



Water and Waste Department • Service des eaux et des déchets

2008

ANNUAL REPORT

**CITY OF WINNIPEG
WATER SUPPLY SYSTEM**

TABLE OF CONTENTS

<u>CONTENTS</u>	<u>PAGE</u>
Section 32(2)a – Drinking Water System and Source	1
Section 32(2)b – Disinfection Methods.....	1
Section 32(2)c – Drinking Water Parameters	2
Section 32(2)d – Occasions of a Result not Meeting a Water Quality Standard and Corrective Action Taken	2
Section 32(2)i – Major Expenses	6

LIST OF APPENDICES

Appendix A	Water Quality Summary Reports 2008 Shoal Lake Water Quality Summary 2008 Deacon Reservoir Outlet Drinking Water Quality Summary 2008 Winnipeg Drinking Water Quality Summary
Appendix B	Compliance Submissions Reports 2008 Chlorine Residual Compliance Reports 2008 Monthly Turbidity Reports 2008 City of Winnipeg Fluoride Monitoring Reports 2008 Disinfection By-Products and Metals Reports

LIST OF TABLES

Table 1	Drinking Water Parameters.....	3
Table 2	Occasions of a Result not Meeting a Water Quality Standard and Corrective Action Taken	4

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. Water passes from Deacon Reservoir to three smaller reservoirs and pumping stations in different areas of the city. Each day, an average of 221 million litres of water is delivered to approximately 270,000 Winnipeg homes and businesses.

DISINFECTION METHODS

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

The City of Winnipeg uses a UV light system at Deacon Reservoir as primary means of disinfection. The City of Winnipeg also uses chlorine gas to disinfect the water. Chlorine is added at three different places before the water reaches homes and business in Winnipeg – Shoal Lake, Deacon Reservoir and the pumping station that serves the area the water is entering.

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 requirements are met. Table 1 provides a list of all the parameters analysed by the City of Winnipeg. The results of these tests are found in Appendix A. We measure how water quality changes within the distribution system 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 action taken in 2008.

2008 Annual Report
City of Winnipeg Water Supply System

Table 1. Drinking Water Parameters

Analyses Conducted by City of Winnipeg	Analyses Conducted by Contract Labs
Parameter	Parameter
Plankton Count	Chloride
Chlorophyll a	Sulfate
Threshold Odour Number	Giardia
pH	Cryptosporidium
Turbidity	Total Coliform
Fluoride	Fecal Coliform
Apparent Colour	Esherichia Coli
Total Solids	Heterotrophic Plate Count
Total Dissolved Solids	Taste and Odour
Total Alkalinity	- IPMP
Total Hardness	- IBMP
Specific Conductance	- MIB
Total Organic Carbon	- 246TCA
Soluble Organic Carbon	- 236TCA
Total Kjeldahl Nitrogen	- Geosmin
Nitrate Nitrogen	- 345TCV
Total Phosphorus	Microcystin LR
Filtered Reactive (Ortho) Phosphorus	Mercury
Free Chlorine	NDMA
Total Chlorine	MTBE
Temperature	
Dissolved Oxygen	
Transparency	
Trihalomethanes (Total)	
Bromodichloromethanes	
Haloacetic Acids	
Aldehydes	
Aluminum	
Arsenic	
Boron	
Calcium	
Cadmium	
Chromium	
Copper	
Iron	
Potassium	
Magnesium	
Manganese	
Sodium	
Nickel	
Lead	
Zinc	

2008 Annual Report
City of Winnipeg Water Supply System

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

Date	Location	Type of result not meeting a water quality standard	Initial test result	Description of corrective actions taken
Feb 27, 08		Turbidity exceeding 1 NTU	2.29	<p>High turbidities of the distribution samples are a result of the quality of the incoming water supply and/or localized disturbances.</p> <p>The background levels are higher than normal during the summer and fall months due to the high algae levels.</p>
Feb 27, 08		Turbidity exceeding 1 NTU	1.02	
May 13, 08		Turbidity exceeding 1 NTU	2.02	
Jun 24, 08		Turbidity exceeding 1 NTU	1.38	
Jul 8, 08		Turbidity exceeding 1 NTU	1.11	
Jul 8, 08		Turbidity exceeding 1 NTU	1.09	
Jul 24, 08		Turbidity exceeding 1 NTU	1.31	
Aug 5, 08		Turbidity exceeding 1 NTU	1.21	
Aug 5, 08		Turbidity exceeding 1 NTU	1.86	
Sep 9, 08		Turbidity exceeding 1 NTU	1.29	
Sep 24, 08		Turbidity exceeding 1 NTU	1.19	
Sep 24, 08		Turbidity exceeding 1 NTU	1.06	
Sep 24, 08		Turbidity exceeding 1 NTU	1.16	
Sep 24, 08		Turbidity exceeding 1 NTU	1.14	
Sep 24, 08		Turbidity exceeding 1 NTU	1.02	
Sep 24, 08		Turbidity exceeding 1 NTU	1.07	
Sep 24, 08		Turbidity exceeding 1 NTU	1.02	
Sep 24, 08		Turbidity exceeding 1 NTU	4.11	
Sep 30, 08		Turbidity exceeding 1 NTU	1.20	
Sep 30, 08		Turbidity exceeding 1 NTU	1.44	
Sep 30, 08		Turbidity exceeding 1 NTU	1.18	
Sep 30, 08		Turbidity exceeding 1 NTU	1.05	
Sep 30, 08		Turbidity exceeding 1 NTU	1.30	
Sep 30, 08		Turbidity exceeding 1 NTU	1.18	
Sep 30, 08		Turbidity exceeding 1 NTU	1.13	
Sep 30, 08		Turbidity exceeding 1 NTU	3.25	
Oct 7, 08		Turbidity exceeding 1 NTU	1.05	
Oct 7, 08		Turbidity exceeding 1 NTU	1.21	
Oct 28, 08		Turbidity exceeding 1 NTU	1.11	
Nov 4, 08		Turbidity exceeding 1 NTU	1.39	

2008 Annual Report
City of Winnipeg Water Supply System

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

Date	Location	Type of result not meeting a water quality standard	Initial test result	Description of corrective actions taken
Jan 9, 08		Total coliform >1 MPNU/100mL	27	<p>All locations were re-sampled until two consecutive negative results were found.</p> <p>In cases where there was a second positive result the watermains in the area were flushed.</p>
Feb 12, 08		Total coliform >1 MPNU/100mL	1	
Mar 4, 08		Total coliform >1 MPNU/100mL	1	
Apr 24, 08		Total coliform >1 MPNU/100mL	1	
Apr 24, 08		Total coliform >1 MPNU/100mL	15	
May 12, 08		Total coliform >1 MPNU/100mL	101	
May 28, 08		Total coliform >1 MPNU/100mL	89	
Jun 17, 08		Total coliform >1 MPNU/100mL	2	
Jul 22, 08		Total coliform >1 MPNU/100mL	27	
Jul 29, 08		Total coliform >1 MPNU/100mL	1	
Aug 7, 08		Total coliform >1 MPNU/100mL	12	
Aug 25, 08		Total coliform >1 MPNU/100mL	1	
Aug 26, 08		Total coliform >1 MPNU/100mL	14	
Sep 4, 08		Total coliform >1 MPNU/100mL	2	
Sep 22, 08		Total coliform >1 MPNU/100mL	19	
Sep 23, 08		Total coliform >1 MPNU/100mL	1	
Sep 30, 08		Total coliform >1 MPNU/100mL	1	
Oct 27, 08		Total coliform >1 MPNU/100mL	1	
Nov 4, 08		Total coliform >1 MPNU/100mL	1	

MAJOR EXPENSES

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

1. Water Treatment Plant project. The new \$300 M water treatment plant is approximately 90% constructed with an anticipated completion date of 2009. The significant items completed were:
 1. Site electrical servicing and transformers
 2. Standby generators and building
 3. Chemical storage building
 4. Branch I pumps
 5. Hypochlorite generation and building
2. Uninterruptible power supplies were replaced at the Shoal Lake Intake, Deacon Reservoir, McPhillips Pump Station, Hurst Pump Station, MacLean Pump Station and Tache Booster Pumping Station.
3. Water main renewals were completed at 42 locations in the City's water distribution system.
4. Automatic shut-off valves for the chlorine rail cars were installed at the Shoal Lake Intake and Deacon Reservoir.

APPENDIX A

WATER QUALITY SUMMARY REPORTS

City of Winnipeg
Environmental Standards Division
2008 Shoal Lake Water Quality Summary

PARAMETER	UNITS	GUIDELINES for CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Odour	<i>units</i>	Inoffensive	134	70	>200	Raw water - guideline does not apply
Geosmin	<i>parts per trillion</i>	no guideline	4	<1	11	Common taste and odour compound
IPMP - 2-isopropyl-3-methoxypyrazine	<i>parts per trillion</i>	no guideline	<2	<2	<2	Common taste and odour compound
IBMP - 2-isobutyl-3-methoxypyrazine	<i>parts per trillion</i>	no guideline	<2	<2	<2	Common taste and odour compound
MIB - 2-methylisoborneol	<i>parts per trillion</i>	no guideline	<10	<10	<10	Common taste and odour compound
246 TCA - 2,4,6-trichloroanisole	<i>parts per trillion</i>	no guideline	<2	<2	<2	Common taste and odour compound
236 TCA - 2,3,6-trichloroanisole	<i>parts per trillion</i>	no guideline	<2	<2	<3	Common taste and odour compound
345 TCV - 3,4,5-trichloroveratrole	<i>parts per trillion</i>	no guideline	<2	<2	<2	Common taste and odour compound
MTBE - methyl tertiary-butyl ether	<i>parts per million</i>	0.015	<0.001	<0.001	<0.001	Meets the guideline
NDMA - N-nitrosodimethylamine	<i>parts per billion</i>	under review	<0.05	<0.05	<0.05	Guideline under review by Health Canada
Plankton (algae) count	<i>cells/ml</i>	no guideline	29,170	2,200	297,400	Algae contribute to odours and may cause filter clogging
Chlorophyll-a	<i>parts per billion</i>	no guideline	4	2	9	Chlorophyll is found in algae
Microcystin LR	<i>parts per billion</i>	1.5	<0.2	<0.1	0.3	Raw water - guideline does not apply
Cryptosporidium	<i>oocysts per 100 L</i>	no guideline	<1	<1	<1	15 samples taken in 2008 - no positive results
Giardia	<i>cysts per 100 L</i>	no guideline	<1	<1	<1	15 samples taken in 2007 - no positive results
Turbidity (clearness)	<i>n.t.u.</i>	1	0.75	0.28	1.15	Raw water - guideline does not apply
Colour, Apparent	<i>units</i>	≤15	3.5	2.5	5.0	Coloured water may be offensive
Total Dissolved Solids	<i>parts per million</i>	≤500	87	66	114	Raw water - guideline does not apply
Conductivity	<i>microsiemens per centimetre</i>	no guideline	146	138	163	Another measure of dissolved solids
pH	<i>units</i>	6.5-8.5	8.08	7.47	8.74	Raw water - guideline does not apply
Temperature	<i>°C</i>	≤15	9.5	1.5	23.0	Raw water - guideline does not apply
Total Alkalinity	<i>parts per million as calcium carbonate</i>	no guideline	70	65	79	-
Total Hardness	<i>parts per million as calcium carbonate</i>	80-100	75	70	81	80 to 100 parts per million is recommended
Total Organic Carbon	<i>parts per million</i>	no guideline	9	7	13	-
Soluble Organic Carbon	<i>parts per million</i>	no guideline	9	7	11	-
Total Kjeldahl Nitrogen (TKN)	<i>parts per million</i>	no guideline	0.47	0.37	0.56	TKN is a combination of ammonia and organic nitrogen
Total Phosphorus	<i>parts per million</i>	no guideline	13	8	19	Phosphorus can contribute to algae growth
Total Soluble Phosphorus	<i>parts per million</i>	no guideline	<2	<2	3	-

City of Winnipeg
Environmental Standards Division
2008 Shoal Lake Water Quality Summary

PARAMETER	UNITS	GUIDELINES for CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Fluoride	<i>parts per million</i>	1.5	<0.08	<0.08	<0.08	Raw water - guideline does not apply
Nitrate Nitrogen	<i>parts per million</i>	10	0.034	<0.003	0.130	Raw water - guideline does not apply
Chloride	<i>parts per million</i>	≤250	<9	<9	<9	Raw water - guideline does not apply
Sulfate	<i>parts per million</i>	≤500	5.4	3.1	10	Raw water - guideline does not apply
Trihalomethanes	<i>parts per billion</i>	100	0.7	<0.5	2	Raw water - guideline does not apply
Bromodichlormethane	<i>parts per billion</i>	16	<0.5	<0.5	1	Raw water - guideline does not apply
Haloacetic acids	<i>parts per billion</i>	80	<2	<2	<2	Raw water - guideline does not apply
Aldehydes	<i>parts per billion</i>	no guideline	NR	NR	NR	-
Calcium	<i>parts per million</i>	no guideline	21.4	19.7	24.0	Contr butes to hardness
Magnesium	<i>parts per million</i>	no guideline	5.91	5.42	6.31	Contr butes to hardness
Sodium	<i>parts per million</i>	≤200	2.1	1.9	2.2	Raw water - guideline does not apply
Potassium	<i>parts per million</i>	no guideline	1.3	1.2	1.4	Raw water - guideline does not apply
Iron	<i>parts per million</i>	≤0.3	0.01	<0.01	0.02	Raw water - guideline does not apply
Copper	<i>parts per million</i>	≤1.0	<0.001	<0.001	0.001	Raw water - guideline does not apply
Lead	<i>parts per million</i>	0.01	<0.001	<0.001	<0.001	Raw water - guideline does not apply
Aluminum	<i>parts per million</i>	0.1	0.004	0.002	0.008	Raw water - guideline does not apply
Arsenic	<i>parts per million</i>	0.010	<0.001	<0.001	<0.001	Raw water - guideline does not apply
Chromium	<i>parts per million</i>	0.05	<0.001	<0.001	0.004	Raw water - guideline does not apply
Nickel	<i>parts per million</i>	no guideline	<0.001	<0.001	<0.001	-
Cadmium	<i>parts per million</i>	0.005	<0.001	<0.001	<0.001	Raw water - guideline does not apply
Manganese	<i>parts per million</i>	≤0.05	<0.01	<0.01	<0.01	Raw water - guideline does not apply
Zinc	<i>parts per million</i>	≤5.0	<0.001	<0.001	0.004	Raw water - guideline does not apply
Mercury	<i>parts per million</i>	0.001	1.3E-06	6.0E-07	2.6E-06	Raw water - guideline does not apply

Guidelines from 'Summary of Guidelines for Canadian Drinking Water Quality' by Health Canada, revised May 30, 2008

NR: There were no aldehyde results because the samples were not submitted in the appropriate containers and some were past their holding times.

City of Winnipeg
Environmental Standards Division
2008 Deacon Reservoir Outlet
Drinking Water Quality Summary

PARAMETER	UNITS	GUIDELINES for CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Odour	<i>units</i>	Inoffensive	130	50	200	Raw water - guideline does not apply
Geosmin	<i>parts per trillion</i>	no guideline	8	<1	38	Common taste and odour compound
IPMP - 2-isopropyl-3-methoxypyrazine	<i>parts per trillion</i>	no guideline	<2	<2	<2	Common taste and odour compound
IBMP - 2-isobutyl-3-methoxypyrazine	<i>parts per trillion</i>	no guideline	<2	<2	<2	Common taste and odour compound
MIB - 2-methylisoborneol	<i>parts per trillion</i>	no guideline	<10	<10	20	Common taste and odour compound
246 TCA - 2,4,6-trichloroanisole	<i>parts per trillion</i>	no guideline	<2	<2	<2	Common taste and odour compound
236 TCA - 2,3,6-trichloroanisole	<i>parts per trillion</i>	no guideline	<2	<2	<3	Common taste and odour compound
345 TCV - 3,4,5-trichloroveratrole	<i>parts per trillion</i>	no guideline	<2	<2	<2	Common taste and odour compound
MTBE - methyl tertiary-butyl ether	<i>parts per million</i>	0.015	<0.001	<0.001	<0.001	Meets the guideline
NDMA - N-nitrosodimethylamine	<i>parts per billion</i>	under review	<0.05	<0.05	<0.05	Guideline under review by Health Canada
Plankton (algae) count	<i>cells/ml</i>	no guideline	16,240	1,200	64,400	Algae contribute to odours and may cause filter clogging
Plankton (algae) count	<i>cells/ml</i>	no guideline	16,240	1,200	64,400	Algae contribute to odours and may cause filter clogging
Chlorophyll-a	<i>parts per billion</i>	no guideline	4	<1	12	Chlorophyll is found in algae
Microcystin LR	<i>parts per billion</i>	1.5	<0.2	<0.1	<0.2	Raw water - guideline does not apply
Cryptosporidium	<i>oocysts per 100 L</i>	no guideline	<1	<1	<1	19 samples taken in 2008 - no positive results
Giardia	<i>cysts per 100 L</i>	no guideline	<1	<1	<1	19 samples taken in 2008 - no positive results
Turbidity (clearness)	<i>n.t.u.</i>	1	0.88	0.33	3.10	Raw water - guideline does not apply
Colour, True	<i>units</i>	≤15	5	<5	7	Raw water - guideline does not apply
Total Dissolved Solids	<i>parts per million</i>	≤500	101	85	125	Raw water - guideline does not apply
Conductivity	<i>microsiemens per centimetre</i>	no guideline	164	155	177	Another measure of dissolved solids
pH	<i>units</i>	6.5-8.5	8.06	7.68	8.74	Raw water - guideline does not apply
Temperature	<i>°C</i>	≤15	11.4	1.5	24.5	Raw water - guideline does not apply
Total Alkalinity	<i>parts per million as calcium carbonate</i>	no guideline	72	67	78	-
Total Hardness	<i>parts per million as calcium carbonate</i>	80-100	79	71	85	80 to 100 parts per million is recommended
Total Organic Carbon	<i>parts per million</i>	no guideline	9	7	15	-
Total Inorganic Carbon	<i>parts per million</i>	no guideline	18	16	20	-

City of Winnipeg
Environmental Standards Division
2008 Deacon Reservoir Outlet
Drinking Water Quality Summary

PARAMETER	UNITS	GUIDELINES for CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Total Phosphorus	<i>parts per million</i>	no guideline	<0.03	<0.03	<0.03	Phosphorus can contribute to algae growth
Ammonia Dissolved	<i>parts per million</i>	no guideline	0.04	0.01	0.09	-
Nitrate Nitrogen	<i>parts per million</i>	10	0.03	<0.01	0.09	Raw water - guideline does not apply
Chloride	<i>parts per million</i>	≤250	4.7	4.0	5.8	Raw water - guideline does not apply
Sulfate	<i>parts per million</i>	≤500	3.1	2.6	3.6	Raw water - guideline does not apply
Chlorine (total)	<i>parts per million</i>	3	<0.05	<0.05	0.13	Raw water - guideline does not apply
Chlorine (free)	<i>parts per million</i>	no guideline	<0.05	<0.05	0.05	-
Trihalomethanes	<i>parts per billion</i>	100	45	20	80	Raw water - guideline does not apply
Bromodichloromethane	<i>parts per billion</i>	16	4	1	8	Raw water - guideline does not apply
Haloacetic acids	<i>parts per billion</i>	80	52	33	71	Raw water - guideline does not apply
Aldehydes	<i>parts per billion</i>	no guideline	12	8	18	-
Carbofuran	<i>parts per billion</i>	90	<0.2	<0.2	<0.2	Meets the guideline
Propoxur	<i>parts per billion</i>	0.7	<0.2	<0.2	<0.2	Meets the guideline
Aldrin	<i>parts per billion</i>	0.7	<0.01	<0.01	<0.01	Meets the guideline
Lindane (gamma-BHC)	<i>parts per billion</i>	no guideline	<0.01	<0.01	<0.01	-
alpha-Chlordane	<i>parts per billion</i>	no guideline	<0.01	<0.01	<0.01	-
gamma-Chlordane	<i>parts per billion</i>	no guideline	<0.01	<0.01	<0.01	-
p,p-DDT	<i>parts per billion</i>	no guideline	<0.01	<0.01	<0.01	-
Dieldrin	<i>parts per billion</i>	0.7	<0.02	<0.02	<0.02	Meets the guideline
Heptachlor	<i>parts per billion</i>	no guideline	<0.02	<0.02	<0.02	-
Heptachlor Epoxide	<i>parts per billion</i>	no guideline	<0.01	<0.01	<0.01	-
Methoxychlor	<i>parts per billion</i>	900	<0.04	<0.04	<0.04	Meets the guideline
alpha-BHC	<i>parts per billion</i>	no guideline	<0.02	<0.02	<0.02	-
beta-BHC	<i>parts per billion</i>	no guideline	<0.03	<0.03	<0.03	-
delta-BHC	<i>parts per billion</i>	no guideline	<0.01	<0.01	<0.01	-
Captan	<i>parts per billion</i>	no guideline	<10	<10	<10	-
p,p-DDD	<i>parts per billion</i>	no guideline	<0.03	<0.03	<0.03	-
p,p-DDE	<i>parts per billion</i>	no guideline	<0.01	<0.01	<0.01	-
Endosulfan I	<i>parts per billion</i>	no guideline	<0.01	<0.01	<0.01	-
Endrin	<i>parts per billion</i>	no guideline	<0.02	<0.02	<0.02	-
Mirex	<i>parts per billion</i>	no guideline	<0.02	<0.02	<0.02	-
Simazine	<i>parts per billion</i>	10	<0.1	<0.1	<0.1	Meets the guideline
Alachlor	<i>parts per billion</i>	no guideline	<0.2	<0.2	<0.2	-
Atrazine	<i>parts per billion</i>	5	<0.1	<0.1	<0.1	Meets the guideline
Bromacil	<i>parts per billion</i>	no guideline	<0.2	<0.2	<0.2	-
Metribuzin	<i>parts per billion</i>	80	<0.2	<0.2	<0.2	Meets the guideline
Azinphosmethyl	<i>parts per billion</i>	20	<1	<1	<1	Meets the guideline
Chlorpyrifos	<i>parts per billion</i>	90	<0.02	<0.02	<0.02	Meets the guideline
Diazinon	<i>parts per billion</i>	20	<0.03	<0.03	<0.03	Meets the guideline
Dimethoate	<i>parts per billion</i>	20	<0.2	<0.2	<0.2	Meets the guideline
Malathion	<i>parts per billion</i>	190	<0.2	<0.2	<0.2	Meets the guideline
Parathion	<i>parts per billion</i>	50	<0.2	<0.2	<0.2	Meets the guideline
Terbufos	<i>parts per billion</i>	1	<0.5	<0.5	<0.5	Meets the guideline
Methyl Parathion	<i>parts per billion</i>	no guideline	<0.2	<0.2	<0.2	-

City of Winnipeg
Environmental Standards Division
2008 Deacon Reservoir Outlet
Drinking Water Quality Summary

PARAMETER	UNITS	GUIDELINES for CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
2,4-D	<i>parts per billion</i>	100	<0.05	<0.05	<0.05	Meets the guideline
2,4-DB	<i>parts per billion</i>	no guideline	<0.05	<0.05	<0.05	-
2,4-DP	<i>parts per billion</i>	no guideline	<0.05	<0.05	<0.05	-
2,4,5-T	<i>parts per billion</i>	no guideline	<0.05	<0.05	<0.05	-
2,4,5-TP	<i>parts per billion</i>	no guideline	<0.05	<0.05	<0.05	-
Bromoxynil	<i>parts per billion</i>	5	<0.02	<0.02	<0.02	Meets the guideline
Dicamba	<i>parts per billion</i>	120	<0.02	<0.02	<0.02	Meets the guideline
Dinoseb	<i>parts per billion</i>	10	<0.05	<0.05	<0.05	Meets the guideline
MCPA	<i>parts per billion</i>	no guideline	<0.05	<0.05	<0.05	-
MCPB	<i>parts per billion</i>	no guideline	<0.05	<0.05	<0.05	-
MCPP	<i>parts per billion</i>	no guideline	<0.05	<0.05	<0.05	-
Trichlopyr	<i>parts per billion</i>	no guideline	<0.05	<0.05	<0.05	-
Deltamethrin	<i>parts per billion</i>	no guideline	<0.04	<0.04	<0.04	-
Diclofop-methyl	<i>parts per billion</i>	9	<0.1	<0.1	<0.1	Meets the guideline
Eptam	<i>parts per billion</i>	no guideline	<0.2	<0.2	<0.2	-
Ethafuralin	<i>parts per billion</i>	no guideline	<0.02	<0.02	<0.02	-
Propaclor	<i>parts per billion</i>	no guideline	<0.2	<0.2	<0.2	-
Propanil	<i>parts per billion</i>	no guideline	<0.2	<0.2	<0.2	-
Triallate	<i>parts per billion</i>	no guideline	<0.1	<0.1	<0.1	-
Trifluralin	<i>parts per billion</i>	45	<0.03	<0.03	<0.03	Meets the guideline
Atrazine desethyl	<i>parts per billion</i>	no guideline	<0.05	<0.05	<0.05	-
Cyanazine	<i>parts per billion</i>	10	<0.5	<0.5	<0.5	Meets the guideline
Chlorthalonil	<i>parts per billion</i>	no guideline	<0.06	<0.06	<0.06	-
Arochlor 1016	<i>parts per billion</i>	no guideline	<0.1	<0.1	<0.1	-
Arochlor 1221	<i>parts per billion</i>	no guideline	<0.1	<0.1	<0.1	-
Arochlor 1232	<i>parts per billion</i>	no guideline	<0.1	<0.1	<0.1	-
Arochlor 1242	<i>parts per billion</i>	no guideline	<0.1	<0.1	<0.1	-
Arochlor 1248	<i>parts per billion</i>	no guideline	<0.1	<0.1	<0.1	-
Arochlor 1254	<i>parts per billion</i>	no guideline	<0.1	<0.1	<0.1	-
Arochlor 1260	<i>parts per billion</i>	no guideline	<0.1	<0.1	<0.1	-

City of Winnipeg
Environmental Standards Division
2008 Deacon Reservoir Outlet
Drinking Water Quality Summary

PARAMETER	UNITS	GUIDELINES for CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Calcium	<i>parts per million</i>	no guideline	22.1	20.9	23.6	Contributes to hardness
Magnesium	<i>parts per million</i>	no guideline	5.96	5.51	6.43	Contributes to hardness
Sodium	<i>parts per million</i>	≤200	2.1	1.9	2.2	Raw water - guideline does not apply
Potassium	<i>parts per million</i>	no guideline	1.26	1.18	1.35	-
Iron	<i>parts per million</i>	≤0.3	0.04	0.02	0.07	Raw water - guideline does not apply
Copper	<i>parts per million</i>	≤1.0	0.004	<0.001	0.010	Raw water - guideline does not apply
Lead	<i>parts per million</i>	0.01	<0.001	<0.001	<0.001	Raw water - guideline does not apply
Aluminum	<i>parts per million</i>	0.1	0.005	0.002	0.009	Raw water - guideline does not apply
Arsenic	<i>parts per million</i>	0.010	<0.001	<0.001	<0.001	Raw water - guideline does not apply
Chromium	<i>parts per million</i>	0.05	<0.001	<0.001	0.004	Raw water - guideline does not apply
Nickel	<i>parts per million</i>	no guideline	<0.001	<0.001	0.001	-
Cadmium	<i>parts per million</i>	0.005	<0.001	<0.001	<0.001	Raw water - guideline does not apply
Manganese	<i>parts per million</i>	≤0.05	<0.01	<0.01	0.03	Raw water - guideline does not apply
Zinc	<i>parts per million</i>	≤5.0	0.012	<0.001	0.034	Raw water - guideline does not apply
Mercury	<i>parts per million</i>	0.001	9.0E-07	<5.0E-07	2.3E-06	Raw water - guideline does not apply
Antimony	<i>parts per million</i>	0.006	0.0004	0.0004	0.0004	Raw water - guideline does not apply
Barium	<i>parts per million</i>	1	0.016	0.014	0.018	Raw water - guideline does not apply
Beryllium	<i>parts per million</i>	no guideline	<0.0002	<0.0002	<0.0002	-
Bismuth	<i>parts per million</i>	no guideline	<0.0002	<0.0002	<0.0002	-
Boron	<i>parts per million</i>	5	0.01	<0.01	0.02	Raw water - guideline does not apply
Cesium	<i>parts per million</i>	no guideline	<0.0001	<0.0001	<0.0001	-
Cobalt	<i>parts per million</i>	no guideline	<0.0002	<0.0002	<0.0002	-
Lithium	<i>parts per million</i>	no guideline	0.0023	0.0019	0.0027	-
Molybdenum	<i>parts per million</i>	no guideline	0.0001	<0.0001	0.0002	-
Selenium	<i>parts per million</i>	0.01	<0.0002	<0.0002	<0.0002	Raw water - guideline does not apply
Silicon	<i>parts per million</i>	no guideline	0.69	0.43	0.89	-
Silver	<i>parts per million</i>	no guideline	<0.00005	<0.00005	<0.00005	-
Strontium	<i>parts per million</i>	no guideline	0.04	0.03	0.04	-
Tellurium	<i>parts per million</i>	no guideline	<0.0002	<0.0002	<0.0002	-
Thallium	<i>parts per million</i>	no guideline	<0.00002	<0.00002	<0.00002	-
Thorium	<i>parts per million</i>	no guideline	<0.0001	<0.0001	<0.0001	-
Tin	<i>parts per million</i>	no guideline	<0.0002	<0.0002	<0.0002	-
Titanium	<i>parts per million</i>	no guideline	<0.0002	<0.0002	<0.0002	-
Uranium	<i>parts per million</i>	0.02	<0.0001	<0.0001	<0.0001	Raw water - guideline does not apply
Vanadium	<i>parts per million</i>	no guideline	<0.0002	<0.0002	<0.0002	-
Zirconium	<i>parts per million</i>	0.1	<0.002	<0.002	<0.002	Raw water - guideline does not apply

Guidelines from 'Summary of Guidelines for Canadian Drinking Water Quality' by Health Canada, revised May 30, 2008

City of Winnipeg
Environmental Standards Division
2008 Winnipeg Drinking Water Quality Summary

PARAMETER	UNITS	GUIDELINES for CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Odour	<i>units</i>	Inoffensive	73	35	150	Does not always meet the guideline
Geosmin	<i>parts per trillion</i>	no guideline	5	1	13	Common taste and odour compound
IPMP - 2-isopropyl-3-methoxy pyrazine	<i>parts per trillion</i>	no guideline	<2	<2	<2	Common taste and odour compound
IBMP - 2-isobutyl-3-methoxy pyrazine	<i>parts per trillion</i>	no guideline	<2	<2	<2	Common taste and odour compound
MIB - 2-methylisoborneol	<i>parts per trillion</i>	no guideline	<10	<10	<10	Common taste and odour compound
246 TCA - 2,4,6-trichloroanisole	<i>parts per trillion</i>	no guideline	<2	<2	<2	Common taste and odour compound
236 TCA - 2,3,6-trichloroanisole	<i>parts per trillion</i>	no guideline	<2	<2	<3	Common taste and odour compound
345 TCV - 3,4,5-trichloroveratrole	<i>parts per trillion</i>	no guideline	<2	<2	<2	Common taste and odour compound
MTBE - methyl tertiary-butyl ether	<i>parts per million</i>	0.015	<0.001	<0.001	0.0012	Meets the guideline
NDMA - N-nitrosodimethylamine	<i>parts per billion</i>	under review	<0.05	<0.05	0.366	Guideline under review by Health Canada
Chlorophyll-a	<i>parts per billion</i>	no guideline	<1	<1	<1	Chlorophyll is found in algae
Microcystin LR	<i>parts per billion</i>	1.5	<0.2	<0.1	0.3	Meets the guideline
Turbidity (clearness)	<i>n.t.u.</i>	1	0.54	0.24	4.11	Does not always meet the guideline
Colour, True	<i>units</i>	≤15	<5	<5	6	Meets the guideline
Total Dissolved Solids	<i>mg/L</i>	≤500	102	86	123	Meets the guideline
Conductivity	<i>microsiemens per centimetre</i>	no guideline	167	160	178	Another measure of dissolved solids
pH	<i>units</i>	6.5-8.5	7.34	7.13	7.68	Meets the guideline
Temperature	<i>°C</i>	≤15	9.8	2.0	25.7	Does not always meet the guideline
Total Alkalinity	<i>parts per million as calcium carbonate</i>	no guideline	65	55	94	-
Total Hardness	<i>parts per million as calcium carbonate</i>	80-100	80	69	86	Does not always meet the guideline
Total Organic Carbon	<i>parts per million</i>	no guideline	6.2	5.7	6.9	-
Total Inorganic Carbon	<i>parts per million</i>	no guideline	17	16	18	-
Fluoride	<i>parts per million</i>	1.5	0.84	0.72	0.95	Meets the guideline
Nitrate Nitrogen	<i>parts per million</i>	10	0.03	<0.01	0.09	Meets the guideline
Phosphorus as Phosphate	<i>parts per million</i>	no guideline	1.95	1.47	2.12	Added for Lead Control Program
Chloride	<i>parts per million</i>	≤250	7.3	6.3	9.7	Meets the guideline
Sulfate	<i>parts per million</i>	≤500	3.1	2.7	3.6	Meets the guideline
Chlorine (free)	<i>parts per million</i>	no guideline	0.54	0.10	1.03	-
Chlorine (total)	<i>parts per million</i>	3	0.91	0.34	1.50	Meets the guideline
Trihalomethanes	<i>parts per billion</i>	100	89	52	122	Does not always meet the guideline
Bromodichlormethane	<i>parts per billion</i>	16	9	5	11	Meets the guideline
Haloacetic acids	<i>parts per billion</i>	80	102	61	144	Does not always meet the guideline
Aldehydes	<i>parts per billion</i>	no guideline	27	13	49	-

City of Winnipeg
Environmental Standards Division
2008 Winnipeg Drinking Water Quality Summary

PARAMETER	UNITS	GUIDELINES for CANADIAN DRINKING WATER QUALITY	AVERAGE	MINIMUM	MAXIMUM	COMMENTS
Calcium	<i>parts per million</i>	no guideline	23.4	21.0	26.6	Contributes to hardness
Magnesium	<i>parts per million</i>	no guideline	6.10	5.29	7.03	Contributes to hardness
Sodium	<i>parts per million</i>	≤200	2.2	1.9	2.5	Meets the guideline
Potassium	<i>parts per million</i>	no guideline	1.33	1.17	1.66	-
Iron	<i>parts per million</i>	≤0.3	0.04	0.02	0.09	Meets the guideline
Copper	<i>parts per million</i>	≤1.0	0.106	0.033	0.241	Meets the guideline
Lead*	<i>parts per million</i>	0.01	<0.001	<0.001	<0.001	Meets the guideline
Aluminum	<i>parts per million</i>	0.1	0.006	0.002	0.017	Meets the guideline
Arsenic	<i>parts per million</i>	0.010	<0.001	<0.001	0.001	Meets the guideline
Chromium	<i>parts per million</i>	0.05	<0.001	<0.001	0.003	Meets the guideline
Nickel	<i>parts per million</i>	no guideline	<0.001	<0.001	0.001	-
Cadmium	<i>parts per million</i>	0.005	<0.001	<0.001	<0.001	Meets the guideline
Manganese	<i>parts per million</i>	≤0.05	<0.01	<0.01	0.05	Meets the guideline
Zinc	<i>parts per million</i>	≤5.0	0.003	<0.001	0.011	Meets the guideline
Mercury	<i>parts per million</i>	0.001	8.0E-07	<5.0E-07	2.3E-06	Meets the guideline
Antimony	<i>parts per million</i>	0.006	0.0004	0.0003	0.018	Meets the guideline
Barium	<i>parts per million</i>	1	0.016	0.013	0.018	Meets the guideline
Beryllium	<i>parts per million</i>	no guideline	<0.0002	<0.0002	<0.0002	-
Bismuth	<i>parts per million</i>	no guideline	<0.0002	<0.0002	<0.0002	-
Boron	<i>parts per million</i>	5	<0.01	<0.01	<0.01	Meets the guideline
Cesium	<i>parts per million</i>	no guideline	<0.0001	<0.0001	<0.0001	-
Cobalt	<i>parts per million</i>	no guideline	<0.0002	<0.0002	<0.0002	-
Lithium	<i>parts per million</i>	no guideline	0.0023	0.0019	0.0027	-
Molybdenum	<i>parts per million</i>	no guideline	0.0002	<0.0001	0.0003	-
Selenium	<i>parts per million</i>	0.01	<0.0002	<0.0002	<0.0002	Meets the guideline
Silicon	<i>parts per million</i>	no guideline	0.93	0.67	1.10	-
Silver	<i>parts per million</i>	no guideline	<0.00005	<0.00005	<0.00005	-
Strontium	<i>parts per million</i>	no guideline	0.04	0.03	0.04	-
Tellurium	<i>parts per million</i>	no guideline	<0.0002	<0.0002	<0.0002	-
Thallium	<i>parts per million</i>	no guideline	<0.00002	<0.00002	<0.00002	-
Thorium	<i>parts per million</i>	no guideline	<0.0001	<0.0001	<0.0001	-
Tin	<i>parts per million</i>	no guideline	<0.0002	<0.0002	0.0003	-
Titanium	<i>parts per million</i>	no guideline	0.0003	<0.0003	0.0004	-
Uranium	<i>parts per million</i>	0.02	<0.0001	<0.0001	<0.0001	Meets the guideline
Vanadium	<i>parts per million</i>	no guideline	<0.0002	<0.0002	<0.0002	-
Zirconium	<i>parts per million</i>	0.1	<0.002	<0.002	<0.002	Meets the guideline

* Does not include the results from our monthly household monitoring

City of Winnipeg
Environmental Standards Division
2008 Winnipeg Drinking Water Quality Summary

What is being measured	Guideline	Our test results	Comments
Number of total coliform bacteria tests in year	1820 samples	3,027	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.	0.6% (19 positive tests)	All resamples were negative and met the guideline/provincial regulation
Number of Escherichia coli bacteria tests in year	1820 samples	3,027	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	0.0% (no positive tests)	All samples were negative and met the guideline/provincial regulation
Number of heterotrophic (bacteria) plate count (HPC) tests done	no guideline	3,027	Heterotrophic plate count is not required under the new provincial regulations.

Guidelines from 'Summary of Guidelines for Canadian Drinking Water Quality' by Health Canada, revised May 30, 2008

APPENDIX B

COMPLIANCE SUBMISSIONS REPORTS

CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT
 ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: December 31, 2007		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	185608	0.29	0.50	2.5	0.82	3.0	INTAKE
DEACON PRECHLORINATION CELL #1	OL	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	185610	<0.05	<0.08	1.0	0.46		
AQUEDUCT BRANCH 1. @ McPHILLIPS	185613	1.02	1.35	2.5	0.68	2.4	DEACON
AQUEDUCT BRANCH 2 @ HURST	185614	1.10	1.35	1.5	0.57	2.4	DEACON
MACLEAN STATION DISCHARGE	185618	0.88	1.12	1.5	0.62	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	185615	0.57	0.96	1.5			
HURST STATION DISCHARGE	185619	0.80	1.02	1.5	0.66	1.2	HURST
HURST STATION-PRECHLORINATION	185616	0.48	0.93	1.5			
McPHILLIPS STATION DISCHARGE	185620	0.84	1.24	2.5	0.47	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	185617	0.45	0.82	4.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: January 2, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		186057	0.74	1.04	4.0	0.40
McP. 2.		186061	0.74	1.08	6.5	0.40
McP. 3.		186059	0.69	1.02	3.0	0.40
McP. 4.		186062	0.59	0.87	8.0	0.41
MacL. 5.		186047	0.66	1.05	4.5	0.37
MacL. 6.		186051	0.79	1.13	5.0	0.38
MacL. 7.		186055	0.31	0.63	9.5	0.38
MacL. 8.		186067	0.27	0.62	8.0	0.40
MacL. 9.		186071	0.48	0.83	8.0	0.36
MacL. 10.		186072	0.59	1.00	5.5	0.40
MacL. 11.		186075	0.72	1.10	4.0	0.40
Hrst 12.		186091	0.65	0.99	8.0	0.41
Hrst 13.		186085	0.48	0.73	8.0	0.38
Hrst 14.		186087	NS	NS	NS	NS
Hrst 15.		186089	0.74	1.00	2.5	0.41
Hrst 16.		186094	0.62	0.93	7.0	0.37
Hrst 17.		186100	0.48	0.88	7.0	0.39
McP. 18.		186104	0.18	0.56	6.5	0.46
McP. 19.		186106	0.67	1.04	6.5	0.40
		MEAN	0.58	0.92	6.2	0.40
		MINIMUM	0.18	0.56	2.5	0.36
		MAXIMUM	0.79	1.13	9.5	0.46
		Maclean Area Average	0.55	0.91	6.4	0.38
		Hurst Area Average	0.59	0.91	6.5	0.39
		McPhillip's Area Average	0.60	0.94	5.8	0.41
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 185621		FLUORIDE:		0.79	mg/L	
		ORTHO PHOSPHORUS:		1.92	mg/L-PO4	

COMMENTS:

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
 Kelly Kjarntanson Manager Environmental Standards Division
 Diane Sachter Manager Water Services Division
 Peter Ward Foreman Water Services Division
 Andy Weremy Regional Services Engineer Water Services

CC:

N:\WQ Data\Routine Water Quality\2008\Residual\2008-01.xls]5-Jan-08
 Monthly Water Quality Report
 LIMS REF# 18945/18988

FILE: WQR2

TECHNICIAN(S): J. Besyk/ N. Crawford

APPROVED FOR DISTRIBUTION BY: S.Fletcher

Supervisor of Analytical Services (Acting)

Date Approved: 10-Jan-08

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: January 14, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	186669	0.29	0.60	3.0	0.33	3.0	INTAKE
DEACON PRECHLORINATION CELL #1	OL	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	186671	<0.05	<0.08	1.5	0.75		
AQUEDUCT BRANCH 1. @ McPHILLIPS	186674	0.83	1.10	2.0	0.48	2.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	186675	1.04	1.37	1.5	0.63	2.0	DEACON
MACLEAN STATION DISCHARGE	186679	0.87	1.19	1.5	0.35	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	186676	0.57	0.87	1.5			
HURST STATION DISCHARGE	186680	0.82	1.10	1.5	0.51	1.2	HURST
HURST STATION-PRECHLORINATION	186677	0.56	0.89	1.0			
McPHILLIPS STATION DISCHARGE	186681	0.75	1.16	2.0	0.34	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	186678	0.49	0.82	3.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: January 15, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		186696	0.74	1.00	3.5	0.32
McP. 2.		186700	0.75	1.09	5.0	0.33
McP. 3.		186698	0.67	0.98	5.0	0.31
McP. 4.		186701	0.45	0.81	11.0	0.31
MacL. 5.		186686	0.69	1.02	4.0	0.30
MacL. 6.		186690	0.72	1.04	4.0	0.29
MacL. 7.		186694	0.37	0.70	9.0	0.30
MacL. 8.		186706	0.44	0.79	8.0	0.32
MacL. 9.		186710	0.54	0.89	7.0	0.31
MacL. 10.		186711	0.61	1.00	5.5	0.30
MacL. 11.		186714	0.66	1.00	4.5	0.31
Hrst 12.		186730	0.63	0.98	10.5	0.32
Hrst 13.		186724	0.44	0.78	6.5	0.30
Hrst 14.		186726	0.70	1.00	5.0	0.30
Hrst 15.		186728	0.75	1.14	3.0	0.30
Hrst 16.		186733	0.63	0.97	7.5	0.30
Hrst 17.		186739	0.64	0.99	4.0	0.30
McP. 18.		186743	0.22	0.48	6.0	0.40
McP. 19.		186745	0.75	1.10	6.5	0.31
		MEAN	0.60	0.93	6.1	0.31
		MINIMUM	0.22	0.48	3.0	0.29
		MAXIMUM	0.75	1.14	11.0	0.40
		Maclean Area Average	0.58	0.92	6.0	0.30
		Hurst Area Average	0.63	0.98	6.1	0.30
		McPhillip's Area Average	0.60	0.91	6.2	0.33
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 186682		FLUORIDE:		0.82	mg/L	
		ORTHO PHOSPHORUS:		1.79	mg/L-PO4	

COMMENTS:

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
Kelly Kjaranson Manager Environmental Standards Division
Diane Sachse Manager Water Services Division
Peter Ward Foreman Water Services Division
Andy Weremy Regional Services Engineer Water Services

CC:

N:\WQ Data\Routine Water Quality\2008\Residual\2008-01.xls]19-Jan-08
Monthly Water Quality Report
LIMS REF# 19050/19051

FILE: WQR2

TECHNICIAN(S): J. Besyk/ N. Crawford

APPROVED FOR DISTRIBUTION BY: Steve Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 23-Jan-08

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: January 28, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	187696	0.15	0.39	2.5	0.35	2.5	INTAKE
DEACON PRECHLORINATION CELL #1	OL	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	187698	<0.05	<0.08	2.0	0.34		
AQUEDUCT BRANCH 1. @ McPHILLIPS	187701	0.70	1.09	2.5	0.34	1.8	DEACON
AQUEDUCT BRANCH 2 @ HURST	187702	0.83	1.22	1.5	0.32	1.8	DEACON
MACLEAN STATION DISCHARGE	187706	0.89	1.34	1.5	0.33	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	187703	0.48	0.79	1.5			
HURST STATION DISCHARGE	187707	0.91	1.17	1.5	0.35	1.2	HURST
HURST STATION-PRECHLORINATION	187704	0.56	0.74	2.0			
McPHILLIPS STATION DISCHARGE	187708	0.77	1.17	2.0	0.30	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	187705	0.37	0.77	3.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: January 28, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		187723	0.69	1.00	3.5	0.25
McP. 2.		187727	0.72	1.09	5.0	0.29
McP. 3.		187725	0.71	1.05	3.0	0.28
McP. 4.		187728	0.50	0.81	9.0	0.30
MacL. 5.		187713	0.73	1.14	3.5	0.31
MacL. 6.		187717	0.79	1.18	5.5	0.37
MacL. 7.		187721	0.44	0.74	8.5	0.30
MacL. 8.		187733	0.46	0.84	6.0	0.27
MacL. 9.		187737	0.53	0.93	7.5	0.31
MacL. 10.		187738	0.72	1.00	5.0	0.32
MacL. 11.		187741	0.65	1.12	3.5	0.35
Hrst 12.		187757	0.63	1.00	7.5	0.29
Hrst 13.		187751	0.49	0.88	6.5	0.32
Hrst 14.		187753	0.59	0.97	10.0	0.27
Hrst 15.		187755	0.80	1.13	2.0	0.28
Hrst 16.		187760	0.62	1.06	7.0	0.28
Hrst 17.		187766	0.67	0.97	3.5	0.28
McP. 18.		187770	0.19	0.48	5.5	0.31
McP. 19.		187772	0.73	1.14	6.0	0.30
		MEAN	0.61	0.98	5.7	0.30
		MINIMUM	0.19	0.48	2.0	0.25
		MAXIMUM	0.80	1.18	10.0	0.37
		Maclean Area Average	0.62	0.99	5.6	0.32
		Hurst Area Average	0.63	1.00	6.1	0.29
		McPhillip's Area Average	0.59	0.93	5.3	0.29
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER:		FLUORIDE:		0.86	mg/L	
		ORTHO PHOSPHORUS:		2.01	mg/L-PO4	

COMMENTS: Effective Wednesday January 23 2008 @ 1736 hours
Chlorine dosage at the Intake was decreased from 3.0 to 2.5 mg/L and the dosage at the Branches was decreased from 2.0 to 1.8 mg/L.

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
Kelly Kjarntanson Manager Environmental Standards Division
Diane Sachser Manager Water Services Division
Peter Ward Foreman Water Services Division
Andy Weremy Regional Services Engineer Water Services

TECHNICIAN(S): J. Besyk/N. Crawford

APPROVED FOR DISTRIBUTION BY: Steve Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: February 5 2008

CC: --
N:\WQ Data\Routine Water Quality\2008\Residual\2008-01.xls2-Feb-08
Monthly Water Quality Report
LIMS REF# 19164/19165

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: February 11, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE	TOTAL	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	188702	0.15	0.41	2.5	0.31	2.5	INTAKE
DEACON PRECHLORINATION CELL #1	OL	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	188704	<0.05	<0.08	2.0	0.33		
AQUEDUCT BRANCH 1. @ McPHILLIPS	188707	0.77	1.00	1.5	0.36	1.8	DEACON
AQUEDUCT BRANCH 2 @ HURST	188708	0.82	1.08	1.5	0.38	1.8	DEACON
MACLEAN STATION DISCHARGE	188712	0.85	1.21	1.5	0.33	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	188709	0.43	0.73	2.0			
HURST STATION DISCHARGE	188713	0.83	1.10	1.5	0.29	1.2	HURST
HURST STATION-PRECHLORINATION	188710	0.38	0.67	2.0			
McPHILLIPS STATION DISCHARGE	188714	0.81	1.22	1.5	0.34	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	188711	0.39	0.68	2.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: February 14, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE	TOTAL	°C	n.t.u.
McP. 1.		188719	0.65	1.00	3.5	0.27
McP. 2.		188723	0.83	1.13	3.5	0.30
McP. 3.		188727	0.37	0.68	8.0	0.30
McP. 4.		188729	0.62	1.00	2.5	0.25
MacL. 5.		188731	0.77	1.08	2.5	0.26
MacL. 6.		188733	0.78	1.09	6.5	0.31
MacL. 7.		188734	0.54	0.89	10.5	0.26
MacL. 8.		188739	0.30	0.71	6.0	0.27
MacL. 9.		188743	0.47	0.86	6.0	0.30
MacL. 10.		188744	0.64	0.94	4.0	0.25
MacL. 11.		188747	0.76	1.09	3.0	0.25
Hurst 12.		188757	0.30	0.65	6.5	0.32
Hurst 13.		188759	0.65	1.00	5.0	0.25
Hurst 14.		188761	0.78	1.08	2.0	0.24
Hurst 15.		188763	0.65	0.95	8.0	0.28
Hurst 16.		188766	0.60	0.91	5.5	0.25
Hurst 17.		188772	0.59	0.93	4.0	0.25
McP. 18.		188776	0.22	0.54	4.5	0.33
McP. 19.		188778	0.84	1.16	5.5	0.32
		MEAN	0.60	0.93	5.1	0.28
		MINIMUM	0.22	0.54	2.0	0.24
		MAXIMUM	0.84	1.16	10.5	0.33
		Maclean Area Average	0.61	0.95	5.5	0.27
		Hurst Area Average	0.60	0.92	5.2	0.27
		McPhillip's Area Average	0.59	0.92	4.6	0.30
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 188715		FLUORIDE		0.82	mg/L	
		ORTHO PHOSPHORUS:		1.93	mg/L-PO4	

COMMENTS:

Effective Wed Feb. 13/08 @ 1330 hrs.
The supply source for Brnches I and II was switched from Cells 3 and 4 to Cells 1 and 2.

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

E-mail:

Bary MacBride Director Water and Waste Department
Kelly Kjartanson Manager Environmental Standards Division
Diane Sacher Manager Water Services Division
Peter Ward Superintendent Water Services Division
Andy Weremy Regional Services Engineer Water Services

Cc:

N:\WQ Data\Routine Water Quality\2008\Residual\2008-02.xls\Feb-16
Monthly Water Quality Report
LIMS REF# 19269/19270

FILE: WQR2

TECHNICIAN(S): J. Besyk/ N. Crawford

APPROVED FOR DISTRIBUTION BY: Steve Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 21-Feb-08

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: February 25, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	189732	0.19	0.43	2.0	0.29	2.5	INTAKE
DEACON PRECHLORINATION CELL #1	189734	<0.05	<0.08	2.5	0.43		
DEACON PRECHLORINATION CELL #3	189735	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	189738	0.60	0.83	2.5	0.41	1.8	DEACON
AQUEDUCT BRANCH 2 @ HURST	189739	0.62	0.88	2.0	0.44	1.8	DEACON
MACLEAN STATION DISCHARGE	189743	0.92	1.18	2.0	0.48	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	189740	0.24	0.50	2.5			
HURST STATION DISCHARGE	189744	0.90	1.13	2.5	0.44	1.2	HURST
HURST STATION-PRECHLORINATION	189741	0.27	0.46	2.5			
McPHILLIPS STATION DISCHARGE	189745	0.90	1.21	2.5	0.45	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	189742	0.27	0.52	3.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: February 27, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		189760	0.55	0.90	2.5	0.44
McP. 2.		189764	0.67	1.00	5.0	2.29
McP. 3.		189762	0.73	1.08	4.0	0.63
McP. 4.		189765	0.75	1.12	5.0	1.02
MacL. 5.		189750	0.67	1.06	3.0	0.67
MacL. 6.		189754	0.82	1.15	4.0	0.49
MacL. 7.		189758	0.37	0.67	7.0	0.44
MacL. 8.		189770	0.45	0.74	5.0	0.56
MacL. 9.		189774	0.43	0.74	5.5	0.39
MacL. 10.		189775	0.66	1.00	5.0	0.40
MacL. 11.		189778	0.69	1.00	4.0	0.40
Hrst 12.		189794	0.68	0.96	6.0	0.42
Hrst 13.		189788	0.49	0.86	5.0	0.52
Hrst 14.		189790	0.67	1.01	6.0	0.55
Hrst 15.		189792	0.81	1.15	3.0	0.39
Hrst 16.		189797	0.69	0.96	5.0	0.41
Hrst 17.		189803	0.58	0.94	4.0	0.49
McP. 18.		189807	NS	NS	NS	NS
McP. 19.		189809	0.79	1.09	3.0	0.43
MEAN			0.61	0.92	4.3	0.58
MINIMUM			0.37	0.67	2.5	0.39
MAXIMUM			0.82	1.15	7.0	2.29
Maclean Area Average			0.58	0.91	4.8	0.48
Hurst Area Average			0.65	0.98	4.8	0.46
McPhillip's Area Average			0.70	1.04	3.9	0.96
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 189746		FLUORIDE:		0.82	mg/L	
		ORTHO PHOSPHORUS:		1.95	mg/L-PO4	

COMMENTS: The high turbidity of some of the distribution system samples (>1 ntu) may be due to the high turbidity of the incoming supply and/or localized disturbances.

█ = Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
Kelly Kjaranson Manager Environmental Standards Division
Diane Sachter Manager Water Services Division
Peter Ward Superintendent Water Services Division
Andy Weremy Regional Services Engineer Water Services

TECHNICIAN(S): J. Besyk/ N. Crawford

APPROVED FOR DISTRIBUTION BY: Steve Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 12-Mar-08

CC: --
N:\WQ Data\Routine Water Quality\2008\Residual\2008-02.xls\Mar-1

Monthly Water Quality Report
LIMS REF# 19364/19365

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: March 10, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	190652	0.17	0.47	2.0	0.34	2.5	INTAKE
DEACON PRECHLORINATION CELL #1	190654	<0.05	<0.08	2.0	0.53		
DEACON PRECHLORINATION CELL #3	OL	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	OL	OL	OL	OL	OL	1.8	DEACON
AQUEDUCT BRANCH 2 @ HURST	190662	0.90	1.16	1.5	0.36	1.8	DEACON
MACLEAN STATION DISCHARGE	190670	0.95	1.24	2.0	0.39	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	190664	0.34	0.61	2.5			
HURST STATION DISCHARGE	190671	0.88	1.17	2.0	0.40	1.2	HURST
HURST STATION-PRECHLORINATION	190667	0.37	0.65	3.0			
McPHILLIPS STATION DISCHARGE	190672	0.90	1.20	2.5	0.35	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	190669	0.40	0.69	3.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: March 11, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP.	1.	190693	0.67	1.00	3.0	0.42
McP.	2.	190697	0.81	1.11	4.5	0.44
McP.	3.	190695	0.69	1.00	2.0	0.62
McP.	4.	190698	0.53	0.86	5.0	0.42
MacL.	5.	190683	0.75	1.06	3.0	0.37
MacL.	6.	190687	0.67	0.98	4.0	0.41
MacL.	7.	190691	0.44	0.75	7.0	0.41
MacL.	8.	190703	0.54	0.87	5.0	0.37
MacL.	9.	190707	0.49	0.92	5.0	0.37
MacL.	10.	90708	0.71	1.00	4.0	0.35
MacL.	11.	190711	0.48	0.82	4.0	0.50
Hrst	12.	190727	0.68	1.03	6.0	0.37
Hrst	13.	190721	0.60	0.94	5.0	0.39
Hrst	14.	190723	0.61	0.98	9.5	0.41
Hrst	15.	190725	0.79	1.13	2.5	0.37
Hrst	16.	190730	0.70	1.06	4.5	0.36
Hrst	17.	190736	0.60	0.95	4.0	0.36
McP.	18.	190740	0.28	0.62	4.0	0.47
McP.	19.	190742	0.78	1.18	4.0	0.39
		MEAN	0.62	0.96	4.5	0.41
		MINIMUM	0.28	0.62	2.0	0.35
		MAXIMUM	0.81	1.18	9.5	0.62
		Maclean Area Average	0.58	0.91	4.6	0.40
		Hurst Area Average	0.66	1.02	5.3	0.38
		McPhillip's Area Average	0.63	0.96	3.8	0.46
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 190679		FLUORIDE:	0.85	mg/L		
		ORTHO PHOSPHORUS:	1.96	mg/L-PO4		

COMMENTS:

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
Kelly Kjaranson Manager Environmental Standards Division
Diane Sacher Manager Water Services Division
Peter Ward Superintendent Water Services Division
Andy Weremy Regional Services Engineer Water Services

CC:

N:\WQ Data\Routine Water Quality\2008\Residual\[2008-03.xls]MAR 15
Monthly Water Quality Report
LIMS REF# 19468/19471

FILE: WQR2

TECHNICIAN(S): J. Besyk/ N. Crawford

APPROVED FOR DISTRIBUTION BY: Steve Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 19-Mar-08

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: March 25, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	191937	0.17	0.44	2.0	0.40	2.5	INTAKE
DEACON PRECHLORINATION CELL #1	191939	<0.05	<0.08	2.0	0.42		
DEACON PRECHLORINATION CELL #3	191940	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	191943	0.72	0.98	2.5	0.39	1.8	DEACON
AQUEDUCT BRANCH 2 @ HURST	191944	0.80	1.16	2.0	0.39	1.8	DEACON
MACLEAN STATION DISCHARGE	191948	0.97	1.23	2.0	0.35	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	191945	0.39	0.68	2.0			
HURST STATION DISCHARGE	191949	0.98	1.28	2.5	0.39	1.2	HURST
HURST STATION-PRECHLORINATION	191946	0.35	0.63	2.5			
McPHILLIPS STATION DISCHARGE	191950	0.90	1.21	2.5	0.35	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	191947	0.35	0.67	3.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: March 25, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		191955	0.69	1.05	2.0	0.33
McP. 2.		191959	0.76	1.00	3.5	0.37
McP. 3.		191963	0.43	0.74	7.0	0.31
McP. 4.		191965	0.69	1.03	2.5	0.47
MacL. 5.		191967	0.53	0.88	3.5	0.31
MacL. 6.		191969	0.85	1.27	4.5	0.35
MacL. 7.		191970	0.52	0.86	5.5	0.38
MacL. 8.		191975	0.41	0.75	5.0	0.32
MacL. 9.		191979	0.74	1.12	4.0	0.33
MacL. 10.		191980	0.75	1.13	4.0	0.33
MacL. 11.		191983	0.76	1.06	3.0	0.37
Hrst 12.		191993	0.59	0.92	4.0	0.35
Hrst 13.		191995	0.80	1.13	7.0	0.38
Hrst 14.		191997	0.93	1.28	2.5	0.38
Hrst 15.		191999	0.84	1.17	5.0	0.33
Hrst 16.		192002	0.77	1.16	5.0	0.34
Hrst 17.		192008	0.67	1.00	5.0	0.36
McP. 18.		192012	0.37	0.67	3.5	0.40
McP. 19.		192014	0.76	1.15	5.5	0.37
		MEAN	0.68	1.02	4.3	0.36
		MINIMUM	0.37	0.67	2.0	0.31
		MAXIMUM	0.93	1.28	7.0	0.47
		Maclean Area Average	0.65	1.01	4.2	0.34
		Hurst Area Average	0.77	1.11	4.8	0.36
		McPhillip's Area Average	0.62	0.94	4.0	0.38
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 191951		FLUORIDE:		0.82	mg/L	
		ORTHO PHOSPHORUS:		1.95	mg/L-PO4	

COMMENTS:

█ = Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
Kelly Kjarntanson Manager Environmental Standards Division
Diane Sacher Manager Water Services Division
Peter Ward Foreman Water Services Division
Andy Weremy Regional Services Engineer Water Services

CC:

N:\WQ Data\Routine Water Quality\2008\Residual\[2008-03.xls]MAR 29
Monthly Water Quality Report
LIMS REF# 19594/19595

FILE: WQR2

TECHNICIAN(S): J. Besyk/ N. Crawford/ R. Rockwell

APPROVED FOR DISTRIBUTION BY: Steve Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 28-Mar-08

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: April 7, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	192836	0.14	0.39	2.0	0.46	2.5	INTAKE
DEACON PRECHLORINATION CELL #1	192838	<0.05	<0.08	2.5	0.62		
DEACON PRECHLORINATION CELL #3	192839	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	192842	0.62	0.95	3.0	0.56	1.8	DEACON
AQUEDUCT BRANCH 2 @ HURST	192843	0.82	1.08	2.5	0.57	1.8	DEACON
MACLEAN STATION DISCHARGE	192847	1.00	1.25	2.5	0.58	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	192844	0.44	0.75	2.0			
HURST STATION DISCHARGE	192848	1.06	1.39	2.5	0.54	1.2	HURST
HURST STATION-PRECHLORINATION	192845	0.34	0.59	2.0			
McPHILLIPS STATION DISCHARGE	192849	0.99	1.36	3.0	0.60	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	192846	0.35	0.65	3.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: April 8, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		192854	0.47	0.98	2.5	0.40
McP. 2.		192858	0.60	1.04	4.0	0.44
McP. 3.		192862	0.41	0.75	5.0	0.52
McP. 4.		192864	0.64	0.98	2.5	0.36
MacL. 5.		192866	0.64	1.00	3.0	0.37
MacL. 6.		192868	0.62	0.97	4.0	0.40
MacL. 7.		192869	0.41	0.85	7.0	0.35
MacL. 8.		192873	0.43	0.79	4.5	0.42
MacL. 9.		192878	0.57	0.88	4.0	0.36
MacL. 10.		192879	0.53	0.94	4.0	0.48
MacL. 11.		192882	0.50	0.97	3.5	0.38
Hrst 12.		192892	0.52	0.89	3.0	0.33
Hrst 13.		192894	0.61	0.95	4.5	0.37
Hrst 14.		192896	0.72	1.05	3.0	0.40
Hrst 15.		192898	0.67	1.00	4.0	0.40
Hrst 16.		192901	0.61	0.96	4.0	0.42
Hrst 17.		192907	0.63	0.96	3.5	0.49
McP. 18.		192911	0.36	0.70	3.0	0.46
McP. 19.		192913	0.68	1.03	6.0	0.49
		MEAN	0.56	0.93	3.9	0.41
		MINIMUM	0.36	0.70	2.5	0.33
		MAXIMUM	0.72	1.05	7.0	0.52
		Maclean Area Average	0.53	0.91	4.3	0.39
		Hurst Area Average	0.63	0.97	3.7	0.40
		McPhillip's Area Average	0.53	0.91	3.8	0.45
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 192850		FLUORIDE:		0.82	mg/L	
		ORTHO PHOSPHORUS:		1.76	mg/L-PO4	

COMMENTS:

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
Kelly Kjarntanson Manager Environmental Standards Division
Diane Sachse Manager Water Services Division
Peter Ward Foreman Water Services Division
Andy Weremy Regional Services Engineer Water Services

TECHNICIAN(S): N. Crawford/ R. Rockwell

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 11-Apr-08

CC: --
N:\WQ Data\Routine Water Quality\2008\Residual\2008-04.xls]APR 12
Monthly Water Quality Report
LIMS REF# 19695/19696

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: April 21, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	193846	0.05	0.35	5.0	0.91	2.5	INTAKE
DEACON PRECHLORINATION CELL #1	193848	<0.05	<0.08	4.5	0.81		
DEACON PRECHLORINATION CELL #3	193849	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	193852	0.51	0.79	4.5	0.65	1.8	DEACON
AQUEDUCT BRANCH 2 @ HURST	193853	0.62	0.86	4.0	0.71	1.8	DEACON
MACLEAN STATION DISCHARGE	193857	1.05	1.35	4.0	0.62	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	193854	0.29	0.51	3.5			
HURST STATION DISCHARGE	193858	0.93	1.21	4.0	0.65	1.2	HURST
HURST STATION-PRECHLORINATION	193855	0.18	0.47	4.0			
McPHILLIPS STATION DISCHARGE	193859	1.07	1.35	5.0	0.56	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	193856	0.22	0.45	5.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: April 22, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		193864	0.62	0.98	3.0	0.45
McP. 2.		193868	0.73	1.14	5.0	0.68
McP. 3.		193872	0.43	0.80	6.0	0.41
McP. 4.		193874	0.60	0.94	3.0	0.43
MacL. 5.		193876	0.53	0.92	5.0	0.46
MacL. 6.		193878	0.61	0.95	7.0	0.44
MacL. 7.		193879	0.48	0.79	6.0	0.45
MacL. 8.		193884	0.28	0.64	5.0	0.40
MacL. 9.		193888	0.43	0.77	5.0	0.48
MacL. 10.		193889	0.54	0.93	5.0	0.49
MacL. 11.		193892	0.65	0.99	4.0	0.58
Hrst 12.		193902	0.43	0.77	3.0	0.54
Hrst 13.		193904	0.60	0.95	5.0	0.56
Hrst 14.		193906	0.79	1.18	4.0	0.53
Hrst 15.		193908	0.12	0.36	5.0	0.24
Hrst 16.		193911	0.59	0.91	5.0	0.47
Hrst 17.		193917	0.52	0.84	4.0	0.75
McP. 18.		193921	0.29	0.58	5.0	0.48
McP. 19.		193923	0.52	0.93	5.0	0.66
		MEAN	0.51	0.86	4.7	0.50
		MINIMUM	0.12	0.36	3.0	0.24
		MAXIMUM	0.79	1.18	7.0	0.75
		Maclean Area Average	0.50	0.86	5.3	0.47
		Hurst Area Average	0.51	0.84	4.3	0.52
		McPhillip's Area Average	0.53	0.90	4.5	0.52
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 193860		FLUORIDE:	0.87	mg/L		
		ORTHO PHOSPHORUS:	2.02	mg/L-PO4		

COMMENTS:

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
Kelly Kjaranson Manager Environmental Standards Division
Diane Sacher Manager Water Services Division
Peter Ward Superintendent Water Services Division
Andy Weremy Regional Services Engineer Water Services Division

REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

cc:
N:\WQ Data\Routine Water Quality\2008\Residual\2008-04.xls\APR 26
Monthly Water Quality Report
LIMS REF# 19808/19809

Date Approved: 28-Apr-08

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: May 5, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	194815	<0.05	0.13	5.0	1.50	3.0	INTAKE
DEACON PRECHLORINATION CELL #1	194817	<0.05	<0.08	6.0	0.73		
DEACON PRECHLORINATION CELL #3	194818	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	194821	0.49	0.82	6.0	0.64	2.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	194822	0.65	0.94	6.0	0.62	2.0	DEACON
MACLEAN STATION DISCHARGE	194826	0.98	1.24	5.0	0.58	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	194823	0.25	0.50	5.0			
HURST STATION DISCHARGE	194827	0.91	1.18	5.5	0.62	1.2	HURST
HURST STATION-PRECHLORINATION	194824	0.19	0.44	6.0			
McPHILLIPS STATION DISCHARGE	194828	0.93	1.22	5.5	0.61	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	194825	0.15	0.46	6.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: May 6, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		194833	0.61	1.04	4.0	0.55
McP. 2.		194837	0.69	1.12	6.0	0.61
McP. 3.		194841	0.42	0.75	6.0	0.62
McP. 4.		194843	0.52	0.92	3.0	0.71
MacL. 5.		194845	0.48	0.86	4.0	0.72
MacL. 6.		194847	0.63	0.96	5.0	0.56
MacL. 7.		194848	0.44	0.76	5.0	0.69
MacL. 8.		194853	0.42	0.76	5.0	0.55
MacL. 9.		194857	0.51	0.98	4.0	0.96
MacL. 10.		194858	0.59	0.89	6.0	0.78
MacL. 11.		194861	0.70	0.96	4.0	0.65
Hrst 12.		194871	0.44	0.78	4.0	0.58
Hrst 13.		194873	0.63	0.91	6.0	0.68
Hrst 14.		194875	0.69	1.07	6.0	0.74
Hrst 15.		194877	0.60	1.04	5.0	0.66
Hrst 16.		197880	0.56	1.09	5.0	0.70
Hrst 17.		197886	0.43	0.80	4.0	0.63
McP. 18.		197890	0.25	0.51	4.0	0.63
McP. 19.		197892	0.35	0.65	6.0	0.65
		MEAN	0.52	0.89	4.8	0.67
		MINIMUM	0.25	0.51	3.0	0.55
		MAXIMUM	0.70	1.12	6.0	0.96
		Maclean Area Average	0.54	0.88	4.7	0.70
		Hurst Area Average	0.56	0.95	5.0	0.67
		McPhillip's Area Average	0.47	0.83	4.8	0.63
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 194829		FLUORIDE:	0.83	mg/L		
		ORTHO PHOSPHORUS:	2.09	mg/L-PO4		

COMMENTS:

Effective Monday May 5 2008 @ 0946 hours
Chlorine dosage at the Intake was increased from 3.0 mg/L to 3.5 mg/L
Chlorine dosage at Branch I and Branch II was increased from 2.0 mg/L to 2.2 mg/L.

█ = Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
Kelly Kjaranson Manager Environmental Standards Division
Diane Sachter Manager Water Services Division
Peter Ward Superintendent Water Services Division
Andy Weremy Regional Services Engineer Water Services Division

REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

cc:

N:\WQ Data\Routine Water Quality\2008\Residual\2008-05.xls\MAY 10
Monthly Water Quality Report
LIMS REF# 19923/19924

Date Approved: 12-May-08

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: May 12, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	195336	0.51	0.89	6.5	0.88	3.5	INTAKE
DEACON PRECHLORINATION CELL #1	195338	<0.05	<0.08	8.5	0.96		
DEACON PRECHLORINATION CELL #3	195339	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	195342	0.58	0.91	8.0	0.75	2.2	DEACON
AQUEDUCT BRANCH 2 @ HURST	195343	0.76	1.05	8.0	0.74	2.2	DEACON
MACLEAN STATION DISCHARGE	195347	1.15	1.43	8.0	0.68	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	195344	0.27	0.57	7.0			
HURST STATION DISCHARGE	195348	0.82	1.15	8.5	0.68	1.2	HURST
HURST STATION-PRECHLORINATION	195345	0.22	0.46	8.5			
McPHILLIPS STATION DISCHARGE	195349	1.00	1.26	7.5	0.63	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	195346	0.20	0.49	8.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: May 13, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		195354	0.42	0.95	4.0	0.61
McP. 2.		195358	0.69	1.03	6.0	0.73
McP. 3.		195362	0.37	0.73	7.0	0.62
McP. 4.		195364	0.46	0.94	4.0	0.51
MacL. 5.		195366	0.55	0.92	5.0	0.57
MacL. 6.		195368	0.60	0.95	7.0	0.61
MacL. 7.		195369	0.35	0.70	6.0	0.47
MacL. 8.		195374	0.41	0.75	6.0	0.64
MacL. 9.		195378	0.48	0.90	6.0	0.66
MacL. 10.		195379	0.45	0.82	6.0	0.61
MacL. 11.		195382	0.73	1.00	5.0	0.55
Hrst 12.		195392	0.28	0.62	4.0	2.02
Hrst 13.		195394	0.42	0.85	8.0	0.51
Hrst 14.		195396	0.49	1.02	7.0	0.60
Hrst 15.		195398	0.58	0.88	7.0	0.63
Hrst 16.		195401	0.50	0.82	5.0	0.50
Hrst 17.		195407	0.38	0.71	6.0	0.61
McP. 18.		195411	0.30	0.63	4.0	0.65
McP. 19.		195413	0.41	0.79	6.0	0.57
		MEAN	0.47	0.84	5.7	0.67
		MINIMUM	0.28	0.62	4.0	0.47
		MAXIMUM	0.73	1.03	8.0	2.02
		Maclean Area Average	0.51	0.86	5.9	0.59
		Hurst Area Average	0.44	0.82	6.2	0.81
		McPhillip's Area Average	0.44	0.85	5.2	0.62
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 195350		FLUORIDE:		0.78	mg/L	
		ORTHO PHOSPHORUS:		2.02	mg/L-PO4	

COMMENTS:

The high turbidity at [redacted] (sample #195392) was due to construction in the area.

[redacted] = Not Analyzed NS = No Sample OL = Off Line

Distribution List

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Barry MacBride Director Water and Waste Department
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Diane Sacher Manager Water Services Division
Peter Ward Superintendent Water Services Division
Andy Weremy Water Treatment Systems Engineer Water Services Division

REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 20-May-08

cc:

N:\WQ Data\Routine Water Quality\2008\Residual\2008-05.xls\MAY 17
Monthly Water Quality Report
LIMS REF# 19977/19978

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: May 20, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	196016	0.32	0.67	10.0	0.96	3.5	INTAKE
DEACON PRECHLORINATION CELL #1	196017	<0.05	0.10	10.5	0.68		
DEACON PRECHLORINATION CELL #3	196018	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	196021	0.47	0.74	10.5	0.64	2.2	DEACON
AQUEDUCT BRANCH 2 @ HURST	196022	0.73	1.00	10.5	0.72	2.2	DEACON
MACLEAN STATION DISCHARGE	196026	1.01	1.33	9.5	0.63	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	196023	0.19	0.45	9.5			
HURST STATION DISCHARGE	196027	0.83	1.10	10.0	0.62	1.2	HURST
HURST STATION-PRECHLORINATION	196024	0.21	0.47	10.0			
McPHILLIPS STATION DISCHARGE	196028	1.00	1.31	9.5	0.60	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	196025	0.15	0.43	10.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: May 21, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		196033	0.48	0.85	5.0	0.49
McP. 2.		196037	0.46	0.81	8.0	0.54
McP. 3.		196041	0.35	0.65	8.0	0.52
McP. 4.		196043	0.45	0.90	5.0	0.49
MacL. 5.		196045	0.53	0.86	6.0	0.43
MacL. 6.		196047	0.56	0.92	9.0	0.55
MacL. 7.		196048	0.41	0.71	6.0	0.46
MacL. 8.		196053	0.31	0.65	8.0	0.50
MacL. 9.		196057	0.42	0.79	5.0	0.50
MacL. 10.		196058	0.43	0.81	8.0	0.41
MacL. 11.		196061	0.58	0.94	7.0	0.55
Hrst 12.		196071	0.28	0.62	4.0	0.47
Hrst 13.		196073	0.47	0.72	13.0	0.78
Hrst 14.		196075	0.70	1.02	9.0	0.45
Hrst 15.		196077	0.51	0.96	8.0	0.45
Hrst 16.		196080	0.41	0.84	7.0	0.49
Hrst 17.		196086	0.38	0.76	8.0	0.53
McP. 18.		196090	0.30	0.60	6.0	0.50
McP. 19.		196092	0.43	0.83	7.0	0.73
		MEAN	0.45	0.80	7.2	0.52
		MINIMUM	0.28	0.60	4.0	0.41
		MAXIMUM	0.70	1.02	13.0	0.78
		Maclean Area Average	0.46	0.81	7.0	0.49
		Hurst Area Average	0.46	0.82	8.2	0.53
		McPhillip's Area Average	0.41	0.77	6.5	0.55
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 196029		FLUORIDE:	0.84	mg/L		
		ORTHO PHOSPHORUS:	2.00	mg/L-PO4		

COMMENTS:

The total chlorine results for Maclean and McPhillips Station Discharge were above the chlorine setpoint due to drifting in the auto analyzers at the stations.

█ = Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

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Kelly Kjarntanson Manager Environmental Standards Division
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Peter Ward Superintendent Water Services Division
Andy Weremy Water Treatment Systems Engineer Water Services Division

REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

cc:

N:\WQ Data\Routine Water Quality\2008\Residual\2008-05.xls\MAY 24
Monthly Water Quality Report
LIMS REF# 20042/20043

Date Approved: 27-May-08

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: May 26, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	196674	0.16	0.49	12.5	0.87	3.5	INTAKE
DEACON PRECHLORINATION CELL #1	196676	<0.05	0.13	12.5	0.94		
DEACON PRECHLORINATION CELL #3	196677	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	196680	0.69	0.93	12.5	0.70	2.2	DEACON
AQUEDUCT BRANCH 2 @ HURST	196681	0.64	0.92	12.5	0.72	2.2	DEACON
MACLEAN STATION DISCHARGE	196685	1.10	1.37	11.5	0.56	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	196682	0.17	0.45	11.5			
HURST STATION DISCHARGE	196686	0.93	1.22	11.5	0.71	1.2	HURST
HURST STATION-PRECHLORINATION	196683	0.15	0.42	11.5			
McPHILLIPS STATION DISCHARGE	196687	0.94	1.25	12.0	0.59	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	196684	0.19	0.49	12.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: May 28, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		196692	0.42	0.76	7.0	0.56
McP. 2.		196696	0.57	0.95	9.0	0.48
McP. 3.		196700	0.27	0.62	8.0	0.41
McP. 4.		196702	0.45	0.88	6.0	0.46
MacL. 5.		196704	0.48	0.87	9.0	0.47
MacL. 6.		196706	0.55	0.89	10.0	0.48
MacL. 7.		196707	0.36	0.68	8.0	0.47
MacL. 8.		196712	0.28	0.63	9.0	0.46
MacL. 9.		196716	0.41	0.77	5.0	0.50
MacL. 10.		196717	0.55	0.87	10.0	0.50
MacL. 11.		196720	0.62	0.96	9.0	0.55
Hrst 12.		196730	0.36	0.72	5.0	0.45
Hrst 13.		196732	0.57	0.88	13.0	0.45
Hrst 14.		196734	0.75	1.08	11.0	0.52
Hrst 15.		196736	0.63	1.01	10.0	0.53
Hrst 16.		196739	0.54	0.89	7.0	0.54
Hrst 17.		196745	0.40	0.82	9.0	0.48
McP. 18.		196749	0.33	0.64	6.0	0.47
McP. 19.		196751	0.43	0.75	10.0	0.43
		MEAN	0.47	0.82	8.5	0.48
		MINIMUM	0.27	0.62	5.0	0.41
		MAXIMUM	0.75	1.08	13.0	0.56
		Maclean Area Average	0.46	0.81	8.6	0.49
		Hurst Area Average	0.54	0.90	9.2	0.50
		McPhillip's Area Average	0.41	0.77	7.7	0.47
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 196688		FLUORIDE:	0.79	mg/L		
		ORTHO PHOSPHORUS:	1.98	mg/L-PO4		

COMMENTS: The total chlorine result for Maclean Pumping Station Discharge was above the chlorine setpoint due to drifting in the auto analyzer at the station.

█ = Not Analyzed **NS** = No Sample **OL** = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
Kelly Kjaranson Manager Environmental Standards Division
Diane Sacher Manager Water Services Division
Peter Ward Superintendent Water Services Division
Andy Weremy Water Treatment Systems Engineer Water Services Division

REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

cc:
N:\WQ Data\Routine Water Quality\2008\Residual\2008-05.xls\MAY 31
Monthly Water Quality Report
LIMS REF# 20110/20111

Date Approved: 6-Jun-08

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: June 2, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	197405	<0.05	0.45	14.0	0.90	3.5	INTAKE
DEACON PRECHLORINATION CELL #1	197407	<0.05	<0.08	14.5	0.67		
DEACON PRECHLORINATION CELL #3	197408	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	197411	0.57	0.85	14.0	0.62	2.2	DEACON
AQUEDUCT BRANCH 2 @ HURST	197412	0.64	0.94	14.5	0.89	2.2	DEACON
MACLEAN STATION DISCHARGE	197416	0.95	1.24	13.5	0.60	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	197413	0.21	0.46	13.5			
HURST STATION DISCHARGE	197417	0.79	1.08	13.5	0.61	1.2	HURST
HURST STATION-PRECHLORINATION	197414	0.14	0.36	13.5			
McPHILLIPS STATION DISCHARGE	197418	0.93	1.23	13.5	0.54	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	197415	0.15	0.37	14.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: June 2, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		197234	0.51	0.82	9.0	0.64
McP. 2.		197238	0.52	0.86	11.0	0.52
McP. 3.		197242	0.26	0.56	10.0	0.56
McP. 4.		197244	0.48	0.87	7.0	0.47
MacL. 5.		197246	0.47	0.87	10.0	0.46
MacL. 6.		197248	0.58	0.88	11.0	0.59
MacL. 7.		197249	0.40	0.78	9.0	0.51
MacL. 8.		197252	0.34	0.67	8.0	0.50
MacL. 9.		197258	0.32	0.63	7.0	0.74
MacL. 10.		197259	0.50	0.81	12.0	0.63
MacL. 11.		197262	0.55	0.89	10.0	0.61
Hrst 12.		197272	0.29	0.57	7.0	0.59
Hrst 13.		197274	0.41	0.72	16.0	0.63
Hrst 14.		197276	0.69	0.99	13.0	0.50
Hrst 15.		197278	0.54	0.87	11.0	0.64
Hrst 16.		179281	0.46	0.78	8.0	0.52
Hrst 17.		179287	0.33	0.69	10.0	0.64
McP. 18.		179291	0.22	0.58	10.0	0.50
McP. 19.		179293	0.39	0.69	11.0	0.56
		MEAN	0.43	0.76	10.0	0.57
		MINIMUM	0.22	0.56	7.0	0.46
		MAXIMUM	0.69	0.99	16.0	0.74
		Maclean Area Average	0.45	0.79	9.6	0.58
		Hurst Area Average	0.45	0.77	10.8	0.59
		McPhillip's Area Average	0.40	0.73	9.7	0.54
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 197230		FLUORIDE:		0.85	mg/L	
		ORTHO PHOSPHORUS:		1.98	mg/L-PO4	

COMMENTS: Effective June 4 2008 @ 0920 hours chlorine dosage at the Intake was increased from 3.5 mg/L to 4.0 mg/L.
Chlorine dosage at Branch I and Branch II was increased from 2.2 mg/L to 2.4 mg/L.

█ = Not Analyzed NS = No Sample OL = Off Line

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Kelly Kjaranson Manager Environmental Standards Division
Diane Sacher Manager Water Services Division
Peter Ward Superintendent Water Services Division
Andy Weremy Water Treatment Systems Engineer Water Services Division

REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 9-Jun-08

cc:
N:\WQ Data\Routine Water Quality\2008\Residual\2008-06.xls JUN 7

Monthly Water Quality Report
LIMS REF# 20175/20158

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: June 9, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	198010	0.11	0.42	14.5	0.96	4.0	INTAKE
DEACON PRECHLORINATION CELL #1	198012	<0.05	<0.08	16.0	0.59		
DEACON PRECHLORINATION CELL #3	198013	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	198016	0.65	0.97	15.0	0.57	2.4	DEACON
AQUEDUCT BRANCH 2 @ HURST	198017	0.83	1.15	16.0	0.62	2.4	DEACON
MACLEAN STATION DISCHARGE	198021	0.89	1.16	15.5	0.53	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	198018	0.15	0.39	15.0			
HURST STATION DISCHARGE	198022	0.86	1.15	15.0	0.58	1.2	HURST
HURST STATION-PRECHLORINATION	198019	0.13	0.35	14.5			
McPHILLIPS STATION DISCHARGE	198023	1.00	1.22	14.5	0.51	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	198020	0.09	0.30	15.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: June 10, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		198028	0.42	0.75	10.0	0.53
McP. 2.		198032	0.46	0.82	12.0	0.51
McP. 3.		198036	0.26	0.55	11.0	0.47
McP. 4.		198038	0.41	0.76	9.0	0.50
MacL. 5.		198040	0.41	0.75	12.0	0.53
MacL. 6.		198042	0.50	0.87	13.0	0.53
MacL. 7.		198043	0.28	0.60	10.0	0.50
MacL. 8.		198048	0.26	0.57	9.0	0.50
MacL. 9.		198052	0.32	0.66	8.0	0.56
MacL. 10.		198053	0.39	0.73	13.0	0.53
MacL. 11.		198056	0.43	0.79	11.0	0.54
Hrst 12.		198066	0.28	0.58	7.0	0.51
Hrst 13.		198068	0.43	0.68	18.0	0.56
Hrst 14.		198070	0.60	0.90	14.0	0.52
Hrst 15.		198072	0.53	0.87	12.0	0.65
Hrst 16.		198075	0.39	0.71	9.0	0.56
Hrst 17.		198081	0.27	0.61	12.0	0.54
McP. 18.		198085	0.26	0.56	8.0	0.53
McP. 19.		198087	0.36	0.70	12.0	0.54
		MEAN	0.38	0.71	11.1	0.53
		MINIMUM	0.26	0.55	7.0	0.47
		MAXIMUM	0.60	0.90	18.0	0.65
		Maclean Area Average	0.37	0.71	10.9	0.53
		Hurst Area Average	0.42	0.73	12.0	0.56
		McPhillip's Area Average	0.36	0.69	10.3	0.51
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 198024		FLUORIDE:	0.83	mg/L		
		ORTHO PHOSPHORUS:	2.00	mg/L-PO4		

COMMENTS: Effective Friday June 13 2008 @ 1210 hours the chlorine dosage at the Intake was increased from 4.0 mg/L to 4.5 mg/L the chlorine dosage at Branch I and Branch II was increased from 2.4 mg/L to 2.8 mg/L.

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
Kelly Kjarntanson Manager Environmental Standards Division
Diane Sachter Manager Water Services Division
Peter Ward Superintendent Water Services Division
Andy Weremy Water Treatment Systems Engineer Water Services Division

REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 18-Jun-08

cc:
N:\WQ Data\Routine Water Quality\2008\Residual\2008-06.xls JUN 14
Monthly Water Quality Report

LIMS REF# 20242/20243

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: June 16, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	198609	0.27	0.70	15.0	0.98	4.5	INTAKE
DEACON PRECHLORINATION CELL #1	198611	<0.05	0.09	15.5	0.60		
DEACON PRECHLORINATION CELL #3	198612	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	198615	0.79	1.11	15.0	0.51	2.8	DEACON
AQUEDUCT BRANCH 2 @ HURST	198616	0.93	1.36	16.5	0.65	2.8	DEACON
MACLEAN STATION DISCHARGE	198620	0.87	1.20	15.5	0.52	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	198617	0.18	0.49	15.0			
HURST STATION DISCHARGE	198621	0.87	1.21	15.0	0.47	1.2	HURST
HURST STATION-PRECHLORINATION	198618	0.12	0.44	15.0			
McPHILLIPS STATION DISCHARGE	198622	1.00	1.28	15.0	0.49	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	198619	0.10	0.33	15.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: June 17, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		198627	0.48	0.82	9.0	0.55
McP. 2.		198631	0.46	0.84	11.0	0.49
McP. 3.		198635	0.28	0.61	10.0	0.43
McP. 4.		198637	0.40	0.80	8.0	0.43
MacL. 5.		198639	0.53	0.87	12.0	0.45
MacL. 6.		198641	0.50	0.87	12.0	0.50
MacL. 7.		198642	0.42	0.77	11.0	0.39
MacL. 8.		198647	0.30	0.67	9.0	0.45
MacL. 9.		198651	0.35	0.68	6.0	0.53
MacL. 10.		198652	0.50	0.80	12.0	0.52
MacL. 11.		198655	0.50	0.88	11.0	0.49
Hrst 12.		198665	0.28	0.65	8.0	0.48
Hrst 13.		198667	0.41	0.75	18.0	0.55
Hrst 14.		198669	0.56	0.97	13.0	0.59
Hrst 15.		198671	0.51	0.87	11.0	0.70
Hrst 16.		198674	0.49	0.78	9.0	0.48
Hrst 17.		198680	0.32	0.68	11.0	0.49
McP. 18.		198684	0.25	0.57	8.0	0.51
McP. 19.		198686	0.45	0.76	11.0	0.53
		MEAN	0.42	0.77	10.5	0.50
		MINIMUM	0.25	0.57	6.0	0.39
		MAXIMUM	0.56	0.97	18.0	0.70
		Maclean Area Average	0.44	0.79	10.4	0.48
		Hurst Area Average	0.43	0.78	11.7	0.55
		McPhillip's Area Average	0.39	0.73	9.5	0.49
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 198623		FLUORIDE:		0.84	mg/L	
		ORTHO PHOSPHORUS:		2.04	mg/L-PO4	

COMMENTS: Effective Wednesday June 18 2008 @ 1421 hours the chlorine dosage at Branch I and Branch II was increased from 2.8 mg/L to 3.2 mg/L.

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
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Diane Sacher Manager Water Services Division
Peter Ward Superintendent Water Services Division
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Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 23-Jun-08

cc:
N:\WQ Data\Routine Water Quality\2008\Residual\2008-06.xlsJUN 21

Monthly Water Quality Report
LIMS REF# 20304/20305

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: June 23, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	199300	0.30	0.69	17.0	1.10	4.5	INTAKE
DEACON PRECHLORINATION CELL #1	199302	<0.05	0.05	18.5	0.56		
DEACON PRECHLORINATION CELL #3	199303	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	199306	1.07	1.39	18.0	0.55	3.2	DEACON
AQUEDUCT BRANCH 2 @ HURST	199307	1.11	1.48	18.5	0.64	3.2	DEACON
MACLEAN STATION DISCHARGE	199311	0.92	1.23	17.0	0.51	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	199308	0.42	0.73	17.0			
HURST STATION DISCHARGE	199312	0.84	1.16	17.5	0.52	1.2	HURST
HURST STATION-PRECHLORINATION	199309	0.28	0.60	17.0			
McPHILLIPS STATION DISCHARGE	199313	0.93	1.22	16.5	0.45	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	199310	0.15	0.62	17.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: June 24, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		199318	0.42	0.82	11.0	0.45
McP. 2.		199322	0.53	0.82	12.5	0.40
McP. 3.		199326	0.38	0.73	12.0	0.38
McP. 4.		199328	0.42	0.84	10.0	0.42
MacL. 5.		199330	0.46	0.86	12.0	0.38
MacL. 6.		199332	0.39	0.78	14.0	0.44
MacL. 7.		199333	0.40	0.77	12.0	0.44
MacL. 8.		199338	0.32	0.68	10.5	0.38
MacL. 9.		199342	0.38	0.78	7.0	0.41
MacL. 10.		199343	0.46	0.83	13.5	0.36
MacL. 11.		199346	0.40	0.73	11.0	0.40
Hrst 12.		199356	0.26	0.68	8.0	1.38
Hrst 13.		199358	0.33	0.67	18.0	0.69
Hrst 14.		199360	0.67	1.06	15.5	0.45
Hrst 15.		199362	0.52	0.88	13.0	0.47
Hrst 16.		199365	0.37	0.80	11.5	0.45
Hrst 17.		199371	0.42	0.72	12.5	0.50
McP. 18.		199375	0.20	0.55	10.0	0.46
McP. 19.		199377	0.45	0.79	14.0	0.53
		MEAN	0.41	0.78	12.0	0.49
		MINIMUM	0.20	0.55	7.0	0.36
		MAXIMUM	0.67	1.06	18.0	1.38
		Maclean Area Average	0.40	0.78	11.4	0.40
		Hurst Area Average	0.43	0.80	13.1	0.66
		McPhillip's Area Average	0.40	0.76	11.6	0.44
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 199314		FLUORIDE:	0.88		mg/L	
		ORTHO PHOSPHORUS:	2.12		mg/L-PO4	

COMMENTS: Effective Wednesday June 25 2008 @ 1100 hours Cells 3 and 4 were placed online. Cell 1 and 2 are isolated. The high turbidity at Pembina Hwy. and Ducharme Ave. was caused by construction in the area.

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

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Diane Sacher Manager Water Services Division
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REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 3-Jul-08

cc:
N:\WQ Data\Routine Water Quality\2008\Residual\2008-06.xls JUN 28
Monthly Water Quality Report
LIMS REF# 20374/20375

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: June 30, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	200172	0.20	0.60	18.5	0.93	4.5	INTAKE
DEACON PRECHLORINATION CELL #1	200173	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	200174	<0.05	<0.05	19.0	0.92		
AQUEDUCT BRANCH 1. @ McPHILLIPS	200177	0.57	0.98	18.5	0.85	3.2	DEACON
AQUEDUCT BRANCH 2 @ HURST	200178	0.72	1.04	19.0	0.90	3.2	DEACON
MACLEAN STATION DISCHARGE	200182	0.86	1.22	17.5	0.76	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	200179	0.09	0.40	17.5			
HURST STATION DISCHARGE	200183	0.73	1.05	18.0	0.81	1.2	HURST
HURST STATION-PRECHLORINATION	200180	<0.05	0.34	17.5			
McPHILLIPS STATION DISCHARGE	200184	1.09	1.35	17.0	0.70	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	200181	0.07	0.29	17.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: July 2, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		200189	0.36	0.73	12.0	0.73
McP. 2.		200193	0.41	0.75	12.0	0.74
McP. 3.		200197	0.21	0.52	12.0	0.71
McP. 4.		200199	0.36	0.78	10.0	0.72
MacL. 5.		200201	0.37	0.74	14.0	0.71
MacL. 6.		200203	0.51	0.86	16.0	0.76
MacL. 7.		200204	0.43	0.76	12.5	0.70
MacL. 8.		200209	0.32	0.71	12.5	0.67
MacL. 9.		200213	0.27	0.59	8.0	0.77
MacL. 10.		200214	0.30	0.67	15.0	0.73
MacL. 11.		200217	0.23	0.61	11.0	0.71
Hrst 12.		200227	0.21	0.51	9.0	0.75
Hrst 13.		200229	0.28	0.60	20.0	0.77
Hrst 14.		200231	0.60	0.94	17.0	0.78
Hrst 15.		200233	0.42	0.74	14.5	0.81
Hrst 16.		200236	0.23	0.62	10.0	0.77
Hrst 17.		200242	0.16	0.51	13.0	0.88
McP. 18.		200246	0.10	0.34	10.0	0.74
McP. 19.		200248	0.36	0.76	13.0	0.77
		MEAN	0.32	0.67	12.7	0.75
		MINIMUM	0.10	0.34	8.0	0.67
		MAXIMUM	0.60	0.94	20.0	0.88
		Maclean Area Average	0.35	0.71	12.7	0.72
		Hurst Area Average	0.32	0.65	13.9	0.78
		McPhillip's Area Average	0.30	0.65	11.5	0.74
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 200185		FLUORIDE:	0.86	mg/L		
		ORTHO PHOSPHORUS:	2.03	mg/L-PO4		

COMMENTS: Effective Thursday July 3 2008 @ 1357 hours the chlorine dosage at Branch I and Branch II was increased from 3.2 mg/L to 3.6 mg/L.
Effective Friday July 4 2008 @ 1209 hours the chlorine dosage at all three pumping stations was increased from 1.2 mg/L to 1.3 mg/L.

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

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Peter Ward Superintendent Water Services Division
Andy Weremy Water Treatment Systems Engineer Water Services Division
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REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 8-Jul-08

cc:
N:\WQ Data\Routine Water Quality\2008\Residual\2008-07.xls;JUL 5
Monthly Water Quality Report
LIMS REF# 20472/20473

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: July 7, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	200676	0.05	0.43	20 0	1.07	4.5	INTAKE
DEACON PRECHLORINATION CELL #1	200677	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	200678	<0.05	<0.05	20 0	1.37		
AQUEDUCT BRANCH 1. @ McPHILLIPS	200681	0.88	1.24	20 0	0.92	3.6	DEACON
AQUEDUCT BRANCH 2 @ HURST	200682	1.10	1.51	20 5	1.04	3.6	DEACON
MACLEAN STATION DISCHARGE	200686	0.98	1.27	20 0	0.93	1.3	MACLEAN
MACLEAN STATION-PRECHLORINATION	200683	0.15	0.39	20 0			
HURST STATION DISCHARGE	200687	0.91	1.27	20 0	0.88	1.3	HURST
HURST STATION-PRECHLORINATION	200684	0.08	0.37	20 0			
McPHILLIPS STATION DISCHARGE	200688	0.98	1.34	19 5	0.83	1.3	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	200685	0.05	0.28	19 0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: July 8, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		200693	0.29	0.65	12 5	0.93
McP. 2.		200697	0.40	0.78	15 0	0.93
McP. 3.		200701	0.12	0.44	13 0	0.77
McP. 4.		200703	0.32	0.74	13 0	0.91
MacL. 5.		200705	0.32	0.79	14 5	0.91
MacL. 6.		200707	0.52	0.92	18 0	0.90
MacL. 7.		200708	0.20	0.52	13 0	0.83
MacL. 8.		200711	0.24	0.62	12 5	0.84
MacL. 9.		200717	0.26	0.67	11 5	0.82
MacL. 10.		200718	0.36	0.75	16 0	0.83
MacL. 11.		200721	0.20	0.52	12 0	0.82
Hrst 12.		200731	0.21	0.58	10 0	0.79
Hrst 13.		200733	0.40	0.76	20 0	0.95
Hrst 14.		200735	0.72	1.10	19 0	1.11
Hrst 15.		200737	0.46	0.88	15 5	0.98
Hrst 16.		200740	0.37	0.74	12 0	0.89
Hrst 17.		200746	0.22	0.60	15 0	1.09
McP. 18.		200750	0.11	0.36	12 0	0.84
McP. 19.		200752	0.42	0.77	15 0	0.87
		MEAN	0.32	0.69	14 2	0.90
		MINIMUM	0.11	0.36	10 0	0.77
		MAXIMUM	0.72	1.10	20 0	1.11
		Maclean Area Average	0.30	0.68	13.9	0.85
		Hurst Area Average	0.40	0.78	15.3	0.97
		McPhillip's Area Average	0.28	0.62	13.4	0.88
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER:			FLUORIDE:	0.90	mg/L	
			ORTHO PHOSPHORUS:	2.00	mg/L-PO4	

COMMENTS: Effective Thursday July 10 2008 @ 0950 hours the chlorine dosage at the Intake was increased from 4.5 mg/L to 5.0 mg/L the chlorine dosage at Branch I and Branch II was increased from 3.6 mg/L to 4.0 mg/L and the chlorine dosage at all three pumping stations was increased from 1.3 mg/L to 1.5 mg/L.

█ = Not Analyzed NS = No Sample OL = Off Line

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Kelly Kjaranson Manager Environmental Standards Division
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Andy Werymy Water Treatment Systems Engineer Water Services Division
Doug Sulymka Water Treatment Operations Supervisor Water Services Division

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APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

CC:

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Monthly Water Quality Report
LIMS REF# 20521/20522

Date Approved: 15-Jul-08

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: July 14, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	201271	0.41	0.78	19.0	1.80	5.0	INTAKE
DEACON PRECHLORINATION CELL #1	201272	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	201273	<0.05	<0.05	19.5	0.89		
AQUEDUCT BRANCH 1. @ McPHILLIPS	201276	1.14	1.56	19.0	0.65	4.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	201277	1.69	2.09	20.3	0.85	4.0	DEACON
MACLEAN STATION DISCHARGE	201281	1.05	1.43	19.9	0.70	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	201278	0.20	0.49	19.7			
HURST STATION DISCHARGE	201282	1.19	1.52	20.1	0.71	1.5	HURST
HURST STATION-PRECHLORINATION	201279	0.19	0.52	19.7			
McPHILLIPS STATION DISCHARGE	201283	1.38	1.62	19.8	0.72	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	201280	0.14	0.45	19.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: July 15, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		201288	0.44	0.83	14.0	0.58
McP. 2.		201292	0.50	0.92	15.5	0.60
McP. 3.		201296	0.24	0.52	13.5	0.61
McP. 4.		201298	0.35	0.82	13.0	0.57
MacL. 5.		201300	0.38	0.86	15.0	0.57
MacL. 6.		201302	0.56	1.00	17.0	0.65
MacL. 7.		201303	0.34	0.74	13.0	0.60
MacL. 8.		201308	0.36	0.74	12.5	0.67
MacL. 9.		201312	0.38	0.78	10.0	0.65
MacL. 10.		201313	0.50	0.96	16.0	0.56
MacL. 11.		201316	0.28	0.72	13.0	0.54
Hrst 12.		201326	0.38	0.80	11.0	0.55
Hrst 13.		201328	0.54	0.96	20.0	0.66
Hrst 14.		201330	0.77	1.18	18.0	0.56
Hrst 15.		201332	0.63	1.06	16.0	0.69
Hrst 16.		201335	0.48	0.92	12.0	0.60
Hrst 17.		201341	0.39	0.79	16.0	0.91
McP. 18.		201345	0.24	0.54	13.0	0.61
McP. 19.		201347	0.58	0.98	16.0	0.70
		MEAN	0.44	0.85	14.4	0.63
		MINIMUM	0.24	0.52	10.0	0.54
		MAXIMUM	0.77	1.18	20.0	0.91
		Maclean Area Average	0.40	0.83	13.8	0.61
		Hurst Area Average	0.53	0.95	15.5	0.66
		McPhillip's Area Average	0.39	0.77	14.2	0.61
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 201284		FLUORIDE:		0.82	mg/L	
		ORTHO PHOSPHORUS:		2.00	mg/L-PO4	

COMMENTS: The elevated chlorine residuals at Branch II at Hurst and McPhillips Station Discharge may be due to a combination of increasing the chlorine dosages at Deacon and the pumping stations on July 10, 2008 and the different hydraulics between Branch I and Branch II.

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

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Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: G. Levesque
Supervisor of Analytical Services (Acting)

Date Approved: 21-Jul-08

cc: N:\WQ Data\Routine Water Quality\2008\Residual\2008-07.xls\JUL 19
Monthly Water Quality Report

LIMS REF# 20576/20577

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: July 21, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	202029	0.25	0.66	24.5	0.75	5.0	INTAKE
DEACON PRECHLORINATION CELL #1	202030	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	202031	<0.05	<0.05	23.0	0.79		
AQUEDUCT BRANCH 1. @ McPHILLIPS	202034	1.40	1.82	22.0	0.62	4.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	202035	1.73	2.18	23.0	0.71	4.0	DEACON
MACLEAN STATION DISCHARGE	202039	1.07	1.49	21.5	0.62	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	202036	0.49	0.83	21.5			
HURST STATION DISCHARGE	202040	1.26	1.57	22.5	0.62	1.5	HURST
HURST STATION-PRECHLORINATION	202037	0.59	0.87	22.0			
McPHILLIPS STATION DISCHARGE	202041	1.23	1.49	21.5	0.60	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	202038	0.23	0.53	21.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: July 22, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		202046	0.60	0.98	15.0	0.60
McP. 2.		202050	0.58	0.99	16.0	0.55
McP. 3.		202054	0.27	0.67	15.0	0.52
McP. 4.		202056	0.62	1.03	12.0	0.53
MacL. 5.		202058	0.55	0.90	14.5	0.53
MacL. 6.		202060	0.82	1.10	18.0	0.56
MacL. 7.		202061	0.50	0.92	14.0	0.56
MacL. 8.		202066	0.52	0.86	13.0	0.54
MacL. 9.		202070	0.36	0.75	13.0	0.55
MacL. 10.		202071	0.52	0.94	16.0	0.69
MacL. 11.		202074	0.38	0.78	14.0	0.54
Hrst 12.		202084	0.42	0.86	11.0	0.51
Hrst 13.		202086	0.38	0.77	25.0	0.66
Hrst 14.		202088	0.88	1.26	18.0	0.63
Hrst 15.		202090	0.61	0.98	16.0	0.61
Hrst 16.		202093	0.54	0.96	11.0	0.58
Hrst 17.		202099	0.36	0.82	17.0	1.31
McP. 18.		202103	0.26	0.58	14.0	0.53
McP. 19.		202105	0.56	0.92	16.0	0.69
		MEAN	0.51	0.90	15.2	0.62
		MINIMUM	0.26	0.58	11.0	0.51
		MAXIMUM	0.88	1.26	25.0	1.31
		Maclean Area Average	0.52	0.89	14.6	0.57
		Hurst Area Average	0.53	0.94	16.3	0.72
		McPhillip's Area Average	0.48	0.86	14.7	0.57
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 202042		FLUORIDE:	0.83	mg/L		
		ORTHO PHOSPHORUS:	2.00	mg/L-PO4		

COMMENTS: The high turbidity (1.31 NTU) at Hamilton and Buchanan could not be explained therefore the location was resampled on July 24 2008 and an acceptable result was obtained (0.76 NTU).

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

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REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 5-Aug-08

cc: N:\WQ Data\Routine Water Quality\2008\Residual\2008-07.xls JUL 26
Monthly Water Quality Report

LIMS REF# 20650/20651

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: July 28, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	202721	0.20	0.60	21.5	1.06	5.0	INTAKE
DEACON PRECHLORINATION CELL #1	202722	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	202723	<0.05	0.09	22.3	0.93		
AQUEDUCT BRANCH 1. @ McPHILLIPS	202726	1.57	1.92	21.6	0.95	4.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	202727	1.78	2.05	22.1	0.98	4.0	DEACON
MACLEAN STATION DISCHARGE	202731	1.09	1.44	21.4	0.73	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	202728	0.60	0.92	21.0			
HURST STATION DISCHARGE	202732	1.15	1.47	21.3	0.66	1.5	HURST
HURST STATION-PRECHLORINATION	202729	0.53	0.89	21.1			
McPHILLIPS STATION DISCHARGE	202733	1.15	1.50	20.8	0.68	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	202730	0.43	0.76	20.9			

SAMPLE DATE:		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		202738	0.50	0.96	15.5	0.49
McP. 2.		202742	0.55	0.92	17.0	0.59
McP. 3.		202746	0.20	0.53	15.0	0.51
McP. 4.		202748	0.42	0.82	14.0	0.51
MacL. 5.		202750	0.42	0.79	15.5	0.49
MacL. 6.		202752	0.62	0.95	18.5	0.62
MacL. 7.		202523	0.41	0.80	15.0	0.51
MacL. 8.		202758	0.40	0.77	15.0	0.50
MacL. 9.		202762	0.46	0.88	11.0	0.52
MacL. 10.		202763	0.60	0.98	18.0	0.54
MacL. 11.		202766	0.36	0.72	15.0	0.49
Hrst 12.		202776	0.46	0.76	12.5	0.51
Hrst 13.		202778	0.56	0.94	23.0	0.61
Hrst 14.		202780	0.90	1.27	20.0	0.56
Hrst 15.		202782	0.62	1.10	17.0	0.64
Hrst 16.		202785	0.48	0.92	11.0	0.51
Hrst 17.		202791	0.47	0.80	17.0	0.76
McP. 18.		202795	0.30	0.72	15.5	0.55
McP. 19.		202797	0.55	0.94	16.0	0.68
		MEAN	0.49	0.87	15.9	0.56
		MINIMUM	0.20	0.53	11.0	0.49
		MAXIMUM	0.90	1.27	23.0	0.76
		Maclean Area Average	0.47	0.84	15.4	0.52
		Hurst Area Average	0.58	0.97	16.8	0.60
		McPhillip's Area Average	0.42	0.82	15.5	0.56
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 202734		FLUORIDE:		0.85	mg/L	
		ORTHO PHOSPHORUS:		1.99	mg/L-PO4	

COMMENTS:

█ = Not Analyzed NS = No Sample OL = Off Line

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Barry MacBride Director Water and Waste Department
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REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 5-Aug-08

cc:

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Monthly Water Quality Report

LIMS REF# 20707/20708

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: August 5, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	203448	0.19	0.58	23.0	0.72	5.0	INTAKE
DEACON PRECHLORINATION CELL #1	203449	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	203450	<0.05	<0.05	22.5	1.08		
AQUEDUCT BRANCH 1. @ McPHILLIPS	203453	1.30	1.67	22.5	1.07	4.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	203454	1.50	1.87	22.5	1.13	4.0	DEACON
MACLEAN STATION DISCHARGE	203458	1.26	1.58	22.5	0.82	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	203455	0.39	0.73	22.5			
HURST STATION DISCHARGE	203459	1.07	1.42	22.5	0.71	1.5	HURST
HURST STATION-PRECHLORINATION	203456	0.43	0.74	22.5			
McPHILLIPS STATION DISCHARGE	203460	1.29	1.62	22.0	0.72	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	203457	<0.05	0.27	22.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: August 5, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		203465	0.75	1.16	16.0	0.59
McP. 2.		203469	0.84	1.16	18.5	0.62
McP. 3.		203473	0.24	0.55	16.0	0.53
McP. 4.		203475	0.65	1.02	16.0	0.49
MacL. 5.		203477	0.64	0.99	17.0	0.52
MacL. 6.		203479	0.65	1.00	19.0	0.61
MacL. 7.		203480	0.47	0.90	16.0	0.50
MacL. 8.		203485	0.48	0.90	16.0	0.51
MacL. 9.		203489	0.52	0.94	11.0	1.21
MacL. 10.		203490	0.70	0.92	18.5	0.88
MacL. 11.		203493	0.36	0.74	15.0	0.58
Hrst 12.		203503	0.32	0.70	13.0	0.53
Hrst 13.		203505	0.46	0.85	22.0	1.86
Hrst 14.		203507	0.90	1.31	20.0	0.58
Hrst 15.		203509	0.49	0.84	18.5	0.70
Hrst 16.		203512	0.40	0.82	13.0	0.76
Hrst 17.		203518	0.39	0.78	17.5	0.95
McP. 18.		203522	0.26	0.64	15.0	0.51
McP. 19.		203524	0.54	0.88	17.0	0.71
		MEAN	0.53	0.90	16.6	0.72
		MINIMUM	0.24	0.55	11.0	0.49
		MAXIMUM	0.90	1.31	22.0	1.86
		Maclean Area Average	0.55	0.91	16.1	0.69
		Hurst Area Average	0.49	0.88	17.3	0.90
		McPhillip's Area Average	0.55	0.90	16.4	0.58
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 203461		FLUORIDE:		0.83	mg/L	
		ORTHO PHOSPHORUS:		1.98	mg/L-PO4	

COMMENTS: The high turbidity results at Dakota and Warde (1.21 NTU) and Freedman and Maclean (1.86 NTU) could not be explained but these locations were sampled again on August 13 and acceptable results were obtained (<1.0 NTU).

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

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REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

cc:

N:\WQ Data\Routine Water Quality\2008\Residual\2008-08.xls\AUG 9
Monthly Water Quality Report
LIMS REF# 20783/20784

Date Approved: 14-Aug-08

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: August 11, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	204002	0.14	0.52	22.2	1.02	5.0	INTAKE
DEACON PRECHLORINATION CELL #1	204003	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	204004	<0.05	0.05	22.1	0.90		
AQUEDUCT BRANCH 1. @ McPHILLIPS	204007	1.39	1.76	22.1	0.91	4.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	204008	1.59	2.00	22.4	0.87	4.0	DEACON
MACLEAN STATION DISCHARGE	204012	1.23	1.58	21.8	0.80	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	204009	0.46	0.79	21.6			
HURST STATION DISCHARGE	204013	1.15	1.47	21.8	0.82	1.5	HURST
HURST STATION-PRECHLORINATION	204010	0.50	0.90	21.7			
McPHILLIPS STATION DISCHARGE	204014	1.39	1.68	21.5	0.70	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	204011	0.39	0.73	21.6			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: August 13, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		203937	0.51	0.91	16.0	0.60
McP. 2.		203941	0.58	0.88	19.0	0.59
McP. 3.		203945	0.31	0.70	16.0	0.57
McP. 4.		203947	0.52	0.94	16.0	0.62
MacL. 5.		203949	0.58	0.96	17.5	0.61
MacL. 6.		203951	0.72	1.12	19.0	0.59
MacL. 7.		203952	0.53	0.80	16.0	0.60
MacL. 8.		203957	0.38	0.74	15.5	0.61
MacL. 9.		203961	0.50	0.90	12.0	0.56
MacL. 10.		203962	0.50	0.93	18.5	0.55
MacL. 11.		203965	0.32	0.70	16.0	0.68
Hrst 12.		203975	0.30	0.72	12.0	0.53
Hrst 13.		203977	0.52	0.88	21.0	0.60
Hrst 14.		203979	0.95	1.34	20.0	0.64
Hrst 15.		203981	0.68	1.08	17.0	0.70
Hrst 16.		203984	0.45	0.82	13.0	0.57
Hrst 17.		203990	0.41	0.80	18.0	0.84
McP. 18.		203994	0.18	0.48	15.0	0.56
McP. 19.		203996	0.40	0.86	18.0	0.69
		MEAN	0.49	0.87	16.6	0.62
		MINIMUM	0.18	0.48	12.0	0.53
		MAXIMUM	0.95	1.34	21.0	0.84
		Maclean Area Average	0.50	0.88	16.4	0.60
		Hurst Area Average	0.55	0.94	16.8	0.65
		McPhillip's Area Average	0.42	0.80	16.7	0.61
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 203933		FLUORIDE:		0.90	mg/L	
		ORTHO PHOSPHORUS:		2.01	mg/L-PO4	

COMMENTS:

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

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Diane Sacher Manager Water Services Division
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REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 18-Aug-08

cc:

N:\WQ Data\Routine Water Quality\2008\Residual\2008-08.xls\AUG 16
Monthly Water Quality Report
LIMS REF# 20832/20830

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: August 18, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	204738	0.09	0.61	24.5	0.85	5.0	INTAKE
DEACON PRECHLORINATION CELL #1	204739	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	204740	0.05	0.07	24.5	0.76		
AQUEDUCT BRANCH 1. @ McPHILLIPS	204743	1.58	1.83	22.3	0.96	4.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	204744	1.65	2.00	22.7	0.80	4.0	DEACON
MACLEAN STATION DISCHARGE	204748	1.18	1.49	22.0	0.64	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	204745	0.50	0.83	21.8			
HURST STATION DISCHARGE	204749	1.08	1.37	22.1	0.65	1.5	HURST
HURST STATION-PRECHLORINATION	204746	0.50	0.79	21.8			
McPHILLIPS STATION DISCHARGE	204750	1.30	1.50	21.7	0.65	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	204747	0.32	0.62	21.7			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: August 19, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		204601	0.50	0.88	15.0	0.70
McP. 2.		204605	0.44	0.78	18.5	0.62
McP. 3.		204609	0.12	0.48	17.0	0.51
McP. 4.		204611	0.30	0.72	18.0	0.51
MacL. 5.		204613	0.30	0.56	16.0	0.49
MacL. 6.		204615	0.70	1.08	20.0	0.61
MacL. 7.		204616	0.24	0.68	15.5	0.56
MacL. 8.		204621	0.51	0.90	16.0	0.54
MacL. 9.		204625	0.45	0.86	13.0	0.75
MacL. 10.		204626	0.52	0.76	19.0	0.51
MacL. 11.		204629	0.29	0.73	16.5	0.60
Hrst 12.		204639	0.30	0.71	13.0	0.53
Hrst 13.		204641	0.35	0.75	25.0	0.62
Hrst 14.		204643	0.80	1.19	20.0	0.60
Hrst 15.		204645	0.61	0.99	17.0	0.68
Hrst 16.		204648	0.41	0.79	13.0	0.59
Hrst 17.		204654	0.47	0.86	18.5	0.64
McP. 18.		204658	0.18	0.52	14.0	0.60
McP. 19.		204660	0.45	0.77	18.0	0.68
		MEAN	0.42	0.79	17.0	0.60
		MINIMUM	0.12	0.48	13.0	0.49
		MAXIMUM	0.80	1.19	25.0	0.75
		Maclean Area Average	0.43	0.80	16.6	0.58
		Hurst Area Average	0.49	0.88	17.8	0.61
		McPhillip's Area Average	0.33	0.69	16.8	0.60
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 204597			FLUORIDE:	0.84	mg/L	
			ORTHO PHOSPHORUS:	1.98	mg/L-PO4	

COMMENTS:

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
Kelly Kjaranson Manager Environmental Standards Division
Diane Sacher Manager Water Services Division
Andy Werymy Water Treatment Systems Engineer Water Services Division
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REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 2-Sep-08

cc:

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Monthly Water Quality Report

LIMS REF# 20896/20893

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: August 25, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	205497	0.18	0.56	21.9	0.82	5.0	INTAKE
DEACON PRECHLORINATION CELL #1	205498	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	205499	<0.05	<0.05	20.9	0.60		
AQUEDUCT BRANCH 1. @ McPHILLIPS	205502	1.41	1.82	20.8	0.58	4.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	205503	1.46	1.83	21.0	0.67	4.0	DEACON
MACLEAN STATION DISCHARGE	205504	1.13	1.39	21.7	0.53	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	205507	0.42	0.73	21.4			
HURST STATION DISCHARGE	205505	1.07	1.39	21.7	0.52	1.5	HURST
HURST STATION-PRECHLORINATION	205508	0.43	0.74	21.5			
McPHILLIPS STATION DISCHARGE	205506	1.16	1.43	21.9	0.53	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	205509	0.37	0.68	21.4			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: August 26, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		205514	0.53	0.91	19.0	0.44
McP. 2.		205518	0.46	0.80	17.5	0.50
McP. 3.		205522	0.18	0.40	15.5	0.46
McP. 4.		205524	0.38	0.68	17.5	0.46
MacL. 5.		205526	0.34	0.68	19.0	0.44
MacL. 6.		205528	0.59	1.00	19.0	0.49
MacL. 7.		205529	0.32	0.60	16.5	0.54
MacL. 8.		205534	0.44	0.80	16.0	0.47
MacL. 9.		205538	0.45	0.83	18.5	0.45
MacL. 10.		205539	0.39	0.73	18.5	0.48
MacL. 11.		205542	0.22	0.60	16.5	0.47
Hrst 12.		205552	0.24	0.57	15.0	0.43
Hrst 13.		205554	0.38	0.74	25.0	0.57
Hrst 14.		205556	0.75	1.19	20.0	0.50
Hrst 15.		205558	0.58	0.90	18.0	0.54
Hrst 16.		205561	0.43	0.82	13.5	0.46
Hrst 17.		205567	0.35	0.70	18.0	0.46
McP. 18.		205571	0.18	0.46	15.0	0.46
McP. 19.		205573	0.37	0.74	18.0	0.47
		MEAN	0.40	0.74	17.7	0.48
		MINIMUM	0.18	0.40	13.5	0.43
		MAXIMUM	0.75	1.19	25.0	0.57
		Maclean Area Average	0.39	0.75	17.7	0.48
		Hurst Area Average	0.46	0.82	18.3	0.49
		McPhillip's Area Average	0.35	0.67	17.1	0.47
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 205510		FLUORIDE:	0.82	mg/L		
		ORTHO PHOSPHORUS:	1.90	mg/L-PO4		

COMMENTS:

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

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REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 3-Sep-08

cc:

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Monthly Water Quality Report
LIMS REF# 20981/20982

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: September 2, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	206183	0.08	0.49	23.0	0.96	5.0	INTAKE
DEACON PRECHLORINATION CELL #1	206184	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	206185	<0.05	0.09	22.0	0.83		
AQUEDUCT BRANCH 1. @ McPHILLIPS	206188	1.54	1.96	22.5	0.92	4.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	206189	1.70	2.14	22.0	1.03	4.0	DEACON
MACLEAN STATION DISCHARGE	206193	1.24	1.61	22.0	0.53	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	206190	0.73	1.06	22.0			
HURST STATION DISCHARGE	206194	1.07	1.56	22.0	0.56	1.5	HURST
HURST STATION-PRECHLORINATION	206191	0.66	1.04	22.0			
McPHILLIPS STATION DISCHARGE	206195	1.18	1.54	21.5	0.54	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	206192	0.32	0.71	22.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: September 3, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		206121	0.60	0.97	16.0	0.40
McP. 2.		206125	0.47	0.77	18.6	0.43
McP. 3.		206129	0.21	0.55	16.0	0.62
McP. 4.		206131	0.58	0.98	16.0	0.53
MacL. 5.		206133	0.60	0.98	17.5	0.42
MacL. 6.		206135	0.73	1.10	18.5	0.55
MacL. 7.		206136	0.41	0.69	16.0	0.42
MacL. 8.		206141	0.49	0.85	15.5	0.56
MacL. 9.		206145	0.42	0.85	13.0	0.46
MacL. 10.		206146	0.53	0.82	18.0	0.42
MacL. 11.		206149	0.30	0.66	16.0	0.47
Hrst 12.		206159	0.22	0.58	14.0	0.41
Hrst 13.		206161	0.43	0.83	23.0	0.55
Hrst 14.		206163	0.83	1.18	19.0	0.47
Hrst 15.		206165	0.72	0.93	17.5	0.64
Hrst 16.		206168	0.46	0.87	14.0	0.47
Hrst 17.		206174	0.48	0.87	17.5	0.48
McP. 18.		206178	0.20	0.46	15.5	0.41
McP. 19.		206180	0.48	0.86	17.5	0.60
		MEAN	0.48	0.83	16.8	0.49
		MINIMUM	0.20	0.46	13.0	0.40
		MAXIMUM	0.83	1.18	23.0	0.64
		Maclean Area Average	0.50	0.85	16.4	0.47
		Hurst Area Average	0.52	0.88	17.5	0.50
		McPhillip's Area Average	0.42	0.77	16.6	0.50
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 206117		FLUORIDE:		0.87	mg/L	
		ORTHO PHOSPHORUS:		1.97	mg/L-PO4	

COMMENTS:

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

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N:\WQ Data\Routine Water Quality\2008\Residual\2008-09.xls]SEP 6
Monthly Water Quality Report
LIMS REF# 21051/21050

FILE: WQR2

REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 9-Sep-08

CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT
 ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: September 8, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	206590	0.22	0.64	19.5	0.89	5.0	INTAKE
DEACON PRECHLORINATION CELL #1	206591	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	206592	<0.05	<0.05	18.1	0.85		
AQUEDUCT BRANCH 1. @ McPHILLIPS	206595	1.32	1.68	18.5	0.72	4.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	206596	1.79	2.22	18.0	0.73	4.0	DEACON
MACLEAN STATION DISCHARGE	206600	1.32	1.59	19.0	0.65	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	206597	1.07	1.46	18.6			
HURST STATION DISCHARGE	206601	1.07	1.40	18.5	0.53	1.5	HURST
HURST STATION-PRECHLORINATION	206598	0.65	1.06	18.5			
McPHILLIPS STATION DISCHARGE	206602	1.38	1.74	18.5	0.52	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	206599	0.14	0.40	18.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: September 9, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		206607	0.60	0.95	16.0	0.47
McP. 2.		206611	0.30	0.63	17.5	0.62
McP. 3.		206615	0.23	0.46	17.0	0.47
McP. 4.		206617	0.62	0.96	16.5	0.69
MacL. 5.		206619	0.70	1.07	17.5	0.49
MacL. 6.		206621	0.78	1.18	18.5	0.46
MacL. 7.		206622	0.64	0.98	17.5	0.43
MacL. 8.		206627	0.53	0.89	16.5	0.45
MacL. 9.		206631	0.47	0.80	17.0	0.52
MacL. 10.		206632	0.46	0.83	18.5	0.55
MacL. 11.		206635	0.36	0.75	17.0	1.29
Hrst 12.		206645	0.36	0.66	13.0	0.39
Hrst 13.		206647	0.36	0.76	25.0	0.66
Hrst 14.		206649	0.86	1.23	16.0	0.54
Hrst 15.		206651	0.70	1.08	17.5	0.62
Hrst 16.		206654	0.55	0.93	18.0	0.54
Hrst 17.		206660	0.52	0.92	17.0	0.60
McP. 18.		206664	0.26	0.51	17.5	0.45
McP. 19.		206666	0.45	0.80	18.5	0.45
		MEAN	0.51	0.86	17.5	0.56
		MINIMUM	0.23	0.46	13.0	0.39
		MAXIMUM	0.86	1.23	25.0	1.29
		Maclean Area Average	0.56	0.93	17.5	0.60
		Hurst Area Average	0.56	0.93	17.8	0.56
		McPhillip's Area Average	0.41	0.72	17.2	0.53
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 206603		FLUORIDE:	0.80	mg/L		
		ORTHO PHOSPHORUS:	1.94	mg/L-PO4		

COMMENTS: The high chlorine results for Maclean Station Prechlorination occurred because only one reservoir was being used at the time of sampling, so the retention time for the water was reduced compared to normal operation (two reservoirs in use).
 The high turbidity (1.29 NTU) could not be explained, but the location was resampled on September 11 and the results came back < 1.0 NTU.

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
 Kelly Kjaranson Manager Environmental Standards Division
 Diane Sacher Manager Water Services Division
 Andy Weremy Water Treatment Systems Engineer Water Services Division
 Doug Sulymka Water Treatment Operations Supervisor Water Services Division

REPORT COMPILED BY: J. Jones
 Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
 Supervisor of Analytical Services (Acting)

Date Approved: 16-Sep-08

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: September 15, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	207300	0.32	0.89	18 0	0.77	5.0	INTAKE
DEACON PRECHLORINATION CELL #1	207301	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	207302	<0.05	<0.05	16 0	0.93		
AQUEDUCT BRANCH 1. @ McPHILLIPS	207305	2.04	2.36	17 0	0.96	4.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	207306	2.02	2.41	17 0	0.89	4.0	DEACON
MACLEAN STATION DISCHARGE	207310	1.41	1.89	17 0	0.74	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	207307	1.32	1.77	17 0			
HURST STATION DISCHARGE	207311	1.17	1.54	17 0	0.56	1.5	HURST
HURST STATION-PRECHLORINATION	207308	0.89	1.31	17 0			
McPHILLIPS STATION DISCHARGE	207312	1.09	1.61	17 0	1.75	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	207309	0.98	1.47	17 0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: September 16, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		207235	0.65	1.09	15 5	0.41
McP. 2.		207239	0.50	0.90	17 0	0.51
McP. 3.		207243	0.20	0.54	16 0	0.43
McP. 4.		207245	0.66	1.07	16 5	0.67
MacL. 5.		207247	0.68	1.06	17 0	0.53
MacL. 6.		207249	0.80	1.26	17 0	0.59
MacL. 7.		207250	0.48	0.94	15 5	0.53
MacL. 8.		207255	0.63	1.03	16 0	0.48
MacL. 9.		207259	0.51	0.90	13 5	0.60
MacL. 10.		207260	0.49	0.90	17 0	0.49
MacL. 11.		207263	0.44	0.85	16 0	0.67
Hrst 12.		207273	0.33	0.72	14 0	0.48
Hrst 13.		207275	0.54	0.94	21 0	0.74
Hrst 14.		207277	0.90	1.31	17 0	0.55
Hrst 15.		207279	0.70	1.11	17 0	0.90
Hrst 16.		207282	0.58	1.05	14 0	0.91
Hrst 17.		207288	0.58	1.00	17 0	0.58
McP. 18.		207292	0.18	0.49	16 0	0.47
McP. 19.		207294	0.52	0.90	18 0	0.53
		MEAN	0.55	0.95	16.4	0.58
		MINIMUM	0.18	0.49	13.5	0.41
		MAXIMUM	0.90	1.31	21 0	0.91
		Maclean Area Average	0.58	0.99	16 0	0.56
		Hurst Area Average	0.61	1.02	16.7	0.69
		McPhillip's Area Average	0.45	0.83	16 5	0.50
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 207231		FLUORIDE:		0.87	mg/L	
		ORTHO PHOSPHORUS:		1.93	mg/L-PO4	

COMMENTS: The high turbidity at McPhillips Station Discharge could not be explained so the location was resampled on September 17 2008. The result came back lower (1.12 NTU) but was still above 1.0 NTU.

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

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Diane Sacher Manager Water Services Division
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Doug Sulymka Water Treatment Operations Supervisor Water Services Division

REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

cc:

N:\WQ Data\Routine Water Quality\2008\Residual\2008-09.xls]SEP 20
Monthly Water Quality Report
LIMS REF# 21160/21158

Date Approved: 26-Sep-08

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: September 22, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	207948	0.77	1.31	NR	0.92	5.0	INTAKE
DEACON PRECHLORINATION CELL #1	207950	<0.05	<0.05	NR	3.06		
DEACON PRECHLORINATION CELL #3	207951	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	207954	1.23	1.76	16.0	1.86	4.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	207955	1.40	2.02	16.0	2.11	4.0	DEACON
MACLEAN STATION DISCHARGE	207959	1.07	1.44	16.0	1.18	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	207956	0.32	0.87	16.0			
HURST STATION DISCHARGE	207960	1.21	1.65	16.0	1.20	1.5	HURST
HURST STATION-PRECHLORINATION	207957	0.22	0.71	16.0			
McPHILLIPS STATION DISCHARGE	207961	1.17	1.64	16.0	1.20	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	207958	0.27	0.82	16.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: September 24, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		207966	0.42	0.86	15.8	0.85
McP. 2.		207970	0.38	0.84	16.9	1.19
McP. 3.		207974	0.21	0.58	16.6	0.87
McP. 4.		207976	0.55	1.07	16.5	0.97
MacL. 5.		207978	0.65	1.12	16.9	0.99
MacL. 6.		207980	0.65	1.09	17.5	1.06
MacL. 7.		207981	0.32	0.76	16.3	0.89
MacL. 8.		207986	0.39	0.81	17.1	0.85
MacL. 9.		207990	0.42	0.93	15.1	1.16
MacL. 10.		207991	0.35	0.76	17.0	1.00
MacL. 11.		207966	0.30	0.74	16.3	1.14
Hrst 12.		208004	0.20	0.65	14.7	4.11
Hrst 13.		208006	0.30	0.66	22.9	1.02
Hrst 14.		208008	0.86	1.32	16.9	0.91
Hrst 15.		208010	0.45	0.85	16.5	1.07
Hrst 16.		208013	0.40	0.84	14.9	0.88
Hrst 17.		208019	0.39	0.91	17.2	1.02
McP. 18.		208023	0.20	0.55	16.8	0.82
McP. 19.		208025	0.36	0.83	18.3	0.92
		MEAN	0.41	0.85	16.9	1.14
		MINIMUM	0.20	0.55	14.7	0.82
		MAXIMUM	0.86	1.32	22.9	4.11
		Maclean Area Average	0.44	0.89	16.6	1.01
		Hurst Area Average	0.43	0.87	17.2	1.50
		McPhillip's Area Average	0.35	0.79	16.8	0.94
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 207962		FLUORIDE:		0.87	mg/L	
		ORTHO PHOSPHORUS:		1.93	mg/L-PO4	

COMMENTS:

There are no temperature results for Cell 1 and Cell 2 because the thermometer was broken.
The high turbidity [redacted] (4.11 NTU) was due to construction in the area.
The high turbidities (>1.0 NTU) at many of the distribution system locations are likely due to the quality of the incoming water supply.

[redacted] = Not Analyzed NS = No Sample OL = Off Line

Distribution List

E-mail:

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Kelly Kjarntanson Manager Environmental Standards Division
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REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 29-Sep-08

cc: N:\WQ Data\Routine Water Quality\2008\Residual\2008-09.xls]SEP 27
Monthly Water Quality Report

LIMS REF# 21216/21217

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: September 29, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	208655	OL	OL	OL	OL	OL	INTAKE
DEACON PRECHLORINATION CELL #1	208657	<0.05	<0.05	14.2	2.27		
DEACON PRECHLORINATION CELL #3	208658	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	208661	1.56	1.97	15.6	1.51	4.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	208662	1.68	2.09	15.6	1.62	4.0	DEACON
MACLEAN STATION DISCHARGE	208666	1.38	1.78	16.8	1.00	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	208663	0.41	0.78	16.1			
HURST STATION DISCHARGE	208667	1.16	1.51	16.4	1.03	1.5	HURST
HURST STATION-PRECHLORINATION	208664	0.48	0.94	16.0			
McPHILLIPS STATION DISCHARGE	208668	1.27	1.74	16.4	1.12	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	208665	0.66	1.09	16.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: September 30, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		208673	0.34	0.69	15.6	0.80
McP. 2.		208677	0.28	0.63	16.3	1.20
McP. 3.		208681	0.25	0.52	16.2	0.96
McP. 4.		208683	0.70	1.14	15.9	1.44
MacL. 5.		208685	0.63	1.09	16.5	3.25
MacL. 6.		208687	0.80	1.27	16.7	1.18
MacL. 7.		208688	0.60	1.03	15.9	0.98
MacL. 8.		208693	0.62	1.00	15.3	0.78
MacL. 9.		208697	0.51	0.99	13.3	0.82
MacL. 10.		208698	0.46	0.87	16.7	0.87
MacL. 11.		208701	0.46	0.87	16.1	1.05
Hrst 12.		208711	0.30	0.70	14.3	0.73
Hrst 13.		208713	0.60	0.98	17.8	0.96
Hrst 14.		208715	0.96	1.31	16.3	0.91
Hrst 15.		108717	0.72	1.17	16.6	1.30
Hrst 16.		208720	0.50	0.94	14.2	0.85
Hrst 17.		208726	0.62	1.01	16.3	0.85
McP. 18.		208730	0.23	0.55	15.7	1.18
McP. 19.		208732	0.98	1.13	16.9	1.13
		MEAN	0.56	0.94	15.9	1.12
		MINIMUM	0.23	0.52	13.3	0.73
		MAXIMUM	0.98	1.31	17.8	3.25
		Maclean Area Average	0.58	1.02	15.8	1.28
		Hurst Area Average	0.62	1.02	15.9	0.93
		McPhillip's Area Average	0.46	0.78	16.1	1.12
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 208669		FLUORIDE:		0.91	mg/L	
		ORTHO PHOSPHORUS:		2.00	mg/L-PO4	

COMMENTS: Effective September 25 2008 to October 6 2008 the Shoal Lake Aqueduct was shut down for maintenance therefore there was no sample for the Aqueduct at Deacon.
The high turbidity at [redacted] (3.25 NTU) could not be explained but the location was resampled on October 2 and the results came back <1.0 NTU.
The high turbidities (>1.0 NTU) at many of the distribution system locations are likely due to the quality of the incoming water supply.

[redacted] = Not Analyzed **NS** = No Sample **OL** = Off Line

Distribution List

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Kelly Kjaranson Manager Environmental Standards Division
Diane Sacher Manager Water Services Division
Andy Weremy Water Treatment Systems Engineer Water Services Division
Doug Sulymka Water Treatment Operations Supervisor Water Services Division

REPORT COMPILED BY: J. Jones
Compliance Reporting Technician
APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 9-Oct-08

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: October 6, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	209380	1.07	1.56	13.7	1.19	5.0	INTAKE
DEACON PRECHLORINATION CELL #1	209382	<0.05	<0.05	12.7	2.05		
DEACON PRECHLORINATION CELL #3	209383	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	209386	1.51	1.97	13.5	1.38	4.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	209387	1.73	2.22	13.5	2.05	4.0	DEACON
MACLEAN STATION DISCHARGE	209391	1.32	1.77	15.1	1.05	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	209388	0.47	0.88	14.2			
HURST STATION DISCHARGE	209392	1.13	1.59	14.3	1.04	1.5	HURST
HURST STATION-PRECHLORINATION	209389	0.65	1.07	13.8			
McPHILLIPS STATION DISCHARGE	209393	1.17	1.63	14.8	1.03	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	209390	0.67	1.07	15.2			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: October 7, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		209319	0.60	1.10	14.7	0.80
McP. 2.		209323	0.75	1.30	13.0	0.98
McP. 3.		209327	0.24	0.50	15.8	0.78
McP. 4.		209329	0.57	1.06	15.7	0.88
MacL. 5.		209331	0.65	1.20	15.7	0.94
MacL. 6.		209333	0.76	1.27	15.3	1.05
MacL. 7.		209334	0.46	0.97	15.4	0.86
MacL. 8.		209339	0.59	1.12	14.4	0.78
MacL. 9.		209343	0.55	1.03	12.7	0.83
MacL. 10.		209344	0.54	1.00	15.5	0.92
MacL. 11.		209347	0.35	0.85	15.4	0.93
Hrst 12.		209357	0.30	0.75	13.9	0.71
Hrst 13.		209359	0.53	1.01	21.4	0.94
Hrst 14.		209361	0.90	1.35	14.2	0.96
Hrst 15.		209363	0.81	1.28	14.7	1.21
Hrst 16.		209366	0.58	1.08	13.8	0.78
Hrst 17.		209372	0.67	1.18	14.7	0.86
McP. 18.		209376	0.19	0.51	15.3	0.85
McP. 19.		209378	0.57	1.00	15.9	0.90
		MEAN	0.56	1.03	15.1	0.89
		MINIMUM	0.19	0.50	12.7	0.71
		MAXIMUM	0.90	1.35	21.4	1.21
		Maclean Area Average	0.56	1.06	14.9	0.90
		Hurst Area Average	0.63	1.11	15.5	0.91
		McPhillip's Area Average	0.49	0.91	15.1	0.87
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 209315		FLUORIDE:		0.94	mg/L	
		ORTHO PHOSPHORUS:		1.98	mg/L-PO4	

COMMENTS: The total chlorine result for Maclean Station Discharge was above the chlorine setpoint due to drifting in the auto analyzer at the station. The high turbidities (>1.0 NTU) at Keewatin St. & Inkster Blvd. and at Osborne St. & Stradbrook Ave. are likely due to the quality of the incoming water supply.

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

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Diane Sacher Manager Water Services Division
Andy Werymy Water Treatment Systems Engineer Water Services Division
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REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 20-Oct-08

cc:
N:\WQ Data\Routine Water Quality\2008\Residual\2008-10.xls\OCT 11
Monthly Water Quality Report

LIMS REF# 21337/21336

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: October 14, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	209914	0.84	1.38	10.9	1.02	4.5	INTAKE
DEACON PRECHLORINATION CELL #1	209916	<0.05	<0.05	10.1	1.04		
DEACON PRECHLORINATION CELL #3	209917	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	209920	1.86	2.29	11.1	0.94	3.8	DEACON
AQUEDUCT BRANCH 2 @ HURST	209921	2.14	2.63	11.2	1.21	3.8	DEACON
MACLEAN STATION DISCHARGE	209925	1.05	1.51	11.6	0.90	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	209922	0.96	1.39	11.4			
HURST STATION DISCHARGE	209926	1.19	1.61	11.8	0.79	1.5	HURST
HURST STATION-PRECHLORINATION	209923	1.08	1.54	11.7			
McPHILLIPS STATION DISCHARGE	209927	1.09	1.51	12.0	0.80	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	209924	1.05	1.47	11.9			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: October 15, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		209853	0.49	0.93	14.2	0.54
McP. 2.		209857	0.70	1.14	13.3	0.85
McP. 3.		209861	0.15	0.50	15.1	0.66
McP. 4.		209863	0.57	1.10	15.1	0.69
MacL. 5.		209865	0.66	1.14	14.5	0.99
MacL. 6.		209867	0.89	1.42	13.3	0.78
MacL. 7.		209868	0.48	0.96	13.9	0.54
MacL. 8.		209873	0.47	0.87	13.5	0.63
MacL. 9.		209877	0.60	1.08	14.2	0.65
MacL. 10.		209878	0.59	1.06	14.2	0.57
MacL. 11.		209881	0.35	0.75	14.4	0.70
Hrst 12.		209891	0.30	0.80	13.2	0.59
Hrst 13.		209893	0.41	0.89	20.9	0.78
Hrst 14.		209895	0.94	1.42	12.1	0.59
Hrst 15.		209897	0.67	1.11	15.3	0.62
Hrst 16.		209900	0.70	1.14	13.3	0.62
Hrst 17.		209906	0.75	1.20	12.9	0.66
McP. 18.		209910	0.15	0.44	14.3	0.75
McP. 19.		209912	0.50	1.00	15.3	0.60
		MEAN	0.55	1.00	14.4	0.67
		MINIMUM	0.15	0.44	12.1	0.54
		MAXIMUM	0.94	1.42	20.9	0.99
		Maclean Area Average	0.58	1.04	14.0	0.69
		Hurst Area Average	0.63	1.09	14.6	0.64
		McPhillip's Area Average	0.43	0.85	14.6	0.68
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 209849		FLUORIDE:		0.86	mg/L	
		ORTHO PHOSPHORUS:		1.96	mg/L-PO4	

COMMENTS: Effective Friday October 10 2008 at 0900 hours the chlorine dosage at the Intake was decreased from 5.0 mg/L to 4.5 mg/L and the chlorine dosage at Branch I and Branch II was decreased from 4.0 mg/L to 3.8 mg/L.

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
Kelly Kjarantson Manager Environmental Standards Division
Diane Sacher Manager Water Services Division
Andy Werymy Water Treatment Systems Engineer Water Services Division
Doug Sulymka Water Treatment Operations Supervisor Water Services Division

REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

cc:

N:\WQ Data\Routine Water Quality\2008\Residual\2008-10.xls\OCT 18
Monthly Water Quality Report
LIMS REF# 21393/21392

Date Approved: 20-Oct-08

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: October 20, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	210438	0.70	1.17	10.1	0.78	4.0	INTAKE
DEACON PRECHLORINATION CELL #1	210440	<0.05	<0.05	9.3	0.75		
DEACON PRECHLORINATION CELL #3	210441	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	210444	1.93	2.39	10.0	0.76	3.4	DEACON
AQUEDUCT BRANCH 2 @ HURST	210445	1.98	2.43	9.9	0.81	3.4	DEACON
MACLEAN STATION DISCHARGE	210449	1.22	1.68	10.3	0.68	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	210446	1.17	1.64	10.0			
HURST STATION DISCHARGE	210450	1.18	1.59	10.2	0.64	1.5	HURST
HURST STATION-PRECHLORINATION	210447	1.19	1.63	9.9			
McPHILLIPS STATION DISCHARGE	210451	1.24	1.61	10.3	0.64	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	210448	1.17	1.64	10.2			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: October 20, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP.	1.	210377	0.53	0.97	13.4	0.51
McP.	2.	210381	0.69	1.12	12.7	0.77
McP.	3.	210385	0.25	0.65	14.7	0.60
McP.	4.	210387	0.72	1.15	13.7	0.47
MacL.	5.	210389	0.76	1.19	13.1	0.44
MacL.	6.	210391	0.93	1.45	12.8	0.57
MacL.	7.	210392	0.70	1.12	13.1	0.98
MacL.	8.	210397	0.57	0.99	13.3	0.51
MacL.	9.	210401	0.58	1.00	12.9	0.48
MacL.	10.	210402	0.70	1.10	13.1	0.53
MacL.	11.	210405	0.45	0.80	13.5	0.88
Hrst	12.	210415	0.24	0.73	12.9	0.56
Hrst	13.	210417	0.44	0.81	25.7	0.99
Hrst	14.	210419	0.81	1.40	11.3	0.51
Hrst	15.	210421	0.90	1.29	13.3	0.56
Hrst	16.	210424	0.60	1.02	12.9	0.45
Hrst	17.	210430	0.46	0.95	11.8	0.57
McP.	18.	210434	0.16	0.70	16.0	0.50
McP.	19.	210436	0.54	1.00	14.3	0.56
		MEAN	0.58	1.02	13.9	0.60
		MINIMUM	0.16	0.65	11.3	0.44
		MAXIMUM	0.93	1.45	25.7	0.99
		Maclean Area Average	0.67	1.09	13.1	0.63
		Hurst Area Average	0.58	1.03	14.7	0.61
		McPhillip's Area Average	0.48	0.93	14.1	0.57
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 210373		FLUORIDE:	0.95		mg/L	
		ORTHO PHOSPHORUS:	1.96		mg/L-PO4	

COMMENTS: Effective Thursday October 23 2008 at 1500 hours the chlorine dosage at the Intake was decreased from 4.0 mg/L to 3.5 mg/L and the chlorine dosage at Branch I and Branch II was decreased from 3.4 mg/L to 3.0 mg/L.

█ = Not Analyzed NS = No Sample OL = Off Line

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Diane Sacher Manager Water Services Division
Andy Werymy Water Treatment Systems Engineer Water Services Division
Doug Sulymka Water Treatment Operations Supervisor Water Services Division

REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

cc:

N:\WQ Data\Routine Water Quality\2008\Residual\2008-10.xls|OCT 25
Monthly Water Quality Report
LIMS REF# 21441/21440

Date Approved: 28-Oct-08

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: October 27, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	211051	0.63	1.01	8.7	0.71	3.5	INTAKE
DEACON PRECHLORINATION CELL #1	211053	<0.05	<0.05	7.3	0.90		
DEACON PRECHLORINATION CELL #3	211054	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	211057	1.81	2.28	8.4	1.10	3.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	211058	1.89	2.36	8.3	0.91	3.0	DEACON
MACLEAN STATION DISCHARGE	211062	1.27	1.68	8.9	0.99	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	211059	1.24	1.68	8.6			
HURST STATION DISCHARGE	211063	1.09	1.57	9.1	0.66	1.5	HURST
HURST STATION-PRECHLORINATION	211060	0.98	1.41	8.9			
McPHILLIPS STATION DISCHARGE	211064	1.04	1.56	9.3	0.81	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	211061	1.23	1.70	9.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: October 28, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		210990	0.75	1.28	12.0	0.51
McP. 2.		210994	0.70	1.22	11.8	1.11
McP. 3.		210998	0.42	0.92	12.1	0.50
McP. 4.		211000	0.80	1.13	13.7	0.39
MacL. 5.		211002	0.83	1.33	12.2	0.47
MacL. 6.		211004	0.81	1.45	11.3	0.49
MacL. 7.		211005	0.85	1.35	11.5	0.40
MacL. 8.		211010	0.74	1.20	13.4	0.49
MacL. 9.		211014	0.84	1.34	12.1	0.49
MacL. 10.		211015	0.90	1.38	11.9	0.56
MacL. 11.		211018	0.82	1.36	12.9	0.53
Hrst 12.		211028	0.46	0.85	12.4	0.49
Hrst 13.		211030	0.87	1.34	23.1	0.47
Hrst 14.		211032	0.98	1.46	12.2	0.49
Hrst 15.		211034	0.90	1.36	11.7	0.69
Hrst 16.		211037	0.80	1.23	12.5	0.51
Hrst 17.		211043	0.87	1.28	10.9	0.50
McP. 18.		211047	0.36	0.80	13.0	0.45
McP. 19.		211049	0.85	1.20	12.3	0.50
		MEAN	0.77	1.24	12.8	0.53
		MINIMUM	0.36	0.80	10.9	0.39
		MAXIMUM	0.98	1.46	23.1	1.11
		Maclean Area Average	0.83	1.34	12.2	0.49
		Hurst Area Average	0.81	1.25	13.8	0.53
		McPhillip's Area Average	0.65	1.09	12.5	0.58
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 210986		FLUORIDE:	0.83	mg/L		
		ORTHO PHOSPHORUS:	1.96	mg/L-PO4		

COMMENTS: The high turbidity (1.11 NTU) at Talbot Ave. and Watt. St. was due to construction in the area. Effective October 30 2008 at 1415 hours the chlorine dosage at Branch I and Branch II was decreased from 3.0 mg/L to 2.6 mg/L and the chlorine dosage at all three pumping stations was decreased from 1.5 mg/L to 1.4 mg/L.

█ = Not Analyzed NS = No Sample OL = Off Line

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Kelly Kjaranson Manager Environmental Standards Division
Diane Sacher Manager Water Services Division
Andy Werymy Water Treatment Systems Engineer Water Services Division
Doug Sulymka Water Treatment Operations Supervisor Water Services Division

REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

cc:

N:\WQ Data\Routine Water Quality\2008\Residual\2008-10.xls\NOV 1
Monthly Water Quality Report
LIMS REF# 21501/21500

Date Approved: 3-Nov-08

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: November 3, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	211687	0.49	0.98	7.4	0.88	3.5	INTAKE
DEACON PRECHLORINATION CELL #1	211689	<0.05	<0.05	6.8	1.04		
DEACON PRECHLORINATION CELL #3	211690	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	211693	1.45	1.87	7.3	0.92	2.6	DEACON
AQUEDUCT BRANCH 2 @ HURST	211694	1.54	1.96	7.2	1.16	2.6	DEACON
MACLEAN STATION DISCHARGE	211698	1.18	1.56	7.4	0.76	1.4	MACLEAN
MACLEAN STATION-PRECHLORINATION	211695	1.06	1.37	7.2			
HURST STATION DISCHARGE	211699	1.09	1.45	7.7	0.86	1.4	HURST
HURST STATION-PRECHLORINATION	211696	0.76	1.15	7.4			
McPHILLIPS STATION DISCHARGE	211700	1.10	1.47	7.9	0.68	1.4	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	211697	0.82	1.32	7.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: November 4, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		211626	0.70	1.10	10.7	0.58
McP. 2.		211630	0.61	1.01	10.9	0.52
McP. 3.		211634	0.25	0.59	12.9	0.59
McP. 4.		211636	0.71	1.05	12.6	0.55
MacL. 5.		211638	0.83	1.20	11.7	0.63
MacL. 6.		211640	0.91	1.34	9.8	0.59
MacL. 7.		211641	0.60	0.99	12.4	0.54
MacL. 8.		211646	0.53	0.85	12.0	0.53
MacL. 9.		211650	0.56	1.00	11.7	0.65
MacL. 10.		211651	0.78	1.12	10.2	0.58
MacL. 11.		211654	0.23	0.66	12.1	0.54
Hrst 12.		211664	0.46	0.83	11.8	1.39
Hrst 13.		211666	0.65	1.04	12.5	0.50
Hrst 14.		211668	0.87	1.31	8.4	0.72
Hrst 15.		211670	0.73	1.14	11.3	0.64
Hrst 16.		211673	0.62	1.04	10.9	0.62
Hrst 17.		211679	0.67	1.12	9.7	0.64
McP. 18.		211683	0.23	0.57	12.6	0.56
McP. 19.		211685	0.72	1.09	11.7	0.61
		MEAN	0.61	1.00	11.4	0.63
		MINIMUM	0.23	0.57	8.4	0.50
		MAXIMUM	0.91	1.34	12.9	1.39
		Maclean Area Average	0.63	1.02	11.4	0.58
		Hurst Area Average	0.67	1.08	10.8	0.75
		McPhillip's Area Average	0.54	0.90	11.9	0.57
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 211622		FLUORIDE:		0.79	mg/L	
		ORTHO PHOSPHORUS:		1.96	mg/L-PO4	

COMMENTS:

The high turbidity (1.39 NTU) at Pembina Hwy. and Ducharme Ave. was due to construction in the area.

█ = Not Analyzed NS = No Sample OL = Off Line

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E-mail:

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Kelly Kjarntanson Manager Environmental Standards Division
Diane Sacher Manager Water Services Division
Andy Werymy Water Treatment Systems Engineer Water Services Division
Doug Sulymka Water Treatment Operations Supervisor Water Services Division

REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 13-Nov-08

cc:

N:\WQ Data\Routine Water Quality\2008\Residual\2008-11.xls\NOV 8
Monthly Water Quality Report
LIMS REF# 21559/21558

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: November 10, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	212290	0.56	0.98	5.8	1.04	3.5	INTAKE
DEACON PRECHLORINATION CELL #1	212292	<0.05	<0.05	3.9	0.88		
DEACON PRECHLORINATION CELL #3	212293	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	212296	1.33	1.72	6.3	0.70	2.6	DEACON
AQUEDUCT BRANCH 2 @ HURST	212297	1.27	1.71	5.8	0.73	2.6	DEACON
MACLEAN STATION DISCHARGE	212301	1.14	1.46	5.9	0.76	1.4	MACLEAN
MACLEAN STATION-PRECHLORINATION	212298	1.00	1.37	5.8			
HURST STATION DISCHARGE	212302	1.17	1.48	6.7	0.61	1.4	HURST
HURST STATION-PRECHLORINATION	212299	0.76	1.11	6.4			
McPHILLIPS STATION DISCHARGE	212303	1.16	1.53	7.3	0.66	1.4	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	212300	0.95	1.32	6.6			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: November 12, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		212229	0.58	0.90	10.7	0.50
McP. 2.		212233	0.60	1.00	9.9	0.45
McP. 3.		212237	0.31	0.62	11.9	0.56
McP. 4.		212239	0.80	1.19	11.9	0.56
MacL. 5.		212241	0.88	1.35	9.2	0.75
MacL. 6.		212243	1.00	1.42	8.2	0.72
MacL. 7.		212244	0.66	1.04	12.1	0.62
MacL. 8.		212249	0.65	1.06	9.5	0.42
MacL. 9.		212253	0.77	1.11	11.4	0.59
MacL. 10.		212254	0.86	1.28	9.7	0.71
MacL. 11.		212257	0.30	0.70	11.2	0.54
Hrst 12.		212267	0.44	0.88	10.9	0.81
Hrst 13.		212269	0.75	1.19	10.8	0.96
Hrst 14.		212271	1.03	1.39	6.9	0.47
Hrst 15.		212273	0.82	1.26	9.1	0.50
Hrst 16.		212276	0.74	1.17	11.7	0.52
Hrst 17.		212282	0.79	1.25	8.6	0.76
McP. 18.		212286	0.23	0.54	11.8	0.64
McP. 19.		212288	0.69	1.12	10.1	0.60
		MEAN	0.68	1.08	10.3	0.61
		MINIMUM	0.23	0.54	6.9	0.42
		MAXIMUM	1.03	1.42	12.1	0.96
		Maclean Area Average	0.73	1.14	10.2	0.62
		Hurst Area Average	0.76	1.19	9.7	0.67
		McPhillip's Area Average	0.54	0.90	11.1	0.55
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 212225		FLUORIDE:		0.83	mg/L	
		ORTHO PHOSPHORUS:		1.98	mg/L-PO4	

COMMENTS: Effective Monday November 10 2008 at 1400 hours the chlorine dosage at the Intake was decreased from 3.5 mg/L to 3.0 mg/L and the chlorine dosage at Branch I and Branch II was decreased from 2.6 mg/L to 2.2 mg/L.

█ = Not Analyzed NS = No Sample OL = Off Line

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Andy Wemy Water Treatment Systems Engineer Water Services Division
Doug Sulymka Water Treatment Operations Supervisor Water Services Division

REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

cc:

N:\WQ Data\Routine Water Quality\2008\Residual\2008-11.xls NOV 15
Monthly Water Quality Report
LIMS REF# 21618/21617

Date Approved: 18-Nov-08

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: November 17, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	212832	0.24	0.69	3.8	0.84	3.0	INTAKE
DEACON PRECHLORINATION CELL #1	212834	<0.05	<0.05	1.6	0.78		
DEACON PRECHLORINATION CELL #3	212835	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	212838	1.06	1.38	3.6	0.68	2.2	DEACON
AQUEDUCT BRANCH 2 @ HURST	212839	1.35	1.63	3.1	0.76	2.2	DEACON
MACLEAN STATION DISCHARGE	212843	1.12	1.46	3.5	0.67	1.4	MACLEAN
MACLEAN STATION-PRECHLORINATION	212840	0.97	1.36	2.8			
HURST STATION DISCHARGE	212844	1.08	1.41	3.8	0.76	1.4	HURST
HURST STATION-PRECHLORINATION	212841	0.72	1.04	3.3			
McPHILLIPS STATION DISCHARGE	212845	1.17	1.52	5.3	0.61	1.4	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	212842	0.68	0.97	5.2			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: November 19, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP.	1.	212771	0.78	1.15	8.0	0.49
McP.	2.	212775	0.91	1.22	7.1	0.56
McP.	3.	212779	0.35	0.63	11.3	0.57
McP.	4.	212781	0.94	1.33	8.5	0.54
MacL.	5.	212783	0.88	1.20	8.0	0.50
MacL.	6.	212785	0.98	1.36	7.2	0.55
MacL.	7.	212786	0.58	0.98	10.5	0.47
MacL.	8.	212791	0.72	1.03	9.1	0.50
MacL.	9.	212795	0.66	1.00	10.9	0.52
MacL.	10.	212796	0.85	1.20	8.1	0.53
MacL.	11.	212799	0.47	0.82	10.2	0.49
Hrst	12.	212809	0.18	0.50	9.9	0.60
Hrst	13.	212811	0.73	1.13	9.2	0.52
Hrst	14.	212813	0.93	1.34	4.8	0.61
Hrst	15.	212815	0.83	1.21	8.1	0.53
Hrst	16.	212818	0.78	1.13	10.3	0.55
Hrst	17.	212824	0.75	1.12	6.9	0.70
McP.	18.	212828	0.20	0.53	10.7	0.51
McP.	19.	212830	0.63	1.03	8.9	0.49
		MEAN	0.69	1.05	8.8	0.54
		MINIMUM	0.18	0.50	4.8	0.47
		MAXIMUM	0.98	1.36	11.3	0.70
		Maclean Area Average	0.73	1.08	9.1	0.51
		Hurst Area Average	0.70	1.07	8.2	0.59
		McPhillip's Area Average	0.64	0.98	9.1	0.53
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER:			FLUORIDE:	0.86	mg/L	
			ORTHO PHOSPHORUS:	1.92	mg/L-PO4	

COMMENTS: Effective November 19 2008 at 1345 hours the chlorine dosage at the Intake was decreased from 3.0 mg/L to 2.5 mg/L the chlorine dosage at Branch I and Branch II was decreased from 2.2 mg/L to 2.0 mg/L and the chlorine dosage at all three pumping stations was decreased from 1.4 mg/L to 1.2 mg/L.

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
Kelly Kjaranson Manager Environmental Standards Division
Diane Sacher Manager Water Services Division
Andy Werymy Water Treatment Systems Engineer Water Services Division
Doug Sulymka Water Treatment Operations Supervisor Water Services Division

REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 25-Nov-08

cc:

N:\WQ Data\Routine Water Quality\2008\Residual\2008-11.xls NOV 22

Monthly Water Quality Report

LIMS REF# 21674/21673

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: December 1, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	213908	0.21	0.56	2.8	0.58	2.5	INTAKE
DEACON PRECHLORINATION CELL #1	213910	<0.05	<0.05	1.9	0.65		
DEACON PRECHLORINATION CELL #3	213911	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	213914	0.91	1.25	2.9	0.65	2.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	213915	0.96	1.32	2.6	0.66	2.0	DEACON
MACLEAN STATION DISCHARGE	213919	0.89	1.28	2.8	0.65	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	213916	0.78	1.12	2.4			
HURST STATION DISCHARGE	213920	0.89	1.28	2.8	0.59	1.2	HURST
HURST STATION-PRECHLORINATION	213917	0.59	0.86	2.4			
McPHILLIPS STATION DISCHARGE	213921	1.05	1.43	3.6	0.61	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	213918	0.48	0.81	5.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: December 2, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		213926	0.59	0.92	7.1	0.57
McP. 2.		213930	0.70	1.05	6.5	0.47
McP. 3.		213934	0.30	0.62	9.7	0.46
McP. 4.		213936	0.75	1.10	8.5	0.46
MacL. 5.		213938	0.71	1.02	6.7	0.54
MacL. 6.		213940	0.80	1.17	6.7	0.55
MacL. 7.		213941	0.40	0.75	8.3	0.48
MacL. 8.		213946	0.41	0.70	8.7	0.49
MacL. 9.		213950	0.69	1.06	9.5	0.51
MacL. 10.		213951	0.65	1.00	7.3	0.44
MacL. 11.		213954	0.33	0.69	8.5	0.46
Hrst 12.		213964	0.35	0.65	8.6	0.52
Hrst 13.		213966	0.73	1.12	7.5	0.52
Hrst 14.		213968	0.90	1.26	4.5	0.43
Hrst 15.		213970	0.73	1.12	6.9	0.53
Hrst 16.		213973	0.70	1.06	9.7	0.50
Hrst 17.		213979	0.63	1.00	5.9	0.52
McP. 18.		213983	0.22	0.52	9.4	0.44
McP. 19.		213985	0.69	1.11	6.9	0.49
		MEAN	0.59	0.94	7.7	0.49
		MINIMUM	0.22	0.52	4.5	0.43
		MAXIMUM	0.90	1.26	9.7	0.57
		Maclean Area Average	0.57	0.91	8.0	0.50
		Hurst Area Average	0.67	1.04	7.2	0.50
		McPhillip's Area Average	0.54	0.89	8.0	0.48
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 213922		FLUORIDE:		0.81	mg/L	
		ORTHO PHOSPHORUS:		1.99	mg/L-PO4	

COMMENTS:

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
Kelly Kjarntanson Manager Environmental Standards Division
Diane Sacher Manager Water Services Division
Andy Werymy Water Treatment Systems Engineer Water Services Division
Doug Sulymka Water Treatment Operations Supervisor Water Services Division

REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 8-Dec-08

cc:

N:\WQ Data\Routine Water Quality\2008\Residual\2008-12.xls\DEC 6
Monthly Water Quality Report
LIMS REF# 21789/21790

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: December 15, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	214945	0.15	0.50	2.0	0.51	2.5	INTAKE
DEACON PRECHLORINATION CELL #1	214947	<0.05	<0.05	2.1	0.58		
DEACON PRECHLORINATION CELL #3	214948	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	214951	1.21	1.68	2.1	0.51	2.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	214952	1.52	1.95	2.1	0.54	2.0	DEACON
MACLEAN STATION DISCHARGE	214956	0.91	1.31	1.9	0.45	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	214953	0.69	1.15	1.6			
HURST STATION DISCHARGE	214957	0.89	1.33	2.5	0.44	1.2	HURST
HURST STATION-PRECHLORINATION	214954	0.71	1.21	1.8			
McPHILLIPS STATION DISCHARGE	214958	0.96	1.34	2.6	0.47	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	214955	0.65	1.18	5.3			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: December 17, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		214963	0.48	0.81	5.2	0.42
McP. 2.		214967	0.68	1.01	5.9	0.48
McP. 3.		214971	0.32	0.67	8.5	0.40
McP. 4.		214973	0.69	1.01	7.7	0.41
MacL. 5.		214975	0.67	0.97	5.8	0.43
MacL. 6.		214977	0.77	1.05	5.1	0.60
MacL. 7.		214978	0.47	0.78	6.3	0.42
MacL. 8.		214983	0.59	0.98	7.7	0.40
MacL. 9.		214987	0.50	0.84	9.0	0.42
MacL. 10.		214988	0.60	0.96	6.5	0.46
MacL. 11.		214991	0.43	0.71	7.6	0.40
Hrst 12.		215001	0.65	0.95	7.7	0.59
Hrst 13.		215003	0.67	0.99	6.6	0.56
Hrst 14.		215005	0.79	1.05	3.3	0.50
Hrst 15.		215007	0.52	0.92	4.9	0.42
Hrst 16.		215010	0.65	0.91	6.1	0.44
Hrst 17.		215016	0.71	0.93	5.5	0.45
McP. 18.		215020	0.13	0.43	5.0	0.85
McP. 19.		215022	0.50	0.82	6.6	0.46
		MEAN	0.57	0.88	6.4	0.48
		MINIMUM	0.13	0.43	3.3	0.40
		MAXIMUM	0.79	1.05	9.0	0.85
		Maclean Area Average	0.58	0.90	6.9	0.45
		Hurst Area Average	0.67	0.96	5.7	0.49
		McPhillip's Area Average	0.47	0.79	6.5	0.50
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 214959		FLUORIDE:		0.81	mg/L	
		ORTHO PHOSPHORUS:		1.89	mg/L-PO4	

COMMENTS:

Effective Thursday December 18 2008 at 1300 hours Cells 3 and 4 at Deacon were placed online. Cells 1 and 2 were isolated.

█ = Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
Kelly Kjarntanson Manager Environmental Standards Division
Diane Sacher Manager Water Services Division
Andy W Jeremy Water Treatment Systems Engineer Water Services Division
Doug Sulymka Water Treatment Operations Supervisor Water Services Division

REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 5-Jan-09

cc: N:\WQ Data\Routine Water Quality\2008\Residual\2008-12.xls\DEC 20
Monthly Water Quality Report

LIMS REF# 21892/21893

FILE: WQR2

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: December 29, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	215881	0.18	0.53	3.3	0.42	2.5	INTAKE
DEACON PRECHLORINATION CELL #1	215882	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	215883	<0.05	<0.05	2.8	0.37		
AQUEDUCT BRANCH 1. @ McPHILLIPS	215886	0.75	1.14	2.3	0.33	2.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	215887	0.98	1.34	2.3	0.37	2.0	DEACON
MACLEAN STATION DISCHARGE	215891	0.89	1.25	2.4	0.34	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	215888	0.53	0.88	2.0			
HURST STATION DISCHARGE	215892	0.84	1.21	2.8	0.34	1.2	HURST
HURST STATION-PRECHLORINATION	215889	0.39	0.81	2.4			
McPHILLIPS STATION DISCHARGE	215893	0.91	1.28	2.9	0.34	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	215890	0.31	0.70	5.2			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: December 30, 2008		CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		215898	0.60	0.98	6.2	0.35
McP. 2.		215902	0.80	1.15	5.4	0.39
McP. 3.		215906	0.30	0.65	8.1	0.42
McP. 4.		215908	0.72	1.05	5.7	0.40
MacL. 5.		215910	0.65	1.02	7.5	0.35
MacL. 6.		215912	0.68	1.04	7.9	0.32
MacL. 7.		215913	0.52	0.91	8.0	0.36
MacL. 8.		215918	0.46	0.83	7.0	0.36
MacL. 9.		215922	0.66	1.11	8.1	0.34
MacL. 10.		215923	0.70	1.02	6.3	0.38
MacL. 11.		215926	0.35	0.73	6.7	0.37
Hrst 12.		215936	0.30	0.70	7.8	0.36
Hrst 13.		215938	0.65	1.01	7.1	0.40
Hrst 14.		215940	0.74	1.15	6.5	0.67
Hrst 15.		215942	0.71	1.04	5.7	0.33
Hrst 16.		215945	0.79	1.12	5.4	0.36
Hrst 17.		215951	0.58	0.89	7.7	0.45
McP. 18.		215955	0.19	0.59	6.2	0.34
McP. 19.		215957	0.69	1.00	7.1	0.31
		MEAN	0.58	0.95	6.9	0.38
		MINIMUM	0.19	0.59	5.4	0.31
		MAXIMUM	0.80	1.15	8.1	0.67
		Maclean Area Average	0.57	0.95	7.4	0.35
		Hurst Area Average	0.63	0.99	6.7	0.43
		McPhillip's Area Average	0.55	0.90	6.5	0.37
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 215894			FLUORIDE:	0.84	mg/L	
			ORTHO PHOSPHORUS:	1.95	mg/L-PO4	

COMMENTS:

█ = Not Analyzed NS = No Sample OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
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Diane Sacher Manager Water Services Division
Andy Werymy Water Treatment Systems Engineer Water Services Division
Doug Sulymka Water Treatment Operations Supervisor Water Services Division

REPORT COMPILED BY: J. Jones
Compliance Reporting Technician

APPROVED FOR DISTRIBUTION BY: S. Fletcher
Supervisor of Analytical Services (Acting)

Date Approved: 5-Jan-09

cc:

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Monthly Water Quality Report
LIMS REF# 21973/21974

FILE: WQR2

**CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION**

MONTHLY TURBIDITY REPORT

January 2008

Location (Deacon Outlet)	Date	Turbidity (NTU)		
		Mean	Min	Max
Deacon Prechlorination Cell 3	1-Jan-08	0.46	0.46	0.47
Deacon Prechlorination Cell 3	2-Jan-08	0.44	0.43	0.46
Deacon Prechlorination Cell 3	3-Jan-08	0.43	0.42	0.44
Deacon Prechlorination Cell 3	4-Jan-08	0.44	0.38	0.48
Deacon Prechlorination Cell 3	5-Jan-08	0.45	0.45	0.46
Deacon Prechlorination Cell 3	6-Jan-08	0.45	0.44	0.45
Deacon Prechlorination Cell 3	7-Jan-08	0.44	0.43	0.44
Deacon Prechlorination Cell 3	8-Jan-08	0.43	0.42	0.43
Deacon Prechlorination Cell 3	9-Jan-08	0.42	0.42	0.43
Deacon Prechlorination Cell 3	10-Jan-08	0.40	0.36	0.42
Deacon Prechlorination Cell 3	11-Jan-08	0.36	0.35	0.36
Deacon Prechlorination Cell 3	12-Jan-08	0.35	0.35	0.36
Deacon Prechlorination Cell 3	13-Jan-08	0.34	0.34	0.35
Deacon Prechlorination Cell 3	14-Jan-08	0.34	0.34	0.34
Deacon Prechlorination Cell 3	15-Jan-08	0.33	0.33	0.34
Deacon Prechlorination Cell 3	16-Jan-08	NR	NR	NR
Deacon Prechlorination Cell 3	17-Jan-08	NR	NR	NR
Deacon Prechlorination Cell 3	18-Jan-08	0.46	0.30	0.90
Deacon Prechlorination Cell 3	19-Jan-08	0.30	0.30	0.31
Deacon Prechlorination Cell 3	20-Jan-08	0.30	0.30	0.30
Deacon Prechlorination Cell 3	21-Jan-08	0.30	0.30	0.30
Deacon Prechlorination Cell 3	22-Jan-08	0.30	0.13	0.31
Deacon Prechlorination Cell 3	23-Jan-08	0.31	0.30	0.96
Deacon Prechlorination Cell 3	24-Jan-08	0.30	0.30	0.31
Deacon Prechlorination Cell 3	25-Jan-08	0.30	0.29	0.36
Deacon Prechlorination Cell 3	26-Jan-08	0.29	0.29	0.30
Deacon Prechlorination Cell 3	27-Jan-08	0.29	0.29	0.29
Deacon Prechlorination Cell 3	28-Jan-08	0.29	0.21	0.31
Deacon Prechlorination Cell 3	29-Jan-08	0.30	0.30	0.30
Deacon Prechlorination Cell 3	30-Jan-08	0.29	0.19	0.30
Deacon Prechlorination Cell 3	31-Jan-08	0.29	0.28	0.29

Monthly Average Result = 0.36	
Deacon Outlet Statistics	Minimum Reported Result = 0.13
	Maximum Reported Result = 0.96

Comments: The above results for Cell 3 are calculated from on-line, continuous flow turbidity meter.
NR: No Results, instrument malfunction.

Prepared By: R. Grosselle
Supervisor of Compliance Reporting

Approved By: S. Fletcher
Supervisor of Analytical Services

E-mail	Barry MacBride, Director, Water and Waste Department Kelly Kjartanson; Manager, Environmental Standards Division Diane Sacher; Manager, Water Services Division Peter Ward; Superintendent, Water Services Division Andy Weremy, Regional Services Engineer, Water Services Division
FILE	WQR2

**CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION**

MONTHLY TURBIDITY REPORT

February 2008

			Turbidity (NTU)		
Location (Deacon Outlet)	Date		Mean	Min	Max
Deacon Prechlorination	Cell 3	1-Feb-08	0.28	0.26	0.29
Deacon Prechlorination	Cell 3	2-Feb-08	0.28	0.28	0.28
Deacon Prechlorination	Cell 3	3-Feb-08	0.28	0.28	0.28
Deacon Prechlorination	Cell 3	4-Feb-08	0.28	0.27	0.28
Deacon Prechlorination	Cell 3	5-Feb-08	0.28	0.28	0.29
Deacon Prechlorination	Cell 3	6-Feb-08	0.30	0.22	0.32
Deacon Prechlorination	Cell 3	7-Feb-08	0.31	0.31	0.31
Deacon Prechlorination	Cell 3	8-Feb-08	0.30	0.29	0.31
Deacon Prechlorination	Cell 3	9-Feb-08	0.29	0.29	0.30
Deacon Prechlorination	Cell 3	10-Feb-08	0.29	0.29	0.29
Deacon Prechlorination	Cell 3	11-Feb-08	0.29	0.29	0.30
Deacon Prechlorination	Cell 3	12-Feb-08	0.29	0.29	0.30
Deacon Prechlorination	Cell 3/1	13-Feb-08	0.46	0.30	0.74
Deacon Prechlorination	Cell 1	14-Feb-08	0.54	0.47	0.64
Deacon Prechlorination	Cell 1	15-Feb-08	0.47	0.44	0.51
Deacon Prechlorination	Cell 1	16-Feb-08	0.45	0.43	0.49
Deacon Prechlorination	Cell 1	17-Feb-08	0.45	0.43	0.61
Deacon Prechlorination	Cell 1	18-Feb-08	0.44	0.42	0.46
Deacon Prechlorination	Cell 1	19-Feb-08	0.44	0.42	0.48
Deacon Prechlorination	Cell 1	20-Feb-08	0.43	0.42	0.46
Deacon Prechlorination	Cell 1	21-Feb-08	0.36	0.28	0.46
Deacon Prechlorination	Cell 1	22-Feb-08	0.29	0.27	0.30
Deacon Prechlorination	Cell 1	23-Feb-08	0.28	0.27	0.30
Deacon Prechlorination	Cell 1	24-Feb-08	0.28	0.27	0.29
Deacon Prechlorination	Cell 1	25-Feb-08	0.28	0.27	0.30
Deacon Prechlorination	Cell 1	26-Feb-08	0.28	0.27	0.30
Deacon Prechlorination	Cell 1	27-Feb-08	0.29	0.27	0.32
Deacon Prechlorination	Cell 1	28-Feb-08	0.30	0.29	0.33
Deacon Prechlorination	Cell 1	29-Feb-08	0.28	0.24	0.32

	Monthly Average = 0.34
Deacon Outlet Statistics	Minimum Daily Average = 0.22
	Maximum Daily Average = 0.74

Comments: The above results for Cells 1 and 3 are calculated from on-line, continuous flow turbidity meters. Effective Wednesday, February 13, 2008 at 1330 hours, Cell 3 was isolated and Cell 1 was put online.

Prepared By: J. Jones
Compliance Reporting Technician

Approved By: S.Fletcher
Supervisor of Analytical Services (Acting)

E-mail	Barry MacBride, Director, Water and Waste Department Kelly Kjartanson; Manager, Environmental Standards Division Diane Sacher; Manager, Water Services Division Peter Ward; Superintendent, Water Services Division Andy Weremy, Regional Services Engineer, Water Services Division
FILE	WQR2

**CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION**

MONTHLY TURBIDITY REPORT

March 2008

Location (Deacon Outlet)	Date	Turbidity (NTU)		
		Mean	Min	Max
Deacon Prechlorination Cell 1	1-Mar-08	0.26	0.24	0.27
Deacon Prechlorination Cell 1	2-Mar-08	0.25	0.24	0.30
Deacon Prechlorination Cell 1	3-Mar-08	0.28	0.25	0.31
Deacon Prechlorination Cell 1	4-Mar-08	0.29	0.28	0.31
Deacon Prechlorination Cell 1	5-Mar-08	0.28	0.25	0.79
Deacon Prechlorination Cell 1	6-Mar-08	0.25	0.24	0.27
Deacon Prechlorination Cell 1	7-Mar-08	0.24	0.22	0.26
Deacon Prechlorination Cell 1	8-Mar-08	0.23	0.22	0.25
Deacon Prechlorination Cell 1	9-Mar-08	0.23	0.21	0.24
Deacon Prechlorination Cell 1	10-Mar-08	0.23	0.22	0.89
Deacon Prechlorination Cell 1	11-Mar-08	0.23	0.22	0.25
Deacon Prechlorination Cell 1	12-Mar-08	0.23	0.22	0.25
Deacon Prechlorination Cell 1	13-Mar-08	0.23	0.22	0.25
Deacon Prechlorination Cell 1	14-Mar-08	0.23	0.21	0.25
Deacon Prechlorination Cell 1	15-Mar-08	0.23	0.21	0.24
Deacon Prechlorination Cell 1	16-Mar-08	0.23	0.22	0.26
Deacon Prechlorination Cell 1	17-Mar-08	0.23	0.21	0.28
Deacon Prechlorination Cell 1	18-Mar-08	0.24	0.22	0.25
Deacon Prechlorination Cell 1	19-Mar-08	0.24	0.22	0.25
Deacon Prechlorination Cell 1	20-Mar-08	0.24	0.22	0.26
Deacon Prechlorination Cell 1	21-Mar-08	0.25	0.22	0.26
Deacon Prechlorination Cell 1	22-Mar-08	0.25	0.23	0.27
Deacon Prechlorination Cell 1	23-Mar-08	0.25	0.23	0.28
Deacon Prechlorination Cell 1	24-Mar-08	0.25	0.24	0.27
Deacon Prechlorination Cell 1	25-Mar-08	0.26	0.24	0.28
Deacon Prechlorination Cell 1	26-Mar-08	0.32	0.25	0.51
Deacon Prechlorination Cell 1	27-Mar-08	0.40	0.34	0.44
Deacon Prechlorination Cell 1	28-Mar-08	0.39	0.34	0.43
Deacon Prechlorination Cell 1	29-Mar-08	0.39	0.35	0.44
Deacon Prechlorination Cell 1	30-Mar-08	0.39	0.36	0.44
Deacon Prechlorination Cell 1	31-Mar-08	0.41	0.37	0.44

Monthly Average Result = 0.27	
Deacon Outlet Statistics	Minimum Reported Result = 0.21
	Maximum Reported Result = 0.89

Comments: The above results for Cell 1 are calculated from an on-line, continuous flow turbidity meter.

Prepared By: J. Jones
Compliance Reporting Technician

Approved By: S. Fletcher
Supervisor of Analytical Services (Acting)

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**CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION**

MONTHLY TURBIDITY REPORT

April 2008

Location (Deacon Outlet)		Date	Turbidity (NTU)		
			Mean	Min	Max
Deacon Prechlorination	Cell 1	1-Apr-08	0.43	0.38	0.52
Deacon Prechlorination	Cell 1	2-Apr-08	0.44	0.40	0.49
Deacon Prechlorination	Cell 1	3-Apr-08	0.46	0.42	0.51
Deacon Prechlorination	Cell 1	4-Apr-08	0.47	0.43	0.54
Deacon Prechlorination	Cell 1	5-Apr-08	0.48	0.43	0.53
Deacon Prechlorination	Cell 1	6-Apr-08	0.48	0.43	0.53
Deacon Prechlorination	Cell 1	7-Apr-08	0.48	0.44	0.52
Deacon Prechlorination	Cell 1	8-Apr-08	0.46	0.40	0.52
Deacon Prechlorination	Cell 1	9-Apr-08	0.44	0.40	0.49
Deacon Prechlorination	Cell 1	10-Apr-08	0.42	0.37	0.55
Deacon Prechlorination	Cell 1	11-Apr-08	0.39	0.35	0.43
Deacon Prechlorination	Cell 1	12-Apr-08	0.38	0.34	0.41
Deacon Prechlorination	Cell 1	13-Apr-08	0.36	0.32	0.44
Deacon Prechlorination	Cell 1	14-Apr-08	0.36	0.33	0.42
Deacon Prechlorination	Cell 1	15-Apr-08	0.44	0.34	0.64
Deacon Prechlorination	Cell 1	16-Apr-08	0.49	0.43	0.57
Deacon Prechlorination	Cell 1	17-Apr-08	0.47	0.44	0.53
Deacon Prechlorination	Cell 1	18-Apr-08	0.48	0.43	0.73
Deacon Prechlorination	Cell 1	19-Apr-08	0.50	0.44	1.30
Deacon Prechlorination	Cell 1	20-Apr-08	0.52	0.48	0.59
Deacon Prechlorination	Cell 1	21-Apr-08	0.53	0.47	0.58
Deacon Prechlorination	Cell 1	22-Apr-08	0.53	0.47	0.80
Deacon Prechlorination	Cell 1	23-Apr-08	0.54	0.49	0.60
Deacon Prechlorination	Cell 1	24-Apr-08	0.50	0.42	0.57
Deacon Prechlorination	Cell 1	25-Apr-08	0.44	0.40	0.48
Deacon Prechlorination	Cell 1	26-Apr-08	0.43	0.39	0.46
Deacon Prechlorination	Cell 1	27-Apr-08	0.42	0.37	0.45
Deacon Prechlorination	Cell 1	28-Apr-08	0.42	0.39	0.58
Deacon Prechlorination	Cell 1	29-Apr-08	0.41	0.39	0.44
Deacon Prechlorination	Cell 1	30-Apr-08	0.43	0.40	0.47

Monthly Average Result =	0.45
Deacon Outlet Statistics	Minimum Reported Result =
	0.32
	Maximum Reported Result =
	1.30

Comments: The above results for Cell 1 are calculated from an on-line, continuous flow turbidity meter.

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**CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION**

MONTHLY TURBIDITY REPORT

May 2008

Location (Deacon Outlet)	Date	Turbidity (NTU)		
		Mean	Min	Max
Deacon Prechlorination Cell 1	1-May-08	0.48	0.42	0.73
Deacon Prechlorination Cell 1	2-May-08	0.48	0.34	2.00
Deacon Prechlorination Cell 1	3-May-08	0.36	0.33	0.38
Deacon Prechlorination Cell 1	4-May-08	0.36	0.33	0.39
Deacon Prechlorination Cell 1	5-May-08	0.36	0.33	0.40
Deacon Prechlorination Cell 1	6-May-08	0.36	0.34	0.40
Deacon Prechlorination Cell 1	7-May-08	0.36	0.33	0.38
Deacon Prechlorination Cell 1	8-May-08	0.37	0.33	0.40
Deacon Prechlorination Cell 1	9-May-08	0.36	0.31	0.42
Deacon Prechlorination Cell 1	10-May-08	0.32	0.30	0.36
Deacon Prechlorination Cell 1	11-May-08	0.33	0.30	0.37
Deacon Prechlorination Cell 1	12-May-08	0.34	0.32	0.37
Deacon Prechlorination Cell 1	13-May-08	0.33	0.31	0.36
Deacon Prechlorination Cell 1	14-May-08	0.33	0.30	0.41
Deacon Prechlorination Cell 1	15-May-08	0.34	0.31	1.76
Deacon Prechlorination Cell 1	16-May-08	0.32	0.29	0.37
Deacon Prechlorination Cell 1	17-May-08	0.30	0.28	0.34
Deacon Prechlorination Cell 1	18-May-08	0.30	0.27	0.33
Deacon Prechlorination Cell 1	19-May-08	0.30	0.27	0.59
Deacon Prechlorination Cell 1	20-May-08	0.29	0.26	0.34
Deacon Prechlorination Cell 1	21-May-08	0.27	0.24	0.35
Deacon Prechlorination Cell 1	22-May-08	0.27	0.24	0.49
Deacon Prechlorination Cell 1	23-May-08	0.25	0.23	0.31
Deacon Prechlorination Cell 1	24-May-08	0.25	0.23	0.29
Deacon Prechlorination Cell 1	25-May-08	0.25	0.23	0.27
Deacon Prechlorination Cell 1	26-May-08	0.26	0.24	0.73
Deacon Prechlorination Cell 1	27-May-08	0.32	0.24	0.53
Deacon Prechlorination Cell 1	28-May-08	0.45	0.38	0.58
Deacon Prechlorination Cell 1	29-May-08	0.53	0.49	0.60
Deacon Prechlorination Cell 1	30-May-08	0.48	0.45	0.54
Deacon Prechlorination Cell 1	31-May-08	NR	NR	NR

Monthly Average Result = 0.34	
Deacon Outlet Statistics	Minimum Reported Result = 0.23
	Maximum Reported Result = 2.00

Comments: The above results for Cell 1 are calculated from an on-line, continuous flow turbidity meter.
 The result for May 30, 2008 is calculated from data collected from 0000 hours to 1410 hours. No data was available for 1420 hours to 2400 hours due to a technician error.
 There are no results for May 31, 2008 due to a technician error.

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**CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION**

MONTHLY TURBIDITY REPORT

June 2008

Location (Deacon Outlet)	Date	Turbidity (NTU)			
		Average	Minimum	Maximum	
Deacon Prechlorination	Cell 1	1-Jun-08	NR	NR	NR
Deacon Prechlorination	Cell 1	2-Jun-08	0.40	0.37	0.49
Deacon Prechlorination	Cell 1	3-Jun-08	0.37	0.34	0.41
Deacon Prechlorination	Cell 1	4-Jun-08	0.36	0.33	0.67
Deacon Prechlorination	Cell 1	5-Jun-08	0.35	0.31	0.53
Deacon Prechlorination	Cell 1	6-Jun-08	0.30	0.20	0.50
Deacon Prechlorination	Cell 1	7-Jun-08	0.17	0.15	0.32
Deacon Prechlorination	Cell 1	8-Jun-08	0.29	0.14	0.77
Deacon Prechlorination	Cell 1	9-Jun-08	0.48	0.21	1.17
Deacon Prechlorination	Cell 1	10-Jun-08	0.38	0.28	0.76
Deacon Prechlorination	Cell 1	11-Jun-08	0.30	0.27	0.34
Deacon Prechlorination	Cell 1	12-Jun-08	0.30	0.26	0.36
Deacon Prechlorination	Cell 1	13-Jun-08	0.32	0.30	0.38
Deacon Prechlorination	Cell 1	14-Jun-08	0.31	0.28	0.40
Deacon Prechlorination	Cell 1	15-Jun-08	0.29	0.25	2.00
Deacon Prechlorination	Cell 1	16-Jun-08	0.26	0.24	0.36
Deacon Prechlorination	Cell 1	17-Jun-08	0.27	0.23	0.29
Deacon Prechlorination	Cell 1	18-Jun-08	0.24	0.21	0.30
Deacon Prechlorination	Cell 1	19-Jun-08	0.21	0.19	0.34
Deacon Prechlorination	Cell 1	20-Jun-08	0.20	0.18	0.23
Deacon Prechlorination	Cell 1	21-Jun-08	0.21	0.18	2.00
Deacon Prechlorination	Cell 1	22-Jun-08	0.18	0.16	1.03
Deacon Prechlorination	Cell 1	23-Jun-08	0.19	0.17	0.22
Deacon Prechlorination	Cell 1	24-Jun-08	0.18	0.16	0.21
Deacon Prechlorination	Cell 1	25-Jun-08	0.19	0.11	0.22
Deacon Prechlorination	Cell 3	25-Jun-08	3.61	NA	NA
Deacon Prechlorination	Cell 3	26-Jun-08	NA	NA	NA
Deacon Prechlorination	Cell 3	27-Jun-08	1.02	NA	NA
Deacon Prechlorination	Cell 3	28-Jun-08	NA	NA	NA
Deacon Prechlorination	Cell 3	29-Jun-08	NA	NA	NA
Deacon Prechlorination	Cell 3	30-Jun-08	0.92	NA	NA

Monthly Average Result = 0.46	
Deacon Outlet Statistics	Minimum Reported Result = 0.11
	Maximum Reported Result = 2.00

Comments:

The above results for Cell 1 are calculated from an on-line continuous flow turbidity meter.
 The above results for Cell 3 were all obtained from grab samples.
 Effective Wednesday June 25 2008 at 1100 hours Cell 1 was isolated and Cell 3 was placed online.
 There are no results for June 1 2008 due to a technician error.
 The results for June 2 2008 are calculated from data collected from 0950 hours to 2400 hours. No data was available for 0000 hours to 0940 hours due to a technician error.

On June 9 2008 a maximum turbidity result of 1.17 was recorded and turbidity values were above 1.0 NTU for approximately 2 hours that day. On June 15 2008 and June 21 2008 maximum turbidity results of 2.00 NTU were recorded and on June 22 2008 a maximum result of 1.03 NTU was recorded. Nothing operationally occurred during those days that may have resulted in the turbidity spikes. The average values for all of those days were normal background levels.
 On June 25 2008 the grab sample result was 3.61 NTU. This high turbidity result likely occurred because the grab sample was taken very soon after Cell 3 was put online.
 On June 27 2008 the grab sample result was 1.02 NTU. This high turbidity result likely occurred because Cell 3 was not being used for several months allowing it to become more turbid than Cell 1.

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**CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION**

MONTHLY TURBIDITY REPORT

July 2008

Location (Deacon Outlet)	Date	Turbidity (NTU)			
		Average	Minimum	Maximum	
Deacon Prechlorination	Cell 3	1-Jul-08	NA	NA	NA
Deacon Prechlorination	Cell 3	2-Jul-08	0.91	NA	NA
Deacon Prechlorination	Cell 3	3-Jul-08	1.20	1.15	1.24
Deacon Prechlorination	Cell 3	4-Jul-08	1.18	1.09	1.25
Deacon Prechlorination	Cell 3	5-Jul-08	1.24	1.18	1.31
Deacon Prechlorination	Cell 3	6-Jul-08	1.26	1.20	1.31
Deacon Prechlorination	Cell 3	7-Jul-08	1.42	1.27	1.59
Deacon Prechlorination	Cell 3	8-Jul-08	1.35	1.28	1.59
Deacon Prechlorination	Cell 3	9-Jul-08	1.41	1.37	1.48
Deacon Prechlorination	Cell 3	10-Jul-08	1.28	1.22	1.44
Deacon Prechlorination	Cell 3	11-Jul-08	1.32	1.16	1.62
Deacon Prechlorination	Cell 3	12-Jul-08	1.24	1.18	1.35
Deacon Prechlorination	Cell 3	13-Jul-08	1.20	1.13	1.26
Deacon Prechlorination	Cell 3	14-Jul-08	1.16	1.11	1.26
Deacon Prechlorination	Cell 3	15-Jul-08	1.12	1.07	1.22
Deacon Prechlorination	Cell 3	16-Jul-08	1.14	1.03	1.28
Deacon Prechlorination	Cell 3	17-Jul-08	1.08	1.04	1.15
Deacon Prechlorination	Cell 3	18-Jul-08	1.04	0.99	1.11
Deacon Prechlorination	Cell 3	19-Jul-08	1.01	0.98	1.07
Deacon Prechlorination	Cell 3	20-Jul-08	0.96	0.92	1.01
Deacon Prechlorination	Cell 3	21-Jul-08	0.93	0.87	1.01
Deacon Prechlorination	Cell 3	22-Jul-08	0.95	0.85	1.14
Deacon Prechlorination	Cell 3	23-Jul-08	0.97	0.83	1.53
Deacon Prechlorination	Cell 3	24-Jul-08	1.08	0.98	1.25
Deacon Prechlorination	Cell 3	25-Jul-08	1.16	1.06	1.47
Deacon Prechlorination	Cell 3	26-Jul-08	1.29	1.21	1.45
Deacon Prechlorination	Cell 3	27-Jul-08	1.40	1.33	1.54
Deacon Prechlorination	Cell 3	28-Jul-08	1.20	1.03	1.47
Deacon Prechlorination	Cell 3	29-Jul-08	1.07	1.01	1.38
Deacon Prechlorination	Cell 3	30-Jul-08	1.09	1.04	1.22
Deacon Prechlorination	Cell 3	31-Jul-08	1.09	0.99	1.21

Monthly Average Result =		1.16	
Deacon Outlet Statistics	Minimum Reported Result =		0.83
	Maximum Reported Result =		1.62

Comments:

The above results for Cell 3 are calculated from an on-line continuous flow turbidity meter with the exception of the result for July 2 2008 which was obtained from a grab sample.
 The old on-line turbidity meter (Hach) was replaced by a new on-line turbidity meter (Rosemount) which was put into service at 1441 on July 3 2008 therefore the results for this day are calculated from data collected from 1441 hours to 2351 hours.
 The results for July 7 2008 are calculated from data collected from 0001 hours to 1111 hours and 1451 hours to 2351 hours. No data was available for 1121 hours to 1441 hours due to a technician error.
 The results for July 9 2008 are calculated from data collected from 0001 hours to 0931 hours. No data was available for 0941 hours to 2351 hours due to a technician error.
 The results for July 10 2008 are calculated from data collected from 1241 hours to 2351 hours. No data was available for 0001 hours to 1231 hours due to a technician error.
 The high turbidity results (>1 NTU) obtained in July are due to the normal seasonal variations observed in the water supply.

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**CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION**

MONTHLY TURBIDITY REPORT

August 2008

Location (Deacon Outlet)	Date	Sample Number	Turbidity (NTU)
Deacon Prechlorination Cell 3	1-Aug-08	203249	0.87
Deacon Prechlorination Cell 3	5-Aug-08	203450	1.08
Deacon Prechlorination Cell 3	8-Aug-08	203931	0.94
Deacon Prechlorination Cell 3	11-Aug-08	204004	0.90
Deacon Prechlorination Cell 1	13-Aug-08	204550	0.87
Deacon Prechlorination Cell 3	15-Aug-08	204560	1.02
Deacon Prechlorination Cell 3	18-Aug-08	204740	0.76
Deacon Prechlorination Cell 3	20-Aug-08	204793	0.74
Deacon Prechlorination Cell 3	22-Aug-08	204803	0.76
Deacon Prechlorination Cell 3	25-Aug-08	205499	0.60
Deacon Prechlorination Cell 3	27-Aug-08	205911	0.67
Deacon Prechlorination Cell 3	29-Aug-08	205921	0.69

Deacon Outlet Monthly Statistics	Average	0.83
	Minimum	0.60
	Maximum	1.08

Comments: The above results were all obtained from grab samples. The data could not be retrieved from the continuous flow meter.
 Cell 1 was placed online and Cell 3 was taken offline on August 11, 2008 at 1845 to allow for construction work on the water treatment plant.
 Cell 1 was taken offline and Cell 3 was placed online on August 13, 2008 at 1630.

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Approved By: S. Fletcher 18-Sep-08
Supervisor of Analytical Services *Date*

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**CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION**

MONTHLY TURBIDITY REPORT

September 2008

Location (Deacon Outlet)	Date	Sample Number	Turbidity (NTU)
Deacon Prechlorination Cell 3	2-Sep-08	206185	0.83
Deacon Prechlorination Cell 3	5-Sep-08	206586	0.76
Deacon Prechlorination Cell 3	8-Sep-08	206592	0.85
Deacon Prechlorination Cell 3	10-Sep-08	206852	1.06
Deacon Prechlorination Cell 3	12-Sep-08	206862	0.76
Deacon Prechlorination Cell 3	15-Sep-08	207302	0.93
Deacon Prechlorination Cell 1	17-Sep-08	207798	3.75
Deacon Prechlorination Cell 1	19-Sep-08	207886	3.50
Deacon Prechlorination Cell 1	22-Sep-08	207950	3.06
Deacon Prechlorination Cell 1	24-Sep-08	208592	2.27
Deacon Prechlorination Cell 1	26-Sep-08	208624	2.15
Deacon Prechlorination Cell 1	29-Sep-08	208657	2.27

Deacon Outlet Monthly Statistics	Average	1.85
	Minimum	0.76
	Maximum	3.75

Comments: The above results were all obtained from grab samples. The data could not be retrieved from the continuous flow meters.
 Cell 1 was placed online on Wednesday, September 17, 2008 at 1400 hours.
 Cell 3 was isolated.
 The high turbidities for Cell 1 (>1.0 NTU) were likely due to algae growth in the reservoir since it had not been used since June 25, 2008.

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Compliance Reporting Technician

Approved By: S. Fletcher 7-Oct-08
Supervisor of Analytical Services *Date*

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**CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION**

MONTHLY TURBIDITY REPORT

October 2008

Location (Deacon Outlet)	Date	Turbidity (NTU)		
		Mean	Min	Max
Deacon Prechlorination Cell 1	1-Oct-08	2.06	NA	NA
Deacon Prechlorination Cell 1	2-Oct-08	NA	NA	NA
Deacon Prechlorination Cell 1	3-Oct-08	2.21	NA	NA
Deacon Prechlorination Cell 1	4-Oct-08	NA	NA	NA
Deacon Prechlorination Cell 1	5-Oct-08	NA	NA	NA
Deacon Prechlorination Cell 1	6-Oct-08	2.05	NA	NA
Deacon Prechlorination Cell 1	7-Oct-08	NA	NA	NA
Deacon Prechlorination Cell 1	8-Oct-08	1.33	NA	NA
Deacon Prechlorination Cell 1	9-Oct-08	NA	NA	NA
Deacon Prechlorination Cell 1	10-Oct-08	1.36	1.25	1.49
Deacon Prechlorination Cell 1	11-Oct-08	1.21	1.07	1.35
Deacon Prechlorination Cell 1	12-Oct-08	1.13	1.06	1.17
Deacon Prechlorination Cell 1	13-Oct-08	1.10	0.97	1.22
Deacon Prechlorination Cell 1	14-Oct-08	1.07	0.91	1.18
Deacon Prechlorination Cell 1	15-Oct-08	0.87	0.60	1.10
Deacon Prechlorination Cell 1	16-Oct-08	0.77	0.44	1.10
Deacon Prechlorination Cell 1	17-Oct-08	0.99	0.94	1.02
Deacon Prechlorination Cell 1	18-Oct-08	0.94	0.91	0.98
Deacon Prechlorination Cell 1	19-Oct-08	0.93	0.90	0.97
Deacon Prechlorination Cell 1	20-Oct-08	0.97	0.93	1.02
Deacon Prechlorination Cell 1	21-Oct-08	1.14	1.01	1.33
Deacon Prechlorination Cell 1	22-Oct-08	1.35	1.27	1.42
Deacon Prechlorination Cell 1	23-Oct-08	1.56	1.34	1.90
Deacon Prechlorination Cell 1	24-Oct-08	1.94	1.86	2.01
Deacon Prechlorination Cell 1	25-Oct-08	NA	NA	NA
Deacon Prechlorination Cell 1	26-Oct-08	NA	NA	NA
Deacon Prechlorination Cell 1	27-Oct-08	0.90	NA	NA
Deacon Prechlorination Cell 1	28-Oct-08	NA	NA	NA
Deacon Prechlorination Cell 1	29-Oct-08	0.71	NA	NA
Deacon Prechlorination Cell 1	30-Oct-08	NA	NA	NA
Deacon Prechlorination Cell 1	31-Oct-08	0.73	NA	NA

Monthly Average Result = 1.24	
Deacon Outlet Statistics	Minimum Reported Result = 0.44
	Maximum Reported Result = 2.01

Comments: The results for Cell 1 from October 1 to October 9, 2008, and October 25 to October 31, 2008 are obtained from grab samples. The data could not be retrieved from the continuous flow turbidity meter. The results for Cell 1 from October 10 to October 24, 2008 are calculated from the continuous flow turbidity meter.

The results for October 10, 2008 are calculated from data collected from 1120 hours to 2350 hours. The data could not be retrieved from the meter before 1120 hours.

The results for October 24, 2008 are calculated from data collected from 0005 hours to 1005 hours. The data could not be retrieved from the meter after 1005 hours.

The high turbidities for Cell 1 for the first two weeks of October were likely due to algae growth that accumulated in the reservoir over the summer. Cell 1 was put into service on September 16, 2008, and had not been used since June 25, 2008.

The high turbidities for Cell 1 from October 21 to October 24, 2008 were likely due to the quality of the incoming water supply.

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**CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION**

MONTHLY TURBIDITY REPORT

November 2008

Location (Deacon Outlet)	Date	Turbidity (NTU)			
		Mean	Min	Max	
Deacon Prechlorination	Cell 1	1-Nov-08	NA	NA	NA
Deacon Prechlorination	Cell 1	2-Nov-08	NA	NA	NA
Deacon Prechlorination	Cell 1	3-Nov-08	1.04	NA	NA
Deacon Prechlorination	Cell 1	4-Nov-08	NA	NA	NA
Deacon Prechlorination	Cell 1	5-Nov-08	0.70	NA	NA
Deacon Prechlorination	Cell 1	6-Nov-08	NA	NA	NA
Deacon Prechlorination	Cell 1	7-Nov-08	0.87	NA	NA
Deacon Prechlorination	Cell 1	8-Nov-08	NA	NA	NA
Deacon Prechlorination	Cell 1	9-Nov-08	NA	NA	NA
Deacon Prechlorination	Cell 1	10-Nov-08	0.88	NA	NA
Deacon Prechlorination	Cell 1	11-Nov-08	NA	NA	NA
Deacon Prechlorination	Cell 1	12-Nov-08	0.74	NA	NA
Deacon Prechlorination	Cell 1	13-Nov-08	NA	NA	NA
Deacon Prechlorination	Cell 1	14-Nov-08	0.55	0.54	0.57
Deacon Prechlorination	Cell 1	15-Nov-08	0.56	0.53	0.59
Deacon Prechlorination	Cell 1	16-Nov-08	0.52	0.51	0.56
Deacon Prechlorination	Cell 1	17-Nov-08	0.50	0.48	0.56
Deacon Prechlorination	Cell 1	18-Nov-08	0.51	0.48	0.54
Deacon Prechlorination	Cell 1	19-Nov-08	0.51	0.48	0.53
Deacon Prechlorination	Cell 1	20-Nov-08	0.48	0.45	0.53
Deacon Prechlorination	Cell 1	21-Nov-08	0.45	0.44	0.48
Deacon Prechlorination	Cell 1	22-Nov-08	0.46	0.44	0.57
Deacon Prechlorination	Cell 1	23-Nov-08	0.45	0.43	0.50
Deacon Prechlorination	Cell 1	24-Nov-08	0.45	0.42	0.50
Deacon Prechlorination	Cell 1	25-Nov-08	0.46	0.42	0.65
Deacon Prechlorination	Cell 1	26-Nov-08	0.45	0.43	0.49
Deacon Prechlorination	Cell 1	27-Nov-08	0.46	0.44	0.49
Deacon Prechlorination	Cell 1	28-Nov-08	0.47	0.44	0.50
Deacon Prechlorination	Cell 1	29-Nov-08	NA	NA	NA
Deacon Prechlorination	Cell 1	30-Nov-08	NA	NA	NA

Deacon Outlet Statistics	Monthly Average Result = 0.58
	Minimum Reported Result = 0.42
	Maximum Reported Result = 0.65

Comments: The results for Cell 1 from November 1 to November 13, 2008 are obtained from grab samples. The data could not be retrieved from the continuous flow turbidity meter.
 The results for Cell 1 from November 14 to November 28, 2008 are calculated from the continuous flow turbidity meter.
 The results for November 14, 2008 are calculated from data collected from 1354 hours to 2354 hours. The data could not be retrieved from the meter before 1354 hours.
 The results for November 28, 2008 are calculated from data collected from 0009 hours to 1324 hours. The data obtained from the meter after 1324 hours gave unrepresentative results due to electrical work being done on the Cell 1 trailer that day.
 There are no results for Cell 1 from November 29 to November 30, 2008. The data obtained from the meter gave unrepresentative results because proper flow was not restored to the meter after the electrical work was done on the Cell 1 trailer. Proper flow was restored at 0809 hours on December 1, 2008.

Prepared By: J. Jones Compliance Reporting Technician Approved By: S. Fletcher Supervisor of Analytical Services (Acting)

E-mail	Barry MacBride, Director, Water and Waste Department Kelly Kjartanson; Manager, Environmental Standards Division Diane Sacher; Manager, Water Services Division Peter Ward; Superintendent, Water Services Division Andy Weremy, Water Treatment Systems Engineer, Water Services Division
FILE	WQR2

**CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION**

MONTHLY TURBIDITY REPORT

December 2008

Location (Deacon Outlet)	Date	Turbidity (NTU)		
		Mean	Min	Max
Deacon Prechlorination Cell 1	1-Dec-08	0.71	0.68	0.80
Deacon Prechlorination Cell 1	2-Dec-08	0.64	0.53	0.72
Deacon Prechlorination Cell 1	3-Dec-08	0.45	0.35	0.55
Deacon Prechlorination Cell 1	4-Dec-08	0.34	0.30	0.37
Deacon Prechlorination Cell 1	5-Dec-08	0.35	0.33	0.37
Deacon Prechlorination Cell 1	6-Dec-08	0.37	0.35	0.39
Deacon Prechlorination Cell 1	7-Dec-08	0.36	0.34	0.38
Deacon Prechlorination Cell 1	8-Dec-08	0.37	0.34	0.86
Deacon Prechlorination Cell 1	9-Dec-08	0.39	0.35	0.54
Deacon Prechlorination Cell 1	10-Dec-08	0.38	0.30	0.46
Deacon Prechlorination Cell 1	11-Dec-08	0.29	0.25	0.34
Deacon Prechlorination Cell 1	12-Dec-08	0.29	0.26	0.32
Deacon Prechlorination Cell 1	13-Dec-08	0.25	0.23	0.28
Deacon Prechlorination Cell 1	14-Dec-08	0.29	0.26	0.33
Deacon Prechlorination Cell 1	15-Dec-08	0.33	0.29	0.35
Deacon Prechlorination Cell 1	16-Dec-08	0.36	0.32	0.43
Deacon Prechlorination Cell 1	17-Dec-08	0.44	0.41	0.51
Deacon Prechlorination Cell 1	18-Dec-08	0.47	0.46	0.49
Deacon Prechlorination Cell 3	18-Dec-08	0.34	0.29	0.41
Deacon Prechlorination Cell 3	19-Dec-08	0.32	0.27	0.41
Deacon Prechlorination Cell 3	20-Dec-08	0.33	0.30	0.38
Deacon Prechlorination Cell 3	21-Dec-08	0.28	0.23	0.34
Deacon Prechlorination Cell 3	22-Dec-08	0.23	0.20	0.31
Deacon Prechlorination Cell 3	23-Dec-08	0.23	0.20	0.27
Deacon Prechlorination Cell 3	24-Dec-08	0.24	0.21	0.31
Deacon Prechlorination Cell 3	25-Dec-08	0.25	0.23	0.29
Deacon Prechlorination Cell 3	26-Dec-08	0.25	0.23	0.31
Deacon Prechlorination Cell 3	27-Dec-08	0.25	0.23	0.29
Deacon Prechlorination Cell 3	28-Dec-08	0.24	0.21	0.26
Deacon Prechlorination Cell 3	29-Dec-08	0.21	0.19	0.24
Deacon Prechlorination Cell 3	30-Dec-08	0.21	0.17	0.25
Deacon Prechlorination Cell 3	31-Dec-08	0.19	0.17	0.24

Monthly Average Result =	0.33
Deacon Outlet Statistics	Minimum Reported Result = 0.17
	Maximum Reported Result = 0.86

Comments: The above results for Cell 1 and Cell 3 are calculated from an on-line, continuous flow turbidity meter.
The results for December 1, 2008 are calculated from data collected from 0824 hours to 2354 hours. The data obtained from the meter before 0824 hours gave unrepresentative results because proper flow had not yet been restored to the meter after electrical work was done on the Cell 1 trailer on November 28, 2008.
The results for December 11, 2008 are calculated from data collected from 0009 hours to 0924 hours, and 1514 hours to 2359 hours. The results from 0944 to 1459 were unrepresentative due to maintenance being performed on the turbidity meter during this time.
Effective December 18, 2008 at 1300 hours, Cell 3 was placed online and Cell 1 was isolated. The results for Cell 1 for December 18 are calculated from data collected from 0014hours to 1114 hours, and the results for Cell 3 for December 18 are calculated from data collected from 1314 hours to 2359 hours.

Prepared By: J. Jones
Compliance Reporting Technician

Approved By: A. Vanderstel
Supervisor of Analytical Services (Acting)

E-mail	Barry MacBride, Director, Water and Waste Department Kelly Kjartanson; Manager, Environmental Standards Division Diane Sacher; Manager, Water Services Division Doug Sulymka, Water Treatment Operations Supervisor, Water Services Division Andy Weremy, Water Treatment Systems Engineer, Water Services Division
FILE	WQR2



Water and Waste Department • Service des eaux et des déchets

February 12, 2008

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

Dental Consultant
Environment Unit - Public Health Branch
4th Floor, 100-300 Carlton Street
Winnipeg, Manitoba
R3B 3M9

Dear Sir/Madam:

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 – 19 Locations)	185621	Dec. 31/07	0.79
	186225	Jan. 8/08	0.84
	186682	Jan. 15/08	0.82
	19113	Jan. 22/08	0.85
	19165	Jan. 28/08	0.86

If you have any questions on the foregoing, please call Mr. Steve Fletcher, Acting Supervisor of Analytical Services, at 986-4752.

Yours truly,

Original signed by:

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

GML/pr

c: Diane Sacher, P.Eng., Manager of Water Services

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Water and Waste Department • Service des eaux et des déchets

March 19, 2008

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

Dr. Bernadette Mellon
Dental Consultant
Environment Unit - Public Health Branch
4th Floor, 100-300 Carlton Street
Winnipeg, Manitoba
R3B 3M9

Dear Dr. Mellon:

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 – 19 Locations)	188279	Feb. 4/08	0.83
	188715	Feb. 13/08	0.82
	189319	Feb. 19/08	0.82
	189746	Feb. 27/08	0.82

If you have any questions on the foregoing, please call Mr. Steve Fletcher, Acting Supervisor of Analytical Services, at 986-4752.

Yours truly,

Original signed by:

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

GML/pr

c: Diane Sacher, P.Eng., Manager of Water Services

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Water and Waste Department • Service des eaux et des déchets

June 23, 2008

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

Dental Consultant
Environment Unit - Public Health Branch
4th Floor, 100-300 Carlton Street
Winnipeg, Manitoba
R3B 3M9

Dear Sir/Madam:

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 – 19 Locations)	190209	March 4/08	0.83
	190679	March 11/08	0.85
	191310	March 17/08	0.88
	191951	March 25/08	0.82
	192387	April 1/08	0.72
	192850	April 8/08	0.82
	193301	April 17/08	0.84
	193860	April 22/08	0.87
	194357	April 29/08	0.86
	194829	May 6/08	0.83
	195350	May 13/08	0.78
	196029	May 20/08	0.84
	196688	May 27/08	0.79

You will note that the fluoride result on April 1, 2008 is slightly lower than normal due to the fact that on March 31, 2008 and April 1, 2008, Branch II was offline and dosage was difficult to maintain resulting in lower than usual fluoride levels.

If you have any questions on the foregoing, please call Mr. Steve Fletcher, Acting Supervisor of Analytical Services, at 986-4752.

Yours truly,

Original signed by:

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

GML/pr

c: Diane Sacher, P.Eng., Manager of Water Services

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Water and Waste Department • Service des eaux et des déchets

July 3, 2008

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

Dental Consultant
Environment Unit - Public Health Branch
4th Floor, 100-300 Carlton Street
Winnipeg, Manitoba
R3B 3M9

Dear Sir/Madam:

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 – 19 Locations)	197230	June 3/08	0.85
	198024	June 10/08	0.83
	198623	June 17/08	0.84
	199314	June 24/08	0.88

If you have any questions on the foregoing, please call Mr. Steve Fletcher, Acting Supervisor of Analytical Services, at 986-4752.

Yours truly,

Original signed by:

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

GML/pr

c: Diane Sacher, P.Eng., Manager of Water Services

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Mailing Address/Adresse Postale: 2230 Main Street • 2230, Rue Main • Winnipeg • Manitoba R2V 4T8
tel/tél. (204) 986-4684 • fax/télec. (204) 339-2147 • www.winnipeg.ca



Water and Waste Department • Service des eaux et des déchets

August 8, 2008

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

Dental Consultant
Environment Unit - Public Health Branch
4th Floor, 100-300 Carlton Street
Winnipeg, Manitoba
R3B 3M9

Dear Sir/Madam:

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 – 19 Locations)	200185	July 1/08	0.86
	200689	July 8/08	0.90
	201284	July 15/08	0.82
	202042	July 22/08	0.83
	202734	July 29/08	0.85

If you have any questions on the foregoing, please call Mr. Steve Fletcher, Acting Supervisor of Analytical Services, at 986-4752.

Yours truly,

Original signed by:

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

GML/pr

c: Diane Sacher, P.Eng., Manager of Water Services

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Water and Waste Department • Service des eaux et des déchets

August 28, 2008

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

Dental Consultant
Environment Unit - Public Health Branch
4th Floor, 100-300 Carlton Street
Winnipeg, Manitoba
R3B 3M9

Dear Sir/Madam:

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 – 19 Locations)	203461	Aug. 5/08	0.83
	203933	Aug. 12/08	0.90
	204597	Aug. 20/08	0.84
	205510	Aug. 26/08	0.82

If you have any questions on the foregoing, please call Mr. Steve Fletcher, Acting Supervisor of Analytical Services, at 986-4752.

Yours truly,

Original signed by:

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

GML/pr

c: Diane Sacher, P.Eng., Manager of Water Services

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Water and Waste Department • Service des eaux et des déchets

October 2, 2008

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

Dental Consultant
Environment Unit - Public Health Branch
4th Floor, 100-300 Carlton Street
Winnipeg, Manitoba
R3B 3M9

Dear Sir/Madam:

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 – 19 Locations)	206117	Sept. 2/08	0.87
	206603	Sept. 9/08	0.80
	207231	Sept. 16/08	0.87
	207962	Sept. 23/08	0.87
	208669	Sept. 30/08	0.91

If you have any questions on the foregoing, please call Mr. Steve Fletcher, Acting Supervisor of Analytical Services, at 986-4752.

Yours truly,

Original signed by:

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

GML/pr

c: Diane Sacher, P.Eng., Manager of Water Services

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Water and Waste Department • Service des eaux et des déchets

November 3, 2008

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

Dental Consultant
Environment Unit - Public Health Branch
4th Floor, 100-300 Carlton Street
Winnipeg, Manitoba
R3B 3M9

Dear Sir/Madam:

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 – 19 Locations)	209315	Oct. 7/08	0.94
	209849	Oct. 14/08	0.86
	210373	Oct. 21/08	0.95
	210986	Oct. 28/08	0.83

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

Yours truly,

Original signed by:

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

RG/pr

c: Diane Sacher, P.Eng., Manager of Water Services

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Water and Waste Department • Service des eaux et des déchets

December 3, 2008

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

Dental Consultant
Environment Unit - Public Health Branch
4th Floor, 100-300 Carlton Street
Winnipeg, Manitoba
R3B 3M9

Dear Sir/Madam:

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 – 19 Locations)	211622	Nov 4/08	0.79
	212225	Nov 11/08	0.83
	212767	Nov 18/08	0.86
	213351	Nov 27/08	0.79

If you have any questions on the foregoing, please call Mr. Steve Fletcher, Acting Supervisor of Analytical Services, at 986-4752.

Yours truly,

Original signed by:

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

RG

c: Diane Sacher, P.Eng., Manager of Water Services



Water and Waste Department • Service des eaux et des déchets

January 6, 2009

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

Dental Consultant
Environment Unit - Public Health Branch
4th Floor, 100-300 Carlton Street
Winnipeg, Manitoba
R3B 3M9

Dear Sir/Madam:

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 – 19 Locations)	213922	Dec. 1/08	0.81
	214414	Dec. 11/08	0.78
	214959	Dec. 17/08	0.81
	215477	Dec. 25/08	0.80
	215894	Dec. 30/08	0.84

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

Yours truly,

Original signed by:

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

RG/pr

c: Diane Sacher, P.Eng., Manager of Water Services


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CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION
Water Supply and Distribution System

2008 Disinfection By-Products Summary Report (ug/L)

SAMPLE LOCATIONS	Total Trihalomethanes (µg/L)			Bromodichloromethane (µg/L)			Total Haloacetic Acids (µg/L)			Total Aldehydes (µg/L)		
	Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average
INTAKE @ SHOAL LAKE	<0.5	2	0.7	<0.5	1	<0.5	<2	<2	<2	NR	NR	NR
AQUEDUCT @ DEACON	74	135	96	6	12	9	64	127	91	16	39	27
DEACON OUTLET **	20	80	45	1	8	4	33	71	52	8	18	12
BRANCH 1 @ McPHILLIPS	29	92	70	2	10	7	59	108	88	13	38	25
BRANCH 2 @ HURST	38	90	65	4	9	7	60	110	89	15	43	25
MACLEAN STATION OUTLET	41	105	81	4	10	8	75	127	97	13	38	24
HURST STATION OUTLET	38	105	78	5	10	8	71	135	99	16	41	27
MCPHILLIPS STATION OUTLET	51	117	84	5	11	9	76	123	94	16	38	26
	55	119	87	6	11	9	85	134	102	15	49	29
	52	122	89	5	11	9	77	129	108	13	43	28
	53	122	89	6	11	9	83	134	102	18	43	28
	55	122	91	6	11	9	61	119	94	18	35	25
	53	120	89	6	11	9	82	144	108	17	43	28
	59	121	91	6	11	9	64	129	101	16	39	26
YEARLY DISTRIBUTION SYSTEM	52	122	89	5	11	9	61	144	102	13	49	27

COMMENTS:
NS - NO SAMPLE
NR - NO RESULTS
OL - OFFLINE

* Distribution System sampling locations

** Deacon Outlet Cell 1 (Feb, Mar, Apr, May, Sept, Oct, Nov, Dec)

Cell 3 (Jan, June, July, Aug)

Methodology

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

Haloacetic Acids analyzed by GC-ECD according to EPA 552.3

Aldehydes analyzed by GC-ECD according to EPA 556

CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION

Water Supply and Distribution System

2008 Deacon Outlet - Metals Summary Report

SAMPLE LOCATIONS	Date Sampled	<u>Total Extractable Metals</u>															
		Aluminum Al (mg/L)	Arsenic As (mg/L)	Boron B (mg/L)	Calcium Ca (mg/L)	Cadmium Cd (mg/L)	Chromium Cr (mg/L)	Copper Cu (mg/L)	Iron Fe (mg/L)	Mercury Hg (µg/L)	Potassium K (mg/L)	Magnesium Mg (mg/L)	Manganese Mn (mg/L)	Sodium Na (mg/L)	Nickel Ni (mg/L)	Lead Pb (mg/L)	Zinc Zn (mg/L)
Aqueduct Branch 1 @ McPhillips	10-Jan-08	0.004	<0.001	0.013	21.7	<0.001	<0.001	0.001	0.04	0.0006	1.24	5.59	<0.01	2.2	<0.001	<0.001	0.002
Aqueduct Branch 1 @ McPhillips	29-Apr-08	0.002	<0.001	0.002	21.9	<0.001	0.004	<0.001	0.04	0.0016	1.23	6.23	<0.01	2.1	<0.001	<0.001	<0.001
Aqueduct Branch 1 @ McPhillips	31-Jul-08	0.006	<0.001	0.005	21.6	<0.001	<0.001	0.001	0.02	0.0006	1.22	6.26	0.01	2.2	<0.001	<0.001	<0.001
Aqueduct Branch 1 @ McPhillips	21-Oct-08	0.007	<0.001	<0.012	22.6	<0.001	<0.001	0.001	0.04	0.0007	1.25	5.64	<0.01	1.9	<0.001	<0.001	<0.001
Aqueduct Branch 2 @ Hurst	10-Jan-08	0.004	<0.001	0.013	21.7	<0.001	<0.001	0.005	0.04	0.0006	1.25	5.51	<0.01	2.2	<0.001	<0.001	0.018
Aqueduct Branch 2 @ Hurst	29-Apr-08	0.004	<0.001	0.003	23.0	<0.001	0.004	0.005	0.05	0.0023	1.32	6.43	<0.01	2.2	<0.001	<0.001	0.014
Aqueduct Branch 2 @ Hurst	31-Jul-08	0.009	<0.001	0.004	20.9	<0.001	<0.001	0.009	0.07	<0.0005	1.18	5.99	0.03	2.1	0.001	<0.001	0.024
Aqueduct Branch 2 @ Hurst	21-Oct-08	0.007	<0.001	<0.012	23.6	<0.001	<0.001	0.010	0.04	0.0007	1.35	6.02	<0.01	2.1	<0.001	<0.001	0.034
Statistics	Mean	0.005	<0.001	0.007	22.1	<0.001	0.001	0.004	0.04	0.0009	1.26	5.96	<0.01	2.1	<0.001	<0.001	0.012
	Minimum	0.002	<0.001	0.002	20.9	<0.001	<0.001	<0.001	0.02	<0.0005	1.18	5.51	<0.01	1.9	<0.001	<0.001	<0.001
	Maximum	0.009	<0.001	0.013	23.6	<0.001	0.004	0.010	0.07	0.0023	1.35	6.43	0.03	2.2	0.001	<0.001	0.034

COMMENTS:

NS - NO SAMPLE
NR - NO RESULTS
OL - OFFLINE

NOTE: Where samples gave undetectable concentrations (reported as less than values), the value is halved to permit calculation of a Mean.

Methodology

Metals were analyzed by ICP-MS according to Standard Methods for the Examination of Water and Wastewater, 21st Edition, Method 3125
Mercury was analyzed by contract laboratory.

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