	OL	OL	OL	119.6	117.9	122.6	1082	696	1082	874	874	874	1018	1019	1019	100.00	0.00	0.00	73.54	73.54	
30/06/2013	21.3	25.2	24.2	51.3	60.2	56.2	90.6	90.6	90.9	OL	OL	OL	96.0	90.6	116.6	1106	720	1106	874	874	874	1042	1043	1043	100.00	0.00	0.00	56.26	56.26	
Total [ML]:																									0.01	0.21	1357.43	1357.65		

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

Notes: 1. UV Comparative Dose: 18.1 mJ/cm²
 2. OL - Off Line

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CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES DIVISION

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

WATER TREATMENT PLANT UV REPORT

Report Period: **June 2013**

Report Created: **Tuesday, July 02, 2013**

Reactor: **UVR-400A**

Date	UV Dose			Reactor Flow			Average UV Lamp Intensity									UV Lamp Status									% Volume Treated	Daily Totals				
	mJ/cm ²			MLD			W/m ²									Hours										to Validate	Water Volume [ML]			
	Min.	Max.	Avg.	Min.	Max.	Avg.	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3			Conditions	Untreated	Below Dose	To Dose
1/06/2013	21.1	26.1	24.1	39.7	50.5	44.9	73.1	72.8	72.8	OL	OL	OL	73.6	72.8	80.1	158	158	1302	2073	2073	2073	2137	1137	2138	100.00	0.00	0.00	44.90	44.90	
2/06/2013	21.2	25.9	24.2	40.5	46.5	43.4	70.4	70.5	70.5	OL	OL	OL	70.5	70.4	75.6	182	182	1326	2073	2073	2073	2161	1161	2162	100.00	0.00	0.00	43.45	43.45	
3/06/2013	21.1	27.4	24.2	25.1	46.2	43.2	70.1	70.0	70.0	OL	OL	OL	70.0	70.0	72.7	206	206	1350	2073	2073	2073	2185	1185	2186	100.00	0.00	0.00	43.18	43.18	
4/06/2013	12.2	34.3	24.4	29.6	81.5	48.0	66.8	63.3	63.0	65.5	55.5	55.5	68.4	71.1	72.4	230	230	1374	2085	2084	2085	2209	1209	2210	99.16	0.00	0.40	47.52	47.93	
5/06/2013	19.0	29.1	24.5	29.0	120.0	54.3	60.3	56.7	56.8	66.4	56.7	56.7	61.8	69.9	64.4	254	254	1398	2109	2108	2109	2233	1233	2234	100.00	0.00	0.00	54.22	54.22	
6/06/2013	0.0	39.1	23.6	0.0	56.4	49.0	50.3	50.4	47.3	50.7	50.8	50.7	50.4	51.4	50.2	263	263	1407	2118	2118	2118	2243	1242	2243	100.00	0.00	0.00	18.72	18.72	
7/06/2013	17.6	45.4	24.6	4.1	49.2	45.1	52.4	47.3	46.8	68.4	47.4	47.6	48.1	73.2	47.5	277	276	1421	2132	2131	2132	2256	1256	2257	100.00	0.00	0.00	25.48	25.48	
8/06/2013	0.0	31.3	23.4	0.0	72.8	44.0	46.4	46.0	44.2	50.8	45.9	46.0	46.0	61.0	42.3	298	297	1442	2153	2152	2153	2277	1277	2277	100.00	0.00	0.00	38.23	38.23	
9/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	298	297	1442	2153	2152	2153	2277	1277	2277	OL	0.00	0.00	0.00	0.00	
10/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	298	297	1442	2153	2152	2153	2277	1277	2277	OL	0.00	0.00	0.00	0.00	
11/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	298	297	1442	2153	2152	2153	2277	1277	2277	OL	0.00	0.00	0.00	0.00	
12/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	298	297	1442	2153	2152	2153	2277	1277	2277	OL	0.00	0.00	0.00	0.00	
13/06/2013	21.2	78.6	24.0	0.0	84.8	79.8	93.5	82.7	84.0	86.0	81.4	81.3	82.6	83.4	92.6	310	309	1454	2165	2164	2165	2289	1289	2290	100.00	0.00	0.00	39.51	39.51	
14/06/2013	0.0	42.7	20.9	0.0	72.8	69.5	71.9	70.8	71.2	70.7	58.4	71.1	72.0	71.8	71.8	313	313	1457	2168	2168	2168	2293	1292	2293	100.00	0.00	0.00	7.95	7.95	
15/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	313	313	1457	2168	2168	2168	2293	1292	2293	OL	0.00	0.00	0.00	0.00	
16/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	313	313	1457	2168	2168	2168	2293	1292	2293	OL	0.00	0.00	0.00	0.00	
17/06/2013	20.9	78.6	27.9	0.0	78.5	61.2	107.1	86.3	81.6	81.6	77.3	76.4	84.0	89.2	103.4	328	328	1472	2177	2176	2177	2307	1307	2308	100.00	0.00	0.00	39.27	39.27	
18/06/2013	0.0	39.8	23.5	0.0	78.7	74.8	75.9	75.9	72.9	75.9	75.9	73.1	75.9	75.9	75.9	334	334	1478	2183	2182	2183	2314	1313	2314	100.00	0.00	0.00	17.16	17.16	
19/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	334	334	1478	2183	2182	2183	2314	1313	2314	OL	0.00	0.00	0.00	0.00	
20/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	334	334	1478	2183	2182	2183	2314	1313	2314	OL	0.00	0.00	0.00	0.00	
21/06/2013	0.0	78.6	25.7	0.0	55.0	51.9	132.9	90.6	92.0	93.4	70.7	76.1	87.6	98.8	130.1	337	337	1482	2183	2183	2183	2317	1317	2317	100.00	0.00	0.00	6.91	6.91	
22/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	337	337	1482	2183	2183	2183	2317	1317	2317	OL	0.00	0.00	0.00	0.00	
23/06/2013	21.7	78.6	32.1	2.3	69.5	44.4	133.3	94.1	90.4	82.8	71.0	71.8	95.3	103.1	127.8	338	338	1482	2183	2183	2183	2318	1317	2318	100.00	0.00	0.00	2.14	2.14	
24/06/2013	21.2	33.0	24.1	52.7	77.7	69.3	115.4	107.1	106.5	75.1	76.5	76.1	107.4	108.5	109.6	362	362	1506	2185	2185	2185	2342	1341	2342	100.00	0.00	0.00	69.28	69.28	
25/06/2013	20.9	25.2	24.3	71.7	84.5	78.5	102.1	79.9	79.9	81.5	80.1	79.9	82.8	85.5	80.0	386	386	1530	2209	2209	2209	2366	1365	2366	100.00	0.00	0.00	78.51	78.51	
26/06/2013	21.1	25.1	24.3	76.6	85.1	80.6	87.5	82.0	82.0	82.1	82.1	82.0	85.7	88.3	82.0	410	410	1554	2233	2233	2233	2390	1389	2390	100.00	0.00	0.00	80.64	80.64	
27/06/2013	0.0	41.5	23.9	0.0	84.6	80.6	80.9	82.0	82.0	82.1	82.2	82.0	88.4	90.8	81.2	434	433	1578	2257	2256	2257	2413	1413	2413	100.00	0.00	0.00	77.32	77.32	
28/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	434	433	1578	2257	2256	2257	2413	1413	2414	OL	0.00	0.00	0.00	0.00	
29/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	434	433	1578	2257	2256	2257	2413	1413	2414	OL	0.00	0.00	0.00	0.00	
30/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	434	433	1578	2257	2256	2257	2413	1413	2414	OL	0.00	0.00	0.00	0.00	
Total [ML]:																									0.00	0.40	734.38	734.78		

Water Volume [%]:
 Untreated: 0.00 %
 Below Dose: 0.05 %
 To Dose: 99.95 %

Notes: 1. UV Comparative Dose: 18.1 mJ/cm²
 2. OL - Off Line

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CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES DIVISION

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

WATER TREATMENT PLANT UV REPORT

Report Period: **June 2013**
 Reactor: **UVR-500A**

Report Created: **Tuesday, July 02, 2013**

Date	UV Dose			Reactor Flow			Average UV Lamp Intensity									UV Lamp Status									% Volume Treated to Validate Conditions	Daily Totals				
	mJ/cm ²			MLD			W/m ²									Hours										Water Volume [ML]				
	Min.	Max.	Avg.	Min.	Max.	Avg.	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3		Untreated	Below Dose	To Dose	Total	
1/06/2013	20.5	26.0	24.4	36.5	47.2	41.1	OL	OL	OL	107.5	67.4	66.8	239.5	66.8	70.1	107	107	783	138	626	138	3128	3127	3127	100.00	0.00	0.00	41.07	41.07	
2/06/2013	20.5	25.9	24.4	36.0	43.1	39.5	OL	OL	OL	102.7	64.9	64.2	240.4	64.3	70.2	107	107	783	162	650	162	3152	3151	3151	100.00	0.00	0.00	39.48	39.48	
3/06/2013	20.6	26.5	24.4	28.8	43.0	39.5	OL	OL	OL	100.8	65.0	64.3	240.2	64.4	70.5	107	107	783	186	674	186	3176	3175	3175	100.00	0.00	0.00	39.52	39.52	
4/06/2013	0.0	116.6	23.9	0.0	77.8	58.6	122.3	118.5	289.7	121.0	94.7	95.1	80.6	78.7	85.6	116	116	791	208	695	208	3189	3189	3188	99.99	0.00	0.00	51.87	51.87	
5/06/2013	0.0	47.7	23.6	0.0	88.4	73.4	77.3	72.5	180.7	74.7	74.4	73.8	199.1	75.6	76.1	129	129	805	221	709	221	3203	3202	3202	99.75	0.00	0.10	40.74	40.84	
6/06/2013	20.9	117.0	25.2	4.4	56.8	52.7	114.3	87.3	300.9	159.0	94.1	99.3	5.8	133.6	146.2	138	138	814	230	718	230	3203	3202	3202	100.00	0.00	0.00	19.45	19.45	
7/06/2013	0.0	120.5	24.5	0.0	94.4	60.9	94.6	81.6	217.5	97.2	80.9	85.8	127.0	63.8	84.7	151	151	827	243	731	243	3211	3211	3210	99.54	0.02	0.13	32.92	33.07	
8/06/2013	18.0	111.2	24.3	4.8	108.7	64.3	97.9	93.8	197.9	96.0	94.1	95.6	146.8	67.3	69.5	169	169	844	261	749	261	3216	3216	3216	99.87	0.00	0.06	47.40	47.46	
9/06/2013	20.1	25.5	24.4	56.5	62.3	59.0	60.8	60.7	119.0	60.6	60.5	60.4	234.9	60.6	60.8	193	193	868	285	773	285	3240	3240	3240	100.00	0.00	0.00	58.96	58.96	
10/06/2013	18.6	32.5	24.5	22.8	61.7	37.9	53.9	49.6	76.6	49.3	49.3	48.9	86.0	60.1	60.4	217	217	892	309	797	309	3249	3249	3248	100.00	0.00	0.00	37.94	37.94	
11/06/2013	18.6	34.4	24.5	23.4	38.4	29.8	49.3	47.8	62.6	47.6	47.7	47.6	191.8	36.1	40.1	241	241	916	333	821	333	3251	3251	3250	100.00	0.00	0.00	29.78	29.78	
12/06/2013	0.0	28.4	24.4	0.0	37.4	33.7	55.1	55.1	73.3	58.7	57.0	55.6	OL	OL	OL	251	251	926	343	831	343	3251	3251	3250	100.00	0.00	0.00	13.98	13.98	
13/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	251	251	926	343	831	343	3251	3251	3250	OL	0.00	0.00	0.00	0.00	0.00
14/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	251	251	926	343	831	343	3251	3251	3250	OL	0.00	0.00	0.00	0.00	0.00
15/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	251	251	926	343	831	343	3251	3251	3250	OL	0.00	0.00	0.00	0.00	0.00
16/06/2013	18.2	56.8	23.0	5.7	91.8	73.2	76.1	75.7	76.4	74.8	74.6	70.5	187.9	75.3	75.5	259	259	935	351	839	351	3259	3259	3258	100.00	0.00	0.00	27.10	27.10	
17/06/2013	0.0	41.8	22.6	0.0	93.8	69.9	92.8	91.8	92.5	71.4	71.4	59.7	234.5	92.4	92.6	273	273	949	359	846	359	3273	3273	3272	100.00	0.00	0.00	39.07	39.07	
18/06/2013	0.0	114.1	24.7	4.4	81.5	74.6	119.5	117.8	344.9	194.1	120.4	127.9	36.1	131.5	130.4	276	276	952	361	849	361	3274	3273	3273	100.00	0.00	0.00	10.44	10.44	
19/06/2013	14.4	34.3	24.3	31.6	129.2	66.9	76.4	69.2	185.0	73.6	69.4	69.8	227.8	70.2	79.2	300	300	975	385	873	385	3297	3296	3296	99.87	0.00	0.09	66.92	67.01	
20/06/2013	0.0	42.1	23.8	0.0	90.9	53.7	57.9	54.9	113.1	54.6	55.1	51.7	226.1	55.5	66.1	321	321	996	406	894	406	3317	3317	3316	99.41	0.00	0.26	44.13	44.39	
21/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	321	321	996	406	894	406	3317	3317	3316	OL	0.00	0.00	0.00	0.00	0.00
22/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	321	321	996	406	894	406	3317	3317	3316	OL	0.00	0.00	0.00	0.00	0.00
23/06/2013	0.0	42.1	23.2	0.0	78.9	48.9	63.5	51.1	109.6	48.1	51.9	37.7	127.5	60.1	68.6	322	321	997	407	894	407	3318	3318	3317	97.15	0.00	0.04	1.42	1.46	
24/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	322	321	997	407	894	407	3318	3318	3317	OL	0.00	0.00	0.00	0.00	0.00
25/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	322	321	997	407	894	407	3318	3318	3317	OL	0.00	0.00	0.00	0.00	0.00
26/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	322	321	997	407	894	407	3318	3318	3317	OL	0.00	0.00	0.00	0.00	0.00
27/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	322	321	997	407	894	407	3318	3318	3317	OL	0.00	0.00	0.00	0.00	0.00
28/06/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	322	321	997	407	894	407	3318	3318	3317	OL	0.00	0.00	0.00	0.00	0.00
29/06/2013	21.5	117.0	26.0	2.4	77.4	72.6	125.2	144.3	421.3	256.4	128.4	144.6	7.4	115.0	152.9	325	325	1000	410	898	410	3318	3318	3317	100.00	0.00	0.00	12.09	12.09	
30/06/2013	21.1	26.3	24.2	67.4	76.3	72.6	117.9	118.7	303.0	220.6	117.0	117.8	OL	OL	OL	349	349	1024	434	922	434	3318	3318	3317	100.00	0.00	0.00	72.65	72.65	
Total [ML]:																									0.03	0.69	726.94	727.65		

Water Volume [%]:
 Untreated: 0.00 %
 Below Dose: 0.09 %
 To Dose: 99.90 %

Notes: 1. UV Comparative Dose: 18.1 mJ/cm²
 2. OL - Off Line

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Thursday, June 6, 2013

Our Incident/Report No: 03-2013

LIMS Reference No: **36069**

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	Winnipeg Public Water System
WATER SYSTEM CODE	252.00
LOCATION OF NON-COMPLIANT INCIDENT	Winnipeg 3-Dist SW08; SW10; SW11
OPERATOR IN CHARGE	NA
INCIDENT REPORTED BY	Steve Fletcher, Supervisor of Analytical Services Branch
TYPE OF NON-COMPLIANT INCIDENT	1. High positive Total Coliform (>10 per100mL), 3 MR 41/2007 2. Low positive Total Coliform (<10 per100mL), 3 MR 41/2007
INCIDENT DATE	June 03, 2013
DESCRIPTION OF CORRECTIVE ACTIONS	AS SOON AS POSSIBLE: Re-sampled original locations, also tested additional samples upstream/downstream where Total Coliform >10 per 100 mL was reported. All additional samples tested for turbidity, free/total chlorine and temperature. The ODW was contacted.
TEST RESULTS	See Attached

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

REFERENCE: ODW-RF-016

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fax/téléc. (204) 339-2147 • www.winnipeg.ca

SampleName	Sample Number	Date Sampled	ColiEsch-QT (MPNU/100mL)	ColiTotal-QT (MPNU/100mL)	Chlorine, Free (mg/L)	Chlorine, Total (mg/L)	Temperature (°C)	Turbidity (ntu)
SW08_	361990	03-Jun-13	<1	9	0.75	0.98	0 22	8.5
SW08_	362527	04-Jun-13	<1	<1	0.69	0.91	0 24	8.5
SW10_	361992	03-Jun-13	<1	1	0.79	0.98	0 23	10.1
SW10_	362528	04-Jun-13	<1	<1	0.82	1.00	0 32	11.1
SW11_	361993	03-Jun-13	<1	62	0.72	0.99	0 24	8.5
SW11_	362529	04-Jun-13	<1	<1	0.83	1.01	0 25	10
SW11_	362531	04-Jun-13	<1	<1	0.83	1.02	0 23	9.5
SW11_	362530	04-Jun-13	<1	<1	0.88	1.08	0 25	10.3



Water and Waste Department • Service des eaux et des déchets

Tuesday, June 25, 2013

Our Incident/Report No: 04-2013

LIMS Reference No: **36224**

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	Winnipeg Public Water System
WATER SYSTEM CODE	252.00
LOCATION OF NON-COMPLIANT INCIDENT	Winnipeg 3-Dist NE06
OPERATOR IN CHARGE	NA
INCIDENT REPORTED BY	Steve Fletcher, Supervisor of Analytical Services Branch
TYPE OF NON-COMPLIANT INCIDENT	1. Low positive Total Coliform (<10 per100mL), 3 MR 41/2007
INCIDENT DATE	June 17, 2013
DESCRIPTION OF CORRECTIVE ACTIONS	AS SOON AS POSSIBLE: Re-sampled original location, also tested for turbidity, free/total chlorine, temperature and contacted the ODW.
TEST RESULTS	See Attached

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

REFERENCE: ODW-RF-016

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Sample Name	Sample Number	Date Sampled	E. Coli-QT (MPNU/100 mL)	Total Coliform-QT (MPNU/100 mL)	Chlorine, Free (mg/L)	Chlorine, Total (mg/L)	Temperature (°C)	Turbidity (ntu)
NE06	363552	17-Jun-13	<1	1	1.03	1.21	16.8	0.29
NE06	364224	20-Jun-13	<1	<1	1.07	1.28	17.5	0.24



Water and Waste Department • Service des eaux et des déchets

Friday, July 5, 2013

Our Incident/Report No: 05-2013

LIMS Reference No: **36291**

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	Winnipeg Public Water System
WATER SYSTEM CODE	252.00
LOCATION OF NON-COMPLIANT INCIDENT	Winnipeg 3-Dist NE07; NE09; SE13
OPERATOR IN CHARGE	NA
INCIDENT REPORTED BY	Steve Fletcher, Supervisor of Analytical Services Branch
TYPE OF NON-COMPLIANT INCIDENT	1. High positive Total Coliform (>10 per100mL), 3 MR 41/2007 2. Low positive Total Coliform (<10 per100mL), 3 MR 41/2007
INCIDENT DATE	June 24, 2013
DESCRIPTION OF CORRECTIVE ACTIONS	AS SOON AS POSSIBLE: Re-sampled original locations, also tested additional samples upstream/downstream where Total Coliform >10 per 100 mL was reported. All additional samples tested for turbidity, free/total chlorine and temperature. The ODW was contacted.
TEST RESULTS	See Attached

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

REFERENCE: ODW-RF-016

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fax/téléc. (204) 339-2147 • www.winnipeg.ca

Sample Name	Sample Number	Date Sampled	TimeSpIed (hrs)	E. Coli-QT (MPNU/100 mL)	Total Coliform-QT (MPNU/100 mL)	Chlorine, Free (mg/L)	Chlorine, Total (mg/L)	Temperature (°C)	Turbidity (ntu)
NE07	364310	24-Jun-13	9:05	<1	6	0.90	1.14	11.2	0.27
NE07	364931	26-Jun-13	10:30	<1	<1	0.69	0.80	12.5	0.27
NE09	364312	24-Jun-13	9:21	<1	16	0.51	0.75	9.9	0.26
NE09	364932	26-Jun-13	11:13	<1	<1	0.48	0.69	10.3	0.27
NE09	364934	26-Jun-13	11:26	<1	<1	0.53	0.70	9.7	0.35
NE09	364933	26-Jun-13	10:46	<1	<1	0.39	0.66	14.0	0.32
SE13	364335	24-Jun-13	10:40	<1	4	0.84	1.03	14.5	0.25
SE13	364935	26-Jun-13	10:00	<1	<1	0.60	0.76	12.7	0.23