

**City of Winnipeg  
Water and Waste Department  
North End Water Pollution Control Centre Monitoring Data  
December 2016**

Licence 2684 RRR	File # 1071.10	Final Effluent 24 Hour Composite							Final Effluent Grab Sample					
		Date	Raw Sewage Daily Flow ML**	TSS	BOD5	cBOD5	Ammonia	Ortho Phosphorus	Total Phosphorus	Total Nitrogen	Temp.	pH	Fecal Coliform	E.Coli
				(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-Dec-16	194.8	9	15	5	2,629	1.97	4.1	30.0	14.5	6.88	23	9		
2-Dec-16	178.5	14	15	6	3,178	2.60	4.1	30.2	15.6	6.93	15	15		
3-Dec-16	170.8	14	14	6	3,280	2.59	4.1	30.1	15.9	6.72	43	43		
4-Dec-16	178.2	12	15	7	3,243	2.31	4.1	29.9	16.1	6.74	23	9		
5-Dec-16	169.8	9	8	4	2,819	1.92	4.0	29.7	15.6	6.83	15	4		
6-Dec-16	166.2	13	13	5	3,041	2.17	4.0	29.5	15.7	7.14	15	15		
7-Dec-16	161.2	10	13	5	2,821	1.91	3.9	29.3	15.5	6.82	9	4		
8-Dec-16	159.4	11	18	6	3,013	2.69	3.9	29.1	15.5	6.88	43	23		
9-Dec-16	162.9	11	13	5	3,324	3.19	3.9	28.9	15.5	6.83	<3	<3		
10-Dec-16	156.9	14	21	8	3,233	3.23	3.8	28.7	14.9	6.62	74	74		
11-Dec-16	160.2	12	15	8	3,427	3.53	3.8	28.6	15.4	6.68	74	74		
12-Dec-16	155.6	14	14	7	3,298	3.37	3.8	28.4	14.5	7.00	7	7		
13-Dec-16	153.6	14	15	7	3,578	3.56	3.8	28.4	15.1	6.89	74	74		
14-Dec-16	150.9	14	nr	nr	3,772	3.50	3.7	28.3	15.1	6.80	93	43		
15-Dec-16	145.7	16	nr	nr	3,672	3.57	3.7	28.4	15.1	6.61	9	9		
16-Dec-16	142.9	16	25	8	3,716	3.57	3.7	28.4	15.2	6.93	43	9		
17-Dec-16	148.3	23	14	10	4,375	1.90	3.7	28.4	14.9	6.86	240	240		
18-Dec-16	151.8	23	22	12	4,615	1.56	3.5	28.5	14.3	6.83	430	93		
19-Dec-16	134.2	19	15	9	3,920	1.71	3.5	28.5	14.2	7.17	2,400	2,400		
20-Dec-16	151.1	14	16	9	4,081	1.73	3.4	28.8	14.9	6.86	430	430		
21-Dec-16	150.2	20	24	11	4,279	1.92	3.3	29.0	15.3	6.93	38	38		
22-Dec-16	146.0	11	24	12	4,452	1.84	3.2	29.3	15.4	6.94	150	150		
23-Dec-16	152.6	17	21	11	4,625	1.88	3.2	29.6	15.4	6.72	150	20		
24-Dec-16	147.3	17	22	12	4,050	1.62	3.2	30.1	14.5	6.72	93	93		
25-Dec-16	133.3	16	23	12	3,638	1.54	3.1	30.1	15.9	6.85	43	43		
26-Dec-16	144.0	22	17	12	4,175	1.54	3.0	30.3	14.5	6.85	93	21		
27-Dec-16	146.9	17	20	10	4,583	1.40	3.0	30.5	15.0	7.02	93	43		
28-Dec-16	143.4	14	25	14	4,559	1.37	2.9	31.0	15.6	6.86	430	430		
29-Dec-16	139.4	18	24	12	4,281	1.54	2.9	31.8	14.5	6.77	93	93		
30-Dec-16	141.1	19	22	12	4,671	1.60	2.9	32.6	14.5	6.97	93	43		
31-Dec-16	137.6	14	26	12	4,115	1.44	2.9	33.3	15.1	7.06	930	930		
<b>Max:</b>	194.8													
<b>Min:</b>	133.3													
<b>Average:</b>	<b>154.0</b>	<b>15</b>	<b>18</b>	<b>9</b>	<b>3,757</b>	<b>2.27</b>			<b>15</b>	<b>6.86</b>				
<b>Total Flow:</b>	<b>4774.8</b>													
<b>Geo.Mean:</b>											<b>63</b>	<b>40</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