

**City of Winnipeg  
Water and Waste Department  
North End Water Pollution Control Centre Monitoring Data  
July 2013**

Licence 2684 RRR	Raw Sewage	Final Effluent 24 Hour Composite							Final Effluent Grab Sample					
		Date	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)	(kg NH3-N/day)	(mg/L-P)	(mg/L-P)*	(mg/L-N)*	(°C)	(units)	MPN/100 mL	
1-Jul-13	155.5	13	nr	nr	2,800	2.91	3.2	26	18	6.95	20	7		
2-Jul-13	175.2	13	nr	nr	3,277	3.29	3.2	26	18	6.90	380	73		
3-Jul-13	171.5	13	nr	nr	3,515	3.59	3.3	26	18	6.84	23	9		
4-Jul-13	167.9	13	nr	nr	3,508	3.57	3.4	26	18	6.92	73	14		
5-Jul-13	167.5	12	nr	nr	3,634	3.44	3.4	27	19	6.82	93	43		
6-Jul-13	156.4	12	nr	nr	3,222	3.41	3.4	27	19	6.86	23	23		
7-Jul-13	154.5	14	nr	nr	3,168	3.05	3.5	27	18	6.91	64	11		
8-Jul-13	166.9	13	20	5	3,470	4.60	3.5	27	19	6.83	93	9		
9-Jul-13	169.6	16	21	8	3,781	3.89	3.6	27	19	6.86	230	15		
10-Jul-13	214.8	13	21	6	3,737	2.58	3.6	27	19	6.85	4,300	750		
11-Jul-13	156.5	16	nr	nr	3,708	3.46	3.6	27	19	6.88	43	9		
12-Jul-13	158.3	15	nr	nr	4,180	4.08	3.7	28	19	6.82	11	11		
13-Jul-13	140.0	17	nr	nr	3,277	4.11	3.7	28	19	6.88	2,300	930		
14-Jul-13	148.8	16	22	6	3,230	3.58	3.7	28	19	6.99	24,000	24,000		
15-Jul-13	147.0	15	nr	nr	3,220	3.73	3.7	28	19	6.78	430	430		
16-Jul-13	161.1	16	41	13	3,463	4.02	3.8	28	19	6.86	430	93		
17-Jul-13	148.3	23	nr	nr	3,323	4.16	3.8	28	19	6.79	230	230		
18-Jul-13	196.8	43	53	20	4,153	3.48	3.8	28	nr	6.81	93	93		
19-Jul-13	245.7	11	nr	nr	3,047	2.19	3.7	27	19	6.79	93	23		
20-Jul-13	143.4	<4	24	6	2,695	3.41	3.7	27	19	6.83	430	430		
21-Jul-13	214.1	73	58	27	3,425	2.27	3.7	27	19	6.98	43	9		
22-Jul-13	334.8	11	50	18	3,043	1.12	3.6	27	19	6.94	230	230		
23-Jul-13	177.6	12	39	12	2,877	2.42	3.6	27	19	6.85	230	230		
24-Jul-13	159.1	11	50	13	3,182	2.33	3.7	28	19	6.79	210	20		
25-Jul-13	308.5	37	50	18	3,917	1.64	3.6	28	19	6.89	(>110000)	(>110000)		
26-Jul-13	194.3	10	18	8	2,545	1.95	3.7	28	19	6.87	230	93		
27-Jul-13	152.4	13	20	8	2,530	2.98	3.7	28	19	6.92	43	23		
28-Jul-13	142.9	13	22	8	2,615	2.78	3.7	28	19	6.84	430	430		
29-Jul-13	148.3	23	45	22	2,906	2.74	3.8	29	19	6.97	93	7		
30-Jul-13	228.1	15	36	12	3,171	2.07	3.7	29	19	6.79	1,500	750		
31-Jul-13	155.7	16	36	13	2,693	2.18	3.7	29	19	6.88	150	75		
<b>Max:</b>	334.8													
<b>Min:</b>	140.0													
<b>Average:</b>	<b>179.4</b>	<b>17</b>	<b>35</b>	<b>12</b>	<b>3,268</b>	<b>3.07</b>			<b>19</b>	<b>6.87</b>				
<b>Total Flow:</b>	<b>5561.4</b>													
<b>Geo.Mean:</b>											<b>177</b>	<b>66</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