

**City of Winnipeg  
Water and Waste Department  
North End Water Pollution Control Centre Monitoring Data  
May, 2006**

| Date             | Raw Sewage   | Final Effluent<br>24 Hour Composite |           |          |           |                |                  |                  |           |                |           | Final Effluent<br>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)* | (oC)                          | (units)     | MPN/100 mL     |              |
| 1-May-06         | 306.9        | 24                                  | 22        | 9        | 14        | 4,297          | 1.79             | 2.3              | 2.1       | 28             | 25        | 14.0                          | 6.99        | 23,000         | 23,000       |
| 2-May-06         | 288.9        | 23                                  | 31        | 14       | 13        | 3,756          | 1.62             | 2.2              | 2.1       | 24             | 26        | 14.0                          | 6.99        | 4,300          | 9,300        |
| 3-May-06         | 350.4        | 13                                  | 18        | 7        | 13        | 4,555          | 1.26             | 1.6              | 2.1       | 23             | 26        | 14.0                          | 6.95        | 23,000         | 23,000       |
| 4-May-06         | 221.9        | 10                                  | 16        | 7        | 20        | 4,438          | 2.22             | 2.6              | 2.2       | 33             | 26        | 14.0                          | 7.19        | 2,300          | 9,300        |
| 5-May-06         | 215.9        | 11                                  | 26        | 6        | 22        | 4,750          | 2.47             | 2.7              | 2.2       | 37             | 27        | 14.0                          | 7.17        | 23,000         | 23,000       |
| 6-May-06         | 202.3        | 11                                  | 16        | 6        | 19        | 3,844          | 2.09             | 2.2              | 2.2       | 30             | 27        | 15.0                          | 7.22        | 4,300          | 4,300        |
| 7-May-06         | 239.8        | 15                                  | 19        | 8        | 17        | 4,077          | 2.22             | 2.6              | 2.2       | 29             | 28        | 16.0                          | 7.24        | 930            | 930          |
| 8-May-06         | 221.7        | 9                                   | 18        | 5        | 15        | 3,326          | 2.01             | 2.2              | 2.3       | 25             | 28        | 15.5                          | 7.19        | 4,300          | 9,300        |
| 9-May-06         | 238.6        | 11                                  | 19        | 6        | 17        | 4,056          | 2.13             | 2.5              | 2.3       | 31             | 28        | 15.5                          | 6.98        | 1,500          | 4,300        |
| 10-May-06        | 216.3        | 7                                   | 16        | 6        | 20        | 4,326          | 1.97             | 2.3              | 2.3       | 33             | 29        | 15.0                          | 6.94        | 4,300          | 4,300        |
| 11-May-06        | 202.5        | 6                                   | 16        | 6        | 24        | 4,860          | 2.79             | 2.9              | 2.3       | 37             | 29        | 15.0                          | 7.03        | 1,500          | 1,500        |
| 12-May-06        | 198.0        | 8                                   | 17        | 4        | 24        | 4,752          | 2.93             | 2.8              | 2.4       | 38             | 30        | 15.0                          | 7.04        | 430            | 2,300        |
| 13-May-06        | 199.2        | 8                                   | 18        | 4        | 23        | 4,582          | 2.65             | 2.9              | 2.4       | 38             | 30        | 16.0                          | 7.00        | 930            | 930          |
| 14-May-06        | 184.9        | 7                                   | 19        | 5        | 25        | 4,623          | 3.01             | 2.9              | 2.5       | 35             | 31        | 15.0                          | 7.10        | 930            | 930          |
| 15-May-06        | 189.9        | 7                                   | 28        | 5        | 22        | 4,178          | 3.25             | 3.0              | 2.5       | 32             | 31        | 15.0                          | 7.16        | 430            | 930          |
| 16-May-06        | 193.5        | 4                                   | 24        | 5        | 22        | 4,257          | 3.17             | 3.4              | 2.6       | 36             | 32        | 15.5                          | 7.03        | 430            | 2,300        |
| 17-May-06        | 193.9        | 5                                   | 17        | 4        | 25        | 4,848          | 3.04             | 3.1              | 2.6       | 35             | 32        | 16.0                          | 7.30        | 430            | 430          |
| 18-May-06        | 204.9        | 5                                   | 23        | 6        | 26        | 5,327          | 3.15             | 3.0              | 2.6       | 37             | 32        | 15.5                          | 7.25        | 930            | 2,300        |
| 19-May-06        | 189.7        | 11                                  | 22        | 5        | 24        | 4,553          | 2.58             | 2.6              | 2.6       | 34             | 32        | 16.0                          | 7.23        | 930            | 2,300        |
| 20-May-06        | 244.6        | 6                                   | 18        | 4        | 16        | 3,914          | 1.64             | 1.8              | 2.6       | 26             | 32        | 16.0                          | 6.95        | 2,300          | 2,300        |
| 21-May-06        | 178.5        | 5                                   | 24        | 4        | 22        | 3,927          | 2.00             | 1.9              | 2.6       | 29             | 32        | 15.0                          | 7.14        | 1,500          | 4,300        |
| 22-May-06        | 189.0        | 5                                   | 28        | 4        | 24        | 4,536          | 3.27             | 3.6              | 2.7       | 35             | 32        | 16.0                          | 7.06        | 750            | 750          |
| 23-May-06        | 200.3        | 5                                   | 21        | 5        | 24        | 4,807          | 3.52             | 3.8              | 2.7       | 34             | 33        | 16.0                          | 7.10        | 23,000         | 23,000       |
| 24-May-06        | 199.1        | 6                                   | 20        | 5        | 25        | 4,978          | 3.56             | 3.9              | 2.8       | 38             | 33        | 17.0                          | 6.85        | 43,000         | 43,000       |
| 25-May-06        | 198.2        | ns                                  | ns        | ns       | ns        | ns             | ns               | ns               | 2.8       | ns             | 33        | 15.0                          | 6.85        | 15,000         | 15,000       |
| 26-May-06        | 192.2        | ns                                  | ns        | ns       | ns        | ns             | ns               | ns               | 2.8       | ns             | 33        | 17.0                          | 6.88        | 43,000         | 93,000       |
| 27-May-06        | 286.1        | ns                                  | ns        | ns       | ns        | ns             | ns               | ns               | 2.8       | ns             | 33        | 16.5                          | 6.78        | 93,000         | 150,000      |
| 28-May-06        | 242.6        | ns                                  | ns        | ns       | ns        | ns             | ns               | ns               | 2.8       | ns             | 33        | 16.5                          | 6.79        | 150,000        | 430,000      |
| 29-May-06        | 206.4        | ns                                  | ns        | ns       | ns        | ns             | ns               | ns               | 2.8       | ns             | 33        | 16.5                          | 6.90        | 230,000        | 230,000      |
| 30-May-06        | 186.4        | ns                                  | ns        | ns       | ns        | ns             | ns               | ns               | 2.8       | ns             | 33        | 17.0                          | 6.82        | 230,000        | 230,000      |
| 31-May-06        | 208.5        | 22                                  | 22        | 9        | 30        | 6,255          | 3.96             | 4.5              | 2.8       | 40             | 33        | 17.6                          | 6.81        | 430,000        | 430,000      |
| <b>Total:</b>    | 6791         |                                     |           |          |           |                |                  |                  |           |                |           |                               |             |                |              |
| <b>Max:</b>      | 350          |                                     |           |          |           |                |                  |                  |           |                |           |                               |             |                |              |
| <b>Min:</b>      | 179          |                                     |           |          |           |                |                  |                  |           |                |           |                               |             |                |              |
| <b>Average:</b>  | <b>219.1</b> | <b>10</b>                           | <b>18</b> | <b>6</b> | <b>21</b> | <b>4,473</b>   | <b>2.57</b>      | <b>2.8</b>       |           | <b>33</b>      |           | <b>15.6</b>                   | <b>7.03</b> |                |              |
| <b>Geo.Mean:</b> |              |                                     |           |          |           |                |                  |                  |           |                |           |                               |             | <b>5,690</b>   | <b>8,750</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 2684R.
- (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) Plant shutdown from 4:30 a.m. till 7:00 a.m. on May 24, 25 and 26.