



Water and Waste Department • Service des eaux et des déchets

June 7, 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: MAY 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 May 2013. There are no corrective action reports to be submitted for May 2013.

The May on-line and grab sampling turbidity reports include results obtained for the Water Treatment Plant raw water and the eight filters. There were no on-line or grab turbidity results for filter 2 from May 12 to May 23 due to maintenance. The turbidity results for the effluent from the filters are in compliance with the licence requirements.

The May on-line and grab sampling chlorine reports include results obtained for the Deacon Booster Pumping Station at the Water Treatment Plant. There were no on-line or grab free chlorine results for Branch 1 from May 1 to May 7 due to a branch shutdown for a system tie-in. 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 May 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.

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
D.P. Sacher, P.Eng (e-mail) G. Patton, P.Eng.
A. J. Weremy, P.Eng S. Fletcher (e-mail) Dr. S. Roberecki, Manitoba Health
T. Josephson, P.Eng (e-mail)

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WATER TREATMENT PLANT CHLORINE GRAB MONITORING REPORT

Water System Code: 252.00	Deacon Booster Pumping Station Branch 1		Deacon Booster Pumping Station Branch 2	
Licence No. PWS-09-412 A	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Free Chlorine (mg/L)	Total Chlorine (mg/L)
Date				
01-May-2013	OL	OL	1.06	1.27
02-May-2013	OL	OL	1.04	1.20
03-May-2013	OL	OL	0.92	1.15
04-May-2013	OL	OL	NS	NS
05-May-2013	OL	OL	NS	NS
06-May-2013	OL	OL	0.86	1.05
07-May-2013	OL	OL	0.88	1.05
08-May-2013	1.02	1.16	0.92	1.07
09-May-2013	1.13	1.29	1.04	1.19
10-May-2013	0.95	1.16	0.79	1.00
11-May-2013	NS	NS	NS	NS
12-May-2013	NS	NS	NS	NS
13-May-2013	0.97	1.18	0.90	1.12
14-May-2013	0.92	1.07	0.95	1.05
15-May-2013	0.89	1.08	0.83	0.99
16-May-2013	0.96	1.24	1.05	1.13
17-May-2013	1.03	1.16	0.92	1.09
18-May-2013	NS	NS	NS	NS
19-May-2013	NS	NS	NS	NS
20-May-2013	NS	NS	NS	NS
21-May-2013	1.01	1.27	0.92	1.05
22-May-2013	1.17	1.32	0.87	1.18
23-May-2013	1.02	1.16	0.97	1.16
24-May-2013	1.11	1.31	0.95	1.12
25-May-2013	NS	NS	NS	NS
26-May-2013	NS	NS	NS	NS
27-May-2013	1.08	1.30	1.12	1.27
28-May-2013	0.95	1.14	1.04	1.27
29-May-2013	1.11	1.26	1.02	1.24
30-May-2013	1.04	1.23	1.19	1.31
31-May-2013	1.06	1.27	0.95	1.17
Total number of measurements taken, A:	17		22	
Chlorine Standard for Monitoring Location (mg/L):	0.50		0.50	
Number of measurements meeting standard, B:	17		22	
Compliance with Chlorine Standard, C= B/A X 100%:	100%		100%	

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

Comments:

Branch I was off-line from May 1 to May 7, 2013 for a branch system tie-in.

Report Compiled By: H.Demchenko

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



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: 04 June 2013

Report Period: May 2013

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
1/05/2013	OL	OL	1.02	0.96
2/05/2013	OL	OL	1.03	0.98
3/05/2013	OL	OL	0.99	0.92
4/05/2013	OL	OL	0.91	0.87
5/05/2013	OL	OL	0.88	0.85
6/05/2013	OL	OL	0.87	0.83
7/05/2013	OL	OL	0.87	0.84
8/05/2013	0.95	0.88	0.88	0.78
9/05/2013	1.13	1.06	0.92	0.84
10/05/2013	0.99	0.90	0.84	0.79
11/05/2013	0.94	0.90	0.88	0.86
12/05/2013	0.92	0.88	0.87	0.83
13/05/2013	0.89	0.83	0.90	0.82
14/05/2013	0.92	0.88	0.91	0.85
15/05/2013	0.96	0.85	0.98	0.83
16/05/2013	1.05	0.92	1.02	0.94
17/05/2013	1.02	0.97	1.01	0.92
18/05/2013	1.00	0.91	1.05	0.94
19/05/2013	0.99	0.91	0.90	0.76
20/05/2013	1.02	0.90	0.86	0.76
21/05/2013	1.06	1.01	0.94	0.90
22/05/2013	1.03	0.97	0.96	0.92
23/05/2013	0.92	0.78	0.97	0.79
24/05/2013	1.03	0.85	1.02	0.90
25/05/2013	0.99	0.86	0.94	0.82
26/05/2013	1.06	0.99	1.01	0.96
27/05/2013	1.01	0.82	1.07	0.94
28/05/2013	1.04	0.75	1.10	0.94
29/05/2013	0.98	0.93	1.05	0.96
30/05/2013	0.98	0.86	1.04	0.91
31/05/2013	1.07	0.98	1.09	0.91

Total Number of Measurements, A:	21597	21598
Minimum Free Chlorine Standard:	0.50	0.50
Number of Measurements Meeting Standard, B:	21597	21598
COMPLIANCE, C = B/A X 100%:	100	100

OL: Off Line at Deacon Booster Station

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2013\05-May

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	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-May-2013	0.40	0.07	0.08	0.07	0.07	0.07	0.07	0.05	0.07
02-May-2013	0.40	0.09	0.10	0.06	0.08	0.14	0.07	0.09	0.05
03-May-2013	0.36	0.06	0.08	0.06	0.06	0.06	0.07	0.07	0.05
04-May-2013	NS	NS	NS	NS	NS	NS	NS	NS	NS
05-May-2013	NS	NS	NS	NS	NS	NS	NS	NS	NS
06-May-2013	0.39	0.10	0.10	0.08	0.07	0.13	0.16	0.06	0.06
07-May-2013	0.44	0.07	0.07	0.11	0.05	0.08	0.07	0.10	0.09
08-May-2013	0.55	0.08	0.05	0.11	0.09	0.05	0.10	0.12	0.06
09-May-2013	0.45	0.12	0.08	0.06	0.09	0.07	0.07	0.11	<0.05
10-May-2013	0.42	0.10	0.12	0.09	0.10	0.15	0.10	0.07	0.08
11-May-2013	NS	NS	NS	NS	NS	NS	NS	NS	NS
12-May-2013	NS	NS	OL	NS	NS	NS	NS	NS	NS
13-May-2013	0.52	0.08	OL	0.06	0.09	0.11	0.09	0.06	0.11
14-May-2013	0.46	0.08	OL	0.08	0.06	0.06	0.09	0.05	0.14
15-May-2013	0.59	0.07	OL	0.09	0.08	0.07	0.07	0.05	0.10
16-May-2013	0.59	0.10	OL	0.07	0.07	0.06	0.18	0.08	0.05
17-May-2013	0.74	0.11	OL	0.16	0.10	0.08	0.10	0.06	0.12
18-May-2013	NS	NS	OL	NS	NS	NS	NS	NS	NS
19-May-2013	NS	NS	OL	NS	NS	NS	NS	NS	NS
20-May-2013	0.57	0.23	OL	0.11	0.14	0.20	0.12	0.13	0.11
21-May-2013	0.78	0.16	OL	0.15	0.18	0.17	0.11	0.09	0.09
22-May-2013	0.69	0.11	OL	0.09	0.10	0.11	0.07	0.10	0.08
23-May-2013	0.89	0.09	OL	0.10	0.07	0.06	0.08	0.06	0.06
24-May-2013	0.79	0.06	0.09	0.07	0.08	0.10	0.16	0.06	OL
25-May-2013	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-May-2013	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-May-2013	0.89	0.10	0.11	0.11	0.10	0.08	0.07	0.10	0.07
28-May-2013	0.78	0.14	0.08	0.12	0.07	0.10	0.08	0.06	0.07
29-May-2013	1.05	0.05	0.05	0.07	0.17	0.08	0.06	0.07	0.05
30-May-2013	0.96	0.07	0.10	0.10	0.08	0.11	0.09	0.09	0.09
31-May-2013	1.21	0.09	0.06	0.06	0.07	0.07	0.09	0.10	0.11
Total number of measurements taken, A:	23	14	23	23	23	23	23	23	21
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:	23	14	23	23	23	23	23	23	21
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:

Filter 2 was off-line from May 12 to May 23, 2013 for maintenance.

Report Compiled By: H.Demchenko

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

Date Approved: 4-Jun-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

May 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
1/05/2013	0.42	0.01	0.02	0.01	0.04	0.04	0.06	0.03	0.04	0.05	0.09	0.02	0.04	0.06	0.07	0.01	0.01
2/05/2013	0.45	0.01	0.03	0.01	0.02	0.03	0.04	0.03	0.05	0.06	0.08	0.01	0.03	0.05	0.08	0.01	0.04
3/05/2013	0.45	0.01	0.01	0.01	0.03	0.04	0.07	0.03	0.04	0.05	0.10	0.01	0.04	0.05	0.06	0.01	0.01
4/05/2013	0.45	0.01	0.03	0.01	0.02	0.02	0.05	0.02	0.05	0.06	0.07	0.01	0.02	0.06	0.08	0.01	0.03
5/05/2013	0.46	0.01	0.02	0.01	0.04	0.04	0.07	0.02	0.03	0.04	0.08	0.02	0.04	0.04	0.07	0.01	0.02
6/05/2013	0.47	0.01	0.02	0.01	0.02	0.02	0.07	0.03	0.05	0.06	0.07	0.01	0.04	0.06	0.08	0.01	0.03
7/05/2013	0.50	0.01	0.02	0.02	0.04	0.04	0.05	0.01	0.04	0.06	0.09	0.02	0.03	0.03	0.08	0.01	0.03
8/05/2013	0.59	0.01	0.01	0.01	0.04	0.03	0.06	0.03	0.04	0.04	0.07	0.01	0.04	0.05	0.06	0.01	0.02
9/05/2013	0.57	0.01	0.02	0.02	0.03	0.02	0.05	0.02	0.06	0.07	0.09	0.01	0.03	0.04	0.08	0.01	0.05
10/05/2013	0.53	0.01	0.06	0.02	0.07	0.06	0.11	0.03	0.05	0.05	0.12	0.04	0.08	0.04	0.12	0.02	0.04
11/05/2013	0.57	0.01	0.01	0.01	0.02	0.03	0.07	0.03	0.06	0.05	0.10	0.01	0.07	0.06	0.08	0.01	0.07
12/05/2013	0.54	0.01	0.03	OL	OL	0.03	0.07	0.02	0.05	0.06	0.12	0.02	0.03	0.05	0.09	0.01	0.03
13/05/2013	0.40	0.01	0.02	OL	OL	0.04	0.07	0.02	0.05	0.07	0.09	0.02	0.05	0.05	0.08	0.01	0.02
14/05/2013	0.43	0.01	0.02	OL	OL	0.04	0.07	0.03	0.04	0.06	0.09	0.02	0.06	0.05	0.06	0.01	0.03
15/05/2013	0.30	0.01	0.01	OL	OL	0.04	0.07	0.02	0.04	0.07	0.08	0.01	0.03	0.05	0.07	0.01	0.03
16/05/2013	0.20	0.01	0.02	OL	OL	0.04	0.05	0.02	0.05	0.07	0.09	0.02	0.03	0.04	0.08	0.01	0.03
17/05/2013	0.41	0.01	0.05	OL	OL	0.05	0.07	0.03	0.04	0.07	0.11	0.02	0.04	0.04	0.10	0.01	0.02
18/05/2013	0.60	0.01	0.03	OL	OL	0.05	0.11	0.04	0.07	0.07	0.13	0.02	0.07	0.06	0.08	0.02	0.06
19/05/2013	0.65	0.02	0.06	OL	OL	0.05	0.14	0.03	0.08	0.09	0.11	0.03	0.04	0.06	0.11	0.02	0.06
20/05/2013	0.82	0.02	0.08	OL	OL	0.07	0.12	0.03	0.05	0.07	0.14	0.03	0.10	0.05	0.12	0.02	0.03
21/05/2013	0.90	0.02	0.03	OL	OL	0.06	0.16	0.04	0.11	0.07	0.15	0.03	0.09	0.06	0.09	0.02	0.07
22/05/2013	0.93	0.02	0.05	OL	OL	0.05	0.12	0.04	0.10	0.09	0.12	0.03	0.04	0.06	0.12	0.02	0.07
23/05/2013	0.94	0.00	0.03	OL	OL	0.04	0.23	0.02	0.14	0.04	0.20	0.02	0.11	0.03	0.11	0.01	0.04
24/05/2013	0.96	0.01	0.03	0.04	0.10	0.04	0.10	0.02	0.09	0.07	0.09	0.01	0.03	0.05	0.09	0.01	0.08
25/05/2013	1.01	0.01	0.07	0.04	0.18	0.06	0.07	0.02	0.04	0.09	0.17	0.03	0.10	0.04	0.12	0.01	0.03
26/05/2013	1.08	0.01	0.09	0.06	0.07	0.05	0.18	0.04	0.13	0.06	0.18	0.02	0.18	0.05	0.07	0.02	0.11
27/05/2013	1.16	0.02	0.04	0.04	0.16	0.04	0.23	0.03	0.16	0.09	0.11	0.03	0.04	0.07	0.15	0.02	0.11
28/05/2013	1.14	0.02	0.12	0.04	0.13	0.06	0.09	0.03	0.05	0.09	0.20	0.05	0.12	0.04	0.14	0.02	0.03
29/05/2013	1.29	0.02	0.06	0.03	0.04	0.04	0.25	0.04	0.16	0.05	0.15	0.03	0.15	0.03	0.08	0.02	0.11
30/05/2013	1.29	0.05	0.11	0.03	0.08	0.05	0.10	0.03	0.06	0.06	0.08	0.03	0.10	0.02	0.11	0.01	0.04
31/05/2013	1.41	0.04	0.07	0.03	0.05	0.05	0.07	0.02	0.04	0.07	0.08	0.04	0.05	0.02	0.05	0.01	0.03

Total Number of Measurements Taken, A:	14549	8744	15172	11747	15565	15455	15707	15276
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:	14549	8744	15172	11747	15565	15455	15707	15276
Compliance with Turbidity Standard, C = B/A X 100%:	100%	100%	100%	100%	100%	100%	100%	100%

OL: Off Line

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2013\05-May

Submitted By (Print): D.Minor

Signature: Original signed by D.Minor



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: **May 2013**

Report Created: **Saturday, June 01, 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	
1/05/2013	96.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	53.10	53.12	0.00	0.04	30.68	30.72	0.00	0.00	40.64	40.64	0.00	0.00	75.48	75.48	0.01	0.05	199.89	199.96	99.97
2/05/2013	96.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.72	45.72	0.00	0.00	49.73	49.73	0.00	0.00	55.78	55.78	0.00	0.00	47.52	47.52	0.00	0.00	198.75	198.75	100.00
3/05/2013	96.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.33	47.33	0.00	0.00	40.52	40.52	0.00	0.00	47.19	47.19	0.00	0.00	60.31	60.31	0.00	0.00	195.35	195.35	100.00
4/05/2013	96.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.79	4.79	0.00	0.00	68.56	68.56	0.00	0.00	43.33	43.33	0.00	0.00	78.27	78.27	0.00	0.00	194.94	194.94	100.00
5/05/2013	96.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.99	64.99	0.00	0.00	0.00	0.00	0.00	0.00	44.69	44.69	0.00	0.06	84.53	84.59	0.00	0.06	194.21	194.27	99.97
6/05/2013	97.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.16	57.16	0.00	0.00	24.12	24.12	0.00	0.00	58.63	58.63	0.00	0.00	52.62	52.62	0.00	0.00	192.53	192.53	100.00
7/05/2013	97.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.16	53.16	0.00	0.00	36.91	36.91	0.00	0.00	58.68	58.68	0.03	0.03	45.09	45.14	0.03	0.03	193.84	193.89	99.97
8/05/2013	97.39	0.00	0.00	36.40	36.40	0.00	0.00	0.00	0.00	0.00	0.00	57.15	57.15	0.00	0.00	0.00	0.00	0.00	0.00	50.87	50.87	0.00	0.00	61.35	61.35	0.00	0.00	205.77	205.77	100.00
9/05/2013	96.16	0.00	0.00	79.77	79.77	0.00	0.00	0.00	0.00	0.00	0.00	15.70	15.70	0.00	0.00	33.55	33.55	0.00	0.00	12.36	12.36	0.00	0.00	74.94	74.94	0.00	0.00	216.31	216.31	100.00
10/05/2013	96.80	0.00	0.00	82.16	82.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.02	53.02	0.00	0.00	0.00	0.00	0.00	0.00	82.82	82.82	0.00	0.00	218.00	218.00	100.00
11/05/2013	95.78	0.00	0.00	82.90	82.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	56.03	56.16	0.00	0.13	2.40	2.42	0.00	0.00	76.51	76.51	0.00	0.15	217.85	217.99	99.93
12/05/2013	95.74	0.00	0.00	77.28	77.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.57	42.57	0.00	0.00	36.13	36.13	0.00	0.00	54.24	54.24	0.00	0.00	210.22	210.22	100.00
13/05/2013	95.70	0.00	0.00	73.16	73.16	0.00	0.00	0.03	0.03	0.06	0.06	1.07	1.20	0.00	0.00	40.13	40.13	0.00	0.00	39.47	39.47	0.00	0.00	45.31	45.32	0.06	0.06	199.18	199.31	99.94
14/05/2013	95.60	0.00	0.13	77.30	77.43	0.00	0.00	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	36.30	36.30	0.00	0.00	19.30	19.30	0.00	0.00	66.38	66.38	0.00	0.13	199.37	199.50	99.94
15/05/2013	95.59	0.00	0.00	75.36	75.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.32	49.32	0.14	0.19	31.76	32.09	0.00	0.00	43.38	43.38	0.14	0.19	199.82	200.15	99.83
16/05/2013	95.68	0.11	0.15	78.48	78.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	30.10	30.44	0.00	0.00	59.55	59.55	0.00	0.00	31.05	31.05	0.11	0.50	199.18	199.78	99.70
17/05/2013	95.93	0.00	0.00	74.56	74.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	32.47	32.49	0.00	0.00	46.78	46.78	0.00	0.10	45.94	46.04	0.01	0.11	199.75	199.87	99.94
18/05/2013	96.59	0.00	0.00	67.87	67.87	0.00	0.00	0.00	0.00	0.00	0.00	12.53	12.53	0.00	0.00	41.71	41.71	0.00	0.00	46.79	46.79	0.00	0.00	30.84	30.84	0.00	0.00	199.74	199.74	100.00
19/05/2013	96.71	0.00	0.00	72.65	72.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.08	47.08	0.00	0.00	0.00	0.00	0.00	0.00	72.99	72.99	0.00	0.00	192.72	192.72	100.00
20/05/2013	96.45	0.00	0.00	71.97	71.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.77	46.77	0.00	0.00	0.00	0.00	0.00	0.05	71.21	71.26	0.00	0.05	189.95	190.00	99.97
21/05/2013	95.99	0.00	0.00	72.60	72.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.09	47.09	0.00	0.00	0.00	0.00	0.00	0.00	73.36	73.36	0.00	0.00	193.06	193.06	100.00
22/05/2013	96.01	0.00	0.24	72.13	72.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	58.26	58.26	0.00	0.00	0.00	0.00	0.00	0.05	71.55	71.60	0.00	0.29	201.94	202.23	99.86
23/05/2013	95.48	0.00	0.00	48.15	48.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.68	39.68	0.00	0.00	0.00	0.00	0.00	0.00	41.47	41.47	0.00	0.00	129.29	129.29	100.00
24/05/2013	94.84	0.00	0.00	80.99	80.99	0.00	0.00	0.00	0.00	0.00	0.03	12.62	12.65	0.00	0.00	41.29	41.29	0.00	0.00	0.00	0.00	0.00	0.00	82.86	82.86	0.00	0.03	217.76	217.79	99.99
25/05/2013	96.03	0.00	0.00	77.88	77.88	0.00	0.00	0.00	0.00	0.00	0.00	51.11	51.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	81.00	81.00	0.00	0.00	209.99	209.99	100.00
26/05/2013	95.96	0.00	0.00	77.67	77.67	0.00	0.00	0.00	0.00	0.00	0.00	51.16	51.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	81.17	81.17	0.00	0.00	210.00	210.00	100.00
27/05/2013	95.94	0.00	0.00	50.46	50.46	0.00	0.00	0.00	0.00	0.00	0.00	55.05	55.05	0.00	0.00	24.52	24.52	0.00	0.00	0.00	0.00	0.00	0.00	83.61	83.61	0.00	0.00	213.63	213.63	100.00
28/05/2013	95.78	0.00	0.09	38.14	38.22	0.00	0.00	11.85	11.85	0.00	0.00	49.18	49.18	0.10	1.22	29.91	31.23	0.00	0.00	0.00	0.00	0.00	0.00	79.57	79.57	0.10	1.31	208.65	210.06	99.33
29/05/2013	94.74	0.00	0.00	44.92	44.92	0.00	0.00	32.33	32.33	0.00	0.00	48.54	48.54	0.00	0.00	0.00	0.00	0.00	0.00	8.31	8.31	0.00	0.00	75.43	75.43	0.00	0.00	209.54	209.54	100.00
30/05/2013	94.71	0.00	0.82	11.27	12.09	0.00	0.23	21.40	21.63	0.00	0.00	61.88	61.88	0.00	0.00	0.00	0.00	0.00	0.00	42.27	42.27	0.00	0.00	76.60	76.60	0.00	1.05	213.41	214.46	99.51
31/05/2013	94.79	0.00	0.00	0.00	0.00	0.00	0.00	40.79	40.79	0.00	0.00	43.40	43.40	0.03	0.30	25.03	25.36	0.00	0.42	38.16	38.57	0.00	0.00	71.57	71.57	0.03	0.71	218.96	219.70	99.66
		0.11	1.43	1524.05	1525.58	0.00	0.23	106.49	106.71	0.07	0.10	785.64	785.81	0.14	2.04	1025.35	1027.53	0.14	0.63	783.09	783.86	0.03	0.29	2018.98	2019.29	0.48	4.71	6243.59	6248.79	

Water Volume [%]:
 Untreated: 0.01 %
 Below Dose: 0.08 %
 To Dose: 99.92 %

Submitted By (Print): D.Minor

Signature: Original signed by D.Minor



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: **May 2013**

Report Created: **Saturday, June 01, 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	Untreated	Below Dose			To Dose	Total		
1/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	1325	1196	1598	737	3436	3434	2554	1221	4044	OL	0.00	0.00	0.00	0.00			
2/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	1325	1196	1598	737	3436	3434	2554	1221	4044	OL	0.00	0.00	0.00	0.00			
3/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	1325	1196	1598	737	3436	3434	2554	1221	4044	OL	0.00	0.00	0.00	0.00			
4/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	1325	1196	1598	737	3436	3434	2554	1221	4044	OL	0.00	0.00	0.00	0.00			
5/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	1325	1196	1598	737	3436	3434	2554	1221	4044	OL	0.00	0.00	0.00	0.00			
6/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	1325	1196	1598	737	3436	3434	2554	1221	4044	OL	0.00	0.00	0.00	0.00			
7/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	1325	1196	1598	737	3436	3434	2554	1221	4044	OL	0.00	0.00	0.00	0.00			
8/05/2013	17.8	86.3	24.0	6.3	87.3	71.5	210.4	113.5	111.5	154.5	114.0	112.8	175.3	71.5	92.2	1337	1208	1611	749	3448	3446	2555	1222	4045	100.00	0.00	0.00	36.40	36.40			
9/05/2013	19.5	24.9	23.9	71.2	91.1	79.7	201.6	127.5	127.7	151.5	127.5	127.6	OL	OL	OL	1361	1232	1635	773	3472	3470	2555	1222	4045	100.00	0.00	0.00	79.77	79.77			
10/05/2013	19.4	24.8	23.9	77.4	84.7	82.1	204.5	131.4	131.4	157.7	131.4	131.4	OL	OL	OL	1385	1256	1659	797	3496	3494	2555	1222	4045	100.00	0.00	0.00	82.16	82.16			
11/05/2013	19.3	25.2	23.9	74.7	85.9	82.9	189.8	132.5	132.6	147.1	132.5	132.5	OL	OL	OL	1409	1280	1683	821	3520	3518	2555	1222	4045	100.00	0.00	0.00	82.90	82.90			
12/05/2013	19.5	24.8	23.9	73.2	82.0	77.3	182.5	123.7	123.7	142.3	123.7	123.7	OL	OL	OL	1433	1304	1707	845	3544	3542	2555	1222	4045	100.00	0.00	0.00	77.28	77.28			
13/05/2013	19.3	26.4	23.9	54.5	80.8	73.2	181.7	117.3	117.3	142.2	117.3	117.3	OL	OL	OL	1457	1328	1731	869	3568	3566	2555	1222	4045	100.00	0.00	0.00	73.16	73.16			
14/05/2013	10.7	33.5	23.9	46.8	94.3	77.4	183.9	114.3	112.7	144.5	114.1	113.0	180.8	88.9	89.0	1481	1352	1755	893	3592	3590	2561	1227	4051	99.83	0.00	0.13	77.30	77.43			
15/05/2013	19.3	24.8	23.9	70.5	77.3	75.4	184.4	120.7	120.7	145.2	120.7	120.7	OL	OL	OL	1505	1376	1779	917	3616	3614	2561	1227	4051	100.00	0.00	0.00	75.36	75.36			
16/05/2013	0.0	61.3	24.0	0.0	105.0	79.1	182.1	112.1	107.1	143.4	111.6	107.8	190.6	85.8	85.7	1529	1400	1803	941	3640	3638	2570	1237	4060	99.67	0.11	0.15	78.48	78.74			
17/05/2013	17.7	25.5	24.0	62.6	87.3	74.5	184.1	102.4	99.6	134.9	87.2	85.9	209.1	100.1	100.2	1553	1424	1827	951	3650	3648	2594	1261	4084	100.00	0.00	0.00	74.56	74.56			
18/05/2013	19.4	25.0	24.0	57.3	77.4	67.8	201.1	109.2	108.9	OL	OL	OL	228.9	108.8	108.8	1577	1448	1851	951	3650	3648	2618	1285	4108	100.00	0.00	0.00	67.87	67.87			
19/05/2013	19.3	24.6	24.0	69.3	77.9	72.7	208.8	116.5	116.5	OL	OL	OL	234.9	116.5	116.5	1601	1472	1875	951	3650	3648	2642	1309	4132	100.00	0.00	0.00	72.65	72.65			
20/05/2013	19.7	24.7	24.0	69.3	73.9	71.9	219.0	115.3	115.4	OL	OL	OL	241.3	115.3	118.2	1625	1496	1899	951	3650	3648	2666	1333	4156	100.00	0.00	0.00	71.97	71.97			
21/05/2013	19.5	25.7	24.0	69.3	74.9	72.6	220.8	116.4	116.4	OL	OL	OL	240.4	116.3	122.6	1649	1520	1923	951	3650	3648	2690	1357	4180	100.00	0.00	0.00	72.60	72.60			
22/05/2013	1.4	34.6	24.0	16.1	82.6	72.3	222.8	116.0	115.9	12.0	4.7	6.7	239.8	115.8	126.2	1673	1544	1947	951	3650	3648	2714	1381	4204	99.67	0.00	0.24	72.13	72.37			
23/05/2013	0.0	62.3	24.1	0.0	87.5	69.3	218.9	115.7	111.3	OL	OL	OL	233.1	111.8	129.9	1690	1561	1963	951	3650	3648	2731	1397	4221	100.00	0.00	0.00	48.15	48.15			
24/05/2013	0.0	59.3	24.0	0.0	86.1	81.6	212.3	130.7	130.4	OL	OL	OL	222.5	130.4	130.9	1714	1585	1987	951	3650	3648	2755	1421	4245	100.00	0.00	0.00	80.99	80.99			
25/05/2013	19.6	24.8	24.0	74.2	80.1	77.9	241.2	124.6	124.7	OL	OL	OL	247.8	124.6	141.2	1738	1609	2011	951	3650	3648	2779	1445	4269	100.00	0.00	0.00	77.88	77.88			
26/05/2013	19.7	24.8	24.0	73.8	80.3	77.7	239.0	124.3	124.4	OL	OL	OL	241.6	124.3	144.0	1762	1633	2035	951	3650	3648	2803	1469	4293	100.00	0.00	0.00	77.67	77.67			
27/05/2013	0.0	34.7	24.0	0.0	81.3	78.0	239.5	124.9	124.8	OL	OL	OL	241.6	124.8	148.7	1778	1648	2051	951	3650	3648	2818	1485	4308	100.00	0.00	0.00	50.46	50.46			
28/05/2013	0.0	65.4	24.2	0.0	96.8	73.7	236.4	121.7	115.1	134.9	114.3	114.7	226.5	104.6	124.5	1790	1661	2063	960	3658	3657	2824	1491	4314	99.77	0.00	0.09	38.14	38.22			
29/05/2013	0.0	41.3	24.4	0.0	79.8	54.6	121.0	66.0	56.1	84.6	63.3	58.1	161.5	67.3	67.7	1810	1680	2083	979	3678	3676	2844	1510	4334	100.00	0.00	0.00	44.92	44.92			
30/05/2013	0.0	44.7	22.2	0.0	102.3	58.1	99.7	61.9	45.4	85.4	79.9	77.0	143.6	79.8	79.8	1812	1683	2085	984	3683	3681	2849	1515	4339	93.19	0.00	0.82	11.27	12.09			
31/05/2013	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			
Total [ML]:																									0.11	1.43	1524.05	1525.58				

Water Volume [%]:

Untreated: 0.01 %
 Below Dose: 0.09 %
 To Dose: 99.90 %

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

N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\UV\2013\05-May



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: **May 2013**

Report Created: **Saturday, June 01, 2013**

Reactor: **UVR-200A**

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
1/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
2/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
3/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
4/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
5/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
6/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
7/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
8/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
9/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
10/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
11/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
12/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
13/05/2013	0.0	29.4	22.9	0.0	42.7	20.6	OL	OL	OL	59.1	41.8	33.7	82.0	41.2	36.4	3197	3196	3197	2510	1993	4608	3217	3218	3217	100.00	0.00	0.00	0.03	0.03
14/05/2013	0.0	29.7	20.5	0.0	68.7	40.4	OL	OL	OL	80.5	64.6	45.6	90.0	53.0	45.8	3197	3196	3197	2510	1993	4608	3217	3218	3217	100.00	0.00	0.00	0.09	0.09
15/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
16/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
17/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
18/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
19/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
20/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
21/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
22/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
23/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
24/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
25/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
26/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
27/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	3197	3196	3197	2510	1993	4608	3217	3218	3217	OL	0.00	0.00	0.00	0.00
28/05/2013	0.0	64.6	24.2	0.0	85.5	74.5	OL	OL	OL	189.7	159.3	120.8	185.4	119.0	120.9	3197	3196	3197	2514	1997	4612	3221	3222	3221	100.00	0.00	0.00	11.85	11.85
29/05/2013	0.0	63.6	23.9	0.0	65.4	62.5	OL	OL	OL	109.9	102.2	99.6	159.7	100.4	100.4	3197	3196	3197	2526	2010	4624	3234	3234	3234	100.00	0.00	0.00	32.33	32.33
30/05/2013	0.0	65.8	24.0	0.0	88.7	83.3	OL	OL	OL	220.9	184.9	137.9	219.6	132.5	132.9	3197	3196	3197	2533	2016	4631	3240	3241	3240	98.95	0.00	0.23	21.40	21.63
31/05/2013	0.0	29.5	23.1	0.0	89.3	86.3	OL	OL	OL	153.9	141.2	138.1	174.1	129.3	135.6	3197	3196	3197	2544	2027	4642	3251	3252	3251	100.00	0.00	0.00	40.79	40.79
Total [ML]:																										0.00	0.23	106.49	106.71

Water Volume [%]:

Untreated: 0.00 %
 Below Dose: 0.21 %
 To Dose: 99.79 %

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: **May 2013**

Report Created: **Saturday, June 01, 2013**

Reactor: **UVR-300A**

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	
1/05/2013	0.0	97.0	24.3	0.0	85.5	82.7	84.1	84.0	84.1	84.2	84.1	84.0	84.1	84.2	81.9	245	245	245	253	252	252	276	277	276	99.96	0.01	0.01	53.10	53.12	
2/05/2013	20.6	92.6	24.6	5.3	85.5	63.0	115.9	90.5	128.5	113.4	102.7	107.1	83.2	84.0	84.8	263	263	263	270	270	270	281	282	281	100.00	0.00	0.00	45.72	45.72	
3/05/2013	0.0	34.3	24.3	0.0	84.9	72.9	79.0	74.9	74.9	79.3	78.1	74.3	74.6	74.9	70.6	278	278	278	286	285	285	296	297	297	100.00	0.00	0.00	47.33	47.33	
4/05/2013	14.4	49.9	24.2	2.9	84.8	65.1	67.3	65.0	65.9	66.9	66.5	65.6	65.6	65.8	24.1	280	280	280	287	287	287	298	299	299	100.00	0.00	0.00	4.79	4.79	
5/05/2013	20.6	25.3	24.3	61.9	68.0	65.0	66.6	66.5	66.5	66.6	66.5	66.5	66.5	66.5	66.5	304	304	304	311	311	311	322	323	323	100.00	0.00	0.00	64.99	64.99	
6/05/2013	20.8	31.2	24.5	29.0	67.0	57.1	58.4	58.4	58.3	61.9	58.7	57.9	58.1	58.5	58.8	328	328	328	335	335	335	346	347	347	100.00	0.00	0.00	57.16	57.16	
7/05/2013	19.0	26.6	24.5	38.2	81.7	53.1	54.5	54.5	54.4	59.8	54.7	54.1	54.4	54.6	54.9	352	352	352	359	359	359	370	371	371	100.00	0.00	0.00	53.16	53.16	
8/05/2013	17.6	33.0	24.5	23.6	71.1	57.1	58.6	58.5	58.5	63.0	60.4	58.3	58.4	61.8	58.9	376	376	376	383	383	383	394	395	395	100.00	0.00	0.00	57.15	57.15	
9/05/2013	0.0	33.4	24.7	0.0	46.9	43.2	44.8	44.8	44.8	52.6	46.3	45.1	44.8	51.2	44.8	385	385	385	392	392	392	403	404	403	100.00	0.00	0.00	15.70	15.70	
10/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	385	385	385	392	392	392	403	404	403	OL	0.00	0.00	0.00	0.00	0.00
11/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	385	385	385	392	392	392	403	404	403	OL	0.00	0.00	0.00	0.00	0.00
12/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	385	385	385	392	392	392	403	404	403	OL	0.00	0.00	0.00	0.00	0.00
13/05/2013	0.0	25.4	23.0	0.0	30.5	27.3	29.5	24.2	28.9	30.4	28.9	28.3	28.4	29.4	28.7	386	386	386	393	393	393	404	405	405	89.57	0.06	0.06	1.07	1.20	
14/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	386	0	386	393	393	393	404	405	405	OL	0.00	0.00	0.00	0.00	0.00
15/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	386	0	386	393	393	393	404	405	405	OL	0.00	0.00	0.00	0.00	0.00
16/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	386	0	386	393	393	393	404	405	405	OL	0.00	0.00	0.00	0.00	0.00
17/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	386	0	386	393	393	393	404	405	405	OL	0.00	0.00	0.00	0.00	0.00
18/05/2013	0.0	89.8	30.2	0.0	55.2	36.8	134.7	78.0	145.8	135.8	106.1	85.4	41.5	93.3	117.5	394	8	394	402	401	401	404	405	405	100.00	0.00	0.00	12.53	12.53	
19/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	394	8	394	402	401	401	404	405	405	OL	0.00	0.00	0.00	0.00	0.00
20/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	394	8	394	402	401	401	404	405	405	OL	0.00	0.00	0.00	0.00	0.00
21/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	394	8	394	402	401	401	404	405	405	OL	0.00	0.00	0.00	0.00	0.00
22/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	394	8	394	402	401	401	404	405	405	OL	0.00	0.00	0.00	0.00	0.00
23/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	394	8	394	402	401	401	404	405	405	OL	0.00	0.00	0.00	0.00	0.00
24/05/2013	17.1	30.2	24.4	3.3	59.7	50.1	52.3	51.2	52.2	57.3	51.8	52.2	52.1	51.7	52.0	401	14	400	408	407	407	410	411	411	99.78	0.00	0.03	12.62	12.65	
25/05/2013	20.5	25.9	24.5	47.9	54.3	51.1	52.9	52.7	52.8	61.1	52.9	52.9	52.8	52.8	52.8	425	38	424	432	431	431	434	435	435	100.00	0.00	0.00	51.11	51.11	
26/05/2013	20.6	25.9	24.5	47.8	54.8	51.2	52.9	52.7	52.8	59.3	52.9	52.9	52.9	52.8	52.8	449	62	448	456	455	455	458	459	459	100.00	0.00	0.00	51.16	51.16	
27/05/2013	20.4	30.0	24.5	28.4	63.8	55.1	56.8	56.7	56.6	61.1	56.8	56.8	56.7	56.7	56.7	473	86	472	480	479	479	482	483	483	100.00	0.00	0.00	55.05	55.05	
28/05/2013	0.0	93.3	24.2	0.0	94.1	59.6	92.3	73.4	103.4	92.1	80.8	78.2	66.7	67.2	67.5	492	106	492	500	499	499	494	495	495	100.00	0.00	0.00	49.18	49.18	
29/05/2013	20.0	34.2	24.1	29.0	77.6	48.6	76.6	71.0	71.2	80.3	74.3	71.0	75.5	75.5	75.3	516	130	516	524	523	523	499	499	499	100.00	0.00	0.00	48.54	48.54	
30/05/2013	0.0	52.2	23.7	0.0	82.4	63.5	68.3	65.6	62.8	73.4	71.9	62.3	65.3	66.0	65.3	540	154	539	547	547	547	522	523	523	100.00	0.00	0.00	61.88	61.88	
31/05/2013	19.1	30.8	24.5	20.7	49.0	43.4	47.5	45.0	44.9	64.9	60.7	45.0	45.2	45.6	45.2	564	178	563	571	571	571	546	547	547	100.00	0.00	0.00	43.40	43.40	
Total [ML]:																									0.07	0.10	785.64	785.81		

Water Volume [%]:

Untreated: 0.01 %
 Below Dose: 0.01 %
 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: **May 2013**

Report Created: **Saturday, June 01, 2013**

Reactor: **UVR-400A**

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
1/05/2013	0.0	63.9	24.3	0.0	88.6	84.6	95.4	85.3	85.1	96.1	85.7	85.7	87.8	91.5	102.8	1226	1226	986	1691	1691	1670	669	1670	99.86	0.00	0.04	30.68	30.72	
2/05/2013	0.0	63.9	24.0	0.0	86.7	77.9	79.4	79.1	78.4	79.2	79.0	79.2	79.1	79.1	79.2	1242	1242	1001	1707	1706	1707	1685	685	1685	100.00	0.00	0.00	49.73	49.73
3/05/2013	20.9	63.9	24.3	3.1	99.6	80.6	96.4	88.0	80.9	93.1	81.7	84.3	86.7	90.2	99.0	1254	1254	1013	1719	1719	1719	1697	697	1697	100.00	0.00	0.00	40.52	40.52
4/05/2013	0.0	41.0	23.5	0.0	87.0	74.0	76.0	74.4	72.8	75.6	75.6	75.8	75.5	75.6	75.7	1276	1276	1035	1741	1741	1741	1719	719	1720	100.00	0.00	0.00	68.56	68.56
5/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	1276	1276	1035	1741	1741	1741	1719	719	1720	OL	0.00	0.00	0.00	0.00
6/05/2013	21.0	63.9	24.5	0.0	78.4	65.0	101.4	79.6	66.9	100.5	66.6	72.2	84.8	69.7	102.9	1285	1285	1044	1750	1750	1750	1728	728	1729	100.00	0.00	0.00	24.12	24.12
7/05/2013	0.0	38.7	23.9	0.0	68.4	64.4	66.9	66.2	64.9	92.5	87.5	85.4	91.9	87.4	91.8	1291	1291	1051	1764	1763	1764	1742	742	1742	100.00	0.00	0.00	36.91	36.91
8/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	1291	1291	1051	1764	1763	1764	1742	742	1742	OL	0.00	0.00	0.00	0.00
9/05/2013	18.5	60.0	24.5	0.0	56.0	52.7	95.2	54.2	55.0	93.6	56.1	62.5	72.0	54.3	94.4	1307	1306	1066	1779	1779	1779	1757	757	1758	100.00	0.00	0.00	33.55	33.55
10/05/2013	21.0	25.6	24.4	50.3	56.0	53.0	60.5	54.7	54.6	69.5	54.7	54.7	62.2	54.7	66.0	1331	1330	1090	1803	1803	1803	1781	781	1782	100.00	0.00	0.00	53.02	53.02
11/05/2013	17.0	25.8	23.0	42.2	62.3	56.1	57.8	57.8	53.2	60.7	57.9	57.8	59.5	58.0	60.3	1355	1354	1114	1827	1827	1827	1805	805	1806	99.78	0.00	0.13	56.03	56.16
12/05/2013	18.8	25.7	23.4	39.2	47.3	42.6	44.4	44.3	41.1	58.8	44.3	44.3	56.3	59.2	60.3	1379	1378	1138	1851	1851	1851	1829	829	1830	100.00	0.00	0.00	42.57	42.57
13/05/2013	18.0	25.9	23.7	32.2	52.6	40.1	43.7	43.6	37.6	63.3	59.5	59.3	63.6	79.9	66.5	1385	1385	1144	1875	1875	1875	1853	853	1854	100.00	0.00	0.00	40.13	40.13
14/05/2013	0.0	63.9	24.4	0.0	52.2	44.1	132.3	89.0	80.7	63.7	62.9	63.2	74.4	88.3	84.5	10	10	1154	1885	1885	1885	1873	873	1874	100.00	0.00	0.00	36.30	36.30
15/05/2013	20.9	32.7	24.2	37.5	52.3	49.3	82.7	73.3	73.4	70.3	50.4	50.5	76.9	77.0	75.7	34	34	1178	1892	1891	1892	1897	897	1898	100.00	0.00	0.00	49.32	49.32
16/05/2013	0.0	31.9	24.3	0.0	74.0	48.9	57.0	50.6	50.0	69.4	50.8	50.7	64.2	63.3	53.1	49	49	1193	1907	1906	1907	1912	912	1912	98.87	0.00	0.34	30.10	30.44
17/05/2013	0.0	39.2	24.1	0.0	60.3	53.4	60.0	45.2	38.3	85.9	85.3	85.2	85.8	86.0	85.5	50	49	1194	1921	1921	1921	1927	927	1927	99.93	0.01	0.01	32.47	32.49
18/05/2013	0.0	63.9	24.5	0.0	55.4	46.7	146.0	95.5	79.5	77.5	74.7	74.8	82.5	85.1	84.2	57	56	1201	1936	1935	1936	1948	948	1949	100.00	0.00	0.00	41.71	41.71
19/05/2013	20.8	35.2	24.3	44.1	50.7	47.1	84.3	68.3	68.8	72.6	48.4	48.4	72.2	68.5	72.0	81	80	1225	1944	1944	1944	1972	972	1973	100.00	0.00	0.00	47.08	47.08
20/05/2013	18.3	25.7	23.6	44.1	49.5	46.8	61.4	48.6	46.2	73.2	55.7	55.4	64.9	59.9	63.9	99	99	1243	1968	1968	1968	1996	996	1997	100.00	0.00	0.00	46.77	46.77
21/05/2013	21.2	25.1	24.1	44.3	49.9	47.1	OL	OL	OL	76.2	76.2	76.2	76.2	76.2	76.4	99	99	1243	1992	1992	1992	2020	1020	2021	100.00	0.00	0.00	47.09	47.09
22/05/2013	20.8	36.8	24.1	0.0	80.5	58.2	OL	OL	OL	94.0	94.1	93.1	93.9	94.6	94.0	99	99	1243	2016	2016	2016	2044	1044	2045	100.00	0.00	0.00	58.26	58.26
23/05/2013	0.0	43.5	24.1	0.0	87.7	58.5	OL	OL	OL	94.3	94.2	90.7	94.4	99.4	94.3	99	99	1243	2032	2032	2032	2061	1060	2061	100.00	0.00	0.00	39.68	39.68
24/05/2013	0.0	34.3	24.1	0.0	58.6	55.3	22.0	10.1	8.7	89.2	89.2	89.1	89.2	89.2	89.2	99	99	1243	2050	2050	2050	2079	1078	2079	100.00	0.00	0.00	41.29	41.29
25/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	99	99	1243	2050	2050	2050	2079	1078	2079	OL	0.00	0.00	0.00	0.00
26/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	99	99	1243	2050	2050	2050	2079	1078	2079	OL	0.00	0.00	0.00	0.00
27/05/2013	21.1	63.6	24.5	0.0	71.7	69.0	121.5	74.1	73.2	109.2	70.6	74.6	99.8	101.6	105.6	108	108	1252	2059	2058	2059	2087	1087	2087	100.00	0.00	0.00	24.52	24.52
28/05/2013	0.0	49.8	23.8	0.0	74.9	55.9	59.4	58.6	57.4	70.6	57.5	56.8	69.6	76.1	65.3	121	121	1265	2072	2072	2072	2101	1100	2101	95.78	0.10	1.22	29.91	31.23
29/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	121	121	1265	2072	2072	2072	2101	1100	2101	OL	0.00	0.00	0.00	0.00
30/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	121	121	1265	2072	2072	2072	2101	1100	2101	OL	0.00	0.00	0.00	0.00
31/05/2013	0.0	78.6	25.0	0.0	50.5	47.8	110.3	81.8	82.4	97.1	56.3	66.5	86.4	83.3	114.1	134	134	1278	2073	2073	2073	2113	1113	2114	98.69	0.03	0.30	25.03	25.36
Total [ML]:																										0.14	2.04	1025.35	1027.53

Water Volume [%]:

Untreated: 0.01 %
 Below Dose: 0.20 %
 To Dose: 99.79 %

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: **May 2013**

Report Created: **Saturday, June 01, 2013**

Reactor: **UVR-500A**

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
1/05/2013	20.4	26.4	24.3	34.6	46.5	40.6	66.1	66.1	66.0	OL	OL	OL	95.1	67.9	66.1	3923	3579	443	3774	411	4207	2790	2789	2789	100.00	0.00	0.00	40.64	40.64
2/05/2013	18.8	30.7	24.3	36.2	86.2	55.7	72.1	72.0	71.1	84.1	82.2	82.0	110.6	77.6	75.2	3947	3603	467	3783	420	4216	2814	2813	2813	100.00	0.00	0.00	55.78	55.78
3/05/2013	17.1	29.4	24.3	35.3	93.5	47.1	69.0	69.0	68.3	82.3	77.8	76.1	104.3	72.7	75.1	3971	3627	491	3787	424	4220	2838	2837	2837	100.00	0.00	0.00	47.19	47.19
4/05/2013	20.6	26.7	24.3	35.1	49.5	43.3	70.4	70.4	70.2	OL	OL	OL	101.4	72.1	75.4	3995	3651	515	3787	424	4220	2862	2861	2861	100.00	0.00	0.00	43.33	43.33
5/05/2013	20.5	26.9	24.3	39.3	49.1	44.7	72.5	72.5	72.3	OL	OL	OL	102.3	73.3	78.2	4019	3675	539	3787	424	4220	2886	2885	2885	100.00	0.00	0.00	44.69	44.69
6/05/2013	18.3	29.9	24.2	33.3	86.6	58.6	76.2	76.3	75.8	84.9	84.9	84.8	101.9	79.3	82.1	4043	3699	563	3796	433	4229	2910	2909	2909	100.00	0.00	0.00	58.63	58.63
7/05/2013	0.0	113.7	25.2	0.0	85.8	65.5	105.2	88.2	264.2	142.1	98.3	137.1	118.5	108.7	108.1	4059	3715	579	3817	455	4250	2922	2922	2921	100.00	0.00	0.00	58.68	58.68
8/05/2013	18.7	31.1	24.4	30.6	84.2	50.8	79.5	76.4	149.3	74.3	71.1	74.8	70.6	73.0	63.3	4083	3739	603	3841	479	4274	2934	2934	2933	100.00	0.00	0.00	50.87	50.87
9/05/2013	0.0	30.3	25.0	0.0	39.0	33.9	48.3	36.3	97.3	35.5	35.6	35.6	73.2	74.5	53.6	4092	3748	611	3850	488	4283	2943	2942	2942	100.00	0.00	0.00	12.36	12.36
10/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	4092	3748	611	3850	488	4283	2943	2942	2942	OL	0.00	0.00	0.00	0.00
11/05/2013	13.9	25.6	24.1	5.8	40.5	37.6	60.6	59.9	65.1	18.7	18.4	12.4	61.6	62.7	60.9	4094	3750	613	3850	488	4283	2944	2944	2944	99.17	0.00	0.02	2.40	2.42
12/05/2013	20.5	26.2	24.4	32.7	41.1	36.1	58.9	58.9	63.2	OL	OL	OL	58.9	61.8	59.0	4118	3774	637	3850	488	4283	2968	2968	2968	100.00	0.00	0.00	36.13	36.13
13/05/2013	6.0	28.3	24.1	26.7	79.5	39.4	60.0	59.8	74.3	13.4	17.4	7.7	59.2	68.0	64.3	4142	3798	661	3850	488	4283	2992	2992	2992	100.00	0.00	0.00	39.47	39.47
14/05/2013	0.0	27.5	24.4	0.0	40.4	33.0	54.1	54.1	60.5	OL	OL	OL	54.0	54.2	54.1	4156	3812	675	0	488	0	3006	3006	3006	100.00	0.00	0.00	19.30	19.30
15/05/2013	0.0	90.2	24.6	0.9	78.2	74.9	106.9	83.3	240.0	148.9	84.9	181.2	215.1	77.9	80.0	10	10	685	10	498	10	3017	3016	3016	98.96	0.14	0.19	31.76	32.09
16/05/2013	0.0	55.7	24.1	0.0	92.4	61.5	69.3	63.4	84.7	70.7	61.9	62.3	172.8	63.6	54.4	33	33	709	34	521	34	3040	3040	3039	100.00	0.00	0.00	59.55	59.55
17/05/2013	0.0	105.1	24.4	0.0	82.1	58.1	87.4	86.9	163.6	107.6	89.9	109.1	166.8	44.6	44.6	53	53	728	53	541	53	3050	3050	3049	100.00	0.00	0.00	46.78	46.78
18/05/2013	0.0	33.6	23.1	0.0	82.3	77.7	100.6	94.1	103.5	88.4	88.1	90.4	203.5	102.6	84.6	67	67	743	62	550	62	3064	3063	3063	100.00	0.00	0.00	46.79	46.79
19/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	67	67	743	62	550	62	3064	3063	3063	OL	0.00	0.00	0.00	0.00
20/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	67	67	743	62	550	62	3064	3063	3063	OL	0.00	0.00	0.00	0.00
21/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	67	67	743	62	550	62	3064	3063	3063	OL	0.00	0.00	0.00	0.00
22/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	67	67	743	62	550	62	3064	3063	3063	OL	0.00	0.00	0.00	0.00
23/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	67	67	743	62	550	62	3064	3063	3063	OL	0.00	0.00	0.00	0.00
24/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	67	67	743	62	550	62	3064	3063	3063	OL	0.00	0.00	0.00	0.00
25/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	67	67	743	62	550	62	3064	3063	3063	OL	0.00	0.00	0.00	0.00
26/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	67	67	743	62	550	62	3064	3063	3063	OL	0.00	0.00	0.00	0.00
27/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	67	67	743	62	550	62	3064	3063	3063	OL	0.00	0.00	0.00	0.00
28/05/2013	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	67	67	743	62	550	62	3064	3063	3063	OL	0.00	0.00	0.00	0.00
29/05/2013	20.0	115.8	26.4	0.0	50.2	46.0	107.0	78.9	318.9	212.1	112.8	126.1	15.4	142.0	128.8	72	71	747	66	554	66	3064	3063	3063	100.00	0.00	0.00	8.31	8.31
30/05/2013	20.7	35.5	24.7	29.9	55.4	42.3	67.8	56.3	165.6	136.4	75.1	67.2	119.0	64.9	68.9	96	95	771	90	578	90	3080	3079	3079	100.00	0.00	0.00	42.27	42.27
31/05/2013	0.0	27.1	23.7	29.9	47.7	38.6	52.2	31.5	112.9	115.3	70.2	65.4	242.4	67.7	74.1	107	107	783	114	602	114	3104	3103	3103	98.92	0.00	0.42	38.16	38.57
Total [ML]:																									0.14	0.63	783.09	783.86	

Water Volume [%]:

Untreated: 0.02 %
 Below Dose: 0.08 %
 To Dose: 99.90 %

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: **May 2013**

Report Created: **Saturday, June 01, 2013**

Reactor: **UVR-600A**

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
1/05/2013	18.6	25.5	24.3	58.8	79.4	75.5	113.7	76.8	147.7	76.8	76.8	76.8	94.6	76.8	76.7	5103	2964	2963	3347	3347	3347	4651	819	3254	100.00	0.00	0.00	75.48	75.48
2/05/2013	0.0	81.4	24.3	0.0	78.6	74.3	133.3	76.9	152.7	75.8	77.6	93.0	100.2	75.8	75.4	5110	2979	2979	3362	3362	3363	4658	835	3260	100.00	0.00	0.00	47.52	47.52
3/05/2013	0.0	94.6	24.2	0.0	77.8	70.9	128.2	79.1	202.5	72.5	77.0	92.9	105.5	78.1	77.1	29	3000	2999	3380	3380	3380	29	855	30	100.00	0.00	0.00	60.31	60.31
4/05/2013	17.4	25.9	24.2	62.4	88.7	78.2	94.0	79.3	172.0	79.2	79.9	86.2	87.1	79.4	57.7	53	3024	3023	3404	3404	3404	53	879	54	100.00	0.00	0.00	78.27	78.27
5/05/2013	18.0	25.2	24.1	80.9	88.8	84.6	85.9	85.9	94.2	85.9	85.9	85.9	85.9	85.9	36.1	77	3048	3047	3428	3428	3428	77	903	78	99.93	0.00	0.06	84.53	84.59
6/05/2013	0.0	37.2	24.1	0.0	87.1	83.4	84.7	84.4	84.7	84.7	84.7	84.7	84.7	84.7	35.3	92	3063	3062	3443	3443	3444	92	918	93	100.00	0.00	0.00	52.62	52.62
7/05/2013	0.0	94.8	24.4	0.0	89.2	84.1	149.1	86.5	198.7	85.8	89.8	112.6	115.9	85.4	79.0	105	3076	3076	3456	3456	3457	105	931	106	99.89	0.03	0.03	45.09	45.14
8/05/2013	0.0	73.9	24.2	0.0	90.0	75.3	80.3	77.0	172.7	76.8	76.9	77.0	82.2	76.9	39.5	125	3095	3095	3476	3476	3476	125	951	125	100.00	0.00	0.00	61.35	61.35
9/05/2013	17.8	25.6	24.1	57.6	85.8	75.0	76.3	75.7	101.3	76.5	76.5	76.5	81.5	76.6	32.3	149	3119	3119	3500	3500	3500	149	975	149	100.00	0.00	0.00	74.94	74.94
10/05/2013	17.9	25.1	24.1	79.4	85.8	82.8	84.1	84.0	84.1	84.1	84.1	84.1	84.1	84.1	37.7	173	3143	3143	3524	3524	3524	173	999	173	100.00	0.00	0.00	82.82	82.82
11/05/2013	17.5	25.9	23.8	54.3	85.7	76.5	77.9	75.7	78.0	77.9	77.9	77.9	78.8	77.9	41.2	197	3167	3167	3548	3548	3548	197	1023	197	100.00	0.00	0.00	76.51	76.51
12/05/2013	18.2	25.5	24.3	51.1	59.0	54.3	55.8	55.8	55.8	55.8	55.8	68.3	55.8	44.3	221	3191	3191	3572	3572	3572	221	1047	221	100.00	0.00	0.00	54.24	54.24	
13/05/2013	0.0	94.8	24.6	0.0	59.2	54.9	107.0	65.2	90.7	60.5	65.3	84.7	102.6	63.5	65.0	241	3211	3211	3588	3588	3589	241	1066	241	99.99	0.00	0.00	45.31	45.32
14/05/2013	18.1	26.0	24.2	54.0	78.6	66.4	78.9	68.0	153.9	68.0	69.4	71.9	80.9	68.2	40.1	265	3235	3235	3612	3612	3613	265	1090	265	100.00	0.00	0.00	66.38	66.38
15/05/2013	0.0	37.3	24.2	0.0	78.0	74.7	76.0	76.0	88.7	76.0	76.1	76.0	76.4	76.1	29.4	278	3249	3249	3626	3626	3627	279	1104	279	100.00	0.00	0.00	43.38	43.38
16/05/2013	0.0	63.4	24.1	0.0	94.2	74.4	75.3	74.9	76.4	75.6	75.4	74.1	77.3	75.6	71.9	289	3260	3259	3636	3636	3637	289	1115	289	100.00	0.00	0.00	31.05	31.05
17/05/2013	0.0	34.3	23.4	0.0	77.6	71.6	73.1	73.0	73.1	73.0	73.1	68.3	74.8	73.0	50.0	304	3275	3275	3652	3652	3652	304	1130	305	99.78	0.00	0.10	45.94	46.04
18/05/2013	18.2	94.8	24.3	0.0	83.4	77.1	144.6	80.5	212.3	79.4	87.3	115.4	114.5	78.6	77.8	314	3285	3284	3662	3661	3662	314	1140	314	100.00	0.00	0.00	30.84	30.84
19/05/2013	17.8	25.3	24.1	68.1	79.0	73.0	77.8	74.4	143.5	74.4	74.4	74.5	75.0	74.4	49.1	338	3309	3308	3686	3685	3686	338	1164	338	100.00	0.00	0.00	72.99	72.99
20/05/2013	17.5	25.3	24.0	67.5	74.3	71.3	72.7	72.7	72.8	72.7	72.7	72.7	72.7	72.7	55.6	362	3333	3332	3710	3709	3710	362	1188	362	99.93	0.00	0.05	71.21	71.26
21/05/2013	17.7	25.2	24.0	68.4	77.0	73.4	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8	70.5	386	3357	3356	3734	3733	3734	386	1212	386	100.00	0.00	0.00	73.36	73.36
22/05/2013	17.9	48.6	24.0	13.2	79.8	71.6	73.0	73.1	73.0	73.0	73.0	73.0	76.0	73.0	72.9	410	3381	3380	3758	3757	3758	410	1236	410	99.93	0.00	0.05	71.55	71.60
23/05/2013	0.0	63.9	24.0	0.0	87.0	71.2	72.8	72.8	72.6	73.1	73.1	72.8	79.0	72.8	72.6	424	3395	3394	3772	3771	3772	424	1250	424	100.00	0.00	0.00	41.47	41.47
24/05/2013	17.6	60.2	23.9	16.3	135.4	82.9	84.2	84.2	84.2	84.5	84.4	84.4	85.1	84.4	84.3	448	3419	3418	3796	3795	3796	448	1274	448	100.00	0.00	0.00	82.86	82.86
25/05/2013	16.4	25.3	24.0	76.7	84.1	81.0	82.3	82.3	82.4	82.3	82.3	83.3	110.1	82.3	82.3	472	3443	3442	3820	3819	3820	472	1298	472	100.00	0.00	0.00	81.00	81.00
26/05/2013	18.1	25.2	24.0	77.5	84.4	81.2	82.5	82.5	82.5	82.5	83.5	112.0	118.6	82.5	82.5	496	3467	3466	3844	3843	3844	496	1322	496	100.00	0.00	0.00	81.17	81.17
27/05/2013	18.4	25.9	24.0	77.4	104.6	83.6	84.9	84.9	84.9	84.9	90.2	142.6	119.9	84.9	84.9	520	3491	3490	3868	3867	3868	520	1346	520	100.00	0.00	0.00	83.61	83.61
28/05/2013	18.4	27.1	24.1	45.6	95.5	79.6	96.8	81.9	81.4	83.4	91.3	116.0	119.0	81.8	80.9	544	3515	3514	3892	3891	3892	544	1370	544	100.00	0.00	0.00	79.57	79.57
29/05/2013	18.1	26.1	24.1	50.0	91.0	75.5	103.3	76.9	76.8	77.4	83.4	96.8	106.4	76.8	76.0	568	3539	3538	3916	3915	3916	568	1394	568	100.00	0.00	0.00	75.43	75.43
30/05/2013	18.1	25.8	24.1	53.2	91.3	76.6	102.7	78.2	78.1	80.7	84.5	87.2	102.4	78.2	71.1	592	3563	3562	3940	3939	3940	592	1418	592	100.00	0.00	0.00	76.60	76.60
31/05/2013	18.2	25.7	24.1	56.1	85.9	71.6	102.5	73.3	73.2	77.6	81.4	85.6	103.5	73.3	72.5	616	3587	3586	3964	3963	3964	616	1442	616	100.00	0.00	0.00	71.57	71.57
Total [ML]:																									0.03	0.29	2018.98	2019.29	

Water Volume [%]:
 Untreated: 0.00 %
 Below Dose: 0.01 %
 To Dose: 99.98 %

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

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