

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

**December 2011**

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-Dec-11	148.7	13	36	10	27	3,956	4.02	4.4	4.3	35	35	16	6.86	15	15
2-Dec-11	155.8	13	37	8	28	4,317	4.02	4.5	4.3	38	35	16	6.79	43	<3
3-Dec-11	146.4	15	40	8	28	4,098	4.21	4.5	4.3	36	35	16	6.80	230	15
4-Dec-11	142.9	13	nr	nr	26	3,743	3.99	5.0	4.3	36	35	16	6.91	230	230
5-Dec-11	148.3	14	50	9	26	3,885	4.05	4.8	4.3	35	35	16	6.67	15	15
6-Dec-11	151.5	10	43	7	27	4,089	4.00	4.8	4.3	38	35	15	6.94	15	15
7-Dec-11	153.1	13	48	7	26	4,028	3.81	4.7	4.4	36	35	15	6.73	9	4
8-Dec-11	151.8	13	55	7	26	3,946	3.90	4.8	4.5	38	35	16	6.70	11	7
9-Dec-11	151.7	15	67	10	27	4,157	4.14	4.8	4.5	39	36	16	6.81	9	4
10-Dec-11	145.2	12	55	8	28	4,124	4.24	4.5	4.5	35	36	16	6.77	9,300	9,300
11-Dec-11	140.6	14	74	10	28	3,867	4.32	4.6	4.5	38	36	16	6.74	930	36
12-Dec-11	143.4	15	61	8	25	3,641	3.93	4.7	4.5	37	36	16	6.57	43	23
13-Dec-11	149.4	13	29	8	28	4,213	4.46	5.2	4.5	38	36	16	6.61	43	43
14-Dec-11	138.7	14	60	9	28	3,883	4.55	5.0	4.5	39	36	16	6.71	75	7
15-Dec-11	152.4	16	60	8	29	4,343	4.12	4.7	4.5	41	36	16	6.71	9,300	9,300
16-Dec-11	146.0	14	57	8	29	4,278	4.19	4.6	4.6	44	36	15	6.80	930	930
17-Dec-11	141.6	12	30	7	29	4,122	3.73	4.0	4.5	39	36	15	6.84	43	15
18-Dec-11	135.6	11	68	11	28	3,741	2.99	3.2	4.5	40	37	16	6.94	2300	2300
19-Dec-11	147.9	15	60	9	26	3,889	2.49	3.0	4.4	37	36	16	6.62	93	43
20-Dec-11	148.4	11	53	7	28	4,142	2.19	2.6	4.4	39	37	16	6.61	75	38
21-Dec-11	148.1	11	53	10	29	4,264	2.11	2.6	4.3	40	37	16	6.73	43	43
22-Dec-11	148.9	13	65	9	29	4,259	2.04	2.5	4.3	38	37	16	6.82	43	43
23-Dec-11	148.3	14	57	10	28	4,122	1.94	2.4	4.2	38	37	17	6.79	930	430
24-Dec-11	144.2	13	54	9	25	3,619	1.82	2.2	4.1	35	37	15	6.96	230	230
25-Dec-11	128.1	11	51	6	25	3,165	1.68	2.1	4.1	34	37	16	6.81	93	43
26-Dec-11	132.6	15	75	7	31	4,043	1.85	2.4	4.0	44	37	16	6.80	93	93
27-Dec-11	127.6	8	51	9	30	3,801	1.74	2.2	3.9	42	38	15	6.84	430	430
28-Dec-11	149.5	9	53	7	28	4,200	1.61	2.0	3.9	40	38	15	6.86	43	43
29-Dec-11	146.4	10	67	9	26	3,835	1.30	1.7	3.8	38	38	16	6.81	4300	2300
30-Dec-11	145.1	12	58	6	27	3,874	1.44	1.8	3.7	38	38	16	6.94	430	150
31-Dec-11	142.6	12	73	14	24	3,436	1.47	1.9	3.6	36	38	15	6.82	2,300	430
<b>Max:</b>	156														
<b>Min:</b>	128														
<b>Average:</b>	<b>145</b>	<b>13</b>	<b>55</b>	<b>9</b>	<b>27</b>	<b>3,970</b>	<b>3.11</b>	<b>3.6</b>		<b>38</b>		<b>15.6</b>	<b>6.78</b>	<b>146</b>	<b>72</b>
<b>Geo.Mean:</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 2684RRR.
- (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.
- (8) Total Nitrogen results are calculated from TKN and nitrate values.