



Water and Waste Department • Service des eaux et des déchets

2014

ANNUAL REPORT

**CITY OF WINNIPEG
WATER SUPPLY SYSTEM**

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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 kilometres. 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 kilometre long aqueduct. The water is stored in Deacon Reservoir, a large reservoir that can hold 8.8 billion litres, 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 215 million litres of water is delivered to approximately 200,000 accounts in Winnipeg.

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.

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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.

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 2014.

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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 Nitrogen	
Dissolved Oxygen		Total Phosphorus	
Transparency		Dissolved Reactive Phosphorus	
Zebra Mussels		Total Inorganic Carbon	
Trihalomethanes (Total)		Ammonia (Dissolved)	
Bromodichloromethane		Barium	
Haloacetic Acids		Beryllium	
Aldehydes		Bismuth	
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	

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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
May 26, 2014	[REDACTED]	E. Coli < 1 MPNU/100mL	11	<1	All locations were resampled until negative results were found.
May 26, 2014	[REDACTED]	Total coliform < 1 MPNU/100mL	>200	<1	
July 7, 2014	[REDACTED]	Total coliform < 1 MPNU/100mL	2	<1	Resampling also indicated that the chlorine levels at all locations were normal and provided adequate disinfection.
Aug 11, 2014	[REDACTED]	Total coliform < 1 MPNU/100mL	2	<1	
Nov 3, 2014	[REDACTED]	Free chlorine residual > 0.10 mg/L	0.03	0.14	All locations were resampled and/or alternate locations were sampled, and/or other actions were taken (such as adjusting watermain valves).
Mar 3, 2014	WTP – Filter 3	Turbidity < 1.00 ntu	1.28	<0.10	
Mar 3, 2014	WTP – Filter 6	Turbidity < 1.00 ntu	1.16	<0.10	
Apr 15, 2014	WTP – Filter 8	Turbidity < 1.00 ntu	1.03	<0.10	Filters were taken offline for maintenance and brought back online once turbidity results reported were acceptable.

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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, 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.

DRINKING WATER SAFETY ORDERS

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

No drinking water safety orders were issued to the City of Winnipeg in 2014.

BOIL WATER ADVISORIES

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

No boil water advisories were issued to the City of Winnipeg in 2014.

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 2014.

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MAJOR EXPENSES

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

In 2014, the City’s major expenses incurred were as follows:

1. The existing six-span timber trestle Greater Winnipeg Water District Railway Bridge over the Boggy River at East Braintree was replaced with a new single-span steel through-plate-girder bridge.
2. Construction of a new Civil Maintenance Building at the Water Treatment Plant site for storage of unique Shoal Lake Aqueduct maintenance equipment, a vehicle wash bay, and office space was completed in 2014.
3. Feeder Main valve works:
 - a) Replaced feeder main valve chamber and associated works at Eldridge Avenue and Haney Street.
4. Water main renewals were completed at 56 locations in the City’s water distribution system.

ADDITIONAL INFORMATION

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

On June 9, 2014 the three regional pumping stations lost hydro power, causing 5 electrical pumps to shut off. One gas engine remained online to maintain system pressurization at lower than normal levels. After the event, other gas engines in the system were started to raise pressure back to normal peak hour levels. Pressures in the system were reduced because of this, but no water quality impacts occurred. A corrective action report was submitted for this incident.

APPENDIX A
WATER QUALITY SUMMARY REPORTS

City of Winnipeg
Environmental Standards Division
2014 Shoal Lake Water Quality Summary

PARAMETER	UNITS	GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Odour	units	Inoffensive	109	80	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	10,569	300	58,900	Algae contribute to odours and may cause filter clogging
Chlorophyll-a	parts per billion	no guideline	5	<1	11	Chlorophyll is found in algae
Cryptosporidium	oocysts per 100 L	no guideline	<1	<1	1	12 samples taken in 2014 - 1 positive result
Giardia	cysts per 100 L	no guideline	<1	<1	1	12 samples taken in 2014 - 1 positive result
Turbidity (clearness)	NTU	no guideline	1.01	0.20	2.22	-
Colour, True	TCU	no more than 15 *	7.6	1.0	17.0	Raw water - guideline does not apply
Total Solids	parts per million	no guideline	112	90	132	-
Total Dissolved Solids	parts per million	no more than 500 *	97	86	108	Raw water - guideline does not apply
Conductivity	microsiemens per centimetre	no guideline	158	136	177	Another measure of dissolved solids
pH	units	between 6.5 and 8.5	7.89	7.52	8.31	Raw water - guideline does not apply
Temperature	degrees Celcius	no more than 15 *	10.3	1.0	22.0	Raw water - guideline does not apply
Total Alkalinity	parts per million as calcium carbonate	no guideline	75	67	85	-
Total Hardness	parts per million as calcium carbonate	between 80 and 100	78	70	89	Raw water - guideline does not apply
Total Organic Carbon	parts per million	no guideline	10	5	14	-
Dissolved Organic Carbon	parts per million	no guideline	10	5	14	-
Total Kjeldahl Nitrogen (TKN)	parts per million	no guideline	0.69	0.40	2.90	TKN is a combination of ammonia and organic nitrogen
Total Phosphorus	parts per billion	no guideline	14	8	21	Phosphorus can contribute to algae growth
Dissolved Reactive Phosphorus	parts per billion	no guideline	2	<1	5	-
Fluoride	parts per million	no more than 1.5	<0.08	<0.08	0.09	Raw water - guideline does not apply
Nitrate Nitrogen	parts per million	no more than 10	0.033	<0.003	0.111	Raw water - guideline does not apply
Chloride	parts per million	no more than 250 *	2.3	1.7	<5.0	Raw water - guideline does not apply
Sulphate	parts per million	no more than 500 *	<2	<2	<5	Raw water - guideline does not apply
Trihalomethanes	parts per billion	no more than 100	<1	<1	<1	Raw water - guideline does not apply
Bromodichloromethane	parts per billion	no more than 16	<1	<1	<1	Raw water - guideline does not apply
Haloacetic acids	parts per billion	no more than 80	1	<1	<3	Raw water - guideline does not apply
Aldehydes	parts per billion	no guideline	<2	<2	6	-
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 more than 0.7	<0.20	<0.20	<0.20	Raw water - guideline does not apply
Aldrin	parts per billion	no more than 0.7	<0.010	<0.010	<0.010	Raw water - guideline does not apply
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	-

City of Winnipeg
Environmental Standards Division
2014 Shoal Lake Water Quality Summary

PARAMETER	UNITS	GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Dieldrin	parts per billion	no more than 0.7	<0.010	<0.010	<0.010	Raw water - guideline does not apply
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 more than 900	<0.010	<0.010	<0.010	Raw water - guideline does not apply
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	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
Chlorothalonil	parts per billion	no guideline	<0.060	<0.060	<0.060	-
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 more than 50	<0.10	<0.10	<0.10	Raw water - guideline does not apply
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	<0.100	Raw water - guideline does not apply
2,4-DB	parts per billion	no guideline	<0.050	<0.050	<0.100	-
2,4-DP	parts per billion	no guideline	<0.050	<0.050	<0.100	-
2,4,5-T	parts per billion	no guideline	<0.050	<0.050	<0.100	-
2,4,5-TP	parts per billion	no guideline	<0.050	<0.050	<0.100	-
Bromoxynil	parts per billion	no more than 5	<0.020	<0.020	<0.040	Raw water - guideline does not apply
Dicamba	parts per billion	no more than 120	<0.0060	<0.0060	<0.0120	Raw water - guideline does not apply
Dinoseb	parts per billion	no more than 10	<0.050	<0.050	<0.100	Raw water - guideline does not apply
MCPA	parts per billion	no more than 100	<0.025	<0.025	<0.050	Raw water - guideline does not apply
MCPB	parts per billion	no guideline	<0.050	<0.050	<0.100	-
Mecoprop	parts per billion	no guideline	<0.050	<0.050	<0.100	-
Picloram	parts per billion	no more than 190	<0.20	<0.20	<0.40	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

City of Winnipeg
Environmental Standards Division
2014 Shoal Lake Water Quality Summary

PARAMETER	UNITS	GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
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	<0.020	<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	21.1	18.2	25.6	Contributes to hardness
Magnesium	parts per million	no guideline	5.8	4.8	7.2	Contributes to hardness
Sodium	parts per million	no more than 200 *	2.1	1.7	2.7	Raw water - guideline does not apply
Potassium	parts per million	no guideline	1.2	1.1	1.4	-
Iron	parts per million	no more than 0.3 *	0.040	<0.008	0.230	Raw water - guideline does not apply
Copper	parts per million	no more than 1.0 *	0.0009	<0.0003	0.0043	Raw water - guideline does not apply
Lead	parts per million	no more than 0.010	<0.0004	<0.0004	<0.0010	Raw water - guideline does not apply
Aluminum	parts per million	no more than 0.1	0.0029	<0.0005	0.0135	Raw water - guideline does not apply
Antimony	parts per million	no more than 0.0006	0.0027	<0.0005	<0.0200	Raw water - guideline does not apply
Arsenic	parts per million	no more than 0.010	0.0007	0.0006	0.0012	Raw water - guideline does not apply
Nickel	parts per million	no guideline	0.0009	0.0004	0.0018	-
Chromium	parts per million	no more than 0.05	<0.0007	<0.0007	<0.0010	Raw water - guideline does not apply
Chromium VI	parts per million	no guideline	<0.01	<0.01	<0.01	-
Boron	parts per million	no more than 5	0.020	0.011	0.035	Raw water - guideline does not apply
Cadmium	parts per million	no more than 0.005	<0.0004	<0.0004	<0.0010	Raw water - guideline does not apply
Manganese	parts per million	no more than 0.05 *	0.010	0.002	0.036	Raw water - guideline does not apply
Uranium	parts per million	no more than 0.02	<0.0005	<0.0005	<0.0010	Raw water - guideline does not apply
Zinc	parts per million	no more than 5.0 *	0.0011	<0.0005	0.0052	Raw water - guideline does not apply
Zirconium	parts per million	no guideline	<0.0005	<0.0005	<0.0010	-
Mercury	parts per million	no more than 0.001	0.000001	<0.000001	0.000002	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, revised February 23, 2015

City of Winnipeg
Environmental Standards Division
2014 Water Treatment Plant - Raw Water
Drinking Water Quality Summary

PARAMETER	UNITS	GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Odour	units	Inoffensive	109	75	200	Raw water - guideline does not apply
Methylene Chloride	parts per billion	no guideline	<0.5	<0.5	<1.0	-
Perchlorate	parts per billion	no guideline	<0.2	<0.2	<0.2	-
Geosmin	parts per trillion	no guideline	5.6	<1.0	19.0	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	5	<1	<10	Common taste and odour compound
246 TCA - 2,4,6-trichloroanisole	parts per trillion	no guideline	<0.4	<0.4	<0.5	Common taste and odour compound
236 TCA - 2,3,6-trichloroanisole	parts per trillion	no guideline	<0.4	<0.4	<0.5	Common taste and odour compound
345 TCV - 3,4,5-trichloroveratrole	parts per trillion	no guideline	<0.2	<0.2	<0.5	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	0.0006	0.0003	<0.0020	Raw water - guideline does not apply
Plankton (algae) count	cells/mL	no guideline	5,644	300	21,400	Algae contribute to odours and may cause filter clogging
Chlorophyll-a	parts per billion	no guideline	4	<1	15	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	<1	<1	3 samples taken in 2014 - no positive results
Giardia	cysts per 100 L	no guideline	<1	<1	1	3 samples taken in 2014 - 1 positive result
Turbidity (clearness)	NTU	no guideline	0.94	0.22	3.01	-
Colour, True	TCU	no more than 15 *	5.9	2.0	10.0	Raw water - guideline does not apply
Total Solids	parts per million	no guideline	113	98	152	-
Total Dissolved Solids	parts per million	no more than 500 *	101	86	150	Raw water - guideline does not apply
Conductivity	microsiemens per centimetre	no guideline	166	151	196	Another measure of dissolved solids
pH	units	between 6.5 and 8.5	8.03	7.42	8.55	Raw water - guideline does not apply
Temperature	degrees Celcius	no more than 15 *	9.3	0.4	23.4	Raw water - guideline does not apply
Total Alkalinity	parts per million as calcium carbonate	no guideline	75	68	83	-
Total Hardness	parts per million as calcium carbonate	between 80 and 100	80	73	93	Raw water - guideline does not apply
Total Organic Carbon	parts per million	no guideline	10	3	16	-
Dissolved Organic Carbon	parts per million	no guideline	9	4	16	-
Total Inorganic Carbon	parts per million	no guideline	17	15	20	-
Dissolved Oxygen	parts per million	no guideline	11.0	8.0	13.6	-
Total Phosphorus	parts per million	no guideline	0.012	0.002	0.035	Phosphorus can contribute to algae growth
Ammonia	parts per million	no guideline	0.025	<0.010	0.059	-
Nitrate Nitrogen	parts per million	no more than 10	0.029	<0.005	0.108	Raw water - guideline does not apply
Chloride	parts per million	no more than 250 *	2.8	1.0	5.3	Raw water - guideline does not apply

City of Winnipeg
Environmental Standards Division
2014 Water Treatment Plant - Raw Water
Drinking Water Quality Summary

PARAMETER	UNITS	GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Sulphate	parts per million	no more than 500 *	2.1	<2	8.0	Raw water - guideline does not apply
UV Absorbance (Unfiltered)	units per centimeter	no guideline	0.115	0.091	0.137	-
UV Transmittance (Filtered)	percent transmissivity	no guideline	78.9	74.7	82.2	-
UV Transmittance (Unfiltered)	percent transmissivity	no guideline	76.8	72.9	81.0	-
Chlorine (free)	parts per million	no guideline	<0.02	<0.02	0.06	-
Chlorine (total)	parts per million	no guideline	0.03	<0.02	0.11	-
Trihalomethanes	parts per billion	no more than 100	<1	<1	<1	Raw water - guideline does not apply
Bromodichloromethane	parts per billion	no more than 16	<1	<1	<1	Raw water - guideline does not apply
Haloacetic acids	parts per billion	no more than 80	2	<1	4	Raw water - guideline does not apply
Aldehydes	parts per billion	no guideline	<2	<2	4	-
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 more than 0.7	<0.20	<0.20	<0.20	Raw water - guideline does not apply
Aldrin	parts per billion	no more than 0.7	<0.010	<0.010	<0.020	Raw water - guideline does not apply
Lindane (gamma-BHC)	parts per billion	no guideline	<0.010	<0.010	<0.020	-
alpha-Chlordane	parts per billion	no guideline	<0.010	<0.010	<0.020	-
gamma-Chlordane	parts per billion	no guideline	<0.010	<0.010	<0.020	-
p,p-DDT	parts per billion	no guideline	<0.010	<0.010	<0.020	-
Dieldrin	parts per billion	no more than 0.7	<0.010	<0.010	<0.020	Raw water - guideline does not apply
Heptachlor	parts per billion	no guideline	<0.010	<0.010	<0.020	-
Heptachlor Epoxide	parts per billion	no guideline	<0.010	<0.010	<0.020	-
Methoxychlor	parts per billion	no more than 900	<0.010	<0.010	<0.020	Raw water - guideline does not apply
alpha-BHC	parts per billion	no guideline	<0.010	<0.010	<0.020	-
beta-BHC	parts per billion	no guideline	<0.010	<0.010	<0.020	-
delta-BHC	parts per billion	no guideline	<0.010	<0.010	<0.020	-
p,p-DDD	parts per billion	no guideline	<0.010	<0.010	<0.020	-
p,p-DDE	parts per billion	no guideline	<0.010	<0.010	<0.020	-
o,p-DDD	parts per billion	no guideline	<0.010	<0.010	<0.020	-
o,p-DDE	parts per billion	no guideline	<0.010	<0.010	<0.020	-
o,p-DDT	parts per billion	no guideline	<0.010	<0.010	<0.020	-
Alpha Endosulfan	parts per billion	no guideline	<0.010	<0.010	<0.020	-
Beta Endosulfan	parts per billion	no guideline	<0.010	<0.010	<0.020	-
Endrin	parts per billion	no guideline	<0.010	<0.010	<0.020	-
Mirex	parts per billion	no guideline	<0.010	<0.010	<0.020	-
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
Chlorothalonil	parts per billion	no guideline	<0.060	<0.060	<0.060	-
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 more than 50	<0.10	<0.10	<0.10	Raw water - guideline does not apply

City of Winnipeg
Environmental Standards Division
2014 Water Treatment Plant - Raw Water
Drinking Water Quality Summary

PARAMETER	UNITS	GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
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	<0.0060	Raw water - guideline does not apply
Dinoseb	parts per billion	no more than 10	<0.050	<0.050	<0.050	Raw water - guideline does not apply
MCPCA	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	-
Propaclone	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	<0.020	<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	21.8	17.6	28.0	Contributes to hardness
Magnesium	parts per million	no guideline	5.9	4.8	7.5	Contributes to hardness
Sodium	parts per million	no more than 200	2.3	1.7	3.1	Raw water - guideline does not apply
Potassium	parts per million	no guideline	1.2	1.0	1.4	-
Iron	parts per million	no more than 0.3 *	0.05	0.02	0.14	Raw water - guideline does not apply
Copper	parts per million	no more than 1.0 *	0.0009	0.0004	0.0043	Raw water - guideline does not apply
Lead	parts per million	no more than 0.010	<0.0004	<0.0004	0.0010	Raw water - guideline does not apply
Aluminum	parts per million	no more than 0.1	0.0044	<0.0005	0.0360	Raw water - guideline does not apply
Arsenic	parts per million	no more than 0.010	0.0007	0.0006	0.0011	Raw water - guideline does not apply
Chromium	parts per million	no more than 0.05	<0.0007	<0.0007	0.0028	Raw water - guideline does not apply
Chromium VI	parts per million	no guideline	<0.01	<0.01	<0.01	-
Nickel	parts per million	no guideline	0.0009	0.0005	0.0015	-
Cadmium	parts per million	no more than 0.005	<0.0004	<0.0004	<0.0010	Raw water - guideline does not apply
Manganese	parts per million	no more than 0.05 *	0.013	0.003	0.042	Raw water - guideline does not apply
Zinc	parts per million	no more than 5.0 *	0.0015	<0.0005	0.0047	Raw water - guideline does not apply

City of Winnipeg
Environmental Standards Division
2014 Water Treatment Plant - Raw Water
Drinking Water Quality Summary

PARAMETER	UNITS	GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Mercury	<i>parts per million</i>	no more than 0.001	<0.000001	<0.000001	0.000001	Raw water - guideline does not apply
Antimony	<i>parts per million</i>	no more than 0.006	0.0022	<0.0005	<0.0200	Raw water - guideline does not apply
Barium	<i>parts per million</i>	no more than 1	0.0097	0.0072	0.0121	Raw water - guideline does not apply
Beryllium	<i>parts per million</i>	no guideline	0.00033	<0.00020	<0.00200	-
Bismuth	<i>parts per million</i>	no guideline	0.00033	<0.00020	<0.00200	-
Boron	<i>parts per million</i>	no more than 5	0.02	0.01	<0.10	Raw water - guideline does not apply
Cesium	<i>parts per million</i>	no guideline	0.0002	<0.0001	<0.0010	-
Cobalt	<i>parts per million</i>	no guideline	<0.0005	<0.0005	<0.0010	-
Lithium	<i>parts per million</i>	no guideline	0.0039	<0.0020	<0.0200	-
Molybdenum	<i>parts per million</i>	no guideline	<0.0005	<0.0005	<0.0010	-
Rubidium	<i>parts per million</i>	no guideline	0.00149	<0.00200	0.00171	-
Selenium	<i>parts per million</i>	no more than 0.01	<0.0005	<0.0005	<0.0010	Raw water - guideline does not apply
Silicon	<i>parts per million</i>	no guideline	2.66	2.30	3.01	-
Silver	<i>parts per million</i>	no guideline	<0.0005	<0.0005	<0.0010	-
Strontium	<i>parts per million</i>	no guideline	0.0399	0.0380	0.0428	-
Tellurium	<i>parts per million</i>	no guideline	0.00033	<0.00020	<0.00200	-
Thallium	<i>parts per million</i>	no guideline	0.00016	<0.00010	<0.00100	-
Thorium	<i>parts per million</i>	no guideline	0.00016	<0.00010	<0.00100	-
Tin	<i>parts per million</i>	no guideline	0.0020	<0.0005	<0.0200	-
Titanium	<i>parts per million</i>	no guideline	0.0020	<0.0005	<0.0200	-
Tungsten	<i>parts per million</i>	no guideline	0.0002	<0.0001	<0.0010	-
Uranium	<i>parts per million</i>	no more than 0.02	<0.0005	<0.0005	<0.0010	Raw water - guideline does not apply
Vanadium	<i>parts per million</i>	no guideline	0.00035	<0.00020	<0.00200	-
Zirconium	<i>parts per million</i>	no guideline	0.0017	<0.0005	0.0168	-

*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, revised February 23, 2015

City of Winnipeg
Environmental Standards Division
2014 Water Treatment Plant
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	17	12	25	Meets the guideline
Methylene Chloride	parts per billion	no guideline	<0.5	<0.5	<1.0	-
Perchlorate	parts per billion	no guideline	<0.2	<0.2	<0.2	-
Geosmin	parts per trillion	no guideline	1.5	<1.0	3.0	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	5	<1	<10	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	<0.5	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	0.0011	<0.0005	0.0021	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 1	0.16	0.08	0.45	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	192	172	236	-
Total Dissolved Solids	parts per million	no more than 500 *	179	152	224	Meets the guideline
Conductivity	microsiemens per centimetre	no guideline	318	292	368	Another measure of dissolved solids
pH	units	between 6.5 and 8.5	7.82	7.32	8.24	Meets the guideline
Temperature	degrees Celcius	no more than 15 *	9.3	0.3	23.4	Does not always meet the guideline
Total Akalinity	parts per million as calcium carbonate	no guideline	69	60	82	-
Total Hardness	parts per million as calcium carbonate	between 80 and 100	80	73	95	Does not always meet the guideline
Total Organic Carbon	parts per million	no guideline	4	<1	8	-
Dissolved Organic Carbon	parts per million	no guideline	4	<1	10	-
Dissolved Oxygen	parts per million	no guideline	12.4	8.8	16.2	-
Total Phosphorus	parts per million	no guideline	0.002	<0.001	0.020	Phosphorus can contribute to algae growth
Chloride	parts per million	no more than 250 *	20	13	31	Meets the guideline
Sulphate	parts per million	no more than 500 *	54	35	71	Meets the guideline
UV Transmittance (Filtered)	percent transmissivity	no guideline	95.7	92.8	97.8	-
UV Transmittance (Unfiltered)	percent transmissivity	no guideline	94.5	91.4	97.3	-
Chlorine (free)	parts per million	no guideline	1.21	0.80	1.79	-
Chlorine (total)	parts per million	no guideline	1.38	1.00	2.11	-
Trihalomethanes	parts per billion	no more than 100	4	<1	12	Meets the guideline

City of Winnipeg
Environmental Standards Division
2014 Water Treatment Plant
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
Bromodichloromethane	parts per billion	no more than 16	<1	<1	<1	Meets the guideline
Haloacetic acids	parts per billion	no more than 80	15	7	25	Meets the guideline
Aldehydes	parts per billion	no guideline	15	5	27	-
Carbofuran	parts per billion	no more than 90	<0.20	<0.20	<0.20	Meets the guideline
Propoxur	parts per billion	no more than 0.7	<0.20	<0.20	<0.20	Meets the guideline
Aldrin	parts per billion	no more than 0.7	<0.010	<0.010	<0.020	Meets the guideline
Lindane (gamma-BHC)	parts per billion	no guideline	<0.010	<0.010	<0.020	-
alpha-Chlordane	parts per billion	no guideline	<0.010	<0.010	<0.020	-
gamma-Chlordane	parts per billion	no guideline	<0.010	<0.010	<0.020	-
p,p-DDT	parts per billion	no guideline	<0.010	<0.010	<0.020	-
Dieldrin	parts per billion	no more than 0.7	<0.010	<0.010	<0.020	Meets the guideline
Heptachlor	parts per billion	no guideline	<0.010	<0.010	<0.020	-
Heptachlor Epoxide	parts per billion	no guideline	<0.010	<0.010	<0.020	-
Methoxychlor	parts per billion	no more than 900	<0.010	<0.010	<0.020	Meets the guideline
alpha-BHC	parts per billion	no guideline	<0.010	<0.010	<0.020	-
beta-BHC	parts per billion	no guideline	<0.010	<0.010	<0.020	-
delta-BHC	parts per billion	no guideline	<0.010	<0.010	<0.020	-
p,p-DDD	parts per billion	no guideline	<0.010	<0.010	<0.020	-
p,p-DDE	parts per billion	no guideline	<0.010	<0.010	<0.020	-
o,p-DDD	parts per billion	no guideline	<0.010	<0.010	<0.020	-
o,p-DDE	parts per billion	no guideline	<0.010	<0.010	<0.020	-
o,p-DDT	parts per billion	no guideline	<0.010	<0.010	<0.020	-
Alpha Endosulfan	parts per billion	no guideline	<0.010	<0.010	<0.020	-
Beta Endosulfan	parts per billion	no guideline	<0.010	<0.010	<0.020	-
Endrin	parts per billion	no guideline	<0.010	<0.010	<0.020	-
Mirex	parts per billion	no guideline	<0.010	<0.010	<0.020	-
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
Metr buzin	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
Chlorothalonil	parts per billion	no guideline	<0.060	<0.060	<0.060	-
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 more than 50	<0.10	<0.10	<0.10	Meets the guideline
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	<0.0060	Meets the guideline
Dinoseb	parts per billion	no more than 10	<0.050	<0.050	<0.050	Meets the guideline
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	-

City of Winnipeg
Environmental Standards Division
2014 Water Treatment Plant
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
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	-
Propaclone	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	21.9	17.9	27.2	Contributes to hardness
Magnesium	parts per million	no guideline	5.9	4.9	7.3	Contributes to hardness
Sodium	parts per million	no more than 200 *	32.2	25.6	40.0	Meets the guideline
Potassium	parts per million	no guideline	1.2	1.0	1.5	-
Iron	parts per million	no more than 0.3 *	0.040	<0.008	0.133	Meets the guideline
Copper	parts per million	no more than 1.0 *	0.003	0.001	0.008	Meets the guideline
Lead	parts per million	no more than 0.01	<0.0004	<0.0004	<0.0010	Meets the guideline
Aluminum	parts per million	no more than 0.1	0.0070	<0.0005	0.0244	Meets the guideline
Arsenic	parts per million	no more than 0.01	0.0005	0.0003	<0.0010	Meets the guideline
Chromium	parts per million	no more than 0.05	0.0011	<0.0007	0.0068	Meets the guideline
Chromium V1	parts per million	no guideline	<0.01	<0.01	<0.01	-
Nickel	parts per million	no guideline	0.003	0.002	0.004	-
Cadmium	parts per million	no more than 0.005	<0.0004	<0.0004	<0.0010	Meets the guideline
Manganese	parts per million	no more than 0.05 *	0.025	0.012	0.051	Does not always meet the guideline
Zinc	parts per million	no more than 5.0 *	0.0024	<0.0005	0.0168	Meets the guideline
Mercury	parts per million	no more than 0.001	<0.000001	<0.000001	0.000001	Meets the guideline
Antimony	parts per million	no more than 0.006	0.0022	<0.0005	<0.0200	Does not always meet the guideline
Boron	parts per million	no more than 5	0.0091	0.0068	0.0131	Meets the guideline
Cobalt	parts per million	no guideline	<0.0005	<0.0005	<0.0010	-
Molybdenum	parts per million	no guideline	<0.0005	<0.0005	<0.0010	-
Selenium	parts per million	no more than 0.01	<0.0005	<0.0005	<0.0010	Meets the guideline
Silver	parts per million	no guideline	<0.0005	<0.0005	0.0012	-
Tin	parts per million	no guideline	0.0021	<0.0005	<0.0200	-
Titanium	parts per million	no guideline	0.0026	0.0007	<0.0200	-
Uranium	parts per million	no more than 0.02	<0.0005	<0.0005	<0.0010	Meets the guideline
Zirconium	parts per million	no more than 0.1	<0.0005	<0.0005	<0.0010	Meets the guideline

*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, revised February 23, 2015

City of Winnipeg
Environmental Standards Division

2014 Winnipeg Distribution System Water Quality Summary

PARAMETER	UNITS	GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Odour ¹	units	Inoffensive	17	8	25	Meets the guideline
Perchlorate ¹	parts per billion	no guideline	<0.2	<0.2	<0.2	-
Turbidity (clearness) ²	NTU	no guideline	0.28	0.09	18.10	-
Colour, True ³	TCU	no more than 15 *	1.3	0.5	4.0	Meets the guideline
Total Dissolved Solids ³	parts per million	no more than 500 *	181	158	248	Meets the guideline
pH ⁴	units	between 6.5 and 8.5	7.57	7.33	7.74	Meets the guideline
Temperature ²	degrees Celcius	no more than 15 *	10.4	1.3	25.5	Does not always meet the guideline
Total Alkalinity ³	parts per million as calcium	no guideline	68	57	85	-
Total Hardness ³	parts per million as calcium	between 80 and 100	83	75	98	Does not always meet the guideline
Dissolved Oxygen ⁴	parts per million	no guideline	11.8	8.2	14.9	-
Fluoride ³	parts per million	no more than 1.5	0.69	0.50	0.75	Meets the guideline
Soluble Phosphate ³	parts per million as phosphate	no guideline	1.91	0.35	2.06	Added for Lead Control Program
Chloride ³	parts per million	no more than 250 *	21	14	29	Meets the guideline
Sulphate ³	parts per million	no more than 500 *	53	39	69	Meets the guideline
Chlorine (free) ²	parts per million	no guideline	0.80	0.02	1.79	-
Chlorine (total) ²	parts per million	no guideline	1.00	0.05	2.00	-
Trihalomethanes ⁴	parts per billion	no more than 100	22.5	9.0	43.0	Meets the guideline
Bromodichloromethane ⁴	parts per billion	no more than 16	1.6	<1.0	5.0	Meets the guideline
Haloacetic acids ⁴	parts per billion	no more than 80	32	20	49	Meets the guideline
Aldehydes ⁴	parts per billion	no guideline	18	9	30	-
Calcium ⁴	parts per million	no guideline	23.3	18.9	31.7	Contributes to hardness
Magnesium ⁴	parts per million	no guideline	6.17	5.31	8.41	Contributes to hardness
Sodium ⁴	parts per million	no more than 200 *	33.5	28.1	47.2	Meets the guideline
Potassium ⁴	parts per million	no guideline	1.3	1.1	1.6	-
Iron ³	parts per million	no more than 0.3 *	0.05	0.02	0.10	Meets the guideline
Copper ⁴	parts per million	no more than 1.0 *	0.062	0.018	0.549	Meets the guideline
Lead ⁴	parts per million	no more than 0.01	<0.0004	<0.0004	0.0040	Meets the guideline
Aluminum ⁴	parts per million	no more than 0.1	0.0050	<0.0005	0.0270	Meets the guideline
Arsenic ⁴	parts per million	no more than 0.01	0.0006	0.0005	<0.0010	Meets the guideline
Chromium VI ⁴	parts per million	no guideline	<0.01	<0.01	<0.01	-
Chromium ⁴	parts per million	no more than 0.05	0.0011	0.0008	0.0020	Meets the guideline
Nickel ⁴	parts per million	no guideline	0.003	0.002	0.006	-
Cadmium ⁴	parts per million	no more than 0.005	<0.0004	<0.0004	<0.0010	Meets the guideline
Manganese ⁴	parts per million	no more than 0.05 *	0.025	0.009	0.141	Does not always meet the guideline
Zinc ⁴	parts per million	no more than 5.0 *	0.0047	<0.0005	0.0845	Meets the guideline
Mercury ⁴	parts per million	no more than 0.001	<0.000001	<0.000001	0.000002	Meets the guideline
Antimony ⁴	parts per million	no more than 0.006	0.0027	<0.0005	<0.0200	Does not always meet the guideline
Boron ⁴	parts per million	no more than 5	0.008	0.006	0.013	Meets the guideline
Uranium ⁴	parts per million	no more than 0.02	<0.0005	<0.0005	<0.0010	Meets the guideline
Zirconium ⁴	parts per million	no guideline	0.0005	<0.0005	0.0080	-

*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, revised February 23, 2015

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

²Data reported was collected from 39 distribution system locations.

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

⁴Data reported was collected from 6 distribution system locations.

City of Winnipeg
Environmental Standards Division

2014 Winnipeg Distribution System Water Quality Summary

PARAMETER	GUIDELINE	OUR TEST RESULTS	COMMENTS
Number of total coliform bacteria tests in year	1820 samples/year	3,149	More testing than required by the guideline/provincial regulation
Number of times that total coliform bacteria show up in a test	no more than 10% of samples with positive total coliform or no consecutive positives from the same site.	0.29% (9 positive tests)	All resamples were negative and met the guideline/provincial regulation
Number of Escherichia coli bacteria tests in year	1820 samples/year	3,149	More testing than required by the guideline/provincial regulation
Number of times that Escherichia coli bacteria show up in a test	no bacteria present in the sample	0.03% (1 positive test)	All resamples were negative and met the guideline/provincial regulation
Number of heterotrophic (bacteria) plate count (HPC) tests done	no guideline	3110*	Heterotrophic plate count testing is not required under the provincial regulations.

*HPC number of tests done was lower due to contract lab error.

Guidelines from 'Summary of Guidelines for Canadian Drinking Water Quality' by Health Canada, revised February 23, 2015

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

APPENDIX B

COMPLIANCE SUBMISSION REPORTS

2014 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	Date	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Free Chlorine (mg/L)
	01-Jan-2014	1.04	1.24	1.07
	02-Jan-2014	0.99	1.22	1.05
	03-Jan-2014	0.96	1.15	0.99
	04-Jan-2014	NS	NS	NS
	05-Jan-2014	NS	NS	NS
	06-Jan-2014	1.10	1.35	1.21
	07-Jan-2014	1.06	1.21	1.02
	08-Jan-2014	0.99	1.19	1.09
	09-Jan-2014	1.03	1.20	0.98
	10-Jan-2014	1.02	1.22	1.05
	11-Jan-2014	NS	NS	NS
	12-Jan-2014	NS	NS	NS
	13-Jan-2014	0.98	1.20	0.95
	14-Jan-2014	0.93	1.13	0.95
	15-Jan-2014	1.12	1.21	1.04
	16-Jan-2014	1.06	1.24	1.09
	17-Jan-2014	1.15	1.30	1.15
	18-Jan-2014	NS	NS	NS
	19-Jan-2014	NS	NS	NS
	20-Jan-2014	1.07	1.29	1.06
	21-Jan-2014	0.98	1.16	0.88
	22-Jan-2014	1.30	1.44	1.30
	23-Jan-2014	1.32	1.63	1.47
	24-Jan-2014	1.14	1.34	1.13
	25-Jan-2014	NS	NS	NS
	26-Jan-2014	NS	NS	NS
	27-Jan-2014	1.31	1.55	1.27
	28-Jan-2014	1.29	1.57	1.31
	29-Jan-2014	1.31	1.48	1.37
	30-Jan-2014	1.41	1.56	1.26
	31-Jan-2014	1.42	1.69	1.46
Total number of measurements taken, A:	23		23	
Chlorine Standard for Monitoring Location (mg/L):	0.50		0.50	
Number of measurements meeting standard, B:	23		23	
Compliance with Chlorine Standard, C= B/A X 100%:	100%		100%	

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

Comments:

Report Compiled By: K. Wazny

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



City of Winnipeg

Water and Waste Department
Water Services Division

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 2014**

Report Period: **January 2014**

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/01/2014	0.95	0.89	0.95	0.85
02/01/2014	0.96	0.91	0.92	0.86
03/01/2014	0.93	0.76	0.91	0.74
04/01/2014	1.00	0.93	0.97	0.92
05/01/2014	0.98	0.88	0.98	0.83
06/01/2014	1.12	1.05	1.19	1.09
07/01/2014	1.04	0.72	1.02	0.93
08/01/2014	1.13	1.01	1.00	0.92
09/01/2014	1.17	0.99	0.94	0.88
10/01/2014	1.06	0.96	1.00	0.87
11/01/2014	0.98	0.82	1.03	0.97
12/01/2014	0.99	0.83	1.02	0.92
13/01/2014	0.95	0.85	0.93	0.86
14/01/2014	0.90	0.86	0.92	0.85
15/01/2014	0.96	0.79	0.92	0.86
16/01/2014	1.09	0.92	0.96	0.89
17/01/2014	1.19	1.06	1.00	0.92
18/01/2014	1.20	1.04	0.99	0.85
19/01/2014	1.15	1.09	1.04	0.94
20/01/2014	1.05	0.91	1.00	0.88
21/01/2014	0.91	0.58	0.91	0.55
22/01/2014	1.38	1.19	1.30	1.18
23/01/2014	1.34	1.14	1.28	1.10
24/01/2014	1.12	0.98	1.02	0.88
25/01/2014	1.09	1.03	1.00	0.95
26/01/2014	1.01	0.91	1.00	0.89
27/01/2014	1.10	0.95	1.12	0.99
28/01/2014	1.13	1.05	1.15	1.05
29/01/2014	1.20	1.06	1.16	1.08
30/01/2014	1.25	1.18	1.14	1.08
31/01/2014	1.31	1.16	1.27	1.09

Total Number of Measurements, A:	21599	25199
Minimum Free Chlorine Standard:	0.50	0.50
Number of Measurements Meeting Standard, B:	21599	21599
COMPLIANCE, C = B/A X 100%:	100	100

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Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT 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)
01-Feb-2014	NA	NA	NA	NA
02-Feb-2014	NA	NA	NA	NA
03-Feb-2014	1.13	1.24	1.15	1.27
04-Feb-2014	1.07	1.29	1.11	1.25
05-Feb-2014	1.10	1.24	1.08	1.25
06-Feb-2014	1.17	1.30	1.10	1.29
07-Feb-2014	1.23	1.44	1.24	1.39
08-Feb-2014	NA	NA	NA	NA
09-Feb-2014	NA	NA	NA	NA
10-Feb-2014	1.05	1.24	1.04	1.24
11-Feb-2014	1.13	1.25	1.13	1.33
12-Feb-2014	1.13	1.31	1.13	1.29
13-Feb-2014	1.00	1.18	1.04	1.16
14-Feb-2014	1.16	1.35	1.10	1.34
15-Feb-2014	NA	NA	NA	NA
16-Feb-2014	NA	NA	NA	NA
17-Feb-2014	1.02	1.13	1.02	1.13
18-Feb-2014	1.10	1.17	0.99	1.19
19-Feb-2014	1.14	1.31	1.04	1.18
20-Feb-2014	1.08	1.30	1.07	1.28
21-Feb-2014	1.07	1.22	1.09	1.30
22-Feb-2014	NA	NA	NA	NA
23-Feb-2014	NA	NA	NA	NA
24-Feb-2014	0.96	1.14	0.93	1.06
25-Feb-2014	1.05	1.23	1.15	1.27
26-Feb-2014	1.12	1.25	1.11	1.28
27-Feb-2014	1.04	1.24	1.11	1.28
28-Feb-2014	1.14	1.29	1.13	1.27
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: K. Wazny

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

**City of Winnipeg**

Water and Waste Department

Water Services Division

WATER TREATMENT PLANT FREE CHLORINE ON-LINE MONITORING REPORT
Deacon Booster Pumping StationWater System Code: **252.00**Licence Number: **PWS-09-412 A**Report Created: **01 March 2014**Report Period: **February 2014**

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/02/2014	1.21	1.01	1.26	1.07
02/02/2014	1.05	0.94	1.09	0.96
03/02/2014	1.01	0.91	1.05	1.01
04/02/2014	1.02	0.91	1.04	0.97
05/02/2014	1.07	0.97	1.06	0.97
06/02/2014	1.10	1.02	1.02	0.93
07/02/2014	1.21	1.03	1.17	0.92
08/02/2014	1.12	1.05	1.15	1.08
09/02/2014	1.11	1.03	1.08	0.96
10/02/2014	1.07	1.00	1.03	0.95
11/02/2014	1.04	0.95	1.06	0.89
12/02/2014	1.01	0.74	1.10	0.96
13/02/2014	1.03	0.66	1.02	0.93
14/02/2014	1.07	0.73	1.11	0.94
15/02/2014	1.24	0.87	1.03	0.81
16/02/2014	1.00	0.77	0.91	0.76
17/02/2014	1.03	0.93	0.95	0.82
18/02/2014	1.04	0.91	0.95	0.87
19/02/2014	1.06	0.86	0.93	0.84
20/02/2014	0.95	0.70	0.93	0.78
21/02/2014	1.08	0.84	1.04	0.90
22/02/2014	1.10	0.93	0.93	0.84
23/02/2014	1.06	0.85	0.93	0.82
24/02/2014	1.12	0.89	1.01	0.84
25/02/2014	1.20	1.03	1.17	1.08
26/02/2014	1.09	0.91	1.11	0.98
27/02/2014	1.13	0.97	1.17	1.04
28/02/2014	1.09	0.89	1.11	1.02

Total Number of Measurements, A: **19439** 19439Minimum Free Chlorine Standard: **0.50** 0.50Number of Measurements Meeting Standard, B: **19439** 19439COMPLIANCE, C = B/A X 100%: **100.0** 100.0

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Submitted By (Print): D.MinorSignature: 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 A	Date	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Free Chlorine (mg/L)
	01-Mar-2014	NA	NA	NA
	02-Mar-2014	NA	NA	NA
	03-Mar-2014	1.12	1.34	1.18
	04-Mar-2014	1.09	1.29	1.08
	05-Mar-2014	1.18	1.38	1.16
	06-Mar-2014	1.16	1.37	1.20
	07-Mar-2014	1.17	1.39	1.19
	08-Mar-2014	NA	NA	NA
	09-Mar-2014	NA	NA	NA
	10-Mar-2014	1.04	1.26	1.04
	11-Mar-2014	1.19	1.30	1.06
	12-Mar-2014	1.12	1.25	1.17
	13-Mar-2014	1.07	1.21	1.06
	14-Mar-2014	1.11	1.22	1.09
	15-Mar-2014	NA	NA	NA
	16-Mar-2014	NA	NA	NA
	17-Mar-2014	1.02	1.26	1.09
	18-Mar-2014	1.10	1.29	1.04
	19-Mar-2014	0.99	1.20	0.99
	20-Mar-2014	1.00	1.16	1.01
	21-Mar-2014	1.18	1.30	1.10
	22-Mar-2014	NA	NA	NA
	23-Mar-2014	NA	NA	NA
	24-Mar-2014	1.07	1.31	1.24
	25-Mar-2014	1.06	1.22	1.08
	26-Mar-2014	1.03	1.23	1.05
	27-Mar-2014	1.01	1.12	1.11
	28-Mar-2014	1.07	1.20	1.01
	29-Mar-2014	NA	NA	NA
	30-Mar-2014	NA	NA	NA
	31-Mar-2014	0.98	1.22	1.02
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: K. Wazny

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

**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 A**Report Created: **01 April 2014**Report Period: **March 2014**

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/03/2014	1.09	0.86	1.13	1.07
02/03/2014	1.12	0.97	1.17	1.11
03/03/2014	1.05	0.87	1.06	0.96
04/03/2014	1.01	0.81	0.99	0.93
05/03/2014	1.01	0.75	1.06	0.98
06/03/2014	1.11	0.91	1.13	1.03
07/03/2014	1.14	0.97	1.14	1.08
08/03/2014	1.11	1.00	1.10	1.04
09/03/2014	1.07	0.91	1.06	1.02
10/03/2014	1.00	0.84	1.04	0.96
11/03/2014	1.00	0.85	1.05	0.99
12/03/2014	1.07	0.94	1.04	1.00
13/03/2014	1.16	0.98	1.01	0.93
14/03/2014	1.10	0.96	1.04	0.97
15/03/2014	1.19	1.07	1.07	1.01
16/03/2014	1.09	0.93	1.08	0.99
17/03/2014	1.04	0.87	1.02	0.97
18/03/2014	1.04	0.79	1.16	0.94
19/03/2014	1.02	0.77	1.03	0.84
20/03/2014	0.75	0.60	0.87	0.76
21/03/2014	1.06	0.81	1.07	0.92
22/03/2014	0.96	0.87	1.02	0.94
23/03/2014	1.01	0.90	1.05	0.96
24/03/2014	1.06	0.92	1.08	0.99
25/03/2014	1.00	0.86	1.04	0.93
26/03/2014	0.95	0.82	1.02	0.94
27/03/2014	0.84	0.76	0.93	0.85
28/03/2014	0.82	0.71	0.90	0.79
29/03/2014	0.97	0.77	1.04	0.87
30/03/2014	1.01	0.86	1.05	0.89
31/03/2014	1.08	0.92	1.08	0.96

Total Number of Measurements, A: **21528** 21526Minimum Free Chlorine Standard: **0.50** 0.50Number of Measurements Meeting Standard, B: **21528** 21526COMPLIANCE, 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 A	Date	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Free Chlorine (mg/L)	Total Chlorine (mg/L)
	01-Apr-2014	1.00	1.14	1.07	1.18
	02-Apr-2014	1.04	1.23	1.09	1.20
	03-Apr-2014	1.02	1.15	1.04	1.21
	04-Apr-2014	0.96	1.12	0.95	1.15
	05-Apr-2014	NA	NA	NA	NA
	06-Apr-2014	NA	NA	NA	NA
	07-Apr-2014	1.02	1.21	0.98	1.22
	08-Apr-2014	0.89	1.08	1.00	1.08
	09-Apr-2014	1.08	1.18	0.96	1.28
	10-Apr-2014	0.95	1.08	0.91	1.05
	11-Apr-2014	0.80	1.00	0.94	1.13
	12-Apr-2014	NA	NA	NA	NA
	13-Apr-2014	NA	NA	NA	NA
	14-Apr-2014	1.03	1.25	1.07	1.32
	15-Apr-2014	1.14	1.28	1.09	1.30
	16-Apr-2014	1.15	1.35	1.25	1.35
	17-Apr-2014	1.13	1.27	1.09	1.30
	18-Apr-2014	NA	NA	NA	NA
	19-Apr-2014	NA	NA	NA	NA
	20-Apr-2014	NA	NA	NA	NA
	21-Apr-2014	1.07	1.31	1.12	1.26
	22-Apr-2014	1.13	1.37	1.16	1.31
	23-Apr-2014	1.10	1.25	1.13	1.27
	24-Apr-2014	1.06	1.26	1.13	1.29
	25-Apr-2014	1.10	1.29	1.11	1.31
	26-Apr-2014	NA	NA	NA	NA
	27-Apr-2014	NA	NA	NA	NA
	28-Apr-2014	1.08	1.21	1.05	1.18
	29-Apr-2014	1.17	1.27	1.10	1.28
	30-Apr-2014	1.15	1.28	1.17	1.33
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: K. Wazny

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



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 May 2014**

Report Period: April 2014

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
1/04/2014	1.04	0.66	1.05	0.84
2/04/2014	0.92	0.80	1.05	0.88
3/04/2014	0.94	0.84	1.00	0.86
4/04/2014	0.97	0.81	1.00	0.83
5/04/2014	1.05	0.89	1.06	0.92
6/04/2014	1.12	1.01	1.10	0.99
7/04/2014	1.04	0.86	1.05	0.87
8/04/2014	0.97	0.87	1.00	0.89
9/04/2014	1.05	0.69	1.10	0.83
10/04/2014	0.90	0.73	1.00	0.73
11/04/2014	1.03	0.90	1.24	1.06
12/04/2014	1.00	0.86	1.07	0.75
13/04/2014	0.96	0.89	1.05	0.92
14/04/2014	0.97	0.86	1.07	0.86
15/04/2014	1.11	0.94	1.12	0.90
16/04/2014	1.18	1.04	1.10	0.91
17/04/2014	1.15	1.05	1.13	1.04
18/04/2014	1.21	1.08	1.17	1.10
19/04/2014	1.13	1.02	1.13	1.04
20/04/2014	1.08	1.01	1.11	1.00
21/04/2014	1.07	0.96	1.11	0.93
22/04/2014	1.12	1.03	1.11	1.02
23/04/2014	1.10	1.02	1.07	0.98
24/04/2014	1.13	1.04	1.09	0.80
25/04/2014	1.11	1.03	1.15	1.05
26/04/2014	1.05	0.97	1.08	1.04
27/04/2014	0.93	0.83	1.00	0.90
28/04/2014	0.97	0.81	0.96	0.91
29/04/2014	1.10	1.00	1.13	0.91
30/04/2014	1.06	0.96	1.13	1.02

Total Number of Measurements, A: **20824** 20817Minimum Free Chlorine Standard: **0.50** 0.50Number of Measurements Meeting Standard, B: **20854** 20817COMPLIANCE, 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 A	Date	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Free Chlorine (mg/L)	Total Chlorine (mg/L)
	01-May-2014	1.02	1.14	0.98	1.15
	02-May-2014	1.01	1.13	1.01	1.17
	03-May-2014	NS	NS	NS	NS
	04-May-2014	NS	NS	NS	NS
	05-May-2014	1.03	1.17	1.10	1.19
	06-May-2014	1.04	1.17	1.02	1.18
	07-May-2014	1.01	1.15	1.04	1.18
	08-May-2014	1.07	1.18	1.03	1.17
	09-May-2014	1.04	1.15	1.01	1.10
	10-May-2014	NS	NS	NS	NS
	11-May-2014	NS	NS	NS	NS
	12-May-2014	0.99	1.13	0.96	1.14
	13-May-2014	0.97	1.05	0.96	1.15
	14-May-2014	0.93	1.08	0.98	1.15
	15-May-2014	0.87	1.01	0.91	1.10
	16-May-2014	0.92	1.07	0.83	1.02
	17-May-2014	NS	NS	NS	NS
	18-May-2014	NS	NS	NS	NS
	19-May-2014	0.94	1.05	0.95	1.05
	20-May-2014	0.91	1.04	0.91	1.06
	21-May-2014	1.01	1.14	0.99	1.17
	22-May-2014	0.94	1.11	1.01	1.09
	23-May-2014	0.95	1.13	0.91	1.07
	24-May-2014	NS	NS	NS	NS
	25-May-2014	NS	NS	NS	NS
	26-May-2014	0.92	1.13	0.95	1.11
	27-May-2014	1.00	1.11	0.92	1.10
	28-May-2014	0.95	1.15	0.94	1.14
	29-May-2014	1.07	1.28	1.02	1.19
	30-May-2014	1.17	1.37	1.05	1.22
	31-May-2014	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: S.Fletcher/ A.Vanderstel



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 June 2014**

Report Period: May 2014

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
1/05/2014	0.97	0.91	1.01	0.94
2/05/2014	0.93	0.85	0.96	0.90
3/05/2014	0.95	0.85	1.00	0.93
4/05/2014	0.96	0.87	1.00	0.89
5/05/2014	0.95	0.81	1.00	0.94
6/05/2014	0.91	0.78	1.03	0.75
7/05/2014	0.95	0.80	1.00	0.88
8/05/2014	1.01	0.80	1.01	0.82
9/05/2014	0.97	0.89	0.97	0.89
10/05/2014	0.97	0.89	0.98	0.90
11/05/2014	1.05	0.94	1.02	0.94
12/05/2014	1.00	0.92	0.99	0.93
13/05/2014	1.05	0.91	1.01	0.96
14/05/2014	0.99	0.84	0.96	0.80
15/05/2014	0.94	0.79	0.88	0.79
16/05/2014	0.92	0.74	0.88	0.79
17/05/2014	0.94	0.82	0.89	0.77
18/05/2014	0.93	0.82	0.89	0.84
19/05/2014	0.93	0.84	0.91	0.86
20/05/2014	0.95	0.88	0.93	0.84
21/05/2014	0.98	0.83	0.96	0.89
22/05/2014	0.99	0.87	0.93	0.87
23/05/2014	0.92	0.94	0.93	0.87
24/05/2014	1.03	0.90	0.94	0.81
25/05/2014	1.06	0.94	0.92	0.82
26/05/2014	1.09	0.99	0.92	0.83
27/05/2014	1.08	0.89	0.86	0.78
28/05/2014	0.97	0.63	1.03	0.79
29/05/2014	0.99	0.71	1.03	0.70
30/05/2014	1.33	0.67	1.09	0.79
31/05/2014	1.09	0.94	0.99	0.91

Total Number of Measurements, A: **21541**

21544

Minimum Free Chlorine Standard: **0.50**

0.50

Number of Measurements Meeting Standard, B: **21541**

21544

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

100

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Submitted By (Print): A.WeremySignature: Original signed by 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 A	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Free Chlorine (mg/L)	Total Chlorine (mg/L)
Date				
01-Jun-2014	NS	NS	NS	NS
02-Jun-2014	1.25	1.46	1.14	1.28
03-Jun-2014	1.07	1.26	1.04	1.18
04-Jun-2014	0.98	1.16	1.01	1.17
05-Jun-2014	0.93	1.03	1.01	1.09
06-Jun-2014	1.20	1.36	1.16	1.35
07-Jun-2014	NS	NS	NS	NS
08-Jun-2014	NS	NS	NS	NS
09-Jun-2014	1.08	1.24	0.97	1.10
10-Jun-2014	0.97	1.17	0.95	1.14
11-Jun-2014	0.98	1.13	0.95	1.15
12-Jun-2014	1.20	1.39	1.13	1.29
13-Jun-2014	1.19	1.40	1.06	1.24
14-Jun-2014	NS	NS	NS	NS
15-Jun-2014	NS	NS	NS	NS
16-Jun-2014	1.12	1.35	1.04	1.23
17-Jun-2014	1.41	1.56	1.24	1.46
18-Jun-2014	1.15	1.33	1.13	1.29
19-Jun-2014	1.13	1.34	1.13	1.28
20-Jun-2014	1.17	1.35	1.01	1.23
21-Jun-2014	NS	NS	NS	NS
22-Jun-2014	NS	NS	NS	NS
23-Jun-2014	1.12	1.24	1.11	1.25
24-Jun-2014	1.10	1.34	1.08	1.29
25-Jun-2014	1.05	1.23	1.09	1.27
26-Jun-2014	1.16	1.32	1.18	1.40
27-Jun-2014	1.12	1.30	1.20	1.36
28-Jun-2014	NS	NS	NS	NS
29-Jun-2014	NS	NS	NS	NS
30-Jun-2014	1.19	1.37	1.16	1.33
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: S.Fletcher/ A.Vanderstel



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 July 2014**

Report Period: June 2014

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
1/06/2014	1.04	0.89	0.97	0.84
2/06/2014	1.19	1.01	1.04	0.97
3/06/2014	1.15	1.01	1.06	0.93
4/06/2014	1.01	0.90	1.01	0.92
5/06/2014	0.92	0.84	0.93	0.84
6/06/2014	1.16	1.00	1.08	0.91
7/06/2014	1.09	0.99	0.96	0.87
8/06/2014	1.06	0.96	0.98	0.91
9/06/2014	1.05	0.91	1.17	0.79
10/06/2014	0.94	0.88	1.47	0.92
11/06/2014	1.01	0.81	0.99	0.89
12/06/2014	1.20	1.08	1.08	0.99
13/06/2014	1.19	1.07	1.01	0.93
14/06/2014	1.19	1.07	1.11	0.99
15/06/2014	1.14	1.07	1.08	0.93
16/06/2014	1.19	1.00	1.12	0.97
17/06/2014	1.32	1.10	1.19	1.09
18/06/2014	1.11	0.97	1.05	0.96
19/06/2014	1.15	0.99	1.02	0.89
20/06/2014	1.20	0.99	1.26	0.91
21/06/2014	1.12	0.98	1.24	1.12
22/06/2014	1.08	0.94	1.14	1.06
23/06/2014	1.08	0.89	1.05	0.92
24/06/2014	1.16	1.01	1.06	0.98
25/06/2014	1.13	0.99	1.14	0.99
26/06/2014	1.17	1.07	1.17	1.08
27/06/2014	1.14	1.04	1.14	1.04
28/06/2014	1.14	0.93	1.16	0.99
29/06/2014	1.12	0.98	1.14	0.94
30/06/2014	1.14	0.99	1.15	1.04

Total Number of Measurements, A: **20813** 20772Minimum Free Chlorine Standard: **0.50** 0.50Number of Measurements Meeting Standard, B: **20813** 20772COMPLIANCE, 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 A	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Free Chlorine (mg/L)	Total Chlorine (mg/L)
Date				
01-Jul-2014	1.13	1.29	1.11	1.24
02-Jul-2014	1.18	1.36	1.17	1.37
03-Jul-2014	1.24	1.45	1.15	1.34
04-Jul-2014	1.27	1.42	1.12	1.35
05-Jul-2014	NS	NS	NS	NS
06-Jul-2014	NS	NS	NS	NS
07-Jul-2014	1.14	1.31	1.09	1.26
08-Jul-2014	1.17	1.28	1.05	1.24
09-Jul-2014	1.22	1.36	1.19	1.30
10-Jul-2014	1.30	1.42	1.20	1.36
11-Jul-2014	1.34	1.46	1.27	1.38
12-Jul-2014	NS	NS	NS	NS
13-Jul-2014	NS	NS	NS	NS
14-Jul-2014	1.51	1.66	1.49	1.61
15-Jul-2014	1.45	1.58	1.38	1.59
16-Jul-2014	1.33	1.46	1.34	1.53
17-Jul-2014	1.26	1.45	1.23	1.39
18-Jul-2014	1.30	1.40	1.29	1.42
19-Jul-2014	NS	NS	NS	NS
20-Jul-2014	NS	NS	NS	NS
21-Jul-2014	1.05	1.24	1.20	1.34
22-Jul-2014	1.19	1.32	1.18	1.35
23-Jul-2014	1.31	1.44	1.33	1.47
24-Jul-2014	1.27	1.40	1.26	1.40
25-Jul-2014	1.22	1.34	1.23	1.31
26-Jul-2014	NS	NS	NS	NS
27-Jul-2014	NS	NS	NS	NS
28-Jul-2014	1.38	1.47	1.35	1.48
29-Jul-2014	1.49	1.62	1.40	1.59
30-Jul-2014	1.34	1.49	1.29	1.49
31-Jul-2014	1.46	1.59	1.46	1.63
Total number of measurements taken, A:	23		23	
Chlorine Standard for Monitoring Location (mg/L):	0.50		0.50	
Number of measurements meeting standard, B:	23		23	
Compliance with Chlorine Standard, C= B/A X 100%:	100%		100%	

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

Comments:

Report Compiled By: J. Jones

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

**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 A**

Report Created: 01 August 2014

Report Period: July 2014

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/07/2014	1.07	0.97	1.14	1.02
02/07/2014	0.99	0.88	1.03	0.93
03/07/2014	1.17	0.96	1.11	0.99
04/07/2014	1.21	1.10	1.10	1.03
05/07/2014	1.15	1.00	1.03	0.87
06/07/2014	0.99	0.89	0.95	0.88
07/07/2014	1.04	0.96	1.03	0.97
08/07/2014	1.14	0.93	1.10	0.92
09/07/2014	1.20	1.09	1.16	1.05
10/07/2014	1.18	1.07	1.14	1.08
11/07/2014	1.20	1.14	1.19	1.07
12/07/2014	1.24	1.14	1.28	1.16
13/07/2014	1.32	1.25	1.30	1.17
14/07/2014	1.33	1.25	1.28	1.18
15/07/2014	1.34	1.24	1.30	1.18
16/07/2014	1.22	1.12	1.24	1.10
17/07/2014	1.22	1.13	1.27	1.10
18/07/2014	1.21	1.15	1.21	1.07
19/07/2014	1.16	1.10	1.13	1.04
20/07/2014	1.14	1.03	1.15	1.03
21/07/2014	1.17	1.08	1.20	1.06
22/07/2014	1.24	1.13	1.33	1.20
23/07/2014	1.27	1.17	1.32	1.20
24/07/2014	1.22	1.14	1.20	1.07
25/07/2014	1.14	0.85	1.07	0.73
26/07/2014	1.32	1.11	1.31	1.09
27/07/2014	1.33	1.22	1.25	1.13
28/07/2014	1.30	1.12	1.30	1.13
29/07/2014	1.44	1.32	1.36	1.21
30/07/2014	1.32	1.24	1.24	1.11
31/07/2014	1.40	1.30	1.43	1.27

Total Number of Measurements, A: **21489** 21488Minimum Free Chlorine Standard: **0.50** 0.50Number of Measurements Meeting Standard, B: **21489** 21488COMPLIANCE, C = B/A X 100%: **100** 100

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Submitted By (Print): M.Szmon for A.WeremySignature: Original signed by M.Szmon



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-Aug-2014	1.32	1.46	1.32	1.49
02-Aug-2014	NS	NS	NS	NS
03-Aug-2014	NS	NS	NS	NS
04-Aug-2014	1.28	1.41	1.32	1.48
05-Aug-2014	1.16	1.33	1.15	1.39
06-Aug-2014	1.27	1.42	1.29	1.46
07-Aug-2014	1.28	1.45	1.30	1.51
08-Aug-2014	1.39	1.55	1.32	1.53
09-Aug-2014	NS	NS	NS	NS
10-Aug-2014	NS	NS	NS	NS
11-Aug-2014	1.38	1.51	1.40	1.53
12-Aug-2014	1.43	1.60	1.42	1.61
13-Aug-2014	1.39	1.54	1.36	1.56
14-Aug-2014	1.44	1.57	1.35	1.52
15-Aug-2014	1.53	1.69	1.48	1.66
16-Aug-2014	NS	NS	NS	NS
17-Aug-2014	NS	NS	NS	NS
18-Aug-2014	1.38	1.57	1.48	1.67
19-Aug-2014	1.35	1.55	1.43	1.65
20-Aug-2014	1.41	1.64	1.38	1.63
21-Aug-2014	1.27	1.42	1.34	1.54
22-Aug-2014	1.24	1.44	1.33	1.52
23-Aug-2014	NS	NS	NS	NS
24-Aug-2014	NS	NS	NS	NS
25-Aug-2014	1.35	1.55	1.35	1.59
26-Aug-2014	1.40	1.63	1.48	1.67
27-Aug-2014	1.64	1.77	1.59	1.83
28-Aug-2014	1.56	1.66	1.67	1.80
29-Aug-2014	1.49	1.68	1.57	1.73
30-Aug-2014	NS	NS	NS	NS
31-Aug-2014	NS	NS	NS	NS
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: S.Fletcher/ A.Vanderstel



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 September 2014**

Report Period: **August 2014**

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/08/2014	1.24	1.14	1.25	1.08
02/08/2014	1.19	1.09	1.25	1.12
03/08/2014	1.23	1.11	1.28	1.17
04/08/2014	1.27	1.12	1.29	1.14
05/08/2014	1.21	1.10	1.13	1.04
06/08/2014	1.26	1.06	1.21	0.95
07/08/2014	1.40	1.15	1.29	1.21
08/08/2014	1.37	0.95	1.37	1.23
09/08/2014	1.33	1.17	1.31	1.22
10/08/2014	1.23	1.16	1.25	1.14
11/08/2014	1.39	1.23	1.38	1.23
12/08/2014	1.36	1.28	1.37	1.25
13/08/2014	1.32	1.21	1.31	1.15
14/08/2014	1.36	1.26	1.27	1.19
15/08/2014	1.43	1.30	1.37	1.24
16/08/2014	1.33	1.25	1.30	1.21
17/08/2014	1.28	1.13	1.43	1.37
18/08/2014	1.31	1.13	1.37	1.05
19/08/2014	1.42	1.21	1.40	1.26
20/08/2014	1.29	1.12	1.25	1.09
21/08/2014	1.23	1.10	1.29	1.14
22/08/2014	1.41	1.16	1.51	1.20
23/08/2014	1.20	1.05	1.27	1.08
24/08/2014	1.21	1.12	1.25	1.17
25/08/2014	1.31	1.13	1.30	1.16
26/08/2014	1.42	1.27	1.48	1.29
27/08/2014	1.43	1.29	1.54	1.36
28/08/2014	1.48	0.82	1.48	0.74
29/08/2014	1.38	0.96	1.38	0.81
30/08/2014	1.33	1.24	1.40	1.21
31/08/2014	1.38	1.29	1.44	1.34

Total Number of Measurements, A: **21599** 21597
Minimum Free Chlorine Standard: **0.50** 0 50

Number of Measurements Meeting Standard, B: **21599** 21597

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

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

Submitted By (Print): D.Minor

Signature: Original signed by D.Minor



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT 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-Sep-2014	1.61	1.79	1.61	1.84
02-Sep-2014	1.44	1.61	1.46	1.66
03-Sep-2014	1.72	1.89	1.47	1.73
04-Sep-2014	1.52	1.73	1.49	1.71
05-Sep-2014	1.52	1.67	1.46	1.64
06-Sep-2014	NS	NS	NS	NS
07-Sep-2014	NS	NS	NS	NS
08-Sep-2014	1.56	1.72	1.53	1.79
09-Sep-2014	1.37	1.52	1.26	1.42
10-Sep-2014	1.48	1.67	1.30	1.52
11-Sep-2014	1.36	1.46	1.36	1.54
12-Sep-2014	1.61	1.78	1.37	1.63
13-Sep-2014	NS	NS	NS	NS
14-Sep-2014	NS	NS	NS	NS
15-Sep-2014	1.78	1.98	1.65	1.88
16-Sep-2014	1.72	1.89	1.61	1.78
17-Sep-2014	1.57	1.77	1.54	1.77
18-Sep-2014	1.57	1.78	1.43	1.64
19-Sep-2014	1.44	1.64	1.39	1.60
20-Sep-2014	NS	NS	NS	NS
21-Sep-2014	NS	NS	NS	NS
22-Sep-2014	1.31	1.55	1.26	1.51
23-Sep-2014	1.37	1.56	1.38	1.60
24-Sep-2014	1.76	1.98	1.79	2.11
25-Sep-2014	1.63	1.88	1.69	1.91
26-Sep-2014	1.30	1.54	1.43	1.66
27-Sep-2014	NS	NS	NS	NS
28-Sep-2014	NS	NS	NS	NS
29-Sep-2014	1.62	1.80	1.55	1.82
30-Sep-2014	1.70	1.91	1.70	1.92
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/ A.Vanderstel



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 October 2014**

Report Period: **September 2014**

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/09/2014	1.45	1.24	1.42	1.28
02/09/2014	1.46	0.93	1.31	0.71
03/09/2014	1.60	1.30	1.49	1.29
04/09/2014	1.58	1.37	1.56	1.39
05/09/2014	1.46	1.31	1.39	1.24
06/09/2014	1.59	1.38	1.41	1.15
07/09/2014	1.53	1.33	1.48	1.31
08/09/2014	1.50	1.26	1.65	1.44
09/09/2014	1.36	1.09	1.32	1.02
10/09/2014	1.57	1.27	1.38	1.11
11/09/2014	1.36	1.05	1.43	1.20
12/09/2014	1.58	1.28	1.47	1.22
13/09/2014	1.72	1.53	1.54	1.30
14/09/2014	1.59	1.29	1.49	1.42
15/09/2014	1.73	1.53	1.57	1.44
16/09/2014	1.72	1.50	1.52	1.39
17/09/2014	1.45	1.28	1.45	1.30
18/09/2014	1.47	1.18	1.42	1.18
19/09/2014	1.48	1.11	1.39	1.21
20/09/2014	1.34	1.18	1.39	1.11
21/09/2014	1.22	1.01	1.27	1.09
22/09/2014	1.40	1.29	1.27	1.15
23/09/2014	1.47	1.32	1.31	1.21
24/09/2014	1.60	1.19	1.62	1.32
25/09/2014	1.62	1.28	1.83	1.26
26/09/2014	1.33	1.14	1.23	1.10
27/09/2014	1.49	1.36	1.36	1.12
28/09/2014	1.51	1.30	1.56	1.25
29/09/2014	1.56	1.30	1.48	1.23
30/09/2014	1.67	1.45	1.62	1.43

Total Number of Measurements, A: **20595** 20568

Minimum Free Chlorine Standard: **0.50** 0.50

Number of Measurements Meeting Standard, B: **20595** 20568

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

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2014\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 CHLORINE GRAB MONITORING REPORT

Water System Code: 252.00 Licence No. PWS-09-412 A	Deacon Booster Pumping Station Branch 1		Deacon Booster Pumping Station Branch 2		
	Date	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Free Chlorine (mg/L)	Total Chlorine (mg/L)
01-Oct-2014		1.47	1.68	1.47	1.75
02-Oct-2014		1.22	1.34	1.15	1.25
03-Oct-2014		1.48	1.63	1.47	1.74
04-Oct-2014		NS	NS	NS	NS
05-Oct-2014		NS	NS	NS	NS
06-Oct-2014		1.59	1.73	1.51	1.67
07-Oct-2014		1.61	1.76	1.70	1.82
08-Oct-2014		1.42	1.56	1.50	1.67
09-Oct-2014		1.32	1.50	1.45	1.63
10-Oct-2014		1.43	1.55	1.62	1.75
11-Oct-2014		NS	NS	NS	NS
12-Oct-2014		NS	NS	NS	NS
13-Oct-2014		1.43	1.60	1.33	1.54
14-Oct-2014		1.50	1.70	1.44	1.68
15-Oct-2014		1.19	1.33	1.29	1.52
16-Oct-2014		1.09	1.27	1.11	1.25
17-Oct-2014		1.25	1.44	1.20	1.41
18-Oct-2014		NS	NS	NS	NS
19-Oct-2014		NS	NS	NS	NS
20-Oct-2014		1.37	1.51	1.33	1.56
21-Oct-2014		1.43	1.61	1.24	1.36
22-Oct-2014		1.12	1.28	1.28	1.48
23-Oct-2014		1.29	1.46	1.18	1.27
24-Oct-2014		1.07	1.21	1.16	1.38
25-Oct-2014		NS	NS	NS	NS
26-Oct-2014		NS	NS	NS	NS
27-Oct-2014		1.36	1.53	1.33	1.55
28-Oct-2014		1.20	1.44	1.16	1.40
29-Oct-2014		1.25	1.42	1.23	1.49
30-Oct-2014		1.53	1.68	1.46	1.70
31-Oct-2014		1.44	1.63	1.44	1.55
Total number of measurements taken, A:	23		23		
Chlorine Standard for Monitoring Location (mg/L):	0.50		0.50		
Number of measurements meeting standard, B:	23		23		
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/ A.Vanderstel



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 November 2014**

Report Period: **October 2014**

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/10/2014	1.36	1.13	1.33	0.99
02/10/2014	1.32	1.01	1.31	0.90
03/10/2014	1.44	1.28	1.45	1.25
04/10/2014	1.57	1.41	1.54	1.28
05/10/2014	1.43	1.32	1.44	1.25
06/10/2014	1.43	1.24	1.49	1.17
07/10/2014	1.41	1.21	1.51	1.21
08/10/2014	1.39	1.20	1.57	1.28
09/10/2014	1.38	1.22	1.47	1.26
10/10/2014	1.52	1.40	1.60	1.39
11/10/2014	1.57	1.36	1.65	1.44
12/10/2014	1.36	1.16	1.52	1.33
13/10/2014	1.38	1.17	1.40	1.29
14/10/2014	1.40	1.18	1.44	1.30
15/10/2014	1.13	0.90	1.24	0.95
16/10/2014	1.22	0.94	1.15	0.89
17/10/2014	1.28	1.14	1.29	1.10
18/10/2014	1.31	1.13	1.34	1.19
19/10/2014	1.23	1.06	1.27	1.14
20/10/2014	1.31	1.21	1.34	1.18
21/10/2014	1.34	1.13	1.25	1.04
22/10/2014	1.24	1.01	1.20	1.00
23/10/2014	1.31	1.09	1.16	0.97
24/10/2014	1.18	0.99	1.20	1.08
25/10/2014	1.27	1.11	1.24	0.97
26/10/2014	1.34	1.14	1.21	1.05
27/10/2014	1.33	1.11	1.28	1.09
28/10/2014	1.38	1.15	1.31	1.15
29/10/2014	1.31	1.11	1.25	0.77
30/10/2014	1.39	1.29	1.25	1.05
31/10/2014	1.38	1.23	1.43	1.14

Total Number of Measurements, A: **21559** 21558

Minimum Free Chlorine Standard: **0.50** 0.50

Number of Measurements Meeting Standard, B: **21559** 21558

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

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Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT 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-Nov-2014	NS	NS	NS	NS
02-Nov-2014	NS	NS	NS	NS
03-Nov-2014	1.39	1.59	1.35	1.57
04-Nov-2014	1.33	1.48	1.28	1.50
05-Nov-2014	1.36	1.48	1.29	1.49
06-Nov-2014	1.47	1.64	1.38	1.64
07-Nov-2014	1.40	1.57	1.43	1.55
08-Nov-2014	NS	NS	NS	NS
09-Nov-2014	NS	NS	NS	NS
10-Nov-2014	1.19	1.56	1.42	1.58
11-Nov-2014	1.29	1.45	1.34	1.45
12-Nov-2014	1.29	1.48	1.32	1.54
13-Nov-2014	1.36	1.51	1.39	1.57
14-Nov-2014	1.37	1.49	1.42	1.62
15-Nov-2014	NS	NS	NS	NS
16-Nov-2014	NS	NS	NS	NS
17-Nov-2014	1.23	1.34	1.28	1.44
18-Nov-2014	1.28	1.44	1.18	1.45
19-Nov-2014	1.29	1.47	1.30	1.41
20-Nov-2014	1.22	1.36	1.16	1.35
21-Nov-2014	1.20	1.39	1.14	1.36
22-Nov-2014	NS	NS	NS	NS
23-Nov-2014	NS	NS	NS	NS
24-Nov-2014	1.02	1.28	1.05	1.18
25-Nov-2014	1.14	1.27	1.14	1.34
26-Nov-2014	1.17	1.37	1.12	1.32
27-Nov-2014	1.22	1.34	1.21	1.34
28-Nov-2014	1.20	1.43	1.18	1.35
29-Nov-2014	NS	NS	NS	NS
30-Nov-2014	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 A**

Report Created: **01 December 2014**

Report Period: **November 2014**

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/11/2014	1.41	1.29	1.41	1.17
02/11/2014	1.44	1.34	1.39	1.23
03/11/2014	1.40	1.24	1.35	1.26
04/11/2014	1.31	1.20	1.30	1.21
05/11/2014	1.33	1.24	1.33	1.20
06/11/2014	1.35	1.27	1.34	1.18
07/11/2014	1.30	1.20	1.38	1.29
08/11/2014	1.28	1.18	1.36	1.29
09/11/2014	1.28	1.16	1.37	1.28
10/11/2014	1.15	1.03	1.27	1.17
11/11/2014	1.14	1.02	1.24	1.15
12/11/2014	1.21	1.10	1.26	1.21
13/11/2014	1.29	1.08	1.36	1.19
14/11/2014	1.28	1.12	1.33	1.19
15/11/2014	1.20	0.98	1.28	1.10
16/11/2014	1.17	0.98	1.30	1.09
17/11/2014	1.24	1.06	1.32	1.22
18/11/2014	1.27	1.12	1.24	1.14
19/11/2014	1.30	1.19	1.25	1.19
20/11/2014	1.26	1.11	1.19	1.10
21/11/2014	1.21	1.13	1.12	1.07
22/11/2014	1.22	1.11	1.09	1.04
23/11/2014	1.15	1.01	1.01	0.93
24/11/2014	1.11	1.00	1.05	0.87
25/11/2014	1.18	1.11	1.15	1.10
26/11/2014	1.16	1.07	1.13	1.07
27/11/2014	1.18	1.08	1.14	1.09
28/11/2014	1.23	1.16	1.20	1.14
29/11/2014	1.20	1.13	1.14	1.07
30/11/2014	1.11	0.98	1.09	1.03

Total Number of Measurements, A: **20908** 20908

Minimum Free Chlorine Standard: **0.50** 0.50

Number of Measurements Meeting Standard, B: **20908** 20908

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

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Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT CHLORINE GRAB MONITORING REPORT

Water System Code: Licence No.	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)
252.00 PWS-09-412 A	01-Dec-2014	1.11	1.29	1.10	1.25
	02-Dec-2014	1.24	1.44	1.25	1.40
	03-Dec-2014	1.26	1.39	1.19	1.34
	04-Dec-2014	1.21	1.39	1.18	1.33
	05-Dec-2014	1.15	1.39	1.14	1.34
	06-Dec-2014	NS	NS	NS	NS
	07-Dec-2014	NS	NS	NS	NS
	08-Dec-2014	1.21	1.39	1.14	1.34
	09-Dec-2014	1.20	1.43	1.15	1.40
	10-Dec-2014	1.25	1.34	1.23	1.35
	11-Dec-2014	1.15	1.32	1.14	1.37
	12-Dec-2014	1.19	1.34	1.12	1.34
	13-Dec-2014	NS	NS	NS	NS
	14-Dec-2014	NS	NS	NS	NS
	15-Dec-2014	1.10	1.30	1.18	1.28
	16-Dec-2014	1.25	1.44	1.19	1.40
	17-Dec-2014	1.12	1.30	1.17	1.39
	18-Dec-2014	1.23	1.41	1.26	1.42
	19-Dec-2014	1.20	1.37	1.27	1.50
	20-Dec-2014	NS	NS	NS	NS
	21-Dec-2014	NS	NS	NS	NS
	22-Dec-2014	1.13	1.30	1.17	1.42
	23-Dec-2014	1.22	1.40	1.12	1.34
	24-Dec-2014	1.25	1.36	1.17	1.34
	25-Dec-2014	NS	NS	NS	NS
	26-Dec-2014	1.22	1.36	1.14	1.24
	27-Dec-2014	NS	NS	NS	NS
	28-Dec-2014	NS	NS	NS	NS
	29-Dec-2014	1.34	1.49	1.30	1.42
	30-Dec-2014	1.30	1.48	1.31	1.53
	31-Dec-2014	1.22	1.33	1.20	1.39
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 January 2015**

Report Period: December 2014

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
1/12/2014	1.13	1.03	1.14	1.04
2/12/2014	1.22	1.15	1.18	1.13
3/12/2014	1.22	1.16	1.18	1.11
4/12/2014	1.19	1.12	1.16	1.10
5/12/2014	1.17	1.08	1.13	1.07
6/12/2014	1.16	1.10	1.12	1.09
7/12/2014	1.12	1.06	1.08	1.03
8/12/2014	1.15	0.99	1.12	1.02
9/12/2014	1.19	1.11	1.11	1.05
10/12/2014	1.17	1.07	1.08	0.96
11/12/2014	1.14	1.08	1.08	1.01
12/12/2014	1.15	1.08	1.10	1.05
13/12/2014	1.11	1.05	1.10	1.05
14/12/2014	1.08	1.03	1.06	1.01
15/12/2014	1.12	0.98	1.10	1.01
16/12/2014	1.14	1.04	1.14	1.00
17/12/2014	1.10	1.00	1.13	1.04
18/12/2014	1.12	1.08	1.11	1.09
19/12/2014	1.24	1.07	1.18	1.04
20/12/2014	1.11	0.99	1.07	0.92
21/12/2014	1.14	1.07	1.13	1.10
22/12/2014	1.14	1.05	1.12	1.06
23/12/2014	1.14	1.04	1.13	1.09
24/12/2014	1.17	1.05	1.07	0.99
25/12/2014	1.17	1.09	1.05	1.01
26/12/2014	1.18	1.07	1.01	0.96
27/12/2014	1.14	1.07	0.94	0.87
28/12/2014	1.23	1.13	0.99	0.90
29/12/2014	1.30	1.22	1.18	1.09
30/12/2014	1.28	1.19	1.24	1.16
31/12/2014	1.19	1.13	1.21	1.17

Total Number of Measurements, A: 21580 21578

Minimum Free Chlorine Standard: 0.50 0.50

Number of Measurements Meeting Standard, B: 21580 21578

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

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2014\12-December

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew

2014 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	Turbidity (NTU)									
Licence No. PWS-09-412 A	Date	Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7	Filter 8
	01-Jan-2014	0.52	0.17	0.17	0.14	0.23	0.12	0.11	0.10	0.11
	02-Jan-2014	0.45	0.14	0.12	0.17	0.14	0.15	0.09	0.12	0.14
	03-Jan-2014	0.51	0.10	0.16	0.09	0.13	0.12	0.10	0.09	0.14
	04-Jan-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	05-Jan-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	06-Jan-2014	0.74	0.15	0.18	0.11	0.11	0.10	0.12	0.10	0.11
	07-Jan-2014	0.45	0.15	0.13	0.18	0.11	0.17	0.07	0.14	0.14
	08-Jan-2014	0.45	0.13	0.15	0.11	0.17	0.20	0.20	0.11	0.12
	09-Jan-2014	1.01	0.10	0.10	0.15	0.10	0.10	0.12	0.14	0.12
	10-Jan-2014	0.54	0.07	0.08	0.17	0.15	0.08	0.09	0.09	0.19
	11-Jan-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12-Jan-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	13-Jan-2014	0.48	0.10	0.12	0.10	0.15	0.07	0.09	0.08	0.08
	14-Jan-2014	0.50	0.15	0.14	0.13	0.10	0.11	0.17	0.15	0.12
	15-Jan-2014	0.48	0.12	0.12	0.17	0.14	0.09	0.09	0.13	0.20
	16-Jan-2014	0.44	0.18	0.19	0.11	0.10	0.14	0.13	0.12	0.11
	17-Jan-2014	0.41	0.13	0.15	0.18	0.12	0.18	0.14	0.18	0.15
	18-Jan-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	19-Jan-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	20-Jan-2014	0.55	0.10	0.14	0.14	0.17	0.12	0.09	0.10	0.19
	21-Jan-2014	1.63	0.18	0.20	0.15	0.11	0.11	0.20	0.16	0.18
	22-Jan-2014	1.25	0.14	0.12	0.20	0.15	0.15	0.12	0.14	0.18
	23-Jan-2014	0.90	0.17	0.19	0.13	0.16	0.13	0.15	0.11	0.13
	24-Jan-2014	0.84	0.19	0.12	0.15	0.13	0.17	0.18	0.19	0.15
	25-Jan-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	26-Jan-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Jan-2014	0.77	0.10	0.10	0.13	0.12	0.13	0.11	0.11	0.15
	28-Jan-2014	0.71	0.17	0.12	OL	0.14	0.10	0.11	0.10	OL
	29-Jan-2014	0.77	0.14	0.12	0.14	0.13	0.19	0.13	0.13	0.15
	30-Jan-2014	0.78	0.28	0.09	0.28	0.22	0.29	0.12	0.20	0.17
	31-Jan-2014	0.67	0.16	0.11	0.12	0.19	0.10	0.11	0.12	0.20
Total number of measurements taken, A:		23	23	22	23	23	23	23	22	
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:		23	23	22	23	23	23	23	22	
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: K. Wazny

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



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES DIVISION

Water System Code: 252.00

Licence Number: PWS-09-412 A

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

January 2014 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
1/01/2014	0.50	0.08	0.20	0.07	0.20	0.06	0.09	0.06	0.22	0.08	0.11	0.06	0.13	0.06	0.11	0.01	0.02	
2/01/2014	0.50	0.07	0.11	0.09	0.11	0.09	0.19	0.07	0.22	0.06	0.16	0.04	0.15	0.03	0.14	0.03	0.18	
3/01/2014	0.49	0.10	0.21	0.12	0.23	0.03	0.16	0.05	0.17	0.06	0.10	0.05	0.09	0.04	0.07	0.02	0.13	
4/01/2014	0.48	0.06	0.18	0.06	0.11	0.06	0.10	0.05	0.07	0.08	0.16	0.04	0.12	0.04	0.13	0.01	0.03	
5/01/2014	0.45	0.09	0.11	0.11	0.18	0.04	0.15	0.08	0.15	0.04	0.15	0.04	0.06	0.03	0.05	0.02	0.20	
6/01/2014	0.43	0.06	0.16	0.07	0.19	0.05	0.06	0.04	0.16	0.07	0.09	0.06	0.12	0.05	0.12	0.01	0.02	
7/01/2014	0.44	0.06	0.09	0.11	0.13	0.07	0.16	0.06	0.09	0.05	0.15	0.03	0.12	0.03	0.11	0.02	0.13	
8/01/2014	0.45	0.10	0.17	0.13	0.20	0.04	0.16	0.05	0.16	0.05	0.08	0.05	0.08	0.04	0.05	0.02	0.21	
9/01/2014	0.45	0.06	0.19	0.09	0.24	0.07	0.10	0.05	0.07	0.09	0.16	0.04	0.13	0.05	0.12	0.02	0.04	
10/01/2014	0.44	0.07	0.09	0.07	0.17	0.03	0.12	0.05	0.17	0.04	0.12	0.03	0.19	0.02	0.08	0.01	0.18	
11/01/2014	0.44	0.05	0.14	0.03	0.10	0.03	0.04	0.03	0.12	0.07	0.09	0.05	0.09	0.04	0.07	0.00	0.01	
12/01/2014	0.45	0.05	0.08	0.04	0.05	0.05	0.12	0.05	0.07	0.05	0.13	0.03	0.10	0.02	0.09	0.01	0.12	
13/01/2014	0.44	0.08	0.14	0.05	0.10	0.03	0.12	0.04	0.12	0.05	0.08	0.04	0.06	0.03	0.04	0.01	0.17	
14/01/2014	0.45	0.05	0.16	0.03	0.12	0.06	0.10	0.04	0.06	0.09	0.14	0.04	0.12	0.05	0.10	0.01	0.02	
15/01/2014	0.46	0.09	0.10	0.06	0.10	0.05	0.19	0.07	0.16	0.05	0.17	0.05	0.06	0.03	0.05	0.02	0.18	
16/01/2014	0.46	0.06	0.17	0.04	0.14	0.05	0.09	0.04	0.14	0.08	0.11	0.07	0.14	0.06	0.12	0.01	0.02	
17/01/2014	0.45	0.06	0.10	0.05	0.07	0.07	0.17	0.06	0.09	0.06	0.17	0.04	0.15	0.04	0.13	0.03	0.20	
18/01/2014	0.44	0.10	0.18	0.09	0.13	0.04	0.17	0.05	0.14	0.06	0.10	0.06	0.08	0.05	0.06	0.02	0.21	
19/01/2014	0.43	0.05	0.17	0.04	0.11	0.03	0.07	0.04	0.07	0.09	0.20	0.03	0.15	0.05	0.13	0.02	0.04	
20/01/2014	0.37	0.07	0.08	0.05	0.08	0.01	0.10	0.05	0.11	0.04	0.14	0.03	0.05	0.02	0.12	0.03	0.17	
21/01/2014	1.17	0.08	0.18	0.06	0.16	0.03	0.08	0.05	0.23	0.08	0.11	0.11	0.14	0.08	0.10	0.02	0.06	
22/01/2014	1.05	0.08	0.17	0.08	0.16	0.06	0.26	0.10	0.19	0.06	0.20	0.06	0.16	0.04	0.14	0.07	0.23	
23/01/2014	0.83	0.09	0.16	0.08	0.13	0.02	0.12	0.06	0.15	0.04	0.07	0.09	0.13	0.05	0.07	0.03	0.27	
24/01/2014	0.77	0.06	0.14	0.05	0.15	0.04	0.07	0.05	0.08	0.08	0.15	0.06	0.16	0.04	0.12	0.03	0.05	
25/01/2014	0.76	0.07	0.09	0.09	0.10	0.03	0.10	0.09	0.14	0.05	0.14	0.06	0.09	0.04	0.13	0.06	0.25	
26/01/2014	0.72	0.09	0.17	0.05	0.17	0.02	0.05	0.05	0.16	0.05	0.08	0.09	0.17	0.05	0.08	0.03	0.23	
27/01/2014	0.72	0.04	0.14	0.05	0.08	0.03	0.11	0.06	0.08	0.06	0.12	0.05	0.14	0.03	0.10	0.03	0.06	
28/01/2014	0.72	0.07	0.10	0.08	0.14	0.02	0.10	0.08	0.14	0.03	0.12	0.06	0.08	0.03	0.05	0.03	0.21	
29/01/2014	0.72	0.05	0.14	0.05	0.14	0.01	0.03	0.04	0.13	0.05	0.08	0.08	0.14	0.05	0.11	0.01	0.15	
30/01/2014	0.72	0.04	0.15	0.05	0.08	0.03	0.09	0.06	0.08	0.04	0.11	0.05	0.14	0.03	0.10	0.03	0.09	
31/01/2014	0.71	0.07	0.11	0.08	0.14	0.02	0.11	0.08	0.14	0.03	0.12	0.06	0.09	0.03	0.05	0.02	0.21	

Total Number of Measurements Taken, A: 14208 13949 14145 10762 14680 14746 12999 14505
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: 14208 13949 14145 10762 14680 14746 12999 14505
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\2014\01-January

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT

Water System Code: 252.00	Turbidity (NTU)									
Licence No. PWS-09-412 A	Date	Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7	Filter 8
	01-Feb-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	02-Feb-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	03-Feb-2014	0.68	0.11	0.15	0.09	0.11	0.09	0.09	0.09	0.09
	04-Feb-2014	0.71	0.11	0.18	0.13	0.10	0.12	0.13	OL	0.11
	05-Feb-2014	0.59	0.12	0.11	0.13	0.08	0.11	0.13	OL	0.09
	06-Feb-2014	0.73	0.12	0.08	0.07	0.08	0.10	0.07	OL	0.10
	07-Feb-2014	0.64	0.06	0.06	0.09	0.05	0.09	0.08	OL	0.08
	08-Feb-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09-Feb-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10-Feb-2014	0.46	0.08	0.15	0.08	0.05	0.20	0.07	OL	0.19
	11-Feb-2014	0.47	0.07	0.05	0.12	0.08	0.23	0.05	OL	0.07
	12-Feb-2014	0.44	0.08	0.06	0.08	0.07	0.06	0.07	OL	0.11
	13-Feb-2014	0.46	0.07	0.10	0.08	0.06	0.06	0.08	OL	0.10
	14-Feb-2014	0.60	0.06	0.05	0.09	0.06	0.06	0.07	OL	0.15
	15-Feb-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	16-Feb-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	17-Feb-2014	0.35	0.09	0.12	0.12	0.11	0.06	0.09	OL	0.18
	18-Feb-2014	0.44	0.10	0.06	OL	0.09	0.12	0.08	OL	0.10
	19-Feb-2014	0.36	0.07	0.06	0.10	0.07	0.06	0.06	OL	0.11
	20-Feb-2014	0.39	0.19	0.20	0.15	0.13	0.16	0.12	OL	0.11
	21-Feb-2014	0.81	0.16	0.11	0.10	0.07	0.09	0.12	OL	0.11
	22-Feb-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	23-Feb-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	24-Feb-2014	0.33	0.07	0.07	0.08	0.10	0.09	0.07	OL	NR
	25-Feb-2014	0.31	0.15	0.09	0.16	0.15	0.09	0.09	OL	0.18
	26-Feb-2014	0.28	0.11	0.09	0.10	0.10	0.15	0.08	OL	0.12
	27-Feb-2014	0.58	0.18	0.11	0.17	0.13	0.16	0.17	OL	0.13
	28-Feb-2014	0.36	0.19	0.16	0.26	0.10	0.14	0.10	OL	0.15
Total number of measurements taken, A:		20	20	19	20	20	20	1	19	
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	20	20	20	1	19	
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 NR: No Result

Comments:

There was no result on February 24 due to technician error.

Report Compiled By: K. Wazny

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



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES DIVISION

Water System Code: 252.00

Licence Number: PWS-09-412 A

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

February 2014 Turbidity (NTU)

Date	Raw	Filter #1		Filter #2		Filter #3		Filter #4		Filter #5		Filter #6		Filter #7		Filter #8	
	Avg	Avg	Max														
1/02/2014	0.71	0.05	0.15	0.05	0.14	0.02	0.04	0.04	0.15	0.05	0.08	0.08	0.15	0.05	0.11	0.01	0.03
2/02/2014	0.70	0.05	0.08	0.07	0.09	0.03	0.10	0.07	0.11	0.03	0.13	0.04	0.12	0.03	0.11	0.03	0.18
3/02/2014	0.69	0.06	0.13	0.07	0.15	0.01	0.14	0.03	0.11	0.02	0.04	0.05	0.09	0.02	0.03	0.01	0.14
4/02/2014	0.68	0.04	0.09	0.06	0.24	0.01	0.03	0.03	0.09	0.03	0.11	0.04	0.09	0.00	0.02	0.01	0.01
5/02/2014	0.68	0.03	0.05	0.07	0.08	0.01	0.05	0.04	0.07	0.02	0.07	0.03	0.08	OL	OL	0.01	0.07
6/02/2014	0.66	0.04	0.09	0.06	0.12	0.01	0.01	0.03	0.09	0.02	0.03	0.04	0.05	OL	OL	0.01	0.10
7/02/2014	0.64	0.03	0.06	0.05	0.10	0.01	0.02	0.02	0.05	0.02	0.04	0.03	0.05	OL	OL	0.01	0.01
8/02/2014	0.62	0.04	0.07	0.06	0.08	0.01	0.02	0.03	0.05	0.01	0.03	0.03	0.05	OL	OL	0.01	0.04
9/02/2014	0.60	0.05	0.11	0.06	0.08	0.03	0.13	0.03	0.06	0.01	0.04	0.03	0.04	OL	OL	0.01	0.03
10/02/2014	0.57	0.03	0.09	0.03	0.25	0.04	0.09	0.02	0.05	0.01	0.03	0.03	0.05	OL	OL	0.01	0.07
11/02/2014	0.54	0.03	0.06	0.00	0.02	0.04	0.13	0.02	0.04	0.01	0.04	0.01	0.04	OL	OL	0.01	0.03
12/02/2014	0.52	0.03	0.04	0.00	0.01	0.04	0.17	0.02	0.05	0.01	0.05	0.01	0.02	OL	OL	0.01	0.01
13/02/2014	0.49	0.03	0.06	0.01	0.11	0.05	0.16	0.02	0.04	0.01	0.02	0.02	0.04	OL	OL	0.01	0.04
14/02/2014	0.47	0.03	0.06	0.00	0.02	0.04	0.12	0.02	0.03	0.01	0.05	0.01	0.03	OL	OL	0.01	0.11
15/02/2014	0.44	0.03	0.04	0.01	0.01	0.04	0.07	0.02	0.05	0.01	0.04	0.01	0.05	OL	OL	0.01	0.05
16/02/2014	0.42	0.04	0.05	0.01	0.02	0.04	0.08	0.02	0.05	0.01	0.05	0.02	0.02	OL	OL	0.01	0.19
17/02/2014	0.41	0.03	0.07	0.02	0.05	0.07	0.27	0.02	0.08	0.02	0.03	0.02	0.05	OL	OL	0.01	0.01
18/02/2014	0.39	0.04	0.17	0.02	0.06	0.04	0.16	0.02	0.04	0.02	0.06	0.02	0.05	OL	OL	0.01	0.04
19/02/2014	0.38	0.06	0.28	0.02	0.05	0.03	0.25	0.02	0.17	0.02	0.05	0.02	0.03	OL	OL	0.01	0.04
20/02/2014	0.41	0.04	0.17	0.02	0.29	0.01	0.14	0.02	0.05	0.02	0.04	0.02	0.04	OL	OL	0.01	0.20
21/02/2014	0.35	0.03	0.07	0.01	0.03	0.01	0.07	0.02	0.05	0.01	0.02	0.01	0.04	OL	OL	0.01	0.03
22/02/2014	0.34	0.03	0.06	0.01	0.03	0.01	0.05	0.02	0.04	0.02	0.04	0.01	0.03	OL	OL	0.01	0.03
23/02/2014	0.33	0.03	0.06	0.01	0.02	0.01	0.03	0.02	0.05	0.02	0.04	0.01	0.04	OL	OL	0.01	0.03
24/02/2014	0.32	0.03	0.05	0.01	0.03	0.01	0.02	0.02	0.06	0.01	0.04	0.01	0.06	OL	OL	0.01	0.05
25/02/2014	0.31	0.03	0.06	0.01	0.03	0.01	0.09	0.02	0.05	0.01	0.03	0.01	0.03	OL	OL	0.02	0.11
26/02/2014	0.30	0.04	0.09	0.02	0.05	0.01	0.07	0.03	0.08	0.02	0.04	0.02	0.05	OL	OL	0.01	0.06
27/02/2014	0.30	0.06	0.15	0.03	0.11	0.04	0.12	0.06	0.19	0.03	0.04	0.02	0.08	OL	OL	0.01	0.14
28/02/2014	0.29	0.08	0.25	0.03	0.15	0.07	0.24	0.04	0.18	0.01	0.04	0.01	0.05	OL	OL	0.04	0.17

Total Number of Measurements Taken, A: 14397 13840 14446 11502 15035 14787 1338 14598
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: 14397 13840 14446 11502 15035 14787 1338 14598
Compliance with Turbidity Standard, C = B/A X 100%: 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%

OL: Off Line

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2014\02-February

Submitted By (Print): D.Minor

Signature: Original signed by D.Minor



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT

Water System Code: 252.00	Turbidity (NTU)									
Licence No. PWS-09-412 A	Date	Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7	Filter 8
	01-Mar-2014	NA	NA	NA	NA	NA	NA	NA	OL	NA
	02-Mar-2014	NA	NA	NA	NA	NA	NA	NA	OL	NA
	03-Mar-2014	0.22	0.12	0.15	0.11	0.10	0.13	0.07	OL	0.17
	04-Mar-2014	0.30	0.14	0.13	0.19	0.19	0.09	0.12	OL	0.14
	05-Mar-2014	0.25	0.14	0.18	0.14	0.15	0.13	0.13	OL	0.16
	06-Mar-2014	0.23	0.09	0.11	0.18	0.18	0.12	0.12	OL	0.13
	07-Mar-2014	0.22	0.09	0.13	0.11	0.10	0.12	0.10	OL	0.17
	08-Mar-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09-Mar-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10-Mar-2014	0.33	0.11	0.13	0.16	0.12	0.12	0.14	0.12	0.18
	11-Mar-2014	0.34	0.14	0.12	0.16	0.18	0.26	0.13	0.17	0.17
	12-Mar-2014	0.29	0.26	0.16	0.17	0.13	0.13	0.14	0.12	0.10
	13-Mar-2014	0.24	0.11	0.09	0.13	0.09	0.11	0.17	0.13	0.16
	14-Mar-2014	0.24	0.10	0.10	0.23	0.18	0.13	0.10	0.14	0.13
	15-Mar-2014	NA	NA	NA	NA	NA	NA	NA	NA	OL
	16-Mar-2014	NA	NA	NA	NA	NA	NA	NA	NA	OL
	17-Mar-2014	0.30	0.12	0.15	0.13	0.13	0.13	0.14	0.15	0.11
	18-Mar-2014	0.37	0.10	0.11	0.11	0.13	0.17	0.14	0.09	0.15
	19-Mar-2014	0.45	0.09	0.09	0.16	0.11	0.13	0.09	0.11	0.14
	20-Mar-2014	0.49	0.13	0.11	OL	0.17	0.09	0.13	0.14	0.17
	21-Mar-2014	0.66	0.18	0.21	0.21	0.21	0.16	0.19	0.15	0.17
	22-Mar-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	23-Mar-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	24-Mar-2014	0.76	0.08	0.11	0.12	0.14	0.13	0.09	0.17	0.18
	25-Mar-2014	0.44	0.20	0.16	0.09	0.10	0.11	0.11	0.10	0.18
	26-Mar-2014	0.38	0.09	0.09	0.12	0.10	0.13	0.11	0.12	0.16
	27-Mar-2014	0.35	0.09	0.09	0.13	0.14	0.11	0.09	0.14	0.12
	28-Mar-2014	0.34	0.16	0.09	0.12	0.12	0.14	0.14	0.13	0.19
	29-Mar-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	30-Mar-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	31-Mar-2014	0.35	0.12	0.06	0.14	0.11	0.07	0.08	0.11	0.14
Total number of measurements taken, A:		21	21	20	21	21	21	16	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	20	21	21	21	16	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:

From February 4 to March 8, filter 7 was taken out of service pending repair.
On February 15 and 16, filter 8 was offline due to flow valve maintenance and repair issues on the filter.

Report Compiled By: K. Wazny

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

Date Approved: 07-Apr-14



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

March 2014 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												
1/03/2014	0.29	0.04	0.07	0.00	0.02	0.01	0.22	0.03	0.18	0.01	0.05	0.01	0.04	OL	OL	0.02	0.40	
2/03/2014	0.28	0.05	0.08	0.01	0.03	0.01	0.05	0.03	0.09	0.02	0.04	0.02	0.08	OL	OL	0.02	0.19	
3/03/2014	0.28	0.05	0.12	0.02	0.07	0.04	1.28	0.05	0.17	0.03	0.14	0.04	1.16	OL	OL	0.04	0.29	
4/03/2014	0.28	0.07	0.15	0.04	0.09	0.02	0.11	0.05	0.12	0.04	0.10	0.04	0.08	OL	OL	0.02	0.10	
5/03/2014	0.28	0.07	0.15	0.04	0.11	0.03	0.05	0.05	0.13	0.04	0.09	0.04	0.11	OL	OL	0.01	0.03	
6/03/2014	0.27	0.06	0.14	0.04	0.11	0.03	0.12	0.04	0.07	0.05	0.07	0.04	0.12	OL	OL	0.02	0.15	
7/03/2014	0.27	0.06	0.19	0.04	0.06	0.03	0.13	0.06	0.12	0.04	0.12	0.04	0.12	OL	OL	0.03	0.12	
8/03/2014	0.27	0.07	0.10	0.05	0.12	0.03	0.05	0.03	0.13	0.03	0.10	0.04	0.06	0.04	0.10	0.02	0.26	
9/03/2014	0.27	0.05	0.15	0.03	0.12	0.05	0.14	0.04	0.08	0.03	0.04	0.04	0.12	0.03	0.11	0.03	0.07	
10/03/2014	0.27	0.04	0.11	0.03	0.07	0.03	0.17	0.05	0.13	0.03	0.09	0.03	0.10	0.03	0.06	0.02	0.26	
11/03/2014	0.27	0.06	0.08	0.05	0.11	0.02	0.16	0.05	0.11	0.03	0.13	0.03	0.07	0.04	0.09	0.03	0.21	
12/03/2014	0.27	0.06	0.17	0.04	0.15	0.06	0.16	0.06	0.17	0.03	0.12	0.04	0.12	0.03	0.14	0.02	0.40	
13/03/2014	0.27	0.04	0.13	0.03	0.11	0.03	0.13	0.05	0.09	0.03	0.10	0.04	0.11	0.02	0.05	0.01	0.30	
14/03/2014	0.27	0.04	0.09	0.03	0.06	0.05	0.31	0.03	0.17	0.02	0.08	0.05	0.28	0.04	0.21	0.07	0.26	
15/03/2014	0.27	0.05	0.07	0.03	0.10	0.03	0.13	0.04	0.11	0.02	0.08	0.03	0.05	0.04	0.26	OL	OL	
16/03/2014	0.27	0.05	0.11	0.03	0.09	0.02	0.05	0.04	0.11	0.02	0.10	0.04	0.12	0.03	0.11	OL	OL	
17/03/2014	0.30	0.05	0.11	0.04	0.10	0.03	0.22	0.04	0.13	0.03	0.06	0.04	0.11	0.03	0.12	0.01	0.09	
18/03/2014	0.41	0.05	0.10	0.03	0.09	0.03	0.13	0.05	0.07	0.03	0.11	0.03	0.13	0.03	0.05	0.02	0.16	
19/03/2014	0.52	0.05	0.13	0.03	0.11	0.03	0.11	0.04	0.11	0.03	0.10	0.03	0.11	0.04	0.09	0.02	0.11	
20/03/2014	0.74	0.05	0.16	0.05	0.16	0.01	0.04	0.03	0.12	0.03	0.21	0.05	0.42	0.08	0.55	0.04	0.26	
21/03/2014	0.51	0.05	0.15	0.04	0.14	0.06	0.35	0.06	0.08	0.03	0.18	0.03	0.13	0.04	0.06	0.04	0.66	
22/03/2014	0.49	0.05	0.13	0.02	0.14	0.04	0.21	0.04	0.11	0.03	0.08	0.03	0.08	0.04	0.12	0.02	0.18	
23/03/2014	0.47	0.05	0.09	0.04	0.13	0.05	0.42	0.04	0.13	0.02	0.08	0.02	0.07	0.03	0.13	0.04	0.26	
24/03/2014	0.45	0.05	0.12	0.03	0.09	0.02	0.10	0.04	0.10	0.02	0.08	0.03	0.06	0.05	0.11	0.05	0.30	
25/03/2014	0.44	0.06	0.12	0.04	0.10	0.03	0.06	0.04	0.11	0.03	0.06	0.03	0.08	0.04	0.11	0.06	0.85	
26/03/2014	0.42	0.06	0.21	0.04	0.19	0.04	0.25	0.06	0.22	0.03	0.23	0.03	0.20	0.05	0.19	0.05	0.47	
27/03/2014	0.41	0.05	0.19	0.01	0.04	0.02	0.33	0.03	0.10	0.02	0.07	0.03	0.11	0.03	0.11	0.05	0.23	
28/03/2014	0.40	0.05	0.08	0.00	0.05	0.02	0.14	0.02	0.09	0.01	0.02	0.04	0.05	0.03	0.08	0.05	0.17	
29/03/2014	0.39	0.05	0.11	0.01	0.07	0.02	0.50	0.02	0.03	0.02	0.07	0.04	0.11	0.02	0.09	0.05	0.15	
30/03/2014	0.38	0.05	0.13	0.00	0.01	0.02	0.17	0.03	0.09	0.02	0.07	0.02	0.11	0.03	0.05	0.04	0.06	
31/03/2014	0.37	0.05	0.06	0.01	0.05	0.01	0.05	0.02	0.09	0.01	0.02	0.04	0.07	0.02	0.09	0.04	0.22	

Total Number of Measurements Taken, A	15199	14181	15192	11578	15747	15910	10623	13843
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	15199	14181	15176	11578	15747	15884	10599	13834
Compliance with Turbidity Standard, C = B/A X 100%	100.00%	100.00%	99.90%	100.00%	100.00%	99.84%	99.77%	99.94%

OL = Offline

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2014\03-March

Submitted By (Print) D.Merredew

Signature Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT

Water System Code: 252.00	Turbidity (NTU)									
Licence No. PWS-09-412 A	Date	Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7	Filter 8
	01-Apr-2014	0.31	0.16	0.10	0.08	0.07	0.15	0.10	0.06	0.10
	02-Apr-2014	0.43	0.06	0.07	0.13	0.15	0.10	0.11	0.13	0.23
	03-Apr-2014	0.31	0.08	0.07	0.09	0.09	0.08	0.07	0.09	0.11
	04-Apr-2014	0.29	0.07	0.10	0.08	0.12	0.07	0.09	0.07	0.17
	05-Apr-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	06-Apr-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	07-Apr-2014	0.35	0.23	0.15	0.13	0.14	0.11	0.10	0.13	0.12
	08-Apr-2014	0.25	0.07	0.10	0.09	0.07	0.13	0.12	0.08	0.14
	09-Apr-2014	0.25	0.06	0.06	0.15	0.09	0.11	0.06	0.09	0.09
	10-Apr-2014	0.30	0.11	0.13	0.11	0.13	0.11	0.13	0.09	0.16
	11-Apr-2014	0.24	0.12	0.09	0.12	0.08	0.15	0.12	0.12	0.12
	12-Apr-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	13-Apr-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	14-Apr-2014	0.24	0.11	0.13	0.13	0.09	0.08	0.09	0.13	0.13
	15-Apr-2014	0.25	0.12	0.14	0.36	0.08	0.10	0.20	0.12	0.12
	16-Apr-2014	0.30	0.21	0.08	0.14	0.18	0.12	0.09	0.13	0.19
	17-Apr-2014	0.28	0.12	0.08	0.13	0.10	0.13	0.09	0.11	0.12
	18-Apr-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	19-Apr-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	20-Apr-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	21-Apr-2014	0.35	0.14	0.19	0.18	0.08	0.13	0.09	0.10	0.09
	22-Apr-2014	0.41	0.08	0.10	0.14	0.10	0.11	0.10	0.11	0.10
	23-Apr-2014	0.47	0.17	0.09	0.10	0.19	0.09	0.11	0.16	0.18
	24-Apr-2014	0.40	0.09	0.08	0.11	0.10	0.09	0.12	0.11	0.10
	25-Apr-2014	0.37	0.11	0.09	0.18	0.11	0.08	0.08	0.11	0.10
	26-Apr-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	27-Apr-2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
	28-Apr-2014	0.50	0.15	0.10	0.14	0.10	0.18	0.09	0.17	0.11
	29-Apr-2014	0.45	0.08	0.09	0.18	0.09	0.08	0.08	0.11	0.12
	30-Apr-2014	0.45	0.16	0.23	0.20	0.10	0.12	0.19	0.22	0.17
Total number of measurements taken, A:		21	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	0.30
Number of measurements meeting standard, B:		21	21	20	21	21	21	21	21	21
Compliance with Turbidity Standard, C= B/A X 100%:		100%	100%	95%	100%	100%	100%	100%	100%	100%

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

Comments:

Report Compiled By: K. Wazny

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

Date Approved: 02-May-14



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

April 2014 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
1/04/2014	0.36	0.04	0.12		0.00	0.04	0.01	0.01	0.02	0.03	0.01	0.06	0.02	0.07	0.01	0.06	0.02	0.18
2/04/2014	0.35	0.03	0.09		0.00	0.00	0.01	0.03	0.02	0.06	0.01	0.04	0.02	0.08	0.02	0.04	0.03	0.05
3/04/2014	0.34	0.03	0.05		0.00	0.03	0.00	0.04	0.01	0.06	0.01	0.05	0.03	0.05	0.02	0.06	0.03	0.16
4/04/2014	0.34	0.04	0.09		0.00	0.03	0.01	0.01	0.01	0.02	0.01	0.02	0.03	0.08	0.01	0.06	0.02	0.17
5/04/2014	0.33	0.03	0.09		0.00	0.05	0.01	0.04	0.02	0.05	0.01	0.05	0.02	0.10	0.02	0.03	0.02	0.05
6/04/2014	0.35	0.03	0.06		0.00	0.03	0.01	0.06	0.02	0.08	0.01	0.06	0.04	0.05	0.02	0.08	0.04	0.22
7/04/2014	0.32	0.05	0.10		0.00	0.04	0.01	0.01	0.01	0.03	0.01	0.03	0.04	0.11	0.02	0.09	0.03	0.21
8/04/2014	0.31	0.03	0.10		0.00	0.04	0.01	0.05	0.02	0.09	0.01	0.07	0.03	0.11	0.02	0.04	0.06	0.29
9/04/2014	0.31	0.03	0.05		0.00	0.01	0.01	0.02	0.01	0.06	0.01	0.04	0.02	0.05	0.02	0.09	0.04	0.21
10/04/2014	0.30	0.05	0.09		0.00	0.05	0.00	0.01	0.02	0.09	0.01	0.03	0.04	0.11	0.02	0.09	0.04	0.28
11/04/2014	0.28	0.04	0.10		0.00	0.04	0.01	0.05	0.02	0.04	0.01	0.08	0.03	0.09	0.02	0.08	0.03	0.24
12/04/2014	0.28	0.03	0.10		0.00	0.04	0.01	0.05	0.02	0.07	0.01	0.07	0.03	0.10	0.02	0.08	0.03	0.13
13/04/2014	0.29	0.04	0.11		0.00	0.03	0.01	0.06	0.02	0.08	0.01	0.07	0.03	0.06	0.02	0.08	0.05	0.41
14/04/2014	0.30	0.05	0.07		0.00	0.05	0.01	0.06	0.02	0.09	0.01	0.06	0.04	0.11	0.02	0.08	0.04	0.27
15/04/2014	0.30	0.08	0.39		0.00	0.04	0.05	0.41	0.02	0.10	0.02	0.20	0.04	0.18	0.01	0.06	0.03	1.03
16/04/2014	0.32	0.03	0.26		0.02	0.22	0.03	0.24	0.01	0.03	0.01	0.08	0.05	0.38	0.01	0.06	0.02	0.20
17/04/2014	0.32	0.04	0.09		0.00	0.05	0.01	0.05	0.02	0.05	0.02	0.07	0.03	0.11	0.02	0.03	0.03	0.75
18/04/2014	0.33	0.04	0.10		0.00	0.02	0.01	0.07	0.02	0.08	0.02	0.07	0.04	0.06	0.03	0.08	0.02	0.12
19/04/2014	0.36	0.05	0.07		0.01	0.05	0.01	0.07	0.02	0.09	0.02	0.07	0.05	0.11	0.02	0.09	0.02	0.15
20/04/2014	0.38	0.05	0.10		0.01	0.05	0.01	0.03	0.02	0.08	0.03	0.07	0.04	0.11	0.02	0.09	0.02	0.15
21/04/2014	0.40	0.04	0.10		0.00	0.04	0.01	0.07	0.03	0.07	0.02	0.08	0.04	0.11	0.02	0.04	0.01	0.02
22/04/2014	0.42	0.04	0.10		0.00	0.01	0.01	0.07	0.02	0.08	0.02	0.07	0.03	0.06	0.02	0.08	0.01	0.17
23/04/2014	0.44	0.05	0.07		0.01	0.05	0.01	0.08	0.02	0.08	0.01	0.03	0.05	0.11	0.02	0.08	0.01	0.13
24/04/2014	0.56	0.04	0.11		0.00	0.04	0.01	0.04	0.02	0.04	0.02	0.08	0.04	0.10	0.02	0.05	0.00	0.01
25/04/2014	0.47	0.04	0.12		0.02	0.03	0.02	0.09	0.03	0.09	0.02	0.08	0.04	0.06	0.03	0.07	0.01	0.29
26/04/2014	0.49	0.06	0.09		0.02	0.07	0.01	0.10	0.02	0.09	0.02	0.04	0.05	0.11	0.02	0.08	0.01	0.11
27/04/2014	0.52	0.06	0.12		0.02	0.07	0.02	0.04	0.02	0.04	0.03	0.08	0.04	0.11	0.02	0.09	0.01	0.13
28/04/2014	0.55	0.05	0.13		0.01	0.06	0.02	0.12	0.03	0.10	0.03	0.09	0.04	0.11	0.03	0.04	0.01	0.04
29/04/2014	0.58	0.05	0.07		0.00	0.02	0.01	0.08	0.02	0.09	0.03	0.09	0.04	0.06	0.02	0.09	0.01	0.23
30/04/2014	0.60	0.06	0.11		0.00	0.05	0.01	0.06	0.02	0.04	0.04	0.06	0.04	0.10	0.02	0.08	0.01	0.11

Total Number of Measurements Taken, A: 13380
Turbidity Standard for Monitoring Location (NTU): 0.30
Number of Measurements Meeting Standard, B: 13369
Compliance with Turbidity Standard, C = B/A X 100%: 99.92%

10925 13435 10417 14191 13895 12361 14089
0.30 0.30 0.30 0.30 0.30 0.30 0.30
10925 13427 10417 14191 13890 12361 14081
100.00% 99.94% 100.00% 100.00% 99.96% 100.00% 99.94%

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2014\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	Turbidity (NTU)									
Licence No. PWS-09-412 A	Date	Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7	Filter 8
	01-May-2014	0.51	0.11	0.17	0.13	0.13	0.13	0.13	0.14	0.19
	02-May-2014	0.46	0.08	0.07	0.13	0.11	0.15	0.07	0.09	0.09
	03-May-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	04-May-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	05-May-2014	0.53	0.11	0.08	0.10	0.12	0.13	0.13	0.09	0.09
	06-May-2014	1.02	0.09	0.07	0.14	0.11	0.06	0.07	0.09	0.07
	07-May-2014	0.59	0.09	0.10	0.12	0.09	0.10	0.14	0.24	0.12
	08-May-2014	0.56	0.11	0.17	0.15	0.13	0.24	0.22	0.20	0.12
	09-May-2014	0.56	0.13	0.07	0.16	0.06	0.09	0.11	0.15	0.14
	10-May-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11-May-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12-May-2014	0.62	0.11	0.10	0.11	0.06	0.10	0.07	0.08	0.09
	13-May-2014	0.60	0.11	0.06	0.06	0.11	0.21	0.12	0.11	0.10
	14-May-2014	0.64	0.07	0.06	0.12	0.10	0.09	0.09	0.11	0.10
	15-May-2014	0.65	0.10	0.11	0.07	0.09	0.07	0.20	0.07	0.15
	16-May-2014	0.63	0.11	0.09	0.09	0.10	0.11	0.15	0.08	0.09
	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	0.69	0.11	0.08	0.09	0.14	0.09	0.09	0.11	0.10
	20-May-2014	0.65	0.07	0.07	0.11	0.11	0.07	0.07	0.11	0.08
	21-May-2014	0.67	0.09	0.14	0.09	0.08	0.07	0.15	0.13	0.12
	22-May-2014	0.74	0.08	0.05	0.06	0.06	0.07	0.08	0.05	0.06
	23-May-2014	0.66	0.08	0.07	0.09	0.06	0.10	0.06	0.07	0.08
	24-May-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	25-May-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	26-May-2014	0.78	0.15	0.07	0.08	0.08	0.07	0.08	0.09	0.09
	27-May-2014	0.79	0.05	0.06	0.09	0.06	0.06	0.09	0.05	0.05
	28-May-2014	0.84	0.07	0.07	0.07	0.06	0.07	<0.05	0.08	0.05
	29-May-2014	0.78	0.06	0.07	0.07	0.07	<0.05	0.06	0.09	0.09
	30-May-2014	0.94	0.08	0.05	0.06	0.07	0.06	0.10	0.07	0.07
	31-May-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
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: S.Fletcher/ A.Vanderstel



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

May 2014 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
1/05/2014	0.63	0.04	0.11		0.00	0.05	0.01	0.02	0.03	0.08	0.03	0.09	0.03	0.10	0.02	0.04	0.00	0.14
2/05/2014	0.63	0.04	0.11		0.00	0.01	0.01	0.05	0.02	0.08	0.03	0.08	0.03	0.09	0.03	0.08	0.01	0.07
3/05/2014	0.65	0.05	0.07		0.00	0.05	0.01	0.05	0.02	0.08	0.02	0.08	0.04	0.08	0.03	0.09	0.02	0.07
4/05/2014	0.66	0.05	0.11		0.00	0.04	0.00	0.05	0.02	0.04	0.04	0.08	0.03	0.09	0.02	0.07	0.01	0.06
5/05/2014	0.67	0.05	0.12		0.01	0.06	0.01	0.05	0.03	0.09	0.03	0.09	0.04	0.11	0.03	0.05	0.00	0.01
6/05/2014	0.74	0.04	0.07		0.01	0.03	0.01	0.09	0.02	0.09	0.02	0.11	0.04	0.06	0.03	0.11	0.01	0.17
7/05/2014	0.70	0.05	0.11		0.00	0.05	0.00	0.01	0.02	0.04	0.04	0.06	0.05	0.13	0.03	0.11	0.01	0.15
8/05/2014	0.71	0.04	0.10		0.00	0.08	0.01	0.04	0.02	0.05	0.04	0.11	0.04	0.15	0.05	0.07	0.01	0.03
9/05/2014	0.71	0.05	0.08		0.01	0.06	0.01	0.12	0.02	0.08	0.03	0.13	0.06	0.09	0.04	0.16	0.02	0.18
10/05/2014	0.70	0.06	0.14		0.01	0.09	0.01	0.01	0.04	0.06	0.07	0.13	0.05	0.15	0.03	0.15	0.01	0.18
11/05/2014	0.71	0.04	0.12		0.01	0.02	0.01	0.07	0.03	0.09	0.03	0.12	0.02	0.12	0.02	0.04	0.01	0.01
12/05/2014	0.77	0.06	0.08		0.02	0.08	0.01	0.06	0.01	0.03	0.03	0.06	0.05	0.06	0.02	0.09	0.01	0.19
13/05/2014	0.81	0.06	0.14		0.01	0.06	0.01	0.02	0.03	0.10	0.05	0.17	0.05	0.18	0.02	0.05	0.01	0.16
14/05/2014	0.84	0.03	0.12		0.02	0.03	0.00	0.03	0.02	0.07	0.06	0.15	0.04	0.06	0.04	0.13	0.01	0.05
15/05/2014	0.84	0.07	0.10		0.02	0.08	0.01	0.09	0.02	0.03	0.05	0.08	0.06	0.18	0.03	0.15	0.01	0.15
16/05/2014	0.83	0.04	0.13		0.02	0.07	0.01	0.03	0.03	0.09	0.05	0.14	0.04	0.13	0.03	0.05	0.00	0.01
17/05/2014	0.81	0.04	0.11		0.01	0.03	0.01	0.07	0.02	0.08	0.03	0.12	0.04	0.06	0.03	0.16	0.01	0.13
18/05/2014	0.79	0.06	0.08		0.02	0.07	0.01	0.09	0.02	0.03	0.05	0.07	0.06	0.14	0.02	0.18	0.01	0.16
19/05/2014	0.82	0.04	0.13		0.01	0.08	0.01	0.03	0.03	0.07	0.04	0.17	0.04	0.17	0.03	0.05	0.00	0.01
20/05/2014	0.83	0.04	0.06		0.02	0.04	0.01	0.07	0.02	0.08	0.03	0.14	0.05	0.07	0.03	0.17	0.01	0.15
21/05/2014	0.83	0.06	0.11		0.02	0.06	0.00	0.01	0.01	0.02	0.05	0.07	0.05	0.13	0.02	0.15	0.01	0.11
22/05/2014	0.87	0.03	0.10		0.00	0.02	0.01	0.07	0.01	0.08	0.03	0.11	0.03	0.13	0.01	0.05	0.01	0.01
23/05/2014	0.88	0.04	0.05		0.01	0.05	0.00	0.04	0.01	0.04	0.03	0.10	0.04	0.05	0.01	0.12	0.01	0.11
24/05/2014	0.91	0.04	0.09		0.01	0.05	0.01	0.01	0.02	0.02	0.04	0.05	0.04	0.08	0.01	0.06	0.01	0.03
25/05/2014	0.92	0.04	0.08		0.01	0.05	0.01	0.02	0.01	0.04	0.03	0.07	0.03	0.08	0.02	0.05	0.01	0.01
26/05/2014	0.91	0.04	0.05		0.02	0.04	0.01	0.01	0.01	0.03	0.03	0.08	0.04	0.05	0.03	0.11	0.01	0.04
27/05/2014	1.01	0.05	0.07		0.02	0.04	0.01	0.01	0.02	0.02	0.04	0.05	0.03	0.08	0.02	0.08	0.01	0.02
28/05/2014	1.02	0.04	0.07		0.02	0.04	0.01	0.01	0.01	0.03	0.04	0.07	0.04	0.07	0.03	0.06	0.01	0.01
29/05/2014	1.11	0.04	0.12		0.02	0.12	0.01	0.01	0.01	0.05	0.03	0.13	0.04	0.15	0.01	0.13	0.00	0.07
30/05/2014	1.14	0.04	0.07		0.03	0.06	0.01	0.01	0.02	0.02	0.04	0.07	0.04	0.07	0.01	0.03	0.01	0.02
31/05/2014	1.12	0.04	0.07		0.03	0.05	0.01	0.01	0.01	0.02	0.04	0.06	0.04	0.07	0.01	0.02	0.01	0.01

Total Number of Measurements Taken, A: 14354
Turbidity Standard for Monitoring Location (NTU): 0.30
Number of Measurements Meeting Standard, B: 14354
Compliance with Turbidity Standard, C = B/A X 100%: 100%

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2014\05-May

Submitted By (Print) A.Weremy

Signature Original signed by 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)								
	Date	Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7
01-Jun-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
02-Jun-2014	0.79	0.06	0.06	0.10	0.07	0.07	0.07	0.10	0.07
03-Jun-2014	0.88	0.11	0.11	0.14	0.10	0.10	0.16	0.11	0.15
04-Jun-2014	0.86	0.13	0.12	0.12	0.17	0.15	0.18	0.13	0.11
05-Jun-2014	0.96	0.12	0.08	0.10	0.10	0.15	0.19	0.09	0.08
06-Jun-2014	1.04	0.24	0.19	0.22	0.20	0.25	0.15	0.18	0.21
07-Jun-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
08-Jun-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
09-Jun-2014	0.88	0.10	0.09	0.09	0.08	0.09	0.12	0.12	0.11
10-Jun-2014	1.07	0.09	0.10	0.08	0.07	0.09	0.11	0.07	0.18
11-Jun-2014	1.09	0.12	0.08	0.10	0.08	0.09	0.12	0.08	0.08
12-Jun-2014	0.94	0.20	0.10	0.17	0.14	0.20	0.13	0.12	0.18
13-Jun-2014	0.90	0.07	0.08	0.07	0.09	0.08	0.08	0.09	0.12
14-Jun-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
15-Jun-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
16-Jun-2014	0.81	0.05	0.05	0.08	0.05	<0.05	0.08	0.07	0.07
17-Jun-2014	0.81	0.07	0.08	0.07	0.06	0.06	0.10	0.06	0.07
18-Jun-2014	0.98	0.05	0.07	O/L	0.07	0.05	0.05	0.07	0.07
19-Jun-2014	0.95	0.06	0.07	O/L	0.05	0.06	0.12	0.08	0.09
20-Jun-2014	0.76	0.15	0.17	0.12	0.12	0.15	0.23	0.08	0.14
21-Jun-2014	NS	NS	NS	0.13	NS	NS	NS	NS	NS
22-Jun-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
23-Jun-2014	0.69	0.11	0.08	0.07	0.07	0.06	0.09	0.05	0.07
24-Jun-2014	0.61	0.08	0.06	0.07	0.08	0.06	0.07	0.06	0.06
25-Jun-2014	0.69	0.06	0.06	0.08	0.08	0.06	0.06	0.06	0.06
26-Jun-2014	0.74	0.12	0.10	0.20	0.07	0.06	0.06	0.08	0.09
27-Jun-2014	0.78	0.20	0.17	0.17	0.17	0.17	0.27	0.27	0.16
28-Jun-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
29-Jun-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
30-Jun-2014	0.87	0.14	0.17	0.08	0.11	0.12	0.18	0.11	0.10
Total number of measurements taken, A:	21	21	20	21	20	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	0.30
Number of measurements meeting standard, B:	21	21	20	21	20	21	21	21	21
Compliance with Turbidity Standard, C= B/A X 100%:	100%	100%	100%	100%	100%	100%	100%	100%	100%

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

Comments:

Report Compiled By: H.Demchenko

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

Date Approved: 3-Jul-14



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

June 2014 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
1/06/2014	1.08	0.04	0.08		0.03	0.07	0.01	0.01	0.01	0.02	0.04	0.07	0.04	0.09	0.01	0.04	0.01	0.01
2/06/2014	1.05	0.05	0.11		0.04	0.05	0.01	0.02	0.02	0.05	0.04	0.10	0.05	0.06	0.01	0.05	0.01	0.02
3/06/2014	1.04	0.08	0.21		0.06	0.11	0.03	0.17	0.03	0.11	0.07	0.09	0.09	0.15	0.05	0.12	0.01	0.06
4/06/2014	1.04	0.07	0.14		0.06	0.11	0.07	0.12	0.04	0.10	0.06	0.17	0.08	0.18	0.04	0.10	0.01	0.08
5/06/2014	1.15	0.07	0.14		0.05	0.14	0.06	0.09	0.04	0.09	0.07	0.15	0.08	0.15	0.03	0.15	0.01	0.08
6/06/2014	1.24	0.08	0.15		0.06	0.13	0.07	0.17	0.05	0.13	0.08	0.16	0.09	0.17	0.05	0.12	0.03	0.11
7/06/2014	1.19	0.09	0.16		0.05	0.13	0.07	0.17	0.05	0.13	0.08	0.16	0.08	0.17	0.05	0.12	0.03	0.09
8/06/2014	1.24	0.08	0.16		0.05	0.09	0.06	0.13	0.05	0.09	0.06	0.12	0.07	0.14	0.04	0.13	0.02	0.06
9/06/2014	1.23	0.08	0.11		0.05	0.09	0.05	0.11	0.04	0.08	0.06	0.10	0.08	0.16	0.03	0.09	0.02	0.25
10/06/2014	1.37	0.09	0.14		0.04	0.09	0.04	0.07	0.03	0.08	0.06	0.08	0.06	0.16	0.02	0.06	0.01	0.05
11/06/2014	1.50	0.08	0.14		0.04	0.10	0.05	0.09	0.04	0.08	0.05	0.10	0.06	0.11	0.02	0.07	0.01	0.02
12/06/2014	1.81	0.08	0.14		0.04	0.05	0.04	0.10	0.03	0.08	0.05	0.10	0.05	0.14	0.02	0.04	0.01	0.06
13/06/2014	2.22	0.07	0.10		0.04	0.08	0.03	0.07	0.03	0.07	0.04	0.09	0.06	0.09	0.01	0.06	0.01	0.06
14/06/2014	1.72	0.08	0.12		0.03	0.06	0.02	0.03	0.02	0.06	0.04	0.06	0.04	0.11	0.01	0.04	0.01	0.04
15/06/2014	1.17	0.07	0.12		0.02	0.06	0.02	0.04	0.02	0.05	0.03	0.07	0.04	0.09	0.01	0.01	0.01	0.01
16/06/2014	1.19	0.08	0.09		0.03	0.05	0.02	0.06	0.02	0.07	0.03	0.06	0.04	0.06	0.01	0.03	0.01	0.19
17/06/2014	1.18	0.07	0.13		0.02	0.06	0.03	0.04	0.02	0.03	0.04	0.06	0.04	0.10	0.01	0.03	0.01	0.03
18/06/2014	1.19	0.07	0.12		0.02	0.04	0.00	0.03	0.02	0.06	0.04	0.06	0.04	0.09	0.01	0.01	0.01	0.02
19/06/2014	1.13	0.07	0.10		0.03	0.09	0.02	0.15	0.02	0.10	0.03	0.11	0.05	0.07	0.01	0.04	0.01	0.03
20/06/2014	0.98	0.11	0.16		0.04	0.13	0.04	0.07	0.05	0.07	0.08	0.14	0.08	0.19	0.03	0.14	0.02	0.14
21/06/2014	1.00	0.09	0.20		0.04	0.07	0.07	0.16	0.05	0.13	0.06	0.16	0.06	0.20	0.05	0.08	0.04	0.10
22/06/2014	0.95	0.07	0.15		0.05	0.11	0.03	0.12	0.03	0.11	0.04	0.12	0.06	0.11	0.01	0.08	0.01	0.09
23/06/2014	0.76	0.04	0.11		0.03	0.10	0.03	0.15	0.03	0.05	0.04	0.11	0.03	0.14	0.01	0.04	0.00	0.05
24/06/2014	0.69	0.03	0.11		0.03	0.09	0.04	0.05	0.03	0.10	0.03	0.11	0.03	0.13	0.00	0.01	0.01	0.01
25/06/2014	0.83	0.03	0.10		0.04	0.05	0.04	0.13	0.03	0.10	0.03	0.10	0.03	0.11	0.01	0.05	0.00	0.07
26/06/2014	0.86	0.06	0.13		0.07	0.14	0.07	0.22	0.05	0.22	0.05	0.22	0.09	0.18	0.06	0.17	0.04	0.18
27/06/2014	0.92	0.09	0.21		0.06	0.20	0.05	0.18	0.07	0.14	0.11	0.20	0.08	0.25	0.05	0.18	0.03	0.12
28/06/2014	0.92	0.03	0.12		0.03	0.12	0.01	0.05	0.04	0.15	0.04	0.15	0.05	0.14	0.01	0.04	0.02	0.12
29/06/2014	1.09	0.03	0.15		0.05	0.08	0.03	0.07	0.05	0.13	0.05	0.15	0.05	0.07	0.03	0.07	0.02	0.06
30/06/2014	1.10	0.06	0.12		0.04	0.14	0.03	0.16	0.05	0.10	0.05	0.11	0.07	0.18	0.01	0.15	0.01	0.03

Total Number of Measurements Taken, A: 14976 14904 14266 12055 15292 15579 14076 15106
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: 14976 14904 14266 12055 15292 15579 14076 15106
Compliance with Turbidity Standard, C = B/A X 100%: 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00%

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2014\06-June

Submitted By (Print) D.Merredew

Signature Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT

Water System Code: 252.00	Turbidity (NTU)									
Licence No. PWS-09-412 A	Date	Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7	Filter 8
	01-Jul-2014	1.26	0.07	0.08	0.07	0.06	<0.05	0.10	0.06	0.05
	02-Jul-2014	0.98	0.11	0.06	0.07	0.07	0.08	0.06	0.06	0.07
	03-Jul-2014	0.87	0.09	0.09	0.13	0.08	0.08	0.11	0.12	0.08
	04-Jul-2014	0.80	0.13	0.12	0.16	0.10	0.10	0.10	0.09	0.09
	05-Jul-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	06-Jul-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	07-Jul-2014	0.86	0.09	0.09	0.12	0.09	0.08	0.10	0.07	0.09
	08-Jul-2014	0.75	0.13	0.14	0.10	0.11	0.10	0.10	0.09	0.10
	09-Jul-2014	0.73	0.12	0.10	0.12	0.12	0.13	0.11	0.10	0.16
	10-Jul-2014	0.85	0.14	0.13	0.16	0.21	0.11	0.14	0.13	0.12
	11-Jul-2014	0.75	0.09	0.11	0.09	0.07	0.10	0.14	0.08	0.09
	12-Jul-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	13-Jul-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	14-Jul-2014	0.94	0.07	0.06	0.06	0.09	0.05	0.06	0.07	0.14
	15-Jul-2014	1.19	0.08	0.08	0.11	0.08	0.09	0.12	0.15	0.09
	16-Jul-2014	1.02	0.12	0.10	0.15	0.10	0.09	0.08	0.09	0.10
	17-Jul-2014	0.99	0.14	0.13	0.10	0.09	0.09	0.11	0.09	0.12
	18-Jul-2014	0.89	0.09	0.09	0.12	0.14	0.07	0.09	0.10	0.09
	19-Jul-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	20-Jul-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	21-Jul-2014	0.91	0.10	0.10	0.09	0.08	0.06	0.06	0.06	0.07
	22-Jul-2014	1.01	0.08	0.07	0.06	0.09	0.07	0.06	0.07	0.08
	23-Jul-2014	1.01	0.07	0.06	0.09	0.10	0.07	0.08	0.10	0.09
	24-Jul-2014	0.79	0.09	0.08	0.11	0.10	0.09	0.13	0.11	0.15
	25-Jul-2014	0.99	0.12	0.10	0.10	0.14	0.08	0.08	0.08	0.07
	26-Jul-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Jul-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	28-Jul-2014	1.15	0.07	0.09	0.12	0.08	0.07	0.05	0.07	0.07
	29-Jul-2014	1.08	0.11	0.06	0.07	0.07	0.05	0.07	0.06	0.08
	30-Jul-2014	1.06	0.07	0.07	0.07	0.09	0.06	0.07	0.06	0.07
	31-Jul-2014	0.93	0.07	0.07	0.11	0.07	0.08	0.05	<0.05	0.06
Total number of measurements taken, A:		23	23	23	23	23	23	23	23	23
Turbidity Standard for Monitoring Location (NTU):		0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Number of measurements meeting standard, B:		23	23	23	23	23	23	23	23	23
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: J. Jones

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



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

July 2014 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	
1/07/2014	1.05	0.01	0.01	0.01	0.03	0.09	0.02	0.28	0.02	0.04	0.03	0.08	0.04	0.11	0.01	0.04	0.01	0.01	
2/07/2014	1.12	0.00	0.01	0.01	0.04	0.04	0.02	0.16	0.02	0.15	0.02	0.17	0.03	0.15	0.01	0.08	0.00	0.06	
3/07/2014	1.12	0.01	0.01	0.05	0.10	0.04	0.12	0.03	0.12	0.04	0.06	0.04	0.11	0.05	0.13	0.02	0.08	0.00	0.07
4/07/2014	1.06	0.01	0.02	0.04	0.12	0.04	0.14	0.04	0.06	0.04	0.11	0.05	0.15	0.02	0.03	0.01	0.04		
5/07/2014	1.04	0.01	0.02	0.04	0.11	0.03	0.06	0.04	0.13	0.03	0.11	0.06	0.09	0.03	0.10	0.00	0.06		
6/07/2014	1.08	0.01	0.01	0.04	0.07	0.05	0.25	0.03	0.11	0.03	0.11	0.06	0.12	0.02	0.08	0.01	0.05		
7/07/2014	1.09	0.01	0.02	0.04	0.11	0.03	0.12	0.03	0.10	0.04	0.06	0.05	0.14	0.02	0.08	0.00	0.01		
8/07/2014	1.05	0.01	0.02	0.05	0.11	0.05	0.17	0.05	0.07	0.05	0.10	0.05	0.19	0.03	0.05	0.01	0.04		
9/07/2014	1.01	0.01	0.04	0.05	0.16	0.05	0.08	0.05	0.13	0.05	0.11	0.07	0.12	0.05	0.12	0.01	0.07		
10/07/2014	1.03	0.01	0.01	0.08	0.10	0.08	0.18	0.05	0.16	0.05	0.14	0.07	0.18	0.03	0.13	0.01	0.09		
11/07/2014	1.10	0.01	0.03	0.05	0.16	0.04	0.16	0.03	0.10	0.04	0.11	0.04	0.17	0.01	0.04	0.01	0.02		
12/07/2014	0.74	0.01	0.01	0.04	0.12	0.03	0.13	0.03	0.06	0.02	0.05	0.03	0.06	0.01	0.03	0.01	0.05		
13/07/2014	0.96	0.01	0.01	0.04	0.13	0.03	0.12	0.04	0.07	0.03	0.11	0.04	0.06	0.01	0.06	0.00	0.04		
14/07/2014	1.13	0.01	0.01	0.04	0.07	0.04	0.07	0.03	0.14	0.03	0.10	0.06	0.16	0.01	0.10	0.01	0.07		
15/07/2014	1.14	0.01	0.01	0.06	0.13	0.05	0.15	0.04	0.13	0.03	0.06	0.05	0.15	0.02	0.10	0.01	0.07		
16/07/2014	1.06	0.01	0.01	0.05	0.12	0.04	0.16	0.04	0.06	0.05	0.12	0.05	0.15	0.02	0.10	0.01	0.02		
17/07/2014	0.88	0.01	0.01	0.05	0.15	0.04	0.17	0.05	0.12	0.02	0.05	0.05	0.08	0.02	0.05	0.01	0.07		
18/07/2014	0.66	0.01	0.01	0.05	0.08	0.06	0.11	0.04	0.12	0.04	0.11	0.05	0.13	0.01	0.08	0.01	0.04		
19/07/2014	0.77	0.01	0.01	0.05	0.13	0.04	0.13	0.03	0.11	0.03	0.09	0.04	0.13	0.01	0.07	0.01	0.04		
20/07/2014	0.74	0.01	0.01	0.05	0.12	0.04	0.16	0.03	0.06	0.03	0.11	0.04	0.12	0.01	0.06	0.01	0.01		
21/07/2014	0.82	0.01	0.09	0.04	0.12	0.04	0.13	0.04	0.10	0.03	0.09	0.04	0.11	0.01	0.02	0.01	0.04		
22/07/2014	0.80	0.02	0.10	0.03	0.06	0.03	0.12	0.03	0.10	0.03	0.05	0.04	0.11	0.02	0.06	0.01	0.03		
23/07/2014	0.79	0.02	0.10	0.00	0.01	0.05	0.08	0.03	0.09	0.04	0.10	0.03	0.10	0.02	0.09	0.00	0.01		
24/07/2014	0.78	0.04	0.06	0.01	0.05	0.05	0.12	0.03	0.10	0.03	0.06	0.03	0.08	0.03	0.08	0.00	0.02		
25/07/2014	1.16	0.02	0.10	0.01	0.14	0.04	0.15	0.04	0.07	0.02	0.09	0.02	0.08	0.02	0.05	0.00	0.01		
26/07/2014	1.01	0.04	0.10	0.02	0.07	0.06	0.14	0.05	0.09	0.05	0.08	0.05	0.08	0.03	0.07	0.01	0.01		
27/07/2014	1.14	0.03	0.09	0.02	0.04	0.08	0.11	0.04	0.09	0.05	0.09	0.04	0.08	0.03	0.07	0.01	0.01		
28/07/2014	1.22	0.04	0.09	0.02	0.07	0.06	0.18	0.04	0.06	0.04	0.11	0.03	0.11	0.02	0.03	0.01	0.01		
29/07/2014	1.21	0.02	0.11	0.02	0.10	0.06	0.18	0.04	0.13	0.03	0.06	0.03	0.05	0.03	0.09	0.00	0.02		
30/07/2014	1.13	0.02	0.09	0.02	0.04	0.09	0.11	0.03	0.11	0.05	0.11	0.03	0.09	0.02	0.09	0.00	0.01		
31/07/2014	1.13	0.03	0.06	0.04	0.10	0.06	0.30	0.03	0.05	0.03	0.10	0.02	0.08	0.01	0.08	0.01	0.01		

Total Number of Measurements Taken, A: 13513 13683 13789 11830 14434 14458 13212 14200
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: 13513 13683 13789 11830 14434 14458 13212 14200
Compliance with Turbidity Standard, C = B/A X 100%: 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00%

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2014\07-July

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

Signature Original signed by M.Szmon



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT

Water System Code: 252.00	Turbidity (NTU)									
Licence No. PWS-09-412 A	Date	Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7	Filter 8
	01-Aug-2014	0.99	0.09	0.11	0.06	0.08	0.05	0.08	0.08	0.07
	02-Aug-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	03-Aug-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	04-Aug-2014	1.06	0.07	0.08	0.12	0.07	0.06	0.06	0.08	0.08
	05-Aug-2014	1.07	0.12	0.06	0.06	0.12	0.05	0.06	0.05	0.06
	06-Aug-2014	1.18	0.08	<0.05	0.07	0.07	0.05	0.07	0.15	0.06
	07-Aug-2014	1.16	0.06	0.10	0.10	0.09	0.06	0.09	0.09	0.10
	08-Aug-2014	1.10	0.12	0.14	0.12	0.09	0.11	0.09	0.08	0.11
	09-Aug-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10-Aug-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11-Aug-2014	1.08	0.08	0.09	0.10	0.13	0.08	0.11	0.11	0.08
	12-Aug-2014	1.43	0.09	0.09	0.10	0.07	0.10	0.09	0.07	0.09
	13-Aug-2014	1.29	0.08	0.09	0.10	0.06	0.09	0.06	0.06	0.06
	14-Aug-2014	1.14	0.10	0.10	0.07	0.11	0.05	0.07	0.07	0.08
	15-Aug-2014	1.31	0.09	0.06	0.07	0.10	0.07	0.09	0.07	0.06
	16-Aug-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	17-Aug-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Aug-2014	1.38	0.08	0.11	0.11	0.08	0.12	0.08	0.07	0.08
	19-Aug-2014	1.57	0.10	0.11	0.13	0.13	0.08	0.08	0.08	0.10
	20-Aug-2014	1.29	0.11	0.07	0.08	0.13	0.06	0.07	0.10	0.12
	21-Aug-2014	1.33	0.13	0.09	0.09	0.12	0.08	0.11	0.10	0.07
	22-Aug-2014	1.51	0.09	0.09	0.11	0.09	0.13	0.11	0.08	0.08
	23-Aug-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	24-Aug-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	25-Aug-2014	2.44	0.09	0.10	0.10	0.08	0.11	0.11	0.09	0.08
	26-Aug-2014	1.92	0.09	0.11	0.15	0.09	0.08	0.08	0.08	0.10
	27-Aug-2014	2.11	0.08	0.07	0.08	0.10	0.07	0.07	0.08	0.07
	28-Aug-2014	2.58	0.07	0.08	0.09	0.07	0.08	0.10	0.10	0.08
	29-Aug-2014	2.12	0.07	0.09	0.08	0.07	0.09	0.06	0.07	0.08
	30-Aug-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
	31-Aug-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total number of measurements taken, A:		21	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	0.30
Number of measurements meeting standard, B:		21	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%	100%

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

Comments:

Report Compiled By: H.Demchenko

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



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

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

Total Number of Measurements Taken, A: 14265
Turbidity Standard for Monitoring Location (NTU): 0.30
Number of Measurements Meeting Standard, B: 14265
Compliance with Turbidity Standard, C = B/A X 100%: 100.00%

14264 14049 11637 14673 14655 13540 14171
0.30 0.30 0.30 0.30 0.30 0.30 0.30
14264 14049 11637 14673 14655 13540 14171
100.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00%

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

Submitted By (Print) D.Minor

Signature Original signed by D.Minor



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT											
Water System Code: 252.00		Turbidity (NTU)									
Licence No. PWS-09-412 A		Date	Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7	Filter 8
		01-Sep-2014	2.51	0.13	0.18	0.18	0.14	0.21	0.13	0.09	0.13
		02-Sep-2014	2.43	0.18	0.12	0.13	0.19	0.10	0.12	0.12	0.18
		03-Sep-2014	2.35	0.14	0.16	0.21	0.20	0.18	0.20	0.20	0.12
		04-Sep-2014	2.36	0.09	0.11	0.14	0.10	0.09	0.08	0.09	0.10
		05-Sep-2014	3.01	0.10	0.06	0.08	0.11	0.08	0.10	0.08	0.13
		06-Sep-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
		07-Sep-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
		08-Sep-2014	2.38	0.06	0.08	0.10	0.07	0.09	0.07	0.05	0.08
		09-Sep-2014	2.97	0.14	<0.05	0.05	0.11	0.08	0.09	0.08	0.06
		10-Sep-2014	2.48	0.07	0.08	0.10	0.07	0.10	0.11	0.06	0.07
		11-Sep-2014	2.60	0.10	0.11	0.16	0.12	0.09	0.12	0.09	0.10
		12-Sep-2014	2.60	0.14	0.09	0.11	0.08	0.09	0.13	0.12	0.08
		13-Sep-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
		14-Sep-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
		15-Sep-2014	2.21	0.13	0.10	0.11	0.14	0.10	0.12	0.12	0.17
		16-Sep-2014	2.38	0.16	0.10	0.15	0.10	0.12	0.14	0.14	0.11
		17-Sep-2014	2.69	0.12	0.11	0.12	0.12	0.08	0.08	0.09	0.14
		18-Sep-2014	2.04	0.10	0.13	0.11	0.11	0.12	0.11	0.11	0.18
		19-Sep-2014	2.16	0.11	0.11	0.10	0.13	0.11	0.11	0.10	0.12
		20-Sep-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
		21-Sep-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
		22-Sep-2014	2.14	0.12	0.16	0.13	0.13	0.11	0.09	0.09	0.13
		23-Sep-2014	1.68	0.11	0.09	0.12	0.12	0.11	0.10	0.12	0.15
		24-Sep-2014	2.03	0.10	0.11	0.13	0.11	0.07	0.11	0.10	0.16
		25-Sep-2014	1.67	0.09	0.08	0.11	0.10	0.10	0.14	0.11	0.13
		26-Sep-2014	1.65	0.09	0.08	0.12	0.10	0.12	0.07	0.08	0.11
		27-Sep-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
		28-Sep-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
		29-Sep-2014	1.65	0.10	0.11	0.13	0.11	0.12	0.12	0.13	0.14
		30-Sep-2014	1.25	0.11	0.11	0.12	0.13	0.09	0.09	0.09	0.10
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/ A.Vanderstel

Date Approved: _____ 3-Oct-14



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

September 2014 Turbidity (NTU)

Date	Raw			Filter #1		Filter #2		Filter #3		Filter #4		Filter #5		Filter #6		Filter #7		Filter #8	
	Avg	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
1/09/2014	2.91	0.09	0.11	0.04	0.13	0.05	0.17	0.08	0.12	0.05	0.20	0.06	0.18	0.04	0.06	0.01	0.10		
2/09/2014	3.12	0.09	0.20	0.03	0.13	0.04	0.09	0.06	0.22	0.07	0.11	0.08	0.12	0.06	0.16	0.02	0.14		
3/09/2014	3.06	0.08	0.19	0.06	0.10	0.09	0.21	0.06	0.17	0.08	0.23	0.07	0.20	0.06	0.19	0.01	0.04		
4/09/2014	3.07	0.07	0.21	0.03	0.24	0.05	0.34	0.09	0.16	0.06	0.20	0.04	0.11	0.05	0.11	0.02	0.14		
5/09/2014	3.34	0.03	0.13	0.01	0.12	0.02	0.12	0.04	0.16	0.04	0.08	0.04	0.07	0.05	0.13	0.00	0.08		
6/09/2014	3.40	0.02	0.09	0.00	0.00	0.02	0.04	0.03	0.12	0.04	0.16	0.03	0.11	0.03	0.12	0.00	0.06		
7/09/2014	3.40	0.01	0.03	0.00	0.07	0.02	0.10	0.03	0.05	0.03	0.15	0.02	0.11	0.03	0.12	0.01	0.01		
8/09/2014	3.35	0.02	0.10	0.00	0.07	0.01	0.10	0.03	0.11	0.03	0.16	0.02	0.05	0.04	0.05	0.00	0.06		
9/09/2014	3.56	0.02	0.09	0.00	0.00	0.01	0.02	0.03	0.12	0.04	0.06	0.03	0.12	0.03	0.12	0.00	0.06		
10/09/2014	3.62	0.02	0.04	0.00	0.07	0.03	0.11	0.04	0.06	0.04	0.15	0.03	0.11	0.03	0.14	0.01	0.01		
11/09/2014	3.54	0.04	0.11	0.01	0.07	0.03	0.14	0.06	0.19	0.04	0.17	0.04	0.05	0.06	0.08	0.00	0.08		
12/09/2014	3.47	0.03	0.13	0.00	0.01	0.04	0.06	0.05	0.16	0.07	0.10	0.05	0.13	0.06	0.17	0.01	0.09		
13/09/2014	3.29	0.03	0.05	0.01	0.08	0.04	0.15	0.06	0.08	0.05	0.17	0.04	0.13	0.05	0.18	0.01	0.02		
14/09/2014	3.28	0.05	0.13	0.01	0.10	0.03	0.16	0.06	0.16	0.04	0.17	0.04	0.06	0.08	0.10	0.01	0.10		
15/09/2014	3.18	0.04	0.14	0.01	0.02	0.05	0.07	0.06	0.18	0.07	0.09	0.06	0.15	0.07	0.20	0.01	0.10		
16/09/2014	3.05	0.04	0.15	0.02	0.11	0.05	0.18	0.08	0.09	0.05	0.19	0.04	0.15	0.06	0.16	0.01	0.02		
17/09/2014	2.92	0.06	0.09	0.03	0.11	0.05	0.19	0.06	0.20	0.05	0.18	0.04	0.08	0.05	0.08	0.01	0.13		
18/09/2014	2.87	0.05	0.15	0.02	0.11	0.05	0.08	0.06	0.18	0.07	0.08	0.06	0.15	0.05	0.15	0.01	0.12		
19/09/2014	2.93	0.06	0.21	0.02	0.14	0.09	0.18	0.06	0.12	0.08	0.19	0.09	0.16	0.07	0.17	0.05	0.09		
20/09/2014	2.78	0.07	0.12	0.05	0.10	0.07	0.21	0.11	0.22	0.06	0.21	0.08	0.19	0.07	0.17	0.06	0.17		
21/09/2014	2.66	0.05	0.16	0.02	0.12	0.04	0.16	0.05	0.18	0.04	0.16	0.05	0.10	0.06	0.10	0.02	0.13		
22/09/2014	2.66	0.03	0.14	0.01	0.11	0.03	0.05	0.04	0.17	0.05	0.06	0.06	0.15	0.05	0.15	0.01	0.12		
23/09/2014	2.63	0.03	0.14	0.01	0.10	0.04	0.15	0.05	0.08	0.04	0.17	0.04	0.15	0.04	0.16	0.02	0.03		
24/09/2014	2.81	0.05	0.25	0.03	0.23	0.04	0.32	0.05	0.31	0.03	0.23	0.05	0.20	0.05	0.20	0.03	0.29		
25/09/2014	2.89	0.04	0.10	0.01	0.06	0.03	0.09	0.05	0.14	0.05	0.13	0.06	0.12	0.06	0.11	0.01	0.06		
26/09/2014	2.65	0.02	0.05	0.01	0.02	0.03	0.10	0.06	0.08	0.05	0.15	0.05	0.13	0.04	0.14	0.02	0.07		
27/09/2014	2.50	0.05	0.14	0.02	0.10	0.03	0.23	0.04	0.14	0.04	0.07	0.05	0.08	0.06	0.08	0.01	0.11		
28/09/2014	NR	0.03	0.13	0.01	0.10	0.03	0.05	0.04	0.16	0.06	0.10	0.06	0.14	0.05	0.15	0.01	0.03		
29/09/2014	NR	0.03	0.13	0.01	0.02	0.03	0.14	0.06	0.08	0.04	0.16	0.04	0.15	0.05	0.15	0.02	0.09		
30/09/2014	NR	0.04	0.07	0.02	0.13	0.03	0.15	0.05	0.16	0.04	0.15	0.04	0.07	0.06	0.08	0.02	0.05		

Total Number of Measurements Taken, A: 13664
Turbidity Standard for Monitoring Location (NTU): 0.30
Number of Measurements Meeting Standard, B: 13664
Compliance with Turbidity Standard, C = B/A X 100%: 100.00%

12731 13531 11132 13837 13863 12816 13700
0.30 0.30 0.30 0.30 0.30 0.30 0.30
12731 13513 11125 13837 13863 12816 13700
0.00% 99.87% 99.94% 100.00% 100.00% 100.00% 100.00%

NR = No result due to analyser maintenance requirements

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2014\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 Licence No. PWS-09-412 A	Turbidity (NTU)									
	Date	Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7	Filter 8
01-Oct-2014	2.04	0.13	0.08	0.10	0.10	0.11	0.10	0.10	0.09	
02-Oct-2014	1.44	0.09	0.06	0.12	0.07	0.09	0.10	0.07	0.08	
03-Oct-2014	1.93	0.15	0.06	0.15	0.11	0.06	0.07	0.06	0.12	
04-Oct-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05-Oct-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
06-Oct-2014	1.90	0.10	0.09	0.12	0.11	0.08	0.09	0.08	0.11	
07-Oct-2014	1.52	0.10	0.17	0.10	0.09	0.09	0.11	0.13	0.11	
08-Oct-2014	1.85	0.05	0.12	0.07	0.06	0.05	0.10	0.06	0.10	
09-Oct-2014	1.78	0.17	0.16	0.08	0.26	0.19	0.20	0.22	0.22	
10-Oct-2014	1.35	0.11	0.09	0.06	0.06	0.09	0.06	0.10	<0.05	
11-Oct-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
12-Oct-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
13-Oct-2014	2.09	0.26	0.20	0.11	0.15	0.12	0.13	0.15	0.11	
14-Oct-2014	1.66	0.16	0.15	0.19	0.17	0.13	0.15	0.16	0.18	
15-Oct-2014	1.69	0.16	0.11	0.13	0.15	0.10	0.10	0.11	0.14	
16-Oct-2014	1.72	OL	0.12	0.12	0.18	0.14	0.14	0.15	0.13	
17-Oct-2014	1.71	0.10	0.09	0.14	0.11	0.12	0.15	0.09	0.11	
18-Oct-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
19-Oct-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
20-Oct-2014	1.37	0.20	0.14	0.16	0.14	0.15	0.12	0.10	0.13	
21-Oct-2014	1.51	0.14	0.13	0.12	0.17	0.17	0.13	0.13	0.14	
22-Oct-2014	1.58	0.09	0.09	0.10	0.07	0.10	0.10	0.10	0.09	
23-Oct-2014	1.58	0.08	0.08	0.14	0.09	0.10	0.13	0.16	0.16	
24-Oct-2014	1.62	0.15	0.10	0.12	0.12	0.08	0.11	0.11	0.14	
25-Oct-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Oct-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Oct-2014	1.81	0.17	0.14	0.13	0.18	0.14	0.12	0.14	0.20	
28-Oct-2014	1.74	0.12	OL	0.18	0.26	0.14	0.20	0.26	0.11	
29-Oct-2014	1.54	0.17	0.10	0.20	0.21	0.17	0.14	0.14	0.18	
30-Oct-2014	1.35	0.15	0.12	0.12	0.15	0.22	0.12	0.15	0.14	
31-Oct-2014	1.41	0.10	0.09	0.14	0.12	0.15	0.13	0.17	0.12	
Total number of measurements taken, A:	22	22	23	23	23	23	23	23	23	
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	23	23	23	23	23	23	23	
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/ A.Vanderstel



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

October 2014 Turbidity (NTU)

Date	Raw			Filter #1		Filter #2		Filter #3		Filter #4		Filter #5		Filter #6		Filter #7		Filter #8	
	Avg	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
1/10/2014	NR	0.03	0.12	0.01	0.09	0.03	0.10	0.04	0.16	0.05	0.07	0.06	0.15	0.06	0.16	0.01	0.08		
2/10/2014	NR	0.04	0.35	0.01	0.29	0.05	0.31	0.05	0.13	0.03	0.14	0.03	0.12	0.04	0.15	0.01	0.02		
3/10/2014	NR	0.02	0.04	0.00	0.00	0.03	0.14	0.04	0.14	0.02	0.12	0.03	0.06	0.06	0.08	0.01	0.08		
4/10/2014	2.37	0.02	0.10	0.00	0.06	0.03	0.05	0.03	0.13	0.03	0.05	0.04	0.09	0.06	0.14	0.00	0.01		
5/10/2014	2.41	0.01	0.09	0.00	0.00	0.04	0.12	0.05	0.07	0.02	0.11	0.03	0.11	0.05	0.14	0.01	0.08		
6/10/2014	2.32	0.04	0.09	0.00	0.06	0.04	0.15	0.05	0.16	0.02	0.07	0.04	0.06	0.09	0.10	0.01	0.09		
7/10/2014	2.23	0.01	0.08	0.00	0.03	0.04	0.06	0.05	0.27	0.03	0.05	0.04	0.10	0.06	0.11	0.00	0.02		
8/10/2014	2.16	0.01	0.03	0.00	0.03	0.03	0.11	0.05	0.07	0.01	0.07	0.03	0.09	0.06	0.14	0.01	0.02		
9/10/2014	2.08	0.02	0.23	0.00	0.00	0.03	0.10	0.04	0.16	0.01	0.08	0.02	0.05	0.08	0.10	0.00	0.03		
10/10/2014	1.97	0.02	0.07	0.00	0.02	0.03	0.05	0.04	0.12	0.02	0.04	0.04	0.09	0.08	0.16	0.00	0.07		
11/10/2014	1.86	0.02	0.04	0.00	0.03	0.04	0.11	0.07	0.09	0.02	0.09	0.03	0.11	0.07	0.18	0.01	0.03		
12/10/2014	2.04	0.04	0.09	0.00	0.01	0.04	0.13	0.07	0.16	0.02	0.11	0.04	0.06	0.12	0.14	0.02	0.09		
13/10/2014	1.81	0.05	0.14	0.01	0.08	0.08	0.09	0.08	0.22	0.06	0.08	0.08	0.14	0.07	0.24	0.02	0.04		
14/10/2014	1.66	0.06	0.10	0.01	0.03	0.07	0.21	0.12	0.17	0.04	0.14	0.05	0.17	0.05	0.18	0.03	0.15		
15/10/2014	1.70	0.05	0.14	0.01	0.08	0.05	0.17	0.06	0.18	0.03	0.13	0.05	0.08	0.08	0.10	0.01	0.12		
16/10/2014	1.75	0.04	0.16	0.01	0.09	0.06	0.09	0.06	0.19	0.05	0.08	0.06	0.15	0.06	0.16	0.01	0.02		
17/10/2014	1.88	0.04	0.07	0.00	0.05	0.06	0.15	0.08	0.11	0.03	0.13	0.04	0.16	0.05	0.18	0.02	0.10		
18/10/2014	1.81	0.05	0.10	0.00	0.06	0.05	0.16	0.06	0.18	0.03	0.12	0.04	0.07	0.07	0.09	0.01	0.11		
19/10/2014	1.87	0.04	0.12	0.01	0.08	0.06	0.09	0.06	0.18	0.05	0.07	0.07	0.15	0.07	0.18	0.01	0.03		
20/10/2014	1.84	0.04	0.06	0.00	0.07	0.06	0.16	0.08	0.11	0.03	0.13	0.05	0.16	0.05	0.18	0.02	0.12		
21/10/2014	1.80	0.04	0.14	0.01	0.03	0.04	0.13	0.05	0.13	0.02	0.09	0.04	0.08	0.07	0.10	0.01	0.12		
22/10/2014	1.89	0.02	0.10	0.00	0.05	0.04	0.05	0.04	0.15	0.02	0.03	0.04	0.12	0.05	0.15	0.00	0.01		
23/10/2014	1.86	0.03	0.05	0.00	0.00	0.05	0.12	0.07	0.08	0.02	0.10	0.04	0.14	0.04	0.16	0.01	0.07		
24/10/2014	1.81	0.04	0.11	0.00	0.06	0.04	0.14	0.05	0.17	0.02	0.04	0.05	0.07	0.07	0.09	0.01	0.09		
25/10/2014	1.94	0.03	0.13	0.00	0.07	0.06	0.08	0.05	0.08	0.04	0.11	0.06	0.15	0.05	0.17	0.01	0.02		
26/10/2014	1.78	0.04	0.06	0.00	0.00	0.04	0.16	0.09	0.18	0.03	0.08	0.05	0.16	0.05	0.08	0.02	0.11		
27/10/2014	1.81	0.04	0.15	0.01	0.08	0.05	0.14	0.06	0.20	0.04	0.06	0.08	0.10	0.10	0.18	0.01	0.15		
28/10/2014	1.86	0.03	0.06	0.00	0.05	0.08	0.11	0.08	0.10	0.04	0.12	0.06	0.16	0.05	0.19	0.02	0.03		
29/10/2014	1.88	0.05	0.13	0.00	0.02	0.05	0.16	0.07	0.18	0.03	0.14	0.05	0.08	0.08	0.11	0.02	0.11		
30/10/2014	1.73	0.04	0.14	0.01	0.08	0.06	0.09	0.07	0.19	0.05	0.06	0.08	0.19	0.08	0.19	0.01	0.13		
31/10/2014	1.75	0.03	0.12	0.00	0.06	0.07	0.17	0.09	0.11	0.03	0.13	0.05	0.18	0.07	0.20	0.03	0.06		

Total Number of Measurements Taken, A: 13830
Turbidity Standard for Monitoring Location (NTU): 0.30
Number of Measurements Meeting Standard, B: 13815
Compliance with Turbidity Standard, C = B/A X 100%: 99.89%

10928 14213 11169 14577 14480 13045 14421

0.30 0.30 0.30 0.30 0.30 0.30 0.30

14207 11169 14577 14480 13045 14421

99.96% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00%

NR: No result due to analyser maintenance requirements

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2014\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	Licence No. PWS-09-412 A	Turbidity (NTU)									
		Date	Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7	Filter 8
		01-Nov-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
		02-Nov-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
		03-Nov-2014	1.24	0.18	0.14	0.15	0.18	0.17	0.13	OL	0.13
		04-Nov-2014	1.54	0.24	0.10	0.16	0.25	0.15	0.15	0.21	0.16
		05-Nov-2014	1.34	0.10	0.15	0.18	0.18	0.14	0.14	0.16	0.17
		06-Nov-2014	1.85	0.14	0.11	0.20	0.14	0.18	0.21	0.15	0.16
		07-Nov-2014	1.17	0.13	0.15	0.24	0.23	0.18	0.22	0.27	0.14
		08-Nov-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
		09-Nov-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
		10-Nov-2014	1.09	0.17	0.16	0.13	0.23	0.12	0.14	0.14	0.17
		11-Nov-2014	1.02	0.11	0.10	0.16	0.12	0.15	0.19	0.12	0.11
		12-Nov-2014	0.96	0.16	0.13	0.20	0.19	0.13	0.10	0.13	0.16
		13-Nov-2014	0.96	0.14	0.13	0.16	0.13	0.18	0.15	0.21	0.14
		14-Nov-2014	0.84	0.18	0.09	0.18	0.14	0.16	0.08	0.07	0.09
		15-Nov-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
		16-Nov-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
		17-Nov-2014	0.72	0.24	0.15	0.16	0.21	0.11	0.11	0.15	0.17
		18-Nov-2014	0.79	0.16	0.14	0.11	0.14	0.18	0.12	0.19	0.13
		19-Nov-2014	0.74	0.10	0.09	0.15	0.12	0.17	0.17	0.10	0.12
		20-Nov-2014	0.72	0.21	0.18	0.12	0.10	0.11	0.12	0.11	0.15
		21-Nov-2014	0.71	0.12	0.12	0.09	0.08	0.11	0.12	0.11	0.14
		22-Nov-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
		23-Nov-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
		24-Nov-2014	0.72	0.10	0.12	0.09	0.09	0.09	0.13	0.14	0.08
		25-Nov-2014	0.68	0.10	0.10	0.16	0.11	0.11	0.10	0.11	0.12
		26-Nov-2014	0.75	0.10	0.17	0.15	0.13	0.08	0.09	0.10	0.14
		27-Nov-2014	0.66	0.08	0.11	0.10	0.09	0.11	0.11	0.15	0.09
		28-Nov-2014	0.74	0.11	0.10	OL	0.13	0.21	0.10	0.11	0.14
		29-Nov-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
		30-Nov-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total number of measurements taken, A:			20	20	19	20	20	20	19	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	19	20	20	20	19	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

Date Approved: _____ 4-Dec-14



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

November 2014 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												
1/11/2014	1.85	0.05	0.13	0.00	0.01	0.05	0.16	0.08	0.18	0.02	0.12	0.04	0.06	0.08	0.10	0.02	0.12	
2/11/2014	1.69	0.03	0.11	0.00	0.05	0.05	0.08	0.07	0.18	0.03	0.05	0.06	0.14	0.08	0.18	0.01	0.11	
3/11/2014	1.56	0.03	0.05	0.00	0.06	0.08	0.15	0.09	0.11	0.03	0.12	0.04	0.14	0.06	0.18	0.03	0.05	
4/11/2014	1.50	0.05	0.12	0.00	0.01	0.05	0.17	0.07	0.19	0.02	0.12	0.05	0.07	0.09	0.11	0.03	0.12	
5/11/2014	1.44	0.04	0.14	0.01	0.07	0.09	0.11	0.05	0.18	0.05	0.08	0.07	0.16	0.07	0.19	0.03	0.05	
6/11/2014	1.41	0.06	0.08	0.00	0.02	0.08	0.19	0.09	0.13	0.04	0.14	0.05	0.16	0.06	0.19	0.05	0.15	
7/11/2014	1.42	0.04	0.14	0.01	0.07	0.06	0.16	0.06	0.18	0.03	0.06	0.06	0.09	0.10	0.14	0.03	0.11	
8/11/2014	1.47	0.03	0.13	0.00	0.05	0.07	0.10	0.06	0.09	0.04	0.12	0.05	0.15	0.06	0.18	0.02	0.04	
9/11/2014	1.42	0.06	0.09	0.00	0.00	0.05	0.16	0.08	0.18	0.03	0.11	0.04	0.14	0.06	0.10	0.02	0.11	
10/11/2014	1.26	0.06	0.17	0.05	0.10	0.06	0.09	0.06	0.17	0.06	0.09	0.09	0.10	0.08	0.20	0.03	0.14	
11/11/2014	1.18	0.06	0.10	0.04	0.14	0.09	0.18	0.07	0.10	0.06	0.16	0.08	0.18	0.06	0.16	0.06	0.08	
12/11/2014	1.18	0.09	0.17	0.08	0.10	0.06	0.17	0.06	0.16	0.04	0.16	0.09	0.13	0.08	0.09	0.04	0.13	
13/11/2014	1.14	0.06	0.16	0.05	0.14	0.11	0.13	0.04	0.08	0.10	0.15	0.09	0.22	0.05	0.15	0.04	0.06	
14/11/2014	1.07	0.07	0.09	0.04	0.09	0.08	0.15	0.07	0.16	0.06	0.13	0.04	0.12	0.04	0.07	0.04	0.09	
15/11/2014	1.01	0.06	0.17	0.06	0.14	0.08	0.13	0.06	0.17	0.08	0.11	0.08	0.11	0.09	0.15	0.03	0.14	
16/11/2014	0.96	0.06	0.10	0.04	0.14	0.13	0.21	0.07	0.10	0.08	0.18	0.05	0.17	0.05	0.16	0.06	0.08	
17/11/2014	0.92	0.09	0.17	0.07	0.10	0.08	0.22	0.06	0.17	0.06	0.18	0.06	0.10	0.08	0.10	0.04	0.16	
18/11/2014	0.91	0.06	0.14	0.04	0.12	0.09	0.12	0.05	0.15	0.09	0.11	0.08	0.16	0.07	0.16	0.03	0.06	
19/11/2014	0.88	0.07	0.10	0.04	0.13	0.08	0.19	0.07	0.10	0.06	0.19	0.05	0.15	0.06	0.16	0.06	0.22	
20/11/2014	0.87	0.07	0.16	0.05	0.09	0.05	0.13	0.05	0.17	0.05	0.16	0.05	0.08	0.07	0.10	0.03	0.15	
21/11/2014	0.83	0.05	0.12	0.03	0.09	0.07	0.28	0.06	0.12	0.08	0.12	0.06	0.15	0.05	0.18	0.03	0.05	
22/11/2014	0.84	0.07	0.11	0.04	0.13	0.08	0.17	0.08	0.10	0.06	0.17	0.05	0.16	0.06	0.17	0.05	0.14	
23/11/2014	0.83	0.08	0.17	0.06	0.11	0.05	0.17	0.05	0.18	0.05	0.14	0.05	0.08	0.07	0.10	0.03	0.15	
24/11/2014	0.82	0.04	0.13	0.03	0.08	0.07	0.12	0.04	0.13	0.06	0.08	0.05	0.13	0.04	0.15	0.02	0.03	
25/11/2014	0.82	0.07	0.08	0.03	0.05	0.06	0.12	0.06	0.07	0.04	0.14	0.03	0.13	0.04	0.15	0.03	0.10	
26/11/2014	0.82	0.06	0.12	0.04	0.09	0.05	0.13	0.05	0.13	0.04	0.07	0.05	0.07	0.07	0.08	0.02	0.13	
27/11/2014	0.83	0.06	0.14	0.05	0.10	0.09	0.15	0.05	0.08	0.07	0.14	0.05	0.15	0.04	0.18	0.03	0.06	
28/11/2014	0.82	0.11	0.15	0.05	0.11	0.04	0.29	0.10	0.19	0.08	0.18	0.07	0.23	0.08	0.12	0.06	0.17	
29/11/2014	0.81	0.08	0.21	0.08	0.16	0.11	0.14	0.07	0.20	0.06	0.11	0.07	0.10	0.07	0.20	0.04	0.19	
30/11/2014	0.80	0.07	0.12	0.05	0.16	0.08	0.21	0.08	0.11	0.10	0.18	0.07	0.20	0.05	0.19	0.05	0.07	

Total Number of Measurements Taken, A: 13705
Turbidity Standard for Monitoring Location (NTU): 0.30
Number of Measurements Meeting Standard, B: 13705
Compliance with Turbidity Standard, C = B/A X 100%: 100%

12589 12315 11228 14323 14147 12639 14258
0.30 0.30 0.30 0.30 0.30 0.30 0.30

12589 12315 11228 14323 14147 12639 14258
100% 100% 100% 100% 100% 100% 100%

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Submitted By (Print) D.Merredew

Signature Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT

Water System Code: 252.00 Licence No. PWS-09-412 A	Turbidity (NTU)									
	Date	Raw Water	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7	Filter 8
01-Dec-2014	0.83	0.13	0.11	0.13	0.16	0.17	0.10	0.10	0.11	
02-Dec-2014	0.58	0.11	0.14	0.15	0.12	0.11	0.12	OL	0.12	
03-Dec-2014	0.67	0.12	0.13	0.22	0.13	0.14	0.13	0.13	0.14	
04-Dec-2014	0.75	0.15	0.14	0.14	0.17	0.12	0.12	0.21	0.20	
05-Dec-2014	0.70	0.22	0.17	OL	0.14	0.14	0.16	0.13	0.16	
06-Dec-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	
07-Dec-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	
08-Dec-2014	0.66	0.18	0.14	0.17	0.12	0.20	0.15	0.13	0.11	
09-Dec-2014	0.71	0.12	0.12	0.18	0.17	0.20	0.12	0.15	0.14	
10-Dec-2014	0.60	0.11	0.09	0.11	0.13	0.17	0.11	0.14	0.14	
11-Dec-2014	0.68	0.14	0.15	0.13	0.19	0.11	0.19	0.12	0.10	
12-Dec-2014	0.63	0.18	0.13	0.17	0.17	0.14	0.14	0.13	0.12	
13-Dec-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	
14-Dec-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	
15-Dec-2014	0.70	0.17	0.14	0.15	0.10	0.11	0.12	0.09	0.09	
16-Dec-2014	0.61	0.15	0.09	0.18	0.16	0.13	0.13	0.14	0.12	
17-Dec-2014	0.67	0.16	0.13	0.13	0.18	0.09	0.12	0.14	0.21	
18-Dec-2014	0.63	OL	0.19	0.14	0.10	0.10	0.10	0.10	0.10	
19-Dec-2014	0.68	0.17	0.12	0.14	0.39	0.11	0.17	0.13	OL	
20-Dec-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	
21-Dec-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	
22-Dec-2014	0.61	0.15	0.14	0.15	0.21	0.11	0.14	0.11	OL	
23-Dec-2014	0.67	0.19	0.14	0.21	0.14	0.12	0.17	0.16	OL	
24-Dec-2014	0.80	0.13	0.13	0.27	0.21	0.16	0.13	0.15	OL	
25-Dec-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	
26-Dec-2014	0.93	0.16	0.14	0.16	OL	0.12	0.15	0.12	OL	
27-Dec-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	
28-Dec-2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	
29-Dec-2014	0.61	0.21	0.19	0.20	0.24	0.14	0.19	0.15	OL	
30-Dec-2014	0.64	0.26	0.22	0.23	0.17	0.15	0.19	0.15	OL	
31-Dec-2014	0.87	0.20	0.19	0.28	0.22	0.19	0.14	0.16	OL	
Total number of measurements taken, A:	21	22	21	21	22	22	21	14		
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	22	21	20	22	22	21	14		
Compliance with Turbidity Standard, C= B/A X 100%:	100%	100%	100%	95%	100%	100%	100%	100%		

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: 6-Jan-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

December 2014 Turbidity (NTU)

Date	Raw			Filter #1		Filter #2		Filter #3		Filter #4		Filter #5		Filter #6		Filter #7		Filter #8	
	Avg	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
1/12/2014	0.79	0.11	0.20	0.06	0.08	0.06	0.12	0.07	0.19	0.06	0.17	0.05	0.17	0.08	0.10	0.04	0.16		
2/12/2014	0.78	0.09	0.19	0.06	0.14	0.10	0.18	0.07	0.15	0.06	0.10	0.07	0.10	0.00	0.07	0.04	0.11		
3/12/2014	0.80	0.08	0.22	0.06	0.17	0.09	0.21	0.07	0.11	0.09	0.13	0.06	0.15	0.09	0.14	0.05	0.07		
4/12/2014	0.81	0.14	0.19	0.10	0.12	0.09	0.22	0.10	0.21	0.07	0.20	0.06	0.26	0.08	0.21	0.05	0.18		
5/12/2014	0.82	0.10	0.21	0.10	0.18	0.04	0.22	0.10	0.22	0.11	0.13	0.15	0.20	0.09	0.12	0.03	0.18		
6/12/2014	0.82	0.05	0.09	0.07	0.17	0.10	0.22	0.09	0.13	0.08	0.22	0.08	0.26	0.10	0.24	0.06	0.13		
7/12/2014	0.81	0.07	0.14	0.09	0.12	0.10	0.15	0.08	0.22	0.07	0.20	0.07	0.23	0.07	0.21	0.04	0.16		
8/12/2014	0.81	0.04	0.15	0.06	0.17	0.09	0.20	0.07	0.19	0.09	0.12	0.11	0.21	0.07	0.11	0.03	0.11		
9/12/2014	0.83	0.03	0.12	0.05	0.15	0.07	0.18	0.06	0.09	0.07	0.18	0.06	0.21	0.09	0.21	0.04	0.07		
10/12/2014	0.80	0.04	0.09	0.05	0.09	0.07	0.22	0.08	0.19	0.06	0.18	0.06	0.18	0.07	0.19	0.03	0.11		
11/12/2014	0.77	0.04	0.11	0.08	0.14	0.09	0.12	0.06	0.19	0.07	0.10	0.08	0.20	0.06	0.20	0.03	0.12		
12/12/2014	0.75	0.04	0.13	0.06	0.15	0.08	0.18	0.06	0.09	0.09	0.19	0.07	0.21	0.10	0.13	0.03	0.12		
13/12/2014	0.72	0.03	0.05	0.05	0.14	0.06	0.17	0.09	0.20	0.06	0.20	0.09	0.12	0.07	0.20	0.03	0.14		
14/12/2014	0.71	0.04	0.12	0.08	0.10	0.07	0.10	0.06	0.20	0.05	0.18	0.07	0.20	0.06	0.19	0.02	0.13		
15/12/2014	0.72	0.03	0.11	0.06	0.14	0.08	0.16	0.06	0.20	0.09	0.14	0.06	0.21	0.08	0.11	0.01	0.03		
16/12/2014	0.72	0.03	0.12	0.06	0.15	0.07	0.17	0.09	0.11	0.05	0.17	0.07	0.10	0.07	0.19	0.03	0.22		
17/12/2014	0.73	0.05	0.08	0.09	0.11	0.07	0.11	0.08	0.22	0.04	0.18	0.09	0.20	0.06	0.19	0.03	0.14		
18/12/2014	0.81	0.00	0.04	0.02	0.20	0.04	0.19	0.04	0.20	0.03	0.15	0.03	0.09	0.04	0.17	0.01	0.10		
19/12/2014	0.74	0.06	0.11	0.11	0.13	0.10	0.16	0.08	0.22	0.05	0.08	0.08	0.21	0.08	0.19	0.02	0.14		
20/12/2014	0.74	0.05	0.15	0.09	0.21	0.09	0.20	0.08	0.15	0.08	0.16	0.07	0.23	0.09	0.11	0.05	0.24		
21/12/2014	0.73	0.06	0.17	0.11	0.23	0.12	0.22	0.14	0.25	0.08	0.18	0.11	0.14	0.09	0.18	0.00	0.06		
22/12/2014	0.71	0.07	0.12	0.13	0.16	0.11	0.22	0.13	0.25	0.07	0.19	0.10	0.22	0.10	0.21	OL	OL		
23/12/2014	0.72	0.06	0.17	0.14	0.23	0.12	0.16	0.12	0.26	0.07	0.10	0.10	0.22	0.09	0.20	OL	OL		
24/12/2014	0.71	0.06	0.17	0.13	0.25	0.11	0.22	0.14	0.16	0.08	0.19	0.09	0.22	0.11	0.15	OL	OL		
25/12/2014	0.71	0.07	0.10	0.13	0.17	0.10	0.22	0.13	0.26	0.07	0.17	0.12	0.18	0.09	0.21	OL	OL		
26/12/2014	0.73	0.10	0.18	0.12	0.25	0.11	0.15	0.10	0.18	0.06	0.16	0.11	0.16	0.08	0.17	OL	OL		
27/12/2014	0.74	0.14	0.26	0.09	0.20	0.13	0.22	0.09	0.22	0.11	0.16	0.13	0.26	0.10	0.11	OL	OL		
28/12/2014	0.73	0.12	0.25	0.08	0.18	0.12	0.24	0.12	0.21	0.09	0.19	0.15	0.20	0.09	0.20	OL	OL		
29/12/2014	0.76	0.15	0.25	0.12	0.13	0.13	0.17	0.12	0.25	0.09	0.17	0.11	0.27	0.10	0.22	OL	OL		
30/12/2014	0.78	0.11	0.23	0.12	0.23	0.18	0.25	0.12	0.25	0.11	0.14	0.09	0.18	0.09	0.22	OL	OL		
31/12/2014	0.79	0.11	0.25	0.13	0.25	0.12	0.25	0.15	0.17	0.11	0.22	0.09	0.23	0.12	0.18	OL	OL		

Total Number of Measurements Taken, A: 14713 14750 11404 11605 15096 14645 13441 9160
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: 14713 14750 11404 11605 15096 14645 13441 9160
Compliance with Turbidity Standard, C = B/A X 100%: 100% 100% 100% 100% 100% 100% 100% 100%

OL: Offline

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2014\12-December

Submitted By (Print) D.Merredew

Signature Original signed by D.Merredew

2014 Monthly UV Monitoring Reports



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES DIVISION

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

WATER TREATMENT PLANT UV REPORT

Report Period: January 2014

Report Created: Saturday, February 01, 2014

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																							
1/01/2014	96.05	0.00	0.00	0.00	0.00	0.00	0.00	74.32	74.32	0.00	0.00	49.28	49.28	0.00	0.00	74.59	74.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	198.19	198.19	100.00			
2/01/2014	96.05	0.00	0.05	0.15	0.20	0.00	0.03	74.58	74.61	0.00	0.00	49.94	49.94	0.00	0.00	75.43	75.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	200.10	200.18	99.96		
3/01/2014	96.05	0.00	0.00	0.00	0.00	0.00	0.00	72.69	72.69	0.00	0.00	44.11	44.11	0.00	0.00	78.05	78.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	194.85	194.85	100.00		
4/01/2014	96.05	0.00	0.00	0.00	0.00	0.00	0.00	70.00	70.00	0.00	0.00	42.63	42.63	0.00	0.00	76.58	76.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	189.22	189.22	100.00		
5/01/2014	96.05	0.00	0.00	0.00	0.00	0.00	0.00	68.65	68.65	0.00	0.00	42.72	42.72	0.00	0.00	75.25	75.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	186.62	186.62	100.00		
6/01/2014	96.05	0.00	0.28	32.02	32.30	0.00	0.00	21.22	21.22	0.00	0.00	57.87	57.87	0.00	0.00	33.32	33.32	0.00	0.00	45.51	45.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.95	190.23	99.85
7/01/2014	96.05	0.13	0.78	21.21	22.13	0.00	0.00	2.06	2.06	0.00	0.00	59.06	59.06	0.00	0.00	41.25	41.25	0.00	0.00	70.14	70.14	0.00	0.00	0.00	0.00	0.13	0.78	193.71	194.63	99.53		
8/01/2014	96.05	0.00	0.00	0.00	0.00	0.00	0.00	3.34	3.34	0.00	0.00	52.98	52.98	0.00	0.00	67.81	67.81	0.00	0.00	72.88	72.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	197.01	197.01	100.00
9/01/2014	96.05	0.00	0.00	0.00	0.00	0.00	0.00	58.27	58.27	0.00	0.00	46.60	46.60	0.00	0.00	32.33	32.33	0.00	0.00	59.80	59.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	197.01	197.01	100.00
10/01/2014	96.05	0.00	0.00	0.00	0.00	0.00	0.00	63.89	63.89	0.00	0.00	67.41	67.41	0.00	0.00	0.00	0.00	65.72	65.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	197.03	197.03	100.00		
11/01/2014	96.05	0.00	0.00	0.00	0.00	0.00	0.00	63.94	63.94	0.00	0.00	67.29	67.29	0.00	0.00	0.00	0.00	65.66	65.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	196.90	196.90	100.00		
12/01/2014	96.05	0.00	0.00	0.00	0.00	0.00	0.00	65.50	65.50	0.00	0.00	65.13	65.13	0.00	0.00	0.00	0.00	66.39	66.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	197.02	197.02	100.00		
13/01/2014	96.05	0.00	0.00	0.00	0.00	0.00	0.00	65.23	65.23	0.00	0.00	65.27	65.27	0.00	0.00	0.00	0.00	52.47	52.47	0.00	0.00	14.05	14.05	0.00	0.00	197.02	197.02	100.00				
14/01/2014	96.05	0.00	0.00	0.00	0.00	0.00	0.00	67.86	67.86	0.00	0.00	63.65	63.65	0.00	0.00	0.00	0.00	68.05	68.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	199.56	199.56	100.00		
15/01/2014	96.05	0.00	0.00	0.00	0.00	0.05	73.63	73.68	0.00	0.00	57.91	57.91	0.00	0.00	0.00	0.00	70.32	70.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	201.87	201.92	99.98			
16/01/2014	96.05	0.00	0.00	0.00	0.00	0.00	0.00	66.72	66.72	0.00	0.00	66.50	66.50	0.00	0.00	0.00	0.00	67.95	67.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	201.17	201.17	100.00		
17/01/2014	96.05	0.00	0.00	0.00	0.00	0.00	0.00	67.13	67.13	0.17	0.17	53.87	54.20	0.00	0.00	11.33	11.33	0.00	0.00	67.40	67.40	0.00	0.00	0.00	0.00	0.17	0.17	199.73	200.06	99.83		
18/01/2014	95.07	0.00	0.00	0.00	0.00	0.00	0.00	70.53	70.53	0.00	0.00	60.00	60.99	0.00	0.00	65.67	65.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	197.19	197.19	100.00				
19/01/2014	95.53	0.00	0.00	0.00	0.00	0.00	0.00	69.47	69.47	0.00	0.00	0.00	0.00	0.00	0.00	59.63	59.63	0.00	0.00	64.90	64.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	193.99	193.99	100.00
20/01/2014	95.99	0.00	0.00	0.00	0.00	0.00	0.00	68.25	68.25	0.00	0.00	0.00	0.00	0.00	0.00	58.39	58.39	0.18	0.18	3.17	3.53	0.00	0.00	61.93	61.93	0.18	0.18	191.74	192.10	99.81		
21/01/2014	95.32	0.00	0.00	0.00	0.00	0.00	0.00	68.96	68.96	0.00	0.00	0.00	0.00	0.00	0.00	60.70	60.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	194.35	194.35	100.00				
22/01/2014	94.63	0.00	0.00	0.00	0.00	0.00	0.00	69.00	69.00	0.00	0.00	0.00	0.00	0.00	0.00	64.02	64.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	196.01	196.01	100.00				
23/01/2014	95.09	0.00	0.00	0.00	0.00	0.00	0.00	68.36	68.36	0.00	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	0.00	0.00	196.02	196.02	100.00				
24/01/2014	95.07	0.00	0.00	0.00	0.00	0.00	0.00	68.92	68.92	0.00	0.00	0.00	0.00	0.00	0.00	64.12	64.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	196.01	196.01	100.00				
25/01/2014	95.04	0.00	0.00	0.00	0.00	0.00	0.00	68.66	68.66	0.00	0.00	0.00	0.00	0.00	0.00	63.81	63.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	195.97	195.97	100.00				
26/01/2014	95.18	0.00	0.00	0.00	0.00	0.00	0.00	68.48	68.48	0.00	0.00	0.00	0.00	0.00	0.00	63.53	63.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	195.99	195.99	100.00				
27/01/2014	95.53	0.00	0.00	0.00	0.00	0.00	0.00	68.58	68.58	0.00	0.00	0.00	0.00	0.00	0.00	63.63	63.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	195.99	195.99	100.00				
28/01/2014	95.58	0.00	0.00	3.41	3.41	0.00	0.00	69.93	69.93	0.00	0.00	0.00	0.00	0.00	0.00	0.25	60.82	61.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200.52	200.77	99.88			
29/01/2014	95.74	0.00	0.00	25.31	25.31	0.00	0.00	70.72	70.72	0.00	0.00	38.15	38.15	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	209.98	209.98	100.00			
30/01/2014	95.80	0.00	0.00	0.00	0.00	0.00	0.00	68.55	68.55	0.00	0.00	69.03	69.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	206.56	206.56	100.00				
31/01/2014	95.78	0.00	0.00	0.00	0.00	0.00	0.00	67.15	67.15	0.00	0.00	68.21	68.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	205.03	205.03	100.00				

Water Volume [%]:

Untreated: 0.01 %
Below Dose: 0.04 %
To Dose: 99.95 %

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES DIVISION

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

WATER TREATMENT PLANT UV REPORT

Report Period: February 2014

Report Created: Saturday, March 01, 2014

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																						
1/02/2014	95.84	0.00	0.00	0.00	0.00	0.00	0.00	65.75	65.75	0.00	0.00	67.16	67.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.14	69.14	0.00	0.00	202.06	202.06	100.00			
2/02/2014	95.93	0.00	0.00	0.00	0.00	0.00	0.00	64.96	64.96	0.00	0.00	66.41	66.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	68.63	68.63	0.00	0.00	200.00	200.00	100.00			
3/02/2014	96.40	0.00	0.00	0.00	0.00	0.00	0.00	65.11	65.11	0.00	0.00	67.44	67.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	68.09	68.09	0.00	0.00	200.64	200.64	100.00			
4/02/2014	96.25	0.00	0.00	0.00	0.00	0.00	0.00	66.73	66.73	0.00	0.00	70.80	70.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	67.43	67.43	0.00	0.00	204.97	204.97	100.00			
5/02/2014	96.39	0.00	0.00	0.00	0.00	0.00	0.00	66.04	66.04	0.00	0.00	70.19	70.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.60	66.60	0.00	0.00	202.83	202.83	100.00			
6/02/2014	95.88	0.00	0.00	0.00	0.00	0.00	0.00	65.73	65.73	0.00	0.00	69.87	69.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.41	66.41	0.00	0.00	202.01	202.01	100.00			
7/02/2014	95.14	0.00	0.00	14.51	14.51	0.00	0.00	65.08	65.08	0.00	0.14	48.82	48.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	70.23	70.23	0.00	0.14	198.64	198.78	99.93			
8/02/2014	95.12	0.00	0.00	56.09	56.09	0.00	0.00	32.53	32.53	0.00	0.00	0.00	0.00	0.00	0.00	33.30	33.30	0.00	0.00	0.00	0.00	72.13	72.13	0.00	0.00	194.05	194.05	100.00			
9/02/2014	94.98	0.00	0.00	62.00	62.00	0.00	0.00	0.00	0.00	0.00	0.00	65.80	65.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.56	64.56	0.00	0.00	192.35	192.35	100.00			
10/02/2014	95.05	0.00	0.00	62.16	62.16	0.00	0.00	0.00	0.00	0.00	0.00	66.04	66.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	65.79	65.79	0.00	0.00	193.98	193.98	100.00			
11/02/2014	95.05	0.00	0.00	40.25	40.25	0.00	0.04	41.36	41.40	0.00	0.00	0.00	0.00	0.00	0.00	51.47	51.47	0.00	0.07	0.00	0.07	60.33	60.33	0.00	0.11	193.41	193.52	99.94			
12/02/2014	95.05	0.00	0.00	71.52	71.52	0.00	0.00	0.00	0.00	0.00	0.00	47.70	47.70	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	74.04	74.14	0.00	0.10	193.26	193.37	99.95			
13/02/2014	95.04	0.00	0.00	66.54	66.54	0.00	0.00	0.00	0.00	0.00	0.00	29.72	29.72	0.00	0.00	26.57	26.57	0.00	0.00	0.00	0.00	0.05	71.08	71.13	0.00	0.05	193.92	193.96	99.98		
14/02/2014	95.09	0.00	0.00	61.92	61.92	0.03	0.03	0.03	0.08	0.00	0.00	68.48	68.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	68.49	68.58	0.03	0.12	198.92	199.07	99.92			
15/02/2014	94.99	0.00	0.05	63.15	63.19	0.00	0.00	0.00	0.00	0.00	0.00	71.41	71.41	0.00	0.03	0.07	0.09	0.01	0.01	0.00	0.02	0.00	70.56	70.87	0.01	0.38	205.18	205.57	99.81		
16/02/2014	94.93	0.00	0.00	62.30	62.30	0.00	0.00	0.00	0.00	0.00	0.00	69.71	69.71	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	65.86	65.91	0.00	0.05	197.87	197.92	99.98		
17/02/2014	94.73	0.00	0.00	66.37	66.37	0.00	0.00	0.00	0.00	0.00	0.00	58.05	58.05	0.00	0.00	31.21	31.21	0.00	0.04	0.00	0.04	0.00	6.40	32.90	0.00	6.44	188.53	194.97	96.70		
18/02/2014	94.88	0.00	0.00	74.74	74.74	0.00	0.00	0.90	0.90	0.00	0.00	42.58	42.58	0.00	0.00	76.78	76.78	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.03	195.01	195.03	99.99	
19/02/2014	94.91	0.00	0.00	42.52	42.52	0.00	0.00	56.82	56.82	0.00	0.00	41.37	41.37	0.00	0.63	29.17	29.80	0.11	0.11	24.22	24.44	0.00	0.00	0.00	0.00	0.11	0.74	194.11	194.96	99.57	
20/02/2014	94.91	0.00	0.00	34.38	34.38	0.00	0.43	43.70	44.13	0.00	0.00	50.86	50.86	0.00	0.00	4.22	4.22	0.00	0.00	56.57	56.57	0.00	0.00	0.00	0.00	0.43	189.73	190.16	99.77		
21/02/2014	94.96	0.00	0.10	43.52	43.62	0.00	0.00	0.00	0.00	0.00	0.00	41.31	41.31	0.00	0.00	66.83	66.83	0.00	0.03	39.11	39.13	0.00	0.00	0.00	0.00	0.13	190.77	190.90	99.93		
22/02/2014	95.02	0.00	0.00	76.42	76.42	0.00	0.00	0.00	0.00	0.00	0.00	66.75	66.75	0.00	0.04	50.80	50.84	0.00	0.04	0.49	0.53	0.00	0.00	0.00	0.00	0.08	194.45	194.54	99.96		
23/02/2014	95.00	0.00	0.16	68.51	68.67	0.00	0.00	0.00	0.00	0.00	0.00	69.44	69.44	0.00	0.05	44.04	44.09	0.00	0.08	8.37	8.45	0.00	0.00	0.00	0.00	0.29	190.36	190.65	99.85		
24/02/2014	94.97	0.00	0.12	73.92	74.03	0.00	0.04	0.04	0.09	0.00	0.00	70.79	70.79	0.00	0.00	26.05	26.05	0.00	0.00	32.01	32.01	0.00	0.00	0.00	0.00	0.16	202.81	202.97	99.92		
25/02/2014	95.02	0.00	0.10	67.84	67.93	0.00	0.00	0.00	0.00	0.00	0.00	73.90	73.90	0.00	0.05	0.00	0.05	74.05	74.10	0.00	0.00	0.00	0.00	0.00	0.19	215.78	215.98	99.91			
26/02/2014	94.57	0.00	0.05	62.63	62.68	0.04	1.19	5.74	6.98	0.00	0.00	49.03	49.03	0.00	0.54	41.60	42.14	0.00	0.21	52.21	52.42	0.00	0.00	0.99	0.56	1.55	0.04	2.99	211.75	214.78	98.59
27/02/2014	93.88	0.00	0.00	49.25	49.25	0.01	0.01	24.72	24.74	0.00	0.00	55.18	55.18	0.00	0.00	20.30	20.30	0.00	0.05	67.50	67.55	0.00	0.00	0.00	0.00	0.01	0.05	216.95	217.01	99.97	
28/02/2014	93.95	0.00	0.00	35.94	35.94	0.00	0.00	57.77	57.77	0.00	0.00	63.19	63.19	0.00	0.00	0.00	0.00	67.84	67.84	0.00	0.00	0.11	0.00	0.00	0.00	0.00	224.85	224.85	100.00		

Water Volume [%]:

Untreated: 0.00 %
Below Dose: 0.22 %
To Dose: 99.77 %

Submitted By (Print): D.Minor

Signature: Original signed by D.Minor



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: March 2014

Report Created: Tuesday, April 01, 2014

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						
1/03/2014	93.78	0.00	0.00	36.06	36.06	0.00	0.00	58.44	58.44	0.00	0.00	63.08	63.08	0.00	0.00	0.00	0.00	0.00	0.00	68.33	68.33	0.00	0.00	0.00	0.00	0.00	0.00	225.91	225.91	100.00				
2/03/2014	93.87	0.00	0.00	35.40	35.40	0.00	0.00	57.18	57.18	0.00	0.00	61.82	61.82	0.00	0.00	0.00	0.00	0.00	0.00	66.56	66.56	0.00	0.00	0.00	0.00	0.00	0.00	220.96	220.96	100.00				
3/03/2014	94.45	0.00	0.00	14.14	14.14	0.00	0.00	59.97	59.97	0.00	0.00	62.43	62.43	0.00	0.00	0.00	0.00	0.00	0.00	47.39	47.39	0.03	0.10	27.81	27.93	0.03	0.10	211.73	211.86	99.94				
4/03/2014	94.13	0.00	0.00	0.00	0.00	0.00	0.00	21.63	21.63	0.00	0.00	77.50	77.50	0.00	0.00	0.00	0.00	0.00	0.00	40.70	40.70	0.00	0.00	68.15	68.15	0.00	0.00	207.97	207.97	100.00				
5/03/2014	93.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	84.98	85.04	0.00	0.00	0.00	0.00	0.00	0.00	43.35	43.35	0.00	0.00	79.60	79.60	0.00	0.06	207.93	207.98	99.97				
6/03/2014	93.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	85.00	85.00	0.00	0.00	0.00	0.00	0.00	0.00	42.91	42.91	0.00	0.00	79.48	79.48	0.00	0.00	207.40	207.40	100.00				
7/03/2014	94.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	85.00	85.00	0.00	0.00	0.00	0.00	0.00	0.00	42.58	42.58	0.00	0.00	77.14	77.14	0.00	0.00	204.72	204.72	100.00				
8/03/2014	93.97	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	0.00	0.00	0.00	0.00	43.63	43.63	0.00	0.00	79.38	79.38	0.00	0.00	207.99	207.99	100.00				
9/03/2014	93.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	85.00	85.00	0.00	0.00	0.00	0.00	0.00	0.00	44.27	44.27	0.00	0.00	80.62	80.62	0.00	0.00	209.89	209.89	100.00				
10/03/2014	93.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	85.00	85.00	0.00	0.00	0.00	0.00	0.00	0.00	44.27	44.27	0.00	0.00	81.22	81.22	0.00	0.00	210.48	210.48	100.00				
11/03/2014	93.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	85.00	85.00	0.00	0.00	0.00	0.00	0.00	0.00	43.34	43.34	0.00	0.00	79.67	79.67	0.00	0.00	208.01	208.01	100.00				
12/03/2014	92.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	85.04	85.04	0.00	0.00	0.00	0.00	0.00	0.00	43.27	43.27	0.00	0.00	79.69	79.69	0.00	0.00	208.00	208.00	100.00				
13/03/2014	92.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	82.38	82.38	0.00	0.00	0.00	0.00	0.00	0.00	44.84	44.84	0.00	0.00	80.68	80.68	0.00	0.00	207.90	207.90	100.00				
14/03/2014	91.99	0.00	0.00	17.35	17.35	0.00	0.00	0.00	0.00	0.00	0.00	48.79	48.79	0.00	0.00	0.00	0.00	0.00	0.00	60.35	60.35	0.00	0.00	84.45	84.45	0.00	0.00	210.94	210.94	100.00				
15/03/2014	91.99	0.00	0.00	82.60	82.60	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	50.01	50.01	0.00	0.00	81.19	81.19	0.00	0.00	213.79	213.79	100.00				
16/03/2014	91.99	0.00	0.00	72.00	72.00	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	0.00	72.99	72.99	0.00	0.10	71.90	72.00	0.00	0.10	216.88	216.98	99.95				
17/03/2014	92.00	0.00	0.00	72.00	72.00	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	0.00	16.83	16.83	0.00	0.34	59.01	59.34	0.00	0.45	70.67	71.12	0.00	0.78	218.52	219.30	99.64
18/03/2014	91.99	0.00	0.00	71.61	71.61	0.00	0.00	0.00	0.00	0.00	0.00	38.79	38.79	0.00	0.00	36.66	36.66	0.00	0.00	43.33	43.33	0.00	0.36	32.95	33.30	0.00	0.36	223.35	223.71	99.84				
19/03/2014	91.99	0.00	0.00	73.06	73.06	0.00	0.00	0.00	0.00	0.00	0.00	38.98	38.98	0.00	0.00	39.42	39.42	0.00	0.00	78.28	78.28	0.00	0.00	0.00	0.00	0.00	0.00	229.73	229.73	100.00				
20/03/2014	91.99	0.31	0.31	39.83	40.45	0.00	0.00	0.00	0.00	0.00	0.00	44.07	44.07	0.00	0.00	0.00	0.00	0.00	0.00	45.86	45.86	0.00	0.00	0.00	0.00	0.31	0.31	129.76	130.37	99.53				
21/03/2014	91.99	0.00	0.00	71.67	71.67	0.00	0.00	0.00	0.00	0.00	0.00	78.90	78.90	0.00	0.00	0.00	0.00	0.00	0.00	80.74	80.74	0.00	0.00	0.00	0.00	0.00	0.00	231.31	231.31	100.00				
22/03/2014	91.99	0.00	0.00	72.46	72.46	0.00	0.00	0.00	0.00	0.00	0.00	79.44	79.44	0.00	0.00	0.00	0.00	0.00	0.00	81.34	81.34	0.00	0.00	0.00	0.00	0.00	0.00	233.24	233.24	100.00				
23/03/2014	91.99	0.00	0.00	73.70	73.70	0.00	0.00	0.00	0.00	0.00	0.00	80.53	80.53	0.00	0.00	0.00	0.00	0.00	0.00	82.86	82.86	0.00	0.00	0.00	0.00	0.00	0.00	237.09	237.09	100.00				
24/03/2014	91.99	0.00	0.00	73.89	73.89	0.00	0.00	0.00	0.00	0.00	0.00	80.66	80.66	0.00	0.00	0.00	0.00	0.00	0.00	83.44	83.44	0.00	0.00	0.00	0.00	0.00	0.00	237.99	237.99	100.00				
25/03/2014	91.99	0.00	0.00	74.64	74.64	0.00	0.00	0.00	0.00	0.00	0.00	83.18	83.18	0.00	0.00	0.00	0.00	0.00	0.00	83.88	83.88	0.00	0.00	0.00	0.00	0.00	0.00	241.70	241.70	100.00				
26/03/2014	91.99	0.00	0.00	75.26	75.26	0.00	0.00	0.00	0.00	0.00	0.00	84.44	84.44	0.00	0.00	0.00	0.00	0.00	0.00	83.34	83.34	0.00	0.00	0.00	0.00	0.00	0.00	243.05	243.05	100.00				
27/03/2014	91.99	0.00	0.00	24.95	24.95	0.00	0.00	56.73	56.73	0.00	0.00	32.39	32.39	0.00	0.05	49.42	49.47	0.00	0.00	79.31	79.31	0.00	0.00	0.00	0.00	0.05	0.05	242.80	242.84	99.98				
28/03/2014	91.99	0.00	0.00	37.16	37.16	0.00	0.00	44.97	44.97	0.00	0.00	0.00	0.00	0.00	0.00	80.96	80.96	0.00	0.00	79.64	79.64	0.00	0.00	0.00	0.00	0.00	0.00	242.73	242.73	100.00				
29/03/2014	87.22	0.00	0.00	79.03	79.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	81.37	81.37	0.00	0.00	79.00	79.00	0.00	0.00	0.00	0.00	0.00	0.00	239.40	239.40	100.00				
30/03/2014	93.59	0.05	71.29	71.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	73.55	73.55	0.00	0.00	70.92	70.92	0.00	0.00	0.00	0.00	0.05	0.05	215.76	215.82	99.98				
31/03/2014	91.90	0.00	0.00	68.14	68.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	70.34	70.34	0.00	0.00	66.51	66.51	0.00	0.00	0.00	0.00	0.00	0.00	204.99	204.99	100.00				

Water Volume [%]:

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

Submitted By (Print): D.Merredew



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: April 2014

Report Created: Thursday, May 01, 2014

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			
1/04/2014	92.98	0.00	0.00	67.76	67.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	70.41	70.41	0.00	0.00	66.82	66.82	0.00	0.00	0.00	0.00	0.00	0.00	204.99	204.99	100.00
2/04/2014	93.24	0.00	0.00	32.63	32.63	0.00	0.00	36.08	36.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.02	69.02	0.00	0.00	67.27	67.27	0.00	0.00	0.00	0.00	0.00	0.00	205.00	205.00	100.00
3/04/2014	92.98	0.00	0.00	0.00	0.00	0.00	0.00	70.82	70.82	0.00	0.05	42.53	42.58	0.00	0.00	19.62	19.62	0.00	0.00	71.97	71.97	0.00	0.00	0.00	0.00	0.00	0.05	204.93	204.98	99.98	
4/04/2014	92.57	0.00	0.00	0.00	0.00	0.00	0.00	72.17	72.17	0.00	0.00	57.96	57.96	0.00	0.00	0.00	0.00	0.00	0.00	74.83	74.83	0.00	0.00	0.00	0.00	0.00	0.00	204.96	204.96	100.00	
5/04/2014	91.98	0.00	0.00	0.00	0.00	0.00	0.00	77.67	77.67	0.00	0.00	42.63	42.63	0.00	0.00	9.80	9.80	0.00	0.00	78.14	78.14	0.00	0.00	0.00	0.00	0.00	0.00	208.24	208.24	100.00	
6/04/2014	91.09	0.00	0.00	0.00	0.00	0.00	0.00	75.73	75.73	0.00	0.00	0.00	0.00	0.00	0.00	68.00	68.00	0.00	0.00	71.26	71.26	0.00	0.00	0.00	0.00	0.00	0.00	215.00	215.00	100.00	
7/04/2014	89.81	0.00	0.00	0.00	0.00	0.00	0.00	76.40	76.40	0.00	0.00	0.00	0.00	0.00	0.00	68.68	68.68	0.00	0.00	71.90	71.90	0.00	0.00	0.00	0.00	0.00	0.00	216.97	216.97	100.00	
8/04/2014	90.78	0.00	0.00	0.00	0.00	0.00	0.00	79.01	79.01	0.00	0.00	0.00	0.00	0.00	0.00	70.40	70.40	0.00	0.00	73.61	73.61	0.00	0.00	0.00	0.00	0.00	0.00	223.02	223.03	100.00	
9/04/2014	93.87	0.00	0.00	0.00	0.00	0.00	0.00	61.42	61.42	0.00	0.00	0.00	0.00	0.00	0.00	62.97	62.97	0.00	0.00	68.19	68.19	0.00	0.19	7.13	7.32	0.00	0.19	199.71	199.90	99.91	
10/04/2014	94.31	0.00	0.05	21.10	21.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	82.60	82.60	0.00	0.00	54.80	54.80	0.00	0.05	52.43	52.48	0.00	0.10	210.93	211.03	99.95	
11/04/2014	94.44	0.00	0.00	66.93	66.93	0.00	0.00	0.75	0.75	0.29	0.29	32.78	33.35	0.00	0.00	46.20	46.20	0.00	0.00	49.92	49.92	0.00	0.00	30.55	30.55	0.29	0.29	227.13	227.70	99.75	
12/04/2014	94.46	0.00	0.09	66.55	66.64	0.00	0.00	0.00	0.00	0.03	0.08	23.75	23.86	0.06	0.06	57.29	57.40	0.00	0.00	0.00	0.00	0.00	0.00	82.20	82.20	0.08	0.23	229.79	230.11	99.86	
13/04/2014	94.51	0.00	0.00	66.99	66.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	82.78	82.78	0.00	0.00	0.00	0.00	0.00	0.00	82.23	82.23	0.00	0.00	232.00	232.00	100.00	
14/04/2014	94.87	0.00	0.05	68.41	68.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	82.20	82.20	0.00	0.00	0.00	0.00	0.00	0.06	82.34	82.40	0.00	0.10	232.95	233.05	99.96	
15/04/2014	95.33	0.00	0.00	72.95	72.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	81.46	81.46	0.00	0.00	0.00	0.00	0.00	0.00	81.07	81.07	0.00	0.00	235.47	235.47	100.00	
16/04/2014	94.66	0.00	0.00	42.42	42.42	0.00	0.00	35.77	35.77	0.00	0.00	0.00	0.00	0.05	0.05	39.18	39.28	0.00	0.12	27.11	27.23	0.00	0.00	81.29	81.29	0.05	0.17	225.77	225.99	99.90	
17/04/2014	95.02	0.00	0.00	0.00	0.00	0.00	0.00	86.23	86.23	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.00	0.00	57.73	57.73	0.00	0.00	85.42	85.42	0.00	0.00	229.42	229.42	100.00	
18/04/2014	93.70	0.00	0.00	0.00	0.00	0.00	0.00	84.20	84.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.54	55.54	0.00	0.05	81.23	81.28	0.00	0.05	220.97	221.03	99.98	
19/04/2014	93.76	0.00	0.00	0.00	0.00	0.00	0.00	84.75	84.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.40	54.40	0.00	0.00	78.41	78.41	0.00	0.00	217.56	217.56	100.00	
20/04/2014	93.84	0.00	0.00	0.00	0.00	0.00	0.00	84.74	84.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.35	54.35	0.00	0.00	78.60	78.60	0.00	0.00	217.69	217.69	100.00	
21/04/2014	93.98	0.00	0.00	0.00	0.00	0.00	0.00	82.92	82.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.84	53.84	0.00	0.00	77.92	77.92	0.00	0.00	214.68	214.68	100.00	
22/04/2014	94.23	0.00	0.00	0.00	0.00	0.00	0.00	81.16	81.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.64	53.64	0.00	0.00	78.01	78.01	0.00	0.00	212.81	212.81	100.00	
23/04/2014	94.99	0.00	0.00	0.00	0.00	0.00	0.00	80.72	80.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.33	53.33	0.00	0.00	77.60	77.60	0.00	0.00	211.65	211.65	100.00	
24/04/2014	94.43	0.00	0.00	0.00	0.00	0.00	0.07	59.45	59.51	0.00	0.00	0.00	0.00	0.00	0.13	10.56	10.69	0.00	0.00	39.80	39.80	0.07	0.07	40.36	40.49	0.07	0.26	150.17	150.49	99.79	
25/04/2014	95.19	0.00	0.00	12.28	12.28	0.28	0.28	89.70	90.27	0.00	0.00	0.00	0.00	0.00	0.13	47.02	47.15	0.00	0.05	47.60	47.65	0.11	0.11	24.06	24.28	0.39	0.57	220.66	221.62	99.57	
26/04/2014	95.36	0.00	0.00	0.00	0.00	0.00	0.00	92.48	92.48	0.00	0.00	0.00	0.00	0.00	0.00	58.25	58.25	0.00	0.00	0.00	0.00	0.00	0.00	69.00	69.00	0.00	0.00	219.73	219.73	100.00	
27/04/2014	95.45	0.00	0.00	0.00	0.00	0.00	0.00	92.69	92.69	0.00	0.00	0.00	0.00	0.00	0.00	58.05	58.05	0.00	0.00	0.00	0.00	0.00	0.00	71.19	71.19	0.00	0.00	221.94	221.94	100.00	
28/04/2014	95.61	0.00	0.00	60.84	60.84	0.00	0.00	23.64	23.64	0.00	0.00	0.00	0.00	0.00	0.00	51.56	51.56	0.00	0.00	0.00	0.00	0.00	0.00	81.82	81.82	0.00	0.00	217.85	217.85	100.00	
29/04/2014	96.34	0.00	0.00	82.33	82.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.53	51.53	0.00	0.00	42.11	42.11	0.00	0.00	40.00	40.00	0.00	0.00	215.97	215.97	100.00	
30/04/2014	96.52	0.00	0.00	82.35	82.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.72	51.72	0.00	0.00	81.94	81.94	0.00	0.00	0.00	0.00	0.00	0.00	216.01	216.01	100.00	
		0.00	0.19	743.54	743.73	0.28	0.35	1528.50	1529.13	0.32	0.42	199.65	200.39	0.11	0.36	1239.32	1239.79	0.00	0.17	1370.10	1370.27	0.17	0.53	1382.85	1383.55	0.88	2.01	6463.97	6466.85		

Water Volume [%]:

Untreated: 0.01 %

Below Dose: 0.03 %

To Dose: 99.96 %



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: May 2014

Report Created: Sunday, June 01, 2014

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		
1/05/2014	96.51	0.00	0.00	82.26	82.26	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	51.78	51.78	0.00	0.00	81.96	81.96	0.00	0.00	0.00	0.00	0.01	0.01	215.99	216.01	99.99
2/05/2014	96.69	0.00	0.00	82.41	82.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.66	51.66	0.00	0.00	81.94	81.94	0.00	0.00	0.00	0.00	0.00	0.00	216.01	216.01	100.00
3/05/2014	96.88	0.00	0.00	81.20	81.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.67	50.67	0.00	0.00	80.24	80.24	0.00	0.00	0.00	0.00	0.00	0.00	212.11	212.11	100.00
4/05/2014	96.92	0.00	0.00	80.33	80.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.26	50.26	0.00	0.00	79.41	79.41	0.00	0.00	0.00	0.00	0.00	0.00	210.00	210.00	100.00
5/05/2014	96.78	0.00	0.06	83.82	83.87	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.16	8.86	9.09	0.00	0.00	50.17	50.17	0.00	0.00	66.78	66.78	0.07	0.22	209.63	209.91	99.87		
6/05/2014	96.72	0.00	0.12	84.87	84.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.57	42.57	0.00	0.00	78.92	78.92	0.00	0.12	206.36	206.48	99.94				
7/05/2014	96.53	0.00	1.00	65.14	66.14	0.00	0.00	18.84	18.84	0.00	0.00	0.00	0.00	0.00	0.00	41.33	41.33	0.00	0.00	76.51	76.51	0.00	1.00	201.82	202.82	99.51				
8/05/2014	96.44	0.00	0.00	0.00	0.00	0.00	0.00	85.05	85.05	0.00	0.00	0.00	0.00	0.00	0.00	37.82	37.82	0.00	0.00	69.60	69.60	0.00	0.00	192.46	192.46	100.00				
9/05/2014	96.64	0.00	0.00	0.16	0.16	0.00	0.00	70.64	70.64	0.00	0.00	0.00	0.00	0.00	0.00	40.08	40.08	0.00	0.00	74.02	74.02	0.00	0.00	184.89	184.89	100.00				
10/05/2014	95.91	0.00	0.00	0.00	0.00	0.00	0.00	63.73	63.73	0.00	0.00	0.00	0.00	0.00	0.00	43.61	43.61	0.00	0.00	81.23	81.23	0.00	0.00	188.56	188.56	100.00				
11/05/2014	95.96	0.00	0.00	0.00	0.00	0.00	0.00	87.16	87.16	0.00	0.00	0.00	0.00	0.05	0.05	40.71	40.71	0.00	0.00	75.30	75.30	0.00	0.05	203.17	203.22	99.97				
12/05/2014	96.06	0.00	0.00	46.31	46.31	0.00	0.00	38.78	38.78	0.00	0.00	0.00	0.00	19.77	19.77	0.00	0.00	57.45	57.45	0.00	0.00	45.91	45.91	0.00	0.00	208.22	208.22	100.00		
13/05/2014	96.29	0.00	0.00	32.32	32.32	0.00	0.00	49.00	49.00	0.00	0.00	0.00	0.00	45.67	45.67	0.00	0.00	77.08	77.08	0.00	0.00	0.00	0.00	0.00	0.00	204.08	204.08	100.00		
14/05/2014	96.15	0.00	0.03	42.86	42.89	0.00	0.00	30.43	30.43	0.00	0.00	0.00	0.00	0.00	0.00	40.60	40.60	0.00	0.00	69.14	69.14	0.00	0.00	26.66	26.66	0.03	209.69	209.72	99.98	
15/05/2014	96.03	0.00	0.00	48.49	48.49	0.00	0.00	34.40	34.40	0.00	0.00	0.00	0.00	0.00	0.00	46.90	46.90	0.00	0.00	45.12	45.12	0.00	0.00	34.15	34.15	0.00	0.00	209.06	209.06	100.00
16/05/2014	92.48	0.00	0.00	0.00	0.00	0.00	0.00	81.33	81.33	0.00	0.00	0.00	0.00	0.00	0.00	44.16	44.16	0.00	0.00	0.00	0.00	0.00	0.00	74.94	74.94	0.00	0.00	200.43	200.43	100.00
17/05/2014	95.67	0.00	0.00	0.00	0.00	0.00	0.00	83.80	83.80	0.00	0.00	0.00	0.00	0.00	0.00	45.37	45.37	0.00	0.00	0.00	0.00	0.00	0.00	76.82	76.82	0.00	0.00	205.98	205.98	100.00
18/05/2014	95.76	0.00	0.00	0.00	0.00	0.00	0.00	85.00	85.00	0.00	0.00	0.00	0.00	0.00	0.00	46.54	46.54	0.00	0.00	0.00	0.00	0.00	0.00	78.45	78.45	0.00	0.00	209.99	209.99	100.00
19/05/2014	95.76	0.00	0.00	0.00	0.00	0.00	0.00	84.98	84.98	0.00	0.00	0.00	0.00	0.00	0.00	46.20	46.20	0.00	0.00	0.00	0.00	0.00	0.00	78.79	78.79	0.00	0.00	209.97	209.97	100.00
20/05/2014	95.94	0.00	0.00	0.00	0.00	0.00	0.00	84.99	84.99	0.00	0.00	0.00	0.00	0.00	0.00	52.62	52.62	0.00	0.00	0.00	0.00	0.00	0.00	72.29	72.29	0.00	0.00	209.90	209.90	100.00
21/05/2014	95.87	0.00	0.00	0.00	0.00	0.00	0.00	85.10	85.10	0.00	0.00	0.00	0.00	0.00	0.00	58.16	58.16	0.00	0.00	0.00	0.00	0.05	66.66	66.71	0.00	0.05	209.93	209.97	99.98	
22/05/2014	95.74	0.00	0.00	0.00	0.00	0.00	0.00	85.00	85.00	0.00	0.00	0.00	0.00	0.00	0.00	58.40	58.40	0.00	0.00	0.00	0.00	0.00	0.00	66.60	66.60	0.00	0.00	210.00	210.00	100.00
23/05/2014	95.74	0.00	0.00	0.00	0.00	0.00	0.00	84.96	84.96	0.00	0.00	0.00	0.00	0.00	0.00	60.11	60.11	0.00	0.00	0.00	0.00	0.00	0.00	69.43	69.43	0.00	0.00	214.50	214.50	100.00
24/05/2014	95.72	0.00	0.52	32.28	32.80	0.00	0.00	21.21	21.21	0.00	0.00	0.00	0.00	0.00	0.00	51.41	51.99	0.00	0.00	42.38	42.38	0.00	0.00	70.89	70.89	0.00	1.10	218.18	219.28	99.50
25/05/2014	95.52	0.00	0.25	61.89	62.14	0.00	0.00	82.00	82.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.32	8.32	0.00	0.00	75.36	75.36	0.00	0.25	227.55	227.81	99.89
26/05/2014	95.55	0.00	0.11	54.24	54.36	0.00	0.05	72.20	72.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	43.35	43.35	0.00	0.00	55.04	55.04	0.00	0.16	224.83	225.00	99.93	
27/05/2014	95.54	0.00	0.00	54.33	54.33	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	43.77	43.77	0.00	0.00	54.65	54.65	0.00	0.00	224.98	224.98	100.00	
28/05/2014	94.68	0.00	0.00	36.54	36.54	0.00	0.00	72.74	72.74	0.00	0.00	0.00	0.00	0.61	0.61	21.53	22.76	0.00	0.00	42.21	42.21	0.00	0.00	51.35	51.35	0.61	0.61	224.37	225.60	99.46
29/05/2014	94.92	0.00	0.00	0.00	0.00	0.00	0.00	46.01	46.01	0.00	0.10	12.20	12.31	0.00	0.00	40.60	40.60	0.02	0.02	24.84	24.88	0.00	0.00	30.57	30.57	0.02	0.12	154.22	154.37	99.91
30/05/2014	94.53	0.00	0.00	47.22	47.22	0.06	0.26	41.29	41.60	0.00	0.00	27.62	27.62	0.00	0.00	44.63	44.63	0.00	0.00	39.00	39.00	0.00	0.00	51.96	51.96	0.06	0.26	251.72	252.04	99.87
31/05/2014	95.02	0.00	0.09	48.18	48.26	0.00	0.00	76.42	76.42	0.00	0.00	18.48	18.48	0.00	0.00	8.32	8.32	0.00	0.00	46.28	46.28	0.00	0.00	64.25	64.25	0.00	0.09	261.93	262.02	99.97
		0.00	2.19	1064.84	1067.03	0.06	0.32	1637.28	1637.66	0.00	0.10	58.30	58.40	0.68	1.40	944.22	946.30	0.02	0.02	1158.78	1158.82	0.00	0.05	1667.14	1667.18	0.77	4.07	6530.56	6535.40	

Water Volume [%]:

Untreated: 0.01 %
Below Dose 0.06 %
To Dose 99.93 %

Submitted By (Print): A.Weremy

Signature: Original



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: June 2014

Report Created: Tuesday, July 01, 2014

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	
1/06/2014	95.32	0.00	0.00	0.00	0.00	0.00	0.00	81.74	81.74	0.00	0.00	0.00	0.00	0.00	0.00	76.53	76.53	0.00	0.00	40.97	40.97	0.00	0.00	49.22	49.22	0.00	0.00	248.47	248.47	100.00
2/06/2014	95.27	0.00	0.00	45.69	45.69	0.00	0.00	53.03	53.03	0.00	0.00	0.00	0.00	0.00	0.00	49.68	49.68	0.00	0.00	42.80	42.80	0.00	0.00	55.09	55.09	0.00	0.00	246.29	246.29	100.00
3/06/2014	95.26	0.00	0.00	42.61	42.61	0.00	0.00	65.97	65.97	0.00	0.00	0.00	0.00	0.00	0.00	39.35	39.35	0.00	0.00	43.77	43.77	0.00	0.00	54.70	54.70	0.00	0.00	246.41	246.41	100.00
4/06/2014	95.69	0.00	0.00	29.79	29.79	0.00	0.00	79.76	79.76	0.00	0.00	0.00	0.00	0.00	0.00	36.26	36.26	0.00	0.00	42.17	42.17	0.00	0.00	54.51	54.51	0.00	0.00	242.49	242.49	100.00
5/06/2014	95.93	0.00	0.00	59.88	59.88	0.00	0.06	80.69	80.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.79	45.79	0.00	0.00	61.29	61.29	0.00	0.06	247.65	247.71	99.98
6/06/2014	95.88	0.00	0.21	56.18	56.40	0.00	0.28	41.63	41.91	0.00	0.00	0.00	0.00	0.34	0.34	47.53	48.20	0.00	0.00	43.99	43.99	0.00	0.00	57.67	57.67	0.34	0.83	247.00	248.17	99.53
7/06/2014	95.98	0.00	0.05	77.65	77.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	77.72	77.72	0.00	0.00	36.02	36.02	0.00	0.00	56.50	56.50	0.00	0.05	247.89	247.95	99.98
8/06/2014	96.43	0.00	0.00	74.65	74.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	74.90	74.90	0.00	0.00	37.85	37.85	0.00	0.00	54.03	54.03	0.00	0.00	241.43	241.43	100.00
9/06/2014	96.13	0.00	0.00	60.22	60.22	0.00	0.00	14.63	14.63	0.00	0.00	0.00	0.00	0.00	0.00	73.92	73.92	0.00	0.00	21.75	21.75	0.00	0.00	61.45	61.45	0.00	0.00	231.98	231.98	100.00
10/06/2014	96.49	0.00	0.00	73.76	73.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	77.14	77.14	0.00	0.00	0.00	0.00	0.00	0.00	74.90	74.90	0.00	0.00	225.80	225.80	100.00
11/06/2014	96.49	0.00	0.00	73.40	73.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.57	76.57	0.00	0.00	0.00	0.00	0.00	0.00	74.66	74.66	0.00	0.00	224.63	224.63	100.00
12/06/2014	96.55	0.00	0.00	88.11	88.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	41.65	41.65	0.00	0.00	20.24	20.24	0.00	0.00	78.43	78.43	0.00	0.00	228.44	228.44	100.00
13/06/2014	96.66	0.00	0.00	96.83	96.83	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	49.36	49.36	0.00	0.06	81.06	81.06	0.00	0.06	227.19	227.25	99.97
14/06/2014	96.71	0.00	0.00	84.99	84.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.98	59.98	0.00	0.00	85.01	85.01	0.00	0.00	229.98	229.98	100.00	
15/06/2014	96.84	0.00	0.00	85.01	85.01	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	48.89	48.89	0.00	0.00	81.02	81.02	0.00	0.00	214.92	214.92	100.00	
16/06/2014	96.95	0.00	0.00	85.00	85.00	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	42.41	42.41	0.00	0.00	77.60	77.60	0.00	0.00	205.01	205.01	100.00	
17/06/2014	96.91	0.00	0.06	84.96	85.02	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	42.26	42.26	0.00	0.00	77.75	77.75	0.00	0.06	204.97	205.02	99.97	
18/06/2014	96.86	0.00	0.00	84.84	84.84	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	41.51	41.51	0.00	0.00	75.70	75.70	0.00	0.00	202.05	202.05	100.00	
19/06/2014	96.78	0.00	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	82.09	82.09	0.00	0.00	41.66	41.66	0.00	0.00	79.15	79.15	0.00	0.00	205.95	205.95	100.00
20/06/2014	96.32	0.00	0.00	48.79	48.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.35	36.35	0.00	0.00	42.76	42.76	0.00	0.00	82.09	82.09	0.00	0.00	209.99	209.99	100.00
21/06/2014	96.46	0.00	0.26	41.40	41.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.80	39.80	0.00	0.00	47.63	47.63	0.00	0.00	84.37	84.37	0.00	0.26	213.20	213.45	99.88
22/06/2014	96.63	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	46.05	46.05	0.00	0.00	84.37	84.37	0.00	0.00	215.42	215.42	100.00
23/06/2014	96.61	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	84.99	84.99	0.00	0.00	50.61	50.61	0.00	0.00	84.87	84.87	0.00	0.00	220.47	220.47	100.00
24/06/2014	96.49	0.00	0.00	26.56	26.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.80	52.80	0.00	0.00	63.12	63.12	0.00	0.00	84.85	84.85	0.00	0.00	227.34	227.34	100.00
25/06/2014	96.46	0.00	0.00	24.21	24.21	0.00	0.00	55.99	55.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	63.35	63.35	0.00	0.00	84.80	84.80	0.00	0.00	228.35	228.35	100.00	
26/06/2014	96.15	0.00	0.00	0.00	0.00	0.00	0.00	84.99	84.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	58.02	58.02	0.00	0.00	85.02	85.02	0.00	0.00	228.03	228.03	100.00	
27/06/2014	96.02	0.00	0.00	0.00	0.00	0.00	0.00	85.02	85.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.97	57.97	0.00	0.00	84.96	84.96	0.00	0.00	227.95	227.95	100.00	
28/06/2014	96.48	0.00	0.00	1.01	1.01	0.00	0.00	84.55	84.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.04	60.04	0.00	0.00	84.22	84.22	0.00	0.00	229.82	229.82	100.00	
29/06/2014	96.39	0.00	0.00	0.00	0.00	0.00	0.00	85.00	85.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.40	64.40	0.00	0.00	84.98	84.98	0.00	0.00	234.38	234.38	100.00	
30/06/2014	96.57	0.00	0.00	62.50	62.50	0.00	0.00	22.54	22.55	0.00	0.05	31.05	31.11	0.34	0.34	1066.85	1067.53	0.00	0.00	14.55	14.55	0.00	0.00	19.34	19.34	0.00	0.05	234.97	235.03	99.98

Water Volume [%]:

Untreated: 0.00 %
Below Dose: 0.02 %
To Dose: 99.98 %

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 A

WATER TREATMENT PLANT UV REPORT

Report Period: July 2014

Report Created: Friday, August 01, 2014

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			
1/07/2014	96.64	0.00	0.00	84.99	84.99	0.00	0.00	0.00	0.00	0.00	0.00	18.64	18.64	0.00	0.00	46.16	46.16	0.00	0.00	0.00	0.00	0.00	0.00	85.01	85.01	0.00	0.00	234.79	234.79	100.00	
2/07/2014	95.70	0.03	0.03	23.31	23.36	0.00	0.00	0.62	0.62	0.00	0.00	0.00	0.00	0.04	0.04	40.55	40.64	0.00	0.00	15.17	15.17	0.00	0.00	47.69	47.69	0.07	0.07	127.34	127.48	99.89	
3/07/2014	96.56	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	0.00	83.80	83.80	0.00	0.00	60.46	60.46	0.00	0.06	84.95	85.01	0.00	0.06	229.21	229.27	99.97
4/07/2014	96.55	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	0.00	84.54	84.54	0.00	0.00	67.57	67.57	0.00	0.00	84.75	84.75	0.00	0.00	236.86	236.86	100.00
5/07/2014	96.56	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	0.00	84.66	84.66	0.00	0.00	70.57	70.57	0.00	0.00	85.29	85.29	0.00	0.00	240.52	240.52	100.00
6/07/2014	96.56	0.00	0.00	0.00	0.00	0.00	0.00	64.34	64.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.94	59.94	0.00	0.00	46.67	46.67	0.00	0.00	75.72	75.72	0.00	0.00	246.67	246.67	100.00
7/07/2014	96.62	0.09	0.09	23.05	23.23	0.00	0.00	83.59	83.59	0.00	0.00	0.00	0.00	0.06	0.06	31.35	31.46	0.00	0.00	38.42	38.42	0.00	0.00	71.49	71.49	0.15	0.15	247.89	248.19	99.88	
8/07/2014	96.42	0.00	0.00	58.70	58.70	0.00	0.00	81.96	81.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38.14	38.14	0.00	0.00	70.55	70.55	0.00	0.00	249.36	249.36	100.00	
9/07/2014	96.41	0.00	0.00	36.09	36.09	0.00	0.00	84.37	84.37	0.00	0.00	22.61	22.61	0.00	0.00	0.00	0.00	0.00	0.00	39.05	39.05	0.00	0.00	72.64	72.64	0.00	0.00	254.76	254.76	100.00	
10/07/2014	96.14	0.00	0.00	0.00	0.00	0.00	0.00	84.69	84.69	0.00	0.00	44.95	44.95	0.00	0.00	33.42	33.42	0.00	0.00	12.00	12.00	0.00	0.00	81.47	81.47	0.00	0.00	256.53	256.53	100.00	
11/07/2014	96.57	0.00	0.00	0.00	0.00	0.00	0.00	85.01	85.01	0.00	0.00	39.73	39.73	0.00	0.00	48.24	48.24	0.00	0.00	0.00	0.00	0.00	0.00	85.01	85.01	0.00	0.00	257.99	257.99	100.00	
12/07/2014	96.59	0.00	0.00	0.00	0.00	0.00	0.00	85.00	85.00	0.00	0.00	39.54	39.54	0.00	0.00	48.41	48.41	0.00	0.00	0.00	0.00	0.00	0.00	84.98	84.98	0.00	0.00	257.94	257.94	100.00	
13/07/2014	96.40	0.00	0.00	0.00	0.00	0.00	0.00	85.02	85.02	0.00	0.00	32.90	32.90	0.00	0.00	40.75	40.75	0.00	0.00	0.00	0.00	0.00	0.00	84.99	84.99	0.00	0.00	243.67	243.67	100.00	
14/07/2014	95.89	0.00	0.00	0.00	0.00	0.00	0.00	85.01	85.01	0.00	0.00	31.17	31.17	0.00	0.00	38.79	38.79	0.00	0.00	0.00	0.00	0.00	0.00	85.03	85.03	0.00	0.00	239.99	239.99	100.00	
15/07/2014	96.32	0.00	0.00	0.00	0.00	0.00	0.00	85.00	85.00	0.00	0.00	31.32	31.32	0.00	0.00	38.68	38.68	0.00	0.00	0.00	0.00	0.00	0.00	84.97	84.97	0.00	0.00	239.97	239.97	100.00	
16/07/2014	96.27	0.00	0.00	0.00	0.00	0.00	0.00	85.01	85.01	0.00	0.00	59.31	59.31	0.00	0.00	70.18	70.18	0.00	0.00	0.00	0.00	0.00	0.00	27.17	27.17	0.00	0.00	241.68	241.68	100.00	
17/07/2014	96.21	0.00	0.00	34.61	34.61	0.00	0.00	77.99	77.99	0.00	0.00	36.29	36.29	0.00	0.00	37.36	37.36	0.00	0.00	15.79	15.79	0.00	0.00	44.13	44.13	0.00	0.00	246.17	246.17	100.00	
18/07/2014	96.46	0.00	0.00	49.80	49.80	0.00	0.00	75.55	75.55	0.00	0.00	42.79	42.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	80.25	80.25	0.00	0.00	248.39	248.39	100.00	
19/07/2014	96.53	0.00	0.00	49.44	49.44	0.00	0.00	74.14	74.14	0.00	0.00	41.96	41.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	79.41	79.41	0.00	0.00	244.96	244.96	100.00	
20/07/2014	96.40	0.00	0.00	48.14	48.14	0.00	0.00	71.71	71.71	0.00	0.00	40.81	40.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	78.36	78.36	0.00	0.00	239.02	239.02	100.00	
21/07/2014	96.54	0.00	0.00	48.91	48.91	0.00	0.00	72.75	72.75	0.00	0.00	41.16	41.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	78.83	78.83	0.00	0.00	241.64	241.64	100.00	
22/07/2014	96.46	0.00	0.00	49.95	49.95	0.00	0.00	74.64	74.64	0.00	0.00	42.27	42.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	80.02	80.02	0.00	0.00	246.87	246.87	100.00	
23/07/2014	96.39	0.00	0.00	50.24	50.24	0.00	0.00	75.19	75.19	0.00	0.00	42.96	42.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	80.49	80.49	0.00	0.00	248.89	248.89	100.00	
24/07/2014	96.33	0.00	0.00	54.51	54.51	0.00	0.00	78.63	78.63	0.01	0.24	20.28	20.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	75.28	75.28	0.01	0.24	248.51	248.76	99.90	
25/07/2014	95.96	0.00	0.00	42.08	42.08	0.00	0.00	63.25	63.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	29.61	29.66	0.00	0.00	52.27	52.27	0.00	0.04	187.21	187.25	99.98	
26/07/2014	96.25	0.00	0.00	59.93	59.93	0.00	0.00	84.96	84.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.15	40.15	0.00	0.00	74.46	74.46	0.00	0.00	259.50	259.50	100.00	
27/07/2014	96.48	0.00	0.00	51.04	51.04	0.00	0.00	81.78	81.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	41.15	41.15	0.00	0.00	71.77	71.77	0.00	0.00	245.74	245.74	100.00	
28/07/2014	96.41	0.00	0.00	0.00	0.00	0.00	0.00	85.00	85.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.75	57.75	0.00	0.00	85.05	85.05	0.00	0.00	227.80	227.80	100.00	
29/07/2014	96.40	0.00	0.00	0.00	0.00	0.00	0.00	84.76	84.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.98	54.98	0.00	0.00	85.26	85.26	0.00	0.00	224.99	224.99	100.00	
30/07/2014	96.44	0.00	0.00	0.00	0.00	0.00	0.00	84.84	84.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.11	62.11	0.00	0.06	85.09	85.15	0.00	0.06	232.03	232.09	99.97	
31/07/2014	96.56	0.00	0.00	0.00	0.00	0.00	0.00	85.01	85.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.31	66.31	0.00	0.51	83.12	83.63	0.00	0.51	234.44	234.95	99.78	

Water Volume [%]:

Untreated: 0.00 %
Below Dose: 0.02 %
To Dose: 99.98 %



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

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

WATER TREATMENT PLANT UV REPORT

Report Period: August 2014

Report Created: Monday, September 01, 2014

Date	Transmittance %	UVR-D100A				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				
1/08/2014	96.73	0.00	0.00	0.00	0.00	0.00	0.00	84.99	84.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	75.55	75.55	0.00	1.01	74.03	75.04	0.00	1.01	234.58	235.59	99.57		
2/08/2014	96.60	0.00	0.00	0.00	0.00	0.00	0.00	85.00	85.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	80.52	80.52	0.00	0.75	49.89	50.64	0.00	0.75	235.45	236.20	99.68		
3/08/2014	96.57	0.00	0.00	0.00	0.00	0.00	0.00	84.99	84.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	85.00	85.00	0.00	0.00	0.00	0.00	0.00	0.00	236.98	236.98	100.00		
4/08/2014	96.71	0.00	0.00	0.00	0.00	0.00	0.00	85.02	85.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	85.02	85.02	0.00	0.00	0.00	0.00	0.00	0.00	233.07	233.07	100.00		
5/08/2014	96.63	0.00	0.00	0.35	0.35	0.00	0.00	84.81	84.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.11	64.11	0.00	0.00	84.92	84.92	0.00	0.00	0.00	0.00	0.00	0.00	234.19	234.19	100.00
6/08/2014	96.49	0.00	0.00	0.00	0.00	0.00	0.00	85.01	85.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	65.02	65.02	0.00	0.00	84.99	84.99	0.00	0.00	0.00	0.00	0.00	0.00	235.03	235.03	100.00
7/08/2014	96.38	0.00	0.00	44.38	44.38	0.00	0.35	40.12	40.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.70	66.70	0.00	0.00	85.01	85.01	0.00	0.00	0.00	0.00	0.00	0.00	236.21	236.56	99.85
8/08/2014	96.17	0.00	0.04	78.11	78.16	0.03	0.03	0.16	0.23	0.05	0.19	2.48	2.72	0.00	0.00	73.80	73.80	0.00	0.00	84.98	84.98	0.00	0.00	0.00	0.00	0.08	0.27	239.54	239.89	99.86		
9/08/2014	96.21	0.00	0.00	2.97	2.97	0.00	0.00	81.33	81.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	67.69	67.69	0.00	0.00	84.21	84.21	0.00	0.00	0.00	0.00	0.00	0.00	236.20	236.20	100.00
10/08/2014	96.12	0.00	0.00	0.00	0.00	0.00	0.00	84.14	84.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	65.47	65.47	0.00	0.00	83.10	83.10	0.00	0.00	0.00	0.00	0.00	0.00	232.70	232.70	100.00
11/08/2014	95.99	0.00	0.00	0.00	0.00	0.00	0.00	84.99	84.99	0.01	0.02	0.01	0.04	0.00	0.00	65.07	65.07	0.00	0.00	84.89	84.89	0.00	0.00	0.00	0.00	0.01	0.02	234.95	234.98	99.99		
12/08/2014	96.40	0.00	0.00	0.00	0.00	0.00	0.00	85.00	85.00	0.00	0.00	0.00	0.00	0.00	0.00	64.92	64.92	0.00	0.00	85.09	85.09	0.00	0.00	0.00	0.00	0.00	0.00	235.02	235.02	100.00		
13/08/2014	96.61	0.00	0.00	14.82	14.82	0.00	0.00	78.79	78.79	0.00	0.00	0.00	0.00	0.00	0.00	64.00	64.00	0.00	0.00	82.96	82.96	0.00	0.00	0.00	0.00	0.00	0.00	240.56	240.56	100.00		
14/08/2014	96.60	0.00	0.00	43.78	43.78	0.00	0.00	66.63	66.63	0.00	0.00	0.00	0.00	0.00	0.00	55.49	55.49	0.00	0.00	79.11	79.11	0.00	0.00	0.00	0.00	0.00	0.00	245.02	245.02	100.00		
15/08/2014	96.50	0.00	0.00	43.74	43.74	0.00	0.00	66.65	66.65	0.00	0.00	0.00	0.00	0.00	0.00	55.49	55.49	0.00	0.00	79.13	79.13	0.00	0.00	0.00	0.00	0.00	0.00	245.01	245.01	100.00		
16/08/2014	96.46	0.00	0.00	43.70	43.70	0.00	0.00	66.68	66.68	0.00	0.00	0.00	0.00	0.00	0.00	55.47	55.47	0.00	0.05	79.09	79.14	0.00	0.00	0.00	0.00	0.05	0.05	244.94	245.00	99.98		
17/08/2014	96.38	0.00	0.00	43.59	43.59	0.00	0.00	66.69	66.69	0.00	0.00	0.00	0.00	0.00	0.00	55.51	55.51	0.00	0.00	79.23	79.23	0.00	0.00	0.00	0.00	0.00	0.00	245.03	245.03	100.00		
18/08/2014	96.29	0.00	0.00	11.85	11.85	0.00	0.05	82.38	82.43	0.05	0.38	3.48	3.92	0.00	0.00	39.13	39.13	0.00	0.00	53.74	53.74	0.02	0.02	52.55	52.59	0.07	0.45	243.15	243.67	99.78		
19/08/2014	96.08	0.00	0.00	35.39	35.39	0.00	0.00	46.27	46.27	0.00	0.00	32.34	32.34	0.00	0.00	0.00	0.00	0.00	0.00	78.22	78.22	0.00	0.00	52.65	52.65	0.00	0.00	244.88	244.88	100.00		
20/08/2014	96.29	0.00	0.00	39.36	39.36	0.00	0.00	33.20	33.20	0.25	0.25	47.83	48.34	0.00	0.05	37.92	37.97	0.00	0.00	78.46	78.46	0.00	0.00	0.00	0.00	0.25	0.31	236.77	237.33	99.76		
21/08/2014	96.43	0.00	0.00	0.00	0.00	0.00	0.00	76.27	76.27	0.00	0.00	0.00	0.00	0.00	0.00	77.02	77.02	0.00	0.00	70.05	70.05	0.00	0.00	0.00	0.00	0.00	0.00	223.34	223.35	100.00		
22/08/2014	96.45	0.00	0.00	0.00	0.00	0.00	0.00	68.94	68.94	0.00	0.00	51.22	51.22	0.00	0.00	21.61	21.61	0.00	0.00	68.96	68.96	0.00	0.00	0.00	0.00	0.00	0.00	210.73	210.73	100.00		
23/08/2014	96.43	0.00	0.00	0.00	0.00	0.00	0.00	62.81	62.81	0.00	0.00	67.61	67.61	0.00	0.00	0.00	0.00	0.00	0.00	1.53	1.53	0.00	0.00	64.02	64.02	0.00	0.00	195.98	195.98	100.00		
24/08/2014	96.52	0.00	0.00	0.00	0.00	0.00	0.00	66.03	66.03	0.00	0.00	51.53	51.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	184.95	184.95	100.00		
25/08/2014	96.61	0.00	0.00	0.00	0.00	0.00	0.00	69.59	69.59	0.00	0.00	58.30	58.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200.79	200.79	100.00		
26/08/2014	96.53	0.00	0.00	0.00	0.00	0.00	0.00	72.98	72.98	0.00	0.00	61.13	61.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	211.18	211.18	100.00		
27/08/2014	96.76	0.00	0.00	2.42	2.42	0.00	0.00	75.37	75.37	0.00	0.00	58.57	58.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	78.58	78.63	0.00	0.05	214.93	214.99	99.98		
28/08/2014	96.66	0.00	0.00	34.28	34.28	0.01	0.01	70.40	70.42	0.00	0.00	0.00	0.00	0.00	0.00	18.86	18.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	198.01	198.04	99.98			
29/08/2014	95.86	0.00	0.00	0.00	0.00	0.00	0.00	66.88	66.88	0.02	0.15	0.04	0.21	0.00	0.00	62.69	62.69	0.15	0.15	1.75	2.06	0.54	0.54	60.03	61.12	0.72	0.85	191.40	192.97	99.19		
30/08/2014	96.74	0.00	0.00	0.00	0.00	0.00	0.00	68.52	68.52	0.00	0.00	0.00	0.00	0.00	0.00	68.61	68.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	63.49	63.49	0.00	0.00	200.63	200.63	100.00
31/08/2014	96.65	0.00	0.00	0.00	0.00	0.00	0.00	70.02	70.02	0.00	0.00	0.00	0.00	0.00	0.00	70.47	70.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.47	64.47	0.00	0.00	204.97	204.97	100.00
		0.00	0.05	438.77	438.82	0.05	0.45	2160.70	2161.19	0.																						



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: September 2014

Report Created: Wednesday, October 01, 2014

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 T	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total																		
1/09/2014	96.23	0.00	0.00	0.00	0.00	0.00	0.00	69.97	69.97	0.00	0.00	0.00	0.00	0.00	0.00	70.46	70.46	0.00	0.00	0.00	0.00	0.00	0.00	64.57	64.57	0.00	0.00	205.01	205.01	100.00	
2/09/2014	95.76	0.00	0.00	29.37	29.37	0.00	0.10	40.95	41.05	0.00	0.00	0.00	0.00	4.28	4.28	31.92	40.48	0.00	0.00	22.64	22.64	0.00	0.11	58.66	58.76	4.28	4.48	183.54	192.30	95.45	
3/09/2014	95.76	0.00	0.00	52.08	52.08	0.00	0.08	24.20	24.27	0.00	0.00	0.00	0.00	0.00	0.03	52.28	52.32	0.00	0.00	62.19	62.19	0.00	0.09	15.19	15.28	0.00	0.20	205.94	206.14	99.90	
4/09/2014	95.84	0.00	0.93	42.69	43.62	0.00	0.74	49.53	50.27	0.00	0.00	0.00	0.00	0.00	0.00	34.77	34.77	0.41	0.41	44.14	44.96	0.00	0.08	36.55	36.64	0.41	2.16	207.68	210.26	98.78	
5/09/2014	96.84	0.00	0.07	14.87	14.94	0.00	0.00	40.01	40.01	0.00	0.00	0.00	0.00	0.00	0.00	51.19	51.19	0.00	0.00	37.03	37.03	0.00	0.22	67.49	67.71	0.00	0.30	210.60	210.89	99.86	
6/09/2014	97.09	0.00	0.00	35.99	35.99	0.00	0.00	35.71	35.72	0.00	0.00	0.00	0.00	0.01	0.01	57.61	57.63	0.00	0.10	50.13	50.23	0.00	0.17	32.75	32.92	0.02	0.29	212.19	212.49	99.86	
7/09/2014	97.12	0.00	0.00	21.12	21.12	0.00	0.06	73.51	73.56	0.00	0.00	0.00	0.00	0.00	0.00	45.56	45.56	0.00	0.04	38.96	38.99	0.00	0.00	35.63	35.63	0.00	0.10	214.77	214.86	99.96	
8/09/2014	97.34	0.00	0.00	0.31	0.31	0.00	0.07	49.99	50.06	0.00	0.00	0.00	0.00	0.00	0.00	52.87	52.87	0.00	0.00	37.05	37.05	0.00	0.00	68.08	68.08	0.00	0.07	208.31	208.38	99.97	
9/09/2014	97.66	0.00	0.00	9.03	9.03	0.00	0.10	19.11	19.21	0.00	0.00	21.79	21.79	0.00	0.00	47.47	47.47	0.00	0.00	34.61	34.61	0.00	0.05	68.00	68.05	0.00	0.15	200.00	200.15	99.92	
10/09/2014	97.33	0.00	0.14	34.21	34.36	0.00	0.00	39.10	39.11	0.00	0.00	35.35	35.35	0.00	0.00	26.00	26.00	0.00	0.00	25.82	25.82	0.00	0.04	34.91	34.95	0.00	0.18	195.40	195.58	99.91	
11/09/2014	97.30	0.00	0.10	53.77	53.87	0.00	0.00	19.86	19.86	0.00	0.00	46.64	46.64	0.00	0.00	0.00	0.00	0.00	0.00	40.99	40.99	0.00	0.00	33.64	33.65	0.00	0.10	194.91	195.01	99.95	
12/09/2014	96.95	0.00	0.10	27.65	27.75	0.00	0.00	47.95	47.95	0.00	0.32	25.62	25.95	0.00	0.12	17.07	17.20	0.00	0.03	43.27	43.30	0.00	0.00	32.71	32.71	0.00	0.57	194.27	194.85	99.71	
13/09/2014	96.66	0.00	0.00	0.00	0.00	0.00	0.16	58.24	58.40	0.01	0.01	7.91	7.93	0.00	0.00	53.35	53.35	0.00	0.00	29.38	29.38	0.00	0.00	45.74	45.74	0.01	0.17	194.63	194.80	99.91	
14/09/2014	96.55	0.08	0.08	0.00	0.15	0.00	0.27	71.25	71.51	0.00	0.00	0.57	0.57	0.00	0.00	54.37	54.37	0.00	0.00	0.00	0.00	0.00	0.00	70.52	70.62	0.08	0.44	196.71	197.23	99.74	
15/09/2014	95.88	0.00	0.00	11.55	11.55	0.00	0.00	18.73	18.73	0.00	0.00	44.35	44.35	0.00	0.12	41.24	53.98	0.00	0.00	0.00	0.00	0.00	0.00	70.49	70.53	0.00	0.05	12.79	186.35	199.14	93.58
16/09/2014	95.90	0.00	0.18	60.33	60.50	0.00	0.00	8.08	8.08	0.00	0.10	47.92	48.02	0.00	0.00	0.00	0.00	0.00	0.00	19.22	19.22	0.00	0.00	68.46	68.46	0.00	0.28	204.01	204.28	99.87	
17/09/2014	95.05	0.00	0.00	0.00	0.00	0.04	65.92	65.96	0.00	0.00	0.00	0.00	0.00	0.00	43.07	43.07	0.00	0.00	31.27	31.27	0.00	0.10	69.46	69.56	0.00	0.14	209.73	209.87	99.93		
18/09/2014	96.06	0.00	0.13	51.38	51.50	0.00	0.04	20.35	20.39	0.01	0.06	51.82	51.89	0.00	0.05	17.22	17.28	0.00	0.00	34.32	34.32	0.00	0.00	40.53	40.53	0.01	0.28	215.62	215.91	99.87	
19/09/2014	95.96	0.00	0.11	18.34	18.45	0.00	0.00	57.89	57.89	0.00	0.00	28.46	28.46	0.00	0.06	28.78	28.84	0.00	0.04	33.26	33.30	0.00	0.16	52.91	53.07	0.00	0.37	219.63	220.00	99.83	
20/09/2014	95.67	0.00	0.00	7.69	7.69	0.00	0.00	70.99	70.99	0.00	0.00	38.88	38.88	0.00	0.00	32.51	32.51	0.00	0.00	0.00	0.00	0.00	0.00	0.75	69.18	69.93	0.00	0.75	219.24	219.99	99.66
21/09/2014	96.11	0.00	0.00	43.49	43.49	0.00	0.08	40.72	40.80	0.00	0.00	0.00	0.00	0.05	61.04	61.09	0.00	0.00	12.89	12.89	0.00	0.00	61.74	61.74	0.00	0.13	219.88	220.01	99.94		
22/09/2014	96.10	0.00	5.27	41.23	46.49	0.00	0.00	0.00	0.00	0.00	26.53	26.54	0.00	0.00	46.07	46.07	0.00	0.00	47.35	47.35	0.00	0.60	52.78	53.38	0.00	5.87	213.95	219.83	97.33		
23/09/2014	96.00	0.03	0.03	16.24	16.30	0.00	0.00	30.22	30.22	0.00	0.04	66.40	66.45	0.00	0.00	23.81	23.81	0.00	0.12	60.97	61.09	0.00	0.00	21.78	21.78	0.03	0.19	219.43	219.64	99.90	
24/09/2014	94.62	0.00	0.00	9.80	9.81	0.00	0.00	27.86	27.86	0.00	0.00	2.53	2.53	0.08	0.08	22.63	22.78	0.00	0.00	17.49	17.49	0.00	0.00	11.04	11.04	0.08	0.08	91.34	91.50	99.82	
25/09/2014	96.05	0.00	0.06	13.79	13.85	0.00	0.11	53.71	53.82	0.29	0.39	0.04	0.71	0.00	0.00	31.64	31.64	0.00	0.00	30.33	30.33	0.00	0.00	84.69	84.69	0.29	0.55	214.20	215.04	99.61	
26/09/2014	96.34	0.00	0.35	42.89	43.23	0.00	0.00	32.19	32.19	0.00	0.00	0.00	0.00	0.00	0.00	24.37	24.37	0.00	0.00	35.72	35.72	0.00	0.00	79.21	79.21	0.00	0.35	214.37	214.72	99.84	
27/09/2014	96.24	0.00	0.00	75.09	75.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.62	62.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	78.50	78.50	0.00	0.00	216.21	216.21	100.00
28/09/2014	96.26	0.00	0.25	57.76	58.01	0.00	0.11	20.05	20.16	0.00	0.00	0.00	0.00	0.00	0.08	51.78	51.86	0.00	0.00	59.73	59.73	0.00	0.00	21.98	21.98	0.00	0.43	211.30	211.74	99.80	
29/09/2014	96.22	0.00	0.16	76.48	76.64	0.00	0.00	0.00	0.03	0.03	0.00	0.07	0.00	0.00	0.00	48.04	48.04	0.00	0.00	83.89	83.89	0.20	0.20	0.91	1.31	0.23	0.40	209.32	209.95	99.70	
30/09/2014	96.24	0.00	0.00	55.22	55.22	0.00	0.05	40.09	40.14	0.00	0.17	15.84	16.01	0.00	0.00	15.93	15.93	0.00	0.00	82.70	82.70	0.00	0.00	0.00	0.00	0.00	0.22	209.78	210.00	99.90	

Water Volume [%]:

Untreated: 0.09 %

Below Dose: 0.52 %

To Dose: 99.39 %

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 A

WATER TREATMENT PLANT UV REPORT

Report Period: October 2014

Report Created: Saturday, November 01, 2014

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																							
1/10/2014	96.51	0.00	0.18	66.90	67.08	0.00	0.00	38.65	38.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.86	64.86	0.00	0.00	34.75	34.75	0.00	0.18	205.16	205.33	99.91				
2/10/2014	96.53	0.00	0.00	69.22	69.22	0.00	0.00	13.74	13.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.17	11.17	0.00	0.00	47.34	47.34	0.00	0.00	53.03	53.03	0.00	0.00	194.49	194.49	100.00
3/10/2014	96.87	0.00	0.00	15.85	15.85	0.00	0.00	63.58	63.58	0.02	0.02	29.46	29.49	0.00	0.00	23.00	23.00	0.00	0.00	68.07	68.07	0.00	0.00	0.00	0.00	0.02	0.02	199.96	199.99	99.98		
4/10/2014	97.27	0.00	0.00	13.61	13.61	0.00	0.00	27.67	27.67	0.00	0.00	50.95	50.95	0.00	0.00	32.80	32.80	0.00	0.00	72.20	72.20	0.00	0.00	0.00	0.00	0.00	0.00	197.24	197.24	100.00		
5/10/2014	97.26	0.00	0.00	32.32	32.32	0.00	0.00	0.00	0.00	0.00	0.00	50.00	50.00	0.00	0.00	54.57	54.57	0.00	0.00	58.97	58.97	0.00	0.00	0.00	0.00	0.00	0.00	195.87	195.87	100.00		
6/10/2014	96.89	0.03	0.03	27.78	27.84	0.01	0.01	19.29	19.30	0.00	0.09	38.93	39.02	0.00	0.47	49.48	49.95	0.00	0.06	41.55	41.60	0.00	0.39	23.32	23.70	0.04	1.05	200.34	201.42	99.46		
7/10/2014	97.09	0.00	0.00	0.00	0.00	0.00	0.00	30.81	30.81	0.00	0.67	63.07	63.75	0.00	0.31	43.29	43.60	0.00	0.00	63.89	63.89	0.00	0.10	2.03	2.12	0.00	1.08	203.08	204.16	99.47		
8/10/2014	97.51	0.00	0.08	22.37	22.45	0.00	0.05	70.16	70.21	0.00	0.21	34.65	34.86	0.00	0.00	0.00	0.00	0.00	0.00	77.45	77.45	0.00	0.00	0.00	0.00	0.34	0.34	204.63	204.97	99.83		
9/10/2014	97.50	0.00	0.28	54.58	54.85	0.00	0.00	34.65	34.65	0.00	0.04	31.19	31.23	0.00	0.00	12.68	12.68	0.00	0.00	73.77	73.77	0.00	0.00	0.00	0.00	0.32	0.32	206.86	207.18	99.85		
10/10/2014	97.26	0.00	5.74	2.79	8.53	0.00	0.00	0.00	0.00	0.17	0.21	47.94	48.32	0.00	0.14	51.47	51.61	0.00	0.00	72.23	72.23	0.03	0.03	20.59	20.65	0.21	6.12	195.02	201.34	96.86		
11/10/2014	97.06	0.00	0.00	24.60	24.60	0.00	0.00	30.50	30.50	0.00	0.00	26.73	26.73	0.00	0.07	26.70	26.77	0.00	0.00	65.07	65.07	0.00	0.00	31.12	31.12	0.00	0.07	204.71	204.78	99.96		
12/10/2014	96.67	0.00	0.29	39.84	40.13	0.00	3.42	26.14	29.56	0.00	0.01	26.73	26.74	0.00	0.99	16.15	17.14	0.00	0.00	42.41	42.41	0.00	5.80	41.34	47.14	0.00	10.51	192.61	203.13	94.82		
13/10/2014	95.88	0.00	1.23	51.62	52.85	0.00	0.00	0.00	0.00	0.00	0.00	38.57	38.57	0.00	0.05	42.75	42.80	0.00	0.00	33.50	33.50	0.00	0.00	28.17	28.17	0.00	1.28	194.60	195.88	99.35		
14/10/2014	95.37	0.00	0.32	61.22	61.54	0.00	0.00	0.00	0.00	0.00	0.00	34.00	34.00	0.00	0.05	61.61	61.67	0.00	0.01	30.41	30.42	0.00	0.04	12.13	12.17	0.00	0.42	199.37	199.80	99.79		
15/10/2014	95.89	0.00	0.14	35.48	35.63	0.00	0.00	0.00	0.00	0.00	0.00	27.25	27.25	0.00	0.30	51.22	51.52	0.00	0.00	51.75	51.75	0.00	0.04	33.75	33.79	0.00	0.48	199.46	199.94	99.76		
16/10/2014	95.76	0.00	0.05	64.46	64.50	0.00	0.00	0.00	0.00	0.01	0.04	16.85	16.90	0.00	0.00	38.62	38.62	0.00	0.00	27.19	27.19	0.00	0.20	55.74	55.94	0.01	0.29	202.86	203.16	99.85		
17/10/2014	96.10	0.00	6.26	26.46	32.72	0.00	0.00	0.00	0.00	0.00	0.00	34.05	34.05	0.26	0.42	57.23	57.91	0.00	12.90	21.29	34.20	0.00	1.49	47.11	48.60	0.26	21.07	186.15	207.48	89.72		
18/10/2014	96.25	0.04	0.04	32.06	32.13	0.00	0.00	0.00	0.00	0.08	0.08	29.56	29.71	0.00	0.00	50.10	50.10	0.00	0.00	69.45	69.45	0.00	1.80	24.68	26.48	0.11	1.91	205.85	207.88	99.02		
19/10/2014	96.17	0.01	0.06	45.31	45.37	0.00	0.00	0.00	0.00	0.00	0.00	22.42	22.42	0.00	0.00	51.35	51.35	0.00	3.42	55.74	59.15	0.00	0.01	21.04	21.06	0.01	3.49	195.85	199.35	98.25		
20/10/2014	96.10	0.00	0.00	65.41	65.41	0.00	0.00	0.00	0.00	0.01	0.01	25.53	25.54	0.00	0.00	33.75	33.75	0.00	0.04	43.69	43.73	0.00	0.10	26.50	26.60	0.01	0.15	194.87	195.03	99.92		
21/10/2014	96.40	0.00	0.19	30.26	30.44	0.00	0.00	0.00	0.00	0.00	0.00	38.11	38.11	0.00	0.00	43.23	43.23	0.00	0.00	47.69	47.69	0.00	0.00	35.54	35.54	0.00	0.19	194.82	195.01	99.90		
22/10/2014	96.99	0.00	0.04	30.64	30.68	0.00	0.00	0.00	0.00	0.01	0.04	33.10	33.15	0.00	0.13	55.40	55.53	0.00	0.00	37.52	37.52	0.00	0.00	38.98	38.98	0.01	0.21	195.63	195.85	99.89		
23/10/2014	96.64	0.00	0.13	53.31	53.44	0.00	0.00	0.00	0.00	0.04	56.67	56.71	0.00	0.00	12.39	12.39	0.00	0.00	33.80	33.80	0.00	3.82	34.45	38.28	0.00	4.00	190.62	194.61	97.95			
24/10/2014	96.60	0.00	0.08	53.71	53.79	0.00	0.00	0.00	0.00	0.10	21.28	21.38	0.00	0.00	48.29	48.29	0.00	0.00	9.50	9.50	0.00	0.00	57.75	57.75	0.00	0.18	190.52	190.70	99.91			
25/10/2014	96.48	0.00	1.68	34.52	36.20	0.00	0.00	0.00	0.00	0.00	42.57	42.57	0.00	0.29	27.06	27.35	0.00	0.00	25.25	25.25	0.00	0.26	58.33	58.60	0.00	2.24	187.73	189.97	98.82			
26/10/2014	96.34	0.00	0.00	48.74	48.74	0.00	0.00	0.00	0.00	0.00	3.77	32.79	36.55	0.00	0.00	18.65	18.65	0.00	0.00	30.61	30.61	0.00	0.69	54.79	55.48	0.00	4.46	185.58	190.04	97.66		
27/10/2014	95.91	0.00	0.08	28.28	28.36	0.00	0.00	0.00	0.00	0.04	37.68	37.73	0.00	0.00	31.56	31.56	0.00	0.00	43.34	43.34	0.00	0.29	51.86	52.16	0.00	0.41	192.73	193.14	99.79			
28/10/2014	96.06	0.00	0.00	42.40	42.40	0.00	0.00	0.00	0.00	0.00	0.00	24.73	24.73	0.00	0.04	30.41	30.45	0.00	0.00	53.06	53.06	0.00	0.00	48.81	48.81	0.00	0.04	199.40	199.44	99.98		
29/10/2014	95.95	0.48	1.23	23.40	25.11	0.00	0.00	0.00	0.00	0.00	0.00	34.04	34.04	0.00	0.00	60.39	60.39	0.00	0.05	63.53	63.59	0.00	0.06	16.79	16.85	0.48	1.34	198.14	199.97	99.09		
30/10/2014	95.71	0.00	0.04	41.21	41.25	0.00	0.00	0.00	0.00	0.00	0.00	57.92	57.92	0.00	0.00	20.85	20.85	0.00	0.00	48.38	48.38	0.00	0.00	31.50	31.50	0.00	0.05	199.86	199.91	99.98		
31/10/2014	95.79	0.00	0.00	65.44	65.44	0.00	0.00	0.00	0.00	0.00	0.00	61.15	61.15	0.00	0.00	0.00	0.00	0.00	0.00	13.17	13.17	0.00	0.00	60.21	60.21	0.00	0.00	199.98	199.98	100.00		

Water Volume [%]:

Untreated: 0.02 %

Below Dose 1.00 %

To Dose 98



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: November 2014

Report Created: Monday, December 01, 2014

Date	Transmittance %	UVR-D100A				UVR-D200A				UVR-D300A				UVR-D400A				UVR-D500A				UVR-D600A				Total Water Volume [ML]				% Volume Treated To Dose		
		Untreated	Below T	o	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			
1/11/2014	96.05	0.00	0.00	64.26	64.26	0.00	0.00	0.00	0.00	0.00	0.00	60.59	60.59	0.00	0.00	0.00	0.00	0.00	0.00	70.95	70.95	0.00	0.00	0.00	0.00	0.00	0.00	196.32	196.32	100.00		
2/11/2014	96.06	0.00	0.00	63.77	63.77	0.00	0.00	0.00	0.00	0.00	0.00	60.28	60.28	0.00	0.00	0.00	0.00	0.00	0.00	71.46	71.46	0.00	0.00	0.00	0.00	0.00	0.00	195.01	195.01	100.00		
3/11/2014	96.03	0.00	0.00	63.11	63.11	0.00	0.00	0.00	0.00	0.00	0.00	59.55	59.55	0.00	0.00	0.00	0.00	0.00	0.00	70.14	70.14	0.00	0.00	0.00	0.00	0.00	0.00	192.80	192.80	100.00		
4/11/2014	96.02	0.00	0.00	63.39	63.39	0.00	0.00	0.00	0.00	0.00	0.00	17.63	17.63	0.00	0.00	39.67	39.67	0.00	0.00	21.25	21.25	0.00	0.00	46.63	46.63	0.00	0.00	188.57	188.57	100.00		
5/11/2014	95.67	0.00	0.00	62.59	62.59	0.00	0.00	0.00	0.00	0.00	0.00	32.22	32.23	0.00	0.00	25.79	25.79	0.00	0.00	47.12	47.12	0.00	0.00	20.24	20.24	0.00	0.00	187.96	187.97	100.00		
6/11/2014	95.26	0.00	0.00	62.99	62.99	0.00	0.00	0.00	0.00	0.00	0.00	17.20	17.20	0.00	0.00	40.83	40.83	0.00	0.00	21.11	21.11	0.00	0.00	45.84	45.84	0.00	0.00	187.97	187.97	100.00		
7/11/2014	94.97	0.00	0.00	62.55	62.55	0.00	0.00	0.00	0.00	0.00	0.00	38.54	38.54	0.00	0.00	19.22	19.22	0.00	0.00	42.30	42.30	0.00	0.00	25.35	25.35	0.00	0.00	187.96	187.96	100.00		
8/11/2014	95.01	0.00	0.00	62.36	62.36	0.00	0.00	0.00	0.00	0.00	0.00	57.23	57.23	0.00	0.00	0.00	0.00	0.00	0.00	68.45	68.45	0.00	0.00	0.00	0.00	0.00	0.00	188.03	188.03	100.00		
9/11/2014	94.99	0.00	0.00	62.69	62.69	0.00	0.00	0.00	0.00	0.00	0.00	56.20	56.20	0.00	0.00	0.00	0.00	0.00	0.00	68.42	68.42	0.00	0.00	0.00	0.00	0.00	0.00	187.32	187.32	100.00		
10/11/2014	94.79	0.00	0.00	62.56	62.56	0.00	0.00	0.00	0.00	0.00	0.00	55.44	55.44	0.00	0.00	0.00	0.00	0.00	0.00	68.00	68.00	0.00	0.00	0.00	0.00	0.00	0.00	186.01	186.01	100.00		
11/11/2014	94.72	0.00	0.00	55.75	55.75	0.00	0.00	0.00	0.00	0.00	0.00	62.17	62.17	0.00	0.00	0.00	0.00	0.00	0.00	65.49	65.49	0.00	0.00	0.00	0.00	0.00	0.00	183.40	183.40	100.00		
12/11/2014	94.75	0.00	0.00	54.01	54.01	0.00	0.00	0.00	0.00	0.00	0.00	62.87	62.87	0.00	0.00	0.00	0.00	0.00	0.00	64.50	64.50	0.00	0.00	0.00	0.00	0.00	0.00	181.37	181.37	100.00		
13/11/2014	94.69	0.00	0.00	55.05	55.05	0.00	0.00	0.00	0.00	0.00	0.00	62.90	62.90	0.00	0.00	0.00	0.00	0.00	0.00	65.05	65.05	0.00	0.00	0.00	0.00	0.00	0.00	183.00	183.00	100.00		
14/11/2014	93.57	0.00	0.45	49.12	49.57	0.00	0.00	0.00	0.00	0.00	0.00	65.18	65.18	0.00	0.00	0.00	0.00	0.00	0.00	68.22	68.22	0.00	0.00	0.00	0.00	0.45	182.53	182.98	99.76			
15/11/2014	94.48	0.00	0.10	46.05	46.15	0.00	0.00	0.00	0.00	0.00	0.00	66.80	66.80	0.00	0.00	0.00	0.00	0.00	0.00	70.01	70.01	0.00	0.00	0.00	0.00	0.10	182.86	182.96	99.95			
16/11/2014	94.40	0.00	0.00	44.11	44.11	0.00	0.00	0.00	0.00	0.00	0.00	59.29	59.29	0.01	0.01	39.05	39.06	0.13	0.13	37.75	38.02	0.00	0.00	0.00	0.00	0.14	0.14	180.21	180.49	99.84		
17/11/2014	94.18	0.00	0.00	39.19	39.19	0.00	0.00	0.00	0.00	0.00	0.00	32.29	32.29	0.00	0.00	73.74	73.74	0.00	0.00	0.00	0.00	44.66	44.66	0.00	0.00	189.89	189.89	100.00				
18/11/2014	94.13	0.00	0.00	63.00	63.00	0.00	0.00	0.00	0.00	0.00	0.00	69.92	69.92	0.00	0.00	0.00	0.00	0.00	0.00	70.11	70.11	0.00	0.00	0.00	0.00	0.00	0.00	203.02	203.02	100.00		
19/11/2014	93.90	0.00	0.00	63.00	63.00	0.00	0.00	0.00	0.00	0.00	0.00	69.95	69.95	0.00	0.00	0.00	0.00	0.00	0.00	70.03	70.03	0.00	0.00	0.00	0.00	0.00	0.00	202.98	202.98	100.00		
20/11/2014	93.25	0.00	0.00	62.22	62.22	0.00	0.00	0.00	0.00	0.00	0.00	45.71	45.71	0.00	0.00	24.21	24.21	0.00	0.00	0.00	0.00	70.82	70.82	0.00	0.00	0.00	0.00	0.00	0.00	202.96	202.96	100.00
21/11/2014	92.58	0.00	0.00	62.66	62.66	0.00	0.00	0.00	0.00	0.00	0.00	23.86	23.86	0.00	0.00	48.75	48.75	0.00	0.00	0.00	0.00	67.72	67.72	0.00	0.00	0.00	0.00	0.00	0.00	203.00	203.00	100.00
22/11/2014	94.06	0.00	0.00	63.01	63.01	0.00	0.00	0.00	0.00	0.00	0.00	47.17	47.17	0.00	0.00	25.51	25.51	0.00	0.00	0.00	0.00	67.32	67.32	0.00	0.00	0.00	0.00	0.00	0.00	203.01	203.01	100.00
23/11/2014	93.87	0.00	0.00	61.00	61.00	0.00	0.00	0.00	0.00	0.00	0.00	69.87	69.87	0.00	0.00	0.00	0.00	0.00	0.00	66.08	66.08	0.00	0.00	0.00	0.00	0.00	0.00	196.95	196.95	100.00		
24/11/2014	92.90	0.00	0.00	61.24	61.24	0.00	0.00	0.00	0.00	0.00	0.00	50.69	50.69	0.00	0.00	18.32	18.32	0.00	0.00	0.00	0.00	64.74	64.74	0.00	0.00	0.00	0.00	0.00	0.00	194.99	194.99	100.00
25/11/2014	92.75	0.00	0.00	60.39	60.39	0.00	0.00	0.00	0.00	0.00	0.00	69.21	69.21	0.00	0.00	0.00	0.00	0.00	0.00	65.38	65.38	0.00	0.00	0.00	0.00	0.00	0.00	194.99	194.99	100.00		
26/11/2014	92.44	0.00	0.00	60.40	60.40	0.00	0.00	0.00	0.00	0.00	0.00	69.23	69.23	0.00	0.00	0.00	0.00	0.00	0.00	65.40	65.40	0.00	0.00	0.00	0.00	0.00	0.00	195.02	195.02	100.00		
27/11/2014	92.43	0.04	60.33	60.37	0.00	0.00	0.00	0.00	0.00	0.00	69.23	69.23	0.00	0.00	0.00	0.00	0.00	0.00	65.39	65.39	0.00	0.04	194.95	194.99	99.98							
28/11/2014	92.58	0.00	0.00	60.38	60.38	0.00	0.00	0.00	0.00	0.00	0.00	69.26	69.26	0.00	0.00	0.00	0.00	0.00	0.00	65.40	65.40	0.00	0.05	194.98	195.03	99.98						
29/11/2014	92.89	0.00	0.00	59.29	59.29	0.00	0.00	0.00	0.00	0.00	0.00	67.99	67.99	0.00	0.00	0.00	0.00	0.00	0.00	64.47	64.47	0.00	0.00	0.00	0.00	0.00	0.00	191.75	191.75	100.00		
30/11/2014	93.05	0.00	0.00	57.19	57.19	0.00	0.00	0.00	0.00	0.00	0.00	65.73	65.73	0.00	0.00	0.00	0.00	0.00	0.00	62.90	62.90	0.00	0.00	0.00	0.00	0.00	0.00	185.82	185.82	100.00		
		0.00	0.59	1767.66	1768.25	0.00	0.00	0.00	0.00	0.00	0.00	1514.36	1514.37	0.01	0.01	494.95	494.97	0.13	0.13	920.22	920.48	0.00	0.05	1048.44	1048.48	0.15	0.78	5745.63	5746.55			

Note: UVR-D200A offline, pending flow control valve repair

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 A

WATER TREATMENT PLANT UV REPORT

Report Period: December 2014

Report Created: Thursday, January 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 T	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			
1/12/2014	93.37	0.00	0.00	58.35	58.35	0.00	0.00	0.00	0.00	0.00	0.00	67.05	67.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	63.78	63.78	0.00	0.00	189.19	189.19	100.00	
2/12/2014	93.37	0.00	0.00	58.74	58.74	0.00	0.00	0.00	0.00	0.00	0.00	67.39	67.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	63.87	63.87	0.00	0.00	190.00	190.00	100.00	
3/12/2014	92.64	0.00	0.00	58.78	58.78	0.00	0.00	0.00	0.00	0.00	0.00	67.43	67.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	63.81	63.81	0.00	0.00	190.02	190.02	100.00	
4/12/2014	93.16	0.00	0.00	58.58	58.58	0.00	0.00	0.00	0.00	0.00	0.00	67.34	67.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.09	64.09	0.00	0.00	190.02	190.02	100.00	
5/12/2014	93.07	0.00	0.00	58.95	58.95	0.00	0.00	0.00	0.00	0.00	0.00	67.86	67.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.62	64.62	0.00	0.00	191.42	191.42	100.00	
6/12/2014	93.10	0.00	0.13	59.88	60.00	0.00	0.00	0.00	0.00	0.00	0.00	68.95	68.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	65.29	65.33	0.00	0.17	194.11	194.28	99.91		
7/12/2014	93.49	0.00	0.48	41.62	42.09	0.00	0.00	0.00	0.00	0.00	0.00	66.63	66.63	0.00	0.04	25.37	25.41	0.00	0.00	0.00	0.00	0.00	0.00	66.55	66.55	0.00	0.52	200.17	200.69	99.74	
8/12/2014	93.69	0.00	0.00	36.90	36.90	0.00	0.00	0.00	0.00	0.00	0.00	64.25	64.25	0.00	0.00	46.98	46.98	0.00	0.00	0.00	0.00	0.14	57.17	57.31	0.00	0.14	205.30	205.43	99.93		
9/12/2014	93.52	0.00	0.00	66.28	66.28	0.00	0.00	0.00	0.00	0.00	0.00	23.31	23.31	0.00	0.00	50.28	50.28	0.00	0.00	0.00	0.00	0.00	0.00	67.11	67.11	0.00	0.00	206.98	206.98	100.00	
10/12/2014	93.21	0.00	0.00	67.31	67.31	0.00	0.00	0.00	0.00	0.00	0.00	73.30	73.30	0.00	0.00	28.37	28.37	0.00	0.00	38.02	38.02	0.00	0.00	207.00	207.00	100.00					
11/12/2014	93.17	0.00	0.00	58.76	58.76	0.00	0.00	0.00	0.00	0.00	0.00	75.50	75.50	0.00	0.00	63.38	63.38	0.00	0.00	8.66	8.66	0.00	0.00	206.30	206.30	100.00					
12/12/2014	94.28	0.00	0.00	67.03	67.03	0.00	0.00	0.00	0.00	0.00	0.00	72.95	72.95	0.00	0.00	67.05	67.05	0.00	0.00	0.00	0.00	0.00	0.00	207.03	207.03	100.00					
13/12/2014	95.59	0.00	0.00	67.02	67.02	0.00	0.00	0.00	0.00	0.00	0.00	72.85	72.85	0.00	0.00	67.17	67.17	0.00	0.00	0.00	0.00	0.00	0.00	207.03	207.03	100.00					
14/12/2014	95.77	0.00	0.00	66.92	66.92	0.00	0.00	0.00	0.00	0.00	0.00	72.82	72.82	0.00	0.00	67.26	67.26	0.00	0.00	0.00	0.00	0.00	0.00	207.00	207.00	100.00					
15/12/2014	95.75	0.00	0.00	64.44	64.44	0.00	0.00	0.00	0.00	0.00	0.00	52.43	52.43	0.00	0.00	20.39	20.39	0.00	0.00	69.73	69.73	0.00	0.00	206.99	206.99	100.00					
16/12/2014	95.98	0.04	0.04	36.97	37.06	0.00	0.00	0.00	0.00	0.00	0.00	78.19	78.19	0.00	0.00	0.00	0.00	0.00	0.00	58.61	58.61	0.06	0.06	32.24	32.36	0.10	0.10	206.01	206.21	99.90	
17/12/2014	95.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	84.99	84.99	0.00	0.00	0.00	0.00	0.00	0.00	41.13	41.13	0.00	0.00	75.64	75.64	0.00	0.00	201.76	201.76	100.00	
18/12/2014	89.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09	35.56	35.74	0.05	0.05	0.20	0.29	0.00	0.00	17.42	17.42	0.00	0.00	30.02	30.02	0.14	0.14	83.20	83.48	99.67		
19/12/2014	95.26	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	0.00	0.00	0.00	0.00	42.37	42.37	0.00	0.00	77.52	77.52	0.00	0.00	204.89	204.89	100.00		
20/12/2014	95.51	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	0.00	0.00	0.00	0.00	40.48	40.48	0.00	0.00	72.04	72.04	0.00	0.00	197.53	197.53	100.00		
21/12/2014	95.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	84.99	84.99	0.00	0.00	0.00	0.00	0.00	0.00	40.39	40.39	0.00	0.00	69.66	69.66	0.00	0.00	195.05	195.05	100.00		
22/12/2014	95.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	84.92	84.92	0.00	0.00	0.00	0.00	0.00	0.00	40.16	40.16	0.00	0.00	68.77	68.77	0.00	0.00	193.85	193.85	100.00		
23/12/2014	95.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.86	35.86	0.00	0.00	43.65	43.65	0.00	0.00	38.49	38.49	0.00	0.00	62.92	62.92	0.00	0.00	180.91	180.91	100.00		
24/12/2014	95.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.81	32.81	0.00	0.00	66.66	66.66	0.01	0.01	12.46	12.48	0.00	0.00	64.05	64.05	0.01	0.01	175.98	176.00	99.99		
25/12/2014	95.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.44	50.44	0.00	0.00	60.53	60.53	0.00	0.00	0.00	0.00	0.05	67.06	67.11	0.00	0.05	178.03	178.08	99.97			
26/12/2014	95.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.99	64.99	0.00	0.00	49.97	49.97	0.00	0.00	0.00	0.00	0.00	0.00	70.00	70.00	0.00	0.00	184.96	184.96	100.00		
27/12/2014	94.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.43	69.43	0.00	0.00	45.55	45.55	0.00	0.00	0.00	0.00	0.00	0.00	70.00	70.00	0.00	0.00	184.97	184.97	100.00		
28/12/2014	94.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.10	76.10	0.00	0.18	26.75	26.94	0.00	0.00	15.07	15.07	0.00	0.10	67.38	67.48	0.00	0.28	185.30	185.59	99.85		
29/12/2014	94.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.55	47.55	0.00	0.00	38.83	38.83	0.00	0.00	51.23	51.23	0.00	0.20	50.15	50.35	0.00	0.20	187.76	187.96	99.89		
30/12/2014	93.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.55	29.55	0.00	0.00	43.24	43.24	0.00	0.00	31.79	31.79	0.00	0.00	53.26	53.26	0.00	0.00	30.20	30.20	0.00	0.00	188.03	188.03	100.00
31/12/2014	93.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	58.18	58.18	0.00	0.05	63.97	64.01	0.00	0.00	0.00	0.00	0.00	0.00	65.74	65.74	0.00	0.00	0.00	0.00	0.05	187.89	187.94	99.98	

Water Volume [%]:

Untreated: 0.00 %

Below Dose 0.03 %

To Dose 99.97 %

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew

2014 Corrective Action Reports

CORRECTIVE ACTION REPORT



WATER SYSTEM City of Winnipeg

WATER SYSTEM CODE: 252.00

LOCATION OF NON-COMPLIANCE INCIDENT (ex. Water Plant): Deacon Water Treatment Plant

OPERATOR: Roberta Cameron for Hailey Harris Signature: RH/C

TYPE OF NON-COMPLIANCE INCIDENT:

- | | |
|-------------------------------------|--|
| <input type="checkbox"/> | Low disinfectant residual entering the distribution system, 21(1) MR 40/2007 |
| <input type="checkbox"/> | Low disinfectant residual in the distribution system, 22 MR 40/2007 |
| <input checked="" type="checkbox"/> | Filtered water turbidity exceeding the turbidity standard, 6(1) MR 41/2007 |
| <input type="checkbox"/> | Low positive total coliform (<10 CFU/100mL), 3 MR 41/2007 |
| <input type="checkbox"/> | Other |

INITIAL TEST RESULTS:

DESCRIPTION OF CORRECTIVE ACTIONS TAKEN (attach additional sheets if required):

See below

DATE March 03, 2014

March 03, 2014 at 10:25 the flow control valve on filter 3 did not follow the PID loop when control was switched from Manual to Remote.

This caused a fast increase inflow, causing the turbidity to spike as high as 1.28 ntu for 1-2 minutes. The corrective action taken was to allow water to flow into the backwash supply tank and shut off flow to filtered water chamber until the turbidity came down to acceptable limits before putting filter 3 back online. Running filter 3 with the flow control valve in Manual setting prevents future turbidity spikes until the flow control valve control systems are corrected.

TEST RESULTS AFTER CORRECTIVE ACTIONS:

< 0.10 ntu measured online

DATE: March 03, 2014

(attach laboratory results if applicable)

Approved By Operator-In-Charge: Don M. Cameron

Original signed by: RL

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 YOUR DRINKING WATER OFFICER WITH YOUR MONTHLY DISINFECTION OR TURBIDITY MONITORING REPORT

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Contact your Drinking Water Officer with any comments, questions or concerns.

CORRECTIVE ACTION REPORT



WATER SYSTEM City of Winnipeg

WATER SYSTEM CODE: 252.00

LOCATION OF NON-COMPLIANCE INCIDENT (ex. Water Plant): Deacon Water Treatment Plant

OPERATOR: Roberta Cameron for Carson Ikonen

Signature: RHC

TYPE OF NON-COMPLIANCE INCIDENT:

- | | |
|-------------------------------------|--|
| <input type="checkbox"/> | Low disinfectant residual entering the distribution system, 21(1) MR 40/2007 |
| <input type="checkbox"/> | Low disinfectant residual in the distribution system, 22 MR 40/2007 |
| <input checked="" type="checkbox"/> | Filtered water turbidity exceeding the turbidity standard, 6(1) MR 41/2007 |
| <input type="checkbox"/> | Low positive total coliform (<10 CFU/100mL), 3 MR 41/2007 |
| <input type="checkbox"/> | Other |

INITIAL TEST RESULTS:

DESCRIPTION OF CORRECTIVE ACTIONS
TAKEN (attach additional sheets if required):

See below

DATE March 03, 2014

Filter 6 turbidity measured above 0.30 ntu for 7-8 minutes and measured a peak at 1.16 ntu. The filter was slow stopping for backwash when this occurred. Filters needed more polymer after turning on ozone, and so the increase was made. This corrective action of polymer increase was needed due to ozone precipitating soluble particles into settleable particles.

TEST RESULTS AFTER CORRECTIVE ACTIONS:

N/A, filter into backwash

DATE: March 03, 2014

(attach laboratory results if applicable)

Approved By Operator-In-Charge: Jan Morrison

Original signed by: [Signature]

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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CORRECTIVE ACTION REPORT

Water Stewardship

WATER SYSTEM: WTP City of Winnipeg.WATER SYSTEM CODE: 252-00LOCATION OF NON-COMPLIANCE INCIDENT (ex. Water Plant): WTPOPERATOR: M Logan

Signature:

TYPE OF NON-COMPLIANCE INCIDENT:

<input type="checkbox"/>	Low disinfectant residual entering the distribution system, 21(1) MR 40/2007
<input type="checkbox"/>	Low disinfectant residual in the distribution system, 22 MR 40/2007
<input checked="" type="checkbox"/>	Filtered water turbidity exceeding the turbidity standard, 6(1) MR 41/2007
<input type="checkbox"/>	Low positive total coliform (< 10 CFU/100mL), 3 MR 41/2007
<input type="checkbox"/>	Other

INITIAL TEST RESULTS:

+10 ^{DM}
1.03 ntu

DATE: April 15, 2014

DESCRIPTION OF CORRECTIVE ACTIONS TAKEN (attach additional sheets if required):

Filter # 8 exceeded 1.00 ntu @ 06:17:39 until 06:18:14. The filter had been taken offline but had been restarted for further drain down. Backwash of filter 8 proceeded after the high turbidity and the drain down and returned to normal service with good results.

TEST RESULTS AFTER CORRECTIVE ACTIONS:

N/A offlineDATE: MAY 5, 2014

(attach laboratory results if applicable)

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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Water and Waste Department • Service des eaux et des déchets

Thursday, June 5, 2014

Our Incident/Report No: 01-2014

LIMS Reference No: 39295

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 SW12
OPERATOR IN CHARGE	NA
INCIDENT REPORTED BY	Steve Fletcher, Supervisor of Analytical Services Branch
TYPE OF NON-COMPLIANT INCIDENT	1. Treated (or distribution system) water sample contains E. coli >0 per100mL, 3 MR 41/2007 2. High positive Total Coliform (>10 per100mL), 3 MR 41/2007
INCIDENT DATE	May 26, 2014
DESCRIPTION OF CORRECTIVE ACTIONS	IMMEDIATELY: Re-sampled original locations tested additional samples upstream/downstream of original locations 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

Embrace the Spirit • Vivez l'esprit

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

Sample Name		Sample Number	Date Sampled	TimeSpel d (hrs)	E. Coli-QT (MPNU/100 mL)	Total Coliform-QT (MPNU/100 mL)	HPC (cfu/mL)	Chlorine, Free (mg/L)	Chlorine, Total (mg/L)	Temperature (°C)	Turbidity (ntu)
SW12	[REDACTED]	397282	26-May-14	12:04	11	>200	1390	0.94	1.17	6.8	0.10
SW12	[REDACTED]	397772	27-May-14	14:12	<1	<1	<10	0.96	1.13	9.7	0.10
SW12	[REDACTED]	397773	27-May-14	14:25	<1	<1	<10	0.87	1.07	10.5	0.11
SW12	[REDACTED]	397774	27-May-14	14:01	<1	<1	10	0.80	1.04	11.5	0.11
SW12	[REDACTED]	397799	28-May-14	15:13	<1	<1	<10	0.91	1.12	10.2	0.17
SW12	[REDACTED]	397800	28-May-14	15:01	<1	<1	10	0.84	1.03	10.5	0.18
SW12	[REDACTED]	397801	28-May-14	15:27	<1	<1	10	0.94	1.14	11.9	0.15

CORRECTIVE ACTION REPORT



WATER SYSTEM City of Winnipeg

WATER SYSTEM CODE: 252.00

LOCATION OF NON-COMPLIANCE INCIDENT (ex. Water Plant) 3 Regional Stations (Hurst, McPhillips, and Maclean)

OPERATOR: Mike Logan

Signature:

TYPE OF NON-COMPLIANCE INCIDENT:

x

Low disinfectant residual entering the distribution system, 21(1) MR 40/2007

Low disinfectant residual in the distribution system, 22 MR 40/2007

Filtered water turbidity exceeding the turbidity standard, 6(1) MR 41/2007

Low positive total coliform (<10 CFU/100mL), 3 MR 41/2007

Other

INITIAL TEST RESULTS:

June 9, 2014

DATE

DESCRIPTION OF CORRECTIVE ACTIONS TAKEN (attach additional sheets if required):

At 08:30 on June 9, 2014 the three regional pumping stations lost hydro power. The result of this failure caused 5 electrical pumps to shut off. One gas engine remained online for the entire system but could not maintain pressure. After the event the control room operator started other gas engines in the system to bring back pressure. Hydro power was also restored after this to all 3 stations. This event was the result of Manitoba Hydro having a pole fire. Pressures in the system did drop because of this but no water quality impacts have occurred. Testing in the system will be done to confirm this.

TEST RESULTS AFTER CORRECTIVE ACTIONS:

n/a

DATE: June 9, 2014

(attach laboratory results if applicable)

Approved By Operator-In-Charge:

Don MEREDITH Original signed by:

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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Water and Waste Department • Service des eaux et des déchets

Wednesday, February 18, 2015

Our Incident/Report No: 04-2014

LIMS Reference No: 39689

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 4-Dist WC02
OPERATOR IN CHARGE	NA
INCIDENT REPORTED BY	Gerry Levesque, acting Supervisor of Analytical Services Branch
TYPE OF NON-COMPLIANT INCIDENT	Low positive Total Coliform (<10 per100mL), 3 MR 41/2007
INCIDENT DATE	July 7, 2014
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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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)
WC02_	401469	07-Jul-14	<1	2	<10	0.83	1.03	14.0	0.18	10:30
WC02_	402049	09-Jul-14	<1	<1	<10	0.74	0.98	15.7	0.23	14:17



Water and Waste Department • Service des eaux et des déchets

Friday, September 5, 2014

Our Incident/Report No: 02-2014

LIMS Reference No: 40081

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

RE: CORRECTIVE ACTION REPORT

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

NOTES/COMMENTS:

1. All microbiological tests performed by contract laboratory.
2. UP/DOWN STREAM testing performed when EC is >0 /100mL, TC is >10 /100mL or when resample/consecutive sample is positive for EC or TC or as directed by the Manager of Environmental Standards Division and/or the Office of Drinking Water
3. INITIAL chlorine, turbidity and temperature only tested at the required 39 sample locations.
4. NR-No Result due to laboratory/analyst error.
5. NA-Not Analyzed.

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

DISTRIBUTION

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

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

REFERENCE: ODW-RF-016

Embrace the Spirit • Vivez l'esprit

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

Sample Name	Sample Number	Date Sampled	E. Coli-QT (MPNU/100 mL)	Total Coliform-QT (MPNU/100 mL)	HPC (cfu/mL)	Chlorine, Free (mg/L)	Chlorine, Total (mg/L)	Temperature (°C)	TimeSpied (hrs)	Turbidity (ntu)
SW03 [REDACTED]	405523	11-Aug-14	<1	2	10	0.59	0.79	13.5	13:04	0.17
SW03 [REDACTED]	406083	13-Aug-14	<1	<1	<10	0.62	0.81	13.5	10:44	0.14



Water and Waste Department • Service des eaux et des déchets

Wednesday, December 3, 2014

Our Incident/Report No: 03-2014

LIMS Reference No: 40891

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 NW03
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	November 3, 2014
DESCRIPTION OF CORRECTIVE ACTIONS	IMMEDIATELY: Re-sampled original location and tested additional samples upstream and downstream for free/total chlorine, temperature, bacteria and contacted the ODW. Water Services Division was contacted and the area was checked for closed valves and spot flushed. Daily monitoring of the location was performed until all closed valves were located and opened and chlorine residuals were re-established to 0.29 mg/L.
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

Embrace the Spirit • Vivez l'esprit

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

Sample Name		Sample Number	Date Sampled	bacColiEsch-QT (MPNU/100mL)	bacColiTotal-QT (MPNU/100mL)	bacHPC (cfu/mL)	Chlorine, Free (mg/L)	Chlorine, Total (mg/L)	Temperature (°C)	Turbidity (ntu)	TimeSpiled (hrs)
NW03	[REDACTED]	414294	03-Nov-14	<1	<1	<10	0.03	0.16	13.6	0.34	14 58
NW03	[REDACTED]	414503	03-Nov-14	<1	<1	<10	<0.02	0.15	12.7	NA	16 46
NW03	[REDACTED]	414502	03-Nov-14	<1	<1	<10	0.14	0.27	13.4	NA	16 40
NW03	[REDACTED]	414501	04-Nov-14	<1	<1	<10	0.14	0.38	13.3	0.42	10 37
NW03	[REDACTED]	414924	05-Nov-14	<1	<1	<10	0.12	0.29	13.3	NA	8 55
NW03	[REDACTED]	414925	06-Nov-14	<1	<1	<10	0.29	0.42	13.1	NA	10 11

2014 Monthly Fluoride Monitoring Reports



Water and Waste Department • Service des eaux et des déchets

February 4, 2014

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)	383650	January 6, 2014	0.70
	384262	January 13, 2014	0.62
	384952	January 20, 2014	0.50
	385618	January 27, 2014	0.67

On Sunday, January 12, the fluoridation system was shut down due to a chemical leak in the Chemical Feed Building at the Water Treatment Plant which contributed to the low distribution system composite fluoride result. The fluoridation system was put back into service on Wednesday, January 15.

If you have any questions on the foregoing, please call Ms. Renée Grosselle, Supervisor of Compliance Reporting, at 204-986-8359.

Yours truly,

Original signed by :

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

RG/kw

cc: Terry Josephson, P.Eng. Manager of Water Services (e-mail)

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Water and Waste Department • Service des eaux et des déchets

March 4, 2014

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)	386236	February 3, 2014	0.64
	386948	February 10, 2014	0.67
	387587	February 18, 2014	0.72
	388285	February 24, 2014	0.69

If you have any questions on the foregoing, please call Ms. Renée Grosselle, Supervisor of Compliance Reporting, at 204-986-8359.

Yours truly,

Original signed by :

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

RG/kw

cc: Terry Josephson, P.Eng. Manager of Water Services (e-mail)

N:\Compliance Reporting\Submittal Letters\2014\Dental\Dental-February.doc



Water and Waste Department • Service des eaux et des déchets

April 11, 2014

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)	388952	March 3, 2014	0.65
	389675	March 10, 2014	0.66
	390434	March 17, 2014	0.68
	391100	March 24, 2014	0.75
	391835	March 31, 2014	0.67

If you have any questions on the foregoing, please call Ms. Renée Grosselle, Supervisor of Compliance Reporting, at 204-986-8359.

Yours truly,

Original signed by :

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

RG/kw

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

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Water and Waste Department • Service des eaux et des déchets

May 2, 2014

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)	392523	April 7, 2014	0.65
	393254	April 14, 2014	0.62
	393881	April 22, 2014	0.70
	394539	April 28, 2014	0.70

If you have any questions on the foregoing, please call Ms. Renée Grosselle, Supervisor of Compliance Reporting, at 204-986-8359.

Yours truly,

Original signed by :

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

RG/kw

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

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Water and Waste Department • Service des eaux et des déchets

June 9, 2014

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)	395266	May 5, 2014	0.75
	395878	May 12, 2014	0.71
	396529	May 20, 2014	0.70
	397234	May 26, 2014	0.73

If you have any questions on the foregoing, please call Ms. Renée Grosselle, Supervisor of Compliance Reporting, at 204-986-8359.

Yours truly,

*Original signed by:
Renée Grosselle for:*

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

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

July 17, 2014

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)	397873	June 2, 2014	0.73
	398541	June 9, 2014	0.72
	399225	June 16, 2014	0.68
	400005	June 23, 2014	0.71
	400722	June 30, 2014	0.73

If you have any questions on the foregoing, please call Ms. Renée Grosselle, Supervisor of Compliance Reporting, at 204-986-8359.

Yours truly,

Original signed by:

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

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

August 13, 2014

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)	401415	July 7, 2014	0.69
	402218	July 14, 2014	0.73
	402989	July 21, 2014	0.72
	403731	July 28, 2014	0.69

If you have any questions on the foregoing, please call Ms. Renée Grosselle, Supervisor of Compliance Reporting, at 204-986-8359.

Yours truly,

Original signed by:

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

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

September 19, 2014

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)	404654	August 5, 2014	0.73
	405484	August 11, 2014	0.70
	406338	August 18, 2014	0.66
	407135	August 25, 2014	0.69

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

Yours truly,

Original signed by:

Renée Grosselle
Acting 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

October 21, 2014

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)	407868	September 2, 2014	0.72
	408552	September 8, 2014	0.67
	409265	September 15, 2014	0.70
	409998	September 22, 2014	0.72
	410703	September 29, 2014	0.67

If you have any questions on the foregoing, please call Ms. Renée Grosselle, Supervisor of Compliance Reporting, at 204-986-8359.

Yours truly,

Original signed by:

Meghan Marsland
Acting 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

November 27, 2014

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)	411542	October 6, 2014	0.66
	412120	October 14, 2014	0.66
	412912	October 20, 2014	0.68
	413608	October 27, 2014	0.67

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

December 16, 2014

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)	414278	November 3, 2014	0.68
	414937	November 10, 2014	0.72
	415569	November 17, 2014	0.66
	416210	November 24, 2014	0.67

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

January 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)	416842	December 1, 2014	0.70
	417436	December 8, 2014	0.68
	418072	December 15, 2014	0.70
	418670	December 22, 2014	0.71
	419172	December 29, 2014	0.70

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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2014 Quarterly Total Trihalomethane Summary Reports

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

Total Trihalomethane Summary Report

Reporting Period: Quarter 1 2014

SAMPLE DATE	DISTRIBUTION SYSTEM THM RESULTS (ug/L)					
Monday, May 06, 2013	21	22	21	24	24	22
Monday, August 12, 2013	31	37	30	40	42	37
Monday, November 04, 2013	14	14	14	17	17	16
Monday, February 10, 2014	13	13	13	14	13	13
RUNNING AVERAGE THM	20	22	20	24	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: _____

K. Wazny

Approved in LIMS by: _____

S.Fletcher

File: WQR4

Date Approved: _____

February 25, 2014

N:\Environmental Standards\Analytical Services\WQ Data\Routine Water Quality\2014\Quarterly THM\Quarterly THM 2014.xls]THM Q1

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

Total Trihalomethane Summary Report

Reporting Period: Quarter 2 2014

SAMPLE DATE	DISTRIBUTION SYSTEM THM RESULTS (ug/L)					
Monday, August 12, 2013	31	37	30	40	42	37
Monday, November 04, 2013	14	14	14	17	17	16
Monday, February 10, 2014	13	13	13	14	13	13
Monday, May 05, 2014	13	12	12	13	13	14
RUNNING AVERAGE THM	18	19	17	21	21	20

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: _____ S.Fletcher _____

File: WQR4

N:\Environmental Standards\Analytical Services\WQ Data\Routine Water Quality\2014\Quarterly THM\Quarterly THM 2014.xls]THM Q2

Date Approved: _____ June 2, 2014 _____

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

Total Trihalomethane Summary Report

Reporting Period: Quarter 3 2014

SAMPLE DATE	DISTRIBUTION SYSTEM THM RESULTS (ug/L)					
Monday, November 04, 2013	14	14	14	17	17	16
Monday, February 10, 2014	13	13	13	14	13	13
Monday, May 05, 2014	13	12	12	13	13	14
Monday, August 11, 2014	40	40	40	38	42	40
RUNNING AVERAGE THM	20	20	20	21	21	21

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: S.Fletcher

File: WQR4

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Date Approved: August 22, 2014

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

Total Trihalomethane Summary Report

Reporting Period: Quarter 4 2014

SAMPLE DATE	DISTRIBUTION SYSTEM THM RESULTS (ug/L)					
Monday, February 10, 2014	13	13	13	14	13	13
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
RUNNING AVERAGE THM	23	22	23	23	24	23

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

N:\Environmental Standards\Analytical Services\WQ Data\Routine Water Quality\2014\Quarterly THM\[Quarterly THM 2014.xls]THM Q4

Date Approved: November 25, 2014

2014 Lead Loop Monitoring Report



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

Water System Code: 252.00

Licence Number: PWS-09-412A

2014 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 23, 2014	<0.001	<0.001	<0.001	0.003	<0.001
February 26, 2014	<0.001	<0.001	<0.001	<0.001	<0.001
March 20, 2014	<0.001	<0.001	<0.001	<0.001	<0.001
April 29, 2014	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
May 14, 2014	<0.0004	0.0021	<0.0004	0.0004	<0.0004
June 18, 2014	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
July 25, 2014	<0.0004	<0.0004	<0.0004	0.0008	<0.0004
August 11, 2014	<0.0004	<0.0004	<0.0004	0.0013	<0.0004
September 23, 2014	<0.0004	<0.0004	<0.0004	0.0004	<0.0004
October 16, 2014	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
November 13, 2014	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
December 18, 2014	<0.0004	<0.0004	<0.0004	0.0009	<0.0004
2014 AVERAGE LEAD CONCENTRATION	<0.0004	0.0004	<0.0004	0.0007	<0.0004

COMMENTS: Effective April 22, 2014, the minimum detection limit for lead has decreased to 0.0004 mg/L.

Report Compiled By: H.Demchenko

NS - NO SAMPLE
NR - NO RESULT

Approved in LIMS By: C.Diduck

Date Approved: 5-Jan-15

Methodology

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



Water and Waste Department • Service des eaux et des déchets