



Water and Waste Department
Environmental Standards Division

2015 Annual Water Report

City of Winnipeg Water Supply System



SUMMARY

Manitoba Conservation and Water Stewardship, Winnipeg Regional Health Authority and Manitoba Health, Healthy Living and Seniors regulate the quality of our drinking water using the Manitoba Drinking Water Safety Act and Guidelines for Canadian Drinking Water Quality.

An Operating Licence for the City of Winnipeg's Public Water Supply System was issued on October 1, 2012 and amended on February 2, 2015. Our Operating Licence, PWS-09-412 AA, requires that we regularly monitor the quality of our drinking water and submit an annual report to the regulating authority on or before the 31st of March of each year as per clause 5.12 of the licence and as set out in the subsection 32(2) of *Manitoba Regulation 40/2007, Drinking Water Safety Regulation*.

The City of Winnipeg ensures that the water is safe through a source-to-tap approach. Water treatment, watershed protection, design and construction standards, operator certification, system monitoring and maintenance, standard operating procedures, and water quality testing are done to ensure that our drinking water is safe.

In keeping with this requirement, the City of Winnipeg hereby submits this report which summarizes the results of the City's 2015 Water Quality Monitoring Program.

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1.0 DRINKING WATER SYSTEM AND SOURCE

“Section 32(2) (a) a brief description of the drinking water system, including its water supply source.”

The City of Winnipeg gets its water from Shoal Lake, which is on the border between Manitoba and Ontario, and covers 277 square kilometers. The intake for Winnipeg's water system is on Indian Bay on the western end of Shoal Lake, and is only accessible by rail or boat. Water flows from Shoal Lake to Winnipeg by gravity through a 135 kilometer long aqueduct. The water is stored in Deacon Reservoir, a large reservoir that can hold 8.8 billion liters, enough water to supply Winnipeg for about 20 days, depending on consumption demand. Water passes from Deacon Reservoir to a Drinking Water Treatment Plant, and then on to three smaller reservoirs and pumping stations in different areas of the city. Each day, an average of 175 million liters of water is billed to approximately 204,000 accounts in Winnipeg.

2.0 DISINFECTION METHODS

“Section 32(2) (b) a description of the disinfection methods used.”

The first step in the disinfection process is periodic chlorination of 8 hours per week at the Intake in the warm water season. At the Water Treatment Plant, the water passes through several disinfection treatment steps including ozonation, chlorination and UV light disinfection. Finally, the water is chlorinated again at the pumping stations before being distributed to homes and businesses.

3.0 DRINKING WATER PARAMETERS

“Section 32(2) (c) a list of all bacteriological, chemical, physical and microbial drinking water quality standards that apply to the water system.”

Winnipeg water is intensively monitored on a routine basis to ensure that the water is safe and that regulatory and licence requirements are met. Table 1 provides a list of all the parameters analysed. The results of most of these tests are found in Appendix A. We measure how water quality changes from source to tap and the quality of water delivered to customers with these tests. We also respond to customer inquiries and complaints about water quality.

4.0 OCCASIONS OF A RESULT NOT MEETING A WATER QUALITY STANDARD AND CORRECTIVE ACTION TAKEN

“Section 32(2) (d) a summary of any incidents of failure to meet a drinking water quality standard, and a description of corrective action.”

Because water quality is so important, our level of monitoring and sampling exceeds regulatory requirements. The City of Winnipeg ensures that a high quality of water is delivered to customers and actions are taken to continuously improve water quality. Table 2 includes all occasions of a result not meeting a water quality standard and corrective actions taken in 2015.

Table 1. Drinking Water Parameters

Analyses Conducted by City of Winnipeg	Analyses Conducted by Contract Labs
Parameter	Parameter
Plankton Count	Giardia
Chlorophyll a	Cryptosporidium
Threshold Odour Number	Total Coliform
pH	Escherichia Coli
Turbidity	Heterotrophic Plate Count
Fluoride	Taste and Odour Compounds
True Colour	- IPMP
Total Solids	- IBMP
Total Dissolved Solids	- MIB
Total Alkalinity	- 246TCA
Total Hardness	- 236TCA
Specific Conductance	- Geosmin
Total Organic Carbon	- 345TCV
Dissolved Organic Carbon	Microcystin LR
Free Chlorine	Mercury
Total Chlorine	NDMA
Temperature	MTBE
UV Transmissivity	Total Kjeldahl Nitrogen
UV Absorbance	Total Phosphorus
Dissolved Oxygen	Dissolved Reactive Phosphorus
Transparency	Total Inorganic Carbon
Zebra Mussels	Ammonia (Dissolved)
Trihalomethanes (Total)	Barium
Bromodichloromethane	Beryllium
Haloacetic Acids	Bismuth
Aldehydes	Bromate
Nitrate Nitrogen	Bromide
Soluble Phosphate	Cesium
Chloride	Chromium VI
Sulphate	Cobalt
Aluminum	Lithium
Antimony	Molybdenum
Arsenic	Selenium
Boron	Silicon
Calcium	Silver
Cadmium	Strontium
Chromium	Tellurium
Copper	Thallium
Iron	Thorium
Lead	Tin
Magnesium	Titanium
Manganese	Vanadium
Nickel	Rubidium
Potassium	Tungsten
Sodium	Volatile Organic Carbons
Uranium	Polychlorinated Biphenyls
Zinc	Organochlorine Pesticides
Zirconium	Pesticides
Bicarbonate	Herbicides
Toxicity	Perchlorate
Carbonate	Methylene Chloride
	Hydroxide

Table 2. Occasions of a Result not Meeting a Water Quality Standard and Corrective Action Taken

Date	Location	Type of water quality standard not being met	Initial test result	Final test result	Description of corrective actions taken
Jan 26, 2015	NE01	E. Coli < 1 MPNU/100mL	1	<1	All locations were re-sampled until negative results were found.
Jan 26, 2015	NE01	Total coliform < 1 MPNU/100mL	5	<1	
Jan 26, 2015	NE06	Total coliform < 1 MPNU/100mL	1	<1	
Jan 26, 2015	NE07	E. Coli < 1 MPNU/100mL	9	<1	
Jan 26, 2015	NE07	Total coliform < 1 MPNU/100mL	53	<1	
Jan 26, 2015	SE03	E. Coli < 1 MPNU/100mL	1	<1	
Jan 26, 2015	SE03	Total coliform < 1 MPNU/100mL	4	<1	
Jan 26, 2015	SE04	E. Coli < 1 MPNU/100mL	1	<1	
Jan 26, 2015	SE04	Total coliform < 1 MPNU/100mL	3	<1	
Jan 26, 2015	SW07	E. Coli < 1 MPNU/100mL	1	<1	
Jan 26, 2015	SW07	Total coliform < 1 MPNU/100mL	1	<1	
Apr 1, 2015	SW04	Total coliform < 1 MPNU/100mL	1	<1	
May 6, 2015	SW10	Total coliform < 1 MPNU/100mL	1	<1	
June 1, 2015	NW05	Total coliform < 1 MPNU/100mL	>200	<1	
June 1, 2015	NW03	Total coliform < 1 MPNU/100mL	1	<1	
June 10, 2015	SE03	Total coliform < 1 MPNU/100mL	1	<1	
Mar 5, 2015	WC05	Free chlorine residual > 0.10 mg/L	0.09	0.54	All locations were re-sampled and/or alternate locations were sampled, and/or other actions were taken (checked for closed valves and spot flushed).
Sep 10, 2015	SW03	Free chlorine residual > 0.10 mg/L	0.07	0.75	
Oct 15, 2015	SW03	Free chlorine residual > 0.10 mg/L	0.06	1.09	
Nov 2, 2015	NW03	Free chlorine residual > 0.10 mg/L	0.08	0.11	

5.0 MONTHLY COMPLIANCE REPORTING

"Section 32(2) (e) a summary of the information contained in the records made under Section 31."

As per the monitoring requirements set out in Table 2 of the City of Winnipeg's Operating Licence, PWS-09-412 AA, turbidity, free and total chlorine, UV and corrective action compliance reports are being submitted on an ongoing monthly basis. Bacteriological reports and chlorine residual results are sent directly to the Office of Drinking Water by the analytical laboratory that does the bacteriological testing of samples. Monthly compliance reports are provided in Appendix B.

6.0 DRINKING WATER SAFETY ORDERS

"Section 32(2) (f) a description of any drinking water safety orders issued."

On February 3, 2015, the Office of Drinking Water issued an order to the City of Winnipeg to carry out an investigation to assess the City's Water System for possible system vulnerabilities to contamination. The report was to be completed in accordance with US Environmental Protection Agency's Revised Total Coliform Rule Assessments and Corrective Actions Guidance Manual.

The City retained an external consultant to undertake the investigation and to prepare a comprehensive third-party report, which also included two independent assessments initiated by the City that were specific to sampling and analysis procedures.

On April 30, 2015, the City of Winnipeg submitted the *Comprehensive Assessment of City's Water System as it Relates to Recent Boil Water Advisories* report to the Office of Drinking Water, to relay the findings and recommendations of the external assessment of the City of Winnipeg's water system.

The *Comprehensive Assessment of City's Water System as it Relates to Recent Boil Water Advisories* report concluded:

- that the water was safe
- that positive samples that led to the recent precautionary boil water advisories were, according to the assessment, most likely related to either sampling or analytical processes.

The report contains several recommendations outlining improvements that can be made to reduce the likelihood of positive samples in the future and where possible, the recommendations have been implemented.

7.0 BOIL WATER ADVISORIES

"Section 32(2) (g) a description of any boil water advisories issued."

On January 26, positive total coliform results were reported at six routine sampling locations. In addition to the positive total coliforms at five of the locations, the samples were reported positive for E. coli. As a result, the Winnipeg Regional Health Authority issued a precautionary Boil Water Advisory on January 26, for the City of Winnipeg. On January 27 and 28, all locations were resampled and samples were collected from upstream and downstream locations. All resample results were reported to be negative. Sampling indicated that the chlorine levels at the locations were normal and provided adequate disinfection. The Advisory was subsequently rescinded on January 28, when the second set of resamples was reported negative for bacteria.

8.0 SUMMARY OF OFFENCES

“Section 32(2) (h) a summary of any charges laid, pending or disposed of for an offence.”

No charges were laid, pending, or disposed of for any offences against the City of Winnipeg in 2015.

9.0 MAJOR EXPENSES

“Section 32(2) (i) a description of any major expenses incurred to repair, replace or install equipment.”

In 2015, the City's major expenses incurred were as follows:

1. The MagnaDrive Coupler System for Pump #1 at the Deacon Booster Pumping Station was rebuilt.
2. The existing two-span timber trestle Greater Winnipeg Water District (GWWD) Railway Bridge over Cooks Creek at Mile 22.15 was replaced with a new single-span steel through-plate-girder bridge.
3. The existing two-span timber trestle GWWD Railway bridge over the Brokenhead River was rehabilitated with new steel wing-wall piles and new timber struts.
4. Construction of a pilot scale Water Treatment Research and Process Optimization Facility at the Water Treatment Plant Site was completed.
5. A 1.5 m diameter valve (VC304) on the Branch 2 Aqueduct located at the Water Treatment Plant Site was replaced.
6. Water main renewals were completed at 43 locations in the City's water distribution system.

10.0 ADDITIONAL INFORMATION

"Section 32(2) (j) any other information or description of any other activities that the supplier believes should be communicated."

On February 2, 2015, the Office of Drinking Water provided the City of Winnipeg an amended operating licence for the water supply system. The amendments included changes to sampling of bacteriological locations, addition of field turbidity analysis, submission of a Boil Water Advisory Notification Plan and submission of a plan that identifies reasonably isolatable zones within the distribution system.

The City of Winnipeg's Operating Licence #PWS-09-412 AA expired on June 30, 2015 and the licence has been renewed effective March 1, 2016.

APPENDIX A

WATER QUALITY SUMMARY REPORTS

City of Winnipeg
Environmental Standards Division
2015 Shoal Lake Water Quality Summary

PARAMETER	UNITS	GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Odour	units	Inoffensive	136	75	200	Raw water - guideline does not apply
Perchlorate	parts per billion	no guideline	<0.2	<0.2	<0.2	-
Plankton (algae) count	cells/mL	no guideline	22,315	900	113,700	Algae contribute to odours and may cause filter clogging
Chlorophyll-a	parts per billion	no guideline	8	<1	39	Chlorophyll is found in algae
Cryptosporidium	oocysts per 100 L	no guideline	0.6	<0.6	1.0	12 samples taken in 2015 - 1 positive result
Giardia	cysts per 100 L	no guideline	0.8	<0.6	3.3	12 samples taken in 2015 - 2 positive results
Turbidity (clearness)	NTU	no guideline	1.01	0.32	2.40	-
Colour, True	TCU	no more than 15 *	5.4	2.5	11.0	Raw water - guideline does not apply
Total Solids	parts per million	no guideline	122	88	202	-
Total Dissolved Solids	parts per million	no more than 500 *	104	69	150	Raw water - guideline does not apply
Conductivity	microsiemens per centimetre	no guideline	159	145	190	Another measure of dissolved solids
pH	units	between 6.5 and 8.5*	8.16	7.68	8.81	Raw water - guideline does not apply
Temperature	degrees Celcius	no more than 15 *	11.6	1.0	22.5	Raw water - guideline does not apply
Total Alkalinity	parts per million as calcium carbonate	no guideline	74	66	90	-
Total Hardness	parts per million as calcium carbonate	no guideline	78	69	94	-
Total Organic Carbon	parts per million	no guideline	10	8	13	-
Dissolved Organic Carbon	parts per million	no guideline	9	7	13	-
Total Kjeldahl Nitrogen (TKN)	parts per million	no guideline	0.5	0.3	0.6	TKN is a combination of ammonia and organic nitrogen
Total Phosphorus	parts per billion	no guideline	16	8	23	Phosphorus can contribute to algae growth
Dissolved Reactive Phosphorus	parts per billion	no guideline	1	<1	3	-
Fluoride	parts per million	no more than 1.5	0.09	<0.08	0.13	Raw water - guideline does not apply
Nitrate Nitrogen	parts per million	no more than 10	0.014	<0.003	0.057	Raw water - guideline does not apply
Chloride	parts per million	no more than 250 *	2.5	1.5	4.6	Raw water - guideline does not apply
Sulphate	parts per million	no more than 500 *	<2	<2	2	Raw water - guideline does not apply
Trihalomethanes	parts per billion	no more than 100	<1	<1	<2	Raw water - guideline does not apply
Bromodichloromethane	parts per billion	no guideline	<1	<1	<1	-
Haloacetic acids	parts per billion	no more than 80	<3	<3	5	Raw water - guideline does not apply
Aldehydes	parts per billion	no guideline	4	1	8	-
Carbofuran	parts per billion	no more than 90	<0.20	<0.20	<0.20	Raw water - guideline does not apply
Propoxur	parts per billion	no guideline	<0.20	<0.20	<0.20	-
Aldrin	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Lindane (gamma-BHC)	parts per billion	no guideline	<0.010	<0.010	<0.010	-
alpha-Chlordane	parts per billion	no guideline	<0.010	<0.010	<0.010	-
gamma-Chlordane	parts per billion	no guideline	<0.010	<0.010	<0.010	-
p,p-DDT	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Dieldrin	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Heptachlor	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Heptachlor Epoxide	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Methoxychlor	parts per billion	no guideline	<0.010	<0.010	<0.010	-
alpha-BHC	parts per billion	no guideline	<0.010	<0.010	<0.010	-
beta-BHC	parts per billion	no guideline	<0.010	<0.010	<0.010	-
delta-BHC	parts per billion	no guideline	<0.010	<0.010	<0.010	-

City of Winnipeg
Environmental Standards Division
2015 Shoal Lake Water Quality Summary

PARAMETER	UNITS	GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
p,p-DDD	parts per billion	no guideline	<0.010	<0.010	<0.010	-
p,p-DDE	parts per billion	no guideline	<0.010	<0.010	<0.010	-
o,p-DDD	parts per billion	no guideline	<0.010	<0.010	<0.010	-
o,p-DDE	parts per billion	no guideline	<0.010	<0.010	<0.010	-
o,p-DDT	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Alpha Endosulfan	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Beta Endosulfan	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Endrin	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Mirex	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Simazine	parts per billion	no more than 10	<0.10	<0.10	<0.10	Raw water - guideline does not apply
Alachlor	parts per billion	no guideline	<0.10	<0.10	<0.10	-
Atrazine	parts per billion	no more than 5	<0.10	<0.10	<0.10	Raw water - guideline does not apply
Metribuzin	parts per billion	no more than 80	<0.20	<0.20	<0.20	Raw water - guideline does not apply
Azinphosmethyl	parts per billion	no more than 20	<0.10	<0.10	<0.10	Raw water - guideline does not apply
Chlorpyrifos	parts per billion	no more than 90	<0.10	<0.10	<0.10	Raw water - guideline does not apply
Diazinon	parts per billion	no more than 20	<0.10	<0.10	<0.10	Raw water - guideline does not apply
Dimethoate	parts per billion	no more than 20	<0.10	<0.10	<0.10	Raw water - guideline does not apply
Malathion	parts per billion	no more than 190	<0.10	<0.10	<0.10	Raw water - guideline does not apply
Parathion	parts per billion	no guideline	<0.10	<0.10	<0.10	-
Terbufos	parts per billion	no more than 1	<0.10	<0.10	<0.10	Raw water - guideline does not apply
Methyl Parathion	parts per billion	no guideline	<0.10	<0.10	<0.10	-
2,4-D	parts per billion	no more than 100	<0.050	<0.050	<0.050	Raw water - guideline does not apply
2,4-DB	parts per billion	no guideline	<0.050	<0.050	<0.050	-
2,4-DP	parts per billion	no guideline	<0.050	<0.050	<0.050	-
2,4,5-T	parts per billion	no guideline	<0.050	<0.050	<0.050	-
2,4,5-TP	parts per billion	no guideline	<0.050	<0.050	<0.050	-
Bromoxynil	parts per billion	no more than 5	<0.020	<0.020	<0.020	Raw water - guideline does not apply
Dicamba	parts per billion	no more than 120	<0.0060	<0.0060	<0.010	Raw water - guideline does not apply
Dinoseb	parts per billion	no guideline	<0.050	<0.050	<0.050	-
MCPA	parts per billion	no more than 100	<0.025	<0.025	<0.025	Raw water - guideline does not apply
MCPB	parts per billion	no guideline	<0.050	<0.050	<0.050	-
Mecoprop	parts per billion	no guideline	<0.050	<0.050	<0.050	-
Picloram	parts per billion	no more than 190	<0.20	<0.20	<0.20	Raw water - guideline does not apply
Trichlopyr	parts per billion	no guideline	<0.050	<0.050	<0.050	-
Diclofop-methyl	parts per billion	no more than 9	<0.10	<0.10	<0.10	Raw water - guideline does not apply
Eptam	parts per billion	no guideline	<0.20	<0.20	<0.20	-
Propaclor	parts per billion	no guideline	<0.20	<0.20	<0.20	-
Propanil	parts per billion	no guideline	<0.20	<0.20	<0.20	-
Triallate	parts per billion	no guideline	<0.10	<0.10	<0.10	-
Trifluralin	parts per billion	no more than 45	<0.030	<0.030	<0.030	Raw water - guideline does not apply
Arochlor 1016	parts per billion	no guideline	0.025	<0.020	<0.20	-
Arochlor 1221	parts per billion	no guideline	0.025	<0.020	<0.20	-
Arochlor 1232	parts per billion	no guideline	0.025	<0.020	<0.20	-
Arochlor 1242	parts per billion	no guideline	0.025	<0.020	<0.20	-
Arochlor 1248	parts per billion	no guideline	0.025	<0.020	<0.20	-
Arochlor 1254	parts per billion	no guideline	0.025	<0.020	<0.20	-
Arochlor 1260	parts per billion	no guideline	0.025	<0.020	<0.20	-
Calcium	parts per million	no guideline	19.4	17.7	22.9	Contributes to hardness
Magnesium	parts per million	no guideline	5.60	4.94	6.50	Contributes to hardness

City of Winnipeg
Environmental Standards Division
2015 Shoal Lake Water Quality Summary

PARAMETER	UNITS	GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Sodium	parts per million	no more than 200 *	2.09	1.89	2.50	Raw water - guideline does not apply
Potassium	parts per million	no guideline	1.20	1.06	1.41	-
Iron	parts per million	no more than 0.3 *	0.017	<0.008	0.055	Raw water - guideline does not apply
Copper	parts per million	no more than 1.0 *	0.0009	<0.0003	0.0082	Raw water - guideline does not apply
Lead	parts per million	no more than 0.010	<0.0004	<0.0004	<0.0004	Raw water - guideline does not apply
Aluminum	parts per million	no more than 0.1	0.0040	0.0006	0.0130	Raw water - guideline does not apply
Antimony	parts per million	no more than 0.006	<0.0005	<0.0005	<0.0005	Raw water - guideline does not apply
Arsenic	parts per million	no more than 0.010	0.0009	0.0006	0.0012	Raw water - guideline does not apply
Nickel	parts per million	no guideline	0.0005	0.0003	0.0009	-
Chromium	parts per million	no more than 0.05	<0.0007	<0.0007	<0.0007	Raw water - guideline does not apply
Chromium VI	parts per billion	no guideline	<10	<10	<10	-
Boron	parts per million	no more than 5	0.019	0.009	0.034	Raw water - guideline does not apply
Cadmium	parts per million	no more than 0.005	<0.0004	<0.0004	<0.0004	Raw water - guideline does not apply
Manganese	parts per million	no more than 0.05 *	0.0087	0.0023	0.0224	Raw water - guideline does not apply
Uranium	parts per million	no more than 0.02	<0.0005	<0.0005	<0.0005	Raw water - guideline does not apply
Zinc	parts per million	no more than 5.0 *	0.0021	<0.0005	0.0141	Raw water - guideline does not apply
Zirconium	parts per million	no guideline	<0.0005	<0.0005	0.0032	-
Mercury	parts per million	no more than 0.001	0.000003	<0.000001	0.000010	Raw water - guideline does not apply

*Aesthetic objective: These guidelines have an objective and not a maximum acceptable limit. These parameters should not impact the safety of the water to drink and there is no anticipated health risk for short-term exposures.

Guidelines from 'Summary of Guidelines for Canadian Drinking Water Quality' by Health Canada, October 2014

Note: Where value is expressed as less than (<), the value is halved and used in the calculations, where value is expressed as (>), the value is used in the calculations.

City of Winnipeg
Environmental Standards Division
2015 Water Treatment Plant - Raw Water
Drinking Water Quality Summary

PARAMETER	UNITS	GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Odour	units	Inoffensive	123	75	200	Raw water - guideline does not apply
Methylene Chloride (Dichloromethane)	parts per billion	no more than 50	<0.5	<0.5	<1.0	Raw water - guideline does not apply
Perchlorate	parts per billion	no guideline	<0.2	<0.2	<0.2	-
Geosmin	parts per trillion	no guideline	12.1	2.0	41.8	Common taste and odour compound
IPMP - 2-isopropyl-3-methoxypyrazine	parts per trillion	no guideline	<0.2	<0.2	<0.2	Common taste and odour compound
IBMP - 2-isobutyl-3-methoxypyrazine	parts per trillion	no guideline	<0.2	<0.2	<0.2	Common taste and odour compound
MIB - 2-methylisoborneol	parts per trillion	no guideline	<10	<10	<50	Common taste and odour compound
246 TCA - 2,4,6-trichloroanisole	parts per trillion	no guideline	<0.5	<0.5	<0.5	Common taste and odour compound
236 TCA - 2,3,6-trichloroanisole	parts per trillion	no guideline	<0.5	<0.5	<0.5	Common taste and odour compound
345 TCV - 3,4,5-trichloroveratrole	parts per trillion	no guideline	<0.2	<0.2	<0.2	Common taste and odour compound
MTBE - methyl tertiary-butyl ether	parts per million	no more than 0.015 *	<0.0005	<0.0005	<0.0005	Raw water - guideline does not apply
NDMA - N-nitrosodimethylamine	parts per billion	no more than 0.04	<0.0005	<0.0005	<0.0009	Raw water - guideline does not apply
Plankton (algae) count	cells/mL	no guideline	30,982	4,000	135,400	Algae contribute to odours and may cause filter clogging
Chlorophyll-a	parts per billion	no guideline	7	2	18	Chlorophyll is found in algae
Microcystin LR	parts per billion	no more than 1.5	<0.2	<0.2	<0.2	Raw water - guideline does not apply
Cryptosporidium	oocysts per 100 L	no guideline	1.5	<0.6	5.6	12 samples taken in 2015 - 2 positive results
Giardia	cysts per 100 L	no guideline	1.2	<0.6	5.0	12 samples taken in 2015 - 1 positive result
Turbidity (clearness)	NTU	no guideline	1.05	0.32	3.76	-
Colour, True	TCU	no more than 15 *	5.6	1.0	10.0	Raw water - guideline does not apply
Total Solids	parts per million	no guideline	113	92	157	-
Total Dissolved Solids	parts per million	no more than 500 *	102	61	139	Raw water - guideline does not apply
Conductivity	microsiemens per centimetre	no guideline	166	146	190	Another measure of dissolved solids
pH	units	between 6.5 and 8.5*	8.12	7.61	8.58	Raw water - guideline does not apply
Temperature	degrees Celcius	no more than 15 *	10.7	1.0	23.6	Raw water - guideline does not apply
Total Alkalinity	parts per million as calcium carbonate	no guideline	74	68	88	-
Total Hardness	parts per million as calcium carbonate	no guideline	80	73	94	-
Total Organic Carbon	parts per million	no guideline	9	6	14	-
Dissolved Organic Carbon	parts per million	no guideline	9	6	14	-
Total Inorganic Carbon	parts per million	no guideline	17	15	19	-
Dissolved Oxygen	parts per million	no guideline	10.7	7.2	13.6	-
Total Phosphorus	parts per million	no guideline	0.036	0.007	<0.100	Phosphorus can contribute to algae growth
Ammonia	parts per million	no guideline	<0.010	<0.010	<0.010	-
Nitrate Nitrogen	parts per million	no more than 10	0.0107	<0.0050	0.0308	Raw water - guideline does not apply
Bromide	parts per million	no guideline	<0.10	<0.10	<0.10	-
Chloride	parts per million	no more than 250 *	3.0	1.4	6.2	Raw water - guideline does not apply
Sulphate	parts per million	no more than 500 *	2.2	<2.0	6.1	Raw water - guideline does not apply

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PARAMETER	UNITS	GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
UV Absorbance (Unfiltered)	units per centimeter	no guideline	0.125	0.104	0.193	-
UV Transmittance (Filtered)	percent transmissivity	no guideline	77.3	72.5	80.4	-
UV Transmittance (Unfiltered)	percent transmissivity	no guideline	75.1	71.2	78.7	-
Chlorine (free)	parts per million	no guideline	0.02	<0.02	0.08	-
Chlorine (total)	parts per million	no guideline	0.03	<0.02	0.10	-
Trihalomethanes	parts per billion	no more than 100	<1	<1	<2	Raw water - guideline does not apply
Bromodichloromethane	parts per billion	no guideline	<1	<1	<1	-
Haloacetic acids	parts per billion	no more than 80	3	<3	7	Raw water - guideline does not apply
Aldehydes	parts per billion	no guideline	3	1	8	-
Carbofuran	parts per billion	no more than 90	<0.20	<0.20	<1.0	Raw water - guideline does not apply
Propoxur	parts per billion	no guideline	<0.20	<0.20	<0.20	-
Aldrin	parts per billion	no guideline	<0.010	<0.010	<0.050	-
Lindane (gamma-BHC)	parts per billion	no guideline	<0.010	<0.010	<0.050	-
alpha-Chlordane	parts per billion	no guideline	<0.010	<0.010	<0.050	-
gamma-Chlordane	parts per billion	no guideline	<0.010	<0.010	<0.050	-
p,p-DDT	parts per billion	no guideline	<0.010	<0.010	<0.050	-
Dieldrin	parts per billion	no guideline	<0.010	<0.010	<0.050	-
Heptachlor	parts per billion	no guideline	<0.010	<0.010	<0.050	-
Heptachlor Epoxide	parts per billion	no guideline	<0.010	<0.010	<0.050	-
Methoxychlor	parts per billion	no guideline	<0.010	<0.010	<0.050	-
alpha-BHC	parts per billion	no guideline	<0.010	<0.010	<0.050	-
beta-BHC	parts per billion	no guideline	<0.010	<0.010	<0.050	-
delta-BHC	parts per billion	no guideline	<0.010	<0.010	<0.050	-
p,p-DDD	parts per billion	no guideline	<0.010	<0.010	<0.050	-
p,p-DDE	parts per billion	no guideline	<0.010	<0.010	<0.050	-
o,p-DDD	parts per billion	no guideline	<0.010	<0.010	<0.050	-
o,p-DDE	parts per billion	no guideline	<0.010	<0.010	<0.050	-
o,p-DDT	parts per billion	no guideline	<0.010	<0.010	<0.050	-
Alpha Endosulfan	parts per billion	no guideline	<0.010	<0.010	<0.050	-
Beta Endosulfan	parts per billion	no guideline	<0.010	<0.010	<0.050	-
Endrin	parts per billion	no guideline	<0.010	<0.010	<0.050	-
Mirex	parts per billion	no guideline	<0.010	<0.010	<0.050	-
Simazine	parts per billion	no more than 10	<0.10	<0.10	<0.50	Raw water - guideline does not apply
Alachlor	parts per billion	no guideline	<0.10	<0.10	<0.50	-
Atrazine	parts per billion	no more than 5	<0.10	<0.10	<0.50	Raw water - guideline does not apply
Metribuzin	parts per billion	no more than 80	<0.20	<0.20	<1.0	Raw water - guideline does not apply
Azinphosmethyl	parts per billion	no more than 20	<0.10	<0.10	<0.50	Raw water - guideline does not apply
Chlorpyrifos	parts per billion	no more than 90	<0.10	<0.10	<0.50	Raw water - guideline does not apply
Diazinon	parts per billion	no more than 20	<0.10	<0.10	<0.50	Raw water - guideline does not apply
Dimethoate	parts per billion	no more than 20	<0.10	<0.10	<0.50	Raw water - guideline does not apply
Malathion	parts per billion	no more than 190	<0.10	<0.10	<0.50	Raw water - guideline does not apply
Parathion	parts per billion	no guideline	<0.10	<0.10	<0.50	-
Terbufos	parts per billion	no more than 1	<0.10	<0.10	<0.50	Raw water - guideline does not apply
Methyl Parathion	parts per billion	no guideline	<0.10	<0.10	<0.50	-
2,4-D	parts per billion	no more than 100	<0.050	<0.050	<0.050	Raw water - guideline does not apply
2,4-DB	parts per billion	no guideline	<0.050	<0.050	<0.050	-
2,4-DP	parts per billion	no guideline	<0.050	<0.050	<0.050	-
2,4,5-T	parts per billion	no guideline	<0.050	<0.050	<0.050	-
2,4,5-TP	parts per billion	no guideline	<0.050	<0.050	<0.050	-
Bromoxynil	parts per billion	no more than 5	<0.020	<0.020	<0.020	Raw water - guideline does not apply
Dicamba	parts per billion	no more than 120	<0.0060	<0.0060	0.0100	Raw water - guideline does not apply

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PARAMETER	UNITS	GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Dinoseb	parts per billion	no guideline	<0.050	<0.050	<0.050	-
MCPA	parts per billion	no more than 100	<0.025	<0.025	<0.025	Raw water - guideline does not apply
MCPB	parts per billion	no guideline	<0.050	<0.050	<0.050	-
Mecoprop	parts per billion	no guideline	<0.050	<0.050	<0.050	-
Picloram	parts per billion	no more than 190	<0.20	<0.20	<0.20	Raw water - guideline does not apply
Trichlopyr	parts per billion	no guideline	<0.050	<0.050	<0.050	-
Diclofop-methyl	parts per billion	no more than 9	<0.10	<0.10	<0.50	Raw water - guideline does not apply
Eptam	parts per billion	no guideline	<0.20	<0.20	<0.20	-
Propaclor	parts per billion	no guideline	<0.20	<0.20	<0.20	-
Propanil	parts per billion	no guideline	<0.20	<0.20	<0.20	-
Triallate	parts per billion	no guideline	<0.10	<0.10	<0.50	-
Trifluralin	parts per billion	no more than 45	<0.030	<0.030	<0.150	Raw water - guideline does not apply
Arochlor 1016	parts per billion	no guideline	<0.10	<0.02	<0.20	-
Arochlor 1221	parts per billion	no guideline	<0.10	<0.02	<0.20	-
Arochlor 1232	parts per billion	no guideline	<0.10	<0.02	<0.20	-
Arochlor 1242	parts per billion	no guideline	<0.10	<0.02	<0.20	-
Arochlor 1248	parts per billion	no guideline	<0.10	<0.02	<0.20	-
Arochlor 1254	parts per billion	no guideline	<0.10	<0.02	<0.20	-
Arochlor 1260	parts per billion	no guideline	<0.10	<0.02	<0.20	-
Calcium	parts per million	no guideline	20.9	18.3	25.6	Contributes to hardness
Magnesium	parts per million	no guideline	5.93	4.86	7.77	Contributes to hardness
Sodium	parts per million	no more than 200	2.35	1.90	3.53	Raw water - guideline does not apply
Potassium	parts per million	no guideline	1.25	1.12	1.56	-
Iron	parts per million	no more than 0.3 *	0.045	0.008	0.278	Raw water - guideline does not apply
Copper	parts per million	no more than 1.0 *	0.0009	<0.0003	0.0055	Raw water - guideline does not apply
Lead	parts per million	no more than 0.010	0.00019	<0.00009	<0.00040	Raw water - guideline does not apply
Aluminum	parts per million	no more than 0.1	0.0031	<0.0005	0.0137	Raw water - guideline does not apply
Arsenic	parts per million	no more than 0.010	0.0008	0.0006	0.0012	Raw water - guideline does not apply
Chromium	parts per million	no more than 0.05	<0.0007	<0.0007	0.0009	Raw water - guideline does not apply
Chromium VI	parts per billion	no guideline	<10	<10	10	-
Nickel	parts per million	no guideline	0.0010	<0.0003	0.0097	-
Cadmium	parts per million	no more than 0.005	0.00019	<0.00001	<0.00040	Raw water - guideline does not apply
Manganese	parts per million	no more than 0.05 *	0.0171	0.0039	0.0928	Raw water - guideline does not apply
Zinc	parts per million	no more than 5.0 *	0.0018	<0.0005	0.0142	Raw water - guideline does not apply
Mercury	parts per million	no more than 0.001	0.0000005	0.0000005	<0.000001	Raw water - guideline does not apply
Antimony	parts per million	no more than 0.006	0.0003	<0.0002	0.0011	Raw water - guideline does not apply
Barium	parts per million	no more than 1	0.0159	0.0138	0.0174	Raw water - guideline does not apply
Beryllium	parts per million	no guideline	<0.00020	<0.00020	<0.00020	-
Bismuth	parts per million	no guideline	<0.00020	<0.00020	<0.00020	-
Boron	parts per million	no more than 5	0.010	0.005	0.019	Raw water - guideline does not apply
Cesium	parts per million	no guideline	<0.00010	<0.00010	<0.00010	-
Cobalt	parts per million	no guideline	<0.0002	<0.0002	<0.0005	-
Lithium	parts per million	no guideline	0.0021	<0.0020	0.0026	-
Molybdenum	parts per million	no guideline	0.00023	0.00021	<0.00050	-
Rubidium	parts per million	no guideline	0.00165	0.00153	0.00180	-

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PARAMETER	UNITS	GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Selenium	parts per million	no more than 0.05	<0.0005	<0.0005	<0.0010	Raw water - guideline does not apply
Silicon	parts per million	no guideline	2.59	0.86	4.09	-
Silver	parts per million	no guideline	0.00012	<0.00010	<0.00050	-
Strontium	parts per million	no guideline	0.0396	0.0359	0.0436	-
Tellurium	parts per million	no guideline	<0.00020	<0.00020	<0.00020	-
Thallium	parts per million	no guideline	<0.00010	<0.00010	<0.00010	-
Thorium	parts per million	no guideline	<0.00010	<0.00010	<0.00010	-
Tin	parts per million	no guideline	0.0002	0.0001	0.0006	-
Titanium	parts per million	no guideline	<0.0005	<0.0005	<0.0005	-
Tungsten	parts per million	no guideline	<0.00010	<0.00010	<0.00010	-
Uranium	parts per million	no more than 0.02	0.0002	<0.0001	<0.0005	Raw water - guideline does not apply
Vanadium	parts per million	no guideline	0.00013	<0.00020	0.00023	-
Zirconium	parts per million	no guideline	<0.0004	<0.0004	0.0023	-

*Aesthetic objective: These guidelines have an objective and not a maximum acceptable limit. These parameters should not impact the safety of the water to drink and there is no anticipated health risk for short-term exposures.

Guidelines from 'Summary of Guidelines for Canadian Drinking Water Quality' by Health Canada, October 2014

Note: Where value is expressed as less than (<), the value is halved and used in the calculations, where value is expressed as (>), the value is used in the calculations.

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Finished Water - Deacon Booster Pumping Station 1 and 2
Drinking Water Quality Summary

PARAMETER	UNITS	GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Odour	units	Inoffensive	19	12	30	Meets the guideline
Methylene Chloride (Dicholormethane)	parts per billion	no more than 50	<0.5	<0.5	0.7	Meets the guideline
Perchlorate	parts per billion	no guideline	<0.2	<0.2	<0.2	-
Geosmin	parts per trillion	no guideline	1.7	<0.5	3.7	Common taste and odour compound
IPMP - 2-isopropyl-3-methoxypyrazine	parts per trillion	no guideline	<0.2	<0.2	<0.2	Common taste and odour compound
IBMP - 2-isobutyl-3-methoxypyrazine	parts per trillion	no guideline	<0.2	<0.2	<0.2	Common taste and odour compound
MIB - 2-methylisoborneol	parts per trillion	no guideline	<10	<10	<50	Common taste and odour compound
246 TCA - 2,4,6-trichloroanisole	parts per trillion	no guideline	<0.5	<0.5	<0.5	Common taste and odour compound
236 TCA - 2,3,6-trichloroanisole	parts per trillion	no guideline	<0.5	<0.5	<0.5	Common taste and odour compound
345 TCV - 3,4,5-trichloroveratrole	parts per trillion	no guideline	<0.2	<0.2	<0.2	Common taste and odour compound
MTBE - methyl tertiary-butyl ether	parts per million	no more than 0.015 *	<0.0005	<0.0005	<0.0005	Meets the guideline
NDMA - N-nitrosodimethylamine	parts per billion	no more than 0.04	0.0009	0.0007	0.0011	Meets the guideline
Plankton (algae) count	cells/mL	no guideline	<100	<100	<100	Algae contribute to odours and may cause filter clogging
Chlorophyll-a	parts per billion	no guideline	<1	<1	<1	Chlorophyll is found in algae
Microcystin LR	parts per billion	no more than 1.5	<0.2	<0.2	<0.2	Meets the guideline
Turbidity (clearness)	NTU	no more than 0.3 in 95% of measurements/month, never to exceed 1.0	0.11	<0.05	0.52	Meets the guideline
Colour, True	TCU	no more than 15 *	0.8	0.5	2.5	Meets the guideline
Total Solids	parts per million	no guideline	193	164	242	-
Total Dissolved Solids	parts per million	no more than 500 *	181	139	229	Meets the guideline
Conductivity	microsiemens per centimetre	no guideline	318	294	355	Another measure of dissolved solids
pH	units	between 6.5 and 8.5*	7.74	7.39	8.09	Meets the guideline
Temperature	degrees Celsius	no more than 15 *	11.2	1.7	23.2	Does not always meet the guideline.
Total Alkalinity	parts per million as calcium carbonate	no guideline	66	54	77	-
Total Hardness	parts per million as calcium carbonate	no guideline	81	73	94	-
Total Organic Carbon	parts per million	no guideline	4	2	15	-
Dissolved Organic Carbon	parts per million	no guideline	4	2	15	-
Dissolved Oxygen	parts per million	no guideline	11.9	8.3	15.8	-
Total Phosphorus	parts per million	no guideline	0.004	<0.001	0.008	Phosphorus can contribute to algae growth
Chloride	parts per million	no more than 250 *	22	15	27	Meets the guideline
Sulphate	parts per million	no more than 500 *	52	44	65	Meets the guideline
UV Transmittance (Filtered)	percent transmissivity	no guideline	95.6	92.0	98.1	-
UV Transmittance (Unfiltered)	percent transmissivity	no guideline	94.5	90.6	97.4	-
Chlorine (free)	parts per million	no guideline	1.15	0.92	1.90	-
Chlorine (total)	parts per million	no guideline	1.30	1.08	2.18	-
Trihalomethanes	parts per billion	no more than 100	5	<1	13	Meets the guideline

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Bromodichloromethane	parts per billion	no guideline	<1	<1	2	-
Haloacetic acids	parts per billion	no more than 80	17	11	37	Meets the guideline
Aldehydes	parts per billion	no guideline	14	6	24	-
Carbofuran	parts per billion	no more than 90	<0.20	<0.20	<0.20	Meets the guideline
Propoxur	parts per billion	no guideline	<0.20	<0.20	<0.20	-
Aldrin	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Lindane (gamma-BHC)	parts per billion	no guideline	<0.010	<0.010	<0.010	-
alpha-Chlordane	parts per billion	no guideline	<0.010	<0.010	<0.010	-
gamma-Chlordane	parts per billion	no guideline	<0.010	<0.010	<0.010	-
p,p-DDT	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Dieldrin	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Heptachlor	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Heptachlor Epoxide	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Methoxychlor	parts per billion	no guideline	<0.010	<0.010	<0.010	-
alpha-BHC	parts per billion	no guideline	<0.010	<0.010	<0.010	-
beta-BHC	parts per billion	no guideline	<0.010	<0.010	<0.010	-
delta-BHC	parts per billion	no guideline	<0.010	<0.010	<0.010	-
p,p-DDD	parts per billion	no guideline	<0.010	<0.010	<0.010	-
p,p-DDE	parts per billion	no guideline	<0.010	<0.010	<0.010	-
o,p-DDD	parts per billion	no guideline	<0.010	<0.010	<0.010	-
o,p-DDE	parts per billion	no guideline	<0.010	<0.010	<0.010	-
o,p-DDT	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Alpha Endosulfan	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Beta Endosulfan	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Endrin	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Mirex	parts per billion	no guideline	<0.010	<0.010	<0.010	-
Simazine	parts per billion	no more than 10	<0.10	<0.10	<0.10	Meets the guideline
Alachlor	parts per billion	no guideline	<0.10	<0.10	<0.10	-
Atrazine	parts per billion	no more than 5	<0.10	<0.10	<0.10	Meets the guideline
Metribuzin	parts per billion	no more than 80	<0.20	<0.20	<0.20	Meets the guideline
Azinphosmethyl	parts per billion	no more than 20	<0.10	<0.10	<0.10	Meets the guideline
Chlorpyrifos	parts per billion	no more than 90	<0.10	<0.10	<0.10	Meets the guideline
Diazinon	parts per billion	no more than 20	<0.10	<0.10	<0.10	Meets the guideline
Dimethoate	parts per billion	no more than 20	<0.10	<0.10	<0.10	Meets the guideline
Malathion	parts per billion	no more than 190	<0.10	<0.10	<0.10	Meets the guideline
Parathion	parts per billion	no guideline	<0.10	<0.10	<0.10	-
Terbufos	parts per billion	no more than 1	<0.10	<0.10	<0.10	Meets the guideline
Methyl Parathion	parts per billion	no guideline	<0.10	<0.10	<0.10	-
2,4-D	parts per billion	no more than 100	<0.050	<0.050	<0.050	Meets the guideline
2,4-DB	parts per billion	no guideline	<0.050	<0.050	<0.050	-
2,4-DP	parts per billion	no guideline	<0.050	<0.050	<0.050	-
2,4,5-T	parts per billion	no guideline	<0.050	<0.050	<0.050	-
2,4,5-TP	parts per billion	no guideline	<0.050	<0.050	<0.050	-
Bromoxynil	parts per billion	no more than 5	<0.020	<0.020	<0.020	Meets the guideline
Dicamba	parts per billion	no more than 120	<0.0060	<0.0060	0.0116	Meets the guideline
Dinoseb	parts per billion	no guideline	<0.050	<0.050	<0.050	-
MCPA	parts per billion	no more than 100	<0.025	<0.025	<0.025	Meets the guideline
MCPB	parts per billion	no guideline	<0.050	<0.050	<0.050	-

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Mecoprop	parts per billion	no guideline	<0.050	<0.050	<0.050	-
Picloram	parts per billion	no more than 190	<0.20	<0.20	<0.20	Meets the guideline
Trichlopyr	parts per billion	no guideline	<0.050	<0.050	<0.050	-
Diclofop-methyl	parts per billion	no more than 9	<0.10	<0.10	<0.10	Meets the guideline
Eptam	parts per billion	no guideline	<0.20	<0.20	<0.20	-
Propaclor	parts per billion	no guideline	<0.20	<0.20	<0.20	-
Propanil	parts per billion	no guideline	<0.20	<0.20	<0.20	-
Triallate	parts per billion	no guideline	<0.10	<0.10	<0.10	-
Trifluralin	parts per billion	no more than 45	<0.030	<0.030	<0.030	Meets the guideline
Arochlor 1016	parts per billion	no guideline	<0.020	<0.020	<0.020	-
Arochlor 1221	parts per billion	no guideline	<0.020	<0.020	<0.020	-
Arochlor 1232	parts per billion	no guideline	<0.020	<0.020	<0.020	-
Arochlor 1242	parts per billion	no guideline	<0.020	<0.020	<0.020	-
Arochlor 1248	parts per billion	no guideline	<0.020	<0.020	<0.020	-
Arochlor 1254	parts per billion	no guideline	<0.020	<0.020	<0.020	-
Arochlor 1260	parts per billion	no guideline	<0.020	<0.020	<0.020	-
Calcium	parts per million	no guideline	20.8	18.1	24.8	Contributes to hardness
Magnesium	parts per million	no guideline	5.90	4.80	7.46	Contributes to hardness
Sodium	parts per million	no more than 200 *	30.7	25.6	37.9	Meets the guideline
Potassium	parts per million	no guideline	1.24	1.10	1.44	-
Iron	parts per million	no more than 0.3 *	0.034	<0.008	0.108	Meets the guideline
Copper	parts per million	no more than 1.0 *	0.0029	<0.0003	0.0067	Meets the guideline
Lead	parts per million	no more than 0.010	<0.0004	<0.0004	0.0004	Meets the guideline
Aluminum	parts per million	no more than 0.1	0.0191	<0.0005	0.0447	Meets the guideline
Arsenic	parts per million	no more than 0.010	0.0004	0.0003	0.0006	Meets the guideline
Chromium	parts per million	no more than 0.05	<0.0007	<0.0007	0.0023	Meets the guideline
Chromium VI	parts per billion	no guideline	<10	<10	<10	-
Nickel	parts per million	no guideline	0.003	0.002	0.005	-
Cadmium	parts per million	no more than 0.005	<0.0004	<0.0004	<0.0004	Meets the guideline
Manganese	parts per million	no more than 0.05 *	0.0282	0.0147	0.0411	Meets the guideline
Zinc	parts per million	no more than 5.0 *	0.0044	<0.0005	0.0433	Meets the guideline
Mercury	parts per million	no more than 0.001	0.0000012	<0.0000005	0.0000050	Meets the guideline
Antimony	parts per million	no more than 0.006	<0.0005	<0.0005	0.0006	Meets the guideline
Boron	parts per million	no more than 5	0.012	0.005	0.032	Meets the guideline
Cobalt	parts per million	no guideline	<0.0005	<0.0005	<0.0005	-
Molybdenum	parts per million	no guideline	<0.0005	<0.0005	<0.0005	-
Selenium	parts per million	no more than 0.05	<0.0005	<0.0005	0.0005	Meets the guideline
Silver	parts per million	no guideline	<0.0005	<0.0005	<0.0005	-
Tin	parts per million	no guideline	0.0006	0.0005	0.0007	-
Titanium	parts per million	no guideline	0.0012	0.0011	0.0012	-
Uranium	parts per million	no more than 0.02	<0.0005	<0.0005	<0.0005	Meets the guideline
Zirconium	parts per million	no guideline	<0.0005	<0.0005	0.0006	-

*Aesthetic objective: These guidelines have an objective and not a maximum acceptable limit. These parameters should not impact the safety of the water to drink and there is no anticipated health risk for short-term exposures.

Guidelines from 'Summary of Guidelines for Canadian Drinking Water Quality' by Health Canada, October 2014

Note: Where value is expressed as less than (<), the value is halved and used in the calculations, where value is expressed as (>), the value is used in the calculations.

City of Winnipeg
Environmental Standards Division
2015 Winnipeg Distribution System Water Quality Summary

PARAMETER	UNITS	GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Odour ¹	units	Inoffensive	16	8	30	Meets the guideline
Perchlorate ¹	parts per billion	no guideline	<0.2	<0.2	<0.2	-
Turbidity (clearness) ²	NTU	no guideline	0.33	0.09	19.2	-
Colour, True ³	TCU	no more than 15 *	0.9	0.5	6.0	Meets the guideline
Total Dissolved Solids ³	parts per million	no more than 500 *	179	71	220	Meets the guideline
pH ⁶	units	between 6.5 and 8.5*	7.49	6.71	8.13	Meets the guideline
Temperature ²	degrees Celcius	no more than 15 *	11.3	0.2	26.1	Does not always meet the guideline
Total Alkalinity ³	parts per million as calcium	no guideline	65	58	77	-
Total Hardness ³	parts per million as calcium	no guideline	83	71	98	-
Dissolved Oxygen ⁵	parts per million	no guideline	11.8	6.3	15.6	-
Fluoride ³	parts per million	no more than 1.5	0.67	0.53	0.74	Meets the guideline
Soluble Phosphate ⁴	parts per million as phosphate	no guideline	1.88	0.86	2.54	Added for Lead Control Program
Bromide ⁷	parts per million	no guideline	<0.10	<0.10	<0.10	-
Bromate ⁷	parts per million	no more than 0.01	<0.0003	<0.0003	<0.0003	Meets the guideline
Chloride ³	parts per million	no more than 250 *	22	16	26	Meets the guideline
Sulphate ³	parts per million	no more than 500 *	52	42	64	Meets the guideline
Chlorine (free) ²	parts per million	no guideline	0.82	<0.02	1.54	-
Chlorine (total) ²	parts per million	no guideline	1.02	0.07	1.83	-
Trihalomethanes ⁵	parts per billion	no more than 100	21	7	40	Meets the guideline
Bromodichloromethane ⁵	parts per billion	no guideline	1.2	<1.0	4.0	-
Haloacetic acids ⁵	parts per billion	no more than 80	33	18	61	Meets the guideline
Aldehydes ⁵	parts per billion	no guideline	16	6	37	-
Calcium ⁶	parts per million	no guideline	21.0	18.7	27.4	Contributes to hardness
Magnesium ⁶	parts per million	no guideline	5.85	4.03	7.67	Contributes to hardness
Sodium ⁶	parts per million	no more than 200 *	30.8	25.0	37.3	Meets the guideline
Potassium ⁶	parts per million	no guideline	1.24	1.09	2.06	-
Iron ⁶	parts per million	no more than 0.3 *	0.043	<0.008	0.169	Meets the guideline
Copper ⁶	parts per million	no more than 1.0 *	0.0452	0.0016	0.3048	Meets the guideline
Lead ⁶	parts per million	no more than 0.01	<0.0004	<0.0004	0.0045	Meets the guideline
Aluminum ⁶	parts per million	no more than 0.1	0.0161	<0.0005	0.0753	Meets the guideline
Arsenic ⁶	parts per million	no more than 0.010	0.0006	0.0005	0.0012	Meets the guideline
Chromium VI ⁵	parts per billion	no guideline	<10	<10	<10	-
Chromium ⁶	parts per million	no more than 0.05	<0.0007	<0.0007	0.0062	Meets the guideline
Nickel ⁶	parts per million	no guideline	0.0024	0.0016	0.0037	-
Cadmium ⁶	parts per million	no more than 0.005	<0.0004	<0.0004	<0.0004	Meets the guideline
Manganese ⁶	parts per million	no more than 0.05 *	0.0250	0.0022	0.1792	Does not always meet the guideline
Zinc ⁶	parts per million	no more than 5.0 *	0.0048	<0.0005	0.0605	Meets the guideline
Mercury ⁵	parts per million	no more than 0.001	0.0000005	<0.0000005	0.0000020	Meets the guideline
Antimony ⁶	parts per million	no more than 0.006	<0.0005	<0.0005	0.0005	Meets the guideline
Boron ⁶	parts per million	no more than 5	0.0114	<0.0005	0.0377	Meets the guideline
Uranium ⁶	parts per million	no more than 0.02	<0.0005	<0.0005	<0.0005	Meets the guideline
Zirconium ⁶	parts per million	no guideline	<0.0005	<0.0005	0.0035	-

*Aesthetic objective: These guidelines have an objective and not a maximum acceptable limit. These parameters should not impact the safety of the water to drink and there is no anticipated health risk for short-term exposures.

Guidelines from 'Summary of Guidelines for Canadian Drinking Water Quality' by Health Canada, October 2014

¹Data reported was collected from MacLean, Hurst, and McPhillips Pumping Station Discharges.

²Data reported was collected from 57 distribution system locations and MacLean, Hurst, and McPhillips Pumping Station Discharges.

³Data reported was collected from a composite sample of 39 distribution system locations.

⁴Data reported was collected from a composite sample of 39 distribution system locations and MacLean, Hurst, and McPhillips Pumping Station Discharges.

⁵Data reported was collected from 6 distribution system locations and MacLean, Hurst, and McPhillips Pumping Station Discharges.

⁶Data reported was collected from 6 distribution system locations, a composite sample of 39 distribution system locations and MacLean, Hurst, and McPhillips Pumping Station Discharges.

⁷Data reported was collected from Branch I at McPhillips and Branch II at Hurst.

Note: Where value is expressed as less than (<), the value is halved and used in the calculations, where value is expressed as (>), the value is used in the calculations.

City of Winnipeg
Environmental Standards Division
2015 Winnipeg Distribution System Bacteriological Summary

PARAMETER	REQUIREMENT	OUR TEST RESULTS	COMMENTS
Number of total coliform bacteria tests in year	2028 samples/year	3,064	More testing than required by the operating licence
Number of times that total coliform bacteria show up in a test	less than one bacteria detectable per 100 mL	0.36% (11 positive tests)	All resamples were negative and met the operating licence requirements
Number of Escherichia coli bacteria tests in year	2028 samples/year	3,064	More testing than required by the operating licence
Number of times that Escherichia coli bacteria show up in a test	less than one bacteria detectable per 100 mL	0.16% (5 positive tests)	All resamples were negative and met the operating licence requirements
Number of heterotrophic (bacteria) plate count (HPC) tests done	no guideline	3,064	Heterotrophic plate count testing is not required under the operating licence

Requirements from City of Winnipeg Operating Licence PWS-09-412 AA

Data reported was collected from 57 distribution system locations and MacLean, Hurst, and McPhillips Pumping Station Discharges

APPENDIX B

COMPLIANCE SUBMISSION REPORTS

2015 Monthly Chlorine Reports



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

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-Jan-2015	1.24	1.44	1.31	1.45
02-Jan-2015	1.23	1.44	1.17	1.36
03-Jan-2015	NS	NS	NS	NS
04-Jan-2015	NS	NS	NS	NS
05-Jan-2015	1.12	1.33	1.06	1.29
06-Jan-2015	1.18	1.35	1.15	1.30
07-Jan-2015	1.14	1.35	1.16	1.34
08-Jan-2015	1.07	1.25	1.14	1.33
09-Jan-2015	1.19	1.37	1.28	1.52
10-Jan-2015	NS	NS	NS	NS
11-Jan-2015	NS	NS	NS	NS
12-Jan-2015	1.11	1.27	1.13	1.36
13-Jan-2015	1.05	1.23	1.08	1.29
14-Jan-2015	1.11	1.29	1.21	1.34
15-Jan-2015	1.23	1.44	1.08	1.40
16-Jan-2015	1.35	1.48	1.25	1.46
17-Jan-2015	NS	NS	NS	NS
18-Jan-2015	NS	NS	NS	NS
19-Jan-2015	1.11	1.25	1.12	1.32
20-Jan-2015	1.18	1.40	1.18	1.38
21-Jan-2015	1.23	1.31	1.19	1.31
22-Jan-2015	1.15	1.27	1.11	1.21
23-Jan-2015	1.11	1.28	1.00	1.25
24-Jan-2015	NS	NS	NS	NS
25-Jan-2015	NS	NS	NS	NS
26-Jan-2015	1.03	1.20	1.04	1.26
27-Jan-2015	1.15	1.24	0.92	1.12
28-Jan-2015	1.19	1.40	1.07	1.28
29-Jan-2015	1.06	1.29	1.10	1.29
30-Jan-2015	1.13	1.34	1.16	1.34
31-Jan-2015	NS	NS	NS	NS
Total number of measurements taken, A:	22		22	
Chlorine Standard for Monitoring Location (mg/L):	0.50		0.50	
Number of measurements meeting standard, B:	22		22	
Compliance with Chlorine Standard, C= B/A X 100%:	100%		100%	

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

Comments:

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck



City of Winnipeg

Water and Waste Department

Water Services

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: **01 February 2015**

Report Period: January 2015

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
1/01/2015	1.18	1.12	1.26	1.23
2/01/2015	1.15	1.11	1.20	1.12
3/01/2015	1.14	1.06	1.17	1.12
4/01/2015	1.09	1.03	1.12	1.07
5/01/2015	1.08	0.99	1.08	1.04
6/01/2015	1.09	1.03	1.05	1.01
7/01/2015	1.07	1.03	1.13	1.08
8/01/2015	1.07	0.95	1.16	1.04
9/01/2015	1.12	1.05	1.23	1.17
10/01/2015	1.12	1.08	1.22	1.18
11/01/2015	1.12	0.96	1.24	0.95
12/01/2015	1.08	1.03	1.07	0.99
13/01/2015	1.02	0.96	0.99	0.95
14/01/2015	1.13	1.02	1.08	1.01
15/01/2015	1.26	1.20	1.17	1.10
16/01/2015	1.28	1.17	1.20	1.09
17/01/2015	1.23	1.16	1.14	1.06
18/01/2015	1.15	1.11	1.08	1.04
19/01/2015	1.11	1.03	1.12	1.06
20/01/2015	1.15	1.08	1.16	1.09
21/01/2015	1.09	0.86	1.65	0.89
22/01/2015	1.02	0.97	0.99	0.95
23/01/2015	0.98	0.92	0.96	0.91
24/01/2015	0.98	0.96	0.97	0.94
25/01/2015	1.00	0.91	0.96	0.93
26/01/2015	0.97	0.89	1.00	0.92
27/01/2015	1.01	0.95	0.97	0.90
28/01/2015	1.10	1.01	1.09	0.92
29/01/2015	1.09	1.03	1.18	1.12
30/01/2015	1.07	1.03	1.12	1.07
31/01/2015	1.06	1.01	1.09	1.05

Total Number of Measurements, A: **21488** 21469

Minimum Free Chlorine Standard: **0.50** 0.50

Number of Measurements Meeting Standard, B: **21488** 21469

COMPLIANCE, C = B/A X 100%: **100** 100

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Submitted By (Print): D.Minor

Signature: Original signed by D.Minor



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

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 AA	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Free Chlorine (mg/L)	Total Chlorine (mg/L)
Date				
01-Feb-2015	NS	NS	NS	NS
02-Feb-2015	1.15	1.26	1.06	1.30
03-Feb-2015	1.16	1.29	1.23	1.36
04-Feb-2015	1.08	1.17	1.17	1.26
05-Feb-2015	1.08	1.19	1.12	1.24
06-Feb-2015	1.08	1.19	1.10	1.24
07-Feb-2015	NS	NS	NS	NS
08-Feb-2015	NS	NS	NS	NS
09-Feb-2015	1.03	1.17	1.08	1.23
10-Feb-2015	1.30	1.42	1.45	1.60
11-Feb-2015	1.06	1.22	1.16	1.30
12-Feb-2015	1.11	1.27	1.10	1.32
13-Feb-2015	1.01	1.21	1.11	1.30
14-Feb-2015	NS	NS	NS	NS
15-Feb-2015	NS	NS	NS	NS
16-Feb-2015	1.15	1.30	1.20	1.35
17-Feb-2015	1.12	1.29	1.06	1.23
18-Feb-2015	1.02	1.22	1.13	1.34
19-Feb-2015	1.04	1.22	1.06	1.17
20-Feb-2015	1.10	1.29	1.01	1.18
21-Feb-2015	NS	NS	NS	NS
22-Feb-2015	NS	NS	NS	NS
23-Feb-2015	1.07	1.28	0.93	1.15
24-Feb-2015	1.06	1.19	1.02	1.18
25-Feb-2015	1.10	1.24	1.03	1.19
26-Feb-2015	1.05	1.23	1.12	1.32
27-Feb-2015	1.07	1.21	1.03	1.21
28-Feb-2015	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: C.Diduck



City of Winnipeg

Water and Waste Department

Water Services

WATER TREATMENT PLANT FREE CHLORINE ON-LINE MONITORING REPORT
Deacon Booster Pumping StationWater System Code: **252.00**Licence Number: **PWS-09-412 AA**Report Created: **01 March 2015**

Report Period: February 2015

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
1/02/2015	1.08	1.01	1.09	1.03
2/02/2015	1.01	0.95	1.07	1.03
3/02/2015	1.01	0.93	1.04	0.99
4/02/2015	1.03	0.99	1.01	0.97
5/02/2015	1.01	0.97	0.98	0.96
6/02/2015	1.02	0.99	0.99	0.96
7/02/2015	0.99	0.94	0.99	0.95
8/02/2015	0.96	0.92	0.97	0.94
9/02/2015	0.99	0.91	1.09	0.96
10/02/2015	1.07	0.93	1.24	1.12
11/02/2015	1.04	0.95	1.15	1.03
12/02/2015	1.01	0.91	1.15	1.05
13/02/2015	0.98	0.86	1.11	0.98
14/02/2015	1.00	0.87	1.05	1.00
15/02/2015	0.99	0.92	1.02	0.94
16/02/2015	1.06	0.96	1.06	1.00
17/02/2015	1.08	0.98	1.03	0.90
18/02/2015	1.05	0.97	1.04	0.93
19/02/2015	1.05	0.96	0.97	0.90
20/02/2015	1.05	0.92	0.94	0.90
21/02/2015	1.02	0.96	0.97	0.88
22/02/2015	1.03	0.94	0.98	0.92
23/02/2015	1.06	0.99	0.99	0.92
24/02/2015	1.04	0.97	0.96	0.90
25/02/2015	1.03	0.93	1.00	0.93
26/02/2015	1.02	0.93	1.00	0.94
27/02/2015	1.00	0.94	0.96	0.91
28/02/2015	1.04	0.95	0.99	0.92

Total Number of Measurements, A: **19386** 19251Minimum Free Chlorine Standard: **0.50** 0.50Number of Measurements Meeting Standard, B: **19386** 19251COMPLIANCE, C = B/A X 100%: **100** 100

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Submitted By (Print): D.MerredewSignature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT CHLORINE GRAB MONITORING REPORT				
Water System Code: 252.00	Deacon Booster Pumping Station Branch 1		Deacon Booster Pumping Station Branch 2	
Licence No. PWS-09-412 AA	Date	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Free Chlorine (mg/L)
	01-Mar-2015	NS	NS	NS
	02-Mar-2015	1.05	1.21	1.07
	03-Mar-2015	1.10	1.21	1.02
	04-Mar-2015	1.02	1.21	1.07
	05-Mar-2015	1.11	1.26	1.16
	06-Mar-2015	1.13	1.31	1.15
	07-Mar-2015	NS	NS	NS
	08-Mar-2015	NS	NS	NS
	09-Mar-2015	1.02	1.15	1.13
	10-Mar-2015	1.02	1.20	1.06
	11-Mar-2015	0.98	1.17	0.96
	12-Mar-2015	1.09	1.23	1.08
	13-Mar-2015	1.11	1.24	1.06
	14-Mar-2015	NS	NS	NS
	15-Mar-2015	NS	NS	NS
	16-Mar-2015	1.03	1.20	1.14
	17-Mar-2015	1.09	1.25	1.04
	18-Mar-2015	1.02	1.17	1.01
	19-Mar-2015	1.08	1.24	1.11
	20-Mar-2015	1.10	1.23	1.15
	21-Mar-2015	NS	NS	NS
	22-Mar-2015	NS	NS	NS
	23-Mar-2015	1.12	1.26	1.13
	24-Mar-2015	1.01	1.17	1.12
	25-Mar-2015	0.92	1.12	0.99
	26-Mar-2015	1.07	1.18	1.13
	27-Mar-2015	1.00	1.19	1.10
	28-Mar-2015	NS	NS	NS
	29-Mar-2015	NS	NS	NS
	30-Mar-2015	0.99	1.18	1.02
	31-Mar-2015	1.06	1.20	1.07
Total number of measurements taken, A:	22		22	
Chlorine Standard for Monitoring Location (mg/L):	0.50		0.50	
Number of measurements meeting standard, B:	22		22	
Compliance with Chlorine Standard, C= B/A X 100%:	100%		100%	

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

Comments:

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck

Date Approved: 1-Apr-15

Printed From : N:\WQ Data\Routine Water Quality\2014\Chlorine.xls

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City of Winnipeg

Water and Waste Department

Water Services

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

Water System Code: 252.00

Licence Number: PWS-09-412 AA

Report Created: 01 April 2015

Report Period: March 2015

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
1/03/2015	1.04	0.99	1.01	0.96
2/03/2015	1.02	0.95	1.01	0.96
3/03/2015	1.01	0.92	0.98	0.94
4/03/2015	1.06	0.97	1.05	0.95
5/03/2015	1.05	0.96	1.14	1.05
6/03/2015	1.06	1.00	1.16	1.11
7/03/2015	1.05	1.01	1.13	1.08
8/03/2015	1.00	0.94	1.07	1.02
9/03/2015	0.98	0.95	1.05	1.01
10/03/2015	0.96	0.91	1.02	0.96
11/03/2015	0.98	0.92	1.02	0.88
12/03/2015	1.00	0.94	1.00	0.90
13/03/2015	1.00	0.95	0.96	0.88
14/03/2015	1.05	0.98	1.11	0.99
15/03/2015	1.04	0.98	1.10	1.04
16/03/2015	1.05	1.01	1.09	1.06
17/03/2015	1.02	0.96	0.99	0.92
18/03/2015	1.07	0.97	1.06	0.97
19/03/2015	1.07	1.01	1.17	1.06
20/03/2015	1.02	0.98	1.18	1.10
21/03/2015	1.05	0.96	1.18	1.07
22/03/2015	1.07	1.01	1.19	1.12
23/03/2015	1.05	0.77	1.06	0.86
24/03/2015	1.02	0.96	1.15	1.07
25/03/2015	0.95	0.63	1.05	0.72
26/03/2015	0.93	0.87	1.28	1.15
27/03/2015	0.96	0.87	1.17	1.03
28/03/2015	1.00	0.94	1.10	1.04
29/03/2015	0.99	0.94	1.08	1.01
30/03/2015	0.96	0.91	1.06	1.01
31/03/2015	1.00	0.95	1.02	0.92

Total Number of Measurements, A: 21571 21568

Minimum Free Chlorine Standard: 0.50 0.50

Number of Measurements Meeting Standard, B: 21571 21568

COMPLIANCE, C = B/A X 100%: 100 100

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Submitted By (Print): M.Szmon for A.Weremy

Signature: Original signed by M.Szmon for A.Weremy



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

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 AA	Date	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Free Chlorine (mg/L)	Total Chlorine (mg/L)
	01-Apr-2015	1.01	1.19	1.09	1.30
	02-Apr-2015	1.06	1.20	1.06	1.21
	03-Apr-2015	NS	NS	NS	NS
	04-Apr-2015	NS	NS	NS	NS
	05-Apr-2015	NS	NS	NS	NS
	06-Apr-2015	NS	NS	NS	NS
	07-Apr-2015	0.97	1.21	1.04	1.18
	08-Apr-2015	1.00	1.13	1.09	1.33
	09-Apr-2015	1.06	1.21	1.04	1.21
	10-Apr-2015	1.13	1.30	0.94	1.17
	11-Apr-2015	NS	NS	NS	NS
	12-Apr-2015	NS	NS	NS	NS
	13-Apr-2015	1.13	1.28	1.11	1.26
	14-Apr-2015	1.03	1.18	1.12	1.24
	15-Apr-2015	1.02	1.18	1.12	1.23
	16-Apr-2015	1.68	1.88	1.73	1.91
	17-Apr-2015	1.20	1.32	1.06	1.26
	18-Apr-2015	NS	NS	NS	NS
	19-Apr-2015	NS	NS	NS	NS
	20-Apr-2015	1.02	1.14	1.06	1.18
	21-Apr-2015	1.00	1.11	0.96	1.08
	22-Apr-2015	1.00	1.14	0.99	1.10
	23-Apr-2015	1.07	1.25	1.13	1.27
	24-Apr-2015	1.09	1.25	1.13	1.28
	25-Apr-2015	NS	NS	NS	NS
	26-Apr-2015	NS	NS	NS	NS
	27-Apr-2015	1.06	1.19	1.08	1.22
	28-Apr-2015	1.14	1.26	1.16	1.27
	29-Apr-2015	1.12	1.27	1.10	1.20
	30-Apr-2015	1.09	1.23	1.05	1.17
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: C.Diduck

**City of Winnipeg**

Water and Waste Department

Water Services

WATER TREATMENT PLANT FREE CHLORINE ON-LINE MONITORING REPORT
Deacon Booster Pumping StationWater System Code: **252.00**Licence Number: **PWS-09-412 AA**Report Created: **01 May 2015**Report Period: **April 2015**

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/04/2015	1.01	0.91	0.97	0.93
02/04/2015	1.00	0.96	1.00	0.93
03/04/2015	1.02	0.97	1.08	1.03
04/04/2015	1.05	0.94	1.03	0.99
05/04/2015	1.07	1.03	1.01	0.97
06/04/2015	1.04	1.00	0.96	0.92
07/04/2015	1.04	0.99	0.95	0.91
08/04/2015	1.04	0.94	1.03	0.93
09/04/2015	1.01	0.95	1.01	0.94
10/04/2015	1.08	0.97	0.97	0.89
11/04/2015	0.98	0.93	1.00	0.97
12/04/2015	1.07	0.91	1.01	0.88
13/04/2015	1.10	1.02	1.11	1.06
14/04/2015	1.04	0.99	1.09	1.01
15/04/2015	1.05	0.96	1.11	1.03
16/04/2015	1.41	1.11	1.57	1.05
17/04/2015	1.05	0.86	1.05	0.74
18/04/2015	0.98	0.92	1.03	1.00
19/04/2015	1.00	0.97	1.02	0.99
20/04/2015	0.98	0.91	1.01	0.94
21/04/2015	0.95	0.92	0.92	0.88
22/04/2015	0.98	0.94	0.94	0.89
23/04/2015	1.07	0.99	1.09	0.98
24/04/2015	1.03	0.96	1.11	1.04
25/04/2015	1.01	0.96	1.10	1.05
26/04/2015	1.01	0.97	1.08	1.06
27/04/2015	1.04	0.99	1.05	0.99
28/04/2015	1.08	1.02	1.11	1.00
29/04/2015	1.05	1.01	1.00	0.95
30/04/2015	1.00	0.95	0.92	0.88

Total Number of Measurements, A: **20851** 20849Minimum Free Chlorine Standard: **0.50** 0.50Number of Measurements Meeting Standard, B: **20851** 20849COMPLIANCE, C = B/A X 100%: **100** 100

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Submitted By (Print): D.MerredewSignature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT CHLORINE GRAB MONITORING REPORT

Water System Code: 252.00 Licence No. PWS-09-412 AA	Deacon Booster Pumping Station Branch 1		Deacon Booster Pumping Station Branch 2	
	Date	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Free Chlorine (mg/L)
01-May-2015	1.07	1.26	1.00	1.17
02-May-2015	NS	NS	NS	NS
03-May-2015	NS	NS	NS	NS
04-May-2015	1.15	1.27	1.06	1.16
05-May-2015	1.12	1.27	1.08	1.22
06-May-2015	1.12	1.26	1.04	1.14
07-May-2015	1.10	1.25	1.06	1.18
08-May-2015	1.10	1.20	1.02	1.12
09-May-2015	NS	NS	NS	NS
10-May-2015	NS	NS	NS	NS
11-May-2015	1.11	1.24	1.12	1.23
12-May-2015	1.21	1.29	1.14	1.24
13-May-2015	1.27	1.36	1.27	1.40
14-May-2015	1.13	1.28	1.17	1.33
15-May-2015	1.13	1.28	1.24	1.32
16-May-2015	NS	NS	NS	NS
17-May-2015	NS	NS	NS	NS
18-May-2015	NS	NS	NS	NS
19-May-2015	1.19	1.33	1.25	1.38
20-May-2015	1.17	1.31	1.30	1.41
21-May-2015	1.11	1.22	1.15	1.28
22-May-2015	1.19	1.27	1.21	1.35
23-May-2015	NS	NS	NS	NS
24-May-2015	NS	NS	NS	NS
25-May-2015	1.13	1.27	1.19	1.38
26-May-2015	1.16	1.29	1.22	1.36
27-May-2015	1.16	1.30	1.24	1.34
28-May-2015	1.17	1.26	1.18	1.27
29-May-2015	1.14	1.23	1.13	1.25
30-May-2015	NS	NS	NS	NS
31-May-2015	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: C.Diduck



City of Winnipeg

Water and Waste Department

Water Services

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

Water System Code: 252.00

Licence Number: PWS-09-412 AA

Report Created: 01 June 2015

Report Period: May 2015

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/05/2015	0.95	0.86	0.91	0.85
02/05/2015	0.97	0.92	0.99	0.94
03/05/2015	1.10	0.93	1.03	0.94
04/05/2015	1.17	1.11	1.02	0.89
05/05/2015	1.11	1.00	1.02	0.94
06/05/2015	1.04	0.95	0.99	0.90
07/05/2015	1.04	0.95	0.97	0.92
08/05/2015	1.06	0.99	0.99	0.89
09/05/2015	1.05	0.87	1.00	0.79
10/05/2015	1.08	1.00	1.03	0.94
11/05/2015	1.07	0.97	1.06	0.92
12/05/2015	1.10	1.02	1.10	1.03
13/05/2015	1.14	0.99	1.16	1.01
14/05/2015	1.07	0.98	1.07	1.00
15/05/2015	1.08	0.89	1.08	0.95
16/05/2015	1.07	0.96	1.06	0.99
17/05/2015	1.11	1.03	1.07	0.99
18/05/2015	1.17	1.04	1.12	1.04
19/05/2015	1.17	1.11	1.16	1.10
20/05/2015	1.12	1.02	1.22	1.03
21/05/2015	1.11	1.01	1.11	0.99
22/05/2015	1.17	1.04	1.13	1.00
23/05/2015	1.13	1.00	1.11	1.00
24/05/2015	1.10	1.02	1.11	0.98
25/05/2015	1.08	0.99	1.13	1.02
26/05/2015	1.11	1.02	1.16	1.07
27/05/2015	1.08	0.97	1.13	1.00
28/05/2015	1.03	0.93	1.06	0.96
29/05/2015	1.06	0.98	1.07	0.99
30/05/2015	1.07	1.01	1.07	0.98
31/05/2015	1.07	0.95	1.08	1.01

Total Number of Measurements, A: 21595 21593

Minimum Free Chlorine Standard: 0.50 0.50

Number of Measurements Meeting Standard, B: 21595 21593

COMPLIANCE, C = B/A X 100%: 100 100

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Submitted By (Print): D.MerredewSignature: Original signed by D.Merredew



**CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION**

WATER TREATMENT PLANT CHLORINE GRAB MONITORING REPORT

Water System Code: 252.00	Deacon Booster Pumping Station Branch 1		Deacon Booster Pumping Station Branch 2		
Licence No. PWS-09-412 AA	Date	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Free Chlorine (mg/L)	Total Chlorine (mg/L)
	01-Jun-2015	1.04	1.24	1.08	1.23
	02-Jun-2015	1.08	1.18	1.11	1.24
	03-Jun-2015	1.12	1.25	1.16	1.28
	04-Jun-2015	1.15	1.26	1.21	1.31
	05-Jun-2015	1.08	1.18	1.23	1.30
	06-Jun-2015	NS	NS	NS	NS
	07-Jun-2015	NS	NS	NS	NS
	08-Jun-2015	1.10	1.21	1.14	1.29
	09-Jun-2015	1.18	1.30	1.21	1.32
	10-Jun-2015	1.16	1.23	1.21	1.31
	11-Jun-2015	1.08	1.17	1.07	1.17
	12-Jun-2015	1.12	1.20	1.12	1.20
	13-Jun-2015	NS	NS	NS	NS
	14-Jun-2015	NS	NS	NS	NS
	15-Jun-2015	1.11	1.25	1.16	1.27
	16-Jun-2015	1.11	1.26	1.12	1.28
	17-Jun-2015	1.15	1.23	1.17	1.33
	18-Jun-2015	1.23	1.29	1.21	1.31
	19-Jun-2015	1.15	1.22	1.21	1.31
	20-Jun-2015	NS	NS	NS	NS
	21-Jun-2015	NS	NS	NS	NS
	22-Jun-2015	1.32	1.44	1.31	1.44
	23-Jun-2015	1.31	1.43	1.30	1.44
	24-Jun-2015	1.25	1.40	1.31	1.41
	25-Jun-2015	1.18	1.32	1.24	1.33
	26-Jun-2015	1.13	1.30	1.17	1.31
	27-Jun-2015	NS	NS	NS	NS
	28-Jun-2015	NS	NS	NS	NS
	29-Jun-2015	1.10	1.22	1.13	1.24
	30-Jun-2015	1.18	1.31	1.16	1.27
Total number of measurements taken, A:	22			22	
Chlorine Standard for Monitoring Location (mg/L):	0.50			0.50	
Number of measurements meeting standard, B:	22			22	
Compliance with Chlorine Standard, C= B/A X 100%:	100%			100%	

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

Comments:

Report Compiled By: _____ H.Demchenko

Approved in LIMS By: _____ C.Diduck



City of Winnipeg

Water and Waste Department

Water Services

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

Water System Code: **252.00**

Licence Number: **PWS-09-412 AA**

Report Created: **01 July 2015**

Report Period: **June 2015**

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/06/2015	1.01	0.93	1.07	0.95
02/06/2015	0.99	0.90	1.07	1.01
03/06/2015	0.97	0.90	1.06	1.00
04/06/2015	0.98	0.89	1.07	1.01
05/06/2015	1.01	0.89	1.13	1.01
06/06/2015	1.10	1.01	1.16	1.10
07/06/2015	1.04	0.93	1.08	0.96
08/06/2015	1.05	0.93	1.11	1.05
09/06/2015	1.12	1.04	1.18	1.11
10/06/2015	1.09	0.99	1.17	1.06
11/06/2015	1.07	1.01	1.11	1.00
12/06/2015	1.05	0.96	1.08	0.98
13/06/2015	1.01	0.91	1.03	0.92
14/06/2015	1.04	0.94	1.05	0.96
15/06/2015	1.05	0.97	1.06	0.98
16/06/2015	1.00	0.90	1.05	0.95
17/06/2015	0.99	0.74	1.04	0.80
18/06/2015	0.97	0.82	1.06	0.87
19/06/2015	1.03	0.91	1.12	1.00
20/06/2015	1.14	1.04	1.19	1.10
21/06/2015	1.16	1.05	1.22	1.12
22/06/2015	1.16	1.08	1.20	1.09
23/06/2015	1.22	1.12	1.19	1.13
24/06/2015	1.18	1.04	1.17	1.10
25/06/2015	1.12	1.02	1.10	0.99
26/06/2015	1.27	1.05	1.18	0.97
27/06/2015	1.29	1.04	1.22	1.08
28/06/2015	1.12	1.00	1.14	1.08
29/06/2015	1.10	0.99	1.09	0.98
30/06/2015	1.13	1.02	1.11	0.98

Total Number of Measurements, A: **20924** 20922

Minimum Free Chlorine Standard: **0.50** 0.50

Number of Measurements Meeting Standard, B: **20924** 20922

COMPLIANCE, C = B/A X 100%: **100** 100

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Submitted By (Print): D.Minor

Signature: Original signed by D.Minor



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT CHLORINE GRAB MONITORING REPORT

Water System Code: 252.00 Licence No. PWS-09-412 AA	Deacon Booster Pumping Station Branch 1			Deacon Booster Pumping Station Branch 2		
	Date	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Free Chlorine (mg/L)	Total Chlorine (mg/L)	
		Analyser	Grab	Grab	Analyser	Grab
01-Jul-2015	NS	NS	NS	NS	NS	NS
02-Jul-2015	1.20	1.24	1.36	1.15	1.25	1.40
03-Jul-2015	1.14	1.21	1.34	1.07	1.17	1.33
04-Jul-2015	NS	NS	NS	NS	NS	NS
05-Jul-2015	NS	NS	NS	NS	NS	NS
06-Jul-2015	1.16	1.28	1.45	1.15	1.26	1.41
07-Jul-2015	0.96	1.09	1.22	0.91	1.07	1.18
08-Jul-2015	1.19	1.21	1.36	1.10	1.16	1.33
09-Jul-2015	1.07	1.16	1.27	1.02	1.13	1.26
10-Jul-2015	1.19	1.17	1.32	1.14	1.17	1.34
11-Jul-2015	NS	NS	NS	NS	NS	NS
12-Jul-2015	NS	NS	NS	NS	NS	NS
13-Jul-2015	1.05	1.17	1.26	0.88	1.09	1.18
14-Jul-2015	1.05	1.16	1.37	0.90	1.10	1.26
15-Jul-2015	0.99	1.14	1.32	0.96	1.05	1.20
16-Jul-2015	1.00	1.08	1.27	1.00	1.07	1.24
17-Jul-2015	1.02	1.13	1.30	1.07	1.15	1.30
18-Jul-2015	NS	NS	NS	NS	NS	NS
19-Jul-2015	NS	NS	NS	NS	NS	NS
20-Jul-2015	1.15	1.13	1.32	1.12	1.17	1.32
21-Jul-2015	1.15	1.15	1.31	1.15	1.17	1.33
22-Jul-2015	1.21	1.16	1.31	1.09	1.15	1.33
23-Jul-2015	1.10	1.18	1.33	1.12	1.14	1.31
24-Jul-2015	1.09	1.12	1.29	0.98	1.03	1.19
25-Jul-2015	NS	NS	NS	NS	NS	NS
26-Jul-2015	NS	NS	NS	NS	NS	NS
27-Jul-2015	1.09	1.24	1.42	1.11	1.18	1.34
28-Jul-2015	1.11	1.27	1.42	1.13	1.26	1.42
29-Jul-2015	1.15	1.20	1.34	1.14	1.19	1.34
30-Jul-2015	1.36	1.36	1.53	1.19	1.22	1.38
31-Jul-2015	1.35	1.34	1.51	1.16	1.16	1.30
Total number of measurements taken, A:		22		22		
Chlorine Standard for Monitoring Location (mg/L):		0.50		0.50		
Number of measurements meeting standard, B:		22		22		
Compliance with Chlorine Standard, C= B/A X 100%:		100%		100%		

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

Comments:

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck



City of Winnipeg

Water and Waste Department

Water Services

WATER TREATMENT PLANT FREE CHLORINE ON-LINE MONITORING REPORT

Deacon Booster Pumping Station

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

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
1/07/2015	1.12	1.02	1.13	1.02
2/07/2015	1.15	1.04	1.13	1.03
3/07/2015	1.12	1.01	1.05	0.98
4/07/2015	1.11	1.02	1.02	0.93
5/07/2015	1.14	1.03	1.12	0.94
6/07/2015	1.10	0.95	1.08	0.90
7/07/2015	1.04	0.90	0.99	0.85
8/07/2015	1.14	1.04	1.06	0.96
9/07/2015	1.07	0.94	1.06	0.91
10/07/2015	1.06	0.96	1.06	0.94
11/07/2015	1.05	0.94	1.00	0.95
12/07/2015	1.02	0.94	0.95	0.89
13/07/2015	1.02	0.89	0.91	0.86
14/07/2015	1.08	1.01	0.97	0.88
15/07/2015	1.08	0.97	1.02	0.93
16/07/2015	1.11	0.99	1.05	0.97
17/07/2015	1.05	0.93	1.08	0.99
18/07/2015	1.01	0.94	1.02	0.96
19/07/2015	1.05	0.92	1.04	0.97
20/07/2015	1.12	1.01	1.09	1.00
21/07/2015	1.15	0.99	1.13	1.03
22/07/2015	1.15	1.07	1.10	1.03
23/07/2015	1.12	1.05	1.11	1.04
24/07/2015	1.18	0.86	1.07	0.79
25/07/2015	1.19	1.02	1.14	1.03
26/07/2015	1.11	1.05	1.11	1.05
27/07/2015	1.12	1.02	1.13	1.05
28/07/2015	1.14	1.04	1.13	1.04
29/07/2015	1.12	0.98	1.11	1.01
30/07/2015	1.28	1.18	1.18	1.05
31/07/2015	1.25	1.15	1.11	1.00

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

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Submitted By (Print): D.MerredewSignature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT CHLORINE GRAB MONITORING REPORT

Water System Code: 252.00	Deacon Booster Pumping Station Branch 1			Deacon Booster Pumping Station Branch 2		
Licence No. PWS-09-412 AA						
	Date	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Free Chlorine (mg/L)	Total Chlorine (mg/L)	
		Analyser	Grab	Grab	Analyser	Grab
	01-Aug-2015	NS	NS	NS	NS	NS
	02-Aug-2015	NS	NS	NS	NS	NS
	03-Aug-2015	NS	NS	NS	NS	NS
	04-Aug-2015	0.87	1.16	1.35	0.86	1.03
	05-Aug-2015	1.17	1.19	1.37	1.04	1.07
	06-Aug-2015	1.11	1.20	1.40	1.04	1.12
	07-Aug-2015	1.20	1.26	1.43	1.15	1.10
	08-Aug-2015	NS	NS	NS	NS	NS
	09-Aug-2015	NS	NS	NS	NS	NS
	10-Aug-2015	1.46	1.25	1.40	1.06	1.14
	11-Aug-2015	1.19	1.19	1.35	1.16	1.15
	12-Aug-2015	1.28	1.30	1.45	1.22	1.17
	13-Aug-2015	1.14	1.12	1.28	1.02	1.10
	14-Aug-2015	1.14	1.19	1.42	1.02	1.16
	15-Aug-2015	NS	NS	NS	NS	NS
	16-Aug-2015	NS	NS	NS	NS	NS
	17-Aug-2015	1.08	1.14	1.29	0.93	1.07
	18-Aug-2015	1.10	1.21	1.40	0.91	1.05
	19-Aug-2015	1.04	1.13	1.30	0.94	1.07
	20-Aug-2015	1.22	1.24	1.41	1.12	1.20
	21-Aug-2015	1.12	1.19	1.35	1.12	1.15
	22-Aug-2015	NS	NS	NS	NS	NS
	23-Aug-2015	NS	NS	NS	NS	NS
	24-Aug-2015	1.15	1.20	1.34	1.05	1.11
	25-Aug-2015	1.08	1.18	1.31	1.13	1.23
	26-Aug-2015	1.09	1.17	1.37	1.20	1.24
	27-Aug-2015	1.09	1.18	1.35	1.03	1.12
	28-Aug-2015	1.06	1.06	1.22	1.08	1.08
	29-Aug-2015	NS	NS	NS	NS	NS
	30-Aug-2015	NS	NS	NS	NS	NS
	31-Aug-2015	0.96	1.03	1.17	1.01	1.17
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: C.Diduck



City of Winnipeg

Water and Waste Department

Water Services

WATER TREATMENT PLANT FREE CHLORINE ON-LINE MONITORING REPORT

Deacon Booster Pumping Station

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

Report Period: August 2015

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
1/08/2015	1.17	1.10	1.08	1.01
2/08/2015	1.13	1.05	1.05	0.95
3/08/2015	1.11	1.03	1.01	0.88
4/08/2015	1.15	0.83	1.08	0.80
5/08/2015	1.12	0.90	1.06	0.83
6/08/2015	1.14	0.83	1.05	0.81
7/08/2015	1.20	1.05	1.12	1.01
8/08/2015	1.14	1.00	1.06	0.94
9/08/2015	1.09	0.99	1.05	0.97
10/08/2015	1.13	0.99	1.09	1.00
11/08/2015	1.15	1.05	1.12	1.00
12/08/2015	1.22	1.10	1.15	0.97
13/08/2015	1.13	1.02	1.01	0.87
14/08/2015	1.15	1.02	1.03	0.95
15/08/2015	1.14	1.02	1.08	0.94
16/08/2015	1.18	0.96	1.10	0.88
17/08/2015	1.04	0.91	0.89	0.81
18/08/2015	1.09	0.98	0.95	0.83
19/08/2015	1.14	0.96	1.02	0.90
20/08/2015	1.16	1.04	1.12	0.98
21/08/2015	1.11	0.99	1.13	1.03
22/08/2015	1.15	1.09	1.08	0.98
23/08/2015	1.14	1.07	1.10	0.97
24/08/2015	1.12	1.01	1.11	1.00
25/08/2015	1.06	0.97	1.12	1.02
26/08/2015	1.08	0.94	1.16	1.03
27/08/2015	1.06	0.99	1.02	0.95
28/08/2015	1.05	0.97	1.05	0.93
29/08/2015	1.08	0.94	1.10	0.96
30/08/2015	1.08	1.01	1.05	0.96
31/08/2015	1.01	0.74	1.03	0.74

Total Number of Measurements, A: **21587**Minimum Free Chlorine Standard: **0.50**Number of Measurements Meeting Standard, B: **21587**COMPLIANCE, C = B/A X 100%: **100**

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Submitted By (Print): D.MerredewSignature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT CHLORINE GRAB MONITORING REPORT

Water System Code: 252.00 Licence No. PWS-09-412 AA	Deacon Booster Pumping Station Branch 1			Deacon Booster Pumping Station Branch 2		
	Date	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Free Chlorine (mg/L)	Total Chlorine (mg/L)	
		Analyser	Grab	Grab	Analyser	Grab
01-Sep-2015		1.22	1.22	1.38	1.00	1.12
02-Sep-2015		1.32	1.36	1.51	1.27	1.27
03-Sep-2015		1.25	1.34	1.48	1.26	1.19
04-Sep-2015		1.19	1.31	1.45	1.27	1.22
05-Sep-2015		NS	NS	NS	NS	NS
06-Sep-2015		NS	NS	NS	NS	NS
07-Sep-2015		NS	NS	NS	NS	NS
08-Sep-2015		1.32	1.32	1.49	1.23	1.04
09-Sep-2015		1.18	1.26	1.46	1.15	1.20
10-Sep-2015		1.16	1.15	1.33	1.18	1.24
11-Sep-2015		1.15	1.14	1.29	1.14	1.14
12-Sep-2015		NS	NS	NS	NS	NS
13-Sep-2015		NS	NS	NS	NS	NS
14-Sep-2015		1.07	1.08	1.22	1.07	1.13
15-Sep-2015		1.07	1.01	1.19	1.14	1.17
16-Sep-2015		1.09	1.08	1.26	1.06	1.10
17-Sep-2015		1.23	1.12	1.26	1.28	1.19
18-Sep-2015		1.21	1.14	1.31	1.33	1.21
19-Sep-2015		NS	NS	NS	NS	NS
20-Sep-2015		NS	NS	NS	NS	NS
21-Sep-2015		1.07	1.05	1.19	1.10	1.11
22-Sep-2015		1.13	1.10	1.24	1.10	1.05
23-Sep-2015		1.24	1.10	1.23	1.24	1.18
24-Sep-2015		1.18	1.22	1.32	1.10	1.18
25-Sep-2015		1.00	1.01	1.14	0.94	1.00
26-Sep-2015		NS	NS	NS	NS	NS
27-Sep-2015		NS	NS	NS	NS	NS
28-Sep-2015		1.10	1.12	1.34	0.95	0.95
29-Sep-2015		1.12	1.20	1.32	1.07	1.16
30-Sep-2015		1.16	1.27	1.42	1.17	1.23
Total number of measurements taken, A:		21			21	
Chlorine Standard for Monitoring Location (mg/L):		0.50			0.50	
Number of measurements meeting standard, B:		21			21	
Compliance with Chlorine Standard, C= B/A X 100%:		100%			100%	

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

Comments:

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck

**City of Winnipeg**

Water and Waste Department

Water Services

WATER TREATMENT PLANT FREE CHLORINE ON-LINE MONITORING REPORT
Deacon Booster Pumping StationWater System Code: **252.00**Licence Number: **PWS-09-412 AA**Report Created: **01 October 2015**

Report Period:

September 2015

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/09/2015	1.08	0.78	1.05	0.78
02/09/2015	1.21	0.73	1.21	0.74
03/09/2015	1.24	1.13	1.25	1.14
04/09/2015	1.23	1.06	1.22	1.08
05/09/2015	1.08	0.91	1.02	0.82
06/09/2015	1.12	0.90	1.04	0.81
07/09/2015	1.32	1.15	1.24	1.05
08/09/2015	1.25	1.12	1.21	1.08
09/09/2015	1.18	1.10	1.15	1.06
10/09/2015	1.17	1.09	1.18	1.10
11/09/2015	1.18	1.10	1.18	1.09
12/09/2015	1.12	1.03	1.13	1.02
13/09/2015	1.07	1.00	1.11	1.04
14/09/2015	1.08	1.01	1.07	1.01
15/09/2015	1.13	1.04	1.10	0.96
16/09/2015	1.14	1.08	1.11	1.05
17/09/2015	1.21	1.10	1.22	1.13
18/09/2015	1.17	1.04	1.29	1.05
19/09/2015	1.17	1.11	1.31	1.21
20/09/2015	1.11	1.03	1.18	1.06
21/09/2015	1.07	0.96	1.07	0.95
22/09/2015	1.14	1.08	1.09	0.97
23/09/2015	1.32	1.16	1.24	1.12
24/09/2015	1.27	1.11	1.22	1.06
25/09/2015	1.07	0.93	1.02	0.91
26/09/2015	1.09	1.04	1.04	0.99
27/09/2015	1.09	1.03	1.00	0.92
28/09/2015	1.07	0.96	1.03	0.90
29/09/2015	1.07	0.98	1.10	1.02
30/09/2015	1.12	1.01	1.08	0.90

Total Number of Measurements, A: **21055** 20965Minimum Free Chlorine Standard: **0.50** 0.5Number of Measurements Meeting Standard, B: **21055** 20965COMPLIANCE, C = B/A X 100%: **100** 100

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Submitted By (Print): D.MerredewSignature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT CHLORINE GRAB MONITORING REPORT

Water System Code: 252.00 Licence No. PWS-09-412 AA	Deacon Booster Pumping Station Branch 1			Deacon Booster Pumping Station Branch 2		
	Date	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Free Chlorine (mg/L)	Total Chlorine (mg/L)	
		Analyser	Grab	Grab	Analyser	Grab
01-Oct-2015		1.10	1.18	1.35	1.03	1.10
02-Oct-2015		1.21	1.26	1.41	1.13	1.18
03-Oct-2015		NS	NS	NS	NS	NS
04-Oct-2015		NS	NS	NS	NS	NS
05-Oct-2015		1.30	1.44	1.60	1.20	1.28
06-Oct-2015		1.32	1.35	1.51	1.19	1.27
07-Oct-2015		1.79	1.90	2.08	1.87	1.84
08-Oct-2015		1.17	1.14	1.30	1.14	1.12
09-Oct-2015		1.22	1.23	1.38	1.36	1.27
10-Oct-2015		NS	NS	NS	NS	NS
11-Oct-2015		NS	NS	NS	NS	NS
12-Oct-2015		NS	NS	NS	NS	NS
13-Oct-2015		1.24	1.22	1.44	1.24	1.21
14-Oct-2015		1.27	1.28	1.44	1.31	1.36
15-Oct-2015		1.33	1.39	1.55	1.24	1.35
16-Oct-2015		1.37	1.33	1.55	1.25	1.33
17-Oct-2015		NS	NS	NS	NS	NS
18-Oct-2015		NS	NS	NS	NS	NS
19-Oct-2015		1.33	1.46	1.64	1.35	1.36
20-Oct-2015		1.36	1.37	1.51	1.26	1.31
21-Oct-2015		1.08	1.17	1.33	0.99	1.08
22-Oct-2015		1.10	1.20	1.34	1.07	1.19
23-Oct-2015		1.02	1.08	1.25	1.08	1.17
24-Oct-2015		NS	NS	NS	NS	NS
25-Oct-2015		NS	NS	NS	NS	NS
26-Oct-2015		1.15	1.19	1.34	1.13	1.20
27-Oct-2015		1.16	1.24	1.44	1.15	1.24
28-Oct-2015		1.15	1.23	1.40	1.17	1.26
29-Oct-2015		1.18	1.25	1.36	1.21	1.28
30-Oct-2015		1.20	1.25	1.40	1.19	1.20
31-Oct-2015		NS	NS	NS	NS	NS
Total number of measurements taken, A:		21			21	
Chlorine Standard for Monitoring Location (mg/L):		0.50			0.50	
Number of measurements meeting standard, B:		21			21	
Compliance with Chlorine Standard, C= B/A X 100%:		100%			100%	

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

Comments:

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck



City of Winnipeg

Water and Waste Department

Water Services

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

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

Report Created: 01 November 2015

Report Period: October 2015

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

Total Number of Measurements, A: 21615 21600

Minimum Free Chlorine Standard: 0.50 0.50

Number of Measurements Meeting Standard, B: 21615 21600

COMPLIANCE, C = B/A X 100%: 100 100

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Submitted By (Print): D.MerredewSignature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT CHLORINE GRAB MONITORING REPORT

Water System Code: 252.00 Licence No. PWS-09-412 AA	Deacon Booster Pumping Station Branch 1			Deacon Booster Pumping Station Branch 2		
	Free Chlorine (mg/L)		Total Chlorine (mg/L)	Free Chlorine (mg/L)		Total Chlorine (mg/L)
Date	Analyser	Grab	Grab	Analyser	Grab	Grab
01-Nov-2015	NS	NS	NS	NS	NS	NS
02-Nov-2015	1.12	1.24	1.35	1.01	1.01	1.22
03-Nov-2015	1.10	1.18	1.33	1.05	1.05	1.22
04-Nov-2015	1.07	1.18	1.37	1.02	1.07	1.21
05-Nov-2015	1.24	1.41	1.57	1.22	1.31	1.42
06-Nov-2015	1.10	1.34	1.49	1.06	1.25	1.40
07-Nov-2015	NS	NS	NS	NS	NS	NS
08-Nov-2015	NS	NS	NS	NS	NS	NS
09-Nov-2015	1.07	1.17	1.34	1.15	1.22	1.35
10-Nov-2015	1.05	1.09	1.23	1.07	1.16	1.27
11-Nov-2015	NS	NS	NS	NS	NS	NS
12-Nov-2015	1.09	1.15	1.30	1.05	1.08	1.29
13-Nov-2015	1.07	1.14	1.30	OL	OL	OL
14-Nov-2015	NS	NS	NS	OL	OL	OL
15-Nov-2015	NS	NS	NS	OL	OL	OL
16-Nov-2015	1.16	1.18	1.32	OL	OL	OL
17-Nov-2015	1.15	1.15	1.24	OL	OL	OL
18-Nov-2015	1.02	1.10	1.18	OL	OL	OL
19-Nov-2015	1.01	1.00	1.13	OL	OL	OL
20-Nov-2015	1.09	1.18	1.34	OL	OL	OL
21-Nov-2015	NS	NS	NS	OL	OL	OL
22-Nov-2015	NS	NS	NS	OL	OL	OL
23-Nov-2015	1.12	1.21	1.34	OL	OL	OL
24-Nov-2015	1.13	1.16	1.28	OL	OL	OL
25-Nov-2015	1.16	1.19	1.29	OL	OL	OL
26-Nov-2015	1.22	1.23	1.36	OL	OL	OL
27-Nov-2015	1.19	1.20	1.40	OL	OL	OL
28-Nov-2015	NS	NS	NS	OL	OL	OL
29-Nov-2015	NS	NS	NS	OL	OL	OL
30-Nov-2015	1.19	1.19	1.35	OL	OL	OL
Total number of measurements taken, A:		20				8
Chlorine Standard for Monitoring Location (mg/L):		0.50				0.50
Number of measurements meeting standard, B:		20				8
Compliance with Chlorine Standard, C= B/A X 100%:		100%				100%

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

Comments:

Effective November 13, 2015, DBPS Branch II has been put offline for maintenance.

Report Compiled By: _____ H.Demchenko

Approved in LIMS By: _____ C.Diduck



City of Winnipeg

Water and Waste Department

Water Services

WATER TREATMENT PLANT FREE CHLORINE ON-LINE MONITORING REPORT

Deacon Booster Pumping Station

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

Report Period: November 2015

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
1/11/2015	1.06	0.99	1.06	0.99
2/11/2015	1.09	0.98	1.00	0.94
3/11/2015	1.07	0.98	1.02	0.96
4/11/2015	1.04	0.94	1.02	0.98
5/11/2015	1.11	1.00	1.09	0.97
6/11/2015	1.10	0.99	1.06	0.94
7/11/2015	1.06	0.95	0.98	0.85
8/11/2015	1.08	0.99	1.00	0.89
9/11/2015	1.04	0.66	1.09	0.69
10/11/2015	1.04	0.97	1.03	0.94
11/11/2015	1.03	0.95	1.00	0.90
12/11/2015	1.06	0.80	1.03	0.94
13/11/2015	1.07	1.03	OL	OL
14/11/2015	1.09	1.04	OL	OL
15/11/2015	1.10	1.05	OL	OL
16/11/2015	1.14	1.06	OL	OL
17/11/2015	1.09	0.98	OL	OL
18/11/2015	1.03	0.97	OL	OL
19/11/2015	1.03	0.98	OL	OL
20/11/2015	1.10	1.02	OL	OL
21/11/2015	1.15	1.10	OL	OL
22/11/2015	1.17	1.12	OL	OL
23/11/2015	1.12	1.05	OL	OL
24/11/2015	1.11	1.03	OL	OL
25/11/2015	1.18	1.10	OL	OL
26/11/2015	1.20	1.15	OL	OL
27/11/2015	1.19	1.14	OL	OL
28/11/2015	1.18	1.13	OL	OL
29/11/2015	1.17	1.13	OL	OL
30/11/2015	1.18	1.12	OL	OL

Total Number of Measurements, A:

20738

8292

Minimum Free Chlorine Standard:

0.50

0.50

Number of Measurements Meeting Standard, B:

20738

8292

COMPLIANCE, C = B/A X 100%:

100

100

OL = Offline

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Submitted By (Print): D.MerredewSignature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT CHLORINE GRAB MONITORING REPORT

Water System Code: 252.00 Licence No. PWS-09-412 AA	Deacon Booster Pumping Station Branch 1			Deacon Booster Pumping Station Branch 2		
	Date	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Free Chlorine (mg/L)	Total Chlorine (mg/L)	
		Analyser	Grab	Grab	Analyser	Grab
01-Dec-2015		1.16	1.19	1.33	O/L	O/L
02-Dec-2015		1.05	1.11	1.24	O/L	O/L
03-Dec-2015		1.06	1.13	1.25	O/L	O/L
04-Dec-2015		1.03	1.09	1.27	O/L	O/L
05-Dec-2015		NS	NS	NS	O/L	O/L
06-Dec-2015		NS	NS	NS	O/L	O/L
07-Dec-2015		0.95	1.01	1.19	O/L	O/L
08-Dec-2015		0.98	1.03	1.22	O/L	O/L
09-Dec-2015		0.95	1.10	1.33	O/L	O/L
10-Dec-2015		1.09	1.16	1.31	O/L	O/L
11-Dec-2015		1.05	1.07	1.28	O/L	O/L
12-Dec-2015		NS	NS	NS	O/L	O/L
13-Dec-2015		NS	NS	NS	O/L	O/L
14-Dec-2015		1.00	1.01	1.22	O/L	O/L
15-Dec-2015		1.03	1.08	1.28	O/L	O/L
16-Dec-2015		0.99	1.06	1.22	0.97	1.07
17-Dec-2015		1.03	1.11	1.27	1.02	1.03
18-Dec-2015		1.01	1.06	1.21	0.99	1.09
19-Dec-2015		NS	NS	NS	NS	NS
20-Dec-2015		NS	NS	NS	NS	NS
21-Dec-2015		1.00	1.04	1.19	1.01	1.11
22-Dec-2015		0.95	1.00	1.15	0.96	1.02
23-Dec-2015		0.96	1.03	1.20	0.92	1.04
24-Dec-2015		1.03	1.02	1.19	0.97	1.03
25-Dec-2015		NS	NS	NS	NS	NS
26-Dec-2015		NS	NS	NS	NS	NS
27-Dec-2015		NS	NS	NS	NS	NS
28-Dec-2015		NS	NS	NS	NS	NS
29-Dec-2015		1.11	1.18	1.30	0.99	0.97
30-Dec-2015		1.11	1.16	1.34	1.08	1.03
31-Dec-2015		1.10	1.12	1.35	1.08	1.08
Total number of measurements taken, A:		21			10	
Chlorine Standard for Monitoring Location (mg/L):		0.50			0.50	
Number of measurements meeting standard, B:		21			10	
Compliance with Chlorine Standard, C= B/A X 100%:		100%			100%	

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

Comments:

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck



City of Winnipeg

Water and Waste Department

Water Services

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

Water System Code: 252.00

Licence Number: PWS-09-412 AA

Report Created: 01 January 2016

Report Period: December 2015

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/12/2015	1.13	1.06	OL	OL
02/12/2015	1.06	1.01	OL	OL
03/12/2015	1.04	1.01	OL	OL
04/12/2015	1.04	0.97	OL	OL
05/12/2015	1.04	0.98	OL	OL
06/12/2015	1.01	0.94	OL	OL
07/12/2015	0.98	0.93	OL	OL
08/12/2015	0.97	0.92	OL	OL
09/12/2015	0.99	0.92	OL	OL
10/12/2015	1.07	1.02	OL	OL
11/12/2015	1.03	0.97	OL	OL
12/12/2015	0.97	0.89	OL	OL
13/12/2015	1.00	0.95	OL	OL
14/12/2015	0.99	0.96	OL	OL
15/12/2015	1.03	0.98	OL	OL
16/12/2015	0.99	0.90	1.00	0.90
17/12/2015	1.00	0.96	0.97	0.91
18/12/2015	1.01	0.88	1.00	0.91
19/12/2015	0.99	0.96	1.00	0.96
20/12/2015	0.95	0.90	0.97	0.90
21/12/2015	0.97	0.91	0.99	0.92
22/12/2015	0.94	0.90	0.96	0.91
23/12/2015	0.97	0.93	0.95	0.90
24/12/2015	1.06	0.96	0.96	0.93
25/12/2015	1.13	1.04	0.94	0.86
26/12/2015	1.19	1.12	0.98	0.92
27/12/2015	1.20	1.17	0.96	0.92
28/12/2015	1.10	1.02	0.90	0.86
29/12/2015	1.09	1.04	0.96	0.87
30/12/2015	1.12	1.08	1.07	0.96
31/12/2015	1.11	1.06	1.09	1.03

Total Number of Measurements, A: 21599 10796

Minimum Free Chlorine Standard: 0.50 0.50

Number of Measurements Meeting Standard, B: 21599 10796

COMPLIANCE, C = B/A X 100%: 100 100

OL = Offline

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2015\12-December

Submitted By (Print): D.MerredewSignature: Original signed by D.Merredew

2015 Monthly Turbidity Reports



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT

Water System Code: 252.00 Licence No. PWS-09-412 A	Date	Turbidity (NTU)								
		Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7	Filter 8
	01-Jan-2015	0.71	0.24	0.26	0.24	0.24	0.16	0.18	0.25	OL
	02-Jan-2015	0.63	0.17	0.15	0.17	0.20	0.15	0.17	0.14	OL
	03-Jan-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
	04-Jan-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
	05-Jan-2015	0.62	0.17	0.13	0.15	0.19	0.13	0.14	0.18	OL
	06-Jan-2015	0.54	0.20	0.16	0.17	0.13	0.13	0.17	0.13	OL
	07-Jan-2015	0.56	0.14	0.16	0.20	0.16	0.15	0.12	0.14	OL
	08-Jan-2015	0.62	0.11	0.10	0.13	0.12	0.16	0.12	0.13	OL
	09-Jan-2015	0.64	0.17	0.16	0.15	0.22	0.11	0.15	0.19	OL
	10-Jan-2015	NS	NS	NS	OL	NS	NS	NS	NS	OL
	11-Jan-2015	NS	NS	NS	OL	NS	NS	NS	NS	OL
	12-Jan-2015	0.59	0.14	0.14	OL	0.18	0.12	0.16	0.12	OL
	13-Jan-2015	0.59	0.15	0.13	0.27	0.18	0.13	0.19	0.12	OL
	14-Jan-2015	0.59	0.21	0.15	0.18	0.20	0.13	0.20	0.15	OL
	15-Jan-2015	0.56	0.12	0.18	0.16	0.14	0.15	0.17	0.18	OL
	16-Jan-2015	0.68	0.15	0.13	0.22	0.18	0.12	0.16	0.17	OL
	17-Jan-2015	NS	OL	NS	NS	NS	NS	NS	NS	OL
	18-Jan-2015	NS	OL	NS	NS	NS	NS	NS	NS	OL
	19-Jan-2015	0.68	OL	0.12	0.28	0.17	0.12	0.14	0.14	OL
	20-Jan-2015	0.59	OL	0.14	0.21	0.23	0.13	0.16	0.11	OL
	21-Jan-2015	0.71	0.27	0.15	0.17	0.20	0.14	0.18	0.13	OL
	22-Jan-2015	0.63	0.17	0.15	0.17	0.15	0.16	0.17	0.12	OL
	23-Jan-2015	0.67	0.14	0.19	0.16	0.17	0.19	OL	0.13	OL
	24-Jan-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
	25-Jan-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
	26-Jan-2015	0.63	0.14	0.12	0.15	0.16	0.11	0.13	0.18	OL
	27-Jan-2015	0.65	0.13	0.16	0.16	0.15	0.11	0.17	0.11	OL
	28-Jan-2015	0.66	0.15	OL	0.14	0.12	0.14	0.16	0.12	OL
	29-Jan-2015	0.67	0.24	OL	0.27	0.12	0.12	0.09	0.11	OL
	30-Jan-2015	0.82	0.17	OL	0.18	0.15	0.14	0.19	0.13	OL
	31-Jan-2015	NS	NS	OL	NS	NS	NS	NS	NS	OL
Total number of measurements taken, A:		20	19	21	22	22	21	22	0	
Turbidity Standard for Monitoring Location (NTU):		0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	
Number of measurements meeting standard, B:		20	19	21	22	22	21	22	0	
Compliance with Turbidity Standard, C= B/A X 100%:		100%	100%	100%	100%	100%	100%	100%	NA	

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

Comments:

Filters 1,2, and 3 were offline for inspection. Effective, December 22, 2014, filter 8 has been put offline for maintenance issues.

Report Compiled By: _____ H.Demchenko

Approved in LIMS By: _____ C.Diduck

Date Approved: _____ 4-Feb-15



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

January 2015 Turbidity (NTU)

Date	Raw		Filter #1		Filter #2		Filter #3		Filter #4		Filter #5		Filter #6		Filter #7		Filter #8	
	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
1/01/2015	0.79	0.11	0.16		0.11	0.20	0.08	0.23	0.12	0.27	0.09	0.19	0.11	0.19	0.09	0.23	OL	OL
2/01/2015	0.79	0.08	0.19		0.10	0.16	0.03	0.09	0.09	0.21	0.07	0.18	0.08	0.20	0.07	0.19	OL	OL
3/01/2015	0.78	0.07	0.13		0.08	0.18	0.04	0.20	0.09	0.21	0.09	0.16	0.08	0.19	0.08	0.11	OL	OL
4/01/2015	0.78	0.06	0.18		0.08	0.18	0.04	0.18	0.12	0.14	0.08	0.18	0.08	0.11	0.09	0.19	OL	OL
5/01/2015	0.77	0.07	0.11		0.07	0.10	0.03	0.18	0.10	0.22	0.08	0.19	0.10	0.20	0.08	0.19	OL	OL
6/01/2015	0.75	0.07	0.17		0.09	0.16	0.03	0.07	0.09	0.21	0.08	0.12	0.09	0.21	0.08	0.20	OL	OL
7/01/2015	0.76	0.06	0.16		0.08	0.16	0.03	0.18	0.09	0.21	0.10	0.19	0.09	0.20	0.10	0.13	OL	OL
8/01/2015	0.75	0.05	0.17		0.07	0.18	0.03	0.11	0.11	0.21	0.08	0.15	0.09	0.13	0.08	0.15	OL	OL
9/01/2015	0.74	0.09	0.14		0.07	0.11	0.02	0.09	0.09	0.21	0.06	0.18	0.09	0.19	0.07	0.21	OL	OL
10/01/2015	0.74	0.08	0.19		0.07	0.15	OL	OL	0.10	0.22	0.08	0.17	0.08	0.20	0.09	0.17	OL	OL
11/01/2015	0.75	0.08	0.18		0.06	0.14	OL	OL	0.09	0.19	0.08	0.16	0.08	0.18	0.08	0.16	OL	OL
12/01/2015	0.75	0.08	0.18		0.06	0.16	OL	OL	0.09	0.20	0.08	0.18	0.08	0.19	0.09	0.20	OL	OL
13/01/2015	0.75	0.08	0.19		0.07	0.11	0.01	0.02	0.10	0.21	0.07	0.18	0.09	0.20	0.08	0.20	OL	OL
14/01/2015	0.76	0.08	0.20		0.07	0.17	0.07	0.19	0.09	0.20	0.09	0.13	0.07	0.16	0.09	0.11	OL	OL
15/01/2015	0.78	0.08	0.17		0.06	0.14	0.15	0.24	0.10	0.13	0.08	0.17	0.08	0.18	0.08	0.17	OL	OL
16/01/2015	0.80	0.07	0.11		0.05	0.14	0.14	0.25	0.09	0.20	0.08	0.17	0.09	0.15	0.08	0.18	OL	OL
17/01/2015	0.83	OL	OL		0.06	0.15	0.15	0.32	0.08	0.18	0.08	0.17	0.08	0.17	0.08	0.17	OL	OL
18/01/2015	0.83	OL	OL		0.06	0.15	0.15	0.25	0.08	0.17	0.08	0.17	0.08	0.19	0.08	0.16	OL	OL
19/01/2015	0.71	OL	OL		0.06	0.16	0.14	0.26	0.09	0.18	0.08	0.16	0.09	0.18	0.08	0.16	OL	OL
20/01/2015	0.64	OL	OL		0.07	0.15	0.14	0.26	0.09	0.19	0.07	0.17	0.08	0.18	0.07	0.17	OL	OL
21/01/2015	0.64	0.03	0.18		0.07	0.16	0.10	0.25	0.08	0.20	0.08	0.13	0.07	0.19	0.06	0.11	OL	OL
22/01/2015	0.64	0.07	0.18		0.05	0.14	0.14	0.20	0.06	0.15	0.06	0.14	0.06	0.14	0.08	0.14	OL	OL
23/01/2015	0.63	0.08	0.15		0.05	0.13	0.14	0.28	0.06	0.18	0.06	0.15	0.06	0.15	0.06	0.15	OL	OL
24/01/2015	0.62	0.07	0.17		0.04	0.10	0.10	0.26	0.06	0.14	0.05	0.12	0.05	0.13	0.05	0.14	OL	OL
25/01/2015	0.63	0.06	0.14		0.03	0.06	0.10	0.21	0.06	0.15	0.04	0.12	0.06	0.11	0.05	0.12	OL	OL
26/01/2015	0.63	0.06	0.14		0.05	0.11	0.09	0.22	0.05	0.12	0.05	0.08	0.05	0.11	0.04	0.11	OL	OL
27/01/2015	0.62	0.05	0.14		0.04	0.10	0.09	0.16	0.04	0.11	0.06	0.11	0.04	0.12	0.06	0.09	OL	OL
28/01/2015	0.63	0.07	0.15		0.01	0.05	0.12	0.22	0.06	0.14	0.05	0.12	0.06	0.14	0.05	0.12	OL	OL
29/01/2015	0.61	0.07	0.16		OL	OL	0.14	0.22	0.06	0.13	0.04	0.06	0.06	0.13	0.06	0.13	OL	OL
30/01/2015	0.62	0.07	0.16		OL	OL	0.12	0.22	0.07	0.15	0.05	0.12	0.06	0.13	0.06	0.13	OL	OL
31/01/2015	0.62	0.07	0.16		OL	OL	0.12	0.22	0.06	0.12	0.05	0.12	0.05	0.10	0.06	0.13	OL	OL

Total Number of Measurements Taken, A: 12938
Turbidity Standard for Monitoring Location (NTU): 0.30
Number of Measurements Meeting Standard, B: 12938
Compliance with Turbidity Standard, C = B/A X 100%: 100.00%
OL = Offline

Note: Filter 8 is offline for maintenance

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2015\01-January

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 AA	Date	Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7	Filter 8
	01-Feb-2014	NS	NS	OL	NS	NS	NS	NS	NS	OL
	02-Feb-2014	1.02	0.18	OL	0.22	0.19	0.12	0.13	0.23	OL
	03-Feb-2014	0.65	0.14	OL	0.21	0.21	0.14	0.11	0.14	OL
	04-Feb-2014	0.61	0.20	0.21	0.24	0.19	0.26	0.21	OL	OL
	05-Feb-2014	0.66	0.15	0.12	0.23	0.13	0.16	0.11	OL	OL
	06-Feb-2014	0.59	0.14	0.12	0.24	0.16	0.13	0.21	OL	OL
	07-Feb-2014	NS	NS	NS	NS	NS	NS	NS	OL	OL
	08-Feb-2014	NS	NS	NS	NS	NS	NS	NS	OL	OL
	09-Feb-2014	0.71	0.17	0.15	0.19	0.14	0.11	0.28	OL	OL
	10-Feb-2014	0.64	0.10	0.09	OL	0.10	0.11	0.13	OL	OL
	11-Feb-2014	0.61	0.24	0.14	0.16	0.16	0.10	0.13	OL	OL
	12-Feb-2014	0.63	0.18	0.28	0.17	OL	0.29	0.28	0.21	OL
	13-Feb-2014	0.55	0.19	OL	0.27	0.19	0.15	0.25	0.26	OL
	14-Feb-2014	NS	NS	NS	NS	NS	NS	NS	NS	OL
	15-Feb-2014	NS	NS	NS	NS	NS	NS	NS	NS	OL
	16-Feb-2014	0.66	0.18	0.12	0.20	0.12	0.14	0.09	0.15	OL
	17-Feb-2014	0.69	0.21	0.13	OL	0.16	0.14	0.11	0.09	OL
	18-Feb-2014	0.67	0.13	0.16	OL	0.12	0.16	0.10	0.12	OL
	19-Feb-2014	0.64	0.18	0.11	OL	0.12	0.14	0.12	0.13	OL
	20-Feb-2014	0.56	0.26	0.11	0.18	0.14	0.11	0.15	0.08	OL
	21-Feb-2014	NS	NS	NS	0.16	NS	NS	NS	NS	OL
	22-Feb-2014	NS	NS	NS	NS	NS	NS	NS	NS	OL
	23-Feb-2014	0.63	0.26	0.19	0.25	0.30	0.18	0.15	0.19	OL
	24-Feb-2014	0.58	0.11	0.10	0.15	0.16	0.17	0.09	0.15	OL
	25-Feb-2014	0.55	0.13	0.11	0.16	0.13	0.12	0.11	0.08	OL
	26-Feb-2014	0.58	0.14	0.15	0.12	0.17	0.10	0.12	0.14	OL
	27-Feb-2014	0.58	0.12	0.14	0.12	0.19	0.06	0.12	0.08	OL
	28-Feb-2014	NS	NS	NS	NS	NS	NS	NS	NS	OL
Total number of measurements taken, A:		20	17	17	19	20	20	14	0	
Turbidity Standard for Monitoring Location (NTU):		0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	
Number of measurements meeting standard, B:		20	17	17	19	20	20	14	0	
Compliance with Turbidity Standard, C= B/A X 100%:		100%	100%	100%	100%	100%	100%	100%	NA	

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

Comments:

Filters 2,3,4, and 7 were offline for inspection. Effective, December 22, 2014, filter 8 has been put offline for maintenance issues.

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

February 2015 Turbidity (NTU)

Date	Raw		Filter #1		Filter #2		Filter #3		Filter #4		Filter #5		Filter #6		Filter #7		Filter #8	
	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
1/02/2015	0.62	0.08	0.18		OL	OL	0.14	0.25	0.08	0.17	0.06	0.13	0.06	0.13	0.06	0.11	OL	OL
2/02/2015	0.62	0.09	0.19		OL	OL	0.15	0.26	0.08	0.18	0.06	0.13	0.07	0.14	0.07	0.14	OL	OL
3/02/2015	0.62	0.09	0.18		0.02	0.17	0.15	0.26	0.06	0.18	0.07	0.15	0.06	0.15	0.07	0.16	OL	OL
4/02/2015	0.63	0.08	0.17		0.06	0.15	0.11	0.25	0.08	0.17	0.05	0.11	0.07	0.16	0.16	0.08	OL	OL
5/02/2015	0.63	0.09	0.18		0.07	0.15	0.13	0.22	0.08	0.18	0.07	0.14	0.07	0.16	OL	OL	OL	OL
6/02/2015	0.63	0.09	0.19		0.07	0.15	0.13	0.24	0.08	0.16	0.07	0.14	0.07	0.15	OL	OL	OL	OL
7/02/2015	0.63	0.09	0.19		0.07	0.15	0.12	0.53	0.07	0.17	0.07	0.15	0.07	0.16	OL	OL	OL	OL
8/02/2015	0.62	0.08	0.17		0.06	0.13	0.12	0.21	0.07	0.16	0.06	0.13	0.06	0.14	OL	OL	OL	OL
9/02/2015	0.62	0.08	0.17		0.06	0.12	0.11	0.21	0.07	0.15	0.06	0.13	0.06	0.14	OL	OL	OL	OL
10/02/2015	0.63	0.06	0.17		0.03	0.10	0.08	0.21	0.04	0.10	0.04	0.14	0.03	0.14	OL	OL	OL	OL
11/02/2015	0.63	0.09	0.19		0.07	0.13	0.08	0.47	0.08	0.15	0.06	0.12	0.06	0.11	0.02	0.15	OL	OL
12/02/2015	0.61	0.09	0.20		0.07	0.15	0.13	0.26	0.07	0.20	0.06	0.16	0.08	0.16	0.07	0.19	OL	OL
13/02/2015	0.60	0.09	0.26		0.07	0.27	0.15	0.75	0.08	0.22	0.07	0.20	0.07	0.18	0.11	0.19	OL	OL
14/02/2015	0.62	0.10	0.16		0.06	0.18	0.13	0.27	0.08	0.19	0.08	0.17	0.06	0.19	0.10	0.21	OL	OL
15/02/2015	0.63	0.12	0.21		0.07	0.19	0.13	0.74	0.08	0.15	0.07	0.14	0.06	0.17	0.08	0.18	OL	OL
16/02/2015	0.63	0.08	0.18		0.06	0.14	0.06	0.25	0.07	0.19	0.05	0.13	0.06	0.13	0.06	0.15	OL	OL
17/02/2015	0.63	0.10	0.18		0.06	0.12	OL	OL	0.08	0.17	0.05	0.12	0.06	0.12	0.07	0.15	OL	OL
18/02/2015	0.63	0.09	0.16		0.05	0.11	OL	OL	0.07	0.17	0.05	0.11	0.05	0.13	0.08	0.14	OL	OL
19/02/2015	0.62	0.08	0.18		0.05	0.12	OL	OL	0.07	0.15	0.05	0.11	0.05	0.10	0.08	0.15	OL	OL
20/02/2015	0.62	0.06	0.17		0.10	0.24	0.10	0.26	0.10	0.51	0.05	0.12	0.05	0.12	0.07	0.15	OL	OL
21/02/2015	0.62	0.08	0.21		0.07	0.22	0.14	0.27	0.07	0.22	0.05	0.11	0.06	0.13	0.08	0.14	OL	OL
22/02/2015	0.62	0.07	0.20		0.05	0.11	0.11	0.33	0.08	0.36	0.03	0.05	0.05	0.13	0.08	0.09	OL	OL
23/02/2015	0.61	0.09	0.28		0.07	0.22	0.12	0.31	0.10	0.45	0.05	0.11	0.05	0.14	0.07	0.15	OL	OL
24/02/2015	0.61	0.07	0.15		0.05	0.13	0.12	0.20	0.06	0.11	0.05	0.11	0.06	0.13	0.08	0.15	OL	OL
25/02/2015	0.62	0.07	0.15		0.06	0.14	0.11	0.20	0.07	0.18	0.03	0.11	0.06	0.12	0.08	0.16	OL	OL
26/02/2015	0.64	0.05	0.14		0.07	0.13	0.09	0.16	0.06	0.14	0.03	0.07	0.04	0.09	0.08	0.12	OL	OL
27/02/2015	0.65	0.05	0.10		0.06	0.10	0.08	0.13	0.05	0.11	0.03	0.07	0.04	0.09	0.07	0.11	OL	OL
28/02/2015	0.65	0.05	0.10		0.05	0.10	0.09	0.15	0.05	0.10	0.03	0.07	0.04	0.06	0.06	0.11	OL	OL

Total Number of Measurements Taken, A: 13741 12453 10683 11226 13761 14174 9351 OL
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: 13741 12453 10662 11218 13761 14174 9351 OL
Compliance with Turbidity Standard, C = B/A X 100%: 100.00% 100.00% 99.80% 99.93% 100.00% 100.00% 100.00% OL

OL: Offline

Note: Filter 8 is offline for maintenance

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2015\02-February

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT

Water System Code: 252.00	Turbidity (NTU)									
Licence No. PWS-09-412 AA	Date	Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7	Filter 8
	01-Mar-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
	02-Mar-2015	0.59	0.09	0.09	0.18	0.06	0.08	0.12	0.09	OL
	03-Mar-2015	0.56	0.11	0.11	0.12	0.17	0.12	0.08	0.17	OL
	04-Mar-2015	0.57	0.17	0.11	0.15	0.13	0.07	0.07	0.10	OL
	05-Mar-2015	0.53	0.13	0.13	0.17	0.12	0.11	0.18	0.12	OL
	06-Mar-2015	0.55	0.12	0.20	0.22	0.12	0.17	0.23	0.13	OL
	07-Mar-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
	08-Mar-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
	09-Mar-2015	0.82	0.18	0.18	0.14	0.16	0.14	0.13	0.18	OL
	10-Mar-2015	0.58	0.10	0.14	0.16	0.15	0.19	0.13	0.18	OL
	11-Mar-2015	0.75	0.17	0.10	0.13	0.15	0.13	0.13	0.14	OL
	12-Mar-2015	0.52	0.12	0.09	0.11	0.16	0.15	0.12	0.10	OL
	13-Mar-2015	0.66	0.13	0.14	0.16	0.16	0.18	0.18	0.14	OL
	14-Mar-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
	15-Mar-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
	16-Mar-2015	0.54	0.09	0.08	0.14	0.24	0.23	0.20	0.15	OL
	17-Mar-2015	0.54	0.12	0.09	0.10	0.17	0.09	0.13	0.08	OL
	18-Mar-2015	0.55	0.15	0.09	0.11	0.06	0.13	0.08	0.18	OL
	19-Mar-2015	0.58	0.07	0.07	0.12	0.09	0.08	0.11	0.08	OL
	20-Mar-2015	0.56	0.14	0.08	0.07	0.14	0.08	0.10	0.12	OL
	21-Mar-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
	22-Mar-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
	23-Mar-2015	0.67	0.09	0.08	0.12	0.17	0.13	0.18	0.19	OL
	24-Mar-2015	0.66	0.10	0.08	0.19	0.06	0.09	0.09	0.18	OL
	25-Mar-2015	0.76	0.12	0.12	0.18	0.12	0.15	0.13	0.08	OL
	26-Mar-2015	0.53	0.06	0.08	0.09	0.07	0.07	0.07	0.06	OL
	27-Mar-2015	0.63	0.09	0.19	0.11	0.14	0.16	0.11	0.08	OL
	28-Mar-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
	29-Mar-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
	30-Mar-2015	0.53	0.14	0.12	0.24	0.08	0.08	0.08	0.07	OL
	31-Mar-2015	0.51	0.07	0.07	0.13	0.09	0.08	0.08	0.09	OL
Total number of measurements taken, A:		22	22	22	22	22	22	22	22	0
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:		22	22	22	22	22	22	22	22	0
Compliance with Turbidity Standard, C= B/A X 100%:		100%	100%	100%	100%	100%	100%	100%	100%	OL

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

Comments:

Effective, December 22, 2014, filter 8 has been put offline for maintenance issues.

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck

Date Approved: 1-Apr-15



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

March 2015 Turbidity (NTU)

Date	Raw		Filter #1		Filter #2		Filter #3		Filter #4		Filter #5		Filter #6		Filter #7		Filter #8	
	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
1/03/2015	0.65	0.04	0.10	0.05	0.10	0.08	0.15	0.05	0.10	0.03	0.07	0.04	0.08	0.07	0.09	OL	OL	
2/03/2015	0.66	0.06	0.10	0.07	0.16	0.10	0.18	0.06	0.13	0.05	0.07	0.05	0.11	0.08	0.13	OL	OL	
3/03/2015	0.67	0.07	0.13	0.06	0.12	0.10	0.19	0.07	0.10	0.04	0.10	0.05	0.10	0.07	0.14	OL	OL	
4/03/2015	0.67	0.03	0.14	0.07	0.12	0.12	0.30	0.07	0.13	0.04	0.09	0.04	0.12	0.07	0.13	OL	OL	
5/03/2015	0.66	0.07	0.13	0.07	0.12	0.10	0.20	0.07	0.15	0.05	0.13	0.08	0.10	0.10	0.12	OL	OL	
6/03/2015	0.67	0.06	0.12	0.07	0.13	0.10	0.20	0.08	0.20	0.07	0.10	0.08	0.15	0.11	0.18	OL	OL	
7/03/2015	0.66	0.06	0.08	0.06	0.11	0.09	0.17	0.06	0.09	0.06	0.12	0.07	0.13	0.09	0.16	OL	OL	
8/03/2015	0.67	0.06	0.11	0.06	0.08	0.08	0.18	0.07	0.26	0.06	0.11	0.07	0.14	0.09	0.16	OL	OL	
9/03/2015	0.67	0.06	0.12	0.06	0.12	0.10	0.14	0.06	0.13	0.05	0.11	0.06	0.09	0.08	0.16	OL	OL	
10/03/2015	0.67	0.05	0.11	0.06	0.12	0.09	0.18	0.06	0.12	0.05	0.07	0.08	0.14	0.10	0.12	OL	OL	
11/03/2015	0.67	0.06	0.08	0.06	0.12	0.09	0.18	0.06	0.09	0.07	0.12	0.07	0.14	0.09	0.16	OL	OL	
12/03/2015	0.68	0.06	0.12	0.06	0.08	0.09	0.17	0.07	0.14	0.06	0.12	0.07	0.14	0.08	0.15	OL	OL	
13/03/2015	0.69	0.05	0.11	0.06	0.15	0.10	0.13	0.06	0.12	0.05	0.11	0.06	0.08	0.08	0.16	OL	OL	
14/03/2015	0.68	0.05	0.10	0.05	0.11	0.08	0.15	0.06	0.13	0.05	0.07	0.07	0.13	0.11	0.13	OL	OL	
15/03/2015	0.68	0.06	0.08	0.05	0.10	0.08	0.16	0.06	0.10	0.06	0.10	0.07	0.13	0.10	0.19	OL	OL	
16/03/2015	0.67	0.05	0.10	0.05	0.07	0.08	0.16	0.06	0.12	0.05	0.10	0.06	0.13	0.09	0.15	OL	OL	
17/03/2015	0.66	0.05	0.10	0.04	0.08	0.09	0.12	0.04	0.11	0.05	0.11	0.05	0.08	0.08	0.14	OL	OL	
18/03/2015	0.66	0.04	0.08	0.03	0.05	0.06	0.12	0.03	0.07	0.03	0.07	0.05	0.09	0.07	0.09	OL	OL	
19/03/2015	0.67	0.04	0.08	0.03	0.07	0.07	0.12	0.03	0.08	0.04	0.06	0.04	0.08	0.08	0.11	OL	OL	
20/03/2015	0.67	0.05	0.07	0.03	0.05	0.07	0.12	0.03	0.05	0.04	0.08	0.04	0.09	0.07	0.12	OL	OL	
21/03/2015	0.69	0.04	0.08	0.03	0.04	0.07	0.14	0.04	0.07	0.04	0.07	0.04	0.08	0.07	0.12	OL	OL	
22/03/2015	0.70	0.05	0.10	0.03	0.07	0.09	0.13	0.04	0.09	0.03	0.07	0.03	0.05	0.06	0.11	OL	OL	
23/03/2015	0.71	0.05	0.28	0.04	0.36	0.08	0.40	0.03	0.15	0.03	0.07	0.04	0.09	0.07	0.11	OL	OL	
24/03/2015	0.70	0.05	0.07	0.03	0.07	0.08	0.29	0.03	0.09	0.04	0.07	0.03	0.07	0.06	0.11	OL	OL	
25/03/2015	0.67	0.04	0.21	0.03	0.16	0.08	0.30	0.03	0.14	0.03	0.14	0.02	0.08	0.04	0.11	OL	OL	
26/03/2015	0.68	0.04	0.08	0.02	0.05	0.07	0.11	0.03	0.07	0.03	0.07	0.04	0.05	0.06	0.08	OL	OL	
27/03/2015	0.69	0.04	0.06	0.02	0.06	0.07	0.15	0.03	0.08	0.04	0.05	0.03	0.07	0.07	0.10	OL	OL	
28/03/2015	0.68	0.05	0.09	0.03	0.05	0.11	0.40	0.03	0.06	0.04	0.08	0.04	0.08	0.06	0.11	OL	OL	
29/03/2015	0.67	0.04	0.08	0.03	0.04	0.08	0.22	0.04	0.07	0.04	0.07	0.04	0.08	0.06	0.12	OL	OL	
30/03/2015	0.67	0.04	0.08	0.03	0.06	0.09	0.15	0.03	0.07	0.04	0.07	0.04	0.05	0.06	0.11	OL	OL	
31/03/2015	0.68	0.04	0.08	0.03	0.06	0.07	0.21	0.03	0.19	0.03	0.05	0.04	0.08	0.07	0.09	OL	OL	

Total Number of Measurements Taken, A: 15682
Turbidity Standard for Monitoring Location (NTU): 0.30
Number of Measurements Meeting Standard, B: 15682
Compliance with Turbidity Standard, C = B/A X 100%: 100.00%

15757 15455 14416 16793 16674 15100 OL
0.30 0.30 0.30 0.30 0.30 0.30 0.30
15742 15426 14416 16793 16674 15100 OL
99.91% 99.81% 100.00% 100.00% 100.00% 100.00% OL

OL: Offline

Note: Filter 8 is offline for maintenance

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2015\03-March

Submitted By (Print): M.Szmon for A.Weremy

Signature: Original signed by M.Szmon for A.Weremy



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT											
Water System Code: 252.00		Turbidity (NTU)									
Licence No. PWS-09-412 AA		Date	Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7	Filter 8
		01-Apr-2015	0.52	0.08	0.07	0.15	0.09	0.09	0.09	0.09	OL
		02-Apr-2015	0.51	0.06	0.06	0.08	0.08	0.08	0.06	0.09	OL
		03-Apr-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
		04-Apr-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
		05-Apr-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
		06-Apr-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
		07-Apr-2015	0.56	0.06	0.07	0.16	0.28	0.27	0.10	0.18	OL
		08-Apr-2015	0.66	0.13	<0.05	0.12	0.06	0.06	0.07	0.06	OL
		09-Apr-2015	0.60	0.07	0.09	0.11	0.10	0.11	0.08	0.10	OL
		10-Apr-2015	0.67	0.14	0.23	0.13	0.15	0.17	0.07	0.21	OL
		11-Apr-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
		12-Apr-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
		13-Apr-2015	0.58	0.09	0.07	0.16	0.10	0.13	0.09	0.06	OL
		14-Apr-2015	0.57	0.11	0.10	0.12	0.13	0.15	0.06	0.08	OL
		15-Apr-2015	0.55	0.08	0.10	0.13	0.09	0.07	0.07	0.08	OL
		16-Apr-2015	0.63	0.09	0.10	0.14	0.10	0.16	0.19	0.15	OL
		17-Apr-2015	0.57	0.06	0.09	0.08	0.07	0.06	0.06	0.07	OL
		18-Apr-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
		19-Apr-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
		20-Apr-2015	0.75	0.12	0.15	0.16	0.09	0.16	0.16	0.13	OL
		21-Apr-2015	0.55	0.07	0.09	0.06	0.12	0.08	0.06	<0.05	OL
		22-Apr-2015	0.67	0.05	0.07	0.07	0.07	0.07	0.05	0.06	OL
		23-Apr-2015	0.78	0.06	0.07	0.19	0.08	0.10	0.12	0.10	OL
		24-Apr-2015	0.56	0.07	0.16	0.10	0.21	0.19	0.06	0.08	OL
		25-Apr-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
		26-Apr-2015	NS	NS	NS	NS	NS	NS	NS	NS	OL
		27-Apr-2015	0.62	0.08	0.15	0.07	0.06	0.09	0.14	0.06	OL
		28-Apr-2015	0.73	0.13	0.10	0.07	0.09	0.09	0.16	0.17	OL
		29-Apr-2015	0.57	0.07	0.07	0.06	0.06	0.06	0.09	0.06	OL
		30-Apr-2015	0.86	0.09	0.09	0.08	0.10	0.09	0.09	0.08	OL
Total number of measurements taken, A:			20	20	20	20	20	20	20	0	
Turbidity Standard for Monitoring Location (NTU):			0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	
Number of measurements meeting standard, B:			20	20	20	20	20	20	20	0	
Compliance with Turbidity Standard, C= B/A X 100%:			100%	100%	100%	100%	100%	100%	100%	OL	

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

Comments:

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck

Date Approved: 5-May-15



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

April 2015 Turbidity (NTU)

Date	Raw		Filter #1		Filter #2		Filter #3		Filter #4		Filter #5		Filter #6		Filter #7		Filter #8		
	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	
1/04/2015	0.67	0.04	0.06	0.03	0.06	0.07	0.13	0.03	0.08	0.04	0.07	0.03	0.07	0.04	0.09	0.06	0.11	OL	OL
2/04/2015	0.68	0.04	0.08	0.02	0.04	0.07	0.12	0.04	0.06	0.03	0.07	0.03	0.06	0.03	0.05	0.06	0.11	OL	OL
3/04/2015	0.69	0.03	0.07	0.02	0.04	0.08	0.10	0.03	0.07	0.03	0.06	0.02	0.04	0.04	0.07	0.07	0.08	OL	OL
4/04/2015	0.68	0.03	0.07	0.02	0.04	0.07	0.13	0.03	0.06	0.03	0.05	0.03	0.06	0.04	0.07	0.06	0.10	OL	OL
5/04/2015	0.69	0.04	0.05	0.02	0.05	0.06	0.11	0.03	0.05	0.03	0.06	0.04	0.07	0.06	0.10	OL	OL		
6/04/2015	0.69	0.04	0.07	0.02	0.03	0.07	0.11	0.04	0.14	0.03	0.06	0.03	0.07	0.06	0.10	OL	OL		
7/04/2015	0.66	0.03	0.06	0.02	0.04	0.08	0.13	0.03	0.10	0.02	0.05	0.04	0.06	0.06	0.08	OL	OL		
8/04/2015	0.66	0.03	0.06	0.01	0.03	0.07	0.14	0.03	0.06	0.03	0.04	0.04	0.07	0.06	0.09	OL	OL		
9/04/2015	0.66	0.05	0.15	0.01	0.03	0.08	0.16	0.04	0.06	0.03	0.05	0.04	0.08	0.06	0.10	OL	OL		
10/04/2015	0.70	0.04	0.07	0.03	0.05	0.10	0.17	0.04	0.08	0.05	0.10	0.05	0.07	0.05	0.10	OL	OL		
11/04/2015	0.69	0.04	0.09	0.04	0.07	0.09	0.16	0.03	0.11	0.05	0.10	0.06	0.12	0.05	0.08	OL	OL		
12/04/2015	0.67	0.04	0.05	0.03	0.07	0.08	0.14	0.02	0.07	0.06	0.09	0.04	0.07	0.03	0.07	OL	OL		
13/04/2015	0.68	0.04	0.08	0.03	0.05	0.07	0.14	0.04	0.07	0.05	0.09	0.04	0.08	0.03	0.06	OL	OL		
14/04/2015	0.68	0.04	0.07	0.03	0.06	0.09	0.13	0.03	0.07	0.05	0.09	0.04	0.06	0.03	0.06	OL	OL		
15/04/2015	0.76	0.03	0.07	0.03	0.07	0.08	0.14	0.03	0.08	0.05	0.08	0.05	0.08	0.03	0.05	OL	OL		
16/04/2015	0.70	0.01	0.04	0.01	0.03	0.03	0.08	0.01	0.03	0.02	0.07	0.01	0.07	0.01	0.06	OL	OL		
17/04/2015	0.82	0.03	0.06	0.02	0.07	0.07	0.11	0.02	0.06	0.04	0.08	0.04	0.06	0.02	0.05	OL	OL		
18/04/2015	0.79	0.03	0.05	0.02	0.04	0.06	0.11	0.02	0.04	0.04	0.07	0.03	0.05	0.03	0.05	OL	OL		
19/04/2015	0.82	0.03	0.05	0.02	0.05	0.07	0.16	0.02	0.05	0.04	0.07	0.03	0.06	0.03	0.05	OL	OL		
20/04/2015	0.86	0.03	0.04	0.02	0.04	0.07	0.12	0.02	0.05	0.05	0.07	0.04	0.06	0.03	0.05	OL	OL		
21/04/2015	0.94	0.03	0.05	0.02	0.04	0.07	0.16	0.02	0.04	0.04	0.07	0.03	0.06	0.03	0.05	OL	OL		
22/04/2015	0.95	0.03	0.06	0.03	0.05	0.08	0.10	0.02	0.05	0.04	0.07	0.04	0.06	0.03	0.05	OL	OL		
23/04/2015	0.90	0.03	0.05	0.03	0.05	0.08	0.12	0.02	0.07	0.04	0.07	0.04	0.08	0.03	0.05	OL	OL		
24/04/2015	0.83	0.03	0.05	0.03	0.05	0.07	0.11	0.02	0.04	0.04	0.06	0.04	0.07	0.03	0.07	OL	OL		
25/04/2015	0.87	0.03	0.06	0.03	0.05	0.07	0.11	0.02	0.04	0.05	0.10	0.03	0.07	0.03	0.06	OL	OL		
26/04/2015	0.86	0.03	0.07	0.04	0.05	0.07	0.10	0.02	0.04	0.04	0.07	0.03	0.06	0.03	0.06	OL	OL		
27/04/2015	0.94	0.03	0.07	0.04	0.07	0.09	0.14	0.02	0.07	0.04	0.07	0.04	0.06	0.02	0.06	OL	OL		
28/04/2015	0.87	0.03	0.05	0.03	0.06	0.07	0.11	0.02	0.04	0.04	0.07	0.04	0.06	0.03	0.04	OL	OL		
29/04/2015	0.86	0.03	0.05	0.04	0.06	0.07	0.11	0.02	0.05	0.05	0.08	0.03	0.06	0.03	0.05	OL	OL		
30/04/2015	0.99	0.03	0.05	0.04	0.07	0.08	0.12	0.02	0.04	0.05	0.07	0.04	0.07	0.03	0.05	OL	OL		

Total Number of Measurements Taken, A: 15464 15293 14742 13115 15993 15769 14539 OL
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: 15464 15293 14742 13115 15993 15769 14539 OL
Compliance with Turbidity Standard, C = B/A X 100%: 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% OL

OL: Offline

Note: Filter 8 is offline for maintenance

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2015\04-April

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 Licence No. PWS-09-412 AA	Turbidity (NTU)									
	Date	Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7	Filter 8
01-May-2014	0.79	0.15	0.07	0.09	0.07	0.06	0.08	0.12	O/L	
02-May-2014	NS	NS	NS	NS	NS	NS	NS	NS	O/L	
03-May-2014	NS	NS	NS	NS	NS	NS	NS	NS	O/L	
04-May-2014	0.78	0.09	0.08	0.05	0.09	0.07	0.12	0.12	O/L	
05-May-2014	0.72	0.06	0.07	0.07	0.08	0.07	0.07	0.07	O/L	
06-May-2014	0.53	0.05	0.09	0.08	0.06	0.05	0.06	0.06	O/L	
07-May-2014	0.72	0.06	0.05	0.06	0.06	0.07	<0.05	0.06	O/L	
08-May-2014	0.80	0.09	0.08	0.08	0.09	0.08	0.06	0.10	0.06	
09-May-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	
10-May-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	
11-May-2014	0.77	0.10	0.07	0.06	0.19	0.06	0.07	0.16	0.07	
12-May-2014	1.04	0.06	0.05	0.05	0.06	0.06	0.07	0.08	0.09	
13-May-2014	0.92	0.09	0.10	0.07	0.13	0.11	0.10	0.12	0.10	
14-May-2014	0.90	0.16	0.13	0.13	0.14	0.08	0.11	0.10	0.07	
15-May-2014	0.89	0.10	0.16	0.11	0.15	0.07	0.13	0.15	0.06	
16-May-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	
17-May-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	
18-May-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	
19-May-2014	0.84	0.05	0.07	0.16	0.07	0.05	0.09	0.10	0.11	
20-May-2014	0.83	0.13	0.11	0.08	0.08	0.08	0.11	0.10	0.10	
21-May-2014	0.98	0.07	0.05	0.14	0.08	0.08	0.06	0.07	0.07	
22-May-2014	0.82	0.08	0.15	0.09	0.17	0.19	0.09	0.15	0.08	
23-May-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	
24-May-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	
25-May-2014	0.81	0.06	0.07	0.11	0.08	<0.05	0.07	0.06	0.07	
26-May-2014	0.94	0.11	0.13	0.14	0.13	0.06	0.20	0.13	0.05	
27-May-2014	1.06	0.11	0.12	0.16	0.09	0.08	0.07	0.13	0.10	
28-May-2014	1.00	0.05	0.08	0.09	0.07	0.14	0.09	0.18	0.15	
29-May-2014	1.25	0.12	0.07	0.15	0.06	0.10	0.08	0.09	0.07	
30-May-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	
31-May-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Total number of measurements taken, A:	20	20	20	20	20	20	20	20	15	
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	15	
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:

Effective May 8, 2015, filter 8 has been brought back on line.

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck

Date Approved: 4-Jun-15



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

May 2015 Turbidity (NTU)

Date	Raw		Filter #1		Filter #2		Filter #3		Filter #4		Filter #5		Filter #6		Filter #7		Filter #8	
	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
1/05/2015	1.02	0.03	0.06	0.04	0.06	0.08	0.13	0.02	0.04	0.05	0.08	0.04	0.06	0.03	0.06	OL	OL	
2/05/2015	1.07	0.03	0.07	0.05	0.06	0.08	0.13	0.02	0.04	0.06	0.07	0.04	0.07	0.03	0.05	OL	OL	
3/05/2015	1.13	0.03	0.06	0.04	0.06	0.09	0.12	0.02	0.04	0.05	0.08	0.04	0.07	0.03	0.06	OL	OL	
4/05/2015	1.05	0.03	0.08	0.04	0.06	0.07	0.11	0.01	0.03	0.05	0.07	0.04	0.06	0.02	0.05	OL	OL	
5/05/2015	0.97	0.03	0.06	0.04	0.06	0.07	0.11	0.01	0.04	0.05	0.07	0.04	0.06	0.03	0.05	OL	OL	
6/05/2015	0.97	0.03	0.05	0.04	0.07	0.08	0.14	0.01	0.04	0.05	0.08	0.04	0.17	0.03	0.04	OL	OL	
7/05/2015	1.02	0.04	0.06	0.04	0.07	0.08	0.14	0.02	0.03	0.05	0.09	0.04	0.07	0.02	0.05	OL	OL	
8/05/2015	1.13	0.03	0.06	0.04	0.06	0.06	0.12	0.02	0.04	0.06	0.07	0.04	0.07	0.02	0.05	0.00	0.04	
9/05/2015	1.20	0.03	0.06	0.04	0.06	0.09	0.16	0.01	0.04	0.04	0.08	0.03	0.06	0.02	0.04	0.00	0.01	
10/05/2015	1.11	0.03	0.06	0.03	0.07	0.08	0.13	0.01	0.04	0.05	0.09	0.04	0.07	0.03	0.04	0.00	0.01	
11/05/2015	1.14	0.04	0.06	0.03	0.07	0.07	0.14	0.02	0.03	0.04	0.07	0.03	0.08	0.02	0.05	0.01	0.01	
12/05/2015	1.12	0.03	0.06	0.04	0.05	0.09	0.17	0.02	0.04	0.05	0.09	0.03	0.08	0.02	0.05	0.00	0.01	
13/05/2015	1.03	0.03	0.09	0.04	0.09	0.15	0.29	0.03	0.07	0.05	0.12	0.06	0.07	0.03	0.05	0.00	0.02	
14/05/2015	1.07	0.08	0.20	0.06	0.13	0.14	0.27	0.07	0.62	0.06	0.11	0.05	0.11	0.04	0.09	0.01	0.01	
15/05/2015	1.12	0.05	0.10	0.05	0.07	0.12	0.23	0.04	0.05	0.06	0.09	0.05	0.15	0.04	0.08	0.01	0.02	
16/05/2015	0.99	0.04	0.09	0.06	0.10	0.08	0.14	0.03	0.08	0.06	0.10	0.05	0.07	0.03	0.08	0.01	0.03	
17/05/2015	1.11	0.03	0.05	0.05	0.09	0.07	0.15	0.03	0.07	0.05	0.11	0.06	0.10	0.04	0.06	0.01	0.01	
18/05/2015	1.14	0.03	0.05	0.04	0.07	0.05	0.11	0.02	0.04	0.05	0.07	0.04	0.07	0.03	0.06	0.01	0.01	
19/05/2015	1.11	0.02	0.05	0.05	0.06	0.06	0.09	0.02	0.05	0.04	0.08	0.04	0.06	0.03	0.06	0.01	0.01	
20/05/2015	1.09	0.03	0.04	0.04	0.07	0.06	0.14	0.02	0.04	0.05	0.08	0.04	0.07	0.03	0.07	0.01	0.01	
21/05/2015	1.09	0.03	0.06	0.05	0.08	0.06	0.13	0.02	0.06	0.05	0.09	0.05	0.08	0.03	0.05	0.01	0.01	
22/05/2015	1.01	0.03	0.06	0.04	0.09	0.06	0.14	0.02	0.06	0.05	0.06	0.04	0.09	0.03	0.07	0.01	0.01	
23/05/2015	1.01	0.03	0.06	0.06	0.08	0.08	0.14	0.02	0.06	0.06	0.10	0.05	0.10	0.03	0.07	0.01	0.01	
24/05/2015	1.09	0.03	0.07	0.05	0.09	0.09	0.22	0.02	0.06	0.05	0.09	0.05	0.06	0.03	0.07	0.01	0.02	
25/05/2015	1.11	0.04	0.10	0.06	0.10	0.08	0.25	0.03	0.07	0.05	0.10	0.05	0.10	0.03	0.07	0.01	0.02	
26/05/2015	1.13	0.03	0.06	0.05	0.09	0.08	0.26	0.02	0.06	0.05	0.10	0.05	0.10	0.03	0.04	0.01	0.02	
27/05/2015	1.13	0.04	0.06	0.06	0.07	0.10	0.24	0.03	0.09	0.06	0.09	0.05	0.09	0.03	0.06	0.01	0.01	
28/05/2015	1.14	0.03	0.11	0.06	0.09	0.08	0.10	0.02	0.08	0.05	0.09	0.05	0.07	0.03	0.18	0.01	0.03	
29/05/2015	1.18	0.04	0.06	0.06	0.09	0.07	0.13	0.01	0.03	0.05	0.09	0.06	0.09	0.03	0.07	0.01	0.02	
30/05/2015	1.23	0.05	0.08	0.05	0.10	0.06	0.12	0.02	0.06	0.06	0.08	0.05	0.14	0.03	0.05	0.01	0.02	
31/05/2015	1.41	0.05	0.09	0.08	0.10	0.06	0.10	0.02	0.05	0.06	0.10	0.04	0.09	0.03	0.06	0.01	0.01	

Total Number of Measurements Taken, A: 16470 16119 15821 13821 16653 16507 15425 11819
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: 16470 16119 15821 13818 16653 16507 15425 11819
Compliance with Turbidity Standard, C = B/A X 100%: 100.00% 100.00% 100.00% 99.98% 100.00% 100.00% 100.00% 100.00%

OL: Offline

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2015\05-May

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT										
Water System Code: 252.00	Turbidity (NTU)									
Licence No. PWS-09-412 AA	Date	Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7	Filter 8
	01-Jun-2015	0.84	0.11	0.11	0.09	0.07	0.07	0.06	<0.05	0.09
	02-Jun-2015	1.08	0.08	0.07	0.07	0.08	0.07	0.09	0.06	0.07
	03-Jun-2015	0.80	0.07	0.06	0.10	0.07	0.12	0.07	0.07	0.07
	04-Jun-2015	0.83	0.07	0.05	0.11	0.06	0.06	0.07	0.08	0.07
	05-Jun-2015	0.89	0.07	0.06	0.07	0.07	0.05	0.08	0.05	0.05
	06-Jun-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS
	07-Jun-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS
	08-Jun-2015	1.00	0.19	0.13	0.18	0.12	0.10	0.10	0.12	0.09
	09-Jun-2015	1.03	0.11	0.11	0.12	0.11	0.06	0.09	0.09	0.16
	10-Jun-2015	0.98	0.09	0.06	0.09	0.08	0.06	0.08	0.07	0.05
	11-Jun-2015	0.83	0.06	0.07	0.11	0.10	0.10	0.09	0.08	0.10
	12-Jun-2015	0.90	0.07	0.07	0.09	0.07	0.13	0.09	0.06	<0.05
	13-Jun-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS
	14-Jun-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS
	15-Jun-2015	0.75	0.05	0.06	0.08	0.08	0.09	0.06	0.10	0.08
	16-Jun-2015	0.73	0.16	0.12	0.08	0.09	0.08	0.07	0.05	<0.05
	17-Jun-2015	0.76	0.07	0.06	0.09	0.07	0.06	0.10	0.07	0.06
	18-Jun-2015	0.74	<0.05	<0.05	0.06	0.11	0.07	<0.05	0.07	0.06
	19-Jun-2015	0.67	0.08	0.11	0.12	0.09	0.06	0.06	0.06	0.07
	20-Jun-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS
	21-Jun-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS
	22-Jun-2015	0.89	0.09	0.08	0.10	0.08	0.11	0.06	0.06	0.09
	23-Jun-2015	0.77	0.06	<0.05	0.17	0.08	0.06	0.07	0.06	0.06
	24-Jun-2015	0.71	0.06	0.07	0.07	0.06	0.06	<0.05	0.07	0.06
	25-Jun-2015	0.76	0.08	0.10	0.11	0.09	0.10	0.05	0.07	0.07
	26-Jun-2015	0.68	0.08	0.08	0.09	0.11	0.09	0.09	0.11	0.07
	27-Jun-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS
	28-Jun-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS
	29-Jun-2015	0.82	0.08	0.07	0.09	0.07	0.05	0.09	0.07	0.06
	30-Jun-2015	0.75	<0.05	0.06	0.06	0.06	<0.05	<0.05	0.07	0.07
Total number of measurements taken, A:		22	22	22	22	22	22	22	22	22
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:		22	22	22	22	22	22	22	22	22
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: C.Diduck

Date Approved: 6-Jun-15



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

June 2015 Turbidity (NTU)

Date	Raw		Filter #1		Filter #2		Filter #3		Filter #4		Filter #5		Filter #6		Filter #7		Filter #8	
	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
1/06/2015	NR	0.06	0.16	0.07	0.11	0.07	0.12	0.02	0.05	0.05	0.10	0.05	0.08	0.02	0.05	0.01	0.02	
2/06/2015	NR	0.06	0.09	0.08	0.09	0.07	0.17	0.03	0.09	0.07	0.08	0.05	0.09	0.03	0.05	0.01	0.04	
3/06/2015	NR	0.06	0.09	0.08	0.14	0.09	0.11	0.03	0.09	0.06	0.12	0.05	0.07	0.03	0.08	0.01	0.03	
4/06/2015	1.37	0.05	0.07	0.06	0.10	0.05	0.12	0.02	0.03	0.04	0.09	0.04	0.09	0.02	0.04	0.01	0.02	
5/06/2015	1.36	0.04	0.07	0.05	0.10	0.04	0.10	0.01	0.04	0.05	0.08	0.03	0.08	0.02	0.04	0.01	0.03	
6/06/2015	1.34	0.04	0.07	0.07	0.09	0.04	0.09	0.01	0.05	0.05	0.10	0.03	0.09	0.01	0.05	0.01	0.01	
7/06/2015	1.39	0.04	0.08	0.07	0.10	0.05	0.08	0.01	0.04	0.05	0.09	0.03	0.05	0.02	0.05	0.00	0.03	
8/06/2015	1.43	0.05	0.07	0.06	0.11	0.06	0.12	0.01	0.05	0.05	0.11	0.05	0.09	0.02	0.06	0.01	0.03	
9/06/2015	1.38	0.05	0.08	0.06	0.11	0.05	0.10	0.02	0.03	0.05	0.10	0.03	0.08	0.02	0.03	0.00	0.02	
10/06/2015	1.24	0.04	0.08	0.05	0.12	0.05	0.10	0.01	0.04	0.05	0.08	0.03	0.07	0.02	0.05	0.01	0.01	
11/06/2015	1.34	0.04	0.08	0.08	0.10	0.05	0.10	0.01	0.09	0.07	0.11	0.03	0.06	0.02	0.05	0.01	0.03	
12/06/2015	NR	0.05	0.07	0.04	0.11	0.07	0.11	0.01	0.06	0.05	0.11	0.05	0.06	0.02	0.07	0.01	0.04	
13/06/2015	NR	0.06	0.10	0.04	0.08	0.06	0.13	0.03	0.06	0.06	0.12	0.04	0.09	0.02	0.04	0.01	0.04	
14/06/2015	NR	0.05	0.12	0.04	0.08	0.06	0.13	0.02	0.05	0.06	0.09	0.04	0.08	0.03	0.05	0.01	0.02	
15/06/2015	NR	0.05	0.09	0.05	0.07	0.06	0.10	0.02	0.06	0.08	0.12	0.04	0.08	0.02	0.06	0.01	0.03	
16/06/2015	NR	0.06	0.08	0.04	0.08	0.08	0.12	0.02	0.08	0.06	0.13	0.05	0.06	0.02	0.06	0.01	0.04	
17/06/2015	1.00	0.06	0.09	0.04	0.07	0.06	0.12	0.03	0.06	0.07	0.14	0.04	0.08	0.04	0.07	0.02	0.04	
18/06/2015	1.08	0.06	0.12	0.03	0.06	0.06	0.15	0.04	0.08	0.08	0.16	0.03	0.07	0.06	0.09	0.04	0.08	
19/06/2015	0.91	0.06	0.08	0.03	0.10	0.08	0.11	0.04	0.07	0.05	0.08	0.04	0.06	0.06	0.09	0.03	0.06	
20/06/2015	0.98	0.07	0.10	0.03	0.06	0.06	0.12	0.05	0.07	0.05	0.08	0.04	0.06	0.07	0.08	0.04	0.05	
21/06/2015	1.00	0.06	0.10	0.03	0.05	0.06	0.08	0.05	0.08	0.05	0.07	0.04	0.07	0.06	0.10	0.05	0.08	
22/06/2015	1.01	0.07	0.08	0.03	0.06	0.08	0.12	0.05	0.09	0.04	0.08	0.04	0.06	0.06	0.10	0.05	0.08	
23/06/2015	0.87	0.06	0.09	0.03	0.05	0.06	0.11	0.06	0.08	0.04	0.07	0.04	0.06	0.07	0.08	0.05	0.06	
24/06/2015	0.85	0.06	0.09	0.03	0.05	0.08	0.09	0.06	0.11	0.05	0.06	0.03	0.06	0.06	0.09	0.05	0.08	
25/06/2015	0.94	0.07	0.08	0.03	0.06	0.08	0.12	0.07	0.08	0.04	0.07	0.05	0.06	0.06	0.09	0.05	0.10	
26/06/2015	0.98	0.06	0.10	0.03	0.04	0.08	0.13	0.07	0.11	0.04	0.06	0.04	0.06	0.08	0.10	0.07	0.08	
27/06/2015	0.89	0.06	0.10	0.04	0.06	0.10	0.12	0.08	0.12	0.04	0.08	0.04	0.05	0.07	0.10	0.06	0.10	
28/06/2015	0.84	0.08	0.10	0.04	0.07	0.09	0.14	0.10	0.12	0.04	0.06	0.04	0.06	0.07	0.09	0.06	0.10	
29/06/2015	0.87	0.07	0.11	0.05	0.09	0.09	0.14	0.07	0.13	0.04	0.06	0.04	0.06	0.07	0.11	0.06	0.10	
30/06/2015	0.91	0.06	0.12	0.07	0.09	0.08	0.12	0.02	0.05	0.04	0.06	0.04	0.06	0.03	0.06	0.01	0.01	

Total Number of Measurements Taken, A:	15063	13467	14097	12123	15569	15379	14328	15132
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:	15063	13467	14097	12123	15569	15379	14328	15132
Compliance with Turbidity Standard, C = B/A X 100%:	100%	100%	100%	100%	100%	100%	100%	100%

NR: No result due to analyser maintenance requirements

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2015\06-June

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 AA		Raw Water		Filter 1		Filter 2		Filter 3		Filter 4		Filter 5		Filter 6		Filter 7		Filter 8	
Date		Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser
01-Jul-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
02-Jul-2015		0.77	0.92	0.06	0.07	0.06	0.06	0.12	0.07	0.07	<0.02	0.06	0.03	0.07	0.05	0.07	0.02	0.08	<0.02
03-Jul-2015		0.78	0.84	0.07	0.06	0.07	0.06	0.08	0.07	0.10	0.02	0.10	0.03	0.07	0.04	0.08	0.03	0.07	<0.02
04-Jul-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05-Jul-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
06-Jul-2015		0.75	0.77	0.06	0.03	0.06	0.06	0.08	0.07	0.06	<0.02	0.06	0.03	<0.05	0.03	0.05	0.03	0.06	<0.02
07-Jul-2015		0.88	0.81	<0.05	0.03	0.06	0.07	0.08	0.08	0.06	<0.02	0.08	0.04	0.07	0.05	0.06	0.02	0.06	<0.02
08-Jul-2015		0.83	0.88	0.07	0.04	0.05	0.07	0.10	0.11	0.06	<0.02	<0.05	0.04	0.07	0.05	0.05	0.02	0.06	<0.02
09-Jul-2015		0.88	1.06	0.07	0.05	0.08	0.07	0.06	0.07	0.06	0.02	0.07	0.04	0.05	0.05	<0.05	0.02	0.05	<0.02
10-Jul-2015		0.80	0.94	0.06	0.05	0.06	0.08	0.07	0.09	0.05	<0.02	0.08	0.04	<0.05	0.05	0.07	0.03	0.05	<0.02
11-Jul-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
12-Jul-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
13-Jul-2015		1.15	0.98	0.09	0.06	0.07	0.09	0.08	0.10	0.07	<0.02	<0.05	0.05	<0.05	0.06	<0.05	0.02	0.06	<0.02
14-Jul-2015		1.14	1.14	0.08	0.08	0.06	0.09	0.07	0.10	0.07	0.02	0.07	0.04	0.09	0.07	0.05	0.02	0.05	<0.02
15-Jul-2015		1.09	1.17	0.06	0.07	0.06	0.09	0.09	0.10	0.10	0.03	0.07	0.05	0.06	0.07	0.06	0.02	0.06	<0.02
16-Jul-2015		1.19	1.01	0.07	0.08	0.07	0.11	0.09	0.12	0.08	<0.02	0.08	0.05	0.07	0.08	0.06	0.02	0.10	<0.02
17-Jul-2015		1.13	1.09	0.10	0.04	0.09	0.03	0.12	0.07	0.09	<0.02	0.09	0.02	0.11	0.03	0.10	0.03	0.10	<0.02
18-Jul-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
19-Jul-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
20-Jul-2015		1.56	1.14	0.08	0.03	0.05	<0.02	0.09	0.06	0.07	<0.02	<0.05	0.02	0.07	0.04	<0.05	0.03	0.05	<0.02
21-Jul-2015		1.15	1.44	0.07	0.04	0.08	0.03	0.08	0.06	0.13	0.04	0.06	0.04	0.05	0.04	0.08	0.05	0.07	<0.02
22-Jul-2015		1.13	1.47	0.09	0.05	0.11	0.06	0.13	0.09	0.10	0.02	0.09	0.04	0.09	0.04	0.07	0.04	0.07	<0.02
23-Jul-2015		1.12	1.40	0.11	0.07	0.10	0.04	0.11	0.04	0.12	0.04	0.07	0.03	0.11	0.05	0.09	0.04	0.07	<0.02
24-Jul-2015		1.29	1.38	0.13	0.08	0.09	0.07	0.10	0.08	0.12	0.06	0.07	0.04	0.06	0.04	0.08	0.05	0.07	<0.02
25-Jul-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Jul-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Jul-2015		1.54	1.75	0.08	0.04	0.06	0.04	0.14	0.09	0.08	<0.02	0.05	0.03	0.09	0.05	0.07	0.03	0.07	<0.02
28-Jul-2015		1.09	1.76	0.08	0.03	0.07	0.04	0.08	0.05	0.07	<0.02	0.06	0.04	0.06	0.03	0.08	0.04	0.07	<0.02
29-Jul-2015		1.57	1.87	0.07	0.02	0.09	0.04	0.09	0.03	0.08	<0.02	0.06	0.03	0.09	0.04	0.08	0.04	0.08	<0.02
30-Jul-2015		1.57	1.95	0.07	0.03	0.06	0.04	0.06	0.05	0.08	<0.02	0.06	0.04	0.07	0.04	0.07	0.04	0.07	<0.02
31-Jul-2015		1.56	1.90	0.06	0.02	0.05	0.03	0.07	0.05	0.08	<0.02	0.07	0.04	0.07	0.03	0.07	0.04	0.07	<0.02
Total number of measurements taken, A:		22		22		22		22		22		22		22		22		22	
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:		22		22		22		22		22		22		22		22		22	
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: _____ C.Diduck _____



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

July 2015 Turbidity (NTU)

Date	Raw		Filter #1		Filter #2		Filter #3		Filter #4		Filter #5		Filter #6		Filter #7		Filter #8	
	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
1/07/2015	0.97	0.07	0.09		0.06	0.08	0.09	0.12	0.02	0.05	0.03	0.07	0.05	0.06	0.03	0.04	0.01	0.01
2/07/2015	1.07	0.07	0.10		0.05	0.08	0.08	0.12	0.03	0.04	0.03	0.05	0.04	0.06	0.03	0.04	0.01	0.01
3/07/2015	0.87	0.07	0.10		0.06	0.10	0.07	0.10	0.02	0.04	0.04	0.05	0.04	0.07	0.03	0.06	0.01	0.01
4/07/2015	0.81	0.08	0.09		0.06	0.08	0.09	0.12	0.02	0.03	0.03	0.07	0.05	0.06	0.02	0.05	0.01	0.01
5/07/2015	0.86	0.05	0.11		0.05	0.08	0.08	0.13	0.03	0.07	0.03	0.07	0.04	0.07	0.03	0.04	0.01	0.01
6/07/2015	0.90	0.04	0.07		0.06	0.08	0.08	0.11	0.02	0.05	0.04	0.06	0.05	0.07	0.02	0.05	0.01	0.01
7/07/2015	1.12	0.04	0.06		0.06	0.09	0.10	0.13	0.02	0.05	0.04	0.07	0.06	0.09	0.03	0.05	0.01	0.01
8/07/2015	0.93	0.05	0.07		0.06	0.10	0.08	0.14	0.03	0.05	0.04	0.06	0.05	0.08	0.03	0.04	0.01	0.01
9/07/2015	0.99	0.05	0.08		0.06	0.10	0.09	0.14	0.03	0.06	0.04	0.06	0.05	0.08	0.03	0.05	0.01	0.01
10/07/2015	1.06	0.05	0.09		0.07	0.09	0.10	0.12	0.03	0.06	0.04	0.07	0.06	0.07	0.03	0.05	0.01	0.01
11/07/2015	1.01	0.07	0.08		0.06	0.11	0.09	0.15	0.03	0.05	0.04	0.07	0.06	0.08	0.03	0.04	0.01	0.01
12/07/2015	1.11	0.06	0.09		0.07	0.10	0.09	0.16	0.03	0.08	0.05	0.06	0.06	0.09	0.03	0.05	0.01	0.01
13/07/2015	1.08	0.07	0.08		0.08	0.11	0.12	0.13	0.02	0.05	0.03	0.09	0.07	0.08	0.03	0.04	0.01	0.01
14/07/2015	1.25	0.07	0.11		0.08	0.12	0.11	0.17	0.03	0.05	0.05	0.08	0.07	0.10	0.03	0.05	0.01	0.01
15/07/2015	1.21	0.08	0.11		0.08	0.11	0.11	0.18	0.03	0.22	0.05	0.07	0.07	0.10	0.03	0.05	0.01	0.01
16/07/2015	1.17	0.06	0.10		0.06	0.13	0.10	0.16	0.03	0.06	0.03	0.10	0.06	0.11	0.03	0.07	0.01	0.01
17/07/2015	1.15	0.04	0.06		0.01	0.04	0.06	0.11	0.02	0.05	0.02	0.05	0.04	0.06	0.03	0.05	0.01	0.01
18/07/2015	1.63	0.04	0.07		0.01	0.05	0.06	0.12	0.02	0.05	0.03	0.04	0.04	0.06	0.04	0.06	0.01	0.01
19/07/2015	1.50	0.04	0.05		0.02	0.06	0.07	0.09	0.02	0.05	0.02	0.06	0.04	0.06	0.03	0.06	0.01	0.01
20/07/2015	2.08	0.04	0.07		0.02	0.04	0.06	0.12	0.03	0.04	0.02	0.06	0.04	0.07	0.04	0.05	0.01	0.01
21/07/2015	1.63	0.05	0.10		0.03	0.05	0.07	0.16	0.04	0.13	0.04	0.07	0.04	0.07	0.04	0.07	0.01	0.01
22/07/2015	1.47	0.06	0.08		0.04	0.08	0.10	0.16	0.04	0.14	0.04	0.07	0.05	0.06	0.04	0.07	0.01	0.01
23/07/2015	1.81	0.07	0.12		0.05	0.11	0.10	0.19	0.06	0.10	0.04	0.08	0.05	0.08	0.04	0.06	0.01	0.01
24/07/2015	1.91	0.07	0.12		0.06	0.11	0.10	0.17	0.05	0.11	0.04	0.09	0.05	0.09	0.05	0.09	0.01	0.01
25/07/2015	1.77	0.04	0.08		0.05	0.10	0.07	0.13	0.03	0.08	0.05	0.08	0.03	0.07	0.03	0.06	0.01	0.01
26/07/2015	2.12	0.04	0.06		0.04	0.08	0.08	0.13	0.02	0.04	0.04	0.07	0.04	0.05	0.03	0.06	0.01	0.01
27/07/2015	2.40	0.04	0.08		0.04	0.08	0.07	0.13	0.04	0.06	0.03	0.06	0.04	0.07	0.04	0.05	0.01	0.01
28/07/2015	1.92	0.04	0.08		0.04	0.06	0.08	0.11	0.03	0.08	0.04	0.06	0.03	0.07	0.03	0.06	0.01	0.01
29/07/2015	1.92	0.03	0.05		0.03	0.06	0.06	0.14	0.02	0.04	0.04	0.08	0.05	0.07	0.04	0.08	0.01	0.01
30/07/2015	2.18	0.03	0.06		0.03	0.06	0.06	0.11	0.02	0.05	0.04	0.06	0.04	0.08	0.05	0.06	0.01	0.01
31/07/2015	2.04	0.03	0.07		0.03	0.05	0.06	0.12	0.02	0.08	0.04	0.07	0.04	0.08	0.04	0.07	0.01	0.01

Total Number of Measurements Taken, A: 16627 14477 15595 14200 17202 16998 15817 16532
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: 16627 14477 15595 14200 17202 16998 15817 16532
Compliance with Turbidity Standard, C = B/A X 100%: 100% 100% 100% 100% 100% 100% 100% 100%

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2015\07-July

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 Licence No. PWS-09-412 AA	Turbidity (NTU)																	
	Raw Water		Filter 1		Filter 2		Filter 3		Filter 4		Filter 5		Filter 6		Filter 7		Filter 8	
Date	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser
01-Aug-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
02-Aug-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
03-Aug-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
04-Aug-2015	1.75	2.24	0.08	0.03	0.10	0.06	0.11	0.07	0.09	<0.02	0.09	0.05	0.09	0.05	0.10	0.04	0.09	<0.02
05-Aug-2015	1.62	2.30	0.08	0.04	0.07	0.04	0.13	0.09	0.08	0.02	0.07	0.05	0.10	0.07	0.09	0.05	0.08	<0.02
06-Aug-2015	1.89	2.17	0.06	0.02	0.07	0.05	0.08	<0.02	0.08	0.05	0.08	0.05	0.07	0.05	0.09	0.06	0.08	<0.02
07-Aug-2015	1.84	2.31	0.10	0.03	0.11	0.06	0.11	0.07	0.09	<0.02	0.10	0.05	0.09	0.05	0.08	0.04	0.09	<0.02
08-Aug-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
09-Aug-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
10-Aug-2015	1.95	2.17	0.06	0.03	0.06	0.07	0.08	0.07	0.06	<0.02	0.08	0.05	0.08	0.08	0.12	0.11	0.09	0.03
11-Aug-2015	2.13	2.24	0.08	0.04	0.10	0.09	0.12	0.08	0.07	0.02	0.07	0.04	0.09	0.08	0.08	0.04	0.07	0.02
12-Aug-2015	2.00	2.11	0.12	0.06	0.08	0.08	0.09	0.07	0.10	0.04	0.08	0.05	0.11	0.09	0.09	0.06	0.10	0.02
13-Aug-2015	1.91	2.20	0.09	0.04	0.09	0.09	0.11	0.08	0.09	0.02	0.09	0.07	0.10	0.09	0.13	0.08	0.11	0.04
14-Aug-2015	2.05	2.31	0.09	0.04	0.12	0.08	0.21	0.19	0.09	0.04	0.08	0.04	0.10	0.08	0.10	0.05	0.09	0.03
15-Aug-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
16-Aug-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
17-Aug-2015	1.82	2.45	0.10	0.05	0.11	0.09	0.12	0.09	0.08	0.03	0.08	0.05	0.09	0.06	0.08	0.04	0.10	0.03
18-Aug-2015	1.98	2.49	0.12	0.06	0.17	0.10	0.18	0.14	0.17	0.06	0.08	0.05	0.10	0.07	0.12	0.05	0.12	0.02
19-Aug-2015	2.10	2.54	0.13	0.08	0.10	0.08	0.11	0.08	0.16	0.06	0.11	0.04	0.09	0.06	0.09	0.05	0.08	0.02
20-Aug-2015	1.90	2.81	0.13	0.06	0.14	0.10	0.16	0.09	0.12	0.04	0.11	0.05	0.10	0.06	0.09	0.04	0.12	0.03
21-Aug-2015	2.30	2.78	0.12	0.07	0.09	0.08	0.17	0.11	0.11	0.06	0.07	0.03	0.09	0.07	0.07	0.05	0.07	0.02
22-Aug-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
23-Aug-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
24-Aug-2015	2.23	2.79	0.09	0.06	0.08	0.07	0.12	0.08	0.09	0.03	0.06	0.02	0.08	0.06	0.07	0.04	0.08	<0.02
25-Aug-2015	2.15	2.84	0.09	0.05	0.10	0.07	0.11	0.07	0.13	0.06	0.07	0.03	0.07	0.05	0.09	0.05	0.07	<0.02
26-Aug-2015	2.30	2.71	0.08	0.06	0.09	0.08	0.11	0.07	0.07	0.03	0.08	0.03	0.06	0.05	0.04	<0.05	<0.02	
27-Aug-2015	2.01	2.46	0.10	0.07	0.07	0.08	0.09	0.06	0.09	0.04	0.08	0.03	0.09	0.06	0.06	0.04	0.06	<0.02
28-Aug-2015	2.17	2.49	0.09	0.07	0.10	0.08	0.12	0.07	0.09	0.03	0.08	0.03	0.14	0.05	0.08	0.06	0.11	0.02
29-Aug-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
30-Aug-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
31-Aug-2015	2.14	2.26	0.09	0.08	0.10	0.09	0.10	0.08	0.07	0.03	0.08	0.05	0.05	0.05	0.03	0.08	<0.02	
Total number of measurements taken, A:			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	
Number of measurements meeting standard, B:			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%	

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

Comments:

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

August 2015 Turbidity (NTU)

Date	Raw		Filter #1		Filter #2		Filter #3		Filter #4		Filter #5		Filter #6		Filter #7		Filter #8	
	Avg	Avg	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
1/08/2015	2.06	0.03	0.06		0.04	0.06	0.07	0.10	0.02	0.05	0.04	0.08	0.05	0.06	0.04	0.08	0.01	0.01
2/08/2015	2.14	0.04	0.05		0.04	0.07	0.07	0.13	0.03	0.05	0.05	0.08	0.06	0.09	0.05	0.06	0.01	0.04
3/08/2015	2.52	0.03	0.08		0.04	0.05	0.06	0.14	0.03	0.07	0.05	0.07	0.05	0.10	0.06	0.10	0.01	0.01
4/08/2015	2.23	0.04	0.05		0.04	0.09	0.08	0.10	0.03	0.07	0.05	0.09	0.06	0.08	0.05	0.08	0.01	0.01
5/08/2015	2.39	0.04	0.08		0.04	0.07	0.06	0.14	0.03	0.05	0.04	0.08	0.05	0.23	0.05	0.06	0.01	0.01
6/08/2015	2.26	0.03	0.08		0.04	0.07	0.07	0.09	0.03	0.06	0.05	0.07	0.05	0.09	0.05	0.09	0.01	0.01
7/08/2015	2.42	0.04	0.05		0.05	0.08	0.07	0.14	0.03	0.04	0.04	0.07	0.07	0.09	0.04	0.09	0.01	0.05
8/08/2015	2.45	0.04	0.08		0.05	0.13	0.06	0.17	0.04	0.08	0.03	0.06	0.07	0.12	0.05	0.07	0.01	0.01
9/08/2015	2.34	0.03	0.09		0.06	0.08	0.06	0.19	0.03	0.09	0.05	0.11	0.06	0.23	0.04	0.11	0.01	0.19
10/08/2015	2.32	0.03	0.09		0.06	0.13	0.08	0.11	0.03	0.08	0.04	0.11	0.07	0.10	0.04	0.12	0.01	0.11
11/08/2015	2.26	0.05	0.09		0.05	0.14	0.06	0.20	0.04	0.05	0.04	0.11	0.08	0.15	0.04	0.06	0.01	0.11
12/08/2015	2.16	0.04	0.10		0.05	0.08	0.06	0.21	0.04	0.08	0.05	0.07	0.07	0.17	0.06	0.13	0.02	0.03
13/08/2015	2.28	0.03	0.12		0.07	0.15	0.09	0.12	0.03	0.11	0.05	0.12	0.07	0.11	0.04	0.14	0.01	0.10
14/08/2015	2.25	0.05	0.07		0.04	0.14	0.07	0.22	0.05	0.06	0.04	0.12	0.08	0.15	0.05	0.07	0.01	0.12
15/08/2015	2.23	0.04	0.10		0.05	0.14	0.06	0.20	0.04	0.10	0.04	0.07	0.06	0.16	0.06	0.13	0.02	0.04
16/08/2015	2.38	0.04	0.10		0.06	0.08	0.06	0.10	0.04	0.10	0.05	0.10	0.06	0.14	0.05	0.13	0.01	0.10
17/08/2015	2.50	0.04	0.07		0.07	0.16	0.11	0.24	0.04	0.12	0.04	0.11	0.06	0.09	0.04	0.12	0.01	0.10
18/08/2015	2.56	0.07	0.12		0.06	0.18	0.08	0.25	0.07	0.09	0.04	0.23	0.06	0.14	0.05	0.09	0.01	0.04
19/08/2015	2.65	0.07	0.13		0.07	0.13	0.09	0.19	0.06	0.13	0.05	0.07	0.06	0.10	0.06	0.10	0.01	0.02
20/08/2015	2.64	0.06	0.08		0.09	0.14	0.11	0.13	0.05	0.13	0.04	0.08	0.07	0.08	0.04	0.09	0.01	0.06
21/08/2015	2.82	0.07	0.14		0.07	0.15	0.08	0.21	0.07	0.09	0.04	0.07	0.06	0.11	0.05	0.06	0.01	0.01
22/08/2015	2.77	0.06	0.13		0.08	0.09	0.09	0.10	0.05	0.12	0.04	0.06	0.05	0.10	0.04	0.09	0.01	0.05
23/08/2015	2.80	0.07	0.08		0.07	0.13	0.09	0.17	0.05	0.10	0.03	0.06	0.06	0.07	0.04	0.08	0.01	0.04
24/08/2015	2.96	0.06	0.11		0.06	0.11	0.08	0.16	0.06	0.08	0.03	0.06	0.05	0.09	0.05	0.06	0.01	0.01
25/08/2015	2.92	0.06	0.11		0.07	0.09	0.07	0.10	0.05	0.10	0.04	0.05	0.05	0.08	0.04	0.08	0.01	0.03
26/08/2015	2.76	0.07	0.08		0.06	0.12	0.09	0.16	0.04	0.06	0.03	0.05	0.06	0.07	0.04	0.08	0.01	0.03
27/08/2015	2.53	0.07	0.12		0.06	0.13	0.07	0.16	0.06	0.10	0.03	0.05	0.05	0.10	0.05	0.06	0.01	0.01
28/08/2015	2.51	0.06	0.14		0.08	0.11	0.09	0.12	0.05	0.12	0.04	0.07	0.06	0.11	0.04	0.08	0.01	0.05
29/08/2015	2.42	0.09	0.11		0.07	0.13	0.08	0.16	0.06	0.07	0.03	0.09	0.05	0.10	0.05	0.06	0.01	0.01
30/08/2015	2.33	0.07	0.13		0.07	0.08	0.07	0.10	0.05	0.09	0.04	0.05	0.05	0.09	0.04	0.07	0.01	0.04
31/08/2015	2.38	0.10	0.14		0.07	0.14	0.09	0.16	0.05	0.09	0.03	0.07	0.07	0.15	0.04	0.07	0.01	0.23

Total Number of Measurements Taken, A: 15849 13569 14529 13109 16314 16285 15006 15887
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: 15849 13569 14529 13109 16314 16285 15006 15887
Compliance with Turbidity Standard, C = B/A X 100%: 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00%

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2015\08-August

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)																	
	Raw Water		Filter 1		Filter 2		Filter 3		Filter 4		Filter 5		Filter 6		Filter 7		Filter 8	
Date	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser
01-Sep-2015	2.14	2.38	0.18	0.12	0.10	0.08	0.09	0.07	0.11	0.05	0.06	0.03	<0.05	0.05	0.06	0.04	0.05	<0.02
02-Sep-2015	2.04	2.47	0.09	0.10	0.10	0.10	0.12	0.08	0.08	0.04	0.08	0.03	0.08	0.05	0.06	0.04	0.09	<0.02
03-Sep-2015	2.01	2.59	0.09	0.10	0.11	0.09	0.14	0.09	0.09	0.04	0.07	0.03	0.06	0.05	0.05	0.03	0.05	<0.02
04-Sep-2015	1.83	2.41	0.11	0.13	0.09	0.08	0.10	0.06	0.12	0.06	0.08	0.03	0.07	0.05	0.07	0.04	0.09	<0.02
05-Sep-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
06-Sep-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
07-Sep-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
08-Sep-2015	2.18	2.64	0.08	0.06	0.10	0.09	0.11	0.08	0.07	0.03	0.05	0.03	0.05	0.06	0.05	0.04	0.05	<0.02
09-Sep-2015	2.01	2.55	0.12	0.09	0.09	0.08	0.09	0.07	0.11	0.05	0.07	0.04	0.09	0.08	0.07	0.05	0.06	0.02
10-Sep-2015	2.14	2.46	0.08	0.05	0.09	0.08	0.10	0.08	0.08	0.03	0.07	0.04	0.07	0.07	0.10	0.06	0.08	0.03
11-Sep-2015	2.13	2.50	0.09	0.06	0.08	0.06	0.13	0.10	0.09	0.03	0.08	0.04	0.08	0.08	0.06	0.05	0.07	0.02
12-Sep-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
13-Sep-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
14-Sep-2015	2.26	2.34	0.11	0.06	0.07	0.05	0.07	0.11	0.08	0.04	0.05	0.04	0.08	0.09	0.07	0.06	0.06	0.03
15-Sep-2015	1.72	2.33	0.07	0.03	0.07	0.05	0.10	<0.02	0.07	0.02	0.08	0.05	0.09	0.08	0.11	0.06	0.10	0.03
16-Sep-2015	1.88	2.28	0.09	0.04	0.11	0.06	0.13	0.13	0.08	0.02	0.08	0.04	0.07	0.09	0.07	0.04	0.06	<0.02
17-Sep-2015	1.89	2.19	0.10	0.06	0.07	0.05	0.09	0.12	0.09	0.04	0.06	0.04	0.07	0.10	0.07	0.05	0.06	0.02
18-Sep-2015	1.66	2.21	0.11	0.05	0.11	0.06	0.11	0.13	0.12	0.03	0.09	0.05	0.07	0.10	0.11	0.07	0.10	0.02
19-Sep-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
20-Sep-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
21-Sep-2015	1.82	2.98	0.06	0.03	0.07	0.05	0.07	0.05	0.07	0.02	0.07	0.06	0.07	0.05	0.07	0.06	0.07	0.03
22-Sep-2015	1.67	2.16	0.09	0.05	0.11	0.07	0.14	0.10	0.08	0.04	0.07	0.06	0.08	0.05	0.07	0.06	0.07	0.02
23-Sep-2015	1.82	2.05	0.12	0.07	0.08	0.05	0.09	0.06	0.12	0.05	0.09	0.07	0.09	0.04	0.10	0.06	0.08	0.03
24-Sep-2015	1.68	2.02	0.08	0.05	0.09	0.07	0.10	0.08	0.08	0.03	0.07	0.03	0.07	0.04	0.06	0.05	0.09	0.03
25-Sep-2015	1.61	2.00	0.09	0.05	0.11	0.06	0.17	0.09	0.12	0.04	0.11	0.03	0.12	0.05	0.11	0.04	0.15	0.02
26-Sep-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Sep-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
28-Sep-2015	1.66	1.83	0.08	0.07	0.08	0.06	0.14	0.10	0.09	0.04	0.08	0.04	0.10	0.07	0.08	0.06	0.08	0.04
29-Sep-2015	1.66	1.84	0.10	0.08	0.10	0.08	0.11	0.09	0.09	0.05	0.07	0.05	0.08	0.05	0.10	0.07	0.09	0.04
30-Sep-2015	1.57	1.78	0.09	0.08	0.13	0.11	0.14	0.10	0.10	0.05	0.05	0.12	0.08	0.05	0.08	0.05	0.07	0.03
Total number of measurements taken, A:			21		21		21		21		21		21		21		21	
Turbidity Standard for Monitoring Location (NTU):			0.30		0.30		0.30		0.30		0.30		0.30		0.30		0.30	
Number of measurements meeting standard, B:			21		21		21		21		21		21		21		21	
Compliance with Turbidity Standard, C= B/A X 100%:			100%		100%		100%		100%		100%		100%		100%		100%	

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

Comments:

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

September 2015 Turbidity (NTU)

Date	Raw		Filter #1		Filter #2		Filter #3		Filter #4		Filter #5		Filter #6		Filter #7		Filter #8	
	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
1/09/2015	2.47	0.07	0.15	0.07	0.10	0.08	0.16	0.06	0.11	0.04	0.06	0.05	0.10	0.05	0.06	0.01	0.01	
2/09/2015	2.53	0.09	0.15	0.08	0.13	0.09	0.25	0.05	0.09	0.03	0.06	0.06	0.07	0.04	0.06	0.01	0.02	
3/09/2015	2.52	0.11	0.13	0.07	0.11	0.08	0.15	0.06	0.08	0.03	0.05	0.05	0.08	0.04	0.05	0.01	0.02	
4/09/2015	2.51	0.10	0.15	0.07	0.09	0.07	0.15	0.04	0.10	0.04	0.05	0.05	0.09	0.04	0.07	0.01	0.01	
5/09/2015	2.54	0.12	0.14	0.07	0.11	0.09	0.12	0.04	0.09	0.03	0.06	0.06	0.09	0.04	0.07	0.01	0.06	
6/09/2015	2.43	0.12	0.16	0.06	0.10	0.08	0.16	0.05	0.07	0.03	0.06	0.05	0.13	0.04	0.05	0.01	0.01	
7/09/2015	2.52	0.10	0.15	0.07	0.08	0.08	0.09	0.04	0.10	0.04	0.08	0.06	0.07	0.04	0.07	0.01	0.21	
8/09/2015	2.65	0.07	0.09	0.06	0.11	0.08	0.16	0.05	0.07	0.03	0.07	0.07	0.10	0.04	0.09	0.01	0.04	
9/09/2015	2.64	0.06	0.11	0.06	0.12	0.08	0.21	0.05	0.10	0.04	0.06	0.07	0.11	0.06	0.07	0.01	0.02	
10/09/2015	2.76	0.06	0.11	0.08	0.10	0.10	0.13	0.04	0.08	0.04	0.07	0.07	0.13	0.05	0.20	0.01	0.05	
11/09/2015	2.63	0.07	0.09	0.06	0.09	0.11	0.17	0.05	0.07	0.04	0.07	0.08	0.12	0.05	0.06	0.01	0.06	
12/09/2015	2.70	0.05	0.10	0.05	0.07	0.11	0.19	0.05	0.10	0.05	0.06	0.07	0.14	0.05	0.09	0.01	0.02	
13/09/2015	2.51	0.06	0.07	0.05	0.11	0.13	0.17	0.04	0.05	0.05	0.08	0.09	0.10	0.05	0.10	0.01	0.10	
14/09/2015	2.39	0.04	0.09	0.04	0.09	0.11	0.18	0.05	0.09	0.04	0.06	0.08	0.14	0.05	0.07	0.01	0.02	
15/09/2015	2.35	0.04	0.08	0.05	0.06	0.13	0.14	0.04	0.07	0.05	0.07	0.08	0.11	0.04	0.07	0.01	0.05	
16/09/2015	2.35	0.05	0.07	0.04	0.09	0.12	0.20	0.04	0.05	0.04	0.07	0.09	0.13	0.04	0.08	0.01	0.04	
17/09/2015	2.26	0.05	0.08	0.05	0.10	0.12	0.20	0.04	0.08	0.05	0.06	0.09	0.13	0.05	0.08	0.01	0.01	
18/09/2015	2.25	0.05	0.08	0.05	0.06	0.14	0.16	0.04	0.08	0.05	0.07	0.09	0.11	0.05	0.07	0.01	0.04	
19/09/2015	2.50	0.06	0.07	0.05	0.08	0.14	0.21	0.05	0.06	0.05	0.07	0.11	0.14	0.04	0.09	0.01	0.04	
20/09/2015	2.85	0.05	0.11	0.05	0.11	0.11	0.17	0.05	0.10	0.05	0.07	0.07	0.12	0.06	0.07	0.01	0.02	
21/09/2015	3.00	0.04	0.10	0.06	0.11	0.08	0.15	0.04	0.16	0.06	0.11	0.05	0.07	0.05	0.11	0.01	0.05	
22/09/2015	2.57	0.06	0.07	0.05	0.09	0.08	0.15	0.05	0.06	0.05	0.10	0.05	0.10	0.06	0.08	0.01	0.06	
23/09/2015	2.20	0.05	0.11	0.05	0.07	0.07	0.17	0.05	0.09	0.05	0.08	0.05	0.10	0.06	0.10	0.01	0.03	
24/09/2015	2.17	0.05	0.11	0.06	0.11	0.10	0.13	0.05	0.11	0.04	0.07	0.05	0.06	0.05	0.10	0.01	0.05	
25/09/2015	2.03	0.07	0.11	0.05	0.11	0.08	0.29	0.06	0.08	0.03	0.06	0.04	0.10	0.05	0.06	0.01	0.06	
26/09/2015	2.78	0.06	0.11	0.05	0.07	0.08	0.16	0.05	0.10	0.04	0.11	0.05	0.11	0.05	0.16	0.01	0.09	
27/09/2015	2.23	0.06	0.13	0.07	0.11	0.10	0.13	0.05	0.09	0.04	0.07	0.06	0.07	0.05	0.10	0.02	0.06	
28/09/2015	1.91	0.09	0.10	0.06	0.12	0.09	0.16	0.06	0.08	0.04	0.09	0.06	0.13	0.06	0.08	0.02	0.03	
29/09/2015	1.91	0.07	0.14	0.08	0.08	0.10	0.12	0.06	0.13	0.05	0.08	0.05	0.13	0.06	0.12	0.02	0.09	
30/09/2015	1.66	0.08	0.16	0.06	0.18	0.08	0.21	0.06	0.13	0.03	0.08	0.05	0.09	0.05	0.08	0.01	0.08	

Total Number of Measurements Taken, A: 15753 12966 14608 13056 16529 16356 15137 15980
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: 15753 12966 14608 13056 16529 16356 15137 15980
Compliance with Turbidity Standard, C = B/A X 100%: 100% 100% 100% 100% 100% 100% 100% 100%

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2015\09-September

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

		WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT																	
Water System Code: 252.00		Turbidity (NTU)																	
Licence No. PWS-09-412 AA		Raw Water		Filter 1		Filter 2		Filter 3		Filter 4		Filter 5		Filter 6		Filter 7		Filter 8	
Date		Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser
01-Oct-2015		1.37	1.89	0.16	0.10	0.11	0.06	0.13	0.07	0.18	0.07	0.13	0.05	0.12	0.05	0.11	0.06	0.11	0.03
02-Oct-2015		1.37	1.79	0.10	0.07	0.13	0.08	0.14	0.09	0.11	0.05	0.11	0.06	0.11	0.06	0.10	0.06	0.12	0.06
03-Oct-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
04-Oct-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05-Oct-2015		1.49	2.47	0.09	0.07	0.12	0.08	0.12	0.09	0.10	0.05	0.09	0.05	0.09	0.06	0.08	0.05	0.11	0.06
06-Oct-2015		1.31	1.79	0.10	0.07	0.10	0.09	0.11	0.07	0.10	0.10	0.07	0.04	0.10	0.05	0.09	0.06	0.07	0.02
07-Oct-2015		1.18	1.74	0.06	0.05	0.06	0.08	0.07	0.04	0.06	0.07	0.05	0.03	0.05	0.03	0.10	0.07	0.07	<0.02
08-Oct-2015		1.25	1.65	0.09	0.06	0.11	0.10	0.13	0.08	0.10	0.08	0.07	0.04	0.08	0.04	0.12	0.06	0.07	0.02
09-Oct-2015		1.25	1.53	0.08	0.05	0.07	0.08	0.08	0.05	0.12	0.09	0.07	0.03	0.06	0.03	0.08	0.06	0.07	0.02
10-Oct-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
11-Oct-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
12-Oct-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
13-Oct-2015		1.20	1.71	0.13	0.06	0.11	0.10	0.17	0.07	0.11	0.07	0.12	0.04	0.11	0.03	0.08	0.06	0.12	0.02
14-Oct-2015		1.03	1.59	0.07	0.05	0.08	0.08	0.10	0.05	0.13	0.10	0.10	0.04	0.09	0.02	0.11	0.08	0.08	0.03
15-Oct-2015		1.10	1.61	0.12	0.07	0.21	0.11	0.19	0.08	0.15	0.08	0.13	0.03	0.12	0.04	0.11	0.07	0.11	0.03
16-Oct-2015		1.19	1.56	0.09	0.07	0.11	0.10	0.12	0.06	0.16	0.11	0.09	0.05	0.09	0.03	0.11	0.09	0.10	0.04
17-Oct-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
18-Oct-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
19-Oct-2015		1.27	1.50	0.07	0.06	0.08	0.09	0.09	0.05	0.07	0.07	0.07	0.04	0.08	0.03	0.07	0.07	0.07	0.04
20-Oct-2015		1.52	1.54	0.07	0.06	0.08	0.08	0.10	0.06	0.07	0.07	0.06	0.03	0.07	0.02	0.07	0.08	0.08	0.03
21-Oct-2015		1.08	1.56	0.09	0.06	0.09	0.08	0.09	0.04	0.14	0.09	0.11	0.04	0.08	0.03	0.10	0.11	0.08	0.03
22-Oct-2015		1.19	1.46	0.06	0.06	0.07	0.09	0.08	0.05	0.06	0.07	0.05	0.03	0.06	0.04	0.06	0.08	0.05	0.02
23-Oct-2015		1.10	1.38	0.09	0.07	0.09	0.08	0.11	0.04	0.11	0.08	0.10	0.04	0.07	0.03	0.10	0.09	0.08	0.03
24-Oct-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Oct-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Oct-2015		1.16	1.25	0.09	0.06	0.07	0.09	0.08	0.04	0.06	0.07	0.07	0.05	0.07	0.03	0.06	0.09	0.10	0.04
27-Oct-2015		1.10	1.23	0.09	0.07	0.07	0.09	0.08	0.04	0.09	0.08	0.06	0.04	0.09	0.04	0.06	0.09	0.06	0.02
28-Oct-2015		1.18	1.20	0.06	0.06	0.06	0.09	0.07	0.04	0.06	0.07	0.07	0.05	0.08	0.03	0.11	0.08	0.08	0.03
29-Oct-2015		0.96	1.25	0.07	0.03	0.06	0.10	0.11	0.05	0.07	0.05	0.07	0.04	0.08	0.04	0.09	0.11	0.06	0.03
30-Oct-2015		1.20	1.26	0.08	0.03	0.07	0.11	0.09	0.04	0.11	0.05	0.07	0.04	0.07	0.03	0.07	0.12	0.06	0.03
31-Oct-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total number of measurements taken, A:				21		21		21		21		21		21		21		21	
Turbidity Standard for Monitoring Location (NTU):				0.30		0.30		0.30		0.30		0.30		0.30		0.30		0.30	
Number of measurements meeting standard, B:				21		21		21		21		21		21		21		21	
Compliance with Turbidity Standard, C= B/A X 100%:				100%		100%		100%		100%		100%		100%		100%		100%	

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

Comments:

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

October 2015 Turbidity (NTU)

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

Total Number of Measurements Taken, A: 16073 12906 14195 12635 16800 16647 15041 16465
Turbidity Standard for Monitoring Location (NTU): 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30
Number of Measurements Meeting Standard, B: 16073 12906 14195 12635 16800 16647 15041 16465
Compliance with Turbidity Standard, C = B/A X 100%: 100% 100% 100% 100% 100% 100% 100% 100%

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

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

		WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT																	
Water System Code: 252.00		Turbidity (NTU)																	
Licence No. PWS-09-412 AA		Raw Water		Filter 1		Filter 2		Filter 3		Filter 4		Filter 5		Filter 6		Filter 7		Filter 8	
Date		Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser		
01-Nov-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
02-Nov-2015		1.01	1.14	0.08	0.03	0.09	0.11	0.11	0.05	0.09	0.04	0.09	0.05	0.06	0.03	0.07	0.06		
03-Nov-2015		0.78	1.18	0.08	0.03	0.08	0.12	0.10	0.07	0.07	0.05	0.07	0.05	0.07	0.04	0.08	0.04		
04-Nov-2015		1.29	1.23	0.08	0.05	0.06	0.11	0.07	0.05	0.09	0.06	0.05	0.05	0.08	0.05	0.06	0.05		
05-Nov-2015		1.22	0.88	0.06	0.03	0.07	0.11	0.07	0.06	0.05	0.04	0.06	0.06	0.07	0.03	0.13	0.05		
06-Nov-2015		0.94	1.21	0.07	0.08	0.07	0.11	0.07	0.05	0.06	0.05	0.07	0.05	0.06	0.03	0.07	0.05		
07-Nov-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
08-Nov-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
09-Nov-2015		0.83	1.13	0.08	0.09	0.06	0.11	0.07	<0.02	0.11	0.07	0.07	0.06	0.08	0.07	0.08	0.05		
10-Nov-2015		0.88	1.10	0.05	0.08	0.06	0.12	0.09	<0.02	0.07	0.04	0.08	0.07	0.07	0.06	0.12	0.06		
11-Nov-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
12-Nov-2015		0.88	1.09	0.09	0.09	0.06	0.11	0.07	<0.02	0.08	0.06	0.05	0.06	0.06	0.10	0.07	0.05		
13-Nov-2015		1.01	1.06	0.05	0.02	0.06	0.13	0.07	<0.02	0.06	0.04	0.07	0.07	0.06	0.07	0.18	0.06		
14-Nov-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
15-Nov-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
16-Nov-2015		2.57	2.59	0.10	0.03	0.09	0.11	0.11	<0.02	0.07	0.05	0.08	0.07	0.08	0.09	0.06	0.04		
17-Nov-2015		0.92	1.09	0.08	0.04	0.08	0.11	0.07	<0.02	0.09	0.05	0.06	0.06	0.10	0.12	0.08	0.05		
18-Nov-2015		0.88	1.06	0.06	0.03	0.07	0.11	0.08	<0.02	0.07	0.05	0.09	0.07	0.08	0.11	0.08	0.07		
19-Nov-2015		0.97	1.11	0.08	0.04	0.11	0.11	0.09	<0.02	0.07	0.05	0.11	0.09	0.09	0.13	0.07	0.05		
20-Nov-2015		1.17	1.09	0.11	0.05	0.06	0.09	0.07	<0.02	0.13	0.06	0.07	0.06	0.06	0.12	0.08	0.07		
21-Nov-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
22-Nov-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
23-Nov-2015		3.76	4.53	0.13	0.04	0.16	0.11	0.19	<0.02	0.13	0.06	0.14	0.09	0.13	0.11	0.11	0.08		
24-Nov-2015		1.17	0.97	0.08	0.04	0.11	0.12	0.15	<0.02	0.09	0.07	0.13	0.10	0.12	0.11	0.09	0.08		
25-Nov-2015		0.78	0.94	0.12	0.06	0.08	0.10	0.12	<0.02	0.14	0.09	0.09	0.07	0.18	0.16	0.12	0.09		
26-Nov-2015		0.77	0.96	0.08	0.04	0.12	0.13	0.13	<0.02	0.10	0.07	0.15	0.12	0.12	0.12	0.13	0.09		
27-Nov-2015		0.83	0.95	0.10	0.04	NA	NA	0.16	<0.02	0.10	0.06	0.07	0.06	0.12	0.11	0.09	0.07		
28-Nov-2015		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
29-Nov-2015		NS	NS	OL	OL	NS													
30-Nov-2015		1.04	0.95	OL	OL	0.18	0.16	0.22	<0.02	0.16	0.10	0.10	0.08	0.12	0.10	0.10	0.08		
Total number of measurements taken, A:					19			19		20		20		20		20			
Turbidity Standard for Monitoring Location (NTU):					0.30			0.30		0.30		0.30		0.30		0.30			
Number of measurements meeting standard, B:					19			19		20		20		20		20			
Compliance with Turbidity Standard, C= B/A X 100%:					100%			100%		100%		100%		100%		100%			

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

Comments:

There was no turbidity results for filter 2 on November 27th because the filter came back online after lab hours. The sample that was taken after hours by operations could not be analyzed November 30, because the 48 hour retention time had lapsed.

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck

Date Approved: 4-Dec-15



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

November 2015 Turbidity (NTU)

Date	Raw		Filter #1		Filter #2		Filter #3		Filter #4		Filter #5		Filter #6		Filter #7		Filter #8	
	Avg	Avg	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
1/11/2015	1.23	0.03	0.07		0.07	0.14	0.04	0.10	0.06	0.10	0.04	0.07	0.03	0.08	0.09	0.14	0.02	0.03
2/11/2015	1.18	0.02	0.06		0.11	0.12	0.06	0.09	0.04	0.10	0.05	0.07	0.03	0.05	0.03	0.08	0.01	0.05
3/11/2015	1.19	0.04	0.05		0.07	0.14	0.05	0.10	0.06	0.07	0.03	0.07	0.04	0.07	0.04	0.06	0.01	0.05
4/11/2015	1.23	0.03	0.06		0.08	0.11	0.05	0.11	0.05	0.10	0.05	0.06	0.03	0.07	0.05	0.08	0.02	0.03
5/11/2015	1.26	0.03	0.05		0.08	0.14	0.07	0.15	0.05	0.08	0.03	0.07	0.04	0.06	0.03	0.07	0.02	0.06
6/11/2015	1.22	0.05	0.11		0.08	0.12	0.05	0.23	0.06	0.08	0.06	0.08	0.03	0.08	0.05	0.06	0.01	0.03
7/11/2015	1.20	0.06	0.13		0.11	0.15	0.06	0.10	0.05	0.11	0.06	0.09	0.04	0.06	0.04	0.08	0.01	0.04
8/11/2015	1.18	0.10	0.13		0.09	0.17	0.03	0.20	0.07	0.10	0.05	0.10	0.06	0.12	0.04	0.07	0.01	0.05
9/11/2015	1.15	0.06	0.11		0.07	0.12	0.01	0.02	0.06	0.12	0.06	0.12	0.04	0.10	0.05	0.10	0.01	0.02
10/11/2015	1.12	0.05	0.11		0.11	0.14	0.01	0.02	0.04	0.10	0.05	0.08	0.05	0.09	0.04	0.08	0.01	0.03
11/11/2015	1.14	0.09	0.11		0.08	0.14	0.01	0.02	0.06	0.08	0.04	0.08	0.07	0.15	0.03	0.05	0.01	0.03
12/11/2015	1.10	0.04	0.11		0.08	0.13	0.01	0.02	0.05	0.10	0.06	0.07	0.05	0.10	0.05	0.08	0.01	0.01
13/11/2015	1.09	0.03	0.05		0.11	0.15	0.02	0.02	0.04	0.10	0.05	0.08	0.07	0.08	0.03	0.08	0.00	0.03
14/11/2015	1.06	0.04	0.06		0.08	0.16	0.01	0.02	0.07	0.08	0.04	0.08	0.06	0.11	0.05	0.06	0.01	0.01
15/11/2015	1.05	0.02	0.06		0.13	0.14	0.01	0.02	0.04	0.10	0.07	0.08	0.05	0.09	0.03	0.08	0.01	0.03
16/11/2015	1.46	0.04	0.05		0.07	0.13	0.01	0.02	0.06	0.08	0.04	0.09	0.10	0.12	0.03	0.06	0.01	0.04
17/11/2015	1.12	0.03	0.07		0.06	0.11	0.01	0.02	0.06	0.11	0.06	0.08	0.07	0.14	0.06	0.09	0.01	0.02
18/11/2015	1.10	0.02	0.07		0.10	0.13	0.02	0.02	0.04	0.11	0.06	0.09	0.09	0.12	0.04	0.10	0.01	0.04
19/11/2015	1.18	0.04	0.06		0.06	0.12	0.01	0.02	0.07	0.08	0.04	0.08	0.11	0.16	0.05	0.07	0.01	0.04
20/11/2015	1.19	0.03	0.06		0.07	0.10	0.01	0.02	0.05	0.11	0.07	0.08	0.08	0.17	0.06	0.11	0.01	0.03
21/11/2015	1.08	0.03	0.05		0.08	0.12	0.01	0.02	0.04	0.08	0.05	0.10	0.15	0.15	0.05	0.13	0.01	0.06
22/11/2015	1.05	0.05	0.08		0.06	0.15	0.01	0.02	0.09	0.13	0.05	0.08	0.08	0.23	0.09	0.10	0.02	0.03
23/11/2015	1.45	0.03	0.08		0.10	0.17	0.01	0.02	0.05	0.14	0.07	0.12	0.08	0.13	0.06	0.16	0.02	0.08
24/11/2015	0.99	0.05	0.07		0.08	0.15	0.01	0.02	0.07	0.10	0.06	0.11	0.11	0.15	0.07	0.15	0.01	0.07
25/11/2015	0.96	0.05	0.10		0.07	0.11	0.01	0.02	0.08	0.16	0.08	0.10	0.08	0.19	0.10	0.12	0.04	0.07
26/11/2015	0.96	0.04	0.08		0.11	0.18	0.01	0.02	0.06	0.13	0.06	0.14	0.11	0.15	0.06	0.17	0.02	0.10
27/11/2015	0.98	0.05	0.07		0.06	0.14	0.01	0.02	0.09	0.10	0.07	0.13	0.08	0.16	0.06	0.10	0.03	0.04
28/11/2015	0.94	0.02	0.06		0.11	0.13	0.01	0.02	0.07	0.17	0.08	0.10	0.09	0.16	0.08	0.16	0.02	0.08
29/11/2015	0.95	OL	OL		0.11	0.18	0.01	0.02	0.09	0.18	0.07	0.12	0.10	0.11	0.07	0.14	0.02	0.07
30/11/2015	0.95	OL	OL		0.11	0.19	0.02	0.06	0.11	0.15	0.07	0.13	0.09	0.16	0.07	0.15	0.03	0.04

Total Number of Measurements Taken, A: 12168 9976 10285 10736 14345 14095 12665 13959
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: 12168 9976 10285 10736 14345 14095 12665 13959
Compliance with Turbidity Standard, C = B/A X 100%: 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00%

OL = Offline

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2015\11-November

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT

Water System Code: 252.00	Turbidity (NTU)																	
	Raw Water		Filter 1		Filter 2		Filter 3		Filter 4		Filter 5		Filter 6		Filter 7		Filter 8	
Date	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser
01-Dec-2015	0.93	0.95	OL	OL	0.11	0.13	0.14	<0.02	0.19	0.12	0.11	0.07	0.15	0.08	0.11	0.07	0.10	0.05
02-Dec-2015	0.77	0.96	OL	OL	0.14	0.15	0.15	0.02	0.12	0.08	0.09	0.07	0.09	0.04	0.12	0.08	0.13	0.06
03-Dec-2015	0.79	0.94	0.17	0.09	0.18	0.19	0.18	0.04	0.14	0.09	0.20	0.13	0.12	0.06	0.09	0.06	0.09	0.04
04-Dec-2015	0.76	0.93	0.16	0.07	0.14	0.13	0.17	0.03	0.20	0.17	0.12	0.08	0.19	0.11	0.15	0.09	0.15	0.07
05-Dec-2015	NS	NS	0.20	0.13	NS													
06-Dec-2015	NS	NS	NS	NS	0.15	0.15	NS											
07-Dec-2015	0.82	0.93	0.12	0.05	OL	OL	0.15	0.02	0.17	0.11	0.11	0.07	0.14	0.08	0.13	0.07	0.12	0.02
08-Dec-2015	1.24	0.89	0.14	0.05	OL	OL	0.13	<0.02	0.12	0.07	0.15	0.07	0.10	0.05	0.12	0.08	0.11	0.05
09-Dec-2015	0.72	0.86	0.19	0.10	OL	OL	0.17	0.03	0.15	0.08	0.17	0.09	0.13	0.06	0.13	0.06	0.10	0.04
10-Dec-2015	0.80	0.85	0.10	0.03	0.09	0.15	0.20	0.06	0.13	0.08	0.11	0.07	0.14	0.08	0.11	0.07	0.12	0.05
11-Dec-2015	0.80	0.83	0.12	0.05	0.09	0.06	0.12	<0.02	0.19	0.12	0.10	0.07	0.11	0.06	0.13	0.09	0.15	0.07
12-Dec-2015	NS	NS	NS	NS	0.13	0.09	NS											
13-Dec-2015	NS	NS	NS	NS	NS	NS	0.16	0.04	NS									
14-Dec-2015	0.63	0.76	0.18	0.09	0.18	0.10	OL	OL	0.24	0.10	0.15	0.10	0.13	0.07	0.15	0.09	0.15	0.07
15-Dec-2015	0.87	0.67	0.20	0.09	0.18	0.10	OL	OL	0.19	0.05	0.13	0.05	0.13	0.06	0.16	0.04	0.11	0.02
16-Dec-2015	0.73	0.67	0.16	0.05	0.21	0.12	OL	OL	0.18	0.06	0.21	0.08	0.14	0.07	0.12	<0.02	0.14	0.03
17-Dec-2015	0.65	0.65	0.14	0.04	0.13	0.10	0.22	0.10	0.21	0.08	0.11	0.03	0.19	0.09	0.13	0.02	0.12	0.04
18-Dec-2015	0.53	0.63	0.11	0.04	0.16	0.11	0.18	0.07	0.16	0.05	0.13	0.05	0.12	0.05	0.17	0.05	0.18	0.07
19-Dec-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
20-Dec-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
21-Dec-2015	0.61	0.60	0.16	0.05	0.21	0.13	0.23	0.08	0.14	0.03	0.17	0.06	0.14	0.06	0.16	0.05	0.12	0.03
22-Dec-2015	0.60	0.59	0.17	0.06	0.14	0.10	0.28	0.13	0.19	0.07	0.11	0.03	0.22	0.10	0.13	0.02	0.12	0.04
23-Dec-2015	0.61	0.58	0.25	0.10	0.19	0.12	0.22	0.08	0.17	0.05	0.16	0.04	0.14	0.07	0.18	0.05	0.18	0.07
24-Dec-2015	0.53	0.58	0.16	0.06	0.24	0.17	0.26	0.11	0.19	0.07	0.19	0.09	0.16	0.08	0.13	0.02	0.12	0.04
25-Dec-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Dec-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Dec-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
28-Dec-2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
29-Dec-2015	0.57	0.55	0.15	0.03	0.16	0.09	0.18	0.06	0.13	0.02	0.11	0.03	0.13	0.05	0.17	0.04	0.10	0.02
30-Dec-2015	0.61	0.55	0.15	0.04	0.12	0.07	0.24	0.10	0.17	0.05	0.10	0.02	0.14	0.07	0.11	<0.02	0.11	0.03
31-Dec-2015	0.57	0.55	0.14	0.04	0.13	0.08	0.17	0.05	0.20	0.08	0.13	0.04	0.18	0.11	0.13	0.02	0.10	0.03
Total number of measurements taken, A:			20		20		19		21		21		21		21		21	
Turbidity Standard for Monitoring Location (NTU):			0.30		0.30		0.30		0.30		0.30		0.30		0.30		0.30	
Number of measurements meeting standard, B:			20		20		19		21		21		21		21		21	
Compliance with Turbidity Standard, C= B/A X 100%:			100%		100%		100%		100%		100%		100%		100%		100%	

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

Comments:

Report Compiled By: _____ H.Demchenko _____

Approved in LIMS By: _____ C.Diduck _____



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

December 2015 Turbidity (NTU)

Date	Raw		Filter #1		Filter #2		Filter #3		Filter #4		Filter #5		Filter #6		Filter #7		Filter #8	
	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
1/12/2015	0.96	OL	OL	0.11	0.21	0.02	0.11	0.09	0.19	0.09	0.10	0.07	0.12	0.08	0.12	0.03	0.08	
2/12/2015	0.96	OL	OL	0.15	0.18	0.02	0.04	0.09	0.16	0.08	0.14	0.05	0.14	0.07	0.14	0.03	0.09	
3/12/2015	0.96	0.03	0.14	0.13	0.22	0.04	0.12	0.11	0.13	0.08	0.15	0.08	0.09	0.05	0.18	0.03	0.05	
4/12/2015	0.97	0.07	0.11	0.09	0.22	0.04	0.14	0.09	0.21	0.07	0.11	0.06	0.17	0.10	0.14	0.05	0.12	
5/12/2015	0.98	0.07	0.17	0.15	0.20	0.04	0.10	0.09	0.20	0.09	0.18	0.06	0.12	0.07	0.20	0.04	0.12	
6/12/2015	0.95	0.07	0.16	0.01	0.16	0.04	0.15	0.13	0.20	0.09	0.15	0.08	0.15	0.08	0.15	0.03	0.07	
7/12/2015	0.93	0.05	0.13	OL	OL	0.03	0.11	0.10	0.19	0.08	0.14	0.06	0.15	0.08	0.10	0.04	0.09	
8/12/2015	0.92	0.07	0.12	OL	OL	0.02	0.11	0.09	0.18	0.08	0.10	0.06	0.13	0.07	0.14	0.03	0.08	
9/12/2015	0.90	0.05	0.13	OL	OL	0.02	0.06	0.07	0.12	0.08	0.14	0.07	0.08	0.07	0.15	0.03	0.11	
10/12/2015	0.86	0.03	0.05	0.04	0.17	0.01	0.07	0.09	0.16	0.05	0.13	0.07	0.14	0.07	0.10	0.04	0.05	
11/12/2015	0.83	0.05	0.10	0.04	0.11	0.00	0.02	0.06	0.16	0.08	0.10	0.05	0.15	0.08	0.16	0.03	0.11	
12/12/2015	0.82	0.05	0.12	0.08	0.09	0.03	0.08	0.07	0.12	0.06	0.13	0.06	0.09	0.05	0.14	0.02	0.08	
13/12/2015	0.79	0.08	0.20	0.08	0.19	0.02	0.17	0.13	0.21	0.09	0.17	0.06	0.14	0.08	0.10	0.04	0.07	
14/12/2015	0.75	0.10	0.21	0.10	0.19	OL	OL	0.10	0.21	0.07	0.16	0.07	0.16	0.07	0.21	0.03	0.12	
15/12/2015	0.68	0.07	0.18	0.11	0.16	OL	OL	0.08	0.18	0.07	0.16	0.06	0.10	0.03	0.10	0.02	0.08	
16/12/2015	0.68	0.06	0.13	0.10	0.17	OL	OL	0.07	0.11	0.04	0.11	0.07	0.15	0.02	0.08	0.01	0.03	
17/12/2015	0.66	0.05	0.08	0.07	0.18	0.03	0.16	0.06	0.13	0.03	0.05	0.06	0.14	0.02	0.04	0.02	0.05	
18/12/2015	0.63	0.01	0.12	0.10	0.13	0.05	0.08	0.04	0.07	0.04	0.10	0.05	0.07	0.02	0.10	0.01	0.07	
19/12/2015	0.67	0.04	0.06	0.06	0.15	0.03	0.10	0.05	0.12	0.02	0.07	0.05	0.11	0.00	0.01	0.01	0.02	
20/12/2015	0.64	0.05	0.11	0.08	0.11	0.03	0.12	0.05	0.13	0.04	0.09	0.04	0.13	0.02	0.06	0.02	0.05	
21/12/2015	0.62	0.04	0.11	0.10	0.22	0.09	0.16	0.05	0.09	0.04	0.10	0.07	0.09	0.02	0.10	0.02	0.08	
22/12/2015	0.60	0.08	0.15	0.07	0.19	0.06	0.18	0.07	0.18	0.03	0.07	0.06	0.15	0.02	0.04	0.03	0.04	
23/12/2015	0.59	0.05	0.15	0.12	0.14	0.07	0.10	0.05	0.18	0.06	0.11	0.05	0.09	0.03	0.11	0.02	0.09	
24/12/2015	0.58	0.06	0.09	0.08	0.20	0.07	0.20	0.08	0.11	0.04	0.12	0.09	0.16	0.02	0.11	0.02	0.04	
25/12/2015	0.57	0.06	0.15	0.07	0.13	0.05	0.19	0.06	0.17	0.05	0.07	0.06	0.16	0.03	0.06	0.03	0.10	
26/12/2015	0.56	0.04	0.14	0.10	0.18	0.07	0.11	0.05	0.09	0.04	0.12	0.07	0.09	0.02	0.11	0.02	0.09	
27/12/2015	0.55	0.05	0.06	0.05	0.15	0.04	0.14	0.06	0.18	0.02	0.08	0.05	0.13	0.01	0.02	0.01	0.02	
28/12/2015	0.55	0.04	0.11	0.06	0.08	0.03	0.07	0.04	0.13	0.04	0.05	0.04	0.13	0.02	0.08	0.02	0.07	
29/12/2015	0.55	0.04	0.10	0.07	0.14	0.06	0.15	0.04	0.07	0.02	0.08	0.07	0.09	0.01	0.07	0.00	0.02	
30/12/2015	0.57	0.05	0.07	0.05	0.14	0.04	0.15	0.06	0.13	0.02	0.08	0.06	0.13	0.01	0.02	0.01	0.06	
31/12/2015	0.57	0.03	0.10	0.07	0.09	0.03	0.06	0.04	0.13	0.04	0.08	0.04	0.14	0.02	0.08	0.01	0.02	

Total Number of Measurements Taken, A: 13204
Turbidity Standard for Monitoring Location (NTU): 0.30
Number of Measurements Meeting Standard, B: 13204
Compliance with Turbidity Standard, C = B/A X 100%: 100%

OL: Offline

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2015\12-December

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew

2015 Monthly UV Monitoring Reports



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT UV REPORT

Report Period: January 2015

Report Created: Sunday, February 01, 2015

Date	Transmittance %	UVR-D100A				UVR-D200A				UVR-D300A				UVR-D400A				UVR-D500A				UVR-D600A				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		
1/01/2015	93.71	0.00	0.00	0.00	0.00	0.00	0.00	59.42	59.42	0.00	0.00	65.11	65.11	0.00	0.00	0.00	0.00	0.00	0.00	67.14	67.14	0.00	0.00	0.00	0.00	0.00	0.00	191.67	191.67	100.00	
2/01/2015	94.86	0.00	0.00	0.00	0.00	0.00	0.00	60.62	60.62	0.00	0.00	66.38	66.38	0.00	0.00	0.00	0.00	0.00	0.00	22.64	22.64	0.00	0.00	43.33	43.33	0.00	0.00	192.98	192.98	100.00	
3/01/2015	95.06	0.00	0.00	0.00	0.00	0.00	0.00	60.95	60.95	0.00	0.00	66.75	66.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	65.24	65.24	0.00	0.00	192.94	192.94	100.00	
4/01/2015	95.01	0.00	0.00	0.00	0.00	0.00	0.00	60.15	60.15	0.00	0.00	65.75	65.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.98	66.98	0.00	0.00	192.88	192.88	100.00	
5/01/2015	94.87	0.00	0.00	0.00	0.00	0.00	0.00	60.77	60.77	0.00	0.00	66.52	66.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	65.65	65.65	0.00	0.00	192.93	192.93	100.00	
6/01/2015	94.76	0.00	0.00	0.00	0.00	0.00	0.00	61.16	61.16	0.00	0.00	66.99	66.99	0.00	0.00	0.00	0.00	0.00	0.00	5.75	5.75	0.00	0.00	59.02	59.02	0.00	0.00	192.93	192.93	100.00	
7/01/2015	94.73	0.00	0.00	0.00	0.00	0.00	0.00	62.81	62.81	0.00	0.00	63.32	63.32	0.00	0.00	0.00	0.00	0.00	0.00	66.84	66.84	0.00	0.00	0.00	0.00	0.00	0.00	192.97	192.97	100.00	
8/01/2015	93.89	0.00	0.00	0.00	0.00	0.00	0.00	64.49	64.49	0.00	0.14	41.53	41.67	0.00	0.00	15.29	15.29	0.00	0.00	71.20	71.20	0.00	0.00	0.00	0.00	0.00	0.00	0.14	192.52	192.66	99.93
9/01/2015	94.28	0.00	0.00	0.00	0.00	0.00	0.04	60.39	60.43	0.01	0.15	15.59	15.75	0.00	0.00	42.40	42.40	0.00	0.00	74.07	74.07	0.00	0.00	0.00	0.00	0.01	0.20	192.45	192.65	99.89	
10/01/2015	94.43	0.00	0.00	0.00	0.00	0.00	0.00	52.14	52.14	0.00	0.00	0.00	0.00	0.00	0.00	64.57	64.57	0.00	0.00	78.45	78.45	0.00	0.00	0.00	0.00	0.00	0.00	195.16	195.16	100.00	
11/01/2015	94.53	0.00	0.00	0.00	0.00	0.00	0.17	26.29	26.46	0.00	0.00	24.68	24.68	0.00	0.00	62.31	62.31	0.00	0.00	82.53	82.53	0.00	0.00	0.00	0.00	0.00	0.17	195.81	195.99	99.91	
12/01/2015	94.61	0.00	0.00	0.00	0.00	0.00	0.00	24.20	24.20	0.00	0.00	50.16	50.16	0.00	0.00	62.26	62.26	0.00	0.00	55.04	55.04	0.00	0.00	0.00	0.00	0.00	0.00	191.66	191.66	100.00	
13/01/2015	94.70	0.00	0.00	0.00	0.00	0.00	0.00	62.58	62.58	0.00	0.00	51.19	51.19	0.00	0.00	75.67	75.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	189.45	189.45	100.00			
14/01/2015	94.67	0.00	0.00	0.00	0.00	0.00	0.00	49.99	49.99	0.00	0.00	62.62	62.62	0.00	0.00	85.01	85.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	197.63	197.63	100.00			
15/01/2015	94.59	0.00	0.00	0.00	0.00	0.00	0.00	63.99	63.99	0.00	0.00	51.39	51.39	0.00	0.00	82.60	82.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	197.98	197.98	100.00			
16/01/2015	94.65	0.00	0.00	0.00	0.00	0.00	0.00	72.19	72.19	0.00	0.00	44.49	44.49	0.00	0.00	81.29	81.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	197.97	197.97	100.00			
17/01/2015	94.93	0.00	0.00	0.00	0.00	0.00	0.00	68.83	68.83	0.00	0.06	44.06	44.06	0.00	0.00	78.13	78.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	191.01	191.01	100.00			
18/01/2015	95.30	0.00	0.00	0.00	0.00	0.00	0.00	67.75	67.75	0.00	0.00	44.33	44.33	0.00	0.00	77.28	77.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	189.36	189.36	100.00			
19/01/2015	95.50	0.00	0.00	0.00	0.00	0.05	45.33	45.37	0.00	0.00	30.55	30.55	0.00	0.00	69.87	69.87	0.00	0.00	0.00	0.00	0.00	0.00	43.70	43.70	0.00	0.05	189.44	189.44	99.98		
20/01/2015	95.43	0.00	0.00	0.00	0.00	0.00	0.00	61.03	61.03	0.01	0.01	24.13	24.15	0.00	0.00	39.89	39.89	0.00	0.00	0.00	0.00	0.00	0.00	60.44	60.44	0.01	0.01	185.49	185.52	99.99	
21/01/2015	95.41	0.00	0.00	0.00	0.00	0.00	0.00	60.79	60.79	0.00	0.00	66.24	66.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	63.00	63.00	0.00	0.00	190.03	190.03	100.00	
22/01/2015	95.52	0.00	0.00	0.00	0.00	0.00	0.00	59.49	59.49	0.00	0.00	64.70	64.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	61.80	61.80	0.00	0.00	185.99	185.99	100.00	
23/01/2015	95.45	0.00	0.00	0.00	0.00	0.00	0.00	59.09	59.09	0.00	0.00	64.15	64.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	61.76	61.76	0.00	0.00	185.01	185.01	100.00	
24/01/2015	95.80	0.00	0.00	0.00	0.00	0.00	0.00	59.01	59.01	0.00	0.00	64.01	64.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	61.96	61.96	0.00	0.00	184.99	184.99	100.00	
25/01/2015	96.05	0.00	0.00	0.00	0.00	0.00	0.00	59.02	59.02	0.00	0.00	64.11	64.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	61.91	61.91	0.00	0.00	185.03	185.03	100.00	
26/01/2015	96.09	0.00	0.00	0.00	0.00	0.00	0.00	58.78	58.78	0.00	0.00	63.89	63.89	0.00	0.00	0.00	0.00	0.00	0.00	39.98	39.98	0.00	0.00	22.33	22.33	0.00	0.00	184.98	184.98	100.00	
27/01/2015	96.09	0.00	0.00	0.00	0.00	0.18	0.18	63.52	63.88	0.00	0.00	34.79	34.79	0.00	0.00	0.00	0.00	0.00	0.00	48.30	48.30	0.00	0.00	38.15	38.15	0.18	0.18	184.76	185.12	99.81	
28/01/2015	95.01	0.00	0.00	37.21	37.21	0.00	0.00	34.29	34.29	0.00	0.00	26.35	26.35	0.00	0.00	0.00	0.00	0.00	0.00	48.70	48.70	0.00	0.00	38.45	38.45	0.00	0.00	184.99	184.99	100.00	
29/01/2015	94.21	0.00	0.00	56.65	56.65	0.00	0.00	0.00	0.00	0.00	0.00	65.03	65.03	0.00	0.00	0.00	0.00	0.00	0.00	63.31	63.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	185.00	185.00	100.00
30/01/2015	94.22	0.00	0.00	57.67	57.67	0.00	0.00	0.00	0.00	0.00	0.00	66.19	66.19	0.00	0.00	0.00	0.00	0.00	0.00	64.53	64.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	188.40	188.40	100.00
31/01/2015	94.25	0.00	0.00	59.85	59.85	0.00	0.00	0.00	0.00	0.00	0.00	68.62	68.62	0.00	0.00	0.00	0.00	0.00	0.00	66.54	66.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	195.00	195.00	100.00
		0.00	0.00	211.39	211.39	0.18	0.44	1599.07	1599.70	0.02	0.30	1593.62	1593.95	0.00	0.00	836.59	836.59	0.00	0.00	855.03	855.03	0.00	0.00	813.72	813.72	0.21	0.75	5909.41	5910.37		

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

Submitted By (Print): D.Minor Signature: Original signed by D.Minor



Winnipeg

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT UV REPORT

Report Period: February 2015

Report Created: Sunday, March 01, 2015

Date	Transmittance %	UVR-D100A				UVR-D200A				UVR-D300A				UVR-D400A				UVR-D500A				UVR-D600A				Total Water Volume [ML]				% Volume Treated To Dose
		Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				
		Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	
1/02/2015	93.87	0.00	0.00	59.99	59.99	0.00	0.00	0.00	0.00	0.00	0.00	68.52	68.52	0.00	0.00	0.00	0.00	0.00	0.00	66.51	66.51	0.00	0.00	0.00	0.00	0.00	0.00	195.02	195.02	100.00
2/02/2015	93.74	0.00	0.00	53.82	53.82	0.00	0.00	42.56	42.56	0.00	0.00	22.37	22.37	0.00	0.00	0.00	0.00	0.00	0.00	21.70	21.70	0.00	0.04	54.53	54.57	0.00	0.04	194.98	195.02	99.98
3/02/2015	93.70	0.00	0.00	51.81	51.81	0.00	0.00	64.40	64.40	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	81.69	81.69	0.00	0.00	197.90	197.90	100.00
4/02/2015	93.83	0.00	0.00	52.27	52.27	0.00	0.00	64.99	64.99	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	81.73	81.73	0.00	0.00	198.99	198.99	100.00
5/02/2015	93.84	0.00	0.00	52.28	52.28	0.00	0.00	65.09	65.09	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	82.48	82.48	0.00	0.00	199.85	199.85	100.00
6/02/2015	93.77	0.00	0.00	53.05	53.05	0.00	0.00	65.91	65.91	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	84.02	84.02	0.00	0.00	202.98	202.98	100.00
7/02/2015	93.83	0.00	0.00	51.11	51.11	0.00	0.00	63.59	63.59	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	81.24	81.24	0.00	0.00	195.94	195.94	100.00
8/02/2015	94.25	0.00	0.00	50.00	50.00	0.00	0.00	62.40	62.40	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	0.33	79.96	80.30	0.00	0.33	192.36	192.70	99.83
9/02/2015	94.27	0.00	0.00	37.18	37.18	0.00	0.00	45.79	45.79	0.00	0.00	0.00	0.00	0.00	0.04	42.88	42.93	0.00	0.00	41.42	41.42	0.00	0.16	27.52	27.68	0.00	0.21	194.79	194.99	99.89
10/02/2015	93.26	0.15	0.15	11.97	12.28	0.00	0.00	37.19	37.19	0.00	0.00	21.81	21.81	0.77	0.77	20.79	22.33	0.03	0.03	19.90	19.97	0.00	0.00	0.00	0.00	0.95	0.95	111.67	113.57	98.33
11/02/2015	93.82	0.00	0.00	56.38	56.38	0.00	0.00	16.40	16.40	0.00	0.00	71.87	71.87	0.00	0.00	0.00	0.00	0.00	0.00	48.04	48.04	0.00	0.00	0.00	0.00	0.00	0.00	192.69	192.69	100.00
12/02/2015	93.76	0.00	0.00	60.55	60.55	0.00	0.00	0.00	0.00	0.00	0.00	68.49	68.49	0.00	0.00	0.00	0.00	0.00	0.00	66.22	66.22	0.00	0.00	0.00	0.00	0.00	0.00	195.25	195.25	100.00
13/02/2015	93.51	0.00	0.42	59.76	60.18	0.00	0.00	0.00	0.00	0.00	0.00	68.04	68.04	0.00	0.00	0.00	0.00	0.00	0.00	65.78	65.78	0.00	0.00	0.00	0.00	0.42	0.42	193.59	194.01	99.78
14/02/2015	93.42	0.00	0.38	59.80	60.17	0.00	0.00	0.00	0.00	0.00	0.00	68.06	68.06	0.00	0.00	0.00	0.00	0.00	0.00	65.77	65.77	0.00	0.00	0.00	0.00	0.38	0.38	193.62	193.99	99.81
15/02/2015	93.05	0.00	0.00	60.53	60.53	0.00	0.00	0.00	0.00	0.00	0.00	68.72	68.72	0.00	0.00	0.00	0.00	0.00	0.00	66.38	66.38	0.00	0.00	0.00	0.00	0.00	0.00	195.63	195.63	100.00
16/02/2015	93.83	0.00	0.00	61.05	61.05	0.00	0.00	0.00	0.00	0.00	0.00	69.14	69.14	0.00	0.00	0.00	0.00	0.00	0.00	66.81	66.81	0.00	0.00	0.00	0.00	0.00	0.00	197.00	197.00	100.00
17/02/2015	94.02	0.00	0.00	18.70	18.70	0.00	0.00	50.04	50.04	0.00	0.00	52.97	52.97	0.00	0.04	54.13	54.18	0.00	0.00	20.87	20.87	0.00	0.04	0.26	0.31	0.00	0.08	196.98	197.07	99.96
18/02/2015	94.21	0.00	0.00	16.00	16.00	0.00	0.00	66.62	66.62	0.00	0.00	41.23	41.23	0.00	0.00	21.02	21.02	0.00	0.00	51.23	51.23	0.00	0.04	0.81	0.84	0.00	0.04	196.91	196.95	99.98
19/02/2015	94.10	0.00	0.00	59.11	59.11	0.00	0.00	37.49	37.49	0.00	0.00	52.79	52.79	0.00	0.00	0.12	0.12	0.19	0.19	22.75	23.12	0.00	0.15	24.27	24.42	0.19	0.34	196.53	197.05	99.73
20/02/2015	93.61	0.00	0.00	64.53	64.53	0.00	0.00	0.00	0.00	0.00	0.00	61.02	61.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	71.46	71.46	0.00	0.00	197.02	197.02	100.00
21/02/2015	93.58	0.00	0.00	64.76	64.76	0.00	0.00	0.00	0.00	0.00	0.00	60.66	60.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	71.58	71.58	0.00	0.00	197.00	197.00	100.00
22/02/2015	94.25	0.00	0.00	64.76	64.76	0.00	0.00	0.00	0.00	0.00	0.00	60.63	60.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	71.55	71.60	0.00	0.05	196.94	196.99	99.97
23/02/2015	93.75	0.00	0.00	65.01	65.01	0.00	0.00	0.00	0.00	0.00	0.25	59.98	60.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	71.77	71.77	0.00	0.25	196.76	197.01	99.87
24/02/2015	94.28	0.00	0.00	65.45	65.45	0.00	0.00	0.00	0.00	0.00	0.71	46.69	47.40	0.00	0.00	12.96	12.96	0.00	0.00	0.00	0.00	0.00	0.00	71.19	71.19	0.00	0.71	196.29	197.00	99.64
25/02/2015	94.18	0.00	0.00	65.44	65.44	0.00	0.00	0.00	0.00	0.00	0.00	13.37	13.37	0.00	0.00	46.70	46.70	0.00	0.00	0.00	0.00	0.00	0.10	68.54	68.64	0.00	0.10	194.05	194.15	99.95
26/02/2015	93.52	0.00	0.00	62.39	62.39	0.00	0.00	3.00	3.00	0.00	0.00	61.01	61.01	0.00	0.00	0.00	0.00	0.14	0.14	10.41	10.69	0.00	0.19	55.68	55.87	0.14	0.34	192.48	192.96	99.75
27/02/2015	92.98	0.00	0.00	63.14	63.14	0.00	0.00	0.00	0.00	0.00	0.00	59.92	59.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.95	69.95	0.00	0.00	193.01	193.01	100.00
28/02/2015	93.05	0.00	0.00	63.20	63.20	0.00	0.00	0.00	0.00	0.00	0.00	59.79	59.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.97	69.97	0.00	0.00	192.97	192.97	100.00
		0.15	0.95	1504.02	1505.12	0.00	0.00	685.47	685.47	0.00	0.96	1157.07	1158.03	0.77	0.85	198.62	200.24	0.36	0.36	633.80	634.52	0.00	1.11	1220.21	1221.32	1.28	4.23	5399.18	5404.70	

Water Volume [%]:

Untreated: 0.02 %

Below Dose: 0.08 %

To Dose: 99.90 %

Submitted By (Print): D.MerredewSignature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT UV REPORT

Report Period: **March 2015**

Report Created: **Wednesday, April 01, 2015**

Date	Transmittance %	UVR-D100A				UVR-D200A				UVR-D300A				UVR-D400A				UVR-D500A				UVR-D600A				Total Water Volume [ML]				% Volume Treated To Dose	
		Untreated	Below	To	Total	Untreated	Below	To	Total																						
01/03/2015	92.96	0.00	0.00	63.02	63.02	0.00	0.00	0.00	0.00	0.00	0.00	60.06	60.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	69.93	69.98	0.00	0.05	193.01	193.06	99.97	
02/03/2015	92.52	0.00	0.00	63.00	63.00	0.00	0.00	0.00	0.00	0.00	0.00	60.09	60.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.94	69.94	0.00	0.00	193.03	193.03	100.00	
03/03/2015	92.46	0.00	0.00	63.19	63.19	0.00	0.00	0.00	0.00	0.00	0.00	60.17	60.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	70.13	70.13	0.00	0.00	193.49	193.49	100.00	
04/03/2015	92.43	0.00	0.00	64.61	64.61	0.00	0.00	0.00	0.00	0.00	0.00	61.08	61.08	0.00	0.00	0.00	0.00	0.00	0.00	30.60	30.60	0.00	0.00	40.71	40.71	0.00	0.00	197.00	197.00	100.00	
05/03/2015	92.00	0.00	0.45	64.69	65.14	0.00	0.00	0.00	0.00	0.00	0.00	60.22	60.22	0.00	0.00	0.00	0.00	0.00	0.00	71.08	71.08	0.00	0.00	0.00	0.00	0.00	0.00	0.45	195.99	196.44	99.77
06/03/2015	91.90	0.00	0.39	62.62	63.01	0.00	0.00	1.19	1.19	0.00	0.00	59.68	59.68	0.00	0.00	1.37	1.37	0.00	0.00	68.74	68.74	0.00	0.00	0.00	0.00	0.00	0.39	193.61	194.00	99.80	
07/03/2015	92.29	0.00	0.00	61.00	61.00	0.00	0.00	0.00	0.00	0.00	0.00	60.50	60.50	0.00	0.00	0.00	0.00	0.00	0.00	72.52	72.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	194.02	194.02	100.00
08/03/2015	92.27	0.00	0.00	59.99	59.99	0.00	0.00	0.00	0.00	0.00	0.00	60.84	60.84	0.00	0.00	0.00	0.00	0.00	0.00	73.10	73.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	193.94	193.94	100.00
09/03/2015	92.24	0.00	0.13	59.87	59.99	0.00	0.00	0.00	0.00	0.00	0.00	61.04	61.04	0.00	0.00	0.00	0.00	0.00	0.00	72.96	72.96	0.00	0.00	0.00	0.00	0.00	0.13	193.86	193.99	99.93	
10/03/2015	92.24	0.07	0.20	38.00	38.26	0.00	0.00	24.02	24.02	0.00	0.00	60.42	60.42	0.00	0.00	0.00	0.00	0.00	0.00	71.26	71.26	0.00	0.00	0.00	0.00	0.07	0.20	193.71	193.97	99.86	
11/03/2015	92.22	0.00	0.00	0.00	0.00	0.00	0.00	66.51	66.51	0.00	0.00	58.85	58.85	0.00	0.00	0.00	0.00	0.00	0.00	67.52	67.52	0.00	0.02	1.08	1.11	0.00	0.02	193.97	194.00	99.99	
12/03/2015	92.23	0.00	0.00	0.00	0.00	0.00	0.00	69.71	69.71	0.00	0.00	55.03	55.03	0.00	0.00	0.00	0.00	0.00	0.00	45.95	45.95	0.00	0.00	26.07	26.07	0.00	0.00	196.76	196.77	100.00	
13/03/2015	92.54	0.00	0.00	0.00	0.00	0.00	0.00	72.45	72.45	0.00	0.00	25.09	25.09	0.00	0.03	26.27	26.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	73.15	73.15	0.00	0.03	196.95	196.98	99.98
14/03/2015	92.49	0.00	0.00	0.00	0.00	0.00	0.00	69.59	69.59	0.00	0.00	0.00	0.00	0.00	0.00	60.25	60.25	0.00	0.00	47.97	47.97	0.00	0.05	19.12	19.17	0.00	0.05	196.92	196.97	99.98	
15/03/2015	92.55	0.00	0.00	0.00	0.00	0.00	0.00	69.40	69.40	0.00	0.00	0.00	0.00	0.00	0.00	60.19	60.19	0.00	0.00	66.86	66.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	196.45	196.45	100.00
16/03/2015	92.68	0.00	0.00	0.00	0.00	0.00	0.00	69.20	69.20	0.00	0.00	0.00	0.00	0.00	0.00	60.17	60.17	0.00	0.00	66.62	66.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	195.99	195.99	100.00
17/03/2015	92.78	0.00	0.00	0.00	0.00	0.00	0.00	64.51	64.51	0.00	0.00	0.00	0.00	0.00	0.00	62.08	62.08	0.00	0.00	10.25	10.25	0.00	0.03	51.39	51.42	0.00	0.03	188.23	188.26	99.98	
18/03/2015	93.32	0.00	0.00	0.00	0.00	0.00	0.00	67.01	67.01	0.00	0.00	0.00	0.00	0.00	0.00	65.81	65.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.13	64.13	0.00	0.00	196.95	196.95	100.00
19/03/2015	93.10	0.00	0.00	0.00	0.00	0.00	0.00	67.14	67.14	0.00	0.00	0.00	0.00	0.00	0.00	65.78	65.78	0.00	0.00	34.65	34.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	198.44	198.44	100.00
20/03/2015	93.02	0.00	0.00	0.00	0.00	0.00	0.00	69.06	69.06	0.00	0.00	0.00	0.00	0.00	0.00	65.93	65.93	0.00	0.00	68.57	68.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	203.57	203.57	100.00
21/03/2015	93.07	0.00	0.00	0.00	0.00	0.00	0.00	66.43	66.43	0.00	0.00	0.00	0.00	0.00	0.00	63.83	63.83	0.00	0.00	65.84	65.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	196.11	196.11	100.00
22/03/2015	93.05	0.00	0.00	0.00	0.00	0.00	0.00	66.22	66.22	0.00	0.00	0.00	0.00	0.00	0.00	64.22	64.22	0.00	0.00	65.56	65.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	196.00	196.00	100.00
23/03/2015	92.92	0.00	0.00	0.00	0.00	0.02	0.02	66.93	66.98	0.00	0.00	0.00	0.00	0.01	0.01	50.50	50.53	0.01	0.01	60.58	60.60	0.00	0.00	0.00	0.00	0.05	0.05	178.01	178.11	99.95	
24/03/2015	93.09	0.00	0.00	0.00	0.00	0.00	0.00	27.08	27.08	0.00	0.00	35.24	35.24	0.00	0.00	53.77	53.77	0.00	0.00	80.04	80.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	196.13	196.13	100.00
25/03/2015	92.63	0.00	0.00	0.00	0.00	0.06	29.21	29.27	0.01	0.01	17.45	17.47	0.20	0.20	46.47	46.87	0.09	0.13	52.01	52.23	0.00	0.00	0.00	0.01	0.31	0.41	145.14	145.85	99.51		
26/03/2015	93.19	0.00	0.00	0.00	0.00	0.00	63.09	63.09	0.00	0.00	0.00	0.00	0.00	0.00	62.73	62.73	0.00	0.00	60.11	60.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	185.94	185.94	100.00	
27/03/2015	93.12	0.00	0.00	0.00	0.00	0.00	0.00	65.81	65.81	0.00	0.00	0.00	0.00	0.00	0.00	65.63	65.63	0.00	0.00	62.43	62.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	193.86	193.86	100.00
28/03/2015	92.98	0.00	0.00	0.00	0.00	0.00	0.00	78.73	78.73	0.00	0.00	0.00	0.00	0.00	0.00	57.28	57.28	0.00	0.00	61.99	61.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	198.00	198.00	100.00
29/03/2015	93.07	0.00	0.00	0.00	0.00	0.00	0.00	75.26	75.26	0.00	0.00	0.00	0.00	0.00	0.00	54.81	54.81	0.00	0.00	63.03	63.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	193.10	193.10	100.00
30/03/2015	93.21	0.00	0.00	0.00	0.00	0.00	0.00	69.10	69.10	0.00	0.00	0.00	0.00	0.00	0.00	57.99	57.99	0.00	0.00	66.10	66.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	193.19	193.19	100.00
31/03/2015	93.22	0.00	0.00	0.00	0.00	0.00	0.00	48.29	48.29	0.00	0.00	38.45	38.45	0.00	0.00	37.75	37.75	0.13	0.13	62.75	63.00	0.00	0.05	8.52	8.58	0.13	0.18	195.76	196.07	99.84	

Water Volume [%]:

Untreated: 0.01 %
Below Dose 0.03 %
To Dose 99.96 %

Submitted By (Print): M.Szmon for A.Weremy

Signature: Original signed by M.Szmon for A.Weremy



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT UV REPORT

Report Period: April 2015

Report Created: Friday, May 01, 2015

Date	Transmittance %	UVR-D100A				UVR-D200A				UVR-D300A				UVR-D400A				UVR-D500A				UVR-D600A				Total				% Volume Treated To Dose	
		Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]					
		Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total		
01/04/2015	93.01	0.00	0.00	0.00	0.00	0.00	0.00	68.74	68.74	0.00	0.00	30.75	30.75	0.00	0.00	30.56	30.56	0.00	0.00	65.97	65.97	0.00	0.00	0.00	0.00	0.00	0.00	196.01	196.01	100.00	
02/04/2015	93.07	0.00	0.06	0.01	0.07	0.00	0.11	74.45	74.56	0.01	0.01	4.55	4.57	0.00	0.00	52.54	52.54	0.00	0.00	62.78	62.78	0.00	0.00	0.00	0.00	0.01	0.18	194.32	194.51	99.90	
03/04/2015	93.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.64	50.64	0.00	0.00	53.70	53.70	0.00	0.00	82.83	82.83	0.00	0.00	0.00	0.00	0.00	0.00	187.16	187.16	100.00	
04/04/2015	93.28	0.00	0.05	41.05	41.10	0.00	0.00	0.00	0.00	0.00	0.00	21.88	21.88	0.00	0.00	53.18	53.18	0.00	0.00	69.15	69.15	0.00	0.00	0.00	0.00	0.00	0.05	185.26	185.31	99.97	
05/04/2015	93.38	0.00	0.41	65.11	65.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.04	54.04	0.00	0.00	60.12	60.12	0.00	0.00	0.00	0.00	0.00	0.41	179.26	179.67	99.77	
06/04/2015	93.34	0.00	0.47	60.92	61.40	0.00	0.00	0.00	0.00	0.00	0.00	38.98	38.98	0.00	0.00	15.24	15.24	0.00	0.00	17.32	17.32	0.00	0.04	46.04	46.08	0.00	0.51	178.51	179.02	99.71	
07/04/2015	93.42	0.00	0.20	17.00	17.20	0.00	0.00	38.63	38.63	0.08	0.08	30.33	30.50	0.00	0.26	2.51	2.77	0.00	0.00	28.36	28.36	0.00	0.97	64.53	65.50	0.08	1.51	181.36	182.95	99.13	
08/04/2015	93.42	0.08	0.15	39.85	40.08	0.09	0.33	50.54	50.96	0.00	0.00	0.13	0.13	0.00	0.19	17.24	17.42	0.00	0.00	60.63	60.63	0.00	0.23	20.08	20.30	0.17	0.90	188.46	189.52	99.44	
09/04/2015	93.27	0.00	0.33	39.52	39.85	0.00	0.08	61.09	61.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.74	42.74	0.00	0.00	47.23	47.23	0.00	0.41	190.58	190.99	99.78	
10/04/2015	92.77	0.00	0.00	50.67	50.67	0.00	6.66	19.83	26.49	0.00	0.00	27.68	27.68	0.01	0.04	12.45	12.50	0.00	0.00	35.82	35.82	0.00	0.00	37.34	37.34	0.01	6.70	183.80	190.51	96.48	
11/04/2015	92.71	0.00	0.00	0.00	0.00	0.00	0.00	79.04	79.04	0.00	0.00	0.00	0.00	0.00	0.00	51.80	51.80	0.00	0.00	60.13	60.13	0.00	0.00	0.00	0.00	0.00	0.00	190.97	190.97	100.00	
12/04/2015	93.10	0.00	0.04	13.28	13.32	0.10	0.10	30.45	30.64	0.00	0.00	11.14	11.14	0.00	0.00	53.15	53.15	0.00	0.00	47.06	47.06	0.00	0.00	32.09	32.09	0.10	0.14	187.17	187.40	99.87	
13/04/2015	93.13	0.00	0.00	30.32	30.32	0.00	1.04	39.02	40.06	0.00	0.00	0.00	0.00	0.00	0.00	55.62	55.62	0.00	0.00	63.23	63.23	0.00	0.00	0.00	0.00	0.00	1.04	188.19	189.23	99.45	
14/04/2015	93.17	0.00	0.35	61.12	61.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.26	62.26	0.00	0.04	45.97	46.01	0.00	0.11	28.64	28.75	0.00	0.50	198.00	198.50	99.75	
15/04/2015	93.37	0.00	1.45	60.62	62.07	0.01	0.08	0.49	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.64	42.81	43.45	0.00	0.00	65.41	65.41	0.00	0.17	34.43	34.60	0.01	2.34	203.76	206.12	98.86
16/04/2015	94.10	0.00	0.17	25.41	25.58	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	14.45	14.45	0.00	0.17	24.37	24.54	0.00	0.34	64.22	64.56	99.47	
17/04/2015	93.85	0.00	0.07	22.29	22.36	0.00	0.00	58.47	58.47	0.00	0.00	0.00	0.00	0.00	0.05	48.57	48.62	0.00	0.00	47.38	47.38	0.01	0.01	26.08	26.10	0.01	0.13	202.78	202.93	99.93	
18/04/2015	93.87	0.00	0.00	41.29	41.29	0.00	0.00	56.82	56.82	0.00	0.00	0.00	0.00	0.00	0.00	49.15	49.15	0.00	0.00	67.72	67.72	0.00	0.00	0.00	0.00	0.00	0.00	214.99	214.99	100.00	
19/04/2015	93.89	0.00	0.00	41.40	41.40	0.00	0.00	56.68	56.68	0.00	0.00	0.00	0.00	0.00	0.00	49.11	49.11	0.00	0.00	67.84	67.84	0.00	0.00	0.00	0.00	0.00	0.00	215.02	215.02	100.00	
20/04/2015	94.08	0.00	0.00	40.39	40.39	0.00	0.00	54.90	54.90	0.01	0.01	0.00	0.01	0.00	0.00	47.19	47.19	0.00	0.00	66.08	66.08	0.00	0.00	0.00	0.00	0.01	0.01	208.55	208.57	99.99	
21/04/2015	94.17	0.00	0.00	37.21	37.21	0.00	0.00	50.84	50.84	0.02	0.02	4.30	4.34	0.17	0.17	39.97	40.31	0.00	0.00	1.75	1.75	0.00	0.00	59.74	59.74	0.19	0.19	193.81	194.18	99.81	
22/04/2015	94.13	0.00	0.00	36.11	36.11	0.00	0.00	49.85	49.85	0.00	0.00	42.76	42.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	60.85	61.27	0.00	0.42	189.57	189.99	99.78	
23/04/2015	94.09	0.00	0.00	45.73	45.73	0.00	0.00	58.48	58.48	0.00	0.11	33.87	33.99	0.00	0.00	37.05	37.05	0.00	0.09	1.67	1.76	0.00	0.08	15.69	15.78	0.00	0.29	192.50	192.78	99.85	
24/04/2015	94.08	0.00	0.00	45.32	45.32	0.00	0.00	58.43	58.43	0.00	0.00	51.83	51.83	0.00	0.00	16.48	16.48	0.00	0.09	22.81	22.90	0.00	0.00	0.00	0.00	0.00	0.09	194.87	194.96	99.96	
25/04/2015	94.07	0.00	0.00	39.96	39.96	0.00	0.00	53.79	53.79	0.00	0.06	52.37	52.42	0.00	0.00	0.00	0.00	0.00	0.00	48.82	48.82	0.00	0.00	0.00	0.00	0.00	0.06	194.93	194.99	99.97	
26/04/2015	94.02	0.00	0.00	37.12	37.12	0.00	0.00	51.23	51.23	0.00	0.00	43.41	43.41	0.00	0.00	0.00	0.00	0.00	0.00	63.25	63.25	0.00	0.00	0.00	0.00	0.00	0.00	195.01	195.01	100.00	
27/04/2015	94.08	0.00	0.00	51.25	51.25	0.00	0.00	31.09	31.09	0.00	0.00	10.66	10.66	0.00	0.00	16.30	16.30	0.00	0.00	45.45	45.45	0.00	0.00	40.17	40.17	0.00	0.00	194.92	194.92	100.00	
28/04/2015	94.24	0.00	0.04	64.70	64.73	0.00	0.00	0.00	0.00	0.09	0.16	28.27	28.52	0.00	0.00	0.00	0.00	0.00	0.00	59.07	59.07	0.00	0.21	42.54	42.75	0.09	0.41	194.57	195.07	99.75	
29/04/2015	94.25	0.00	0.00	65.18	65.18	0.00	0.00	0.00	0.00	0.00	0.00	58.01	58.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	71.75	71.80	0.00	0.05	194.94	194.99	99.97	
30/04/2015	94.23	0.00	0.00	65.00	65.00	0.00	0.00	0.00	0.00	0.00	0.00	58.24	58.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	71.71	71.76	0.00	0.05	194.95	195.00	99.97	
		0.08	3.80	1137.81	1141.69	0.20	8.40	1042.83	1051.43	0.20	0.45	599.81	600.46	0.18	1.35	860.90	862.43	0.00	0.21	1313.80	1314.01	0.01	2.50	723.28	725.80	0.67	16.72	5678.44	5695.83		

Water Volume [%]:

Untreated: 0.01 %

Below Dose: 0.29 %

<p



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT UV REPORT

Report Period: May 2015

Report Created: Monday, June 01, 2015

Date	Transmittance %	UVR-D100A				UVR-D200A				UVR-D300A				UVR-D400A				UVR-D500A				UVR-D600A				Total				% Volume Treated To Dose		
		Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]						
		Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total																			
01/05/2015	94.24	0.00	0.00	64.88	64.88	0.00	0.00	0.00	0.00	0.00	0.00	50.97	50.97	0.00	0.00	0.00	0.00	0.00	0.00	45.51	45.51	0.00	0.00	34.54	34.54	0.00	0.00	195.90	195.90	100.00		
02/05/2015	94.22	0.00	0.00	64.98	64.98	0.00	0.00	0.00	0.00	0.00	0.00	60.88	60.88	0.00	0.00	0.00	0.00	0.00	0.00	73.10	73.10	0.00	0.00	0.00	0.00	0.00	0.00	198.96	198.96	100.00		
03/05/2015	94.29	0.00	0.00	55.75	55.75	0.00	0.00	18.20	18.20	0.00	0.07	55.21	55.28	0.00	0.74	0.14	0.88	0.00	0.00	46.87	46.87	0.00	0.00	21.81	21.81	0.00	0.80	197.99	198.80	99.60		
04/05/2015	94.44	0.00	0.00	38.17	38.17	0.00	0.00	52.58	52.58	0.00	0.00	44.29	44.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	63.96	63.96	0.00	0.00	199.00	199.00	100.00
05/05/2015	94.31	0.00	0.00	42.89	42.89	0.00	0.00	43.48	43.48	0.00	0.00	47.12	47.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	65.45	65.50	0.00	0.05	198.93	198.98	99.97	
06/05/2015	94.58	0.00	0.00	65.50	65.50	0.00	0.00	0.00	0.00	0.00	0.00	60.32	60.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	73.04	73.14	0.00	0.10	198.86	198.96	99.95		
07/05/2015	94.83	0.00	0.00	66.09	66.09	0.00	0.00	0.00	0.00	0.00	0.00	59.35	59.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	73.37	73.52	0.00	0.15	198.81	198.96	99.92		
08/05/2015	95.06	0.00	0.00	64.11	64.11	0.00	0.00	0.00	0.00	0.00	0.00	58.68	58.68	0.00	0.00	0.00	0.00	0.00	0.00	27.92	27.92	0.00	0.00	43.87	43.87	0.00	0.00	194.58	194.58	100.00		
09/05/2015	94.47	0.00	0.00	62.92	62.92	0.00	0.00	0.00	0.00	0.00	0.00	60.54	60.54	0.00	0.00	0.00	0.00	0.09	63.27	63.36	0.00	0.00	0.00	0.00	0.00	0.09	186.73	186.82	99.95			
10/05/2015	94.99	0.00	0.00	59.55	59.55	0.00	0.00	0.00	0.00	0.00	0.00	53.59	53.59	0.00	0.00	0.00	0.00	0.00	33.14	33.14	0.00	0.00	38.71	38.71	0.00	0.00	184.98	184.98	100.00			
11/05/2015	94.95	0.00	0.00	59.60	59.60	0.00	0.00	0.00	0.00	0.02	0.02	20.85	20.89	0.00	0.00	36.57	36.57	0.00	0.05	44.64	44.69	0.00	0.05	20.47	20.51	0.02	0.12	182.13	182.27	99.92		
12/05/2015	94.49	0.00	0.00	69.64	69.64	0.00	0.00	0.00	0.00	0.00	0.00	64.15	64.20	0.00	0.08	60.79	60.88	0.00	0.00	0.00	0.00	0.00	0.00	0.13	194.58	194.71	99.93					
13/05/2015	94.43	0.00	0.00	70.66	70.66	0.00	0.00	0.00	0.00	0.00	0.00	67.48	67.48	0.00	0.12	59.56	59.69	0.00	0.00	0.13	0.13	0.00	0.12	197.83	197.96	99.94						
14/05/2015	95.11	0.00	0.00	70.55	70.55	0.00	0.00	0.00	0.00	0.00	0.00	67.18	67.18	0.00	0.00	61.60	61.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	199.33	199.33	100.00					
15/05/2015	95.31	0.00	0.00	67.97	67.97	0.00	0.61	15.66	16.26	0.00	0.00	0.00	0.00	0.01	0.10	45.77	45.88	0.00	0.00	56.51	56.51	0.00	0.00	5.49	5.49	0.01	0.70	191.40	192.11	99.63		
16/05/2015	95.39	0.00	0.00	77.85	77.85	0.00	0.00	0.00	0.00	0.00	0.00	56.92	56.92	0.00	0.00	66.53	66.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	201.30	201.30	100.00				
17/05/2015	95.46	0.00	0.00	77.98	77.98	0.00	0.00	0.00	0.00	0.00	0.00	57.12	57.12	0.00	0.00	66.91	66.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	202.00	202.00	100.00				
18/05/2015	95.59	0.00	0.00	78.47	78.47	0.00	0.00	0.00	0.00	0.00	0.00	57.57	57.57	0.00	0.00	67.20	67.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	203.24	203.24	100.00				
19/05/2015	95.58	0.00	0.00	77.26	77.26	0.00	0.00	0.00	0.00	0.00	0.00	56.67	56.67	0.00	0.00	66.06	66.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	199.99	199.99	100.00				
20/05/2015	95.69	0.00	0.00	77.21	77.21	0.00	0.00	1.07	1.07	0.00	0.00	21.28	21.28	0.00	0.00	53.03	53.03	2.03	2.03	45.46	49.53	0.00	0.00	0.00	0.00	2.03	2.03	198.05	202.12	97.99		
21/05/2015	95.94	0.00	0.00	74.80	74.80	0.00	0.00	0.00	0.00	0.00	0.00	28.80	28.80	0.00	0.00	37.76	37.76	0.00	0.00	60.63	60.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	201.99	201.99	100.00	
22/05/2015	96.02	0.00	0.00	76.12	76.12	0.00	0.00	0.00	0.00	0.00	0.00	29.17	29.17	0.00	0.00	38.29	38.29	0.00	0.00	61.51	61.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	205.10	205.10	100.00	
23/05/2015	96.04	0.00	0.00	77.27	77.27	0.00	0.00	0.00	0.00	0.00	0.00	29.59	29.59	0.00	0.00	38.81	38.81	0.00	0.00	62.14	62.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	207.81	207.81	100.00	
24/05/2015	96.02	0.00	0.00	81.73	81.73	0.00	0.00	0.00	0.00	0.00	0.00	30.91	30.91	0.00	0.00	40.55	40.55	0.00	0.00	65.03	65.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	218.21	218.21	100.00	
25/05/2015	96.02	0.00	0.00	86.14	86.14	0.00	0.00	0.00	0.00	0.00	0.00	32.58	32.58	0.00	0.00	42.60	42.60	0.00	0.00	66.44	66.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	227.76	227.76	100.00	
26/05/2015	96.03	0.00	0.00	86.08	86.08	0.00	0.00	0.00	0.00	0.00	0.00	32.53	32.53	0.00	0.00	42.69	42.69	0.00	0.00	66.47	66.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	227.76	227.76	100.00	
27/05/2015	96.04	0.00	0.00	80.55	80.55	0.25	0.25	0.00	0.51	0.00	0.00	25.07	25.07	0.00	0.19	47.82	48.01	8.25	8.25	39.03	55.53	0.00	0.00	26.24	26.24	8.50	8.69	218.71	235.90	92.71		
28/05/2015	96.17	0.00	0.00	60.96	60.96	0.29	0.29	17.60	18.18	0.00	0.00	27.51	27.51	0.00	0.00	47.79	47.79	1.66	1.66	7.68	11.01	0.00	0.00	64.42	64.42	1.95	1.95	225.96	229.86	98.30		
29/05/2015	96.15	0.00	0.00	58.25	58.25	0.00	0.00	0.00	0.00	0.00	0.00	34.52	34.52	0.00	0.00	57.68	57.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.20	66.20	100.00				
30/05/2015	96.15	0.00	0.00	54.52	54.52	0.00	0.00	0.00	0.00	0.00	0.00	31.86	31.86	0.00	0.00	54.72	54.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.08	60.08	100.00				
31/05/2015	96.16	0.00	0.00	54.08	54.08	0.00	0.00	0.00	0.00	0.00	0.00	31.28	31.28	0.00	0.00	54.21	54.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	58.39	58.39	100.00				

Water Volume [%]:

Untreated: 0.20 %

Below Dose 0.24 %

To Dose 99.56 %

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT UV REPORT

Report Period: **June 2015**

Report Created: **Wednesday, July 01, 2015**

Date	Transmittance %	UVR-D100A				UVR-D200A				UVR-D300A				UVR-D400A				UVR-D500A				UVR-D600A				Total				% Volume Treated To Dose
		Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				
	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total		
01/06/2015	96.05	0.00	0.00	54.18	54.18	0.00	0.00	0.00	0.00	0.00	0.00	31.29	31.29	0.00	0.00	54.38	54.38	0.00	0.00	0.00	0.00	0.00	0.00	58.15	58.15	0.00	0.00	198.00	198.00	100.00
02/06/2015	96.01	0.00	0.00	54.23	54.23	0.00	0.00	0.00	0.00	0.00	0.00	31.21	31.21	0.00	0.00	54.50	54.50	0.00	0.00	0.00	0.00	0.00	0.00	58.09	58.09	0.00	0.00	198.03	198.03	100.00
03/06/2015	95.92	0.00	0.00	54.56	54.56	0.00	0.00	0.00	0.00	0.00	0.00	31.29	31.29	0.00	0.00	54.84	54.84	0.00	0.00	0.00	0.00	0.00	0.00	58.51	58.51	0.00	0.00	199.20	199.20	100.00
04/06/2015	96.19	0.00	0.00	57.61	57.61	0.00	0.00	0.00	0.00	0.00	0.00	34.42	34.42	0.00	0.00	57.35	57.35	0.00	0.00	0.00	0.00	0.00	0.00	66.88	66.88	0.00	0.00	216.26	216.26	100.00
05/06/2015	96.20	0.00	0.00	62.06	62.06	0.00	0.00	0.00	0.00	0.00	0.00	36.68	36.68	0.00	0.00	60.21	60.21	0.00	0.00	0.00	0.00	0.00	0.05	65.73	65.78	0.00	0.05	224.67	224.72	99.98
06/06/2015	96.26	0.00	0.06	32.37	32.42	0.00	0.00	0.00	0.00	0.00	0.00	48.34	48.34	0.00	0.00	68.82	68.82	0.00	0.00	0.00	0.00	0.00	0.00	72.42	72.42	0.00	0.06	221.95	222.00	99.97
07/06/2015	96.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	58.93	58.93	0.00	0.00	74.79	74.79	0.00	0.00	0.00	0.00	0.00	0.00	80.01	80.01	0.00	0.00	213.73	213.73	100.00
08/06/2015	96.12	0.03	0.03	0.06	0.12	0.00	0.00	0.00	0.00	0.00	0.00	58.58	58.58	0.00	0.00	73.94	73.94	0.00	0.00	0.00	0.00	0.00	0.11	79.28	79.39	0.03	0.14	211.86	212.03	99.92
09/06/2015	96.17	0.00	0.00	0.00	0.00	0.00	0.00	33.44	33.44	0.00	0.00	60.62	60.62	0.00	0.59	52.04	52.63	0.00	0.33	21.80	22.12	0.00	0.06	41.83	41.89	0.00	0.98	209.73	210.71	99.53
10/06/2015	96.10	0.00	0.00	0.00	0.00	0.00	0.00	68.29	68.29	0.00	0.00	45.13	45.13	0.00	0.00	26.12	26.12	0.00	0.00	67.62	67.62	0.00	0.00	0.00	0.00	0.00	0.00	207.16	207.16	100.00
11/06/2015	96.17	0.00	0.00	0.00	0.00	0.00	0.00	70.30	70.30	0.00	0.00	0.00	0.00	0.00	0.00	70.55	70.55	0.00	0.00	20.24	20.24	0.00	0.00	43.91	43.91	0.00	0.00	205.00	205.00	100.00
12/06/2015	96.22	0.00	0.00	0.00	0.00	0.00	0.00	71.28	71.28	0.00	0.00	0.00	0.00	0.00	0.00	72.10	72.10	0.00	0.00	0.00	0.00	0.00	0.00	64.88	64.88	0.00	0.00	208.26	208.26	100.00
13/06/2015	96.13	0.00	0.00	0.00	0.00	0.00	0.00	71.76	71.76	0.00	0.00	0.00	0.00	0.00	0.00	72.86	72.86	0.00	0.00	0.00	0.00	0.00	0.00	65.38	65.38	0.00	0.00	210.00	210.00	100.00
14/06/2015	96.21	0.00	0.00	0.00	0.00	0.00	0.00	71.83	71.83	0.00	0.00	0.00	0.00	0.00	0.00	72.73	72.73	0.00	0.00	0.00	0.00	0.00	0.00	65.22	65.22	0.00	0.00	209.78	209.78	100.00
15/06/2015	95.92	0.00	0.00	0.00	0.00	0.00	0.00	72.59	72.59	0.00	0.00	0.00	0.00	0.00	0.00	73.53	73.53	0.00	0.00	0.00	0.00	0.00	0.00	65.91	65.91	0.00	0.00	212.04	212.04	100.00
16/06/2015	96.25	0.00	0.00	0.00	0.00	0.00	0.00	69.58	69.58	0.00	0.00	50.49	50.49	0.00	0.00	22.78	22.78	0.00	0.00	49.04	49.04	0.00	0.00	20.10	20.10	0.00	0.00	212.00	212.00	100.00
17/06/2015	96.19	0.00	0.00	0.00	0.00	0.05	0.05	63.14	63.23	0.01	0.04	68.26	68.32	0.00	0.00	0.00	0.00	0.00	0.00	66.29	66.29	0.00	0.00	0.00	0.00	0.06	0.09	197.69	197.84	99.93
18/06/2015	95.88	0.00	0.00	29.04	29.04	0.00	0.00	40.21	40.21	0.00	0.00	75.73	75.73	0.00	0.00	0.00	0.00	0.00	0.00	72.81	72.81	0.00	0.00	0.00	0.00	0.00	0.00	217.79	217.79	100.00
19/06/2015	96.12	0.00	0.00	68.90	68.90	0.00	0.00	0.00	0.00	0.00	0.00	77.35	77.35	0.00	0.00	0.00	0.00	0.00	0.00	73.80	73.80	0.00	0.00	0.00	0.00	0.00	0.00	220.05	220.05	100.00
20/06/2015	96.12	0.00	0.00	66.64	66.64	0.00	0.00	0.00	0.00	0.00	0.00	74.98	74.98	0.00	0.00	0.00	0.00	0.00	0.00	72.12	72.12	0.00	0.00	0.00	0.00	0.00	0.00	213.74	213.74	100.00
21/06/2015	96.05	0.00	0.00	65.49	65.49	0.00	0.00	0.00	0.00	0.00	0.00	73.60	73.60	0.00	0.00	0.00	0.00	0.00	0.00	70.93	70.93	0.00	0.00	0.00	0.00	0.00	0.00	210.02	210.02	100.00
22/06/2015	96.00	0.00	0.00	65.51	65.51	0.00	0.00	0.00	0.00	0.00	0.00	73.74	73.74	0.00	0.00	0.00	0.00	0.00	0.00	70.73	70.73	0.00	0.00	0.00	0.00	0.00	0.00	209.97	209.97	100.00
23/06/2015	96.22	0.00	0.00	65.56	65.56	0.00	0.00	0.00	0.00	0.00	0.00	73.75	73.75	0.00	0.00	0.00	0.00	0.00	0.00	70.66	70.66	0.00	0.00	0.00	0.00	0.00	0.00	209.97	209.97	100.00
24/06/2015	96.15	0.00	0.00	65.49	65.49	0.00	0.00	0.00	0.00	0.00	0.00	73.84	73.84	0.00	0.00	0.00	0.00	0.00	0.00	70.70	70.70	0.00	0.00	0.00	0.00	0.00	0.00	210.03	210.03	100.00
25/06/2015	96.16	0.00	0.00	65.45	65.45	0.00	0.00	0.00	0.00	0.00	0.00	73.75	73.75	0.00	0.00	0.00	0.00	0.00	0.00	70.81	70.81	0.00	0.00	0.00	0.00	0.00	0.00	210.01	210.01	100.00
26/06/2015	96.28	0.00	0.00	66.67	66.67	0.00	0.00	0.00	0.00	0.00	0.00	75.14	75.14	0.00	0.00	0.00	0.00	0.00	0.00	71.87	71.87	0.00	0.00	0.00	0.00	0.00	0.00	213.68	213.68	100.00
27/06/2015	96.23	0.00	0.00	67.15	67.15	0.00	0.00	0.00	0.00	0.00	0.00	75.60	75.60	0.00	0.00	0.00	0.00	0.00	0.00	72.24	72.24	0.00	0.00	0.00	0.00	0.00	0.00	214.99	214.99	100.00
28/06/2015	96.13	0.00	0.00	67.09	67.09	0.00	0.00	0.00	0.00	0.00	0.00	75.59	75.59	0.00	0.00	0.00	0													



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT UV REPORT

Report Period: **July 2015**

Report Created: **Saturday, August 01, 2015**

Date	Transmittance %	UVR-D100A				UVR-D200A				UVR-D300A				UVR-D400A				UVR-D500A				UVR-D600A				Total				% Volume Treated To Dose		
		Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]						
		Untreated	Below	To	Total	Untreated	Below	To	Total																							
01/07/2015	95.79	0.00	0.00	67.00	67.00	0.00	0.00	0.00	0.00	0.00	0.00	75.64	75.64	0.00	0.00	0.00	0.00	0.00	0.00	72.37	72.37	0.00	0.00	0.00	0.00	0.00	0.00	215.01	215.01	100.00		
02/07/2015	95.72	0.00	0.00	66.83	66.83	0.00	0.00	0.00	0.00	0.00	0.00	75.87	75.87	0.00	0.00	0.00	0.00	0.00	0.00	72.30	72.30	0.00	0.00	0.00	0.00	0.00	0.00	215.00	215.00	100.00		
03/07/2015	95.86	0.00	0.00	68.25	68.25	0.00	0.00	0.00	0.00	0.00	0.00	62.78	62.78	0.00	0.00	13.73	13.73	0.00	0.00	72.11	72.11	0.00	0.00	0.00	0.00	0.00	0.00	216.88	216.88	100.00		
04/07/2015	95.79	0.00	0.00	72.39	72.39	0.00	0.00	0.00	0.00	0.00	0.00	78.61	78.61	0.00	0.00	70.23	70.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	221.22	221.22	100.00				
05/07/2015	95.78	0.00	0.00	72.56	72.56	0.00	0.00	0.00	0.00	0.00	0.00	79.79	79.79	0.00	0.00	71.62	71.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	223.98	223.98	100.00				
06/07/2015	95.77	0.00	0.00	71.21	71.21	0.00	0.00	0.00	0.00	0.00	0.00	78.43	78.43	0.00	0.00	70.41	70.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	220.04	220.04	100.00				
07/07/2015	95.83	0.00	0.00	71.14	71.14	0.00	0.00	0.00	0.00	0.00	0.00	78.39	78.39	0.00	0.00	70.49	70.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	220.01	220.01	100.00				
08/07/2015	95.70	0.00	0.00	70.09	70.09	0.00	0.00	0.00	0.00	0.00	0.00	76.44	76.44	0.00	0.00	68.78	68.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	215.31	215.31	100.00				
09/07/2015	95.73	0.00	0.00	69.72	69.72	0.00	0.00	0.00	0.00	0.00	0.00	75.45	75.45	0.00	0.00	67.84	67.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	213.01	213.01	100.00				
10/07/2015	95.52	0.00	0.11	31.36	31.46	0.00	0.00	41.73	41.73	0.00	0.00	0.00	0.00	0.00	0.00	76.26	76.26	0.31	0.60	36.04	36.96	0.00	0.05	29.45	29.50	0.31	0.76	214.84	215.90	99.51		
11/07/2015	95.51	0.00	0.00	0.00	0.00	0.00	0.00	73.82	73.82	0.00	0.00	0.00	0.00	0.00	0.00	77.17	77.17	0.00	0.00	0.00	0.00	0.00	0.05	68.52	68.57	0.00	0.05	219.51	219.56	99.98		
12/07/2015	95.52	0.00	0.00	0.00	0.00	0.00	0.00	73.19	73.19	0.00	0.00	0.00	0.00	0.00	0.00	76.32	76.32	0.00	0.00	0.00	0.00	0.00	0.00	67.81	67.81	0.00	0.00	217.31	217.31	100.00		
13/07/2015	95.38	0.00	0.05	39.53	39.58	0.00	0.00	32.39	32.39	0.00	0.00	0.00	0.00	0.00	0.00	74.64	74.64	0.00	0.00	0.01	0.00	0.05	69.29	69.34	0.01	0.11	215.85	215.96	99.95			
14/07/2015	94.58	0.00	0.00	70.95	70.95	0.00	0.00	0.00	0.00	0.00	0.00	74.39	74.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	215.99	215.99	100.00				
15/07/2015	95.31	0.00	0.00	70.91	70.91	0.00	0.00	0.00	0.00	0.00	0.00	74.34	74.34	0.00	0.00	0.00	0.00	0.00	0.00	0.05	70.72	70.77	0.00	0.05	215.97	216.02	99.98					
16/07/2015	95.16	0.00	0.00	66.66	66.66	0.00	0.00	21.36	21.36	0.00	0.00	0.00	0.00	0.00	0.00	77.13	77.13	0.00	0.00	0.00	0.00	0.00	0.00	50.84	50.84	0.00	0.00	215.98	215.98	100.00		
17/07/2015	95.14	0.00	0.00	58.36	58.36	0.00	0.00	69.12	69.12	0.00	0.00	0.00	0.00	0.01	0.06	3.72	3.80	0.00	0.00	0.00	0.00	0.00	0.00	84.52	84.52	0.01	0.06	215.73	215.80	99.96		
18/07/2015	95.19	0.00	0.00	57.77	57.77	0.00	0.00	73.22	73.22	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	84.95	84.95	0.00	0.00	215.94	215.94	100.00		
19/07/2015	95.28	0.00	0.00	55.58	55.58	0.00	0.00	70.52	70.52	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	0.06	82.71	82.77	0.00	0.06	208.81	208.86	99.97		
20/07/2015	95.44	0.00	0.00	53.07	53.07	0.00	0.00	67.80	67.80	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	79.15	79.15	0.00	0.00	200.02	200.02	100.00		
21/07/2015	95.22	0.00	0.00	56.40	56.40	0.00	0.00	71.71	71.71	0.00	0.00	35.12	35.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.57	46.63	0.00	0.06	209.81	209.87	99.97
22/07/2015	95.09	0.00	0.00	57.74	57.74	0.00	0.00	73.11	73.11	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	84.87	84.87	0.00	0.00	215.72	215.72	100.00		
23/07/2015	94.97	0.00	0.00	63.17	63.17	0.00	0.00	77.41	77.41	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	84.94	84.94	0.00	0.00	225.52	225.52	100.00		
24/07/2015	95.05	0.00	0.00	58.93	58.93	0.00	0.00	77.08	77.08	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	34.61	34.61	0.00	0.00	250.06	250.06	100.00		
25/07/2015	95.36	0.00	0.00	63.86	63.86	0.00	0.00	80.45	80.45	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	85.02	85.02	0.00	0.00	229.33	229.33	100.00		
26/07/2015	95.56	0.00	0.00	59.61	59.61	0.00	0.00	75.41	75.41	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	85.01	85.01	0.00	0.00	220.03	220.03	100.00		
27/07/2015	95.51	0.00	0.00	59.80	59.80	0.00	0.00	75.65	75.65	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	84.98	84.98	0.00	0.00	220.42	220.42	100.00		
28/07/2015	95.55	0.00	0.00	61.27	61.27	0.00	0.00	77.49	77.49	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	84.97	84.97	0.00	0.00	223.73	223.73	100.00		
29/07/2015	95.70	0.00																														



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT UV REPORT

Report Period: August 2015

Report Created: Tuesday, September 01, 2015

Date	Transmittance %	UVR-D100A				UVR-D200A				UVR-D300A				UVR-D400A				UVR-D500A				UVR-D600A				Total				% Volume Treated To Dose	
		Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]					
	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total			
01/08/2015	96.14	0.00	0.00	70.16	70.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	76.47	76.58	0.00	0.00	0.00	0.00	0.00	0.19	68.10	68.29	0.00	0.30	214.73	215.03	99.86		
02/08/2015	95.98	0.00	0.00	67.42	67.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	72.75	72.75	0.00	0.00	0.00	0.00	0.00	0.00	65.76	65.76	0.00	0.00	205.93	205.93	100.00	
03/08/2015	96.00	0.00	0.00	63.06	63.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.02	69.02	0.00	0.00	0.00	0.00	0.00	0.00	62.60	62.60	0.00	0.00	194.69	194.69	100.00	
04/08/2015	95.96	0.00	0.00	67.93	67.93	0.00	0.00	0.00	0.00	0.55	0.55	29.38	30.48	0.00	0.03	35.46	35.48	0.02	0.02	6.05	6.09	0.00	0.20	58.15	58.35	0.58	0.81	196.96	198.34	99.30	
05/08/2015	96.09	0.00	0.00	67.99	67.99	0.00	0.00	0.00	0.00	0.00	0.00	48.43	48.43	0.00	0.00	27.34	27.34	0.00	0.00	16.55	16.55	0.00	0.14	44.16	44.30	0.00	0.14	204.47	204.61	99.93	
06/08/2015	96.11	0.00	0.00	66.55	66.55	0.00	0.00	0.00	0.00	0.00	0.00	19.26	19.26	0.17	0.17	53.84	54.18	0.00	0.00	0.00	0.00	0.00	0.00	66.08	66.08	0.17	0.17	205.73	206.07	99.84	
07/08/2015	96.10	0.00	0.00	67.27	67.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	72.82	72.82	0.00	0.00	0.00	0.00	0.00	0.00	64.97	64.97	0.00	0.00	205.06	205.06	100.00	
08/08/2015	96.12	0.00	0.00	66.23	66.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	71.58	71.58	0.00	0.00	0.00	0.00	0.00	0.00	64.21	64.21	0.00	0.00	202.02	202.02	100.00	
09/08/2015	95.99	0.00	0.00	65.67	65.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	71.43	71.43	0.00	0.00	0.00	0.00	0.00	0.00	64.17	64.17	0.00	0.00	201.26	201.26	100.00	
10/08/2015	95.91	0.00	0.00	64.92	64.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	70.81	70.81	0.00	0.00	0.00	0.00	0.00	0.00	63.79	63.79	0.00	0.00	199.51	199.51	100.00	
11/08/2015	95.78	0.00	0.00	67.36	67.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	73.01	73.01	0.00	0.00	0.00	0.00	0.00	0.00	65.27	65.27	0.00	0.00	205.65	205.65	100.00	
12/08/2015	95.68	0.00	0.00	67.34	67.34	0.00	0.00	0.00	0.00	0.00	0.00	12.42	12.42	0.00	0.31	60.81	61.11	0.00	0.00	0.00	0.00	0.00	0.00	66.11	66.11	0.00	0.31	206.68	206.98	99.85	
13/08/2015	95.53	0.00	0.00	64.45	64.45	0.00	0.00	0.00	0.00	0.00	0.00	73.25	73.25	0.00	0.00	0.25	0.25	0.00	0.00	0.00	0.00	0.00	0.05	68.96	69.01	0.00	0.05	206.92	206.97	99.97	
14/08/2015	95.51	0.00	0.00	66.35	66.35	0.00	0.00	0.00	0.00	0.00	0.00	75.52	75.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	70.89	70.89	0.00	0.00	212.77	212.77	100.00	
15/08/2015	95.61	0.00	0.00	64.77	64.77	0.00	0.00	0.00	0.00	0.00	0.00	73.94	73.94	0.00	0.00	0.00	0.00	0.00	0.00	0.10	70.36	70.46	0.00	0.10	209.06	209.16	99.95				
16/08/2015	95.46	0.00	0.00	64.57	64.57	0.00	0.00	0.00	0.00	0.00	0.00	73.38	73.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.05	69.05	0.00	0.00	207.00	207.00	100.00	
17/08/2015	95.58	0.10	0.10	68.94	68.94	0.00	0.00	0.00	0.00	0.00	0.00	67.32	67.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	70.49	70.54	0.10	0.14	206.76	207.00	99.88	
18/08/2015	95.57	0.00	0.00	81.09	81.09	0.00	0.00	0.00	0.00	0.00	0.00	54.83	54.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	71.84	71.84	0.00	0.00	207.76	207.76	100.00	
19/08/2015	95.67	0.00	0.00	55.43	55.43	0.00	0.00	0.00	0.00	0.00	0.00	63.06	63.06	0.00	0.00	0.00	0.00	0.00	0.00	0.05	43.26	43.26	0.00	0.05	48.17	48.22	0.00	0.05	209.91	209.96	99.98
20/08/2015	95.75	0.00	1.13	63.04	64.17	0.00	0.00	0.00	0.00	0.00	0.00	63.93	63.93	0.00	0.00	24.43	24.43	0.00	0.00	59.51	59.51	0.00	0.00	0.00	0.00	0.00	1.13	210.90	212.04	99.47	
21/08/2015	95.82	0.00	0.13	20.03	20.15	0.00	0.00	0.00	0.00	0.00	0.00	76.56	76.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.51	62.51	0.00	0.00	55.79	55.79	0.00	0.13	214.88	215.01	99.94
22/08/2015	95.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	81.71	81.71	0.00	0.00	1.44	1.44	0.00	0.06	67.27	67.33	0.00	0.05	61.95	62.00	0.00	0.11	212.36	212.47	99.95	
23/08/2015	95.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	82.61	82.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.00	45.00	0.00	0.00	206.85	206.85	100.00				
24/08/2015	96.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	71.18	71.18	0.00	0.00	20.23	20.23	0.00	0.00	78.83	78.83	0.00	0.00	29.77	29.77	0.00	0.00	200.01	200.01	100.00			
25/08/2015	96.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.12	55.12	0.00	0.00	59.74	59.74	0.00	0.00	85.13	85.13	0.00	0.00	0.00	0.00	0.00	0.00	199.99	199.99	100.00			
26/08/2015	96.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.31	54.31	0.00	0.00	61.42	61.42	0.64	0.64	49.89	51.16	0.00	0.00	33.18	33.18	0.64	0.64	198.80	200.07	99.36			
27/08/2015	96.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.42	55.42	0.00	0.00	70.65	70.65	0.00	0.00	0.00	0.00	0.00	0.16	73.75	73.91	0.00	0.16	199.83	199.98	99.92			
28/08/2015	96.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.94	55.94	0.00	0.00	71.01	71.01	0.00	0.00	0.00	0.00	0.00	0.00	73.02	73.02	0.00	0.00	199.96	199.96	100.00			
29/08/2015	96.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.20	56.20	0.00	0.00	70.85	70.85	0.00	0.00	0.00	0.00	0.00	0.00	73.01	73.01	0.00	0.00	200.07	200.07	100.00			
30/08/2015	96.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.14	56.14	0.00	0.00	70.43	70.43	0.00	0.00	0.00	0.00	0.00	0.00	73.04	73.04	0.00	0.00	199.61	199.61	100.00			
31/08/2015	95.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	54.82	54.86	0.01	0.01	66.40	66.43	0.00	0.00	0.00	0.00	0.02	0.07	70.21	70.29	0.06	0.11	191.43	191.59	99.91			

Water Volume [%]:
 Untreated: 0.02 %
 Below Dose: 0.07 %
 To Dose: 99.91 %

Note: UVR-D200A offline, pending mechanical upgrades

Submitted By (Print): D.Merredew

Signature: Original signed by D Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT UV REPORT

Report Period: September 2015

Report Created: Thursday, October 01, 2015

Date	Transmittance %	UVR-D100A				UVR-D200A				UVR-D300A				UVR-D400A				UVR-D500A				UVR-D600A				Total Water Volume [ML]				% Volume Treated To Dose		
		Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]						
	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total				
01/09/2015	95.77	0.00	0.00	56.03	56.03	0.00	0.00	0.00	0.00	0.00	0.00	69.04	69.04	0.00	0.00	6.81	6.81	0.00	0.00	0.00	0.00	0.00	0.00	67.82	67.82	0.00	0.00	199.70	199.70	100.00		
02/09/2015	95.80	0.00	0.00	61.38	61.38	0.00	0.00	0.00	0.00	0.00	0.00	68.78	68.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	69.78	69.83	0.00	0.05	199.93	199.98	99.98		
03/09/2015	95.89	0.00	0.00	61.84	61.84	0.00	0.00	0.00	0.00	0.00	0.00	69.08	69.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	72.20	72.20	0.00	0.00	203.12	203.12	100.00		
04/09/2015	95.86	0.00	0.00	62.33	62.33	0.00	0.00	0.00	0.00	0.00	0.00	69.34	69.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	72.11	72.11	0.00	0.00	203.78	203.78	100.00		
05/09/2015	95.70	0.00	0.00	63.80	63.80	0.00	0.00	0.00	0.00	0.00	0.00	68.19	68.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	71.55	71.65	0.00	0.10	203.53	203.63	99.95			
06/09/2015	95.68	0.00	0.00	73.24	73.24	0.00	0.00	0.00	0.00	0.00	0.00	47.33	47.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	75.27	75.32	0.00	0.05	195.84	195.89	99.97				
07/09/2015	95.73	0.00	0.00	72.22	72.22	0.00	0.00	0.00	0.00	0.00	0.00	46.86	46.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	75.10	75.15	0.00	0.05	194.18	194.23	99.97				
08/09/2015	95.90	0.00	0.00	39.33	39.33	0.00	0.00	35.30	35.30	0.00	0.00	45.97	45.97	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	74.01	74.01	0.00	0.00	194.61	194.62	100.00		
09/09/2015	96.08	0.00	0.00	0.00	0.00	0.00	0.00	77.28	77.28	0.00	0.00	44.82	44.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	72.84	72.89	0.00	0.05	194.94	194.99	99.97				
10/09/2015	96.11	0.01	0.01	0.00	0.02	0.00	0.00	77.20	77.20	0.00	0.00	18.78	18.78	0.00	0.00	26.96	26.96	0.00	0.00	0.00	0.00	0.15	71.89	72.04	0.01	0.16	194.83	195.01	99.91			
11/09/2015	95.99	0.00	0.00	0.00	0.00	0.00	0.00	77.14	77.14	0.00	0.00	0.00	0.00	46.15	46.15	0.00	0.00	0.00	0.00	0.00	0.00	0.10	71.60	71.70	0.00	0.10	194.90	195.00	99.95			
12/09/2015	96.19	0.00	0.00	0.00	0.00	0.00	0.00	80.89	80.89	0.00	0.00	27.39	27.39	0.00	0.00	60.67	60.67	0.00	0.25	0.01	0.25	0.00	0.00	25.80	25.80	0.00	0.25	194.76	195.00	99.87		
13/09/2015	96.16	0.00	0.00	0.00	0.00	0.00	0.00	82.29	82.29	0.00	0.00	43.51	43.51	0.00	0.00	69.27	69.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	195.07	195.07	100.00		
14/09/2015	96.32	0.00	0.00	0.00	0.00	0.00	0.00	82.11	82.11	0.00	0.00	24.66	24.66	0.00	0.00	60.10	60.10	0.00	0.00	0.00	0.00	0.10	32.02	32.12	0.00	0.10	198.88	198.98	99.95			
15/09/2015	96.43	0.00	0.18	41.49	41.67	0.00	0.00	47.46	47.46	0.00	0.00	15.91	15.92	0.00	0.27	17.03	17.30	0.00	0.00	20.67	20.67	0.15	0.15	61.42	61.72	0.15	0.60	203.99	204.74	99.63		
16/09/2015	96.42	0.00	0.00	0.09	0.09	0.00	0.00	84.44	84.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	43.00	43.00	0.00	0.50	79.99	80.49	0.00	0.50	207.52	208.02	99.76					
17/09/2015	96.42	0.00	0.27	21.92	22.19	0.00	0.00	67.63	67.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.89	24.89	0.00	0.24	76.73	76.98	0.00	0.52	191.17	191.69	99.73			
18/09/2015	95.36	0.00	0.00	57.66	57.66	0.00	0.00	54.14	54.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.39	20.39	0.00	0.69	76.28	76.96	0.00	0.69	208.46	209.15	99.67			
19/09/2015	96.38	0.00	0.00	54.53	54.53	0.00	0.00	52.07	52.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	37.39	37.39	0.00	0.00	67.32	67.32	0.00	0.00	211.31	211.31	100.00					
20/09/2015	96.30	0.00	0.00	51.96	51.96	0.00	0.00	49.67	49.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	37.67	37.67	0.00	0.00	63.70	63.70	0.00	0.00	203.01	203.01	100.00					
21/09/2015	96.17	0.00	0.00	18.60	18.60	0.00	0.00	61.96	61.96	0.00	0.00	9.09	9.09	0.00	0.00	42.04	42.04	0.00	0.00	36.39	36.39	0.00	0.00	42.85	42.85	0.00	0.00	210.93	210.93	100.00		
22/09/2015	96.20	0.00	0.00	0.00	0.00	0.00	0.00	71.18	71.18	0.00	0.00	29.30	29.30	0.00	0.00	41.31	41.31	0.00	0.00	0.00	0.00	0.05	73.19	73.25	0.00	0.05	214.98	215.03	99.98			
23/09/2015	96.20	0.00	0.00	46.86	46.86	0.00	0.00	19.41	19.41	0.00	0.00	72.22	72.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.52	76.52	0.00	0.00	215.01	215.02	100.00		
24/09/2015	96.19	0.00	0.00	62.60	62.60	0.00	0.00	0.00	0.00	0.00	0.00	70.30	70.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	74.06	74.06	0.00	0.00	206.95	206.95	100.00		
25/09/2015	96.13	0.00	0.00	59.51	59.51	0.00	0.00	0.00	0.00	0.00	0.00	67.66	67.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	69.07	69.12	0.00	0.05	196.25	196.29	99.98				
26/09/2015	96.11	0.00	0.00	59.74	59.74	0.00	0.00	0.00	0.00	0.00	0.00	68.10	68.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	69.19	69.34	0.00	0.15	197.03	197.17	99.93				
27/09/2015	95.91	0.00	0.00	59.62	59.62	0.00	0.00	0.00	0.00	0.00	0.00	67.90	67.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	69.23	69.28	0.00	0.05	196.74	196.79	99.97				
28/09/2015	95.99	0.00	0.00	52.06	52.06	0.00	0.00	24.10	24.10	0.01	0.01	58.85	58.87	0.00	0.00	14.86	14.86	0.00	0.05	0.00	0.05	0.00	0.00	38.03	38.03	0.01	0.06	187.91	187.98	99.96		
29/09/2015	95.23	0.00	0.00	56.05	56.05	0.00	0.00	56.59	56.59	0.00	0.00	74.11	74.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	27.99	27.99	0.00	0.00	47.86	47.86	100.00				
30/09/2015	95.53	0.00	0.00	31.45	31.45	0.00	0.00	28.79	28.79	0.01	0.01	58.97	58.99	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.05	34.15	34.26	0.00	0.00	66.39	66.39	0.06	0.06	219.74	219.87	99.94

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

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

WATER TREATMENT PLANT UV REPORT

Report Period: October 2015

Report Created: Sunday, November 01, 2015

Date	Transmittance %	UVR-D100A				UVR-D200A				UVR-D300A				UVR-D400A				UVR-D500A				UVR-D600A				Total				% Volume Treated To Dose	
		Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]					
	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total			
01/10/2015	96.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	74.65	74.65	0.00	0.00	0.00	0.00	0.00	0.00	44.59	44.59	0.00	0.00	80.01	80.01	0.00	0.00	199.25	199.25	100.00		
02/10/2015	96.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.33	76.33	0.00	0.00	0.00	0.00	0.00	0.00	45.45	45.45	0.00	0.00	82.16	82.16	0.00	0.00	203.94	203.94	100.00		
03/10/2015	96.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.23	76.23	0.00	0.00	0.00	0.00	0.00	0.00	45.46	45.46	0.00	0.00	82.27	82.27	0.00	0.00	203.96	203.96	100.00		
04/10/2015	95.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	75.39	75.39	0.00	0.00	0.00	0.00	0.00	0.00	45.03	45.03	0.00	0.06	81.54	81.60	0.00	0.06	201.97	202.02	99.97		
05/10/2015	96.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.92	76.92	0.00	0.00	0.00	0.00	0.00	0.00	48.61	48.61	0.00	0.00	76.46	76.46	0.00	0.00	201.99	201.99	100.00		
06/10/2015	95.90	0.00	0.05	2.16	2.22	0.00	0.00	43.31	43.31	0.00	0.00	63.46	63.46	0.00	0.17	0.00	0.18	0.00	0.00	60.68	60.68	0.00	0.00	32.15	32.15	0.00	0.23	201.76	201.99	99.89	
07/10/2015	94.74	0.00	0.00	0.00	0.00	0.00	0.00	55.19	55.19	0.00	0.00	33.87	33.87	0.00	0.00	0.00	0.00	0.13	0.20	22.98	23.32	0.00	0.03	23.80	23.83	0.13	0.23	135.84	136.21	99.74	
08/10/2015	96.15	0.00	0.00	0.00	0.00	0.00	0.00	79.96	79.96	0.00	0.00	47.09	47.09	0.00	0.00	0.00	0.00	0.00	0.00	31.63	31.64	0.00	0.00	43.47	43.47	0.00	0.00	202.15	202.16	100.00	
09/10/2015	96.29	0.00	0.00	0.00	0.00	0.00	0.11	77.68	77.79	0.00	0.00	28.88	28.88	0.00	0.00	16.99	16.99	0.00	0.00	71.63	71.63	0.00	0.00	0.00	0.00	0.00	0.11	195.18	195.28	99.95	
10/10/2015	96.24	0.00	0.00	0.00	0.00	0.00	0.11	77.23	77.34	0.00	0.00	29.53	29.53	0.00	0.00	67.66	67.66	0.18	0.18	18.04	18.40	0.00	0.00	0.00	0.00	0.18	0.29	192.46	192.93	99.76	
11/10/2015	96.26	0.00	0.00	0.00	0.00	0.00	0.00	78.73	78.73	0.00	0.00	40.62	40.62	0.00	0.00	76.47	76.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	195.83	195.83	100.00			
12/10/2015	96.25	0.00	0.00	0.00	0.00	0.00	0.11	76.20	76.31	0.00	0.00	39.69	39.69	0.00	0.00	74.08	74.08	0.00	0.00	0.00	0.00	0.00	0.00	0.11	189.98	190.08	99.94				
13/10/2015	96.36	0.00	0.00	0.00	0.00	0.00	0.05	76.38	76.43	0.00	0.00	39.49	39.49	0.00	0.00	74.06	74.06	0.00	0.00	0.00	0.00	0.00	0.00	0.05	189.92	189.97	99.97				
14/10/2015	96.40	0.00	0.00	0.00	0.00	0.00	0.00	66.66	66.66	0.00	0.00	55.63	55.63	0.00	0.00	26.79	26.79	0.00	0.00	40.86	40.86	0.00	0.00	0.00	0.00	0.00	0.00	189.95	189.95	100.00	
15/10/2015	96.22	0.00	0.00	0.00	0.00	0.00	0.00	77.51	77.51	0.00	0.00	20.37	20.37	0.00	0.00	0.00	0.00	0.00	0.00	45.42	45.42	0.00	0.00	46.71	46.71	0.00	0.00	190.00	190.01	100.00	
16/10/2015	96.07	0.00	0.00	32.76	32.76	0.00	0.09	35.87	35.96	0.00	0.00	41.77	41.77	0.00	0.00	0.00	0.00	0.00	0.00	13.33	13.33	0.05	65.67	65.72	0.00	0.13	189.41	189.54	99.93		
17/10/2015	95.98	0.00	0.00	60.97	60.97	0.00	0.00	0.00	0.00	0.00	67.09	67.09	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	194.49	194.49	100.00			
18/10/2015	95.96	0.00	0.00	59.92	59.92	0.00	0.00	0.00	0.00	0.00	66.22	66.22	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	192.02	192.02	100.00			
19/10/2015	96.08	0.00	0.00	58.88	58.88	0.00	0.00	0.00	0.00	0.00	64.86	64.86	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	187.74	187.74	100.00			
20/10/2015	96.03	0.00	0.00	58.41	58.41	0.00	0.00	0.00	0.00	0.00	65.15	65.15	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	187.56	187.56	100.00			
21/10/2015	95.98	0.00	0.00	58.42	58.42	0.00	0.00	0.00	0.00	0.00	65.47	65.47	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	188.01	188.01	100.00			
22/10/2015	96.05	0.00	0.00	25.06	25.06	0.00	0.04	34.17	34.21	0.00	0.00	64.10	64.10	0.00	0.00	0.00	0.00	0.00	0.00	38.23	38.23	0.00	0.00	24.76	24.76	0.00	0.04	186.31	186.36	99.98	
23/10/2015	96.16	0.00	0.00	0.00	0.00	0.00	0.04	60.19	60.24	0.00	0.00	63.34	63.34	0.00	0.00	0.00	0.00	0.00	0.00	62.42	62.42	0.00	0.00	0.00	0.00	0.00	0.04	185.96	186.00	99.98	
24/10/2015	96.16	0.00	0.00	0.00	0.00	0.13	59.92	60.05	0.00	0.00	62.40	62.40	0.00	0.00	0.00	0.00	0.00	0.00	61.86	61.86	0.00	0.00	0.00	0.00	0.00	0.13	184.18	184.31	99.93		
25/10/2015	96.21	0.00	0.00	0.00	0.00	0.04	59.90	59.94	0.00	0.00	63.00	63.00	0.00	0.00	0.00	0.00	0.00	0.00	62.02	62.02	0.00	0.00	0.00	0.00	0.00	0.04	184.93	184.97	99.98		
26/10/2015	96.27	0.00	0.00	37.50	37.50	0.08	0.08	20.32	20.40	0.00	0.00	63.53	63.53	0.00	0.00	0.00	0.00	0.00	0.00	62.57	62.57	0.00	0.00	0.00	0.00	0.00	0.08	183.92	184.00	99.96	
27/10/2015	96.18	0.00	0.00	57.16	57.16	0.00	0.00	0.00	0.00	0.00	63.81	63.81	0.00	0.00	0.00	0.00	0.00	0.00	63.06	63.06	0.00	0.00	0.00	0.00	0.00	0.00	184.02	184.02	100.00		
28/10/2015	96.09	0.00	0.00	57.23	57.23	0.00	0.00	0.00	0.00	0.00	63.69	63.69	0.00	0.00	0.00	0.00	0.00	0.00	63.11	63.11	0.00	0.00	0.00	0.00	0.00	0.00	184.02	184.02	100.00		
29/10/2015	96.16	0.00	0.00	57.31	57.31	0.00	0.00	0.00	0.00	0.00	63.55	63.55	0.00	0.00	0.00	0.00	0.00	0.00	63.13	63.13	0.00	0.00	0.00	0.00	0.00	0.00	183.99	183.99	100.00		
30/10/2015	96.09	0.00	0.00	56.70	56.70	0.00	0.00	0.00	0.00	0.00	62.88	62.88	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.18	42.95	43.31	0.00	0.07	19.15	19.23	0.18	0.25	181.68	182.11	99.77
31/10/2015	96.00	0.00	0.00	56.33	56.33	0.00	0.00	0.00	0.00	0.00	62.82	62.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	61.79	61.84	0.00	0.04	180.94	180.99	99.98

Water Volume [%]:

Untreated: 0.01 %

Below Dose 0.03 %

To Dose 99.96 %

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT UV REPORT

Report Period: November 2015

Report Created: Tuesday, December 01, 2015

Date	Transmittance %	UVR-D100A				UVR-D200A				UVR-D300A				UVR-D400A				UVR-D500A				UVR-D600A				Total Water Volume [ML]				% Volume Treated To Dose	
		Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]					
		Untreated	Below	To	Total	Untreated	Below	To	Total																						
01/11/2015	96.30	0.00	0.00	56.24	56.24	0.00	0.00	0.00	0.00	0.00	0.00	62.92	62.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	61.86	61.86	0.00	0.00	181.01	181.01	100.00	
02/11/2015	96.34	0.00	0.00	56.17	56.17	0.00	0.00	0.00	0.00	0.00	0.00	63.22	63.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	61.94	61.94	0.00	0.00	181.33	181.33	100.00	
03/11/2015	96.19	0.00	0.00	57.41	57.41	0.00	0.00	0.00	0.00	0.00	0.00	63.77	63.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.82	62.82	0.00	0.00	184.00	184.00	100.00	
04/11/2015	96.13	0.00	0.00	57.46	57.46	0.00	0.00	0.00	0.00	0.00	0.00	63.76	63.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.80	62.80	0.00	0.00	184.02	184.02	100.00	
05/11/2015	95.56	0.02	0.02	19.59	19.62	0.00	0.00	22.08	22.08	0.23	0.23	31.73	32.18	0.00	1.28	2.08	3.36	0.27	0.31	15.25	15.84	0.53	0.57	22.45	23.55	1.05	2.41	113.18	116.64	97.03	
06/11/2015	94.51	0.00	0.00	0.00	0.00	0.00	0.00	81.27	81.27	0.00	0.00	50.19	50.19	0.00	0.00	0.00	0.00	0.00	0.00	63.55	63.55	0.00	0.00	0.00	0.00	0.00	0.00	195.02	195.02	100.00	
07/11/2015	95.37	0.00	0.00	0.00	0.00	0.00	0.00	82.21	82.21	0.00	0.00	50.65	50.65	0.00	0.00	0.00	0.00	0.00	0.00	64.19	64.19	0.00	0.00	0.00	0.00	0.00	0.00	197.04	197.04	100.00	
08/11/2015	95.26	0.00	0.00	8.32	8.32	0.00	0.00	81.87	81.87	0.00	0.00	31.18	31.18	0.00	0.02	0.31	0.33	0.00	0.00	61.53	61.53	0.00	0.36	17.34	17.71	0.00	0.38	200.54	200.92	99.81	
09/11/2015	95.15	0.00	0.00	52.54	52.54	0.02	0.02	67.45	67.48	0.00	0.00	0.00	0.00	0.09	0.09	40.08	40.26	0.00	0.00	35.01	35.01	0.00	0.00	0.00	0.00	0.11	0.11	195.08	195.29	99.89	
10/11/2015	95.67	0.00	0.00	26.92	26.92	0.00	0.00	73.49	73.49	0.00	0.00	0.00	0.00	0.00	0.00	64.98	64.98	0.00	0.00	0.00	0.00	0.00	0.00	30.13	30.13	0.00	0.00	195.53	195.53	100.00	
11/11/2015	95.22	0.00	0.00	0.00	0.00	0.00	0.00	78.79	78.79	0.00	0.00	0.00	0.00	0.00	0.00	51.26	51.26	0.00	0.00	0.00	0.00	0.00	0.00	59.33	59.33	0.00	0.00	189.37	189.37	100.00	
12/11/2015	95.57	0.00	0.00	24.19	24.19	0.03	75.57	75.61	0.00	0.00	0.00	0.00	0.00	0.00	54.96	54.96	0.00	0.00	0.00	0.00	0.00	0.00	25.61	25.61	0.00	0.03	180.33	180.37	99.98		
13/11/2015	95.22	0.00	0.00	43.96	43.96	0.00	0.00	77.34	77.34	0.00	0.00	0.00	0.00	0.00	0.00	59.68	59.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	180.98	180.98	100.00	
14/11/2015	95.10	0.00	0.00	43.80	43.80	0.00	0.00	77.04	77.04	0.00	0.00	0.00	0.00	0.00	0.00	60.12	60.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	180.96	180.96	100.00	
15/11/2015	95.40	0.00	0.00	43.79	43.79	0.00	0.00	77.01	77.01	0.00	0.00	0.00	0.00	0.00	0.00	60.19	60.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	180.99	180.99	100.00	
16/11/2015	94.93	0.00	0.00	43.77	43.77	0.00	0.00	77.01	77.01	0.00	0.00	0.00	0.00	0.00	0.00	60.25	60.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	181.02	181.02	100.00	
17/11/2015	95.26	0.00	0.00	43.75	43.75	0.00	0.00	77.05	77.05	0.00	0.00	0.00	0.00	0.00	0.00	60.20	60.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	181.01	181.01	100.00	
18/11/2015	95.43	0.00	0.00	44.18	44.18	0.00	0.00	77.73	77.73	0.00	0.00	0.00	0.00	0.00	0.00	60.73	60.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	182.64	182.64	100.00	
19/11/2015	95.37	0.00	0.00	44.48	44.48	0.00	0.00	78.02	78.02	0.00	0.00	0.00	0.00	0.00	0.00	61.00	61.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	183.50	183.50	100.00	
20/11/2015	95.97	0.00	0.00	43.94	43.94	0.00	0.00	77.12	77.12	0.00	0.00	0.00	0.00	0.00	0.00	60.44	60.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	181.50	181.50	100.00	
21/11/2015	95.84	0.00	0.00	43.42	43.42	0.00	0.00	76.08	76.08	0.00	0.00	0.00	0.00	0.00	0.00	59.52	59.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	179.02	179.02	100.00	
22/11/2015	95.58	0.00	0.00	43.50	43.50	0.00	0.00	76.07	76.07	0.00	0.00	0.00	0.00	0.00	0.00	59.42	59.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	178.99	178.99	100.00	
23/11/2015	94.94	0.00	0.00	43.52	43.52	0.00	0.00	76.05	76.05	0.00	0.03	0.08	0.11	0.00	0.00	59.33	59.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	178.98	179.01	99.98	
24/11/2015	94.88	0.00	0.00	43.53	43.53	0.00	0.00	76.13	76.13	0.00	0.00	0.00	0.00	0.00	0.00	59.32	59.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	178.98	178.98	100.00	
25/11/2015	94.15	0.00	0.04	57.97	58.02	0.00	0.00	43.30	43.30	0.00	0.00	21.98	21.98	0.00	0.00	33.73	33.73	0.00	0.00	20.00	20.00	0.00	0.01	2.38	2.39	0.00	0.05	179.36	179.42	99.97	
26/11/2015	94.25	0.00	0.00	86.94	86.94	0.00	0.00	0.00	0.00	0.00	0.00	18.81	18.81	0.00	0.00	28.98	28.98	0.00	0.00	44.18	44.18	0.00	0.00	0.00	0.00	0.00	0.00	178.91	178.91	100.00	
27/11/2015	94.20	0.00	0.00	87.92	87.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.22	47.22	0.00	0.00	42.27	42.27	0.00	0.00	0.00	0.00	0.00	0.00	177.41	177.41	100.00	
28/11/2015	93.70	0.00	0.00	87.46	87.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.74	47.74	0.00	0.00	42.64	42.64	0.00	0.00	0.00	0.00	0.00	0.00	177.84	177.84	100.00	
29/11/2015	93.79	0.00	0.06	86.51	86.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48.88	48.88	0.00	0.00	43.41	43.41	0.00	0.00	0.00	0.00	0.00	0.00	178.80	178.86	99.97	
30/11/2015	93.50	0.00	0.00	86.09	86.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48.66	48.66	0.00	0.00	43.16	43.16	0.00	0.00	0.00	0.00	0.00	0.00	177.91	177.91	100.00	

Water Volume [%]:

Untreated: 0.02 %

Below Dose: 0.06 %

To Dose: 99.92 %

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT UV REPORT

Report Period: December 2015

Report Created: Friday, January 01, 2016

Date	Transmittance	UVR-D100A				UVR-D200A				UVR-D300A				UVR-D400A				UVR-D500A				UVR-D600A				Total				% Volume Treated To Dose	
		Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]					
		Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total		
01/12/2015	93.44	0.00	0.00	86.14	86.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48.64	48.64	0.00	0.00	43.09	43.09	0.00	0.00	0.00	0.00	0.00	0.00	177.87	177.87	100.00
02/12/2015	93.14	0.00	0.00	85.97	85.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48.48	48.48	0.00	0.00	43.44	43.44	0.00	0.00	0.00	0.00	0.00	0.00	177.89	177.89	100.00
03/12/2015	92.56	0.00	0.00	85.91	85.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48.41	48.41	0.00	0.00	43.60	43.60	0.00	0.00	0.00	0.00	0.00	0.00	177.93	177.93	100.00
04/12/2015	92.65	0.00	0.00	85.93	85.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48.84	48.84	0.00	0.00	26.42	26.42	0.00	0.02	17.53	17.55	0.00	0.02	178.72	178.74	99.99
05/12/2015	93.75	0.00	0.00	85.80	85.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.99	52.99	0.00	0.00	0.00	0.00	0.00	0.00	47.16	47.16	0.00	0.00	185.95	185.95	100.00
06/12/2015	94.36	0.00	0.00	87.06	87.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.81	53.81	0.00	0.00	0.00	0.00	0.00	0.00	48.06	48.06	0.00	0.00	188.94	188.94	100.00
07/12/2015	94.80	0.00	0.00	87.95	87.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	39.13	39.44	0.00	0.00	10.29	10.29	0.00	0.00	52.94	52.94	0.00	0.31	190.32	190.62	99.84
08/12/2015	94.91	0.00	0.00	87.72	87.72	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	38.02	38.02	0.00	0.00	67.32	67.32	0.00	0.00	193.06	193.06	100.00	
09/12/2015	94.22	0.00	0.00	86.73	86.73	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	37.60	37.60	0.00	0.00	66.40	66.40	0.00	0.00	190.73	190.73	100.00	
10/12/2015	94.36	0.00	0.00	84.04	84.04	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.56	36.56	0.00	0.00	64.37	64.37	0.00	0.00	184.97	184.98	100.00	
11/12/2015	94.26	0.00	0.00	83.94	83.94	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	36.54	36.54	0.00	0.00	64.41	64.41	0.00	0.00	184.90	184.90	100.00	
12/12/2015	94.15	0.00	0.00	83.83	83.83	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	36.52	36.52	0.00	0.05	64.24	64.29	0.00	0.05	184.59	184.63	99.98	
13/12/2015	93.81	0.00	0.00	82.84	82.84	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	36.10	36.10	0.00	0.00	63.56	63.56	0.00	0.00	182.50	182.50	100.00	
14/12/2015	93.48	0.00	0.00	81.47	81.47	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	35.63	35.63	0.00	0.26	62.32	62.58	0.00	0.26	179.42	179.68	99.86	
15/12/2015	93.69	0.00	0.00	67.09	67.09	0.00	0.00	0.00	0.00	0.00	0.00	48.26	48.26	0.00	0.00	0.00	0.00	0.00	0.00	55.01	55.01	0.00	0.09	9.57	9.66	0.00	0.09	179.94	180.03	99.95	
16/12/2015	94.07	0.00	0.00	59.00	59.00	0.00	0.00	0.00	0.00	0.00	0.00	57.46	57.46	0.00	0.00	0.00	0.00	0.00	0.00	63.58	63.58	0.00	0.00	0.00	0.00	0.00	0.00	180.04	180.04	100.00	
17/12/2015	94.25	0.00	0.00	64.10	64.10	0.00	0.00	0.00	0.00	0.04	0.04	42.17	42.26	0.00	0.05	37.95	38.00	0.09	0.09	35.40	35.57	0.00	0.00	0.00	0.00	0.13	0.18	179.61	179.93	99.82	
18/12/2015	94.38	0.00	0.00	63.49	63.49	0.00	0.17	0.07	0.23	0.00	0.00	55.74	55.74	0.00	0.00	44.17	44.17	0.00	0.00	16.41	16.41	0.00	0.00	0.00	0.00	0.00	0.17	179.88	180.05	99.91	
19/12/2015	94.71	0.00	0.00	54.50	54.50	0.00	0.00	0.00	0.00	0.00	0.00	63.30	63.30	0.00	0.00	0.00	0.00	0.00	0.00	62.30	62.30	0.00	0.00	0.00	0.00	0.00	0.00	180.09	180.09	100.00	
20/12/2015	94.39	0.00	0.00	54.89	54.89	0.00	0.00	0.00	0.00	0.00	0.00	63.67	63.67	0.00	0.00	0.00	0.00	0.00	0.00	61.47	61.47	0.00	0.00	0.00	0.00	0.00	0.00	180.03	180.03	100.00	
21/12/2015	93.89	0.00	0.00	54.72	54.72	0.00	0.00	0.00	0.00	0.00	0.00	63.47	63.47	0.00	0.00	0.00	0.00	0.00	0.00	61.22	61.22	0.00	0.00	0.00	0.00	0.00	0.00	179.41	179.41	100.00	
22/12/2015	93.82	0.00	0.00	55.49	55.49	0.02	0.09	0.00	0.11	0.00	0.04	39.54	39.58	0.00	0.03	23.03	23.06	0.00	0.00	24.80	24.80	0.00	0.00	34.72	34.72	0.02	0.16	177.58	177.76	99.90	
23/12/2015	93.63	0.00	0.00	19.88	19.88	0.00	0.04	38.83	38.87	0.00	0.00	4.26	4.26	0.00	0.04	56.48	56.52	0.00	0.00	0.00	0.00	0.00	0.00	58.16	58.16	0.00	0.09	177.61	177.70	99.95	
24/12/2015	93.67	0.00	0.00	27.76	27.76	0.00	0.04	30.88	30.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	59.92	59.92	0.00	0.04	178.55	178.59	99.98
25/12/2015	93.90	0.00	0.00	58.64	58.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.99	59.99	0.00	0.00	0.00	0.00	0.00	0.00	61.35	61.35	0.00	0.00	179.99	179.99	100.00
26/12/2015	93.93	0.00	0.00	59.42	59.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	58.61	58.61	0.00	0.00	0.00	0.00	0.00	0.00	61.97	61.97	0.00	0.00	180.00	180.00	100.00
27/12/2015	94.65	0.00	0.00	58.41	58.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.00	55.00	0.00	0.00	0.00	0.00	0.00	0.00	61.71	61.71	0.00	0.00	175.12	175.12	100.00
28/12/2015	94.49	0.00	0.00	59.48	59.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.00	55.00	0.00	0.00	0.00	0.00	0.00	0.00	63.26	63.26	0.00	0.00	177.74	177.74	100.00
29/12/2015	94.47	0.00	0.00	57.62	57.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.86	23.86	0.00	0.00	37.10	37.10	0.00	0.00	0.00	0.00	0.00	0.00	60.40	60.45	99.97
30/12/2015	94.42	0.00	0.00	60.38	60.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.88	19.88	0.17	0.17	31.78	32.11	0.00	0.00	28.28	28.28	0.00	0.09	38.41	38.51	99.76
31/12/2015	94.51	0.00	0.00	56.94	56.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.99	25.99	0.10	0.10	36.80	36.99	0.00	0.00	1.10	1.10	0.00	0.00	58.02	58.02	99.89
		0.00	0.00	2127.16	2127.16	0.02	0.34	69.78																							

2015 Corrective Action Reports



Water and Waste Department • Service des eaux et des déchets

Wednesday, February 4, 2015

Our Incident/Report No: 01-2015
LIMS Reference No: 41553/41613

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 NE01; NE06; NE07; SE03; SE04; SW07
OPERATOR IN CHARGE	NA
INCIDENT REPORTED BY	Courtney Diduck, Analytical Services Branch Head
TYPE OF NON-COMPLIANT INCIDENT	<ol style="list-style-type: none">1. Treated (or distribution system) water sample contains E. coli >0 per100mL, 3 MR 41/20072. High positive Total Coliform (>10 per100mL), 3 MR 41/20073. Low positive Total Coliform (<10 per100mL), 3 MR 41/2007
INCIDENT DATE	January 26, 2015
DESCRIPTION OF CORRECTIVE ACTIONS	IMMEDIATELY: Re-sampled original locations tested and additional samples upstream/downstream of original locations for; turbidity, free/total chlorine, temperature and contacted the ODW. The Winnipeg Regional Health Authority issued a precautionary Boil Water Advisory on January 27, 2015, for the entire City of Winnipeg. The Advisory was subsequently rescinded on January 29, 2015, when the two consecutive sets of re-samples tested negative for bacteria 24 hours apart. Sampled additional locations on January 31, 2015 as requested by ODW for free/total chlorine, temperature, turbidity and bacteria.
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

SampleName		Sample Number	Date Sampled	bacColiEsch-QT (MPNU/100mL)	bacColiTotal-QT (MPNU/100mL)	bacHPC (cfu/mL)	Chlorine, Free (mg/L)	Chlorine, Total (mg/L)	Temperature (°C)	Turbidity (ntu)	Time Sped (hrs)
NE01		421674	26-Jan-15	1	5	<10	0.49	0.63	8.5	0.26	8:42
	(Downstream)	422205	27-Jan-15	<1	<1	<10	0.64	0.90	8.5	0.18	15:16
	(Resample)	422206	27-Jan-15	<1	<1	<10	0.76	0.93	11.4	0.22	15:05
	(Upstream)	422204	27-Jan-15	<1	<1	<10	0.96	1.20	7.1	0.17	14:55
	(Downstream)	422223	28-Jan-15	<1	<1	<10	0.85	0.99	7.6	0.19	15:18
	(Resample)	422224	28-Jan-15	<1	<1	<10	0.68	0.82	10.2	0.21	15:25
	(Upstream)	422222	28-Jan-15	<1	<1	<10	0.95	1.11	6.4	0.22	15:32
		421679	26-Jan-15	<1	1	<10	0.95	1.18	6.0	0.31	9:20
NE06		422221	27-Jan-15	<1	<1	<10	0.96	1.14	7.1	0.30	16:42
	(Resample)	422207	27-Jan-15	<1	<1	<10	1.05	1.15	6.9	0.19	15:43
	(Upstream)	422220	27-Jan-15	<1	<1	<10	0.90	1.06	7.0	0.19	17:00
	(Downstream)	422226	28-Jan-15	<1	<1	<10	1.02	1.16	7.0	0.19	16:52
	(Resample)	422227	28-Jan-15	<1	<1	<10	1.01	1.16	5.9	0.18	15:52
	(Upstream)	422225	28-Jan-15	<1	<1	<10	0.98	1.12	5.9	0.20	17:17
		421680	26-Jan-15	9	53	<10	0.96	1.18	5.0	0.19	9:38
	(Downstream)	422209	27-Jan-15	<1	<1	<10	0.94	1.07	5.4	0.19	16:27
NE07	(Resample)	422210	27-Jan-15	<1	<1	<10	0.84	1.16	5.7	0.18	16:12
	(Upstream)	422208	27-Jan-15	<1	<1	<10	0.48	0.67	10.3	0.27	16:02
	(Downstream)	422229	28-Jan-15	<1	<1	<10	0.81	1.03	6.0	0.20	16:41
	(Resample)	422230	28-Jan-15	<1	<1	<10	0.83	1.16	4.5	0.19	16:16
	(Upstream)	422228	28-Jan-15	<1	<1	<10	0.53	0.67	8.6	0.68	16:29
		421695	26-Jan-15	1	4	<10	0.76	0.91	8.3	0.25	15:04
	(Downstream)	422212	27-Jan-15	<1	<1	<10	0.21	0.48	7.7	0.25	15:59
	(Resample)	422213	27-Jan-15	<1	<1	<10	0.74	1.07	10.4	0.20	15:38
SE03	(Upstream)	422211	27-Jan-15	<1	<1	<10	0.40	0.57	22.0	0.20	15:24
	(Downstream)	422232	28-Jan-15	<1	<1	<10	0.12	0.33	6.2	0.23	16:27
	(Resample)	422233	28-Jan-15	<1	<1	<10	0.83	1.05	11.4	0.14	16:13
	(Upstream)	422231	28-Jan-15	<1	<1	<10	0.46	0.73	18.2	0.20	15:50
		421696	26-Jan-15	1	3	<10	0.78	1.05	8.7	0.31	14:45
	(Downstream)	422215	27-Jan-15	<1	<1	<10	0.93	1.11	7.7	0.18	16:35
	(Resample)	422216	27-Jan-15	<1	<1	<10	0.86	1.09	9.1	0.21	16:21
	(Upstream)	422214	27-Jan-15	<1	<1	240	0.70	0.95	9.4	0.17	17:00
SE04	(Downstream)	422235	28-Jan-15	<1	<1	<10	0.94	1.20	5.4	0.22	17:02
	(Resample)	422236	28-Jan-15	<1	<1	<10	0.87	1.20	7.9	0.17	16:50
	(Upstream)	422234	28-Jan-15	<1	<1	10	0.33	0.53	7.0	0.32	17:21
		421713	26-Jan-15	1	1	<10	0.74	0.99	5.7	0.17	12:44
	(Downstream)	422218	27-Jan-15	<1	<1	<10	0.86	1.01	12.7	0.17	17:30
	(Resample)	422219	27-Jan-15	<1	<1	<10	0.87	1.12	6.8	0.20	18:03
	(Upstream)	422217	27-Jan-15	<1	<1	<10	0.43	0.59	24.2	0.17	15:47
	(Downstream)	422238	28-Jan-15	<1	<1	<10	0.81	1.14	6.8	0.17	18:13
SW07	(Resample)	422239	28-Jan-15	<1	<1	<10	0.64	0.89	14.6	0.17	17:46
	(Upstream)	422237	28-Jan-15	<1	<1	<10	0.80	1.01	8.0	0.17	18:00

SampleName	Sample Number	Date Sampled	bacColiEsch-QT (MPNU/100mL)	bacColiTotal-QT (MPNU/100mL)	bacHPC (cfu/mL)	Chlorine, Free (mg/L)	Chlorine, Total (mg/L)	Temperature (°C)	Turbidity (ntu)	Time Sped (hrs)
NE03	422503	31-Jan-15	<1	<1	10	0.76	0.90	5.9	0.24	9:35
NE04	422504	31-Jan-15	<1	<1	<10	0.94	1.12	7.0	0.20	9:50
NE07	422507	31-Jan-15	<1	<1	<10	0.62	0.76	6.4	0.22	10:23
NE08	422508	31-Jan-15	<1	<1	10	0.75	1.00	7.8	0.18	10:10
NE10	422510	31-Jan-15	<1	<1	<10	0.44	0.65	6.6	0.23	10:38
NW02	422512	31-Jan-15	<1	<1	<10	0.86	1.03	6.3	0.26	15:55
NW04	422514	31-Jan-15	<1	<1	<10	0.86	1.08	6.1	0.16	16:42
NW07	422517	31-Jan-15	<1	<1	<10	0.70	0.87	5.9	0.21	15:30
NW08	422518	31-Jan-15	<1	<1	<10	1.00	1.15	2.8	0.21	16:20
SE03	422522	31-Jan-15	<1	<1	<10	0.69	0.87	10.1	0.21	18:01
SE06	422525	31-Jan-15	<1	<1	<10	0.43	0.60	8.6	0.29	12:25
SE09	422528	31-Jan-15	<1	<1	<10	0.81	1.04	10.1	0.30	11:21
SE10	422529	31-Jan-15	<1	<1	<10	0.50	0.70	7.2	0.21	11:35
SE12	422531	31-Jan-15	<1	<1	<10	1.01	1.24	6.9	0.23	10:55
SE14	422533	31-Jan-15	<1	<1	<10	0.71	0.97	10.3	0.26	17:30
SW02	422535	31-Jan-15	<1	<1	<10	0.28	0.45	6.8	0.22	14:04
SW07	422540	31-Jan-15	<1	<1	<10	0.91	1.12	5.7	0.21	13:44
SW09	422542	31-Jan-15	<1	<1	<10	0.75	0.93	8.8	0.21	12:51
SW12	422545	31-Jan-15	<1	<1	<10	0.99	1.16	5.9	0.23	13:05
SW15	422547	31-Jan-15	<1	<1	10	0.62	0.84	9.8	0.35	13:20
WC03	422552	31-Jan-15	<1	<1	<10	0.69	0.85	7.4	0.20	15:10
WC07	422556	31-Jan-15	<1	<1	<10	0.93	1.07	6.1	0.14	14:23



Water and Waste Department • Service des eaux et des déchets

Tuesday, March 31, 2015

Our Incident/Report No: 02-2015

LIMS Reference No: 41862

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 WC05
OPERATOR IN CHARGE	NA
INCIDENT REPORTED BY	Courtney Diduck, Analytical Services Branch Head
TYPE OF NON-COMPLIANT INCIDENT	Low disinfection residual in the distribution system, 22(1) MR 40/2007
INCIDENT DATE	March 5, 2015
DESCRIPTION OF CORRECTIVE ACTIONS	IMMEDIATELY: Re-sampled original location and tested additional samples upstream and downstream for free/total chlorine, bacteria, and temperature, and contacted the ODW. Water Services Division was contacted and the area was checked for closed valves and spot flushed. All closed valves were located and opened and free chlorine residuals were re-established to acceptable levels.
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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Environmental Standards Division • Division des normes environnementales
2230 Main Street. • 2230, rue Main • Winnipeg • Manitoba R2V 4T8
fax/téléc. (204) 339-2147 • www.winnipeg.ca

Sample Name		Sample Number	Date Sampled	bacColiEsch-QT (MPNU/100mL)	bacColiTotal-QT (MPNU/100mL)	bacHPC (cfu/mL)	Chlorine, Free (mg/L)	Chlorine, Total (mg/L)	Temperature (°C)	Turbidity (ntu)	Time Sampled (hrs)
WC05	(Resample)	425812	05-Mar-15	<1	<1	>3000	0.09	0.17	6.9	0.50	11:56
WC05		425821	05-Mar-15	<1	<1	>3000	0.05	0.15	4.7	0.52	12:57
WC05		425822	05-Mar-15	<1	<1	<10	0.04	0.17	4.0	0.64	12:33
WC05		426404	06-Mar-15	NA	NA	NA	0.53	0.68	5.6	NA	14:01
WC05		426405	06-Mar-15	NA	NA	NA	0.59	0.76	4.1	NA	14:22
WC05		426406	06-Mar-15	NA	NA	NA	0.54	0.72	6.5	NA	14:12



Water and Waste Department • Service des eaux et des déchets

Wednesday, June 24, 2015

Our Incident/Report No: 03-2015

LIMS Reference No: 42149

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 SW04
OPERATOR IN CHARGE	NA
INCIDENT REPORTED BY	Courtney Diduck, Analytical Services Branch Head
TYPE OF NON-COMPLIANT INCIDENT	Low positive Total Coliform (<10 per100mL), 3 MR 41/2007
INCIDENT DATE	April 1, 2015
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

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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	bacColiEsch-QT (MPNU/100mL)	bacColiTotal-QT (MPNU/100mL)	bacHPC (cfu/mL)	Chlorine, Free (mg/L)	Chlorine, Total (mg/L)	Temperature (°C)	Turbidity (ntu)	TimeSpld (hrs)
SW04_	428098	01-Apr-15	<1	1	<10	0.85	1.05	6.9	0.55	11:49
SW04_	428772	02-Apr-15	<1	<1	10	1.05	1.29	5.5	0.27	15:02



Water and Waste Department • Service des eaux et des déchets

Wednesday, June 24, 2015

Our Incident/Report No: 04-2015

LIMS Reference No: 42445

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 SW10
OPERATOR IN CHARGE	NA
INCIDENT REPORTED BY	Courtney Diduck, Analytical Services Branch Head
TYPE OF NON-COMPLIANT INCIDENT	Low positive Total Coliform (<10 per100mL), 3 MR 41/2007
INCIDENT DATE	May 6, 2015
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	bacColiEsch-QT (MPNU/100mL)	bacColiTotal-QT (MPNU/100mL)	bacHPC (cfu/mL)	Chlorine, Free (mg/L)	Chlorine, Total (mg/L)	Temperature (°C)	Turbidity (ntu)	Time Spled (hrs)
SW10	431370	06-May-15	<1	1	<1	0.59	0.85	13.0	0.41	14:46
SW10 Resample	431989	07-May-15	<1	<1	1	0.80	1.01	11.5	0.32	15:15



Water and Waste Department • Service des eaux et des déchets

Tuesday, July 7, 2015

Our Incident/Report No: 05-2015

LIMS Reference No: 42734

Incident Date: June 1, 2015

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

RE: CORRECTIVE ACTION REPORT

WATER SYSTEM, CODE	Winnipeg Public Water System, 252.00
LOCATION OF NON-COMPLIANT INCIDENT	Winnipeg 3-Dist NW03; NW05
INCIDENT REPORTED BY	Courtney Diduck, Analytical Services Branch Head
TYPE OF NON-COMPLIANT INCIDENT	1. Low positive Total Coliform (<10 per100mL), 3 MR 41/2007 2. High positive Total Coliform (>10 per100mL), 3 MR 41/2007
DESCRIPTION OF CORRECTIVE ACTIONS	<p><u>Environmental Standards:</u> IMMEDIATELY: Re-sampled original locations, tested additional samples upstream/downstream of high positive location for turbidity, free/total chlorine, temperature and contacted the ODW. Identified and evaluated 36 properties near the high positive location for backflow prevention, 7 locations were immediately notified that testing of backflow prevention device(s) is required and one work order was issued for insufficient backflow protection.</p> <p><u>Water Services:</u> Spot flushed and monitored chlorine and turbidity levels at the locations, inspected feedermain route and valve chambers, and reviewed operational data and discoloured water calls. Positive locations and operational activities were mapped for evaluation. Pressure data for McPhillips and MacLean pumping stations and regional pressure monitoring points in the vicinity of the positive locations was analyzed for the week prior to June 1, 2015. No sanitary defects or unusual operational activities were identified.</p> <p>A complete summary of follow-up activities will be provided in a separate submission.</p>
TEST RESULTS	See Attached

NOTES/COMMENTS:

1. UP/DOWN STREAM testing performed when EC is >0 /100mL, TC is >10 /100mL or when resample/consecutive sample is positive for EC or TC or as directed by the Manager of Environmental Standards Division and/or the Office of Drinking Water

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

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Sample Name	Sample Number	Date Sampled	bacColiEsch-QT (MPNU/100mL)	bacColiTotal-QT (MPNU/100mL)	bacHPC (cfu/mL)	Chlorine, Free (mg/L)	Chlorine, Total (mg/L)	Temperature (°C)	Turbidity (ntu)	Time Sampled (hrs)
NW03	434612	01-Jun-15	<1	1	38	0.44	0.53	7.1	0.29	9:25
NW03 Duplicate	-	01-Jun-15	<1	1	NA	NA	NA	NA	0.29	NA
NW03_Resample	435271	02-Jun-15	<1	<1	<1	0.66	0.82	8.1	0.32	15:43
NW03_Resample Duplicate	435276	02-Jun-15	<1	<1	<1	NA	NA	NA	NA	NA
NW05	434614	01-Jun-15	<1	>200	4	0.66	0.88	7.8	0.22	11:30
NW05_Resample	435272	02-Jun-15	<1	<1	<1	0.82	1.02	10.3	0.15	16:10
NW05_Upstream	435273	02-Jun-15	<1	<1	<1	0.88	0.99	11.3	0.22	17:00
NW05_Downstream	435274	02-Jun-15	<1	<1	<1	0.89	1.00	14.3	0.16	16:30
NW05_Resample Duplicate	435275	02-Jun-15	<1	<1	<1	NA	NA	NA	NA	NA

NOTES/COMMENTS:

1. All microbiological tests performed by contract laboratory.
2. NR-No Result due to laboratory/analyst error
3. NA-Not Analyzed.



Water and Waste Department • Service des eaux et des déchets

Wednesday, June 24, 2015

Our Incident/Report No: 06-2015

LIMS Reference No: **42806**

Incident Date: **June 10, 2015**

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

RE: CORRECTIVE ACTION REPORT

WATER SYSTEM, CODE	Winnipeg Public Water System, 252.00
LOCATION OF NON-COMPLIANT INCIDENT	Winnipeg 3-Dist SE03
INCIDENT REPORTED BY	Courtney Diduck, Analytical Services Branch Head
TYPE OF NON-COMPLIANT INCIDENT	Low positive Total Coliform (<10 per100mL), 3 MR 41/2007
DESCRIPTION OF CORRECTIVE ACTIONS	<u>Environmental Standards:</u> 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. UP/DOWN STREAM testing performed when EC is >0 /100mL, TC is >10 /100mL or when resample/consecutive sample is positive for EC or TC or as directed by the Manager of Environmental Standards Division and/or the Office of Drinking Water

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

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Sample Name	Sample Number	Date Sampled	bacColiEsch-QT (MPNU/100mL)	bacColiTotal-QT (MPNU/100mL)	bacHPC (cfu/mL)	Chlorine, Free (mg/L)	Chlorine, Total (mg/L)	Temperature (°C)	Turbidity-field (ntu)	Time Sampled (hrs)
SEO3	435473	10-Jun-15	<1	1	3	0.81	0.97	12.7	0.28	12:36
SEO3_Resample	436282	11-Jun-15	<1	<1	<1	0.68	0.84	10.3	0.54	16:41
SEO3_Resample Duplicate	436283	11-Jun-15	<1	<1	<1	NA	NA	NA	NA	NA

NOTES/COMMENTS:

1. All microbiological tests performed by contract laboratory.
2. NR-No Result due to laboratory/analyst error
3. NA-Not Analyzed.



Water and Waste Department • Service des eaux et des déchets

Friday, October 2, 2015

Our Incident/Report No: **07-2015**

LIMS Reference No: **43752**

Incident Date: **September 10, 2015**

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

RE: CORRECTIVE ACTION REPORT

WATER SYSTEM, CODE	Winnipeg Public Water System, 252.00
LOCATION OF NON-COMPLIANT INCIDENT	Winnipeg 3-Dist SW03
INCIDENT REPORTED BY	Courtney Diduck, Analytical Services Branch Head
TYPE OF NON-COMPLIANT INCIDENT	1. Low disinfection residual in the distribution system, 22(1) MR 40/2007
DESCRIPTION OF CORRECTIVE ACTIONS	<p><u>Environmental Standards:</u> IMMEDIATELY: Re-sampled original location and tested additional samples upstream and downstream for free/total chlorine, turbidity and temperature, and contacted the ODW.</p> <p><u>Water Services:</u> Water Services Division was contacted and the area was checked for closed valves and spot flushed. Spot flushing resolved the issue and free chlorine residuals were re-established to acceptable levels.</p>
TEST RESULTS	See Attached

NOTES/COMMENTS:

1. UP/DOWN STREAM testing performed when EC is >0 /100mL, TC is >10 /100mL or when resample/consecutive sample is positive for EC or TC or as directed by the Manager of Environmental Standards Division and/or the Office of Drinking Water

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

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Sample Name	Sample Number	Date Sampled	bacColiEsch-QT (MPNU/100mL)	bacColiTotal-QT (MPNU/100mL)	bacHPC (cfu/mL)	Chlorine, Free (mg/L)	Chlorine, Total (mg/L)	Temperature (°C)	Turbidity-field (ntu)	Time Sampled (hrs)
SW03	446009	10-Sep-15	<1	<1	<1	0.07	0.23	15.1	0.34	10:08
SW03_Upstream	446595	10-Sep-15	NA	NA	NA	0.62	0.81	17.0	0.14	11:29
SW03_Downstream	446596	10-Sep-15	NA	NA	NA	0.20	0.36	15.1	0.31	10:25
SW03_Resample	446640	11-Sep-15	NA	NA	NA	0.75	0.88	16.5	0.13	10:24
SW03_Upstream Resample	446724	11-Sep-15	NA	NA	NA	0.69	0.90	16.3	0.14	10:36
SW03_Downstream Resample	446725	11-Sep-15	NA	NA	NA	0.69	0.87	16.6	0.12	10:53

NOTES/COMMENTS:

1. All microbiological tests performed by contract laboratory.
2. NR-No Result due to laboratory/analyst error
3. NA-Not Analyzed.



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Friday, December 4, 2015

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

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

RE: CORRECTIVE ACTION REPORT

WATER SYSTEM, CODE	Winnipeg Public Water System, 252.00
LOCATION OF NON-COMPLIANT INCIDENT	Winnipeg 3-Dist SW03
INCIDENT REPORTED BY	Courtney Diduck, Analytical Services Branch Head
TYPE OF NON-COMPLIANT INCIDENT	1. Low disinfection residual in the distribution system, 22(1) MR 40/2007
DESCRIPTION OF CORRECTIVE ACTIONS	<p><u>Environmental Standards:</u> IMMEDIATELY: Re-sampled original location and tested additional samples upstream and downstream for free/total chlorine, turbidity and temperature, and contacted the ODW. Retesting continued until free chlorines residuals were re-established to acceptable levels.</p> <p><u>Water Services:</u> Water Services Division was contacted and the area was checked for closed valves and spot flushed. Spot flushing resolved the issue and free chlorine residuals were re-established to acceptable levels on each occurrence.</p> <p>An investigation was launched to determine the cause of the low chlorine. The findings of the investigation will be provided in a separate submission once complete.</p>
TEST RESULTS	See Attached

NOTES/COMMENTS:

1. UP/DOWN STREAM testing performed when EC is >0 /100mL, TC is >10 /100mL or when resample/consecutive sample is positive for EC or TC or as directed by the Manager of Environmental Standards Division and/or the Office of Drinking Water

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

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Sample Name	Sample Number	Date Sampled	bacColiEsch-QT (MPNU/100mL)	bacColiTotal-QT (MPNU/100mL)	bacHPC (cfu/mL)	Chlorine, Free (mg/L)	Chlorine, Total (mg/L)	Temperature (°C)	Turbidity-field (ntu)	Time Sampled (hrs)
SW03	449598	15-Oct-15	<1	<1	1	0.06	0.19	14.7	0.58	9:46
SW03_Downstream	450216	15-Oct-15				<0.02	0.14	14.2	0.46	10:16
SW03_Upstream	450217	15-Oct-15				0.73	0.93	16.3	0.16	10:28
Water Service Hydrant @ SW03 follow Spot Flush		15-Oct-15				0.58	N/A	N/A	N/A	N/A
SW03_Resample (After Flushing)	450368	15-Oct-15				1.09	1.29	14.5	2.79	14:25
SW03_Downstream (After Flushing)	450369	15-Oct-15				1.25	1.41	15.5	3.26	14:48
SW03_Resample 2	450382	16-Oct-15				0.72	0.86	15.1	0.22	14:16
SW03	450285	21-Oct-15	<1	<1	7	0.02	0.16	14.0	0.49	9:32
SW03_Downstream	451020	21-Oct-15				0.02	0.15	13.8	0.52	9:55
SW03_Downstream	451036	21-Oct-15				0.06	0.19	13.8	0.56	10:18
SW03_Upstream	451037	21-Oct-15				0.57	0.75	14.8	0.17	10:42
SW03_Downstream	451038	21-Oct-15				0.14	0.24	13.2	0.85	14:45
SW03_Resample (After Flushing)	451039	21-Oct-15				1.00	1.27	13.9	1.73	15:15
SW03_Resample 2	451086	22-Oct-15				0.47	0.59	14.1	1.31	14:28
SW03_Resample 3	451087	23-Oct-15				0.08	0.17	13.8	0.42	11:03
SW03_Resample 4	452609	23-Oct-15				0.12	0.22	N/A	N/A	11:08
Water Service Hydrant @ SW03 follow Spot Flush		23-Oct-15				0.57	N/A	N/A	N/A	N/A
SW03_Water Services Sample		23-Oct-15				0.57	N/A	N/A	N/A	N/A
SW03	451154	28-Oct-15	<1	<1	4	0.50	0.71	13.6	0.49	9:49

NOTES/COMMENTS:

1. All microbiological tests performed by contract laboratory.
2. N/R-No Result due to laboratory/analyst error.
3. N/A-Not Analyzed.



Water and Waste Department • Service des eaux et des déchets

Friday, December 4, 2015

Our Incident/Report No: **09-2015**

LIMS Reference No: **44287**

Incident Date: **November 2, 2015**

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

RE: CORRECTIVE ACTION REPORT

WATER SYSTEM, CODE	Winnipeg Public Water System, 252.00
LOCATION OF NON-COMPLIANT INCIDENT	Winnipeg 3-Dist NW03
INCIDENT REPORTED BY	Courtney Diduck, Analytical Services Branch Head
TYPE OF NON-COMPLIANT INCIDENT	1. Low disinfection residual in the distribution system, 22(1) MR 40/2007
DESCRIPTION OF CORRECTIVE ACTIONS	<p><u>Environmental Standards:</u> IMMEDIATELY: Re-sampled original location and tested additional samples upstream and downstream for free/total chlorine, turbidity and temperature, and contacted the ODW. Resampling and investigative sampling continued until free chlorine residuals were re-established to acceptable levels.</p> <p><u>Water Services:</u> Water Services Division was contacted and the area was checked for closed valves. A closed valve was located; the valve was opened and the issue was resolved.</p>
TEST RESULTS	See Attached

NOTES/COMMENTS:

1. UP/DOWN STREAM testing performed when EC is >0 /100mL, TC is >10 /100mL or when resample/consecutive sample is positive for EC or TC or as directed by the Manager of Environmental Standards Division and/or the Office of Drinking Water

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

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Sample Name	Sample Number	Date Sampled	bacColiEsch-QT (MPNU/100mL)	bacColiTotal-QT (MPNU/100mL)	bacHPC (cfu/mL)	Chlorine, Free (mg/L)	Chlorine, Total (mg/L)	Temperature (°C)	Turbidity-field (ntu)	Time Sampled (hrs)
NW03	455438	02-Nov-15	<1	<1	<1	0.08	N/A	14.3	0.40	9:18
NW03_Resample	451971	02-Nov-15	N/A	N/A	N/A	0.11	0.26	14.3	0.40	9:23
NW03_Downstream	452185	02-Nov-15	N/A	N/A	N/A	0.04	0.06	12.9	0.49	10:27
NW03_Upstream	452187	02-Nov-15	N/A	N/A	N/A	0.23	0.37	12.5	0.36	10:43
NW03_Investigation Sample 1	452186	02-Nov-15	N/A	N/A	N/A	0.58	0.70	13.5	0.39	10:36
NW03_Investigation Sample 2	452188	02-Nov-15	N/A	N/A	N/A	0.41	0.59	13.8	0.32	11:00
NW03_Investigation Sample 3	452154	03-Nov-15	N/A	N/A	N/A	1.03	1.22	12.8	0.43	10:21
NW03_Investigation Sample 4	452588	03-Nov-15	N/A	N/A	N/A	0.50	0.68	14.7	0.29	15:20
NW03_Investigation Sample 5	452589	03-Nov-15	N/A	N/A	N/A	0.29	0.50	13.7	0.28	15:40
NW03_Investigation Sample 6	452155	03-Nov-15	N/A	N/A	N/A	0.37	0.53	15.1	0.25	10:07
NW03_Resample 2	452153	03-Nov-15	N/A	N/A	N/A	0.11	0.28	14.6	0.46	9:50
NW03_Investigation Sample 7	452558	04-Nov-15	N/A	N/A	N/A	0.13	0.23	14.3	0.45	14:37
NW03_Resample 3	452557	04-Nov-15	N/A	N/A	N/A	0.11	0.28	14.5	0.71	14:53
NW03_Investigation Sample 7 Resample	452778	06-Nov-15	N/A	N/A	N/A	0.26	0.44	14.0	0.52	15:31
NW03_Downstream Resample	452777	06-Nov-15	N/A	N/A	N/A	0.40	0.57	12.1	0.99	15:04
NW03_Resample 4	452775	06-Nov-15	N/A	N/A	N/A	0.41	0.51	13.3	0.52	14:41

NOTES/COMMENTS:

1. All microbiological tests performed by contract laboratory.
2. N/R-No Result due to laboratory/analyst error.
3. N/A-Not Analyzed.

2015 Monthly Fluoride Monitoring Reports



Water and Waste Department • Service des eaux et des déchets

February 9, 2015

Our File: 040-18-18-14-00

Dr. Khalida Hai-Santiago c/o Helen Browne
300 Carlton Street (Room 4068)
Winnipeg, Manitoba
R3B 3M9

Dear Dr. Hai-Santiago:

RE: CITY OF WINNIPEG FLUORIDE MONITORING DATA

As a participant in the Provincial Water Fluoridation Program, the City of Winnipeg Water and Waste Department hereby submits the following fluoride monitoring data on analyses conducted by the Environmental Standards Division.

<u>LOCATION</u>	<u>SAMPLE NUMBER</u>	<u>DATE</u>	<u>RESULT(mg/L F)</u>
Distribution System (Composite – 39 Locations)	419785	January 5, 2015	0.68
	420370	January 12, 2015	0.70
	421022	January 19, 2015	0.69
	421670	January 26, 2015	0.72

Please let me know of any concerns or questions respecting this submission. I may be reached by telephone at 204-986-8359 or by email at rgrosselle@winnipeg.ca.

Yours truly,

Original signed by:

Renée Grosselle
Manager of Environmental Standards

RG/hd

cc: Tim Shanks, P.Eng. Manager of Water Services (e-mail)

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Water and Waste Department • Service des eaux et des déchets

March 18, 2015

Our File: 040-18-18-14-00

Dr. Khalida Hai-Santiago c/o Helen Browne
300 Carlton Street (Room 4068)
Winnipeg, Manitoba
R3B 3M9

Dear Dr. Hai-Santiago:

RE: CITY OF WINNIPEG FLUORIDE MONITORING DATA

As a participant in the Provincial Water Fluoridation Program, the City of Winnipeg Water and Waste Department hereby submits the following fluoride monitoring data on analyses conducted by the Environmental Standards Division.

<u>LOCATION</u>	<u>SAMPLE NUMBER</u>	<u>DATE</u>	<u>RESULT(mg/L F)</u>
Distribution System (Composite – 39 Locations)	422373	February 2, 2015	0.71
	423144	February 9, 2015	0.69
	423812	February 17, 2015	0.71
	424440	February 23, 2015	0.70

If you have any questions on the foregoing, please call Ms. Nancy Crawford, Compliance Reporting Branch Head, at 204-986-4807.

Yours truly,

Original signed by:

Renée Grosselle
Manager of Environmental Standards

NC/HD

cc: Tim Shanks, P.Eng. Manager of Water Services (e-mail)

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Water and Waste Department • Service des eaux et des déchets

April 20, 2015

Our File: 040-18-18-14-00

Dr. Khalida Hai-Santiago c/o Helen Browne
300 Carlton Street (Room 4068)
Winnipeg, Manitoba
R3B 3M9

Dear Dr. Hai-Santiago:

RE: CITY OF WINNIPEG FLUORIDE MONITORING DATA

As a participant in the Provincial Water Fluoridation Program, the City of Winnipeg Water and Waste Department hereby submits the following fluoride monitoring data on analyses conducted by the Environmental Standards Division.

<u>LOCATION</u>	<u>SAMPLE NUMBER</u>	<u>DATE</u>	<u>RESULT(mg/L F)</u>
Distribution System (Composite – 39 Locations)	425220	March 2, 2015	0.71
	425885	March 9, 2015	0.64
	426583	March 16, 2015	0.69
	427391	March 23, 2015	0.69
	428058	March 30, 2015	0.69

If you have any questions on the foregoing, please call Ms. Nancy Crawford, Compliance Reporting Branch Head, at 204-986-4807.

Yours truly,

Original signed by:

Renée Grosselle
Manager of Environmental Standards

NC/HD

cc: Tim Shanks, P.Eng. Manager of Water Services (e-mail)

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Water and Waste Department • Service des eaux et des déchets

May 8, 2015

Our File: 040-18-18-14-00

Dr. Khalida Hai-Santiago c/o Helen Browne
300 Carlton Street (Room 4068)
Winnipeg, Manitoba
R3B 3M9

Dear Dr. Hai-Santiago:

RE: CITY OF WINNIPEG FLUORIDE MONITORING DATA

As a participant in the Provincial Water Fluoridation Program, the City of Winnipeg Water and Waste Department hereby submits the following fluoride monitoring data on analyses conducted by the Environmental Standards Division.

<u>LOCATION</u>	<u>SAMPLE NUMBER</u>	<u>DATE</u>	<u>RESULT(mg/L F)</u>
Distribution System (Composite – 39 Locations)	428611	April 7, 2015	0.69
	429288	April 13, 2015	0.70
	429963	April 20, 2015	0.68
	430621	April 27, 2015	0.64

If you have any questions on the foregoing, please call Ms. Nancy Crawford, Compliance Reporting Branch Head, at 204-986-4807.

Yours truly,

Original signed by:

Renée Grosselle
Manager of Environmental Standards

NC/HD

cc: Tim Shanks, P.Eng. Manager of Water Services (e-mail)

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Water and Waste Department • Service des eaux et des déchets

June 22, 2015

Our File: 040-18-18-14-00

Dr. Khalida Hai-Santiago c/o Helen Browne
300 Carlton Street (Room 4068)
Winnipeg, Manitoba
R3B 3M9

Dear Dr. Hai-Santiago:

RE: CITY OF WINNIPEG FLUORIDE MONITORING DATA

As a participant in the Provincial Water Fluoridation Program, the City of Winnipeg Water and Waste Department hereby submits the following fluoride monitoring data on analyses conducted by the Environmental Standards Division.

<u>LOCATION</u>	<u>SAMPLE NUMBER</u>	<u>DATE</u>	<u>RESULT(mg/L F)</u>
Distribution System (Composite – 39 Locations)	431324	May 4, 2015	0.68
	432048	May 11, 2015	0.65
	432881	May 19, 2015	0.65
	433685	May 25, 2015	0.66

If you have any questions on the foregoing, please call Ms. Nancy Crawford, Compliance Reporting Branch Head, at 204-986-4807.

Yours truly,

Original signed by:

Renée Grosselle
Manager of Environmental Standards

NC/HD

cc: Tim Shanks, P.Eng. Manager of Water Services (e-mail)

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Water and Waste Department • Service des eaux et des déchets

July 14, 2015

Our File: 040-18-18-14-00

Dr. Khalida Hai-Santiago c/o Helen Browne
300 Carlton Street (Room 4068)
Winnipeg, Manitoba
R3B 3M9

Dear Dr. Hai-Santiago:

RE: CITY OF WINNIPEG FLUORIDE MONITORING DATA

As a participant in the Provincial Water Fluoridation Program, the City of Winnipeg Water and Waste Department hereby submits the following fluoride monitoring data on analyses conducted by the Environmental Standards Division.

LOCATION	SAMPLE NUMBER	DATE	RESULT(mg/L F)
Distribution System (Composite – 39 Locations)	434596	June 1, 2015	0.62
	435448	June 8, 2015	0.64
	436301	June 15, 2015	0.65
	437064	June 22, 2015	NA
	438000	June 29, 2015	0.67

On June 22nd the Distribution System Composite sample was not analyzed for fluoride because the sample was not representative due to a possible sample contamination. If you have any questions on the foregoing, please call Ms. Nancy Crawford, Compliance Reporting Branch Head, at 204-986-4807.

Yours truly,

Original signed by:

Renée Grosselle
Manager of Environmental Standards

NC/HD

cc: Tim Shanks, P.Eng. Manager of Water Services (e-mail)

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Water and Waste Department • Service des eaux et des déchets

August 12, 2015

Our File: 040-18-18-14-00

Dr. Khalida Hai-Santiago c/o Helen Browne
300 Carlton Street (Room 4068)
Winnipeg, Manitoba
R3B 3M9

Dear Dr. Hai-Santiago:

RE: CITY OF WINNIPEG FLUORIDE MONITORING DATA

As a participant in the Provincial Water Fluoridation Program, the City of Winnipeg Water and Waste Department hereby submits the following fluoride monitoring data on analyses conducted by the Environmental Standards Division.

<u>LOCATION</u>	<u>SAMPLE NUMBER</u>	<u>DATE</u>	<u>RESULT(mg/L F)</u>
Distribution System (Composite – 39 Locations)	438762	July 6, 2015	0.65
	439659	July 13, 2015	0.70
	440414	July 20, 2015	0.73
	441280	July 27, 2015	0.69

If you have any questions on the foregoing, please call Ms. Nancy Crawford, Compliance Reporting Branch Head, at 204-986-4807.

Yours truly,

Original signed by:

Renée Grosselle
Manager of Environmental Standards

NC/HD

cc: Tim Shanks, P.Eng. Manager of Water Services (e-mail)

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Water and Waste Department • Service des eaux et des déchets

September 30, 2015

Our File: 040-18-18-14-00

Dr. Khalida Hai-Santiago c/o Helen Browne
300 Carlton Street (Room 4068)
Winnipeg, Manitoba
R3B 3M9

Dear Dr. Hai-Santiago:

RE: CITY OF WINNIPEG FLUORIDE MONITORING DATA

As a participant in the Provincial Water Fluoridation Program, the City of Winnipeg Water and Waste Department hereby submits the following fluoride monitoring data on analyses conducted by the Environmental Standards Division.

<u>LOCATION</u>	<u>SAMPLE NUMBER</u>	<u>DATE</u>	<u>RESULT(mg/L F)</u>
Distribution System (Composite – 39 Locations)	442112	August 4, 2015	0.66
	443006	August 10, 2015	0.67
	443732	August 17, 2015	0.68
	444504	August 24, 2015	0.68
	445276	August 31, 2015	0.69

If you have any questions on the foregoing, please call Ms. Nancy Crawford, Compliance Reporting Branch Head, at 204-986-4807.

Yours truly,

Original signed by:

Renée Grosselle
Manager of Environmental Standards

NC/HD

cc: Tim Shanks, P.Eng. Manager of Water Services (e-mail)

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Water and Waste Department • Service des eaux et des déchets

October 20, 2015

Our File: 040-18-18-14-00

Dr. Khalida Hai-Santiago c/o Helen Browne
300 Carlton Street (Room 4068)
Winnipeg, Manitoba
R3B 3M9

Dear Dr. Hai-Santiago:

RE: CITY OF WINNIPEG FLUORIDE MONITORING DATA

As a participant in the Provincial Water Fluoridation Program, the City of Winnipeg Water and Waste Department hereby submits the following fluoride monitoring data on analyses conducted by the Environmental Standards Division.

<u>LOCATION</u>	<u>SAMPLE NUMBER</u>	<u>DATE</u>	<u>RESULT(mg/L F)</u>
Distribution System (Composite – 39 Locations)	445970	September 8, 2015	0.67
	446641	September 14, 2015	0.65
	447315	September 21, 2015	0.67
	448115	September 28, 2015	0.69

If you have any questions on the foregoing, please call Ms. Nancy Crawford, Compliance Reporting Branch Head, at 204-986-4807.

Yours truly,

Original signed by:

Renée Grosselle
Manager of Environmental Standards

NC/HD

cc: Tim Shanks, P.Eng. Manager of Water Services (e-mail)

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Water and Waste Department • Service des eaux et des déchets

November 13, 2015

Our File: 040-18-18-14-00

Dr. Khalida Hai-Santiago c/o Helen Browne
300 Carlton Street (Room 4068)
Winnipeg, Manitoba
R3B 3M9

Dear Dr. Hai-Santiago:

RE: CITY OF WINNIPEG FLUORIDE MONITORING DATA

As a participant in the Provincial Water Fluoridation Program, the City of Winnipeg Water and Waste Department hereby submits the following fluoride monitoring data on analyses conducted by the Environmental Standards Division.

<u>LOCATION</u>	<u>SAMPLE NUMBER</u>	<u>DATE</u>	<u>RESULT(mg/L F)</u>
Distribution System (Composite – 39 Locations)	448888	October 5, 2015	0.69
	449559	October 13, 2015	0.65
	450246	October 19, 2015	0.53
	451115	October 26, 2015	0.64

The low distribution system fluoride result on October 19 was due to an operational error with the fluoride analyzer. If you have any questions on the foregoing, please call Ms. Nancy Crawford, Compliance Reporting Branch Head, at 204-986-4807.

Yours truly,

Original signed by:

Renée Grosselle
Manager of Environmental Standards

NC/HD

cc: Tim Shanks, P.Eng. Manager of Water Services (e-mail)

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Water and Waste Department • Service des eaux et des déchets

January 4, 2016

Our File: 040-18-18-14-00

Dr. Khalida Hai-Santiago c/o Helen Browne
300 Carlton Street (Room 4068)
Winnipeg, Manitoba
R3B 3M9

Dear Dr. Hai-Santiago:

RE: CITY OF WINNIPEG FLUORIDE MONITORING DATA

As a participant in the Provincial Water Fluoridation Program, the City of Winnipeg Water and Waste Department hereby submits the following fluoride monitoring data on analyses conducted by the Environmental Standards Division.

<u>LOCATION</u>	<u>SAMPLE NUMBER</u>	<u>DATE</u>	<u>RESULT(mg/L F)</u>
Distribution System (Composite – 39 Locations)	451955	November 2, 2015	0.57
	452625	November 9, 2015	0.64
	453269	November 16, 2015	0.63
	453926	November 23, 2015	0.68
	454738	November 30, 2015	0.71

Branch I chem feed was offline October 24th – October 29th, and Branch II chem feed was offline October 28th – October 29th to accommodate piping upgrades, causing the low fluoride result on November 2nd. If you have any questions on the foregoing, please call Ms. Nancy Crawford, Compliance Reporting Branch Head, at 204-986-4807.

Yours truly,

Original signed by:

Renée Grosselle
Manager of Environmental Standards

NC/HD

cc: Tim Shanks, P.Eng. Manager of Water Services (e-mail)

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Water and Waste Department • Service des eaux et des déchets

January 15, 2016

Our File: 040-18-18-14-00

Dr. Khalida Hai-Santiago c/o Helen Browne
300 Carlton Street (Room 4068)
Winnipeg, Manitoba
R3B 3M9

Dear Dr. Hai-Santiago:

RE: CITY OF WINNIPEG FLUORIDE MONITORING DATA

As a participant in the Provincial Water Fluoridation Program, the City of Winnipeg Water and Waste Department hereby submits the following fluoride monitoring data on analyses conducted by the Environmental Standards Division.

<u>LOCATION</u>	<u>SAMPLE NUMBER</u>	<u>DATE</u>	<u>RESULT(mg/L F)</u>
Distribution System (Composite – 39 Locations)	455476	December 7, 2015	0.70
	456207	December 14, 2015	0.74
	456999	December 21, 2015	0.69
	457542	December 29, 2015	0.74

If you have any questions on the foregoing, please call Ms. Nancy Crawford, Compliance Reporting Branch Head, at 204-986-4807.

Yours truly,

Original signed by:

Renée Grosselle
Manager of Environmental Standards

NC/HD

cc: Tim Shanks, P.Eng. Manager of Water Services (e-mail)

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2015 Quarterly Total Trihalomethane Summary Reports

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

Total Trihalomethane Summary Report

Reporting Period: Quarter 1 2015

SAMPLE DATE	DISTRIBUTION SYSTEM THM RESULTS (ug/L)					
	WC-12	WC-06	NW-05	NE-09	SE-07	SW-08
Monday, May 05, 2014	13	12	12	13	13	14
Monday, August 11, 2014	40	40	40	38	42	40
Monday, November 10, 2014	25	21	26	27	27	23
Monday, February 09, 2015	14	11	14	14	13	12
RUNNING AVERAGE THM	23	21	23	23	24	22

COMMENTS:

NS - NO SAMPLE
NR - NO RESULT

Methodology

Trihalomethanes analyzed by GC-ECD, Standard Methods for the Examination of Water and Waste Water, 21'st Edition, Method 6232

Report Compiled by: H.Demchenko

Approved in LIMS by: C.Diduck

File: WQR4

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Date Approved: February 24, 2015

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

Total Trihalomethane Summary Report

Reporting Period: Quarter 2 2015

SAMPLE DATE	DISTRIBUTION SYSTEM THM RESULTS (ug/L)					
	WC-12	WC-06	NW-05	NE-09	SE-07	SW-08
Monday, August 11, 2014	40	40	40	38	42	40
Monday, November 10, 2014	25	21	26	27	27	23
Monday, February 09, 2015	14	11	14	14	13	12
Monday, May 11, 2015	27	25	28	26	27	26
RUNNING AVERAGE THM	27	24	27	26	27	25

COMMENTS:

NS - NO SAMPLE
NR - NO RESULT

Methodology

Trihalomethanes analyzed by GC-ECD, Standard Methods for the Examination of Water and Waste Water, 21'st Edition, Method 6232

Report Compiled by: H.Demchenko

Approved in LIMS by: C.Diduck

File: WQR4

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Date Approved: May 29, 2015

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

Total Trihalomethane Summary Report

Reporting Period: Quarter 3 2015

SAMPLE DATE	DISTRIBUTION SYSTEM THM RESULTS (ug/L)					
	WC-12	WC-06	NW-05	NE-09	SE-07	SW-08
Monday, November 10, 2014	25	21	26	27	27	23
Monday, February 09, 2015	14	11	14	14	13	12
Monday, May 11, 2015	27	25	28	26	27	26
Monday, August 10, 2015	25	26	36	27	37	40
RUNNING AVERAGE THM	23	21	26	24	26	25

COMMENTS:

NS - NO SAMPLE
NR - NO RESULT

Methodology

Trihalomethanes analyzed by GC-ECD, Standard Methods for the Examination of Water and Waste Water, 21'st Edition, Method 6232

Report Compiled by: H.Demchenko

Approved in LIMS by: C.Diduck

File: WQR4

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Date Approved: September 18, 2015

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

Total Trihalomethane Summary Report

Reporting Period: Quarter 4 2015

SAMPLE DATE	DISTRIBUTION SYSTEM THM RESULTS (ug/L)					
	WC-12	WC-06	NW-05	NE-09	SE-07	SW-08
Monday, February 09, 2015	14	11	14	14	13	12
Monday, May 11, 2015	27	25	28	26	27	26
Monday, August 10, 2015	25	26	36	27	37	40
Monday, November 02, 2015	17	15	21	20	19	16
RUNNING AVERAGE THM	21	19	25	22	24	24

COMMENTS:

NS - NO SAMPLE
NR - NO RESULT

Methodology

Trihalomethanes analyzed by GC-ECD, Standard Methods for the Examination of Water and Waste Water, 21'st Edition, Method 6232

Report Compiled by: H.Demchenko

Approved in LIMS by: C.Diduck

File: WQR4

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Date Approved: December 2, 2015

2015 Lead Loop Monitoring Report



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

Water System Code: 252.00

Licence Number: PWS-09-412A

2015 Lead Loop System Summary Report

SAMPLE DATE	Five minute flushed Lead Concentration (mg/L)				
	Lead Loop Cu	Lead Loop Pb	Lead Loop Pb1	Lead Loop Pb2	Lead Loop Pb3
January 22, 2015	<0.0004	<0.0004	<0.0004	0.0022	<0.0004
February 20, 2015	<0.0004	<0.0004	<0.0004	0.0007	<0.0004
March 12, 2015	<0.0004	0.0009	0.0007	0.0022	<0.0004
April 28, 2015	<0.0004	<0.0004	<0.0004	0.0014	<0.0004
June 2, 2015	<0.0004	<0.0004	<0.0004	0.0005	0.0006
June 25, 2015	<0.0004	<0.0004	<0.0004	0.0005	<0.0004
July 16, 2015	<0.0004	<0.0004	<0.0004	0.0007	<0.0004
August 20, 2015	<0.0004	0.0005	<0.0004	0.0005	<0.0004
September 25, 2015	<0.0004	0.0004	<0.0004	0.0006	<0.0004
October 20, 2015	<0.0004	<0.0004	<0.0004	0.0005	0.0018
November 3, 2015	<0.0004	0.0005	<0.0004	0.0011	<0.0004
December 3, 2015	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
2015 AVERAGE LEAD CONCENTRATION	<0.0004	<0.0004	<0.0004	0.0010	<0.0004

COMMENTS:

Report Compiled By: H.Demchenko

NS - NO SAMPLE
NR - NO RESULT

Approved in LIMS By: C.Diduck

Date Approved: 29-Dec-15

Methodology

Lead was analyzed by ICP-MS according to Standard Methods for the Examination of Water and Wastewater, 21st Edition, Method 3125