

**City of Winnipeg**  
**Water and Waste Department**  
**North End Water Pollution Control Centre Monitoring Data**  
**April 2009**

Date	Raw Sewage	Final Effluent 24 Hour Composite										Final Effluent Grab Sample			
	Daily Flow	TSS	BOD5	cBOD5	Ammonia		Ortho Phosphorus	Total Phosphorus		Total Nitrogen		Temp.	pH	Fecal Coliform	E.Coli
	ML**	(mg/L)	(mg/L)	(mg/L)	(mg/L-N)	(kg NH3-N/day)	(mg/L-P)	(mg/L-P)	(mg/L-P)*	(mg/L-N)	(mg/L-N)*	(°C)	(units)	MPN/100 mL	
1-Apr-09	276.9	31	23	13	15	4,209	2.20	3.1	3.6	26	25	11	6.94	490	330
2-Apr-09	276.9	26	19	12	13	3,517	1.80	2.6	3.5	22	25	10	6.92	8	2
3-Apr-09	284.0	28	22	10	13	3,692	1.74	2.9	3.5	21	25	10	6.89	17	8
4-Apr-09	298.2	34	28	17	12	3,459	1.65	2.6	3.4	21	25	9	6.94	22	14
5-Apr-09	247.8	26	22	12	12	3,048	1.72	2.7	3.3	21	24	9	6.98	49	49
6-Apr-09	309.5	42	nr	nr	11	3,528	2.49	2.9	3.3	19	24	11	6.96	17	4
7-Apr-09	352.1	36	34	22	10	3,422	2.25	2.6	3.2	19	23	10	7.08	230	230
8-Apr-09	<b>430.2</b>	55	31	16	8	3,270	1.98	2.3	3.1	16	23	9	7.24	(490)	(220)
9-Apr-09	<b>456.8</b>	45	22	nr	8	3,636	1.38	2.1	3.1	13	22	7	7.10	(130)	(27)
10-Apr-09	<b>392.9</b>	35	29	17	8	3,194	1.57	2.1	3.0	18	22	8	6.91	(79)	(79)
11-Apr-09	<b>426.8</b>	52	31	18	6	2,655	1.24	1.9	2.9	13	21	9	7.04	(14)	(14)
12-Apr-09	<b>509.6</b>	76	53	28	5	2,507	1.13	1.9	2.8	12	20	8	7.03	(nr)	(nr)
13-Apr-09	<b>692.2</b>	66	43	32	4	3,101	1.06	1.7	2.7	11	20	7	7.48	(230000)	(230000)
14-Apr-09	<b>542.8</b>	36	39	19	6	3,506	1.11	1.9	2.6	16	19	7	7.34	(>160000)	(>160000)
15-Apr-09	<b>445.8</b>	22	28	20	8	3,344	1.13	1.9	2.6	15	19	10	7.35	(1400)	(1400)
16-Apr-09	375.3	33	31	19	9	3,472	1.32	2.1	2.6	17	19	10	7.30	(>220)	(>110)
17-Apr-09	326.7	39	nr	nr	10	3,146	1.27	2.2	2.6	18	19	10	7.26	(>160000)	(>160000)
18-Apr-09	283.8	39	24	12	11	2,980	1.40	2.6	2.5	20	19	ns	ns	ns	ns
19-Apr-09	275.6	43	24	12	11	3,142	1.59	2.6	2.5	20	18	10	7.00	110	110
20-Apr-09	273.1	41	23	12	11	2,977	1.59	3.1	2.5	22	18	10	7.12	7,900	4,900
21-Apr-09	261.4	38	31	15	13	3,268	1.86	2.8	2.5	21	19	12	6.98	2,800	2,800
22-Apr-09	223.9	41	28	13	13	2,978	1.99	3.3	2.6	23	19	11	6.98	17	17
23-Apr-09	224.0	39	34	13	14	3,203	2.42	3.3	2.6	23	19	12	6.97	33	33
24-Apr-09	233.1	31	32	13	15	3,473	2.38	3.4	2.6	24	19	12	7.00	94	94
25-Apr-09	215.0	32	30	13	14	2,946	2.46	3.1	2.7	nr	19	12	7.00	11	11
26-Apr-09	218.6	33	35	13	15	3,170	2.30	3.2	2.7	23	20	12	6.96	33	17
27-Apr-09	215.8	34	52	14	14	2,913	2.12	3.3	2.7	23	20	13	6.92	79	11
28-Apr-09	213.9	35	56	13	19	3,979	2.59	3.7	2.7	30	20	12	6.96	33	33
29-Apr-09	215.5	58	62	24	22	4,655	2.69	4.4	2.7	30	20	12	6.92	230	49
30-Apr-09	359.1	66	41	17	12	4,381	1.73	2.9	2.7	19	20	13	7.03	490	490
<b>Min:</b>	214														
<b>Average:</b>	<b>329</b>	<b>40</b>	<b>33</b>	<b>16</b>	<b>11</b>	<b>3,359</b>	<b>1.81</b>	<b>2.7</b>		<b>20</b>		<b>10.1</b>	<b>7.06</b>		
<b>Geo.Mean:</b>														<b>84</b>	<b>52</b>

**Notes:**

- (1) Effluent ammonia load based upon Raw Sewage flows and Final NH3-N concentrations
- (2) nr - not recorded or no result; na - not analyzed; ns - no sample
- (3) Where value is expressed as less than (<), the value is halved and used in the calculations.
- (4) \* = 30 day rolling average

- (5)\*\* Flow, highlighted in bold, in excess of 380 ML/D per clause 26 of Licence 2684RR.
- (6) Bracketed Coliform results not used in the Geometric Mean calculation.
- (7) Raw wastewater flows in excess of 400 ML/D will by-pass the secondary process and flows in excess of 675 ML/D will cause raw sewage to by-pass the plant.