



Water and Waste Department • Service des eaux et des déchets

2007

ANNUAL REPORT

**CITY OF WINNIPEG
WATER SUPPLY SYSTEM**

TABLE OF CONTENTS

CONTENTS

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 – Non-Compliance Incidents and Corrective Actions	2
Section 32(2)i – Major Expenses	6

LIST OF APPENDICES

Appendix A	Water Quality Summary Reports 2007 Shoal Lake Water Quality Summary 2007 Deacon Reservoir Outlet Drinking Water Quality Summary 2007 Winnipeg Drinking Water Quality Summary
Appendix B	Compliance Submissions Reports 2007 Chlorine Residual Compliance Reports 2007 Monthly Turbidity Reports 2007 City of Winnipeg Fluoride Monitoring Reports 2007 Disinfection By-Products and Metals Reports

LIST OF TABLES

Table 1	Drinking Water Parameters.....	3
Table 2	Non-Compliance Incidents and Corrective Actions	4

2007 Annual Report
City of Winnipeg Water Supply System

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 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. In addition, in 2006 the City of Winnipeg finished installing and began using a UV light system at Deacon Reservoir as an additional means of disinfection.

2007 Annual Report
City of Winnipeg Water Supply System

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.

NON-COMPLIANCE INCIDENTS AND CORRECTIVE ACTIONS

“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 provides non-compliance incidents and corrective actions taken in 2007.

2007 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	

2007 Annual Report
City of Winnipeg Water Supply System

Table 2. Non-compliance incidents and Corrective Actions

Date	Location	Type of non-compliance incident	Initial test result	Description of corrective actions taken
Jan 24, 07		Turbidity exceeding 1 NTU	2.10	
Mar 22, 07		Turbidity exceeding 1 NTU	>1.0	
Apr 2, 07		Turbidity exceeding 1 NTU	1.03	
May 10, 07		Turbidity exceeding 1 NTU	4.00	
May 22, 07		Turbidity exceeding 1 NTU	1.40	High turbidities of the distribution samples are a result of the quality of the incoming water supply and/or localized disturbances.
Jun 7, 07		Turbidity exceeding 1 NTU	1.20	
Jul 12, 07		Turbidity exceeding 1 NTU	1.05	
Jul 12, 07		Turbidity exceeding 1 NTU	1.01	The background levels are higher than normal during the summer and fall months due to the high algae levels.
Jul 12, 07		Turbidity exceeding 1 NTU	1.34	
Jul 19, 07		Turbidity exceeding 1 NTU	1.18	
Jul 26, 07		Turbidity exceeding 1 NTU	1.59	
Jul 26, 07		Turbidity exceeding 1 NTU	1.07	
Jul 26, 07		Turbidity exceeding 1 NTU	1.03	
Jul 26, 07		Turbidity exceeding 1 NTU	1.01	
Jul 26, 07		Turbidity exceeding 1 NTU	1.32	
Aug 2, 07		Turbidity exceeding 1 NTU	1.04	
Aug 8, 07		Turbidity exceeding 1 NTU	1.09	
Aug 16, 07		Turbidity exceeding 1 NTU	1.19	
Sept 13, 07		Turbidity exceeding 1 NTU	1.05	
Sept 13, 07		Turbidity exceeding 1 NTU	1.92	
Sept 13, 07		Turbidity exceeding 1 NTU	1.13	
Sept 19, 07		Turbidity exceeding 1 NTU	>1.0	
Sept 26, 07		Turbidity exceeding 1 NTU	>1.0	
Oct 3, 07		Turbidity exceeding 1 NTU	1.05	
Oct 3, 07		Turbidity exceeding 1 NTU	1.03	
Oct 9, 07		Turbidity exceeding 1 NTU	1.09	
Oct 9, 07		Turbidity exceeding 1 NTU	1.02	
Oct 9, 07		Turbidity exceeding 1 NTU	1.05	
Oct 9, 07		Turbidity exceeding 1 NTU	1.20	
Oct 9, 07		Turbidity exceeding 1 NTU	1.03	
Oct 9, 07		Turbidity exceeding 1 NTU	1.27	
Oct 9, 07		Turbidity exceeding 1 NTU	1.34	
Oct 9, 07		Turbidity exceeding 1 NTU	1.02	
Oct 9, 07		Turbidity exceeding 1 NTU	1.17	
Oct 9, 07		Turbidity exceeding 1 NTU	1.17	
Oct 9, 07		Turbidity exceeding 1 NTU	1.02	
Oct 9, 07		Turbidity exceeding 1 NTU	1.06	
Oct 17, 07		Turbidity exceeding 1 NTU	1.11	
Oct 17, 07		Turbidity exceeding 1 NTU	1.12	

2007 Annual Report
City of Winnipeg Water Supply System

Date	Location	Type of non-compliance incident	Initial test result	Description of corrective actions taken
Oct 17, 07	[REDACTED]	Turbidity exceeding 1 NTU	1.41	
Oct 17, 07	[REDACTED]	Turbidity exceeding 1 NTU	1.11	
Oct 23, 07	[REDACTED]	Turbidity exceeding 1 NTU	2.07	
Oct 23, 07	[REDACTED]	Turbidity exceeding 1 NTU	1.09	
Oct 30, 07	[REDACTED]	Turbidity exceeding 1 NTU	1.09	
Oct 30, 07	[REDACTED]	Turbidity exceeding 1 NTU	1.12	
Oct 30, 07	[REDACTED]	Turbidity exceeding 1 NTU	1.12	
Sept 19, 07	[REDACTED]	Free chlorine residual <0.10 mg/L	0.08	All locations were re-sampled. Chlorine set points were adjusted to ensure that the target level of disinfection was met.
Sept 19, 07	[REDACTED]	Free chlorine residual <0.10 mg/L	0.07	
Sept 19, 07	[REDACTED]	Free chlorine residual <0.10 mg/L	<0.05	
Sept 26, 07	[REDACTED]	Free chlorine residual <0.10 mg/L	0.07	
Jan 22, 07	[REDACTED]	Total coliform >1 MPNU/100mL	5	All locations were re-sampled until two consecutive negative results were found.
Jan 29, 07	[REDACTED]	Total coliform >1 MPNU/100mL	2	
Feb 05, 07	[REDACTED]	Total coliform >1 MPNU/100mL	8	
Feb 12, 07	[REDACTED]	Total coliform >1 MPNU/100mL	1	
Feb 26, 07	[REDACTED]	Total coliform >1 MPNU/100mL	14	
Feb 26, 07	[REDACTED]	Total coliform >1 MPNU/100mL	2	
May 10, 07	[REDACTED]	Total coliform >1 MPNU/100mL	6	
May 28, 07	[REDACTED]	Total coliform >1 MPNU/100mL	1	
Jun 21, 07	[REDACTED]	Total coliform >1 MPNU/100mL	1	
Aug 02, 07	[REDACTED]	Total coliform >1 MPNU/100mL	1	
Aug 14, 07	[REDACTED]	Total coliform >1 MPNU/100mL	1	
Aug 16, 07	[REDACTED]	Total coliform >1 MPNU/100mL	2	
Aug 16, 07	[REDACTED]	E.Coli >1 MPNU/100mL	1	
Aug 16, 07	[REDACTED]	E.Coli >1 MPNU/100mL	2	
Aug 27, 07	[REDACTED]	Total coliform >1 MPNU/100mL	20	
Sep 05, 07	[REDACTED]	Total coliform >1 MPNU/100mL	3	
Sep 13, 07	[REDACTED]	Total coliform >1 MPNU/100mL	4	
Oct 11, 07	[REDACTED]	Total coliform >1 MPNU/100mL	2	
Oct 11, 07	[REDACTED]	E.Coli >1 MPNU/100mL	2	
Nov 05, 07	[REDACTED]	Total coliform >1 MPNU/100mL	1	
Nov 19, 07	[REDACTED]	Total coliform >1 MPNU/100mL	5	
Nov 26, 07	[REDACTED]	Total coliform >1 MPNU/100mL	2	
Dec 17, 07	[REDACTED]	Total coliform >1 MPNU/100mL	1	

2007 Annual Report
City of Winnipeg Water Supply System

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 50% constructed with an anticipated completion date of 2009. The significant items completed were:
 1. Branch I Surge Tower construction
 2. Dewatering Cells construction
 3. Clearwell construction
 4. Yard piping installation
 5. Sewer forcemain installation
 6. Overflow pipe to Deacon Reservoir Cell 1 installation
2. The Branch I and Branch II aqueducts were lowered due to the Floodway expansion project.
3. Water main renewals were completed at 27 locations in the City's water distribution system.
4. A major hardware and software upgrade was performed on the Supervisory Control and Data Acquisition (SCADA) system.
5. The Mile 83 Shoal Lake Aqueduct overflow isolation chamber was constructed.
6. Automatic shut-off valves for the chlorine tonne cylinders were installed at the McPhillips, Hurst and MacLean Pumping Stations.

APPENDIX A

WATER QUALITY SUMMARY REPORTS

City of Winnipeg
Environmental Standards Division
2007 Shoal Lake Water Quality Summary

What is being measured	How its measured	Guideline or Regulation	Shoal Lake Average	Shoal Lake Range		Comments
Odour	units	Inoffensive	110	70	200	Raw water - guideline does not apply
Geosmin	parts per trillion	no guideline	5	<2	20	Common taste and odour compound
IPMP - 2-isopropyl-3-methoxypyrazine	parts per trillion	no guideline	<2	<2	<2	Common taste and odour compound
IBMP - 2-isobutyl-3-methoxypyrazine	parts per trillion	no guideline	<2	<2	<2	Common taste and odour compound
MIB - 2-methylisoborneol	parts per trillion	no guideline	<2	<2	<2	Common taste and odour compound
246 TCA - 2,4,6-trichloroanisole	parts per trillion	no guideline	<2	<2	<2	Common taste and odour compound
236 TCA - 2,3,6-trichloroanisole	parts per trillion	no guideline	<2	<2	<2	Common taste and odour compound
345 TCV - 3,4,5-trichloroveratrole	parts per trillion	no guideline	<2	<2	<2	Common taste and odour compound
MTBE - methyl tertiary-butyl ether	parts per million	0.015	<0.0005	<0.0005	0.0007	Raw water - guideline does not apply
NDMA - N-nitrosodimethylamine	parts per billion	under review	<0.05	<0.05	<0.05	Guideline under review by Health Canada
Plankton (algae) count	cells/ml	no guideline	52,900	1,900	516,100	Algae contribute to odours and may cause filter clogging
Chlorophyll-a	parts per billion	no guideline	8	1	15	Chlorophyll is found in algae
Microcystin LR	parts per billion	1.5	<0.1	<0.1	0.2	Raw water - guideline does not apply
Cryptosporidium	oocysts per 100 L	no guideline	<1	<1	<1	13 samples taken in 2007 - no positive results
Giardia	cysts per 100 L	no guideline	<1	<1	<1	13 samples taken in 2007 - no positive results
Turbidity (clearness)	n.t.u.	1	0.95	0.28	1.9	Raw water - guideline does not apply
Colour, Apparent	units	<15	7	3	15	Coloured water may be offensive
Total Dissolved Solids	parts per million	< 500	97	70	152	Raw water - guideline does not apply
Conductivity	microsiemens per centimetre	no guideline	149	126	180	Another measure of dissolved solids
pH	units	6.5-8.5	8.07	7.47	8.93	Raw water - guideline does not apply
Temperature	°C	<15	10	2	26	Raw water - guideline does not apply
Total Akalinity	parts per million as calcium carbonate	no guideline	73	61	88	-
Total Hardness	parts per million as calcium carbonate	80-100	77	70	87	Raw water - guideline does not apply
Total Organic Carbon	parts per million	no guideline	9	7	17	-
Soluble Organic Carbon	parts per million	no guideline	9	4	11	-
Total Kjeldahl Nitrogen (TKN)	parts per million	no guideline	0.40	0.18	0.61	TKN is a combination of ammonia and organic nitrogen
Total Phosphorus	parts per million	no guideline	0.024	0.011	0.044	Phosphorus can contribute to algae growth
Total Soluble Phosphorus	parts per million	no guideline	<0.002	<0.002	0.002	-

City of Winnipeg
Environmental Standards Division
2007 Shoal Lake Water Quality Summary

What is being measured	How its measured	Guideline or Regulation	Shoal Lake Average	Shoal Lake Range		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	0.04	<0.03	0.10	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	9	<9	12	Raw water - guideline does not apply
Trihalomethanes	<i>parts per billion</i>	100	2.4*	<0.5	18*	Raw water - guideline does not apply
Bromodichlormethane	<i>parts per billion</i>	16	<0.5	<0.5	0.8	Raw water - guideline does not apply
Haloacetic acids	<i>parts per billion</i>	under review	<2	<2	<2	No Haloacetic acids in raw water
Calcium	<i>parts per million</i>	no guideline	21.7	19.0	24.0	Contributes to hardness
Magnesium	<i>parts per million</i>	no guideline	6.24	5.50	7.07	-
Sodium	<i>parts per million</i>	<200	2.1	1.9	2.3	Raw water - guideline does not apply
Potassium	<i>parts per million</i>	no guideline	1.3	1.1	1.5	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	0.005	Raw water - guideline does not apply
Lead	<i>parts per million</i>	0.010	<0.001	<0.001	<0.01	Raw water - guideline does not apply
Aluminum	<i>parts per million</i>	0.1	0.003	0.001	0.005	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	<0.001	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	0.003	Raw water - guideline does not apply
Mercury	<i>parts per million</i>	0.001	8.0E-07	<5.0E-07	1.8E-06	Raw water - guideline does not apply

Guidelines from 'Summary of Guidelines for Canadian Drinking Water Quality' by Health Canada, March 2008.

Trihalomethane Guidelines from Guidelines for Canadian Drinking Water Quality by Health Canada, March 2008.

*Trihalomethane data includes results that are also found in the blanks.

City of Winnipeg
Environmental Standards Division
2007 Deacon Reservoir Outlet
Drinking Water Quality Summary

What is being measured	How its measured	Guideline or Regulation	Deacon Reservoir Average	Deacon Reservoir Range		Comments
Odour	units	Inoffensive	85	60	150	Raw water - guideline does not apply
Geosmin	parts per trillion	no guideline	17	<1	256	Common taste and odour compound
IPMP - 2-isopropyl-3-methoxypyrazine	parts per trillion	no guideline	<2	<2	<2	Common taste and odour compound
IBMP - 2-isobutyl-3-methoxypyrazine	parts per trillion	no guideline	<2	<2	<2	Common taste and odour compound
MIB - 2-methylisoborneol	parts per trillion	no guideline	3.2	<2	58	Common taste and odour compound
246 TCA - 2,4,6-trichloroanisole	parts per trillion	no guideline	<2	<2	<2	Common taste and odour compound
236 TCA - 2,3,6-trichloroanisole	parts per trillion	no guideline	<2	<2	<2	Common taste and odour compound
345 TCV - 3,4,5-trichloroveratrole	parts per trillion	no guideline	<2	<2	<2	Common taste and odour compound
MTBE - methyl tertiary-butyl ether	parts per million	0.015	<0.0005	<0.0005	<0.0005	Raw water - guideline does not apply
NDMA - N-nitrosodimethylamine	parts per billion	under review	<0.05	<0.05	<0.05	Guideline under review by Health Canada
Plankton (algae) count	cells/ml	no guideline	87,300	600	1,137,000	Algae contribute to odours and may cause filter clogging
Chlorophyll-a	parts per billion	no guideline	5.7	<1	21	Chlorophyll is found in algae
Microcystin LR	parts per billion	no guideline	<0.1	<0.1	0.3	Raw water - guideline does not apply
Cryptosporidium	oocysts per 100 L	no guideline	<1	<1	<1	17 samples taken in 2007 - no positive results
Giardia	cysts per 100 L	no guideline	<1	<1	<1	17 samples taken in 2007 - no positive results
Turbidity (clearness)	n.t.u.	1	0.88	0.33	1.64	Raw water - guideline does not apply
Colour, True	units	<15	<5	<5	<5	Raw water - guideline does not apply
Total Dissolved Solids	parts per million	< 500	99	84	113	Raw water - guideline does not apply
Conductivity	microsiemens per centimetre	no guideline	161	150	180	Another measure of dissolved solids
pH	units	6.5-8.5	7.95	7.16	8.34	Raw water - guideline does not apply
Temperature	° C	<15	11.6	1.0	25.0	Raw water - guideline does not apply
Total Alkalinity	parts per million as calcium carbonate	no guideline	69	63	80	-
Total Hardness	parts per million as calcium carbonate	80-100	76	70	83	Raw water - guideline does not apply
Total Organic Carbon	parts per million	no guideline	9	7	12	-
Total Inorganic Carbon	parts per million	no guideline	17	15	23	-
Total Phosphorus	parts per million	no guideline	<0.03	<0.03	<0.03	Phosphorus can contribute to algae growth

City of Winnipeg
Environmental Standards Division
2007 Deacon Reservoir Outlet
Drinking Water Quality Summary

What is being measured	How its measured	Guideline or Regulation	Deacon Reservoir Average	Deacon Reservoir Range		Comments
Ammonia Dissolved	parts per million	no guideline	0.03	0.02	0.04	-
Nitrate Nitrogen	parts per million	10	0.02	<0.01	0.05	Raw water - guideline does not apply
Chloride	parts per million	<250	5.3	4.1	6.6	Raw water - guideline does not apply
Sulfate	parts per million	<500	2.6	2.4	3.0	Raw water - guideline does not apply
Chlorine (total)	parts per million	3	0.11	<0.08	1.00	Raw water - guideline does not apply
Chlorine (free)	parts per million	no guideline	<0.05	<0.05	0.08	-
Trihalomethanes	parts per billion	100	53	17	104	Raw water - guideline does not apply
Bromodichlormethane	parts per billion	16	5.6	1.0	12.3	Raw water - guideline does not apply
Haloacetic acids	parts per billion	no guideline	57	33	120	Raw water - guideline does not apply
Carbofuran	parts per billion	<90	<0.2	<0.2	<0.2	Meets the guideline
Propoxur	parts per billion	<0.7	<0.2	<0.2	<0.2	Meets the guideline
Aldrin	parts per billion	0.7	<0.01	<0.01	<0.01	Meets the guideline
Lindane (gamma-BHC)	parts per billion	no guideline	<0.01	<0.01	<0.01	-
alpha-Chlordane	parts per billion	no guideline	<0.01	<0.01	<0.01	-
gamma-Chlordane	parts per billion	no guideline	<0.01	<0.01	<0.01	-
p,p-DDT	parts per billion	no guideline	<0.01	<0.01	<0.01	-
Dieldrin	parts per billion	<0.7	<0.02	<0.02	<0.02	Meets the guideline
Heptachlor	parts per billion	no guideline	<0.02	<0.02	<0.02	-
Heptachlor Epoxide	parts per billion	no guideline	<0.01	<0.01	<0.01	-
Methoxychlor	parts per billion	<900	<0.04	<0.04	<0.04	Meets the guideline
alpha-BHC	parts per billion	no guideline	<0.02	<0.02	<0.02	-
beta-BHC	parts per billion	no guideline	<0.03	<0.03	<0.03	-
delta-BHC	parts per billion	no guideline	<0.01	<0.01	<0.01	-
Captan	parts per billion	no guideline	<10	<10	<10	-
p,p-DDD	parts per billion	no guideline	<0.03	<0.03	<0.03	-
p,p-DDE	parts per billion	no guideline	<0.01	<0.01	<0.01	-
Endosulfan I	parts per billion	no guideline	<0.01	<0.01	<0.01	-
Endrin	parts per billion	no guideline	<0.02	<0.02	<0.02	-
Mirex	parts per billion	no guideline	<0.02	<0.02	<0.02	-
Simazine	parts per billion	<10	<0.1	<0.1	<0.1	Meets the guideline
Alachlor	parts per billion	no guideline	<0.2	<0.2	<0.2	-
Atrazine	parts per billion	<5	<0.1	<0.1	<0.1	Meets the guideline
Bromacil	parts per billion	no guideline	<0.2	<0.2	<0.2	-
Metr buzin	parts per billion	<80	<0.2	<0.2	<0.2	Meets the guideline
Azinphosmethyl	parts per billion	<20	<1	<1	<1	Meets the guideline
Chlorpyrifos	parts per billion	<900	<0.02	<0.02	<0.02	Meets the guideline

City of Winnipeg
Environmental Standards Division
2007 Deacon Reservoir Outlet
Drinking Water Quality Summary

What is being measured	How its measured	Guideline or Regulation	Deacon Reservoir Average	Deacon Reservoir Range		Comments
Diazinon	parts per billion	<20	<0.03	<0.03	<0.03	Meets the guideline
Dimethoate	parts per billion	<20	<0.2	<0.2	<0.2	Meets the guideline
Malathion	parts per billion	<190	<0.2	<0.2	<0.2	Meets the guideline
Parathion	parts per billion	<50	<0.2	<0.2	<0.2	Meets the guideline
Terbufos	parts per billion	<1	<0.5	<0.5	<0.5	Meets the guideline
Methyl Parathion	parts per billion	no guideline	<0.2	<0.2	<0.2	-
2,4-D	parts per billion	<100	<0.05	<0.05	<0.05	Meets the guideline
2,4-DB	parts per billion	no guideline	<0.05	<0.05	<0.05	-
2,4-DP	parts per billion	no guideline	<0.05	<0.05	<0.05	-
2,4,5-T	parts per billion	no guideline	<0.05	<0.05	<0.05	-
2,4,5-TP	parts per billion	no guideline	<0.05	<0.05	<0.05	-
Bromoxynil	parts per billion	<5	<0.02	<0.02	<0.02	Meets the guideline
Dicamba	parts per billion	<120	<0.02	<0.02	<0.02	Meets the guideline
Dinoseb	parts per billion	<10	<0.05	<0.05	<0.05	Meets the guideline
MCPA	parts per billion	no guideline	<0.05	<0.05	<0.05	-
MCPB	parts per billion	no guideline	<0.05	<0.05	<0.05	-
MCPP	parts per billion	no guideline	<0.05	<0.05	<0.05	-
Trichlopyr	parts per billion	no guideline	<0.05	<0.05	<0.05	-
Deltamethrin	parts per billion	no guideline	<0.04	<0.04	<0.04	-
Diclofop-methyl	parts per billion	<9	<0.1	<0.1	<0.1	Meets the guideline
Eptam	parts per billion	no guideline	<0.2	<0.2	<0.2	-
Ethafluralin	parts per billion	no guideline	<0.02	<0.02	<0.02	-
Propaclor	parts per billion	no guideline	<0.2	<0.2	<0.2	-
Propanil	parts per billion	no guideline	<0.2	<0.2	<0.2	-
Triallate	parts per billion	no guideline	<0.1	<0.1	<0.1	-
Trifluralin	parts per billion	<0.045	<0.03	<0.03	<0.03	Meets the guideline
Atrazine desethyl	parts per billion	no guideline	<0.05	<0.05	<0.05	-
Cyanazine	parts per billion	10	<0.5	<0.5	<0.5	Meets the guideline
Chlorthalonil	parts per billion	no guideline	<0.06	<0.06	<0.06	-
Arochlor 1016	parts per billion	no guideline	<0.1	<0.1	<0.1	-
Arochlor 1221	parts per billion	no guideline	<0.1	<0.1	<0.1	-
Arochlor 1232	parts per billion	no guideline	<0.1	<0.1	<0.1	-
Arochlor 1242	parts per billion	no guideline	<0.1	<0.1	<0.1	-
Arochlor 1248	parts per billion	no guideline	<0.1	<0.1	<0.1	-
Arochlor 1254	parts per billion	no guideline	<0.1	<0.1	<0.1	-
Arochlor 1260	parts per billion	no guideline	<0.1	<0.1	<0.1	-

City of Winnipeg
Environmental Standards Division
2007 Deacon Reservoir Outlet
Drinking Water Quality Summary

What is being measured	How its measured	Guideline or Regulation	Deacon Reservoir Average	Deacon Reservoir Range		Comments
Calcium	parts per million	no guideline	23.1	21.0	24.2	Contributes to hardness
Magnesium	parts per million	no guideline	6.55	5.81	7.16	Contributes to hardness
Sodium	parts per million	<200	2.2	2.0	2.4	Raw water - guideline does not apply
Potassium	parts per million	no guideline	1.33	1.21	1.43	-
Iron	parts per million	<0.3	0.04	0.03	0.06	Raw water - guideline does not apply
Copper	parts per million	<1.0	0.003	<0.001	0.006	Raw water - guideline does not apply
Lead	parts per million	0.010	<0.001	<0.001	<0.001	Raw water - guideline does not apply
Aluminum	parts per million	0.1	0.005	0.002	0.009	Raw water - guideline does not apply
Arsenic	parts per million	0.010	0.001	<0.001	0.001	Raw water - guideline does not apply
Chromium	parts per million	0.05	<0.001	<0.001	<0.001	Raw water - guideline does not apply
Nickel	parts per million	no guideline	0.001	<0.001	0.001	-
Cadmium	parts per million	0.005	<0.001	<0.001	<0.001	Raw water - guideline does not apply
Manganese	parts per million	<0.05	0.01	<0.01	0.03	Raw water - guideline does not apply
Zinc	parts per million	<5.0	0.009	0.001	0.022	Raw water - guideline does not apply
Mercury	parts per million	0.001	<5.0E-07	<5.0E-07	1.1E-06	Raw water - guideline does not apply
Antimony	parts per million	0.006	0.0004	0.0003	0.0004	Raw water - guideline does not apply
Barium	parts per million	1	0.016	0.012	0.018	Raw water - guideline does not apply
Beryllium	parts per million	no guideline	<0.0002	<0.0002	<0.0002	-
Bismuth	parts per million	no guideline	<0.0002	<0.0002	<0.0002	-
Boron	parts per million	<5	0.01	<0.01	0.03	Raw water - guideline does not apply
Cesium	parts per million	no guideline	<0.0001	<0.0001	<0.0001	-
Cobalt	parts per million	no guideline	<0.0002	<0.0002	<0.0002	-
Lithium	parts per million	no guideline	0.0022	0.0020	0.0023	-
Molybdenum	parts per million	no guideline	<0.0001	<0.0001	<0.0001	-
Selenium	parts per million	0.01	<0.0002	<0.0002	<0.0002	Raw water - guideline does not apply
Silicon	parts per million	no guideline	0.45	0.13	0.71	-
Silver	parts per million	no guideline	<0.00005	<0.00005	<0.00005	-
Strontium	parts per million	no guideline	0.027	0.017	0.041	-
Tellurium	parts per million	no guideline	<0.0002	<0.0002	<0.0002	-
Thallium	parts per million	no guideline	<0.00002	<0.00002	<0.00002	-
Thorium	parts per million	no guideline	<0.0001	<0.0001	<0.0001	-
Tin	parts per million	no guideline	0.0004	<0.0002	0.0012	-
Titanium	parts per million	no guideline	0.0003	0.0002	0.0006	-
Uranium	parts per million	0.02	<0.0001	<0.0001	<0.0001	Raw water - guideline does not apply
Vanadium	parts per million	no guideline	<0.0002	<0.0002	<0.0002	-
Zirconium	parts per million	<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, March 2008.
Trihalomethane Guidelines from Guidelines for Canadian Drinking Water Quality by Health Canada, March 2008.

City of Winnipeg
Environmental Standards Division
2007 Winnipeg Drinking Water Quality Summary

What is being measured	How its measured	Guideline or Regulation	Winnipeg Average	Winnipeg Range		Comments
Odour	units	Inoffensive	56	15	80	Does not always meet the guideline
Geosmin	parts per trillion	no guideline	10	<2	87	Common taste and odour compound
IPMP - 2-isopropyl-3-methoxypyrazine	parts per trillion	no guideline	<2	<2	<2	Common taste and odour compound
IBMP - 2-isobutyl-3-methoxypyrazine	parts per trillion	no guideline	<2	<2	<2	Common taste and odour compound
MIB - 2-methylisoborneol	parts per trillion	no guideline	<2	<2	<2	Common taste and odour compound
246 TCA - 2,4,6-trichloroanisole	parts per trillion	no guideline	<2	<2	<2	Common taste and odour compound
236 TCA - 2,3,6-trichloroanisole	parts per trillion	no guideline	<2	<2	<2	Common taste and odour compound
345 TCV - 3,4,5-trichloroveratrole	parts per trillion	no guideline	<2	<2	<2	Common taste and odour compound
MTBE - methyl tertiary-butyl ether	parts per million	0.015	<0.0005	<0.0005	<0.0005	Meets the guideline
NDMA - N-nitrosodimethylamine	parts per billion	under review	<0.05	<0.05	<0.05	Guideline under review by Health Canada
Chlorophyll-a	parts per billion	no guideline	<1	<1	1	Chlorophyll is found in algae
Microcystin LR	parts per billion	no more than 1.5	<0.1	<0.1	0.1	Meets the guideline
Turbidity (clearness)	n.t.u.	1	0.70	0.28	4.0	Does not always meet the guideline
Colour, True	units	<15	<5	<5	<5	Meets the guideline
Total Dissolved Solids	mg/L	< 500	111	98	123	Meets the guideline
Conductivity	microsiemens per centimetre	no guideline	165	156	181	Another measure of dissolved solids
pH	units	6.5-8.5	7.44	7.22	7.71	Meets the guideline
Temperature	°C	<15	11.0	3.0	26.5	Does not always meet the guideline
Total Alkalinity	parts per million as calcium carbonate	no guideline	63	53	78	-
Total Hardness	parts per million as calcium carbonate	80-100	81	74	94	Meets the guideline
Total Organic Carbon	parts per million	no guideline	9	7	12	-
Total Inorganic Carbon	parts per million	no guideline	14	12	17	-
Fluoride	parts per million	1.5	0.85	0.48	0.96	Meets the guideline
Nitrate Nitrogen	parts per million	10	0.02	<0.01	0.04	Meets the guideline
Phosphorus as Phosphate	parts per million	no guideline	1.87	1.07	1.96	Added for Lead Control Program
Chloride	parts per million	<250	7.9	6.2	10.9	Meets the guideline
Sulfate	parts per million	<500	2.7	2.4	3.0	Meets the guideline
Chlorine (free)	parts per million	no guideline	0.55	<0.05	1.58	-
Chlorine (total)	parts per million	3	0.99	0.31	2.10	Meets the guideline
Trihalomethanes	parts per billion	100	97.6	42	142	Meets the guideline
Bromodichlormethane	parts per billion	16	11.9	5.0	17.9	Meets the guideline
Haloacetic acids	parts per billion	under review	75	36	130	Guideline under review by Health Canada
Calcium	parts per million	no guideline	23.6	21.7	25.1	Contributes to hardness
Magnesium	parts per million	no guideline	6.46	5.67	7.17	No guideline

City of Winnipeg
Environmental Standards Division
2007 Winnipeg Drinking Water Quality Summary

What is being measured	How its measured	Guideline or Regulation	Winnipeg Average	Winnipeg Range		Comments
Sodium	<i>parts per million</i>	<200	2.2	1.9	2.4	Meets the guideline
Potassium	<i>parts per million</i>	no guideline	1.34	1.17	1.50	-

City of Winnipeg
Environmental Standards Division
2007 Winnipeg Drinking Water Quality Summary

What is being measured	How its measured	Guideline or Regulation	Winnipeg Average	Winnipeg Range		Comments
Iron	parts per million	<0.3	0.05	0.03	0.07	Meets the guideline
Copper	parts per million	<1.0	0.100	0.038	0.218	Meets the guideline
Lead	parts per million	0.010	<0.001	<0.001	0.001	Meets the guideline
Aluminum	parts per million	0.1	0.005	0.002	0.010	Meets the guideline
Arsenic	parts per million	0.010	0.001	<0.001	0.001	Meets the guideline
Chromium	parts per million	0.05	<0.001	<0.001	<0.001	Meets the guideline
Nickel	parts per million	under review	<0.001	<0.001	0.001	Guideline under review by Health Canada
Cadmium	parts per million	0.005	<0.001	<0.001	<0.001	Meets the guideline
Manganese	parts per million	<0.05	<0.01	<0.01	0.04	Meets the guideline
Zinc	parts per million	<5.0	0.002	<0.001	0.009	Meets the guideline
Mercury	parts per million	0.001	<5.0E-07	<5.0E-07	2.1E-06	Meets the guideline
Antimony	parts per million	0.006	0.0004	0.0004	0.0004	Meets the guideline
Barium	parts per million	1	0.016	0.013	0.017	Meets the guideline
Beryllium	parts per million	no guideline	<0.0002	<0.0002	<0.0002	-
Bismuth	parts per million	no guideline	<0.0002	<0.0002	<0.0002	-
Boron	parts per million	5	0.01	<0.01	0.02	Meets the guideline
Cesium	parts per million	no guideline	<0.0001	<0.0001	<0.0001	-
Cobalt	parts per million	no guideline	<0.0002	<0.0002	<0.0002	-
Lithium	parts per million	no guideline	0.0022	0.0020	0.0024	-
Molybdenum	parts per million	no guideline	<0.0001	<0.0001	<0.0001	-
Selenium	parts per million	0.01	<0.0002	<0.0002	<0.0002	Meets the guideline
Silicon	parts per million	no guideline	0.53	0.18	0.85	-
Silver	parts per million	no guideline	<0.00005	<0.00005	<0.00005	-
Strontium	parts per million	no guideline	0.026	0.015	0.040	-
Tellurium	parts per million	no guideline	<0.0002	<0.0002	<0.0002	-
Thallium	parts per million	no guideline	<0.00002	<0.00002	<0.00002	-
Thorium	parts per million	no guideline	<0.0001	<0.0001	<0.0001	-
Tin	parts per million	no guideline	<0.0002	<0.0002	<0.0002	-
Titanium	parts per million	no guideline	0.0005	0.0003	0.0007	-
Uranium	parts per million	0.02	<0.0001	<0.0001	<0.0001	Meets the guideline
Vanadium	parts per million	no guideline	<0.0002	<0.0002	<0.0002	-
Zirconium	parts per million	<0.1	<0.002	<0.002	<0.002	Meets the guideline

What is being measured	Guideline	Our test results	Comments
Number of total coliform bacteria tests in year	1820 samples	3061 samples	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.	0.7 % (21 positive tests)	All resamples were negative and met the guideline/provincial regulation
Number of Escherichia coli bacteria tests in year	1820 samples	3060 samples	More testing than required by the guideline/provincial regulation

City of Winnipeg
Environmental Standards Division
2007 Winnipeg Drinking Water Quality Summary

What is being measured	How its measured	Guideline or Regulation	Winnipeg Average	Winnipeg Range	Comments
Number of times that Escherichia coli bacteria show up in a test	no bacteria present in the sample	3 positive test results (0.1%)		All resamples were negative and met the guideline/provincial regulation	
Number of heterotrophic (bacteria) plate count (HPC) tests done	no guideline	3041 samples		Heterotrophic plate count is not required under the new provincial regulations.	

Guidelines from 'Summary of Guidelines for Canadian Drinking Water Quality' by Health Canada, March 2008.
Trihalomethane Guidelines from Guidelines for Canadian Drinking Water Quality by Health Canada, March 2008.

APPENDIX B

COMPLIANCE SUBMISSIONS REPORTS

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION
 WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING WEEKLY REPORT

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: January 8, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON Cell 4	158070	0.58	0.87	3.0	0.70	3.8	INTAKE
DEACON PRECHLORINATION CELL #1	158071	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	158072	<0.05	0.17	2.0	0.46		
AQUEDUCT BRANCH 1. @ McPHILLIPS	158075	0.56	0.92	2.5	0.49	1.6	DEACON
AQUEDUCT BRANCH 2 @ HURST	158076	0.71	1.08	2.5	0.45	1.6	DEACON
MACLEAN STATION DISCHARGE	158080	0.80	1.25	2.0	0.60	1.3	MACLEAN
MACLEAN STATION-PRECHLORINATION	158077	0.35	0.65	2.0			
HURST STATION DISCHARGE	158081	0.77	1.14	2.0	0.45	1.3	HURST
HURST STATION-PRECHLORINATION	158078	0.38	0.72	2.0			
McPHILLIPS STATION DISCHARGE	158082	0.88	1.24	2.0	0.41	1.3	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	158079	0.30	0.66	2.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: January 11, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.	[REDACTED]	158107	0.33	0.74	6.5	0.64
McP. 2.		158111	0.47	1.00	8.0	0.67
McP. 3.		158109	0.44	0.94	7.0	0.51
McP. 4.		158112	0.47	0.88	10.5	0.55
MacL. 5.		158097	0.43	0.95	5.0	0.70
MacL. 6.		158101	0.28	0.60	5.5	1.39
MacL. 7.		158105	0.12	0.50	8.0	0.61
MacL. 8.		158117	0.21	0.63	8.0	0.56
MacL. 9.		158121	0.35	0.91	8.5	0.51
MacL. 10.		158122	0.28	0.79	5.0	0.80
MacL. 11.		158125	0.45	1.01	4.0	0.48
Hrst 12.		158141	0.36	0.89	9.5	0.64
Hrst 13.		158135	0.20	0.51	8.0	0.62
Hrst 14.		158137	0.45	0.84	7.0	0.56
Hrst 15.		158139	0.50	1.08	3.0	0.64
Hrst 16.		158144	0.35	0.86	7.0	0.60
Hrst 17.		158150	0.49	1.05	3.5	0.53
McP. 18.		158154	0.28	0.62	5.5	0.59
McP. 19.		158156	0.50	1.04	8.0	0.66
		MEAN	0.37	0.83	6.7	0.65
		MINIMUM	0.12	0.50	3.0	0.48
		MAXIMUM	0.50	1.08	10.5	1.39
		Maclean Area Average	0.30	0.77	6.3	0.72
		Hurst Area Average	0.39	0.87	6.3	0.60
		McPhillip's Area Average	0.42	0.87	7.6	0.60
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 158093		FLUORIDE:		0.86	mg/L	
		ORTHO PHOSPHOROUS:		1.86	mg/L-PO4	

COMMENTS:

Effective Friday January 12 2007 @ 1200 hours
 Chlorine dosage at the Intake was reduced from 3.8 mg/L to 3.6 mg/L.

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Kelly Kjartanson Manager Environmental Standards Division
 Diane Sacher Manager Water Services Division
 Peter Ward Foreman Water Services Division
 Andy Weremy Regional Services Engineer Water Services Division
 Scott Davies Drinking Water Officer

TECHNICIAN(S): J.Jones / D.Shaluk

cc:

N:\WQ Data\Routine Water Quality\2007\Residual\[2007-01.xls]13-Jan-07

LIMS REF # 16034/16037

FILE: WQR2

APPROVED FOR DISTRIBUTION BY: G. Levesque

DATE: January 15 2007

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION
WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING WEEKLY REPORT

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: January 22, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	159194	0.48	0.87	2.5	0.53	3.6	INTAKE
DEACON PRECHLORINATION CELL #1	159195	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	159196	<0.05	0.20	3.0	0.47		
AQUEDUCT BRANCH 1. @ MCPHILLIPS	159199	0.60	0.91	2.0	0.42	1.6	DEACON
AQUEDUCT BRANCH 2 @ HURST	159200	0.66	0.98	2.0	0.38	1.6	DEACON
MACLEAN STATION DISCHARGE	159204	0.72	1.17	2.0	0.41	1.3	MACLEAN
MACLEAN STATION-PRECHLORINATION	159201	0.31	0.66	2.0			
HURST STATION DISCHARGE	159205	0.86	1.26	2.0	0.40	1.3	HURST
HURST STATION-PRECHLORINATION	159202	0.31	0.60	2.0			
McPHILLIPS STATION DISCHARGE	159206	0.73	1.29	2.0	0.38	1.3	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	159203	0.25	0.64	2.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: January 24, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.	[REDACTED]	159142	0.35	0.84	4.0	0.81
McP. 2.		159146	0.43	1.03	7.5	0.45
McP. 3.		159144	0.25	0.64	6.5	2.10
McP. 4.		159147	0.22	0.57	13.0	0.50
MacL. 5.		159132	0.41	0.84	3.5	0.75
MacL. 6.		159136	0.51	1.03	4.0	0.70
MacL. 7.		159140	0.19	0.63	9.5	0.43
MacL. 8.		159152	0.23	0.60	6.5	0.65
MacL. 9.		159156	0.49	1.05	7.5	0.77
MacL. 10.		159157	0.34	0.87	5.0	0.52
MacL. 11.		159160	0.43	1.00	4.5	0.56
Hrst 12.		159176	0.42	0.93	10.0	0.71
Hrst 13.		159170	0.27	0.71	6.5	0.51
Hrst 14.		159172	0.46	0.95	7.0	0.52
Hrst 15.		159174	0.45	1.10	3.0	0.81
Hrst 16.		159179	0.47	1.05	7.0	0.64
Hrst 17.		159185	0.47	0.98	3.5	0.40
McP. 18.		159189	0.31	0.65	5.0	0.71
McP. 19.	[REDACTED]	159191	0.48	1.08	7.0	0.62
		MEAN	0.38	0.87	6.3	0.69
		MINIMUM	0.19	0.57	3.0	0.40
		MAXIMUM	0.51	1.10	13.0	2.10
		Maclean Area Average	0.37	0.86	5.8	0.63
		Hurst Area Average	0.42	0.95	6.2	0.60
		McPhillip's Area Average	0.34	0.80	7.2	0.87
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 159128		FLUORIDE:			0.85	mg/L
		ORTHO PHOSPHOROUS:			1.96	mg/L-PO4

COMMENTS:

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Kelly Kjartanson Manager Environmental Standards Division
Diane Sacher Manager Water Services Division
Peter Ward Foreman Water Services Division
Andy Weremy Regional Services Engineer Water Services Division
Scott Davies Drinking Water Officer

TECHNICIAN(S): J. Jones/D. Shaluk

cc:

N:\WQ Data\Routine Water Quality\2007\Residual\[2007-01.xls]27-Jan-07

LIMS REF# 16140/16139

FILE: WQR2

APPROVED FOR DISTRIBUTION BY: G. Levesque

DATE: January 29 2007

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION
 WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING WEEKLY REPORT

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: February 5, 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	160143	0.64	1.00	2.5	0.43	3.6	INTAKE
DEACON PRECHLORINATION CELL #1	160144	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	160145	<0.05	0.21	1.5	0.40		
AQUEDUCT BRANCH 1. @ MCPHILLIPS	160148	0.68	1.02	2.0	0.53	1.6	DEACON
AQUEDUCT BRANCH 2 @ HURST	160149	0.75	1.08	2.0	0.35	1.6	DEACON
MACLEAN STATION DISCHARGE	160153	0.86	1.29	1.5	0.37	1.3	MACLEAN
MACLEAN STATION-PRECHLORINATION	160150	0.39	0.74	1.0			
HURST STATION DISCHARGE	160154	0.78	1.23	1.5	0.35	1.3	HURST
HURST STATION-PRECHLORINATION	160151	0.33	0.68	1.5			
McPHILLIPS STATION DISCHARGE	160155	0.89	1.31	1.5	0.35	1.3	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	160152	0.28	0.64	2.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: February 7, 2007				CHLORINE RESIDUAL	TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.		FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP.	1.	160170		0.47	0.96	6.5	0.43
McP.	2.	160174		0.47	1.10	6.0	0.45
McP.	3.	160172		0.48	0.94	5.0	0.40
McP.	4.	160175		0.38	0.80	11.0	0.44
MacL.	5.	160160		0.26	0.63	6.5	0.58
MacL.	6.	160164		0.47	1.00	3.0	0.47
MacL.	7.	160168		0.30	0.66	9.0	0.38
MacL.	8.	160180		0.39	0.86	7.0	0.49
MacL.	9.	160184		0.41	0.88	9.0	0.38
MacL.	10.	160185		0.42	0.95	4.0	0.56
MacL.	11.	160188		0.53	1.08	3.5	0.61
Hrst	12.	160204		0.44	0.90	8.0	0.57
Hrst	13.	160198		0.38	0.78	6.0	0.38
Hrst	14.	160200		0.50	0.97	6.5	0.43
Hrst	15.	160202		0.51	1.12	3.0	0.47
Hrst	16.	160207		0.52	1.05	6.5	0.45
Hrst	17.	160213		0.53	1.14	3.5	0.43
McP.	18.	160217		0.38	0.81	4.5	0.64
McP.	19.	160219		0.55	1.06	6.0	0.37
		MEAN		0.44	0.93	6.0	0.47
		MINIMUM		0.26	0.63	3.0	0.37
		MAXIMUM		0.55	1.14	11.0	0.64
		Maclean Area Average		0.40	0.87	6.0	0.50
		Hurst Area Average		0.48	0.99	5.6	0.46
		McPhillip's Area Average		0.46	0.95	6.5	0.46
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)							
SAMPLE NUMBER: 160156				FLUORIDE:		0.85	mg/L
				ORTHO PHOSPHOROUS:		1.91	mg/L-PO4

COMMENTS:

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
 Kelly Kjartanson Manager Environmental Standards Division
 Diane Sacher Manager Water Services Division
 Peter Ward Foreman Water Services Division
 Andy Weremy Regional Services Engineer Water Services Division
 Scott Davies Drinking Water Officer

TECHNICIAN(S): J. Jones/D. Shaluk

cc:

N:\WQ Data\Routine Water Quality\2007\Residual\[2007-02.xls]10-FEB-07

LIMS REF# 16248/16249

FILE: WQR2

APPROVED FOR DISTRIBUTION BY: G. Levesque

DATE: February 12 2007

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION
 WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING WEEKLY REPORT

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: February 19, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	161053	0.56	0.94	2.5	0.50	3.6	INTAKE
DEACON PRECHLORINATION CELL #1	161054	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	161055	<0.05	0.24	1.5	0.41		
AQUEDUCT BRANCH 1. @ MCPHILLIPS	161058	0.92	1.24	2.0	0.53	1.6	DEACON
AQUEDUCT BRANCH 2 @ HURST	161059	0.17	0.58	2.0	0.61	1.6	DEACON
MACLEAN STATION DISCHARGE	161063	1.04	1.48	1.5	0.38	1.3	MACLEAN
MACLEAN STATION-PRECHLORINATION	161060	0.38	0.86	1.5			
HURST STATION DISCHARGE	161064	0.88	1.23	1.5	0.35	1.3	HURST
HURST STATION-PRECHLORINATION	161061	0.21	0.55	1.5			
McPHILLIPS STATION DISCHARGE	161065	0.98	1.27	1.5	0.33	1.3	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	161062	0.63	0.96	2.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: February 22, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP.	1.	161080	0.52	1.05	5.0	0.34
McP.	2.	161084	0.58	1.13	8.0	0.39
McP.	3.	161082	0.33	0.68	5.0	0.43
McP.	4.	161085	0.51	1.10	9.0	0.37
MacL.	5.	161070	0.53	1.12	3.5	0.38
MacL.	6.	161074	0.49	1.08	4.0	0.45
MacL.	7.	161078	0.31	0.67	10.0	0.41
MacL.	8.	161090	0.30	0.65	6.0	0.45
MacL.	9.	161094	0.52	1.02	6.5	0.45
MacL.	10.	161095	0.51	0.98	4.5	0.48
MacL.	11.	161098	0.48	0.96	4.0	0.43
Hrst	12.	161114	0.54	1.07	7.5	0.59
Hrst	13.	161108	0.44	0.89	7.0	0.42
Hrst	14.	161110	0.55	1.02	7.0	0.37
Hrst	15.	161112	0.57	1.13	3.0	0.45
Hrst	16.	161117	0.45	0.90	6.0	0.36
Hrst	17.	161123	0.54	1.10	4.5	0.33
McP.	18.	161127	0.38	0.82	4.5	0.62
McP.	19.	161129	0.58	1.20	7.0	0.34
		MEAN	0.48	0.98	5.9	0.42
		MINIMUM	0.30	0.65	3.0	0.33
		MAXIMUM	0.58	1.20	10.0	0.62
		Maclean Area Average	0.45	0.93	5.5	0.44
		Hurst Area Average	0.52	1.02	5.8	0.42
		McPhillip's Area Average	0.48	1.00	6.4	0.42
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 161066		FLUORIDE:		0.81	mg/L	
		ORTHO PHOSPHOROUS:		1.88	mg/L-PO4	

COMMENTS:

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
 Kelly Kjartanson Manager Environmental Standards Division
 Diane Sacher Manager Water Services Division
 Peter Ward Foreman Water Services Division
 Andy Weremy Regional Services Engineer Water Services Division
 Scott Davies Drinking Water Officer

TECHNICIAN(S): J. Jones/ D. Shaluk

cc:

N \WQ Data\Routine Water Quality\2007\Residual\[2007-02.xls]24-FEB-07

LIMS REF# 16343/16344

FILE: WQR2

APPROVED FOR DISTRIBUTION BY: G. Levesque

DATE: March 2 2007

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION
 WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING WEEKLY REPORT

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: March 5, 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	162077	0.92	1.41	3.0	0.34	3.6	INTAKE
DEACON PRECHLORINATION CELL #1	162078	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	162079	<0.05	0.25	2.0	0.33		
AQUEDUCT BRANCH 1. @ MCPHILLIPS	162082	0.78	1.14	2.5	0.35	1.6	DEACON
AQUEDUCT BRANCH 2 @ HURST	162083	0.85	1.31	2.5	0.37	1.6	DEACON
MACLEAN STATION DISCHARGE	162087	0.80	1.24	2.0	0.33	1.3	MACLEAN
MACLEAN STATION-PRECHLORINATION	162084	0.42	0.86	2.5			
HURST STATION DISCHARGE	162088	0.91	1.30	2.0	0.30	1.3	HURST
HURST STATION-PRECHLORINATION	162085	0.43	0.81	2.5			
McPHILLIPS STATION DISCHARGE	162089	0.90	1.42	2.5	0.26	1.3	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	162086	0.46	0.81	3.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: March 8, 2007				CHLORINE RESIDUAL	TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.		FREE mg/L	TOTAL mg/L	°C	n.t.u.
McP. 1.		162104	0.50	1.06	5.5	0.35	
McP. 2.		162108	0.57	1.05	7.5	0.28	
McP. 3.		162106	0.44	0.95	4.5	0.39	
McP. 4.		162109	0.48	0.93	8.0	0.37	
MacL. 5.		162094	0.52	1.05	3.5	0.42	
MacL. 6.		162098	0.58	1.07	3.5	0.47	
MacL. 7.		162102	0.34	0.76	9.5	0.37	
MacL. 8.		162114	0.35	0.72	7.0	0.54	
MacL. 9.		162118	0.39	0.82	7.0	0.40	
MacL. 10.		162119	0.54	1.05	4.5	0.39	
MacL. 11.		162122	0.64	1.05	4.5	0.47	
Hrst 12.		162138	0.58	1.13	6.5	0.46	
Hrst 13.		162132	0.43	0.94	6.0	0.30	
Hrst 14.		162134	0.62	1.10	9.0	0.35	
Hrst 15.		162136	0.63	1.22	3.5	0.31	
Hrst 16.		162141	0.61	1.15	5.0	0.35	
Hrst 17.		162147	0.55	1.10	4.0	0.33	
McP. 18.		162151	0.48	0.94	4.5	0.33	
McP. 19.		162153	0.61	1.20	4.0	0.30	
		MEAN	0.52	1.02	5.7	0.38	
		MINIMUM	0.34	0.72	3.5	0.28	
		MAXIMUM	0.64	1.22	9.5	0.54	
		Maclean Area Average	0.48	0.93	5.6	0.44	
		Hurst Area Average	0.57	1.11	5.7	0.35	
		McPhillip's Area Average	0.51	1.02	5.7	0.34	
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)							
SAMPLE NUMBER: 162090				FLUORIDE:	0.48	mg/L	
				ORTHO PHOSPHOROUS:	1.07	mg/L-PO4	

COMMENTS:

The Branch II fluoride and ortho phosphorous feeds were shut off due to mechanical problems with Branch II resulting in the low fluoride and ortho phosphorous results for the distribution system composite.

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
 Kelly Kjartanson Manager Environmental Standards Division
 Diane Sacher Manager Water Services Division
 Peter Ward Foreman Water Services Division
 Andy Weremy Regional Services Engineer Water Services Division
 Scott Davies Water Stewardship Office of Drinking Water

TECHNICIAN(S): J. Jones/D. Shaluk

cc:

N:\WQ Data\Routine Water Quality\2007\Residual\[2007-03.xls]10-MAR-07

LIMS REF# 16447/16448

FILE: WQR2

APPROVED FOR DISTRIBUTION BY: G. Levesque

DATE: March 12 2007

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION
 WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING WEEKLY REPORT

WATER SUPPLY SYSTEM DATA

SAMPLE DATE:		March 19, 2007					
SAMPLE LOCATION	SAMPLE NO.	CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
		FREE	TOTAL			mg/L	mg/L
AQUEDUCT @ DEACON	163007	0.38	0.81	2.0	0.51	3.4	INTAKE
DEACON PRECHLORINATION CELL #1	163009	<0.05	0.10	2.5	0.91		
DEACON PRECHLORINATION CELL #3	163010	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ MCPHILLIPS	163013	0.61	0.98	3.5	1.01	1.5	DEACON
AQUEDUCT BRANCH 2 @ HURST	163014	NS	NS	NS	NS	1.5	DEACON
MACLEAN STATION DISCHARGE	163018	0.57	1.37	3.0	1.05	1.3	MACLEAN
MACLEAN STATION-PRECHLORINATION	163015	0.22	0.75	3.0			
HURST STATION DISCHARGE	163019	0.66	1.38	3.0	1.08	1.3	HURST
HURST STATION-PRECHLORINATION	163016	0.30	0.83	4.0			
McPHILLIPS STATION DISCHARGE	163020	0.68	1.34	3.5	0.99	1.3	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	163017	0.52	0.94	4.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE:		March 22, 2007					
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	CHLORINE RESIDUAL		TEMPERATURE	TURBIDITY	
			FREE	TOTAL		mg/L	mg/L
McP. 1.		163035	0.15	0.50	4.5	1.07	
McP. 2.		163039	0.24	0.52	7.0	1.06	
McP. 3.		163037	0.15	0.42	4.0	1.18	
McP. 4.		163040	0.28	0.78	11.0	1.15	
MacL. 5.		163025	0.21	0.52	3.5	1.05	
MacL. 6.		163029	0.25	0.52	3.5	1.18	
MacL. 7.		163033	0.19	0.41	9.0	1.40	
MacL. 8.		163045	0.14	0.31	5.0	1.10	
MacL. 9.		163049	0.32	0.51	6.0	1.27	
MacL. 10.		163050	0.31	0.48	5.5	1.17	
MacL. 11.		163053	0.28	0.50	4.0	1.05	
Hrst 12.		163069	0.26	0.49	6.5	1.47	
Hrst 13.		163063	0.24	0.42	7.5	1.23	
Hrst 14.		163065	0.30	0.44	14.0	1.19	
Hrst 15.		163067	0.42	0.68	3.5	1.20	
Hrst 16.		163072	0.28	0.56	6.5	1.06	
Hrst 17.		163078	0.29	0.52	5.5	1.00	
McP. 18.		163082	0.12	0.37	5.0	1.34	
McP. 19.		163084	0.31	0.56	4.5	1.07	
		MEAN	0.25	0.50	6.1	1.17	
		MINIMUM	0.12	0.31	3.5	1.00	
		MAXIMUM	0.42	0.78	14.0	1.47	
		Maclean Area Average	0.24	0.46	5.2	1.17	
		Hurst Area Average	0.30	0.52	7.3	1.19	
		McPhillip's Area Average	0.21	0.53	6.0	1.15	
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)							
SAMPLE NUMBER: 163021		FLUORIDE:		0.82 mg/L			
		ORTHO PHOSPHOROUS:		1.94 mg/L-PO4			
COMMENTS:							

Effective Monday March 12 2007 @ 1040 hours chlorine dosage at the intake was reduced from 3.6 mg/L to 3.4 mg/L chlorine dosage at Branches I and II was reduced from 1.6 mg/L to 1.5 mg/L

Effective Wednesday March 14 2007 @ 1200 hours Cells 1 and 2 were placed online Cells 3 and 4 were isolated

NS - No sample at Branch II at Hurst because technician could not unlock sample shed door

Effective Friday March 23 2007 @ 1415 hours chlorine dosage at all 3 pumping stations was increased from 1.3 mg/L to 1.5 mg/L

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department

Kelly Kjartanson Manager Environmental Standards Division

Diane Sacher Manager Water Services Division

Peter Ward Foreman Water Services Division

Andy Weremy Regional Services Engineer Water Services Division

Scott Davies Water Stewardship Office of Drinking Water

TECHNICIAN(S): J.Jones/D.Shaluk

CC:

N:\WQ Data\Routine Water Quality\2007\Residual\[2007-03.xls]24-MAR-07

LIMS REF# 16555/16556

FILE: WQR2

APPROVED FOR DISTRIBUTION BY: G. Levesque

DATE: March 28 2007

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: April 2, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION	SAMPLE NO.		mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON	164044	NA	NA	NA		0.40	3.4
DEACON PRECHLORINATION CELL 1	164046	<0.05	0.11	3.0		0.60	
DEACON PRECHLORINATION CELL 3	164047	OL	OL	OL		OL	
AQUEDUCT BRANCH 1. @ McPHILLIPS	164050	0.17	0.47	3.5		0.62	1.5
AQUEDUCT BRANCH 2 @ HURST	164051	NS	NS	NS		NS	1.5
MACLEAN STATION DISCHARGE	164055	0.78	1.53	3.0		0.73	1.5
MACLEAN STATION-PRECHLORINATION	164052	0.38	0.71	4.0			
HURST STATION DISCHARGE	164056	0.75	1.38	4.0		0.68	1.5
HURST STATION-PRECHLORINATION	164053	0.22	0.51	3.5			
McPHILLIPS STATION DISCHARGE	164057	0.98	1.50	4.0		0.64	1.5
McPHILLIPS STATION-PRECHLORINATION	164054	0.14	0.32	4.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: April 4, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP.	1.	164072	0.50	1.07	4.5	0.70
McP.	2.	164076	0.66	1.25	6.5	0.80
McP.	3.	164074	0.53	1.00	4.0	1.03
McP.	4.	164077	0.42	0.85	9.0	0.94
MacL.	5.	164062	0.65	1.22	3.0	0.65
MacL.	6.	164066	0.65	1.18	3.0	0.72
MacL.	7.	164070	0.45	0.86	7.0	0.96
MacL.	8.	164082	0.48	0.82	4.5	0.83
MacL.	9.	164086	0.53	1.07	7.5	0.67
MacL.	10.	164087	0.52	1.10	6.0	0.82
MacL.	11.	164090	0.42	0.90	3.0	0.67
Hrst	12.	164106	0.69	1.22	8.5	0.93
Hrst	13.	164100	0.37	0.84	5.5	0.63
Hrst	14.	164102	0.63	1.20	7.5	0.75
Hrst	15.	164104	0.68	1.40	4.0	0.64
Hrst	16.	164109	0.57	1.08	5.0	0.90
Hrst	17.	164115	0.66	1.15	4.0	0.68
McP.	18.	164119	0.48	0.98	4.5	0.84
McP.	19.	164121	0.68	1.36	5.5	0.64
		MEAN	0.56	1.08	5.4	0.78
		MINIMUM	0.37	0.82	3.0	0.63
		MAXIMUM	0.69	1.40	9.0	1.03
		Maclean Area Average	0.53	1.02	4.9	0.76
		Hurst Area Average	0.60	1.15	5.8	0.76
		McPhillip's Area Average	0.55	1.09	5.7	0.83
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 164058		FLUORIDE:		0.87	mg/L	
		ORTHO PHOSPHOROUS:		1.94	mg/L-PO4	

COMMENTS: The technician could not open the sample shed doors at Cell 2 and Branch II @ Hurst on the original sample date (April 2). A sample was collected from Cell 2 on April 5 for turbidity analysis.

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-04.xls]7-Apr-07

Monthly Water Quality Report

LIMS REF# 16659 & 16660

FILE: WQR2

TECHNICIAN(S): Jenni Jones & Debbie Shaluk

APPROVED FOR DISTRIBUTION BY: Gerry Levesque

Supervisor of Analytical Services (Acting)

DATE APPROVED: 27-Apr-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: April 16, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L		
AQUEDUCT @ DEACON	164989	0.25	0.69	4.0	0.44	3.4	INTAKE	
DEACON PRECHLORINATION CELL 1	164991	<0.05	<0.08	5.0	0.39			
DEACON PRECHLORINATION CELL 3	164992	OL	OL	OL	OL			
AQUEDUCT BRANCH 1. @ McPHILLIPS	164995	0.40	0.62	5.0	0.40	1.5	DEACON	
AQUEDUCT BRANCH 2 @ HURST	164996	0.45	0.73	4.0	0.40	1.5	DEACON	
MACLEAN STATION DISCHARGE	165000	1.25	1.55	4.0	0.45	1.5	MACLEAN	
MACLEAN STATION-PRECHLORINATION	164997	0.18	0.42	4.0				
HURST STATION DISCHARGE	165001	1.25	1.68	4.0	0.46	1.5	HURST	
HURST STATION-PRECHLORINATION	164998	0.17	0.42	4.5				
McPHILLIPS STATION DISCHARGE	165002	1.23	1.50	4.0	0.36	1.5	McPHILLIPS	
McPHILLIPS STATION-PRECHLORINATION	164999	0.17	0.43	5.5				

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: April 18, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	
McP. 1.		165017	NR	NR	4.0	0.81	
McP. 2.		165021	0.59	1.21	8.0	0.55	
McP. 3.		165019	0.67	1.20	5.5	0.74	
McP. 4.		165022	0.50	1.15	10.0	0.59	
MacL. 5.		165007	0.68	1.33	4.5	0.41	
MacL. 6.		165011	0.65	1.38	5.0	0.39	
MacL. 7.		165015	0.50	1.02	8.0	0.72	
MacL. 8.		165027	0.47	0.88	6.0	0.54	
MacL. 9.		165031	0.64	1.22	6.0	0.43	
MacL. 10.		165032	0.74	1.38	6.0	0.42	
MacL. 11.		165035	0.74	1.33	5.0	0.86	
Hrst 12.		165051	0.72	1.30	8.0	0.66	
Hrst 13.		165045	0.55	1.08	8.0	0.79	
Hrst 14.		165047	0.66	1.20	14.0	0.59	
Hrst 15.		165049	0.78	1.52	5.5	0.42	
Hrst 16.		165054	0.70	1.28	6.0	0.61	
Hrst 17.		165060	0.72	1.22	5.0	0.71	
McP. 18.		165064	0.52	1.10	7.0	0.59	
McP. 19.		165066	0.78	1.34	7.0	0.47	
		MEAN	0.65	1.23	6.8	0.59	
		MINIMUM	0.47	0.88	4.0	0.39	
		MAXIMUM	0.78	1.52	14.0	0.86	
		Maclean Area Average	0.63	1.22	5.8	0.54	
		Hurst Area Average	0.69	1.27	7.8	0.63	
		McPhillip's Area Average	0.61	1.20	6.9	0.63	
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)							
SAMPLE NUMBER: 165003		FLUORIDE:		0.87	mg/L		
		ORTHO PHOSPHOROUS:		1.89	mg/L-PO4		

COMMENTS:

Effective Tuesday April 17 2007 @ 06 20 hour chlorine dosage at Branch I and Branch II was increased from 1.5 mg/L to 1.7 mg/L.

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
Kelly Kjartanson 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\2007\Residual\[2007-04.xls]21-Apr-07

Monthly Water Quality Report

LIMS REF# 16767 & 16768

FILE: WQR2

TECHNICIAN(S): Jenni Jones & Debbie Shaluk

APPROVED FOR DISTRIBUTION BY: Gerry Levesque

Supervisor of Analytical Services (Acting)

DATE APPROVED: 27-Apr-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: April 30, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON		165984	0.27	0.71	6.0	1.04	3.4	INTAKE
DEACON PRECHLORINATION CELL #1		165986	<0.05	<0.08	9.0	0.76		
DEACON PRECHLORINATION CELL #3		165987	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ MCPHILLIPS		165990	0.38	0.64	8.5	0.95	1.7	DEACON
AQUEDUCT BRANCH 2 @ HURST		165991	0.43	0.72	9.0	0.75	1.7	DEACON
MACLEAN STATION DISCHARGE		165995	1.27	1.61	7.5	0.63	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION		165992	0.17	0.45	8.0			
HURST STATION DISCHARGE		165996	1.06	1.46	8.0	0.62	1.5	HURST
HURST STATION-PRECHLORINATION		165993	0.12	0.41	7.5			
McPHILLIPS STATION DISCHARGE		165997	1.16	1.47	7.5	0.41	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION		195994	0.15	0.40	8.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: May 2, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	
McP. 1.	[REDACTED]	166014	0.64	1.20	5.5	0.70	
McP. 2.	[REDACTED]	166018	0.65	1.25	8.0	0.62	
McP. 3.	[REDACTED]	166016	0.62	1.22	7.0	0.51	
McP. 4.	[REDACTED]	166019	0.61	1.15	9.5	0.45	
MacL. 5.	[REDACTED]	166004	0.68	1.28	5.5	0.47	
MacL. 6.	[REDACTED]	166008	0.78	1.32	5.5	0.48	
MacL. 7.	[REDACTED]	166012	0.57	1.05	10.0	0.57	
MacL. 8.	[REDACTED]	166024	0.59	1.02	6.0	0.50	
MacL. 9.	[REDACTED]	166028	0.60	1.33	8.0	0.52	
MacL. 10.	[REDACTED]	166029	0.72	1.28	7.0	0.56	
MacL. 11.	[REDACTED]	166032	0.77	1.25	7.0	0.61	
Hrst 12.	[REDACTED]	166048	0.80	1.28	10.0	0.64	
Hrst 13.	[REDACTED]	166042	0.45	0.84	5.5	0.53	
Hrst 14.	[REDACTED]	166044	0.69	1.15	14.0	0.54	
Hrst 15.	[REDACTED]	166046	0.78	1.34	6.0	0.55	
Hrst 16.	[REDACTED]	166051	0.61	1.23	6.5	0.52	
Hrst 17.	[REDACTED]	166057	0.68	1.27	8.0	0.78	
McP. 18.	[REDACTED]	166061	0.59	1.14	8.0	0.62	
McP. 19.	[REDACTED]	166063	0.77	1.30	8.0	0.56	
		MEAN	0.66	1.21	7.6	0.56	
		MINIMUM	0.45	0.84	5.5	0.45	
		MAXIMUM	0.80	1.34	14.0	0.78	
		Maclean Area Average	0.67	1.22	7.0	0.53	
		Hurst Area Average	0.67	1.19	8.3	0.59	
		McPhillip's Area Average	0.65	1.21	7.7	0.58	
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)							
SAMPLE NUMBER: 166000			FLUORIDE:	0.87	mg/L		
			ORTHO PHOSPHOROUS:	1.98	mg/L-PO4		

COMMENTS:

Effective Tuesday May 1 2007 @ 0800 hours

Chlorine dosage at the Intake was increased from 3.4 mg/L to 3.5 mg/L
 Chlorine dosage at Branch I and Branch II was increased from 1.7 mg/L to 1.9 mg/L.

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-05.xls]05-MAY-07

Monthly Water Quality Report

LIMS REF# 16874/16877

FILE: WQR2

TECHNICIAN(S): Jenni Jones and Debby Shaluk

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

Date Approved: 7-May-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: May 7, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON		166576	0.07	0.44	9.0	2.8	3.5 INTAKE
DEACON PRECHLORINATION CELL #1		166578	<0.05	<0.08	11.0	0.89	
DEACON PRECHLORINATION CELL #3		166579	OL	OL	OL	OL	
AQUEDUCT BRANCH 1. @ MCPHILLIPS		166582	0.37	0.68	11.0	0.71	1.9 DEACON
AQUEDUCT BRANCH 2 @ HURST		166583	0.49	0.85	11.0	1.05	1.9 DEACON
MACLEAN STATION DISCHARGE		166587	1.14	1.36	10.5	0.68	1.5 MACLEAN
MACLEAN STATION-PRECHLORINATION		166584	0.10	0.38	11.0		
HURST STATION DISCHARGE		166588	1.26	1.58	11.0	0.83	1.5 HURST
HURST STATION-PRECHLORINATION		166585	0.11	0.32	11.0		
MCPHILLIPS STATION DISCHARGE		166589	1.20	1.53	11.0	0.65	1.5 MCPHILLIPS
MCPHILLIPS STATION-PRECHLORINATION		166586	0.08	0.33	11.5		

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: May 10, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.	[REDACTED]	166525	0.68	1.15	5.5	0.62
McP. 2.	[REDACTED]	166529	0.70	1.18	9.0	0.54
McP. 3.	[REDACTED]	166527	0.66	1.08	6.0	0.52
McP. 4.	[REDACTED]	166530	0.28	0.78	10.0	0.60
MacL. 5.	[REDACTED]	166515	0.54	1.02	7.5	0.80
MacL. 6.	[REDACTED]	166519	0.71	1.12	8.0	0.85
MacL. 7.	[REDACTED]	166523	0.52	0.92	8.5	0.54
MacL. 8.	[REDACTED]	166535	0.44	0.78	6.0	0.68
MacL. 9.	[REDACTED]	166539	0.62	1.18	7.0	0.56
MacL. 10.	[REDACTED]	166540	0.70	1.15	8.0	0.55
MacL. 11.	[REDACTED]	166543	0.74	1.12	7.0	0.72
Hrst 12.	[REDACTED]	166559	0.76	1.20	10.0	4.00
Hrst 13.	[REDACTED]	166553	0.40	0.83	8.0	0.57
Hrst 14.	[REDACTED]	166555	0.58	1.00	13.0	0.74
Hrst 15.	[REDACTED]	166557	0.85	1.35	10.0	0.90
Hrst 16.	[REDACTED]	166562	0.60	0.98	6.5	0.72
Hrst 17.	[REDACTED]	166568	0.53	0.88	9.0	0.80
McP. 18.	[REDACTED]	166572	0.39	0.71	7.0	0.63
McP. 19.	[REDACTED]	166574	0.73	1.14	10.0	0.76
		MEAN	0.60	1.03	8.2	0.85
		MINIMUM	0.28	0.71	5.5	0.52
		MAXIMUM	0.85	1.35	13.0	4.00
		Maclean Area Average	0.61	1.04	7.4	0.67
		Hurst Area Average	0.62	1.04	9.4	1.29
		McPhillip's Area Average	0.57	1.01	7.9	0.61
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 166511			FLUORIDE:	0.88	mg/L	
			ORTHO PHOSPHOROUS:	1.95	mg/L-PO4	

COMMENTS:

Effective Friday May 11 2007 @ 1200 hours

Chlorine dosage at the Intake was increased from 3.5 mg/L to 3.7 mg/L

Chlorine dosage at Branch I and Branch II was increased from 1.9 mg/L to 2.1 mg/L

The high turbidity result [REDACTED] was likely related to a water main disturbance in the area.

[REDACTED] = Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-05.xls]12-MAY-07
 Monthly Water Quality Report

16932/16931 16931/16932

FILE: WQR2

TECHNICIAN(S): Jenni Jones and Debby Shaluk

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

Date Approved: 15-May-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: May 14, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON		167053	0.07	0.47	12.5	1.25	3.7 INTAKE
DEACON PRECHLORINATION CELL #1		167055	<0.05	<0.08	13.5	0.85	
DEACON PRECHLORINATION CELL #3		167056	OL	OL	OL	OL	
AQUEDUCT BRANCH 1. @ MCPHILLIPS		167059	0.37	0.68	13.5	0.81	2.1 DEACON
AQUEDUCT BRANCH 2 @ HURST		167060	0.41	0.73	13.5	1.05	2.1 DEACON
MACLEAN STATION DISCHARGE		167064	1.24	1.55	12.5	0.74	1.5 MACLEAN
MACLEAN STATION-PRECHLORINATION		167061	0.07	0.32	13.0		
HURST STATION DISCHARGE		167065	1.19	1.50	13.0	0.78	1.5 HURST
HURST STATION-PRECHLORINATION		167062	0.08	0.33	13.0		
McPHILLIPS STATION DISCHARGE		167066	1.12	1.38	13.0	0.66	1.5 McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION		167063	<0.05	0.28	13.0		

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: May 16, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		167081	0.58	1.05	6.5	0.76
McP. 2.		167085	0.63	1.12	7.0	0.66
McP. 3.		167083	0.60	1.12	7.5	0.65
McP. 4.		167086	0.46	0.98	8.0	0.61
MacL. 5.		167071	0.68	1.20	7.5	0.71
MacL. 6.		167075	0.78	1.22	8.5	0.80
MacL. 7.		167079	0.44	0.74	8.0	0.69
MacL. 8.		167091	0.30	0.63	6.5	0.61
MacL. 9.		167095	0.62	1.20	8.0	0.61
MacL. 10.		167096	0.72	1.15	11.0	0.80
MacL. 11.		167099	0.70	1.13	8.0	0.68
Hrst 12.		167115	0.75	1.15	7.0	0.75
Hrst 13.		167109	0.47	0.90	9.0	0.62
Hrst 14.		167111	0.57	1.05	15.0	0.41
Hrst 15.		167113	0.87	1.35	10.0	0.66
Hrst 16.		167118	0.76	1.10	7.0	0.67
Hrst 17.		167124	0.62	1.00	10.0	0.71
McP. 18.		167128	0.44	0.78	5.5	0.57
McP. 19.		167130	0.78	1.25	10.5	0.67
		MEAN	0.62	1.06	8.4	0.67
		MINIMUM	0.30	0.63	5.5	0.41
		MAXIMUM	0.87	1.35	15.0	0.80
		Maclean Area Average	0.61	1.04	8.2	0.70
		Hurst Area Average	0.67	1.09	9.7	0.64
		McPhillip's Area Average	0.58	1.05	7.5	0.65
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 167067			FLUORIDE:	0.90	mg/L	
			ORTHO PHOSPHOROUS:	1.92	mg/L-PO4	

COMMENTS:

Effective Tuesday May 15 2007 @ 1410 hours

Chlorine dosage at the Intake was increased from 3.7 mg/L to 3.9 mg/L

Chlorine dosage at Branch I and Branch II was increased from 2.1 mg/L to 2.4 mg/L.

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-05.xls]19-MAY-07

Monthly Water Quality Report

LIMS REF# 16999/17000

FILE: WQR2

TECHNICIAN(S): Jenni Jones and Debby Shaluk

APPROVED FOR DISTRIBUTION BY: Gerry Levesque

Supervisor of Analytical Services (Acting)

Date Approved: 23-May-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: May 22, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON		167644	0.16	0.60	13 0	1.40	3.9 INTAKE
DEACON PRECHLORINATION CELL #1		167646	<0.05	<0.08	13 5	0.87	
DEACON PRECHLORINATION CELL #3		167647	OL	OL	OL	OL	
AQUEDUCT BRANCH 1. @ MCPHILLIPS		167650	0.40	0.76	13 0	0.66	2.4 DEACON
AQUEDUCT BRANCH 2 @ HURST		167651	0.72	1.11	13 5	0.76	2.4 DEACON
MACLEAN STATION DISCHARGE		167655	1.23	1.56	13 5	0.78	1.5 MACLEAN
MACLEAN STATION-PRECHLORINATION		167652	0.07	0.36	13 5		
HURST STATION DISCHARGE		167656	1.18	1.53	13 5	0.66	1.5 HURST
HURST STATION-PRECHLORINATION		167653	0.05	0.33	14 0		
MCPHILLIPS STATION DISCHARGE		167657	1.17	1.47	13 5	0.79	1.5 MCPHILLIPS
MCPHILLIPS STATION-PRECHLORINATION		167654	<0.05	0.25	14 0		

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: May 22, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		167672	0.59	1.10	8.0	0.70
McP. 2.		167676	0.63	1.18	14 0	0.62
McP. 3.		167674	0.52	0.94	9.0	0.62
McP. 4.		167677	0.52	0.96	11 5	0.70
MacL. 5.		167662	0.42	0.83	9.0	0.57
MacL. 6.		167666	0.82	1.28	10 5	0.75
MacL. 7.		167670	0.44	0.78	9.5	0.56
MacL. 8.		167682	0.32	0.63	9.0	0.62
MacL. 9.		167686	0.55	0.98	8.5	0.60
MacL. 10.		167687	0.74	1.20	11 0	0.77
MacL. 11.		167690	0.73	1.22	11 5	0.87
Hrst 12.		167706	0.68	1.20	8.0	1.40
Hrst 13.		167700	0.44	0.84	10 0	0.57
Hrst 14.		167702	0.55	1.08	18 5	0.66
Hrst 15.		167704	0.89	1.30	13 5	0.76
Hrst 16.		167709	0.64	1.18	7.0	0.65
Hrst 17.		167715	0.62	1.18	12 5	0.74
McP. 18.		167719	0.35	0.78	8.0	0.58
McP. 19.		167721	0.70	1.20	12 0	0.76
		MEAN	0.59	1.05	10 6	0.71
		MINIMUM	0.32	0.63	7.0	0.56
		MAXIMUM	0.89	1.30	18 5	1.40
		Maclean Area Average	0.57	0.99	9.9	0.68
		Hurst Area Average	0.64	1.13	11 6	0.80
		McPhillip's Area Average	0.55	1.03	10.4	0.66
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 167658			FLUORIDE:	0.85	mg/L	
			ORTHO PHOSPHOROUS:	1.94	mg/L-PO4	

COMMENTS:

Effective Tuesday May 22 2007 @ 1600 hours

Chlorine dosage at the Intake was increased from 3.9 mg/L to 4.2 mg/L

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 Kjartanson 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\2007\Residual\[2007-05.xls]26-MAY-07

Monthly Water Quality Report

LIMS REF# 17068/17069

FILE: WQR2

TECHNICIAN(S): Jenni Jones and Debby Shaluk

APPROVED FOR DISTRIBUTION BY: Gerry Levesque

Supervisor of Analytical Services (Acting)

Date Approved: 04-Jun-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: May 28, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON		168223	0.28	0.73	13 0	1.23	4.2 INTAKE
DEACON PRECHLORINATION CELL #1		168225	<0.05	<0.08	13 0	0.72	
DEACON PRECHLORINATION CELL #3		168226	OL	OL	OL	OL	
AQUEDUCT BRANCH 1. @ MCPHILLIPS		168229	0.79	1.18	13 0	0.75	2.8 DEACON
AQUEDUCT BRANCH 2 @ HURST		168230	1.00	1.42	13 0	0.86	2.8 DEACON
MACLEAN STATION DISCHARGE		168234	1.22	1.56	13 5	0.62	1.5 MACLEAN
MACLEAN STATION-PRECHLORINATION		168231	0.18	0.55	13 5		
HURST STATION DISCHARGE		168235	1.18	1.52	13 5	0.59	1.5 HURST
HURST STATION-PRECHLORINATION		168232	0.11	0.44	13 5		
McPHILLIPS STATION DISCHARGE		168236	1.17	1.47	14 0	0.56	1.5 McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION		168233	0.11	0.38	13 5		

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: May 31, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		168251	0.58	1.12	6.5	0.53
McP. 2.		168255	0.78	1.23	12 0	0.55
McP. 3.		168253	0.35	0.75	8.0	0.48
McP. 4.		168256	0.42	0.85	9.5	0.58
MacL. 5.		168241	0.53	1.08	8.5	0.52
MacL. 6.		168245	0.85	1.26	9.5	0.54
MacL. 7.		168249	0.43	0.80	7.5	0.49
MacL. 8.		168261	0.43	0.82	7.0	0.54
MacL. 9.		168265	0.63	1.20	6.5	0.50
MacL. 10.		168266	0.75	1.18	10 0	0.55
MacL. 11.		168269	0.84	1.28	9.0	0.61
Hrst 12.		168285	0.81	1.30	11 0	0.69
Hrst 13.		168279	0.50	0.98	8.5	0.51
Hrst 14.		168281	0.58	1.10	14 5	0.63
Hrst 15.		168283	0.92	1.49	10 0	0.75
Hrst 16.		168288	0.62	1.18	7.5	0.62
Hrst 17.		168294	0.66	1.20	8.5	0.56
McP. 18.		168298	0.38	0.78	7.0	0.58
McP. 19.		168300	0.83	1.22	10 5	0.54
		MEAN	0.63	1.10	9.0	0.57
		MINIMUM	0.35	0.75	6.5	0.48
		MAXIMUM	0.92	1.49	14 5	0.75
		Maclean Area Average	0.64	1.09	8.3	0.54
		Hurst Area Average	0.68	1.21	10 0	0.63
		McPhillip's Area Average	0.56	0.99	8.9	0.54
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 168237			FLUORIDE:	0.90	mg/L	
			ORTHO PHOSPHOROUS:	1.94	mg/L-PO4	

COMMENTS:

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-05.xls]02-JUN-07
 Monthly Water Quality Report

LIMS REF# 17139/17140

FILE: WQR2

TECHNICIAN(S): Jenni Jones and Debby Shaluk

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

Date Approved: 05-Jun-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: June 4, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON		168986	0.10	0.48	16.5	1.15	4.2 INTAKE
DEACON PRECHLORINATION CELL 1		168988	<0.05	<0.08	16.5	0.58	
DEACON PRECHLORINATION CELL 3		168989	OL	OL	OL	OL	
AQUEDUCT BRANCH 1. @ McPHILLIPS		168992	0.83	1.26	15.0	0.62	2.8 DEACON
AQUEDUCT BRANCH 2 @ HURST		168993	1.02	1.40	15.0	0.69	2.8 DEACON
MACLEAN STATION DISCHARGE		168997	1.20	1.57	14.0	0.59	1.5 MACLEAN
MACLEAN STATION-PRECHLORINATION		168994	0.27	0.62	14.0		
HURST STATION DISCHARGE		168998	1.06	1.40	14.0	0.59	1.5 HURST
HURST STATION-PRECHLORINATION		168995	0.22	0.61	14.0		
McPHILLIPS STATION DISCHARGE		168999	1.08	1.43	14.0	0.54	1.5 McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION		168996	0.23	0.52	14.5		

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: June 7, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP.	1.	169014	0.70	1.30	9.0	0.56
McP.	2.	169018	0.78	1.34	11.0	0.52
McP.	3.	169016	0.55	1.05	10.0	0.47
McP.	4.	169019	0.38	0.72	19.0	0.56
MacL.	5.	169004	0.62	1.20	9.0	0.54
MacL.	6.	169005	0.77	1.28	12.0	0.69
MacL.	7.	169012	0.42	0.80	14.0	0.53
MacL.	8.	169024	0.48	0.85	8.0	0.62
MacL.	9.	169028	0.68	1.20	9.0	0.54
MacL.	10.	169029	0.65	1.12	12.0	0.56
MacL.	11.	169032	0.82	1.27	11.0	0.55
Hrst	12.	169048	0.60	1.15	15.0	0.60
Hrst	13.	169042	0.42	0.84	9.0	0.49
Hrst	14.	169044	0.55	1.07	17.5	0.55
Hrst	15.	169046	0.90	1.38	14.0	1.20
Hrst	16.	169051	0.58	1.08	9.0	0.55
Hrst	17.	169057	0.45	1.00	12.0	0.56
McP.	18.	169061	0.38	0.75	10.0	0.55
McP.	19.	169063	0.70	1.31	14.0	0.52
		MEAN	0.60	1.09	11.8	0.59
		MINIMUM	0.38	0.72	8.0	0.47
		MAXIMUM	0.90	1.38	19.0	1.20
		Maclean Area Average	0.63	1.10	10.7	0.58
		Hurst Area Average	0.58	1.09	12.8	0.66
		McPhillip's Area Average	0.58	1.08	12.2	0.53
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 169000			FLUORIDE:	0.90	mg/L	
			ORTHO PHOSPHOROUS:	1.92	mg/L-PO4	

COMMENTS: Effective Tuesday June 5 2007 @ 1430 hours
Chlorine dosage at the Intake was increased from 4.2 mg/L to 4.5 mg/L.

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBrude Director Water and Waste Department
Kelly Kjartanson 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\2007\Residual\[2007-06.xls]09-June-07
Monthly Water Quality Report
LIMS REF# 17211/17212

FILE: WQR2

TECHNICIAN(S): Jenni Jones and Debby Shaluk

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

Date Approved: June 8 2007

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: June 11, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	169754	0.29	0.67	16.5	1.36	4.5	INTAKE
DEACON PRECHLORINATION CELL 1	169756	<0.05	<0.08	17.0	0.57		
DEACON PRECHLORINATION CELL 3	169757	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	169760	0.67	1.00	16.5	0.56	2.8	DEACON
AQUEDUCT BRANCH 2 @ HURST	169761	0.84	1.19	16.5	0.64	2.8	DEACON
MACLEAN STATION DISCHARGE	169765	1.03	1.37	16.0	0.52	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	169762	0.08	0.44	16.5			
HURST STATION DISCHARGE	169766	1.21	1.53	16.0	0.54	1.5	HURST
HURST STATION-PRECHLORINATION	169763	0.10	0.37	16.5			
McPHILLIPS STATION DISCHARGE	169767	1.22	1.53	16.0	0.47	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	169764	0.12	0.36	16.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: June 13, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.	[REDACTED]	169782	0.60	1.14	11.0	0.47
McP. 2.	[REDACTED]	169786	0.65	1.20	12.0	0.49
McP. 3.	[REDACTED]	169784	0.45	0.88	11.5	0.49
McP. 4.	[REDACTED]	169787	0.30	0.65	13.0	0.47
MacL. 5.	[REDACTED]	169772	0.42	0.85	11.0	0.52
MacL. 6.	[REDACTED]	169776	0.73	1.25	12.0	0.48
MacL. 7.	[REDACTED]	169780	0.34	0.78	14.0	0.44
MacL. 8.	[REDACTED]	169792	0.34	0.75	8.0	0.52
MacL. 9.	[REDACTED]	169796	0.55	1.08	9.0	0.50
MacL. 10.	[REDACTED]	169797	0.53	1.10	10.0	0.49
MacL. 11.	[REDACTED]	169800	0.72	1.25	12.0	0.51
Hrst 12.	[REDACTED]	169816	0.63	1.20	11.0	0.53
Hrst 13.	[REDACTED]	169810	0.26	0.78	10.0	0.49
Hrst 14.	[REDACTED]	169812	0.37	0.80	19.0	0.60
Hrst 15.	[REDACTED]	169814	0.92	1.58	13.0	0.55
Hrst 16.	[REDACTED]	169819	0.63	1.20	9.0	0.51
Hrst 17.	[REDACTED]	169825	0.64	1.20	12.5	0.52
McP. 18.	[REDACTED]	169829	0.38	0.80	9.5	0.51
McP. 19.	[REDACTED]	169831	0.68	1.20	13.0	0.54
		MEAN	0.53	1.04	11.6	0.51
		MINIMUM	0.26	0.65	8.0	0.44
		MAXIMUM	0.92	1.58	19.0	0.60
		Maclean Area Average	0.52	1.01	10.9	0.49
		Hurst Area Average	0.58	1.13	12.4	0.53
		McPhillip's Area Average	0.51	0.98	11.7	0.50
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 169768			FLUORIDE:	0.96	mg/L	
			ORTHO PHOSPHOROUS:	1.88	mg/L-PO4	

COMMENTS: Effective Wednesday June 13 2007 @ 0515 hours
Chlorine dosage at Branch I and Branch II was increased from 2.8 mg/L to 3.0 mg/L.

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBrude Director Water and Waste Department
Kelly Kjartanson 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\2007\Residual\[2007-06.xls]16-June-07
Monthly Water Quality Report
LIMS REF# 17284/17285

FILE: WQR2

TECHNICIAN(S): Jenni Jones and Debby Shaluk

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

Date Approved: June 21 2007

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: June 18, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	170361	<0.05	0.41	20 0	1.40	4.5	INTAKE
DEACON PRECHLORINATION CELL 1	170363	<0.05	<0.08	20 5	0.47		
DEACON PRECHLORINATION CELL 3	170364	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	170367	0.72	1.13	20 0	0.46	3.0	DEACON
AQUEDUCT BRANCH 2 @ HURST	170368	0.73	1.06	20 0	0.58	3.0	DEACON
MACLEAN STATION DISCHARGE	170372	1.15	1.45	19 0	0.44	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	170369	0.09	0.40	19 0			
HURST STATION DISCHARGE	170373	1.10	1.42	19 5	0.44	1.5	HURST
HURST STATION-PRECHLORINATION	170370	<0.05	0.31	19 0			
McPHILLIPS STATION DISCHARGE	170374	1.12	1.44	17 5	0.48	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	170371	<0.05	0.20	18 0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: June 21, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP.	1.	170389	0.82	1.36	12 5	0.45
McP.	2.	170393	0.80	1.44	16 5	0.46
McP.	3.	170391	0.53	1.05	10 5	0.54
McP.	4.	170394	0.48	0.98	13 0	0.51
MacL.	5.	170379	0.58	1.06	13 5	0.53
MacL.	6.	170383	0.75	1.22	15 5	0.55
MacL.	7.	170387	0.36	0.68	14 5	0.43
MacL.	8.	170399	0.40	0.75	10 0	0.53
MacL.	9.	170403	0.64	1.20	11 5	0.47
MacL.	10.	170404	0.70	1.28	14 0	0.58
MacL.	11.	170407	0.65	1.17	13 5	0.48
Hrst	12.	170423	0.78	1.38	15 0	0.65
Hrst	13.	170417	0.42	0.87	10 5	0.42
Hrst	14.	170419	0.45	0.88	18 5	0.49
Hrst	15.	170421	0.98	1.40	18 0	0.48
Hrst	16.	170426	0.75	1.30	11 0	0.46
Hrst	17.	170432	0.47	0.95	16 0	0.48
McP.	18.	170436	0.38	0.72	11 0	0.53
McP.	19.	170438	0.93	1.37	15 0	0.55
		MEAN	0.62	1.11	13.7	0.50
		MINIMUM	0.36	0.68	10 0	0.42
		MAXIMUM	0.98	1.44	18 5	0.65
		Maclean Area Average	0.58	1.05	13 2	0.51
		Hurst Area Average	0.64	1.13	14 8	0.50
		McPhillip's Area Average	0.66	1.15	13.1	0.51
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 170375			FLUORIDE:	0.85	mg/L	
			ORTHO PHOSPHOROUS:	1.88	mg/L-PO4	

COMMENTS: Effective Thursday June 21 2007 @ 0900 hours

Chlorine dosage at the Intake was increased from 4.5 mg/L to 5.0 mg/L

Chlorine dosage at Branch I and Branch II was increased from 3.0 mg/L to 3.4 mg/L

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBrude Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-06.xls]23-June-07

Monthly Water Quality Report

LIMS REF# 17342/17343

FILE: WQR2

TECHNICIAN(S): Jenni Jones and Debby Shaluk

APPROVED FOR DISTRIBUTION BY: Gerry Levesque

Supervisor of Analytical Services (Acting)

Date Approved: June 28 2007

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: June 25, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	170971	0.10	0.42	21 5	0.86	5.0	INTAKE
DEACON PRECHLORINATION CELL 1	170973	<0.05	<0.08	21 0	0.68		
DEACON PRECHLORINATION CELL 3	170947	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	170977	0.84	1.26	20 0	0.62	3.4	DEACON
AQUEDUCT BRANCH 2 @ HURST	170978	0.92	1.30	20 5	0.68	3.4	DEACON
MACLEAN STATION DISCHARGE	170982	1.19	1.52	20 0	0.56	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	170979	0.12	0.43	19 5			
HURST STATION DISCHARGE	170983	1.20	1.48	20 0	0.55	1.5	HURST
HURST STATION-PRECHLORINATION	170980	<0.05	0.30	20 0			
McPHILLIPS STATION DISCHARGE	170984	1.38	1.65	19 5	0.50	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	170981	0.06	0.30	19 5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: June 27, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP.	1.	170999	0.75	1.27	13 0	0.51
McP.	2.	171003	0.74	1.32	16 5	0.48
McP.	3.	171001	0.50	1.02	12 5	0.51
McP.	4.	171004	0.52	1.10	13 5	0.51
MacL.	5.	170989	0.58	1.10	14 5	0.47
MacL.	6.	170993	0.76	1.22	14 0	0.59
MacL.	7.	170997	0.40	0.83	13 0	0.46
MacL.	8.	171009	0.40	0.82	12 0	0.48
MacL.	9.	171013	0.62	1.18	11 5	0.45
MacL.	10.	171014	0.77	1.23	15 0	0.62
MacL.	11.	171017	0.60	1.12	13 0	0.55
Hrst	12.	171033	0.63	1.18	18 0	0.59
Hrst	13.	171027	0.35	0.75	12 5	0.43
Hrst	14.	171029	0.48	0.90	19 0	0.61
Hrst	15.	171031	0.98	1.45	18 0	0.48
Hrst	16.	171036	0.70	1.18	11 5	0.50
Hrst	17.	171042	0.51	1.05	15 0	0.48
McP.	18.	171046	0.30	0.66	11 5	0.51
McP.	19.	171048	0.82	1.28	11 5	0.50
		MEAN	0.60	1.09	14 0	0.51
		MINIMUM	0.30	0.66	11 5	0.43
		MAXIMUM	0.98	1.45	19 0	0.62
		Maclean Area Average	0.59	1.07	13 3	0.52
		Hurst Area Average	0.61	1.09	15.7	0.52
		McPhillip's Area Average	0.61	1.11	13.1	0.50
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 170985			FLUORIDE:	0.85	mg/L	
			ORTHO PHOSPHOROUS:	1.96	mg/L-PO4	

COMMENTS: Effective Friday June 29 2007 @ 0900 hours

Chlorine dosage at the Intake was increased from 5.0 mg/L to 5.2 mg/L

Chlorine dosage at Branch I and Branch II was increased from 3.4 mg/L to 3.7 mg/L.

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-06.xls]30-June-07
 Monthly Water Quality Report
 LIMS REF# 17409/17410

FILE: WQR2

TECHNICIAN(S): Jenni Jones and Debby Shaluk

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

Date Approved: July 10 2007

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: July 3, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION	SAMPLE NO.		mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON	171827		0.07	0.40	20 5	1.02	5.2 INTAKE
DEACON PRECHLORINATION CELL 1	171829		<0.05	<0.08	21 0	0.63	
DEACON PRECHLORINATION CELL 3	171830		OL	OL	OL	OL	
AQUEDUCT BRANCH 1. @ McPHILLIPS	171833		0.98	1.36	20 0	0.67	3.7 DEACON
AQUEDUCT BRANCH 2 @ HURST	171834		1.21	1.64	21 0	0.72	3.7 DEACON
MACLEAN STATION DISCHARGE	171838		1.10	1.51	20 5	0.51	1.5 MACLEAN
MACLEAN STATION-PRECHLORINATION	171835		0.22	0.53	20 5		
HURST STATION DISCHARGE	171839		1.22	1.60	20 5	0.52	1.5 HURST
HURST STATION-PRECHLORINATION	171836		0.10	0.40	20 5		
McPHILLIPS STATION DISCHARGE	171840		1.33	1.68	20 0	0.37	1.5 McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	171837		<0.05	0.24	20 0		

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: July 5, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		171855	0.85	1.34	13 0	0.47
McP. 2.		171859	0.77	1.20	18 0	0.52
McP. 3.		171857	0.45	0.83	15 0	0.47
McP. 4.		171860	0.25	0.64	16 0	0.47
MacL. 5.		171845	0.65	1.10	14 5	0.48
MacL. 6.		171849	0.88	1.35	16 5	0.57
MacL. 7.		171853	0.36	0.77	15 0	0.44
MacL. 8.		171865	0.44	0.87	12 5	0.53
MacL. 9.		171869	0.72	1.18	14 5	0.47
MacL. 10.		171870	0.76	1.18	16 0	0.43
MacL. 11.		171873	0.68	1.15	15 5	0.52
Hrst 12.		171889	0.83	1.35	17 5	0.63
Hrst 13.		171883	0.42	0.82	13 5	0.42
Hrst 14.		171885	0.53	0.98	20 5	0.47
Hrst 15.		171887	1.10	1.45	19 5	0.56
Hrst 16.		171892	0.62	1.10	11 0	0.50
Hrst 17.		171898	0.65	0.72	14 0	0.52
McP. 18.		171902	0.33	1.15	13 5	0.53
McP. 19.		171904	0.84	1.30	16 5	0.57
		MEAN	0.64	1.08	15.4	0.50
		MINIMUM	0.25	0.64	11 0	0.42
		MAXIMUM	1.10	1.45	20 5	0.63
		Maclean Area Average	0.64	1.09	14.9	0.49
		Hurst Area Average	0.69	1.07	16 0	0.52
		McPhillip's Area Average	0.58	1.08	15 3	0.51
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 171841			FLUORIDE:	0.84	mg/L	
			ORTHO PHOSPHOROUS:	1.87	mg/L-PO4	

COMMENTS:

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-07.xls]7-July-07
 Monthly Water Quality Report

LIMS REF# 17492/17493

FILE: WQR2

TECHNICIAN(S): J Jones and D Shaluk

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

Date Approved: July 18 2007

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: July 9, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON		172179	0.05	0.60	21 5	0.86	5.2 INTAKE
DEACON PRECHLORINATION CELL 1		172181	<0.05	<0.08	23 0	0.84	
DEACON PRECHLORINATION CELL 3		172182	OL	OL	OL	OL	
AQUEDUCT BRANCH 1. @ McPHILLIPS		172185	1.04	1.43	22 0	0.78	3.7 DEACON
AQUEDUCT BRANCH 2 @ HURST		172186	1.16	1.48	22 0	0.80	3.7 DEACON
MACLEAN STATION DISCHARGE		172190	1.09	1.41	22 0	0.60	1.5 MACLEAN
MACLEAN STATION-PRECHLORINATION		172187	0.10	0.41	21 5		
HURST STATION DISCHARGE		172191	1.11	1.43	21 5	0.57	1.5 HURST
HURST STATION-PRECHLORINATION		172188	0.06	0.32	21 5		
McPHILLIPS STATION DISCHARGE		172192	1.10	1.46	21 0	0.38	1.5 McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION		172189	0.19	0.46	21 5		

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: July 12, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		172208	0.64	1.08	15 0	0.46
McP. 2.		172212	0.70	1.25	19 0	0.50
McP. 3.		172210	0.32	0.75	16 5	0.47
McP. 4.		172213	0.25	0.68	19 0	0.45
MacL. 5.		172198	0.49	0.93	15 0	0.55
MacL. 6.		172202	0.72	1.15	18 5	0.63
MacL. 7.		172206	0.24	0.65	17 0	0.50
MacL. 8.		172218	0.24	0.63	13 5	0.49
MacL. 9.		172222	0.28	0.76	13 0	0.45
MacL. 10.		172223	0.58	1.04	18 0	0.57
MacL. 11.		172226	0.67	1.12	18 5	0.62
Hrst 12.		17242	0.57	1.05	16 0	1.05
Hrst 13.		172236	0.46	0.85	14 0	0.49
Hrst 14.		172238	0.40	0.83	23 0	0.62
Hrst 15.		172240	0.87	1.35	19 5	0.66
Hrst 16.		172245	0.52	1.04	12 5	0.55
Hrst 17.		172251	0.38	0.88	17 5	1.01
McP. 18.		172255	0.36	0.82	14 5	0.59
McP. 19.		172257	0.64	1.16	17 0	1.34
		MEAN	0.49	0.95	16.7	0.63
		MINIMUM	0.24	0.63	12.5	0.45
		MAXIMUM	0.87	1.35	23 0	1.34
		Maclean Area Average	0.46	0.90	16 2	0.54
		Hurst Area Average	0.53	1.00	17.1	0.73
		McPhillip's Area Average	0.49	0.96	16 8	0.64
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 172194			FLUORIDE:	0.85	mg/L	
			ORTHO PHOSPHOROUS:	1.92	mg/L-PO4	

COMMENTS: Effective Friday July 13 2007 @ 0930 hours

Chlorine dosage at the Intake was increased from 5.2 mg/L to 5.5 mg/L

Chlorine dosage at Branch I and Branch II was increased from 3.7 mg/L to 3.9 mg/L.

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBrude Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-07.xls]14-July-07
 Monthly Water Quality Report

LIMS REF# 17530/17531

FILE: WQR2

TECHNICIAN(S): J. Jones and D. Shaluk

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

Date Approved: July 18 2007

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: July 16, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION	SAMPLE NO.		mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON	172797	<0.05	0.62	20.0	1.39	5.5	INTAKE
DEACON PRECHLORINATION CELL 1	172799	<0.05	<0.08	22.0	0.83		
DEACON PRECHLORINATION CELL 3	172800	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	172803	0.83	1.60	21.0	0.85	3.9	DEACON
AQUEDUCT BRANCH 2 @ HURST	172804	1.38	1.83	21.0	0.95	3.9	DEACON
MACLEAN STATION DISCHARGE	172808	1.18	1.54	22.0	0.69	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	172805	0.12	0.36	22.0			
HURST STATION DISCHARGE	172809	1.15	1.58	21.5	0.68	1.5	HURST
HURST STATION-PRECHLORINATION	172806	<0.05	0.42	21.5			
McPHILLIPS STATION DISCHARGE	172810	1.09	1.50	21.5	0.45	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	172807	0.07	0.50	21.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: July 19, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		172825	0.58	1.10	16.0	0.66
McP. 2.		172829	0.62	1.20	19.5	0.65
McP. 3.		172827	0.38	0.80	15.0	0.53
McP. 4.		172830	0.34	0.78	15.5	0.70
MacL. 5.		172815	0.58	1.12	17.5	0.61
MacL. 6.		172819	0.80	1.25	19.0	0.73
MacL. 7.		172823	0.28	0.72	17.5	0.52
MacL. 8.		172835	0.42	0.80	14.5	0.63
MacL. 9.		172839	0.55	1.10	11.0	0.51
MacL. 10.		172840	0.68	1.11	18.5	1.18
MacL. 11.		172843	0.78	1.25	18.0	0.79
Hrst 12.		172859	0.56	1.12	19.0	1.02
Hrst 13.		172853	0.46	1.02	14.0	0.49
Hrst 14.		172855	0.50	1.05	23.5	0.70
Hrst 15.		172857	1.04	1.40	20.5	0.84
Hrst 16.		172862	0.54	1.05	12.5	0.58
Hrst 17.		172868	0.37	0.88	19.0	0.68
McP. 18.		172872	0.23	0.61	15.0	0.62
McP. 19.		172874	0.64	1.17	19.0	0.78
		MEAN	0.54	1.03	17.1	0.70
		MINIMUM	0.23	0.61	11.0	0.49
		MAXIMUM	1.04	1.40	23.5	1.18
		Maclean Area Average	0.58	1.05	16.6	0.71
		Hurst Area Average	0.58	1.09	18.1	0.72
		McPhillip's Area Average	0.47	0.94	16.7	0.66
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 172811			FLUORIDE:	0.88	mg/L	
			ORTHO PHOSPHOROUS:	1.93	mg/L-PO4	

COMMENTS: Effective Wednesday July 18 2007 @ 1000 hours Cells 3 and 4 were put on-line. Cells 1 and 2 were isolated.

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBrude Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-07.xls]21-July-07
 Monthly Water Quality Report
 LIMS REF# 17598/17599

FILE: WQR2

TECHNICIAN(S): J. Jones and D. Shaluk

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

Date Approved: August 3 2007

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: July 23, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON		173503	<0.05	0.52	23 5	1.05	5.5 INTAKE
DEACON PRECHLORINATION CELL 1		173504	OL	OL	OL	OL	
DEACON PRECHLORINATION CELL 3		173505	<0.05	<0.08	23 0	1.12	
AQUEDUCT BRANCH 1. @ McPHILLIPS		173508	1.12	1.57	23 0	1.14	3.9 DEACON
AQUEDUCT BRANCH 2 @ HURST		173509	1.24	1.71	23 0	1.15	3.9 DEACON
MACLEAN STATION DISCHARGE		173513	1.00	1.36	22 5	1.01	1.5 MACLEAN
MACLEAN STATION-PRECHLORINATION		173510	0.12	0.48	22 0		
HURST STATION DISCHARGE		173514	1.06	1.44	22 5	1.03	1.5 HURST
HURST STATION-PRECHLORINATION		173511	0.15	0.51	22 5		
McPHILLIPS STATION DISCHARGE		173515	1.07	1.45	22 0	0.75	1.5 McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION		173512	0.25	0.56	22 5		

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: July 26, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		173530	0.55	1.06	16 5	0.85
McP. 2.		173534	0.61	1.08	20 0	1.00
McP. 3.		173532	0.23	0.63	18 0	0.81
McP. 4.		173535	0.30	0.75	17 0	0.92
MacL. 5.		173520	0.44	0.84	17 5	0.78
MacL. 6.		173524	0.73	1.15	20 0	1.59
MacL. 7.		173528	0.22	0.65	17 0	0.90
MacL. 8.		173540	0.30	0.68	11 0	0.82
MacL. 9.		173544	0.54	1.08	15 0	0.82
MacL. 10.		173545	0.59	1.05	19 5	0.87
MacL. 11.		173548	0.60	1.06	19 0	1.07
Hrst 12.		173564	0.60	1.10	20 5	1.03
Hrst 13.		173558	0.24	0.62	14 5	0.81
Hrst 14.		173560	0.42	0.85	23 5	0.92
Hrst 15.		173562	0.98	1.40	22 0	0.92
Hrst 16.		173567	0.57	1.02	14 0	1.01
Hrst 17.		173573	0.56	1.08	18 0	0.85
McP. 18.		173577	0.20	0.55	16 5	0.85
McP. 19.		173579	0.73	1.20	19 5	1.32
		MEAN	0.50	0.94	17 8	0.95
		MINIMUM	0.20	0.55	11 0	0.78
		MAXIMUM	0.98	1.40	23 5	1.59
		Maclean Area Average	0.49	0.93	17 0	0.98
		Hurst Area Average	0.56	1.01	18 8	0.92
		McPhillip's Area Average	0.44	0.88	17.9	0.96
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 173516			FLUORIDE:	0.92	mg/L	
			ORTHO PHOSPHOROUS:	1.94	mg/L-PO4	

COMMENTS: Effective Wednesday June 25 2007 @ 1030 hours

Chlorine dosage at the Intake was increased from 5.5 mg/L to 6.0 mg/L

Chlorine dosage at Branch I and Branch II was increased from 3.9 mg/L to 4.1 mg/L.

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-07.xls]28-July-07
 Monthly Water Quality Report

LIMS REF# 17677/17678

FILE: WQR2

TECHNICIAN(S): J.Jones / D.Shaluk

APPROVED FOR DISTRIBUTION BY: A. Vanderstel
 Supervisor of Analytical Services (Acting)

Date Approved: August 10 2007

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: July 30, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON		174186	<0.05	0.43	25 5	0.80	6.0	INTAKE
DEACON PRECHLORINATION CELL #1		174187	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3		174188	<0.05	<0.08	25 0	0.97		
AQUEDUCT BRANCH 1. @ McPHILLIPS		174191	1.27	1.64	24 5	0.94	4.1	DEACON
AQUEDUCT BRANCH 2 @ HURST		174192	1.40	1.72	25 0	0.89	4.1	DEACON
MACLEAN STATION DISCHARGE		174196	1.18	1.50	24 0	0.86	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION		174193	0.15	0.52	24 0			
HURST STATION DISCHARGE		174197	1.20	1.44	24 0	0.84	1.5	HURST
HURST STATION-PRECHLORINATION		174194	0.08	0.37	24 5			
McPHILLIPS STATION DISCHARGE		174198	1.20	1.50	24 0	0.66	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION		174195	0.20	0.55	24 0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: August 2, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	
McP.	1. [REDACTED]	174213	0.64	1.14	17 5	0.68	
McP.	2. [REDACTED]	174217	0.68	1.15	22 0	0.61	
McP.	3. [REDACTED]	174215	0.37	0.77	16 0	0.65	
McP.	4. [REDACTED]	174218	0.48	0.98	17 5	0.71	
MacL.	5. [REDACTED]	174203	0.50	1.02	19 5	1.04	
MacL.	6. [REDACTED]	174207	0.71	1.20	21 0	0.69	
MacL.	7. [REDACTED]	174211	0.18	0.50	18 0	0.58	
MacL.	8. [REDACTED]	174223	0.28	0.65	16 5	0.57	
MacL.	9. [REDACTED]	174227	0.47	1.05	13 5	0.62	
MacL.	10. [REDACTED]	174228	0.58	1.08	21 5	0.77	
MacL.	11. [REDACTED]	174231	0.63	1.10	20 0	1.00	
Hrst	12. [REDACTED]	174247	0.56	1.08	17 0	0.86	
Hrst	13. [REDACTED]	174241	0.47	0.92	15 5	0.58	
Hrst	14. [REDACTED]	174243	0.50	1.04	24 0	0.77	
Hrst	15. [REDACTED]	174245	0.88	1.30	24 0	0.85	
Hrst	16. [REDACTED]	174250	0.48	1.00	14 0	0.69	
Hrst	17. [REDACTED]	174256	0.42	0.90	21 5	0.65	
McP.	18. [REDACTED]	174260	0.20	0.54	13 0	0.82	
McP.	19. [REDACTED]	174262	0.62	1.13	21 5	0.86	
		MEAN	0.51	0.98	18 6	0.74	
		MINIMUM	0.18	0.50	13 0	0.57	
		MAXIMUM	0.88	1.30	24 0	1.04	
		Maclean Area Average	0.48	0.94	18 6	0.75	
		Hurst Area Average	0.55	1.04	19 3	0.73	
		McPhillip's Area Average	0.50	0.95	17.9	0.72	
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)							
SAMPLE NUMBER: 174199			FLUORIDE:	0.86	mg/L		
			ORTHO PHOSPHOROUS:	1.93	mg/L-PO4		

COMMENTS:

[REDACTED] = Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBrude Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-08.xls]4-Aug-07
 Monthly Water Quality Report

LIMS REF# 17739/17740

FILE: WQR2

TECHNICIAN(S): _____ D. Shaluk _____

APPROVED FOR DISTRIBUTION BY: _____ A. Vanderstel _____
 Supervisor of Analytical Services (Acting)

Date Approved: _____ August 23, 2007 _____

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: August 7, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION	SAMPLE NO.		mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON	175037	<0.05	0.46	24 0	1.70	6.0	INTAKE
DEACON PRECHLORINATION CELL #1	175038	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3	175039	<0.05	<0.08	22 5	1.01		
AQUEDUCT BRANCH 1. @ McPHILLIPS	175042	1.34	1.81	23 0	0.81	4.1	DEACON
AQUEDUCT BRANCH 2 @ HURST	175043	1.51	1.94	23 0	0.90	4.1	DEACON
MACLEAN STATION DISCHARGE	175047	0.65	0.82	24 0	0.89	1.5	MACLEAN
MACLEAN STATION-PRECHLORINATION	175044	0.07	0.40	23 0			
HURST STATION DISCHARGE	175048	1.02	1.36	23 5	0.75	1.5	HURST
HURST STATION-PRECHLORINATION	175045	0.36	0.70	23 0			
McPHILLIPS STATION DISCHARGE	175049	1.12	1.45	23 5	0.46	1.5	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	175046	0.44	0.77	23 5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: August 8, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.	[REDACTED]	175064	0.65	1.18	18 0	0.57
McP. 2.	[REDACTED]	175068	0.68	1.20	21 5	0.82
McP. 3.	[REDACTED]	175066	0.33	0.68	17 0	0.73
McP. 4.	[REDACTED]	175069	0.29	0.66	19 5	0.59
MacL. 5.	[REDACTED]	175054	0.38	0.79	18 5	0.67
MacL. 6.	[REDACTED]	175058	0.67	1.10	20 0	0.58
MacL. 7.	[REDACTED]	175062	0.14	0.48	17 0	0.62
MacL. 8.	[REDACTED]	175074	0.16	0.52	16 0	0.58
MacL. 9.	[REDACTED]	175078	0.50	1.02	15 0	0.75
MacL. 10.	[REDACTED]	175079	0.52	1.05	20 0	0.64
MacL. 11.	[REDACTED]	175082	0.56	1.08	21 0	0.71
Hrst 12.	[REDACTED]	175098	0.55	1.04	19 0	0.56
Hrst 13.	[REDACTED]	175092	0.38	0.78	15 5	0.92
Hrst 14.	[REDACTED]	175094	0.46	0.98	26 5	1.09
Hrst 15.	[REDACTED]	175096	0.78	1.26	23 0	0.96
Hrst 16.	[REDACTED]	175101	0.48	1.00	13 5	0.96
Hrst 17.	[REDACTED]	175107	0.35	0.80	21 0	0.72
McP. 18.	[REDACTED]	175111	0.15	0.44	18 0	0.78
McP. 19.	[REDACTED]	175113	0.70	1.20	21 0	0.90
		MEAN	0.46	0.91	19 0	0.74
		MINIMUM	0.14	0.44	13 5	0.56
		MAXIMUM	0.78	1.26	26 5	1.09
		Maclean Area Average	0.42	0.86	18 2	0.65
		Hurst Area Average	0.50	0.98	19 8	0.87
		McPhillip's Area Average	0.47	0.89	19 2	0.73
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 175050			FLUORIDE:	0.90	mg/L	
			ORTHO PHOSPHOROUS:	1.96	mg/L-PO4	

COMMENTS: The low chlorine result for Maclean Station Discharge was due to maintenance being done on the equipment and only lasted for about 1 hour.

Effective Thursday August 9 2007 at 1430 hours chlorine dosage at all three pumping stations was increased from 1.5 mg/L to 1 6 mg/L.

[REDACTED] = Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-08.xls]11-Aug-07
 Monthly Water Quality Report
 LIMS REF# 17828/17829

FILE: WQR2

TECHNICIAN(S): J.Jones / D.Shaluk

APPROVED FOR DISTRIBUTION BY: A Vanderstel
 Supervisor of Analytical Services (Acting)

Date Approved: August 23 2007

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: August 13, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON		175406	0.10	0.47	23 0	1.61	6.0 INTAKE
DEACON PRECHLORINATION CELL #1		175407	OL	OL	OL	OL	
DEACON PRECHLORINATION CELL #3		175408	<0.05	<0.08	22 0	1.05	
AQUEDUCT BRANCH 1. @ MCPHILLIPS		175411	1.13	1.60	22 0	0.95	4.1 DEACON
AQUEDUCT BRANCH 2 @ HURST		175412	1.60	2.11	22 5	1.05	4.1 DEACON
MACLEAN STATION DISCHARGE		175416	0.98	1.37	22 5	0.82	1.6 MACLEAN
MACLEAN STATION-PRECHLORINATION		175413	0.50	0.85	22 5		
HURST STATION DISCHARGE		175417	1.00	1.42	22 0	0.80	1.6 HURST
HURST STATION-PRECHLORINATION		175414	0.28	0.60	22 0		
McPHILLIPS STATION DISCHARGE		175418	1.22	1.53	22 5	0.45	1.6 McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION		175415	0.32	0.67	22 5		

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: August 16, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		175433	0.68	1.18	18 0	0.72
McP. 2.		175437	0.92	1.34	21 5	0.67
McP. 3.		175435	0.23	0.64	17 0	0.62
McP. 4.		175438	0.33	0.78	18 0	0.58
MacL. 5.		175423	0.44	0.90	19 0	0.65
MacL. 6.		175427	0.66	1.12	20 0	0.66
MacL. 7.		175431	0.14	0.40	19 5	0.56
MacL. 8.		175443	0.32	0.68	16 0	0.63
MacL. 9.		175447	0.40	0.84	14 0	0.56
MacL. 10.		175448	0.48	1.00	19 5	0.67
MacL. 11.		175451	0.71	1.20	20 0	0.61
Hrst 12.		175467	0.62	1.11	19 0	0.85
Hrst 13.		175461	0.23	0.58	17 0	0.57
Hrst 14.		175463	0.42	0.88	24 0	0.79
Hrst 15.		175465	0.91	1.36	21 5	0.84
Hrst 16.		175470	0.47	0.92	14 5	0.59
Hrst 17.		175476	0.40	0.85	20 5	0.62
McP. 18.		175480	0.17	0.52	18 0	0.67
McP. 19.		175482	0.88	1.29	20 5	1.19
		MEAN	0.50	0.93	18 8	0.69
		MINIMUM	0.14	0.40	14 0	0.56
		MAXIMUM	0.92	1.36	24 0	1.19
		Maclean Area Average	0.45	0.88	18 3	0.62
		Hurst Area Average	0.51	0.95	19.4	0.71
		McPhillip's Area Average	0.54	0.96	18 8	0.74
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 175419			FLUORIDE:	0.82	mg/L	
			ORTHO PHOSPHOROUS:	1.94	mg/L-PO4	

COMMENTS:

Effective Tuesday August 14 2007 at 0830 hours chlorine dosage at the Intake was increased from 6.0 mg/L to 6.5 mg/L.

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBrude Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-08.xls]18-Aug-07
 Monthly Water Quality Report
 LIMS REF# 17873/17874

FILE: WQR2

TECHNICIAN(S): J Jones and D Shaluk

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

Date Approved: August 30 2007

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: August 20, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT	
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON		175984	0.11	0.52	22 0	1.24	6.5	INTAKE
DEACON PRECHLORINATION CELL #1		175985	OL	OL	OL	OL		
DEACON PRECHLORINATION CELL #3		175986	<0.05	<0.08	20 0	0.93		
AQUEDUCT BRANCH 1. @ MCPHILLIPS		175989	1.41	1.84	20 5	0.88	4.1	DEACON
AQUEDUCT BRANCH 2 @ HURST		175990	0.82	1.22	21 0	0.76	4.1	DEACON
MACLEAN STATION DISCHARGE		175994	1.18	1.57	21 0	0.75	1.6	MACLEAN
MACLEAN STATION-PRECHLORINATION		175991	0.50	0.93	21 0			
HURST STATION DISCHARGE		175995	1.06	1.50	21 0	0.77	1.6	HURST
HURST STATION-PRECHLORINATION		175992	0.47	0.84	21 0			
McPHILLIPS STATION DISCHARGE		175996	1.30	1.65	21 0	0.51	1.6	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION		175993	0.46	0.83	21 0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: August 22, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	
McP. 1.	[REDACTED]	176011	0.68	1.20	18 0	0.57	
McP. 2.	[REDACTED]	176015	1.02	1.45	19 5	0.60	
McP. 3.	[REDACTED]	176013	0.25	0.70	17 5	0.55	
McP. 4.	[REDACTED]	176016	0.35	0.82	19 0	0.50	
MacL. 5.	[REDACTED]	176001	0.52	1.02	18 5	0.57	
MacL. 6.	[REDACTED]	176005	0.83	1.30	19 0	0.61	
MacL. 7.	[REDACTED]	176009	0.14	0.50	19 0	0.50	
MacL. 8.	[REDACTED]	176021	0.25	0.70	15 0	0.48	
MacL. 9.	[REDACTED]	176025	0.28	0.72	17 0	0.53	
MacL. 10.	[REDACTED]	176026	0.67	1.10	20 0	0.56	
MacL. 11.	[REDACTED]	176029	0.70	1.23	19 5	0.56	
Hrst 12.	[REDACTED]	176045	0.72	1.22	20 0	0.81	
Hrst 13.	[REDACTED]	176039	0.34	0.74	15 5	0.52	
Hrst 14.	[REDACTED]	176041	0.39	0.90	24 5	0.67	
Hrst 15.	[REDACTED]	176043	0.96	1.38	21 0	0.66	
Hrst 16.	[REDACTED]	176048	0.61	1.10	15 0	0.58	
Hrst 17.	[REDACTED]	176054	0.63	1.08	20 5	0.94	
McP. 18.	[REDACTED]	176058	0.20	0.64	18 0	0.86	
McP. 19.	[REDACTED]	176060	0.96	1.35	19 0	0.77	
		MEAN	0.55	1.01	18.7	0.62	
		MINIMUM	0.14	0.50	15 0	0.48	
		MAXIMUM	1.02	1.45	24 5	0.94	
		Maclean Area Average	0.48	0.94	18 3	0.54	
		Hurst Area Average	0.61	1.07	19.4	0.70	
		McPhillip's Area Average	0.58	1.03	18 5	0.64	
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)							
SAMPLE NUMBER: 175997			FLUORIDE:	0.94	mg/L		
			ORTHO PHOSPHOROUS:	1.92	mg/L-PO4		

COMMENTS:

[REDACTED] = Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBrude Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-08.xls]25-Aug-07
 Monthly Water Quality Report
 LIMS REF# 17940/17941

FILE: WQR2

TECHNICIAN(S): J. Jones/ D. Shaluk

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

Date Approved: August 30 2007

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: August 27, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON		176878	0.17	0.59	20 0	1.15	6.5 INTAKE
DEACON PRECHLORINATION CELL #1		176879	OL	OL	OL	OL	
DEACON PRECHLORINATION CELL #3		176880	<0.05	<0.08	19 5	0.85	
AQUEDUCT BRANCH 1. @ McPHILLIPS		176883	1.22	1.63	19 5	0.83	4.1 DEACON
AQUEDUCT BRANCH 2 @ HURST		176884	1.13	1.55	19 5	0.60	4.1 DEACON
MACLEAN STATION DISCHARGE		176888	1.10	1.48	19 5	0.68	1.6 MACLEAN
MACLEAN STATION-PRECHLORINATION		176885	0.55	1.00	19 5		
HURST STATION DISCHARGE		176889	1.12	1.51	19 5	0.63	1.6 HURST
HURST STATION-PRECHLORINATION		176886	0.47	0.81	19 5		
McPHILLIPS STATION DISCHARGE		176890	1.20	1.61	20 0	0.45	1.6 McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION		176887	0.45	0.78	19 5		

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: August 30, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		176905	0.85	1.28	18 0	0.51
McP. 2.		176909	0.80	1.22	19 5	0.54
McP. 3.		176907	0.30	0.82	17 5	0.45
McP. 4.		176910	0.15	0.40	19 0	0.38
MacL. 5.		176895	0.45	1.05	17 5	0.60
MacL. 6.		176899	0.94	1.30	18 5	0.57
MacL. 7.		176903	0.12	0.48	18 0	0.47
MacL. 8.		176915	0.39	0.85	16 5	0.50
MacL. 9.		176919	0.42	0.96	14 5	0.51
MacL. 10.		176920	0.70	1.16	19 5	0.57
MacL. 11.		176923	0.80	1.25	18 5	0.60
Hrst 12.		176939	0.60	1.10	20 5	0.80
Hrst 13.		176933	0.32	0.82	16 0	0.47
Hrst 14.		176935	0.53	1.05	22 0	0.66
Hrst 15.		176937	1.00	1.39	19 0	0.72
Hrst 16.		176942	0.65	1.12	16 5	0.61
Hrst 17.		176948	0.52	1.02	20 0	0.49
McP. 18.		176952	0.08	0.35	17 0	0.52
McP. 19.		176954	0.85	1.27	19 0	0.66
		MEAN	0.55	0.99	18 3	0.56
		MINIMUM	0.08	0.35	14 5	0.38
		MAXIMUM	1.00	1.39	22 0	0.80
		Maclean Area Average	0.55	1.01	17 6	0.55
		Hurst Area Average	0.60	1.08	19 0	0.63
		McPhillip's Area Average	0.51	0.89	18 3	0.51
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 176891			FLUORIDE:	0.86	mg/L	
			ORTHO PHOSPHOROUS:	1.90	mg/L-PO4	

COMMENTS:

Effective Friday August 31 2007 @ 1100 hours chlorine dosage at Branches I and II was decreased from 4.1 mg/L to 3.9 mg/L.

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBrude Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-08.xls]01-Sept-07
 Monthly Water Quality Report
 LIMS REF# 18035/18036

FILE: WQR2

TECHNICIAN(S): J. Jones and D. Shaluk

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

Date Approved: September 10 2007

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: September 4, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION	SAMPLE NO.		mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON	177159		0.42	0.93	19.5	1.40	6.5 INTAKE
DEACON PRECHLORINATION CELL #1	177160		OL	OL	OL	OL	
DEACON PRECHLORINATION CELL #3	177161		<0.05	<0.08	18.5	1.05	
AQUEDUCT BRANCH 1. @ MCPHILLIPS	177164		1.18	1.62	18.5	1.08	3.9 DEACON
AQUEDUCT BRANCH 2 @ HURST	177165		1.32	1.83	18.5	1.23	3.9 DEACON
MACLEAN STATION DISCHARGE	177169		1.17	1.58	18.5	0.76	1.6 MACLEAN
MACLEAN STATION-PRECHLORINATION	177166		0.36	0.70	18.5		
HURST STATION DISCHARGE	177170		1.31	1.70	18.5	0.77	1.6 HURST
HURST STATION-PRECHLORINATION	177167		0.41	0.78	18.5		
McPHILLIPS STATION DISCHARGE	177171		1.40	1.72	18.5	0.70	1.6 McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	177168		0.24	0.64	18.5		

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: September 6, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		177186	0.78	1.22	18.0	0.69
McP. 2.		177190	0.75	1.24	19.0	0.71
McP. 3.		177188	0.34	0.72	17.5	0.51
McP. 4.		177191	0.20	0.42	18.0	0.62
MacL. 5.		177176	0.52	1.04	17.5	0.95
MacL. 6.		177180	0.90	1.38	19.5	0.69
MacL. 7.		177184	0.14	0.48	20.0	0.48
MacL. 8.		177196	0.34	0.78	16.0	0.50
MacL. 9.		177200	0.55	1.07	14.0	0.57
MacL. 10.		177201	0.52	1.02	19.0	0.89
MacL. 11.		177204	0.77	1.15	19.0	0.76
Hrst 12.		177220	0.68	1.10	18.0	0.77
Hrst 13.		177214	0.25	0.63	16.0	0.48
Hrst 14.		177216	0.37	0.85	23.0	0.94
Hrst 15.		177218	1.02	1.46	19.0	0.72
Hrst 16.		177223	0.53	1.05	16.0	0.66
Hrst 17.		177229	0.45	0.97	17.5	0.70
McP. 18.		177233	0.17	0.64	17.0	0.58
McP. 19.		177235	0.75	1.29	19.0	0.72
		MEAN	0.53	0.97	18.1	0.68
		MINIMUM	0.14	0.42	14.0	0.48
		MAXIMUM	1.02	1.46	23.0	0.95
		Maclean Area Average	0.53	0.99	17.9	0.69
		Hurst Area Average	0.55	1.01	18.3	0.71
		McPhillip's Area Average	0.50	0.92	18.1	0.64
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 177172			FLUORIDE:	0.83	mg/L	
			ORTHO PHOSPHORUS:	1.88	mg/L-PO4	

COMMENTS:

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-09.xls]8-Sept-07
 Monthly Water Quality Report
 LIMS REF# 18043/18064

FILE: WQR2

TECHNICIAN(S): J. Jones/ D. Shaluk

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

Date Approved: 14-Sep-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: September 10, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION	SAMPLE NO.		mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON	177667	OL	0.84	1.38	19.5	1.48	6.5
DEACON PRECHLORINATION CELL #1	177668	OL	OL	OL	OL	OL	
DEACON PRECHLORINATION CELL #3	177669	<0.05	<0.08	18.0	1.44		
AQUEDUCT BRANCH 1. @ MCPHILLIPS	177672	1.08	1.47	18.5	1.59	3.9	DEACON
AQUEDUCT BRANCH 2 @ HURST	177673	1.27	1.71	18.5	1.55	3.9	DEACON
MACLEAN STATION DISCHARGE	177677	1.20	1.52	18.5	0.91	1.6	MACLEAN
MACLEAN STATION-PRECHLORINATION	177674	0.33	0.70	18.5			
HURST STATION DISCHARGE	177678	1.00	1.38	18.5	1.06	1.6	HURST
HURST STATION-PRECHLORINATION	177675	0.35	0.72	18.5			
McPHILLIPS STATION DISCHARGE	177679	1.38	1.68	19.0	0.89	1.6	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	177676	0.30	0.59	18.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: September 13, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		177694	0.78	1.24	17.5	0.72
McP. 2.		177698	0.85	1.28	19.0	0.90
McP. 3.		177696	0.27	0.62	17.0	0.65
McP. 4.		177699	0.22	0.60	17.0	0.68
MacL. 5.		177684	0.48	0.88	17.0	0.71
MacL. 6.		177688	0.88	1.27	18.0	1.05
MacL. 7.		177692	0.10	0.40	19.5	0.67
MacL. 8.		177704	0.32	0.70	15.5	0.64
MacL. 9.		177708	0.46	0.93	14.0	0.80
MacL. 10.		177709	0.62	1.10	17.5	1.00
MacL. 11.		177712	0.70	1.14	18.0	0.90
Hrst 12.		177728	0.52	1.02	19.0	1.92
Hrst 13.		177722	0.37	0.73	16.0	0.81
Hrst 14.		177724	0.38	0.84	22.5	0.97
Hrst 15.		177726	0.82	1.32	18.0	1.13
Hrst 16.		177731	0.50	1.05	15.0	0.95
Hrst 17.		177737	0.42	0.84	16.5	0.95
McP. 18.		177741	0.12	0.55	17.0	0.72
McP. 19.		177743	0.58	1.07	18.5	0.99
		MEAN	0.49	0.93	17.5	0.90
		MINIMUM	0.10	0.40	14.0	0.64
		MAXIMUM	0.88	1.32	22.5	1.92
		Maclean Area Average	0.51	0.92	17.1	0.82
		Hurst Area Average	0.50	0.97	17.8	1.12
		McPhillip's Area Average	0.47	0.89	17.7	0.78
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 177680			FLUORIDE:	0.86	mg/L	
			ORTHO PHOSPHORUS:	1.89	mg/L-PO4	

COMMENTS:

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBrude Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-09.xls]15-Sep-07
 Monthly Water Quality Report
 LIMS REF# 18116/18117

FILE: WQR2

TECHNICIAN(S): J. Jones/ D. Shaluk

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

Date Approved: 14-Sep-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: September 17, 2007				CHLORINE RESIDUAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION	SAMPLE NO	FREE mg/L	TOTAL mg/L	°C	n tu	mg/L	
AQUEDUCT @ DEACON	178186	0.55	1.07	16.0	1.12	6.5	INTAKE
DEACON PRECHLORINATION CELL #1	178187	OL	OL	OL			
DEACON PRECHLORINATION CELL #3	178188	<0.05	<0.08	14.5	1.53		
AQUEDUCT BRANCH 1 @ McPHILLIPS	178191	1.33	1.69	15.0	1.86	3.9	DEACON
AQUEDUCT BRANCH 2 @ HURST	178192	1.54	1.98	15.0	1.79	3.9	DEACON
MACLEAN STATION DISCHARGE	178196	1.07	1.45	15.5	1.30	1.6	MACLEAN
MACLEAN STATION-PRECHLORINATION	178193	0.50	0.91	15.5			
HURST STATION DISCHARGE	178197	1.00	1.33	15.5	1.18	1.6	HURST
HURST STATION-PRECHLORINATION	178194	0.30	0.61	15.5			
McPHILLIPS STATION DISCHARGE	178198	1.20	1.52	16.0	1.08	1.6	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	178195	0.49	0.85	15.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: September 19, 2007				CHLORINE RESIDUAL	TEMPERATURE	TURBIDITY	
P.Sfn.	SAMPLE LOCATION	SAMPLE NO		FREE mg/L	TOTAL mg/L	°C	n tu
McP. 1		178213	0.69	1.21	16.5	1.52	
McP. 2		178217	0.40	0.82	16.5	1.29	
McP. 3		178215	0.27	0.71	16.5	1.19	
McP. 4		178218	0.47	0.97	17.0	1.09	
MacL. 5		178203	0.54	1.03	15.5	1.16	
MacL. 6		178207	0.66	1.13	16.0	1.86	
MacL. 7		178211	0.08	0.52	18.5	1.04	F: 0.07 T: 0.37 Turb: 0.88
MacL. 8		178223	0.20	0.69	15.0	0.97	
MacL. 9		178227	0.42	0.96	14.5	1.08	
MacL. 10		178228	0.59	1.10	16.0	2.09	
MacL. 11		178231	0.54	0.97	16.0	1.27	
Hrst. 12		178247	0.44	0.89	17.0	1.67	
Hrst. 13		178241	0.31	0.76	15.0	1.08	
Hrst. 14		178243	0.07	0.39	16.5	1.00	F: 0.54 T: 0.96 Turb: 2.05
Hrst. 15		178245	0.93	1.40	15.5	1.21	
Hrst. 16		178250	0.54	1.06	15.0	1.36	
Hrst. 17		178256	0.37	0.94	15.0	2.15	
McP. 18		178260	<0.05	0.46	16.0	0.98	F: 0.06 T: 0.38 Turb: 1.10
McP. 19		178262	0.53	0.98	16.5	1.54	
		MEAN	0.43	0.89	16.0	1.34	
		MINIMUM	<0.05	0.39	14.5	0.97	
		MAXIMUM	0.93	1.40	18.5	2.15	
		Maclean Area Average	0.43	0.91	15.9	1.35	
		Hurst Area Average	0.44	0.91	15.7	1.41	
		McPhillip's Area Average	0.40	0.86	16.5	1.27	
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)				FLUORIDE:	0.90	mg/L	
SAMPLE NUMBER: 178199				ORTHO PHOSPHORUS:	1.89	mg/L-PO4	

Effective Tuesday September 18 2007 at 2100 hours Cells 1 and 2 were put on-line Cells 3 and 4 were isolated Branch I was taken off-line
 Effective Thursday September 20 2007 at 1400 hours chlorine dosage at all three pumping stations was increased from 1.6 mg/L to 1.8 mg/L

COMMENTS:

Effective Friday September 21 2007 at 2145 hours Branch I was placed back on-line

Effective Saturday September 22 2007 at 0110 hours chlorine dosage at all three pumping stations was increased from 1.8 mg/L to 2.0 mg/L

The high turbidity results in the distribution system (Turbidity >1 NTU) are a result of the quality of the incoming water supply

The low chlorine results in the distribution system at locations 7, 14 and 18 were likely caused by a drop in incoming water supply quality and can be partially explained by the high turbidity results

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride: Director Water and Waste Department
 Kelly Kjartanson: 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\Rout ne Water Quality\2007\Residual\2007-09.xls]22-Sept-07
 Monthly Water Quality Report
 LIMS REF# 18174/18175

FILE: WQR2

TECHNICIAN(S): J Jones / M Marsland / R Grosselle

APPROVED FOR DISTRIBUTION BY:

S Fletcher
 Supervisor of Analytical Services (Acting)

Date Approved: 3-Oct-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: September 24, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION	SAMPLE NO.		mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON	178650	1.25	1.77	14.5	0.99	6.5	INTAKE
DEACON PRECHLORINATION CELL #1	178652	<0.05	<0.08	14.5	1.13		
DEACON PRECHLORINATION CELL #3	178653	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ MCPHILLIPS	178656	0.84	1.26	15.5	1.27	3.9	DEACON
AQUEDUCT BRANCH 2 @ HURST	178657	0.88	1.31	15.5	1.33	3.9	DEACON
MACLEAN STATION DISCHARGE	178661	1.61	2.07	15.0	1.24	2.0	MACLEAN
MACLEAN STATION-PRECHLORINATION	178658	0.34	0.61	15.0			
HURST STATION DISCHARGE	178662	1.40	1.73	14.5	1.15	2.0	HURST
HURST STATION-PRECHLORINATION	178659	0.22	0.57	14.5			
McPHILLIPS STATION DISCHARGE	178663	1.97	2.33	15.5	1.13	2.0	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	178660	0.26	0.52	15.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: September 26, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	Extra sampling September 27 2007
McP. 1.		178680	0.84	1.32	15.5	0.99	
McP. 2.		178684	1.08	1.53	17.0	1.15	
McP. 3.		178682	0.76	1.22	16.0	1.15	
McP. 4.		178685	0.12	0.40	17.0	1.01	
MacL. 5.		178670	0.68	1.24	15.0	1.15	
MacL. 6.		178674	1.07	1.46	16.0	0.85	
MacL. 7.		178678	0.07	0.42	17.0	0.87	F: 0.15 T: 0.55
MacL. 8.		178690	0.42	0.89	14.0	0.95	
MacL. 9.		178694	0.94	1.36	14.0	0.97	
MacL. 10.		178695	1.25	1.80	16.0	1.23	
MacL. 11.		178698	1.00	1.50	16.5	1.06	
Hrst 12.		178714	0.94	1.38	17.5	1.07	
Hrst 13.		178708	0.45	0.96	16.0	0.91	
Hrst 14.		178710	0.40	0.95	23.0	1.24	
Hrst 15.		178712	1.58	2.10	15.0	1.18	
Hrst 16.		178717	1.05	1.58	14.5	1.14	
Hrst 17.		178723	0.60	1.05	15.0	1.05	
McP. 18.		178727	0.18	0.60	16.0	1.05	
McP. 19.		178665	1.04	1.51	16.5	1.72	
		MEAN	0.76	1.22	16.2	1.09	
		MINIMUM	0.07	0.40	14.0	0.85	
		MAXIMUM	1.58	2.10	23.0	1.72	
		Maclean Area Average	0.78	1.24	15.5	1.01	
		Hurst Area Average	0.84	1.34	16.8	1.10	
		McPhillip's Area Average	0.67	1.10	16.3	1.18	
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)							
SAMPLE NUMBER: 178666			FLUORIDE:	0.83	mg/L		
			ORTHO PHOSPHORUS:	1.92	mg/L-PO4		

Effective Wednesday September 26 2007 at 1130 hours chlorine dosage at the Intake was decreased from 6.5 mg/L to 6.0 mg/L.

COMMENTS: Effective Thursday September 27 2007 at 1415 hours chlorine dosage at Hurst and McPhillips pumping stations was decreased from 2.0 mg/L to 1.8 mg/L.

Effective Friday September 28 2007 at 1030 hours chlorine dosage at Maclean pumping station was decreased from 2.0 mg/L to 1.8 mg/L.
The high turbidity results in the distribution system (turbidity >1 NTU) are a result of the quality of the incoming water supply.

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
Kelly Kjartanson 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\2007\Residual\[2007-09.xls]29-Sept-07
Monthly Water Quality Report
LIMS REF# 18222/18223

FILE: WQR2

TECHNICIAN(S): J. Jones/ D. Shaluk

APPROVED FOR DISTRIBUTION BY: S. Fletcher

Supervisor of Analytical Services (Acting)

Date Approved: 3-Oct-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: October 1, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	179261	1.25	1.79	14.5	1.00	6.0	INTAKE
DEACON PRECHLORINATION CELL #1	179263	<0.05	<0.08	13.5	1.16		
DEACON PRECHLORINATION CELL #3	179264	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	179267	1.37	1.72	14.5	1.23	4.1	DEACON
AQUEDUCT BRANCH 2 @ HURST	179268	1.38	1.77	14.5	1.23	4.1	DEACON
MACLEAN STATION DISCHARGE	179272	1.31	1.70	14.5	1.02	1.8	MACLEAN
MACLEAN STATION-PRECHLORINATION	179269	0.42	0.77	14.5			
HURST STATION DISCHARGE	179273	1.37	1.73	14.5	1.05	1.8	HURST
HURST STATION-PRECHLORINATION	179270	0.27	0.57	14.5			
McPHILLIPS STATION DISCHARGE	179274	1.56	1.89	14.5	1.00	1.8	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	179271	0.33	0.69	14.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: October 3, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.	[REDACTED]	179289	0.82	1.40	16.0	0.86
McP. 2.	[REDACTED]	179293	1.18	1.63	16.0	0.97
McP. 3.	[REDACTED]	179291	0.98	1.42	15.5	0.90
McP. 4.	[REDACTED]	179294	0.82	1.35	16.0	0.79
MacL. 5.	[REDACTED]	179279	0.82	1.20	15.0	0.87
MacL. 6.	[REDACTED]	179283	1.08	1.51	15.0	1.00
MacL. 7.	[REDACTED]	179287	0.27	0.60	16.5	0.74
MacL. 8.	[REDACTED]	179299	0.31	0.70	15.0	0.72
MacL. 9.	[REDACTED]	179303	0.62	1.15	15.5	0.79
MacL. 10.	[REDACTED]	179304	0.92	1.40	15.5	0.86
MacL. 11.	[REDACTED]	179307	1.04	1.48	15.5	0.88
Hrst 12.	[REDACTED]	179323	1.10	1.53	16.5	1.05
Hrst 13.	[REDACTED]	179317	0.73	1.20	15.0	0.80
Hrst 14.	[REDACTED]	179319	0.56	1.08	21.5	1.03
Hrst 15.	[REDACTED]	179321	1.26	1.78	15.0	0.96
Hrst 16.	[REDACTED]	179326	0.94	1.32	14.5	0.84
Hrst 17.	[REDACTED]	179332	0.68	1.15	15.0	0.85
McP. 18.	[REDACTED]	179336	0.22	0.57	16.0	0.82
McP. 19.	[REDACTED]	179338	1.10	1.48	16.0	0.95
		MEAN	0.81	1.26	15.8	0.88
		MINIMUM	0.22	0.57	14.5	0.72
		MAXIMUM	1.26	1.78	21.5	1.05
		Maclean Area Average	0.72	1.15	15.4	0.84
		Hurst Area Average	0.88	1.34	16.3	0.92
		McPhillip's Area Average	0.85	1.31	15.9	0.88
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 179275			FLUORIDE:	0.82	mg/L	
			ORTHO PHOSPHORUS:	1.87	mg/L-PO4	

Effective Thursday, October 4, 2007 at 1430 hours

COMMENTS: Chlorine dosage at the Intake was decreased from 6.0 mg/L to 5.5 mg/L

Chlorine dosage at all three pumping stations was decreased from 1.8 mg/L to 1.6 mg/L

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 Kjartanson 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\2007\Residual\[2007-10.xls]6-Oct-07

Monthly Water Quality Report

LIMS REF# 18290/18291

FILE: WQR2

TECHNICIAN(S): J. Jones/ D. Shaluk/ N. Crawford

APPROVED FOR DISTRIBUTION BY: S. Fletcher

Supervisor of Analytical Services (Acting)

Date Approved: 19-Oct-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: October 9, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	179822	1.20	1.70	13 0	1.11	5.5	INTAKE
DEACON PRECHLORINATION CELL #1	179824	<0.05	<0.08	11 0	1.30		
DEACON PRECHLORINATION CELL #3	179825	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	179828	1.62	2.25	12 0	1.40	4.1	DEACON
AQUEDUCT BRANCH 2 @ HURST	179829	1.95	2.38	12 0	1.45	4.1	DEACON
MACLEAN STATION DISCHARGE	179833	1.48	1.75	13 0	1.09	1.6	MACLEAN
MACLEAN STATION-PRECHLORINATION	179830	0.70	1.12	13 0			
HURST STATION DISCHARGE	179834	1.52	1.88	13 0	1.08	1.6	HURST
HURST STATION-PRECHLORINATION	179831	0.87	1.22	13 0			
McPHILLIPS STATION DISCHARGE	179835	1.51	1.80	14 0	0.98	1.6	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	179832	0.75	1.22	13 0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: October 9, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	
McP. 1.		179850	0.81	1.20	15 5	0.88	
McP. 2.		179854	0.71	1.13	16 0	1.09	
McP. 3.		179852	0.93	1.32	16 0	0.90	
McP. 4.		179855	0.75	1.17	15 5	1.02	
MacL. 5.		179840	0.60	1.09	15 5	1.05	
MacL. 6.		179844	0.93	1.39	15 0	1.20	
MacL. 7.		179848	0.19	0.51	17 5	0.93	
MacL. 8.		179860	0.37	0.72	14 5	0.86	
MacL. 9.		179864	0.54	0.95	14 5	1.03	
MacL. 10.		179865	0.79	1.22	15 5	1.27	
MacL. 11.		179867	0.52	0.88	15 5	0.97	
Hrst 12.		179884	0.86	1.31	16 5	1.34	
Hrst 13.		179878	0.48	0.88	14 5	1.02	
Hrst 14.		179880	0.38	0.74	20 5	1.17	
Hrst 15.		179882	1.15	1.54	14 0	1.17	
Hrst 16.		179887	0.76	1.17	14 5	1.03	
Hrst 17.		179893	0.75	1.22	15 0	0.98	
McP. 18.		179897	0.23	0.66	15 5	1.02	
McP. 19.		179899	1.09	1.47	15 0	1.06	
		MEAN	0.68	1.08	15 6	1.05	
		MINIMUM	0.19	0.51	14 0	0.86	
		MAXIMUM	1.15	1.54	20 5	1.34	
		Maclean Area Average	0.56	0.97	15.4	1.04	
		Hurst Area Average	0.73	1.14	15.8	1.12	
		McPhillip's Area Average	0.75	1.16	15.6	1.00	
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)							
SAMPLE NUMBER: 179836			FLUORIDE:	0.84	mg/L		
			ORTHO PHOSPHORUS:	1.92	mg/L-PO4		

Effective Friday, October 12, 2007 at 13:15 hrs. the chlorine dosage at the Intake was decreased from 5.5 to 5.0 mg/L. Chlorine dosage at both branches decreased from 4.1 to 3.8 mg/L. Chlorine dosage at all three pumping stations was decreased from 1.6 to 1.4 mg/L. The high turbidity of some of the distribution system samples (>1ntu) 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 Kjartanson 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\2007\Residual\[2007-10.xls]13-Oct-07
 Monthly Water Quality Report

LIMS REF# 18353/18354

FILE: WQR2

TECHNICIAN(S): D.Shaluk and N. Crawford

APPROVED FOR DISTRIBUTION BY: S. Fletcher

Supervisor of Analytical Services (Acting)

Date Approved: 19-Oct-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: October 15, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION	SAMPLE NO.		mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON	180300	1.44	1.83	11.0	0.97	5.0	INTAKE
DEACON PRECHLORINATION CELL #1	180301	<0.05	<0.08	10.0	1.23		
DEACON PRECHLORINATION CELL #3	180302	OL OL		OL	OL		
AQUEDUCT BRANCH 1. @ McPHILLIPS	180306	1.68	2.20	11.0	1.35	3.8	DEACON
AQUEDUCT BRANCH 2 @ HURST	180307	1.75	2.28	11.0	1.70	3.8	DEACON
MACLEAN STATION DISCHARGE	180311	1.22	1.50	11.0	1.20	1.4	MACLEAN
MACLEAN STATION-PRECHLORINATION	180308	1.05	1.42	11.5			
HURST STATION DISCHARGE	180312	1.25	1.58	11.0	1.15	1.4	HURST
HURST STATION-PRECHLORINATION	180309	1.02	1.43	11.5			
McPHILLIPS STATION DISCHARGE	180313	1.40	1.70	12.0	1.11	1.4	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	180314	0.96	1.48	11.5			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: October 17, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		180328	0.58	0.96	15.0	0.81
McP. 2.		180332	0.62	1.02	16.0	1.11
McP. 3.		180330	0.78	1.17	14.0	1.12
McP. 4.		180333	0.44	0.83	15.5	0.78
MacL. 5.		180318	0.63	1.08	13.0	0.78
MacL. 6.		180322	0.81	1.20	13.0	0.95
MacL. 7.		180326	0.19	0.53	16.0	0.78
MacL. 8.		180338	0.47	0.86	13.0	0.80
MacL. 9.		180342	0.52	1.00	14.0	0.80
MacL. 10.		180343	0.74	1.14	13.5	0.94
MacL. 11.		180346	0.77	1.19	13.0	0.88
Hrst 12.		180362	0.75	1.22	15.0	1.18
Hrst 13.		180356	0.44	1.00	13.5	0.86
Hrst 14.		180358	0.42	0.78	21.0	1.41
Hrst 15.		180360	0.92	1.31	11.5	0.94
Hrst 16.		180365	0.59	1.06	14.0	0.81
Hrst 17.		180371	0.64	1.02	13.5	0.98
McP. 18.		180375	0.16	0.46	14.5	0.84
McP. 19.		180377	0.69	1.24	14.5	1.11
		MEAN	0.59	1.00	14.4	0.94
		MINIMUM	0.16	0.46	11.5	0.78
		MAXIMUM	0.92	1.31	21.0	1.41
		Maclean Area Average	0.59	1.00	13.6	0.85
		Hurst Area Average	0.63	1.07	14.8	1.03
		McPhillip's Area Average	0.55	0.95	14.9	0.96
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 180314		FLUORIDE:		0.84	mg/L	
		ORTHO PHOSPHORUS:		1.91	mg/L-PO4	

Effective October 18 2007 at 11:00 the chlorine dosage at the intake was decreased from 5.0 to 4.5 mg/L. Chlorine dosage at both branches

COMMENTS: was decreased from 3.8 to 3.2 mg/L.

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 Kjartanson 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\2007\Residual\[2007-10.xls]20-Oct-07

Monthly Water Quality Report

LIMS REF# 18401/18402

FILE: WQR2

TECHNICIAN(S): D. Shaluk and N. Crawford

APPROVED FOR DISTRIBUTION BY: S. Fletcher

Supervisor of Analytical Services (Acting)

Date Approved: 25-Oct-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: October 22, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON		180803	1.02	1.40	10 0	1.05	4.5 INTAKE
DEACON PRECHLORINATION CELL #1		180805	<0.05	1.00	9.5	1.25	
DEACON PRECHLORINATION CELL #3		180806	OL	OL	OL	OL	
AQUEDUCT BRANCH 1. @ MCPHILLIPS		180809	1.35	1.75	10 5	1.29	3.2 DEACON
AQUEDUCT BRANCH 2 @ HURST		180810	1.48	1.85	10 5	1.66	3.2 DEACON
MACLEAN STATION DISCHARGE		180814	1.20	1.55	10 5	1.32	1.4 MACLEAN
MACLEAN STATION-PRECHLORINATION		180811	0.97	1.42	10 0		
HURST STATION DISCHARGE		180815	1.10	1.38	11 0	1.20	1.4 HURST
HURST STATION-PRECHLORINATION		180812	0.78	1.15	11 5		
MCPHILLIPS STATION DISCHARGE		180816	1.16	1.43	11 0	1.01	1.4 MCPHILLIPS
MCPHILLIPS STATION-PRECHLORINATION		180813	0.73	1.12	11 5		

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: October 23, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		180831	0.51	1.02	13 5	0.89
McP. 2.		180835	0.76	1.24	14 0	0.96
McP. 3.		180833	0.67	1.12	13 0	0.86
McP. 4.		180836	0.53	0.94	13 0	0.74
MacL. 5.		180821	0.64	1.16	12 0	0.96
MacL. 6.		180825	0.87	1.26	12 0	0.96
MacL. 7.		180829	0.18	0.51	11 0	0.78
MacL. 8.		180841	0.20	0.59	13 0	2.07
MacL. 9.		180845	0.64	1.11	12 5	0.80
MacL. 10.		180846	0.66	1.07	13 0	0.99
MacL. 11.		180849	0.83	1.22	13 0	0.82
Hrst 12.		180865	0.75	1.30	15 0	1.03
Hrst 13.		180859	0.40	0.98	13 0	0.86
Hrst 14.		180861	0.59	1.00	17 5	0.93
Hrst 15.		180863	0.93	1.35	11 0	0.92
Hrst 16.		180868	0.68	1.16	13 0	0.89
Hrst 17.		180874	0.57	1.03	12 0	0.88
McP. 18.		180878	0.10	0.37	14 0	1.09
McP. 19.		180880	0.76	1.19	13 0	0.87
		MEAN	0.59	1.03	13.1	0.96
		MINIMUM	0.10	0.37	11 0	0.74
		MAXIMUM	0.93	1.35	17 5	2.07
		Maclean Area Average	0.57	0.99	12.4	1.05
		Hurst Area Average	0.65	1.14	13 6	0.92
		McPhillip's Area Average	0.56	0.98	13.4	0.90
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 180817			FLUORIDE:	0.90	mg/L	
			ORTHO PHOSPHORUS:	1.92	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 Kjartanson 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\2007\Residual\[2007-10.xls]27-Oct-07

Monthly Water Quality Report

LIMS REF# 18451/18452

FILE: WQR2

TECHNICIAN(S): D. Shaluk / N. Crawford

APPROVED FOR DISTRIBUTION BY: S. Fletcher

Supervisor of Analytical Services (Acting)

Date Approved: 30-Oct-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: October 29, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON		181327	1.00	1.48	9.0	0.93	4.5 INTAKE
DEACON PRECHLORINATION CELL #1		181329	<0.05	1.00	8.5	1.12	
DEACON PRECHLORINATION CELL #3		181330	OL OL		OL	OL	
AQUEDUCT BRANCH 1. @ McPHILLIPS		181333	1.52	1.80	9.5	1.37	3.2 DEACON
AQUEDUCT BRANCH 2 @ HURST		181334	1.82	2.10	9.5	1.38	3.2 DEACON
MACLEAN STATION DISCHARGE		181338	1.18	1.57	8.5	1.04	1.4 MACLEAN
MACLEAN STATION-PRECHLORINATION		181335	1.15	1.56	9.0		
HURST STATION DISCHARGE		181339	1.10	1.40	9.0	0.96	1.4 HURST
HURST STATION-PRECHLORINATION		181336	0.87	1.22	10.0		
McPHILLIPS STATION DISCHARGE		181340	1.10	1.38	10.5	0.94	1.4 McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION		181337	0.78	1.15	11.5		

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: October 30, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		181416	0.67	1.12	13.0	0.85
McP. 2.		181420	0.86	1.22	14.0	0.94
McP. 3.		181418	0.87	1.25	11.5	1.09
McP. 4.		181421	0.47	0.90	15.0	0.79
MacL. 5.		181406	0.65	1.05	11.0	0.89
MacL. 6.		181410	0.86	1.23	11.0	1.12
MacL. 7.		181414	0.23	0.58	15.0	0.73
MacL. 8.		181426	0.41	0.80	12.5	0.83
MacL. 9.		181430	0.51	0.88	12.5	0.90
MacL. 10.		181431	0.76	1.11	12.0	0.94
MacL. 11.		181434	0.67	1.05	11.0	0.99
Hrst 12.		181450	0.72	1.11	15.0	0.96
Hrst 13.		181444	0.34	0.71	13.0	0.75
Hrst 14.		181446	0.72	1.13	13.0	0.89
Hrst 15.		181448	0.94	1.34	9.5	0.89
Hrst 16.		181453	0.74	1.26	12.0	0.93
Hrst 17.		181459	0.62	1.05	11.5	1.12
McP. 18.		181463	0.12	0.39	13.0	0.84
McP. 19.		181465	0.79	1.16	13.0	0.94
		MEAN	0.63	1.02	12.6	0.92
		MINIMUM	0.12	0.39	9.5	0.73
		MAXIMUM	0.94	1.34	15.0	1.12
		Maclean Area Average	0.58	0.96	12.1	0.91
		Hurst Area Average	0.68	1.10	12.3	0.92
		McPhillip's Area Average	0.63	1.01	13.3	0.91
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 181402		FLUORIDE:		0.83	mg/L	
		ORTHO PHOSPHORUS:		1.78	mg/L-PO4	

Effective Friday November 2 2007 at 12:10 the chlorine dosage at the Intake was decreased from 4.5 to 4.0 mg/L. The chlorine dosage at both branches was decreased from 3.2 to 2.6 mg/L. The chlorine dosage at all three pumping stations was decreased from 1.4 to 1.2 mg/L.

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 Kjartanson 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\2007\Residual\[2007-10.xls]3-Nov-07

Monthly Water Quality Report

LIMS REF# 18509/18511

FILE: WQR2

TECHNICIAN(S): D. Shaluk / N. Crawford

APPROVED FOR DISTRIBUTION BY: S. Fletcher

Supervisor of Analytical Services (Acting)

Date Approved: 6-Nov-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: November 5, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L	
AQUEDUCT @ DEACON	181843	0.75	1.30	6.5	1.10	4.0	INTAKE
DEACON PRECHLORINATION CELL #1	181845	<0.05	<0.08	5.5	1.64		
DEACON PRECHLORINATION CELL #3	181846	OL	OL	OL	OL		
AQUEDUCT BRANCH 1. @ MCPHILLIPS	181849	1.17	1.55	7.5	1.47	2.6	DEACON
AQUEDUCT BRANCH 2 @ HURST	181850	1.25	1.64	7.0	1.48	2.6	DEACON
MACLEAN STATION DISCHARGE	181854	0.85	1.20	8.5	1.13	1.2	MACLEAN
MACLEAN STATION-PRECHLORINATION	181851	0.74	1.10	8.0			
HURST STATION DISCHARGE	181855	0.84	1.25	7.5	1.12	1.2	HURST
HURST STATION-PRECHLORINATION	181852	0.68	1.08	8.0			
McPHILLIPS STATION DISCHARGE	181856	0.85	1.29	8.5	1.05	1.2	McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION	181853	0.72	1.08	9.0			

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: November 6, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		181871	0.56	1.01	11.5	0.71
McP. 2.		181875	0.75	1.04	12.0	0.86
McP. 3.		181873	0.66	1.14	10.5	0.80
McP. 4.		181876	0.35	0.74	16.0	0.67
MacL. 5.		181861	0.53	0.93	10.0	0.79
MacL. 6.		181865	0.67	0.97	12.0	0.85
MacL. 7.		181869	0.20	0.48	14.5	0.65
MacL. 8.		181881	0.39	0.71	11.0	0.64
MacL. 9.		181885	0.48	0.87	12.5	0.73
MacL. 10.		181886	0.58	0.91	11.0	0.72
MacL. 11.		181889	0.65	1.04	10.0	0.68
Hrst 12.		181905	0.69	0.97	10.5	0.82
Hrst 13.		181899	0.30	0.73	12.5	0.64
Hrst 14.		181901	0.61	0.97	11.5	0.73
Hrst 15.		181903	0.76	1.19	8.5	0.81
Hrst 16.		181908	0.60	1.00	11.5	0.74
Hrst 17.		181914	0.51	0.85	10.5	0.73
McP. 18.		181918	0.10	0.33	12.5	0.76
McP. 19.		181920	0.68	0.96	12.5	0.85
		MEAN	0.53	0.89	11.6	0.75
		MINIMUM	0.10	0.33	8.5	0.64
		MAXIMUM	0.76	1.19	16.0	0.86
		Maclean Area Average	0.50	0.84	11.6	0.72
		Hurst Area Average	0.58	0.95	10.8	0.75
		McPhillip's Area Average	0.52	0.87	12.5	0.78
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 181857		FLUORIDE:		0.83	mg/L	
		ORTHO PHOSPHORUS:		1.82	mg/L-PO4	

COMMENTS: Effective Thursday November 8 2007 at 12:15 hrs the chlorine dosage at both branches increased from 2.6 to 2.8 mg/L Chlorine dosage at all three pumping stations increased from 1.2 to 1.4 mg/L

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBrude Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-11.xls]10-Nov-07
 Monthly Water Quality Report
 LIMS REF# 18561/18562

FILE: WQR2

TECHNICIAN(S): D. Shaluk and N. Crawford

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

Date Approved: 13-Nov-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: November 13, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON		182365	0.76	1.15	5.5	1.23	4.0 INTAKE
DEACON PRECHLORINATION CELL #1		182367	<0.05	<0.08	4.5	0.98	
DEACON PRECHLORINATION CELL #3		182368	OL	OL	OL	OL	
AQUEDUCT BRANCH 1. @ McPHILLIPS		182371	1.35	1.65	6.5	0.88	2.8 DEACON
AQUEDUCT BRANCH 2 @ HURST		182372	1.45	1.78	6.5	0.95	2.8 DEACON
MACLEAN STATION DISCHARGE		182376	1.17	1.53	5.5	1.10	1.4 MACLEAN
MACLEAN STATION-PRECHLORINATION		182373	0.88	1.20	6.5		
HURST STATION DISCHARGE		182377	1.22	1.53	7.0	0.92	1.4 HURST
HURST STATION-PRECHLORINATION		182374	0.86	1.15	7.5		
McPHILLIPS STATION DISCHARGE		182378	1.18	1.47	7.0	0.93	1.4 McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION		182375	0.83	1.17	7.5		

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: November 13, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		182393	0.71	1.16	10.5	0.62
McP. 2.		182397	1.03	1.33	10.0	0.71
McP. 3.		182395	0.84	1.09	11.5	0.84
McP. 4.		182398	0.70	1.06	13.0	0.64
MacL. 5.		182383	0.81	1.09	9.5	0.64
MacL. 6.		182387	0.87	1.18	11.0	0.74
MacL. 7.		182391	0.25	0.48	11.5	0.95
MacL. 8.		182403	0.58	0.86	10.0	0.61
MacL. 9.		182407	0.63	1.07	13.0	0.64
MacL. 10.		182408	0.97	1.22	9.0	0.68
MacL. 11.		182411	0.89	1.24	9.0	0.69
Hrst 12.		182427	0.85	1.16	14.0	0.67
Hrst 13.		182421	0.52	0.80	12.0	0.59
Hrst 14.		182423	0.87	1.21	13.5	0.62
Hrst 15.		182425	1.13	1.44	7.0	0.73
Hrst 16.		182430	0.88	1.34	11.0	0.62
Hrst 17.		182436	0.84	1.21	8.5	0.93
McP. 18.		182440	0.32	0.55	11.0	0.77
McP. 19.		182442	0.95	1.29	10.5	0.71
		MEAN	0.77	1.09	10.8	0.71
		MINIMUM	0.25	0.48	7.0	0.59
		MAXIMUM	1.13	1.44	14.0	0.95
		Maclean Area Average	0.71	1.02	10.4	0.71
		Hurst Area Average	0.85	1.19	11.0	0.69
		McPhillip's Area Average	0.76	1.08	11.1	0.72
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 182379			FLUORIDE:	0.94	mg/L	
			ORTHO PHOSPHORUS:	1.88	mg/L-PO4	

COMMENTS:

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-11.xls]17-Nov-07
 Monthly Water Quality Report

LIMS REF# 18620/18621

FILE: WQR2

TECHNICIAN(S): D. Shaluk and N. Crawford

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

Date Approved: 16-Nov-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: November 19, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON		182857	OL	OL	OL	OL	OL
DEACON PRECHLORINATION CELL #1		182860	<0.05	1.00	4.0	1.04	
DEACON PRECHLORINATION CELL #3		182861	OL	OL	OL	OL	
AQUEDUCT BRANCH 1. @ MCPHILLIPS		182864	1.36	1.60	4.5	1.01	2.8
AQUEDUCT BRANCH 2 @ HURST		182865	1.48	1.72	4.0	1.03	2.8
MACLEAN STATION DISCHARGE		182869	1.04	1.34	4.5	0.75	1.4
MACLEAN STATION-PRECHLORINATION		182866	1.00	1.26	4.5		
HURST STATION DISCHARGE		182870	1.18	1.42	5.0	0.73	1.4
HURST STATION-PRECHLORINATION		182867	0.94	1.26	4.5		
McPHILLIPS STATION DISCHARGE		182871	1.16	1.46	6.0	0.68	1.4
McPHILLIPS STATION-PRECHLORINATION		182868	0.83	1.15	8.0		

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: November 20, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		182886	0.81	1.16	9.0	0.50
McP. 2.		182890	0.94	1.21	9.5	0.64
McP. 3.		182888	0.98	1.26	8.5	0.58
McP. 4.		182891	0.67	0.94	12.5	0.54
MacL. 5.		182876	0.71	1.05	9.0	0.54
MacL. 6.		182880	0.88	1.10	9.5	0.60
MacL. 7.		182884	0.31	0.50	11.0	0.51
MacL. 8.		182896	0.42	0.73	11.0	0.55
MacL. 9.		182900	0.72	0.99	11.0	0.55
MacL. 10.		182901	0.78	1.04	8.5	0.57
MacL. 11.		182904	0.89	1.13	8.5	0.53
Hrst 12.		182920	0.85	1.10	12.0	0.56
Hrst 13.		182914	0.46	0.79	12.0	0.51
Hrst 14.		182916	0.82	1.08	9.5	0.54
Hrst 15.		182918	0.98	1.18	5.5	0.58
Hrst 16.		182923	0.76	1.06	10.0	0.80
Hrst 17.		182929	0.78	1.06	8.0	0.54
McP. 18.		182933	0.36	0.61	11.0	0.56
McP. 19.		182935	0.87	1.23	11.0	0.57
		MEAN	0.74	1.01	9.8	0.57
		MINIMUM	0.31	0.50	5.5	0.50
		MAXIMUM	0.98	1.26	12.5	0.80
		Maclean Area Average	0.67	0.93	9.8	0.55
		Hurst Area Average	0.78	1.05	9.5	0.59
		McPhillip's Area Average	0.77	1.07	10.3	0.57
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 182872			FLUORIDE:	0.84	mg/L	
			ORTHO PHOSPHORUS:	1.95	mg/L-PO4	

COMMENTS:

Aqueduct @ Deacon was offline due to SLA shutdown on November 15 2007.
 Location 18 (WC-6) was also tested for comparison [REDACTED] Free 0.29 Total 0.56

[REDACTED] = Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBrude Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-11.xls]24-Nov-07
 Monthly Water Quality Report
 LIMS REF# 18665/18666

FILE: WQR2

TECHNICIAN(S): D. Shaluk and N. Crawford

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

Date Approved: 27-Nov-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: November 26, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON		183367	OL	OL	OL	OL	OL
DEACON PRECHLORINATION CELL #1		183369	<0.05	<0.08	3.0	0.66	
DEACON PRECHLORINATION CELL #3		183370	OL	OL	OL	OL	
AQUEDUCT BRANCH 1. @ MCPHILLIPS		183373	1.54	1.78	3.5	0.80	2.8
AQUEDUCT BRANCH 2 @ HURST		183374	1.64	1.85	4.0	0.69	2.8
MACLEAN STATION DISCHARGE		183378	1.14	1.38	3.0	0.65	1.4
MACLEAN STATION-PRECHLORINATION		183375	0.96	1.25	4.5		
HURST STATION DISCHARGE		183379	1.14	1.34	3.0	0.68	1.4
HURST STATION-PRECHLORINATION		183376	0.95	1.22	4.5		
McPHILLIPS STATION DISCHARGE		183380	1.20	1.46	4.5	0.60	1.4
McPHILLIPS STATION-PRECHLORINATION		183377	0.90	1.20	5.0		

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: November 26, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		183395	0.94	1.27	7.5	0.50
McP. 2.		183399	0.93	1.25	11.0	0.60
McP. 3.		183397	0.95	1.18	7.5	0.50
McP. 4.		183400	0.72	0.97	13.0	0.49
MacL. 5.		183385	0.81	1.00	7.5	0.61
MacL. 6.		183389	0.84	1.07	9.5	0.58
MacL. 7.		183393	0.32	0.56	13.0	0.52
MacL. 8.		183405	0.37	0.59	12.0	0.47
MacL. 9.		183409	1.00	1.23	7.5	0.55
MacL. 10.		183410	0.97	1.15	7.0	0.56
MacL. 11.		183413	0.91	1.23	7.0	0.58
Hrst 12.		183429	0.97	1.20	8.5	0.57
Hrst 13.		183423	0.55	0.82	11.0	0.49
Hrst 14.		183425	0.95	1.19	9.0	0.52
Hrst 15.		183427	1.05	1.30	4.5	0.58
Hrst 16.		183432	0.81	1.10	9.5	0.54
Hrst 17.		183438	0.83	1.05	7.0	0.58
McP. 18.		183442	0.17	0.33	10.5	0.65
McP. 19.		183444	0.89	1.14	11.0	0.57
		MEAN	0.79	1.03	9.1	0.55
		MINIMUM	0.17	0.33	4.5	0.47
		MAXIMUM	1.05	1.30	13.0	0.65
		Maclean Area Average	0.75	0.98	9.1	0.55
		Hurst Area Average	0.86	1.11	8.3	0.55
		McPhillip's Area Average	0.77	1.02	10.1	0.55
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 183381			FLUORIDE:	0.91	mg/L	
			ORTHO PHOSPHORUS:	1.88	mg/L-PO4	

COMMENTS:

SLA shutdown November 15 2007.

Location 18 (WC10) was sampled for comparison at [REDACTED] Free 0.12 Total 0.29.

[REDACTED] = Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBride Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-11.xls]1-Dec-07
 Monthly Water Quality Report
 LIMS REF# 18728/18729

FILE: WQR2

TECHNICIAN(S): D. Shaluk and N. Crawford

APPROVED FOR DISTRIBUTION BY: S. Fletcher

Supervisor of Analytical Services (Acting)

Date Approved: 3-Dec-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: December 3, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON		183875	0.60	0.90	4.0	0.61	4.0 INTAKE
DEACON PRECHLORINATION CELL #1		183876	OL	OL	OL	OL	
DEACON PRECHLORINATION CELL #3		183877	0.08	0.12	2.5	1.31	
AQUEDUCT BRANCH 1. @ McPHILLIPS		183880	0.83	1.08	3.0	1.15	2.8 DEACON
AQUEDUCT BRANCH 2 @ HURST		183881	1.08	1.25	3.0	1.12	2.8 DEACON
MACLEAN STATION DISCHARGE		183885	1.21	1.40	3.0	0.74	1.4 MACLEAN
MACLEAN STATION-PRECHLORINATION		183882	0.72	1.00	4.0		
HURST STATION DISCHARGE		183886	1.18	1.37	3.0	0.85	1.4 HURST
HURST STATION-PRECHLORINATION		183883	0.62	0.85	4.0		
McPHILLIPS STATION DISCHARGE		183887	1.16	1.47	4.0	1.11	1.4 McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION		183884	0.62	0.90	4.0		

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: December 4, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.	[REDACTED]	183823	0.79	1.29	7.5	0.58
McP. 2.	[REDACTED]	183827	0.92	1.09	10.5	0.65
McP. 3.	[REDACTED]	183825	0.84	1.12	6.0	0.68
McP. 4.	[REDACTED]	183828	0.72	0.96	12.0	0.67
MacL. 5.	[REDACTED]	183813	0.85	1.07	8.5	0.70
MacL. 6.	[REDACTED]	183817	0.89	1.15	7.0	0.69
MacL. 7.	[REDACTED]	183821	0.39	0.63	11.5	0.60
MacL. 8.	[REDACTED]	183833	0.54	0.79	9.5	0.56
MacL. 9.	[REDACTED]	183837	0.78	1.00	10.0	0.66
MacL. 10.	[REDACTED]	183838	0.93	1.15	7.5	0.68
MacL. 11.	[REDACTED]	183841	0.89	1.08	6.5	0.69
Hrst 12.	[REDACTED]	183857	1.00	1.18	9.0	0.65
Hrst 13.	[REDACTED]	183851	0.62	0.77	10.0	0.57
Hrst 14.	[REDACTED]	183853	0.94	1.26	7.0	0.65
Hrst 15.	[REDACTED]	183855	1.15	1.39	4.5	0.70
Hrst 16.	[REDACTED]	183860	0.84	1.05	9.5	0.64
Hrst 17.	[REDACTED]	183866	0.87	1.09	6.5	0.68
McP. 18.	[REDACTED]	183870	0.22	0.57	9.0	0.64
McP. 19.	[REDACTED]	183872	0.90	1.16	7.0	0.66
		MEAN	0.79	1.04	8.4	0.65
		MINIMUM	0.22	0.57	4.5	0.56
		MAXIMUM	1.15	1.39	12.0	0.70
		Maclean Area Average	0.75	0.98	8.6	0.65
		Hurst Area Average	0.90	1.12	7.8	0.65
		McPhillip's Area Average	0.73	1.03	8.7	0.65
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 183809			FLUORIDE:	0.85	mg/L	
			ORTHO PHOSPHORUS:	1.88	mg/L-PO4	

COMMENTS:

Location 18 (WC 10) was also sampled [REDACTED] for comparison: Free 0.23 Total 0.55

[REDACTED] = Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBrude Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-12.xls]8-Dec-07
 Monthly Water Quality Report
 LIMS REF# 18773/18772

FILE: WQR2

TECHNICIAN(S): D. Shaluk and N. Crawford

APPROVED FOR DISTRIBUTION BY: S. Fletcher

Supervisor of Analytical Services (Acting)

Date Approved: 11-Dec-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: December 10, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON		184289	0.38	0.78	3.0	0.71	3.5 INTAKE
DEACON PRECHLORINATION CELL #1		184290	OL	OL	OL	OL	
DEACON PRECHLORINATION CELL #3		184291	<0.05	<0.08	2.5	0.91	
AQUEDUCT BRANCH 1. @ MCPHILLIPS		184294	0.78	1.10	3.0	1.09	2.6 DEACON
AQUEDUCT BRANCH 2 @ HURST		184295	0.87	1.18	3.5	1.04	2.6 DEACON
MACLEAN STATION DISCHARGE		184299	0.85	1.20	2.5	0.94	1.2 MACLEAN
MACLEAN STATION-PRECHLORINATION		184296	0.48	0.80	3.0		
HURST STATION DISCHARGE		184300	0.96	1.17	3.0	0.81	1.2 HURST
HURST STATION-PRECHLORINATION		184297	0.47	0.80	3.0		
McPHILLIPS STATION DISCHARGE		184301	1.06	1.38	3.5	1.04	1.2 McPHILLIPS
McPHILLIPS STATION-PRECHLORINATION		184298	0.35	0.70	3.5		

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: December 10, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		184316	0.70	0.90	6.0	0.70
McP. 2.		184320	0.71	1.00	9.0	0.76
McP. 3.		184318	0.64	0.83	6.5	0.75
McP. 4.		184321	0.65	0.88	10.5	0.73
MacL. 5.		184306	0.68	0.95	7.5	0.75
MacL. 6.		184310	0.75	0.97	7.0	0.73
MacL. 7.		184314	0.30	0.56	12.0	0.73
MacL. 8.		184326	0.28	0.58	10.0	0.68
MacL. 9.		184330	0.63	0.86	10.0	0.74
MacL. 10.		184331	0.78	1.00	8.0	0.75
MacL. 11.		184334	0.74	0.92	6.5	0.73
Hrst 12.		184350	0.85	1.05	10.0	0.79
Hrst 13.		184344	0.39	0.73	9.5	0.70
Hrst 14.		184346	0.76	1.12	8.0	0.72
Hrst 15.		184348	0.86	1.13	3.5	n/s
Hrst 16.		184353	0.78	1.05	9.0	0.70
Hrst 17.		184359	0.67	0.88	6.5	0.77
McP. 18.		184363	0.22	0.52	9.0	0.74
McP. 19.		184365	0.75	1.04	6.0	0.74
		MEAN	0.64	0.89	8.1	0.70
		MINIMUM	0.22	0.52	3.5	0.68
		MAXIMUM	0.86	1.13	12.0	0.79
		Maclean Area Average	0.59	0.83	8.7	0.73
		Hurst Area Average	0.72	0.99	7.8	0.61
		McPhillip's Area Average	0.61	0.86	7.8	0.74
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 184302		FLUORIDE:		0.87	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 Kjartanson 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\2007\Residual\[2007-12.xls]15-Dec-07
 Monthly Water Quality Report
 LIMS REF# 18823/18824

FILE: WQR2

TECHNICIAN(S): D. Shaluk and N. Crawford

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

Date Approved: 18-Dec-07

CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENVIRONMENTAL STANDARDS DIVISION

WATER SUPPLY & DISTRIBUTION SYSTEM CHLORINE RESIDUAL MONITORING

WATER SUPPLY SYSTEM DATA

SAMPLE DATE: December 17, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY	CHLORINE SET POINT
SAMPLE LOCATION		SAMPLE NO.	mg/L	mg/L	°C	n.t.u.	mg/L
AQUEDUCT @ DEACON		184800	0.36	0.70	3.0	1.10	3.5 INTAKE
DEACON PRECHLORINATION CELL #1		184801	OL	OL	OL	OL	
DEACON PRECHLORINATION CELL #3		184802	<0.05	<0.08	3.0	0.95	
AQUEDUCT BRANCH 1. @ MCPHILLIPS		184805	1.05	1.32	3.0	1.12	2.6 DEACON
AQUEDUCT BRANCH 2 @ HURST		184806	1.18	1.45	3.5	1.09	2.6 DEACON
MACLEAN STATION DISCHARGE		184810	0.93	1.20	2.0	1.24	1.2 MACLEAN
MACLEAN STATION-PRECHLORINATION		184807	0.60	0.97	3.0		
HURST STATION DISCHARGE		184811	0.90	1.22	2.5	1.28	1.2 HURST
HURST STATION-PRECHLORINATION		184808	0.58	0.95	4.5		
MCPHILLIPS STATION DISCHARGE		184812	0.90	1.22	3.0	1.11	1.2 MCPHILLIPS
MCPHILLIPS STATION-PRECHLORINATION		184809	0.54	0.90	4.0		

DISTRIBUTION SYSTEM DATA

SAMPLE DATE: December 18, 2007			CHLORINE RESIDUAL FREE	CHLORINE RESIDUAL TOTAL	TEMPERATURE	TURBIDITY
P.Stn.	SAMPLE LOCATION	SAMPLE NO.	mg/L	mg/L	°C	n.t.u.
McP. 1.		184827	0.69	0.84	5.0	0.62
McP. 2.		184831	0.72	0.85	6.5	0.66
McP. 3.		184829	0.54	0.87	5.0	0.72
McP. 4.		184832	0.48	0.78	10.5	0.69
MacL. 5.		184817	0.56	0.93	6.5	0.67
MacL. 6.		184821	0.73	1.00	8.5	0.67
MacL. 7.		184825	0.30	0.53	11.5	0.67
MacL. 8.		184837	0.28	0.55	10.0	0.73
MacL. 9.		184841	0.54	0.75	10.0	0.63
MacL. 10.		184842	0.66	0.86	6.5	0.64
MacL. 11.		184845	0.68	0.97	6.5	0.62
Hrst 12.		184861	0.57	0.93	10.5	0.62
Hrst 13.		184855	0.48	0.70	9.5	0.79
Hrst 14.		184857	0.63	0.86	8.5	0.65
Hrst 15.		184859	0.71	0.99	4.0	0.61
Hrst 16.		184864	0.66	0.93	8.5	0.65
Hrst 17.		184870	0.55	0.83	6.5	0.70
McP. 18.		184874	0.19	0.39	8.5	0.71
McP. 19.		184876	0.54	0.83	7.5	0.71
		MEAN	0.55	0.81	7.9	0.67
		MINIMUM	0.19	0.39	4.0	0.61
		MAXIMUM	0.73	1.00	11.5	0.79
		Maclean Area Average	0.54	0.80	8.5	0.66
		Hurst Area Average	0.60	0.87	7.9	0.67
		McPhillip's Area Average	0.53	0.76	7.2	0.69
DISTRIBUTION SYSTEM COMPOSITE (LOCATIONS 1-19)						
SAMPLE NUMBER: 184813			FLUORIDE:	0.87	mg/L	
			ORTHO PHOSPHORUS:	1.90	mg/L-PO4	

COMMENTS:

= Not Analyzed

NS = No Sample

OL = Off Line

Distribution List

E-mail:

Barry MacBrude Director Water and Waste Department
 Kelly Kjartanson 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\2007\Residual\[2007-12.xls]22-Dec-07
 Monthly Water Quality Report
 LIMS REF# 18873/18874

FILE: WQR2

TECHNICIAN(S): D. Shaluk and N. Crawford

APPROVED FOR DISTRIBUTION BY: S. Fletcher

Supervisor of Analytical Services (Acting)

Date Approved: 21-Dec-07

CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION

MONTHLY TURBIDITY REPORT

January 2007

Location (Deacon Outlet)	Date	Sample Number	Turbidity (NTU)
Deacon Prechlorination Cell 3	2-Jan-07	157753	0.56
Deacon Prechlorination Cell 3	5-Jan-07	158091	0.47
Deacon Prechlorination Cell 3	8-Jan-07	158072	0.46
Deacon Prechlorination Cell 3	10-Jan-07	158545	0.45
Deacon Prechlorination Cell 3	12-Jan-07	158555	0.56
Deacon Prechlorination Cell 3	15-Jan-07	158758	0.46
Deacon Prechlorination Cell 3	17-Jan-07	159101	0.46
Deacon Prechlorination Cell 3	19-Jan-07	159118	0.47
Deacon Prechlorination Cell 3	22-Jan-07	159196	0.47
Deacon Prechlorination Cell 3	24-Jan-07	159335	0.48
Deacon Prechlorination Cell 3	26-Jan-07	159345	0.40
Deacon Prechlorination Cell 3	29-Jan-07	159748	0.38
Deacon Prechlorination Cell 3	31-Jan-07	160102	0.39

Deacon Outlet Monthly Statistics	Average	0.46
	Minimum	0.38
	Maximum	0.56

Comments:

Prepared By: J. Jones
Water Quality Technician

Approved By: G. Levesque
Supervisor of Analytical Services Date 31-Jan-07

Distribution

E-mail

Kelly Kjartanson; Manager, Environmental Standards Divisic
Diane Sacher; Manager, Water Services Divisio
Peter Ward; Superintendent, Water Services Divisio
Andy Weremy, Regional Services Engineer, Water Services Divisic
Scott Davies; Manitoba Water Stewardship, Office of Drinking Water

FILE

WQR2

Printed From N:\WQ Data\Routine Water Quality\2007\Turbidity\[Turbidity2007.xls]JAN

CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION

MONTHLY TURBIDITY REPORT

February 2007

Location (Deacon Outlet)	Date	Sample Number	Turbidity (NTU)
Deacon Prechlorination Cell 3	2-Feb-07	160112	0.41
Deacon Prechlorination Cell 3	5-Feb-07	160145	0.40
Deacon Prechlorination Cell 3	7-Feb-07	160560	0.36
Deacon Prechlorination Cell 3	9-Feb-07	160570	0.39
Deacon Prechlorination Cell 3	12-Feb-07	160658	0.37
Deacon Prechlorination Cell 3	14-Feb-07	160720	0.38
Deacon Prechlorination Cell 3	16-Feb-07	160730	0.37
Deacon Prechlorination Cell 3	19-Feb-07	161055	0.41
Deacon Prechlorination Cell 3	21-Feb-07	161176	0.36
Deacon Prechlorination Cell 3	23-Feb-07	161186	0.34
Deacon Prechlorination Cell 3	26-Feb-07	161611	NS
Deacon Prechlorination Cell 3	28-Feb-07	161731	0.30

Deacon Outlet Monthly Statistics	Average	0.37
	Minimum	0.30
	Maximum	0.41

Comments: NS - No sample on February 26 because technician could not access sample location due to snow.

Prepared By: J. Jones
Water Quality Technician

Approved By: G. Levesque
Supervisor of Analytical Services 07-Mar-07
 Date

Distribution

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
Scott Davies; Manitoba Water Stewardship, Office of Drinking Water

FILE

WQR2
Printed From N:\WQ Data\Routine Water Quality\2007\Turbidity\Turbidity2007.xls\FEB

CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION

MONTHLY TURBIDITY REPORT

March 2007

Location (Deacon Outlet)	Date	Sample Number	Turbidity (NTU)
Deacon Prechlorination Cell 3	2-Mar-07	161741	0.33
Deacon Prechlorination Cell 3	5-Mar-07	162079	0.33
Deacon Prechlorination Cell 3	7-Mar-07	162475	0.32
Deacon Prechlorination Cell 3	9-Mar-07	162485	0.27
Deacon Prechlorination Cell 3	12-Mar-07	162598	0.26
Deacon Prechlorination Cell 3	14-Mar-07	162648	0.27
Deacon Prechlorination Cell 1	16-Mar-07	162657	1.58
Deacon Prechlorination Cell 1	19-Mar-07	163009	0.91
Deacon Prechlorination Cell 1	21-Mar-07	163151	0.95
Deacon Prechlorination Cell 1	23-Mar-07	163161	0.89
Deacon Prechlorination Cell 1	26-Mar-07	163980	1.02
Deacon Prechlorination Cell 1	28-Mar-07	164010	0.71
Deacon Prechlorination Cell 1	30-Mar-07	164020	0.77

Deacon Outlet Monthly Statistics	Average	0.66
	Minimum	0.26
	Maximum	1.58

The above results were all obtained from grab samples.

Comments: Effective Wednesday, March 14, 2007 @ 1200 hours, Cell 1 was put online and Cell 3 was isolated, explaining the sudden increase in turbidity seen after this date.

Prepared By: J. Jones
Water Quality Technician

Approved By: G. Levesque 02-Apr-07
Supervisor of Analytical Services Date

Distribution

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
 Scott Davies; Manitoba Water Stewardship, Office of Drinking Water

FILE

WQR2

Printed From N:\WQ Data\Routine Water Quality\2007\Turbidity\Turbidity2007.xls\MAR

CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION

MONTHLY TURBIDITY REPORT

April 2007

Location (Deacon Outlet)	Date	Sample Number	Turbidity (NTU)
Deacon Prechlorination Cell 1	2-Apr-07	164046	0.60
Deacon Prechlorination Cell 1	5-Apr-07	164463	0.51
Deacon Prechlorination Cell 1	10-Apr-07	164551	0.43
Deacon Prechlorination Cell 1	13-Apr-07	164946	0.40
Deacon Prechlorination Cell 1	16-Apr-07	164991	0.39
Deacon Prechlorination Cell 1	18-Apr-07	165278	0.44
Deacon Prechlorination Cell 1	20-Apr-07	165302	0.51
Deacon Prechlorination Cell 1	23-Apr-07	165512	0.53
Deacon Prechlorination Cell 1	25-Apr-07	165957	0.60
Deacon Prechlorination Cell 1	27-Apr-07	165967	0.66
Deacon Prechlorination Cell 1	30-Apr-07	165986	0.76

Deacon Outlet Monthly Statistics	Average	0.53
	Minimum	0.39
	Maximum	0.76

The above results were all obtained from grab samples.

Comments:

Prepared By: J. Jones
Water Quality Technician

Approved By: Kelly Kjartanson 10-May-07
Manager of Environmental Standards Date

Distribution

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

Printed From N:\WQ Data\Routine Water Quality\2007\Turbidity\[Turbidity2007.xls]APR

CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION

MONTHLY TURBIDITY REPORT

May 2007

Location (Deacon Outlet)	Date	Sample Number	Turbidity (NTU)
Deacon Prechlorination Cell 1	2-May-07	166183	0.80
Deacon Prechlorination Cell 1	4-May-07	166193	0.86
Deacon Prechlorination Cell 1	7-May-07	166578	0.89
Deacon Prechlorination Cell 1	9-May-07	166671	0.83
Deacon Prechlorination Cell 1	11-May-07	166681	0.85
Deacon Prechlorination Cell 1	14-May-07	167055	0.85
Deacon Prechlorination Cell 1	16-May-07	167533	0.82
Deacon Prechlorination Cell 1	18-May-07	167543	0.90
Deacon Prechlorination Cell 1	22-May-07	167646	0.87
Deacon Prechlorination Cell 1	25-May-07	168100	0.79
Deacon Prechlorination Cell 1	28-May-07	168225	0.72
Deacon Prechlorination Cell 1	30-May-07	168847	0.76

Deacon Outlet Monthly Statistics	Average	0.83
	Minimum	0.72
	Maximum	0.90

Comments: The above results were all obtained from grab samples.

Prepared By: J. Jones
Water Quality Technician

Approved By: K. Kjartanson 5-Jul-07
Manager of Environmental Standards Date

Distribution

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

N:\WQ Data\Routine Water Quality\2007\Turbidity\[Turbidity2007.xls]MAY

CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION

MONTHLY TURBIDITY REPORT

June 2007

Location (Deacon Outlet)	Date	Sample Number	Turbidity (NTU)
Deacon Prechlorination Cell 1	1-Jun-07	168857	0.68
Deacon Prechlorination Cell 1	4-Jun-07	168988	0.58
Deacon Prechlorination Cell 1	6-Jun-07	169599	0.55
Deacon Prechlorination Cell 1	8-Jun-07	169630	0.55
Deacon Prechlorination Cell 1	11-Jun-07	169756	0.57
Deacon Prechlorination Cell 1	13-Jun-07	170216	0.51
Deacon Prechlorination Cell 1	15-Jun-07	170226	0.48
Deacon Prechlorination Cell 1	18-Jun-07	170363	0.47
Deacon Prechlorination Cell 1	20-Jun-07	170540	0.59
Deacon Prechlorination Cell 1	22-Jun-07	170550	0.55
Deacon Prechlorination Cell 1	25-Jun-07	170973	0.68
Deacon Prechlorination Cell 1	27-Jun-07	171762	0.70
Deacon Prechlorination Cell 1	29-Jun-07	171772	0.76

Deacon Outlet Monthly Statistics	Average	0.59
	Minimum	0.47
	Maximum	0.76

Comments: The above results were all obtained from grab samples.

Prepared By: J. Jones
Water Quality Technician

Approved By: K. Kjartanson 26-Jul-07
Manager of Environmental Standards Date

Distribution

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

Printed From N:\WQ Data\Routine Water Quality\2007\Turbidity\[Turbidity2007.xls]JUN

CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION

MONTHLY TURBIDITY REPORT

JULY 2007

Location (Deacon Outlet)	Date	Sample Number	Turbidity (NTU)
Deacon Prechlorination Cell 1	3-Jul-07	171829	0.63
Deacon Prechlorination Cell 1	6-Jul-07	172100	0.61
Deacon Prechlorination Cell 1	9-Jul-07	172181	0.84
Deacon Prechlorination Cell 1	11-Jul-07	172375	NR
Deacon Prechlorination Cell 1	13-Jul-07	172385	0.95
Deacon Prechlorination Cell 1	16-Jul-07	172799	0.83
Deacon Prechlorination Cell 1	18-Jul-07	173375	0.76
Deacon Prechlorination Cell 3	20-Jul-07	173386	1.05
Deacon Prechlorination Cell 3	23-Jul-07	173505	1.12
Deacon Prechlorination Cell 3	25-Jul-07	174069	0.94
Deacon Prechlorination Cell 3	27-Jul-07	174079	1.04
Deacon Prechlorination Cell 3	30-Jul-07	174188	0.97

Deacon Outlet Monthly Statistics	Average	0.89
	Minimum	0.61
	Maximum	1.12

Comments:

The above results were all obtained from grab samples.

There is no result for July 11, 2007 due to a lab error.

Effective July 18, 2007, Cell 3 was put on line and Cell 1 was isolated.

Prepared By: J. Jones
Water Quality Technician

Approved By: G. Levesque 19-Sep-07
Supervisor of Analytical Services Date

Distribution

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

Printed From N:\WQ Data\Routine Water Quality\2007\Turbidity\[Turbidity2007.xls]JUL

CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION

MONTHLY TURBIDITY REPORT

August 2007

Location (Deacon Outlet)	Date	Turbidity (NTU)		
		Mean	Min	Max
Deacon Prechlorination	Cell 3 1-Aug-07	1.29	1.15	1.37
Deacon Prechlorination	Cell 3 2-Aug-07	1.40	1.28	1.55
Deacon Prechlorination	Cell 3 3-Aug-07	1.42	1.32	1.49
Deacon Prechlorination	Cell 3 4-Aug-07	1.61	1.44	1.86
Deacon Prechlorination	Cell 3 5-Aug-07	2.22	1.86	2.71
Deacon Prechlorination	Cell 3 6-Aug-07	NR	NR	NR
Deacon Prechlorination	Cell 3 7-Aug-07	2.07	1.58	2.71
Deacon Prechlorination	Cell 3 8-Aug-07	1.85	1.68	2.07
Deacon Prechlorination	Cell 3 9-Aug-07	1.99	1.77	2.24
Deacon Prechlorination	Cell 3 10-Aug-07	1.38	0.72	2.71
Deacon Prechlorination	Cell 3 11-Aug-07	1.18	1.08	1.28
Deacon Prechlorination	Cell 3 12-Aug-07	1.19	1.14	1.26
Deacon Prechlorination	Cell 3 13-Aug-07	1.14	0.84	2.03
Deacon Prechlorination	Cell 3 14-Aug-07	0.67	0.56	0.84
Deacon Prechlorination	Cell 3 15-Aug-07	1.77	0.52	2.71
Deacon Prechlorination	Cell 3 16-Aug-07	NR	NR	NR
Deacon Prechlorination	Cell 3 17-Aug-07	1.76	0.86	2.71
Deacon Prechlorination	Cell 3 18-Aug-07	1.00	0.95	1.04
Deacon Prechlorination	Cell 3 19-Aug-07	1.00	0.97	1.10
Deacon Prechlorination	Cell 3 20-Aug-07	0.97	0.95	1.00
Deacon Prechlorination	Cell 3 21-Aug-07	0.94	0.88	0.98
Deacon Prechlorination	Cell 3 22-Aug-07	0.97	0.67	2.62
Deacon Prechlorination	Cell 3 23-Aug-07	0.53	0.41	0.67
Deacon Prechlorination	Cell 3 24-Aug-07	0.69	0.35	0.89
Deacon Prechlorination	Cell 3 25-Aug-07	0.83	0.80	0.87
Deacon Prechlorination	Cell 3 26-Aug-07	0.85	0.77	0.97
Deacon Prechlorination	Cell 3 27-Aug-07	0.89	0.87	0.96
Deacon Prechlorination	Cell 3 28-Aug-07	0.92	0.87	0.97
Deacon Prechlorination	Cell 3 29-Aug-07	0.93	0.88	0.98
Deacon Prechlorination	Cell 3 30-Aug-07	0.93	0.86	1.01
Deacon Prechlorination	Cell 3 31-Aug-07	0.91	0.78	0.99

Monthly Average = 1.11

Minimum Daily Average = 0.35

Maximum Daily Average = 2.71

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

NR - No Results, communication problem with meter.

Prepared By: J.Jones/G.Levesque

Water Quality Technician

Approved By: S. Fletcher

25-Sep-07

Supervisor of Analytical Services

E-mail

Kelly Kjartanson; Manager, Environmental Standards Div.

Diane Sacher; Manager, Water Services Division

Peter Ward; Superintendent, Water Services Division

Andy Weremy, Regional Services Engineer, Water Services Div.

Scott Davies; Manitoba Water Stewardship, Office of Drinking Water

FILE

WQR2

CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION

MONTHLY TURBIDITY REPORT

September 2007

Location (Deacon Outlet)	Date	Turbidity (NTU)		
		Mean	Min	Max
Deacon Prechlorination	Cell 3 1-Sep-07	0.93	0.83	1.04
Deacon Prechlorination	Cell 3 2-Sep-07	1.01	0.97	1.06
Deacon Prechlorination	Cell 3 3-Sep-07	1.02	0.96	1.09
Deacon Prechlorination	Cell 3 4-Sep-07	0.97	0.63	2.36
Deacon Prechlorination	Cell 3 5-Sep-07	0.51	0.40	0.63
Deacon Prechlorination	Cell 3 6-Sep-07	0.35	0.31	0.40
Deacon Prechlorination	Cell 3 7-Sep-07	0.90	0.30	1.62
Deacon Prechlorination	Cell 3 8-Sep-07	1.38	1.34	1.43
Deacon Prechlorination	Cell 3 9-Sep-07	1.41	1.35	1.49
Deacon Prechlorination	Cell 3 10-Sep-07	1.46	1.37	1.57
Deacon Prechlorination	Cell 3 11-Sep-07	1.61	1.54	1.68
Deacon Prechlorination	Cell 3 12-Sep-07	2.07	1.45	2.57
Deacon Prechlorination	Cell 3 13-Sep-07	2.54	2.47	2.58
Deacon Prechlorination	Cell 3 14-Sep-07	2.02	1.63	2.47
Deacon Prechlorination	Cell 3 15-Sep-07	1.71	1.65	1.80
Deacon Prechlorination	Cell 3 16-Sep-07	1.83	1.78	1.91
Deacon Prechlorination	Cell 3 17-Sep-07	1.88	1.38	2.33
Deacon Prechlorination	Cell 3 18-Sep-07	1.73	1.53	1.94
		Sample Number	Turbidity	
Deacon Prechlorination	Cell 1 19-Sep-07	178592	2.75	
Deacon Prechlorination	Cell 1 21-Sep-07	178602	1.80	
Deacon Prechlorination	Cell 1 24-Sep-07	178652	1.13	
Deacon Prechlorination	Cell 1 26-Sep-07	179171	1.15	
Deacon Prechlorination	Cell 1 28-Sep-07	179181	1.14	

Monthly Average = 1.45

Deacon Outlet Statistics

Minimum Daily Average = 0.30

Maximum Daily Average = 2.75

Comments: The above results for Cell 3 are calculated from on-line, continuous flow turbidity meter. The above results for Cell 1 were all obtained from grab samples.
 Effective Tuesday, September 18, 2007 at 2100 hours, Cell 3 was taken off-line and Cell 1 was put on-line.

Prepared By: D. Shaluk/J.Jones

Water Quality Technician

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

October 2007

Location (Deacon Outlet)	Date	Sample Number	Turbidity (NTU)
Deacon Prechlorination Cell 1	1-Oct-07	179263	1.16
Deacon Prechlorination Cell 1	3-Oct-07	179716	1.22
Deacon Prechlorination Cell 1	5-Oct-07	179726	1.41
Deacon Prechlorination Cell 1	9-Oct-07	179824	1.30
Deacon Prechlorination Cell 1	12-Oct-07	180222	1.15
Deacon Prechlorination Cell 1	15-Oct-07	180302	1.23
Deacon Prechlorination Cell 1	17-Oct-07	180680	1.22
Deacon Prechlorination Cell 1	19-Oct-07	180690	1.30
Deacon Prechlorination Cell 1	22-Oct-07	180805	1.25
Deacon Prechlorination Cell 1	24-Oct-07	180925	1.13
Deacon Prechlorination Cell 1	26-Oct-07	180935	1.40
Deacon Prechlorination Cell 1	29-Oct-07	181329	1.12
Deacon Prechlorination Cell 1	31-Oct-07	181786	1.05

	Average	1.23
	Minimum	1.05
	Maximum	1.41
Deacon Outlet Monthly Statistics		

Comments: The above results were all obtained from grab samples.

Prepared By: D. Shaluk
Water Quality Technician

Approved By: S. Fletcher 9-Nov-07
Supervisor of Analytical Services *Date*

Distribution

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

- WQR2

CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION

MONTHLY TURBIDITY REPORT

November 2007

Location (Deacon Outlet)	Date	Sample Number	Turbidity (NTU)
Deacon Prechlorination Cell 1	2-Nov-07	181796	1.29
Deacon Prechlorination Cell 1	5-Nov-07	181845	1.64
Deacon Prechlorination Cell 1	7-Nov-07	181985	0.78
Deacon Prechlorination Cell 1	9-Nov-07	181995	0.92
Deacon Prechlorination Cell 1	13-Nov-07	182367	0.98
Deacon Prechlorination Cell 1	16-Nov-07	182776	0.74
Deacon Prechlorination Cell 1	19-Nov-07	182860	1.04
Deacon Prechlorination Cell 1	21-Nov-07	182973	0.72
Deacon Prechlorination Cell 1	23-Nov-07	182983	0.74
Deacon Prechlorination Cell 1	26-Nov-07	183369	0.66
Deacon Prechlorination Cell 1	28-Nov-07	183471	0.75
Deacon Prechlorination Cell 3	30-Nov-07	183482	NS

Deacon Outlet Monthly Statistics	Average	0.93
	Minimum	0.66
	Maximum	1.64

Comments: The above results were all obtained from grab samples.

NS- No Sample collected on Nov. 30th, pump frozen.

Prepared By: D. Shaluk
Water Quality Technician

Approved By: S. Fletcher 04-Dec-07
Supervisor of Analytical Services Date

Distribution

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

Printed From N:\WQ Data\Routine Water Quality\2007\Turbidity\[Turbidity2007.xls]NOV

CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION

MONTHLY TURBIDITY REPORT

December 2007

Location (Deacon Outlet)	Date	Sample Number	Turbidity (NTU)
Deacon Prechlorination Cell 3	03-Dec-07	183877	1.31
Deacon Prechlorination Cell 3	05-Dec-07	184207	1.16
Deacon Prechlorination Cell 3	07-Dec-07	184217	1.05
Deacon Prechlorination Cell 3	10-Dec-07	184291	0.91
Deacon Prechlorination Cell 3	17-Dec-07	184802	0.95
Deacon Prechlorination Cell 3	31-Dec-07	185610	0.46

Deacon Outlet Monthly Statistics	Average	0.97
	Minimum	0.46
	Maximum	1.31

Comments: The above results were all obtained from grab samples.

There were no results obtained from the continuous flow turbidity meter due to a suspected instrument malfunction.

Effective Thursday, November 29, 2007 at 0930 hours, Cell 1 was taken off-line and Cell 3 was put on-line.

Prepared By: R. Grosselle
Supervisor of Compliance Reporting

Approved By: S. Fletcher *Supervisor of Analytical Services (Acting)* *January 16, 2008*
Date

Distribution

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

Printed From N:\WQ Data\Routine Water Quality\2007\Turbidity\[Turbidity2007.xls]DEC



Water and Waste Department • Service des eaux et des déchets

February 14, 2007

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.

LOCATION	DATE	RESULT (mg/L F)
Distribution System (Composite – 19 Locations)	January 4, 2007	0.89
	January 11, 2007	0.86
	January 17, 2007	0.85
	January 24, 2007	0.85
	January 30, 2007	0.88

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

Yours truly,

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

FRD/pr

N:\Clerks\patsy's computer\OFFICE\word\ahp\Mellon-Jan.doc

Embrace the Spirit • Vivez l'esprit



Water and Waste Department • Service des eaux et des déchets

March 7, 2007

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)	160156	Feb. 7/07	0.85
	160596	Feb. 14/07	0.84
	161066	Feb. 22/07	0.81
	161549	Feb. 27/07	0.61

The fluoride result for February 27, 2007 is low because fluoride is not being fed into Branch II at Deacon due to construction issues.

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

Yours truly,

A handwritten signature in black ink, appearing to read "K.J.T. Kjartanson, P.Eng."

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

GML/pr

c: Diane Sacher, Manager of Water Services

N:\Clerks\patsy's computer\OFFICE\word\gml\Mellon-Mar.doc

Embrace the spirit • Vivez l'esprit



Water and Waste Department • Service des eaux et des déchets

April 4, 2007

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.

LOCATION	SAMPLE NUMBER	DATE	RESULT (mg/L F)
Distribution System (Composite – 19 Locations)	162090	Mar. 8/07	0.48
	162536	Mar. 14/07	0.77
	163021	Mar. 22/07	0.82
	163919	Mar. 28/07	0.84

The results for March 8 and 14, 2007 were low because fluoride was not being fed into Branch II at Deacon due to construction issues.

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

Yours truly,

A handwritten signature in black ink, appearing to read "K.J.T. Kjartanson, P.Eng."

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

GML/pr

c: Diane Sacher, Manager of Water Services

N:\Clerks\patsy's computer\OFFICE\word\gml\Mellon-Apr.doc

Embrace the spirit • Vivez l'esprit



Water and Waste Department • Service des eaux et des déchets

May 10, 2007

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.

LOCATION	SAMPLE NUMBER	DATE	RESULT(mg/L F)
Distribution System (Composite – 19 Locations)	164058	Apr. 5/07	0.87
	164490	Apr. 11/07	0.88
	165003	Apr. 18/07	0.87
	165451	Apr. 24/07	0.86

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

Yours truly,

A handwritten signature in black ink, appearing to read "K.J.T. Kjartanson". A horizontal line is drawn through the signature.

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

GML/pr

c: Diane Sacher, Manager of Water Services

N:\Clerks\patsy's computer\OFFICE\word\gml\Mellon-May.doc

Embrace the Spirit • Vivez l'esprit

Mailing Address/Adresse Postale: 2230 Main Street • 2230, Rue Main • Winnipeg • Manitoba R2V 4T8



Water and Waste Department • Service des eaux et des déchets

June 15, 2007

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.

LOCATION	SAMPLE NUMBER	DATE	RESULT(mg/L F)
Distribution System (Composite – 19 Locations)	166000	May 2, 2007	0.87
	166511	May 10, 2007	0.88
	167067	May 16, 2007	0.90
	167658	May 22, 2007	0.85
	168237	May 31, 2007	0.90

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

Yours truly,

A handwritten signature in black ink, appearing to read "K.J.T. Kjartanson, P.Eng." followed by a horizontal line.

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

GML/pr

c: Diane Sacher, Manager of Water Services

Embrace the Spirit • Vivez l'esprit



Water and Waste Department • Service des eaux et des déchets

July 23, 2007

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.

LOCATION	SAMPLE NUMBER	DATE	RESULT(mg/L F)
Distribution System (Composite – 19 Locations)	169000	June 7/07	0.90
	169768	June 13/07	0.96
	170375	June 21/07	0.85
	170985	June 27/07	0.85

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

Yours truly,

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

GML/pr

c: Diane Sacher, Manager of Water Services

N:\Clerks\palsy's computer\OFFICE\word\gml\Mellan-July.doc

Embrace the spirit • Vivez l'esprit

Mailing Address/Adresse Postale: 2230 Main Street • 2230, Rue Main • Winnipeg • Manitoba R2V 4T8



Water and Waste Department • Service des eaux et des déchets

August 31, 2007

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.

LOCATION	SAMPLE NUMBER	DATE	RESULT(mg/L F)
Distribution System (Composite – 19 Locations)	171841	July 5, 2007	0.84
	172194	July 12, 2007	0.85
	172811	July 19, 2007	0.88
	173516	July 26, 2007	0.92

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

Yours truly,

A handwritten signature in black ink, appearing to read "K.J.T. Kjartanson, P.Eng."

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

GML/pr

c: Diane Sacher, Manager of Water Services

N:\Clerks\patsy's computer\OFFICE\word\gm\Mellan-Aug.doc

Embrace the Spirit • Vivez l'esprit

Mailing Address/Adresse Postale: 2230 Main Street • 2230, Rue Main • Winnipeg • Manitoba R2V 4T8



Water and Waste Department • Service des eaux et des déchets

September 19, 2007

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.

LOCATION	SAMPLE NUMBER	DATE	RESULT(mg/L F)
Distribution System (Composite – 19 Locations)	174199	Aug. 2/07	0.86
	175050	Aug. 9/07	0.90
	175419	Aug. 16/07	0.82
	175997	Aug. 22/07	0.94
	176891	Aug. 29/07	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,

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

GML/pr

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

N:\Clerks\patsy's computer\OFFICE\word\gml\Mellon-Sept.doc

Embrace the Spirit • Vivez l'esprit

Mailing Address/Adresse Postale: 2230 Main Street • 2230, Rue Main • Winnipeg • Manitoba R2V 4T8



Water and Waste Department • Service des eaux et des déchets

October 22, 2007

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.

LOCATION	SAMPLE NUMBER	DATE	RESULT(mg/L F)
Distribution System (Composite – 19 Locations)	177122	Sept. 6/07	0.83
	177680	Sept. 13/07	0.86
	178199	Sept. 20/07	0.90
	178666	Sept. 26/07	0.83

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

Yours truly,

A handwritten signature in black ink, appearing to read "K.J.T. Kjartanson".

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

GML/pr

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

N:\Clerks\patsy's computer\OFFICE\word\gml\Mellon-Oct.doc

Embrace the Spirit • Vivez l'esprit

Mailing Address/Adresse Postale: 2230 Main Street • 2230, Rue Main • Winnipeg • Manitoba R2V 4T8



Water and Waste Department • Service des eaux et des déchets

November 9, 2007

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.

LOCATION	SAMPLE NUMBER	DATE	RESULT(mg/L F)
Distribution System (Composite – 19 Locations)	179275	Oct. 3/07	0.82
	179836	Oct. 9/07	0.84
	180314	Oct. 17/07	0.84
	180817	Oct. 23/07	0.84
	181402	Oct. 30/07	0.83

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

Yours truly,

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

GML/pr

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

N:\Clerks\patsy's computer\OFFICE\word\gml\Mellon-Nov.doc

Embrace the spirit • Vivez l'esprit

Mailing Address/Adresse Postale: 2230 Main Street • 2230, Rue Main • Winnipeg • Manitoba R2V 4T8



Water and Waste Department • Service des eaux et des déchets

December 18, 2007

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.

LOCATION	SAMPLE NUMBER	DATE	RESULT(mg/L F)
Distribution System (Composite – 19 Locations)	181857	Nov. 6/07	0.83
	182379	Nov. 13/07	0.94
	182872	Nov. 20/07	0.84
	183381	Nov. 26/07	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,

A handwritten signature in black ink, appearing to read "K.J.T. Kjartanson, P.Eng."

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

GML/pr

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

N:\Clerks\patsy's computer\OFFICE\word\gml\Mellon-Dec.doc

Embrace the Spirit • Vivez l'esprit

Mailing Address/Adresse Postale: 2230 Main Street • 2230, Rue Main • Winnipeg • Manitoba R2V 4TR



Water and Waste Department • Service des eaux et des déchets

January 15, 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.

LOCATION	SAMPLE NUMBER	DATE	RESULT(mg/L F)
Distribution System (Composite – 19 Locations)	183809	Dec. 4/07	0.85
	184302	Dec. 10/07	0.87
	184813	Dec. 18/07	0.87
	185519	Dec. 27/07	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,

A handwritten signature in black ink, appearing to read "K.J.T. Kjartanson, P.Eng."

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

GML/pr

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

N:\Clerks\patsy's computer\OFFICE\word\gml\Mellon-Jan.doc

Embrace the Spirit • Vivez l'esprit

Mailing Address/Adresse Postale: 2230 Main Street • 2230, Rue Main • Winnipeg • Manitoba R2V 4T8



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.

LOCATION	SAMPLE NUMBER	DATE	RESULT(mg/L F)
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,

A handwritten signature in black ink, appearing to read "K.J.T. Kartanson".

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

SF/pr

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

N:\Clerks\patsy's computer\OFFICE\word\gml\Mellon-Feb.doc

Embrace the spirit • Vivez l'esprit

CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION
Water Supply and Distribution System

2007 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	18	2.4	<0.5	0.8	<0.5	<2	<2	<2	<2	11	5
AQUEDUCT @ DEACON	77	169	105	6.0	16.0	10.9	45	135	91	5	50	24
DEACON OUTLET **	17	104	53	1.0	12.3	5.7	33	120	57	2	24	14
BRANCH 1 @ McPHILLIPS	32	113	73	3.0	14.4	9.0	38	145	78	5	52	24
BRANCH 2 @ HURST	32	114	74	4.0	14.1	9.2	38	137	79	5	54	24
MACLEAN STATION OUTLET	42	119	88	5.0	15.0	10.8	49	138	83	6	62	27
HURST STATION OUTLET	40	127	88	4.0	16.3	11.1	50	146	85	5	52	25
MCPHILLIPS STATION OUTLET	45	135	92	5.0	17.2	11.4	51	142	82	4	54	24
	42	129	94	5.0	16.8	11.7	47	130	75	4	59	26
	50	134	97	6.0	17.0	11.9	53	130	83	5	56	25
	48	133	95	5.0	17.0	11.6	51	130	77	5	49	23
	52	141	102	6.0	17.9	12.3	36	120	65	6	40	20
	46	139	99	6.0	17.6	12.1	50	130	78	6	60	26
	49	142	100	5.0	17.9	11.9	50	110	71	6	53	24
YEARLY DISTRIBUTION SYSTEM	42	142	98	5.0	17.9	11.9	36	130	75	4	60	24

COMMENTS:

NS - NO SAMPLE

NR - NO RESULTS

Methodology

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

Haloacetic Acids analyzed by GC-ECD according to EPA 552.3

Aldehydes analyzed by GC-ECD according to EPA 556

* Distribution System Sampling Locations

** Deacon Outlet Cell 1 (Apr, May, Jun, Jul, Sep, Oct, & Nov) Cell 3 (Jan, Feb, Mar, Aug & Dec)

CITY OF WINNIPEG
ENVIRONMENTAL STANDARDS DIVISION

Water Supply and Distribution System

2007 Deacon Outlet - Metals Summary Report

Sample Location	Date Sampled	Total Extractable Metals																	
		Aluminum Al	Arsenic As	Boron B	Calcium Ca	Cadmium Cd	Chromium Cr	Copper Cu	Iron Fe	Mercury Hg	Potassium K	Magnesium Mg	Manganese Mn	Sodium Na	Nickel Ni	Lead Pb	Zinc Zn		
Aqueduct Branch 1 @ McPhillips	18-Jan-07	0.002	0.001	0.011	24.2	<0.001	<0.001	<0.001	0.04	0.0011	1.43	6.70	<0.01	2.2	<0.001	<0.001	0.005		
Aqueduct Branch 1 @ McPhillips	12-Apr-07	0.002	<0.001	0.012	24.1	<0.001	<0.001	<0.001	0.06	<0.0005	1.43	7.16	<0.01	2.3	<0.001	<0.001	<0.001		
Aqueduct Branch 1 @ McPhillips	24-Jul-07	0.006	0.001	0.001	23.2	<0.001	<0.001	0.001	0.03	0.0009	1.30	6.49	0.03	2.4	0.001	<0.001	0.002		
Aqueduct Branch 1 @ McPhillips	16-Oct-07	0.009	0.001	0.001	21.4	<0.001	<0.001	0.001	0.04	<0.0005	1.21	5.97	0.01	2.0	0.001	<0.001	<0.001		
Aqueduct Branch 2 @ Hurst	18-Jan-07	0.006	0.001	0.011	23.6	<0.001	<0.001	0.004	0.04	0.0005	1.38	6.91	<0.01	2.1	0.001	<0.001	0.021		
Aqueduct Branch 2 @ Hurst	12-Apr-07	0.003	0.001	0.012	23.8	<0.001	<0.001	0.004	0.06	<0.0005	1.37	7.02	0.01	2.2	0.001	<0.001	0.013		
Aqueduct Branch 2 @ Hurst	24-Jul-07	0.006	0.001	0.001	23.5	<0.001	<0.001	0.005	0.03	0.0006	1.28	6.35	0.03	2.2	0.001	<0.001	0.011		
Aqueduct Branch 2 @ Hurst	16-Oct-07	0.009	0.001	0.001	21.0	<0.001	<0.001	0.006	0.04	<0.0005	1.24	5.81	0.01	2.0	0.001	<0.001	0.022		
Statistics	Mean	0.005	0.001	0.006	23.1	<0.001	<0.001	0.003	0.04	0.0005	1.33	6.55	0.01	2.2	0.001	<0.001	0.009		
	Minimum	0.002	<0.001	0.001	21.0	<0.001	<0.001	<0.001	0.03	<0.0005	1.21	5.81	<0.01	2.0	<0.001	<0.001	<0.001		
	Maximum	0.009	0.001	0.012	24.2	<0.001	<0.001	0.006	0.06	0.0011	1.43	7.16	0.03	2.4	0.001	<0.001	0.022		

Comments:

NA - Not Analyzed

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.

File Location: N:\WQ Data\Disinfection By-Products\2007\[\DBPsummary2007.xls]Deacon Outlet Metals 2007