

**City of Winnipeg  
Water and Waste Department  
West End Water Pollution Control Centre Monitoring Data  
December, 2004**

| Date             | Raw Sewage  | Final Effluent<br>24 Hour Composite |          |           |                |                  |                  |           |                |           | Final Effluent<br>Grab Sample |             |                |              |
|------------------|-------------|-------------------------------------|----------|-----------|----------------|------------------|------------------|-----------|----------------|-----------|-------------------------------|-------------|----------------|--------------|
|                  | Daily Flow  | TSS                                 | cBOD5    | Ammonia   |                | Ortho Phosphorus | Total Phosphorus |           | Total Nitrogen |           | Temp                          | pH          | Fecal Coliform | E.Coli       |
|                  | ML          | (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-04         | 32.6        | 4                                   | 3        | 19        | 620            | 2.03             | 2.2              | 2.1       | 21             | 19        | 2                             | 8.19        | 930            | 930          |
| 2-Dec-04         | 32.9        | <4                                  | 3        | 20        | 660            | 1.95             | 2.3              | 2.1       | 24             | 19        | 1                             | 8.16        | 2300           | 2,300        |
| 3-Dec-04         | 33.7        | <4                                  | 2        | 19        | 640            | 1.99             | 2.1              | 2.1       | 23             | 20        | 2                             | 7.91        | 1500           | 1500         |
| 4-Dec-04         | 35.6        | ns                                  | ns       | ns        | nr             | ns               | ns               | 2.1       | ns             | 20        | 2                             | 7.84        | 930            | 430          |
| 5-Dec-04         | 35.2        | ns                                  | ns       | ns        | nr             | ns               | ns               | 2.1       | ns             | 20        | nr                            | 7.87        | 2300           | 430          |
| 6-Dec-04         | 33.7        | 20                                  | 9        | 14        | 470            | 2.16             | 2.3              | 2.1       | 25             | 20        | 2                             | 7.92        | 1500           | 930          |
| 7-Dec-04         | 32.3        | 10                                  | 5        | 13        | 420            | 2.07             | 2.3              | 2.1       | 24             | 20        | 2                             | 7.82        | 930            | 930          |
| 8-Dec-04         | 32.3        | ns                                  | ns       | ns        | nr             | ns               | ns               | 2.1       | ns             | 20        | 4                             | 8.07        | 430            | 430          |
| 9-Dec-04         | 32.3        | 6                                   | 4        | 14        | 450            | 2.20             | 2.3              | 2.1       | 25             | 20        | 2                             | 7.89        | 9,300          | 9,300        |
| 10-Dec-04        | 32.1        | 6                                   | 5        | 13        | 420            | 2.17             | 2.4              | 2.2       | 26             | 20        | 2                             | 7.94        | 15,000         | 7,500        |
| 11-Dec-04        | 34.0        | <4                                  | 4        | 14        | 480            | 2.16             | 2.3              | 2.2       | 25             | 21        | 3                             | 7.65        | 23,000         | 23,000       |
| 12-Dec-04        | 34.4        | 4                                   | 5        | 20        | 690            | 2.16             | 2.4              | 2.2       | 24             | 21        | 2                             | 7.83        | 43,000         | 43,000       |
| 13-Dec-04        | 32.4        | 8                                   | 5        | 21        | 680            | 2.16             | 2.4              | 2.2       | 24             | 21        | 2                             | 8.01        | 23,000         | 23,000       |
| 14-Dec-04        | 31.9        | 5                                   | 4        | 20        | 640            | 2.18             | 2.1              | 2.2       | 21             | 21        | 3                             | 7.80        | 9,300          | 9,300        |
| 15-Dec-04        | 32.1        | 9                                   | 4        | 20        | 640            | 2.15             | 2.3              | 2.2       | 24             | 21        | 3                             | 7.72        | 4,300          | 4,300        |
| 16-Dec-04        | 31.8        | 5                                   | 6        | 21        | 670            | 2.26             | 2.3              | 2.2       | 24             | 21        | 2                             | 7.91        | 4,300          | 4,300        |
| 17-Dec-04        | 32.1        | 8                                   | 6        | 21        | 670            | 2.22             | 2.3              | 2.2       | 24             | 22        | 1.5                           | 7.76        | 9,300          | 9,300        |
| 18-Dec-04        | 33.1        | 7                                   | 6        | 21        | 700            | 2.25             | 2.4              | 2.2       | 24             | 22        | 2                             | 7.98        | 2,300          | 2,300        |
| 19-Dec-04        | 32.8        | 7                                   | 7        | 24        | 790            | 2.46             | 2.3              | 2.2       | 24             | 22        | 2                             | 7.84        | 6,400          | 6,400        |
| 20-Dec-04        | 33.1        | 8                                   | 6        | 22        | 730            | 2.15             | 2.1              | 2.2       | 23             | 22        | 1.5                           | 8.15        | 2,300          | 2,300        |
| 21-Dec-04        | 31.7        | 21                                  | 8        | 23        | 730            | 2.31             | 2.7              | 2.2       | 29             | 22        | nr                            | 8.01        | 1,500          | 1,500        |
| 22-Dec-04        | 31.7        | 8                                   | 8        | 23        | 730            | 2.31             | 2.8              | 2.3       | 29             | 23        | 2                             | 7.69        | 2,300          | 2,300        |
| 23-Dec-04        | 32.1        | 8                                   | 7        | 24        | 770            | 2.40             | 2.6              | 2.3       | 28             | 23        | 2                             | 7.72        | 2,300          | 930          |
| 24-Dec-04        | 34.7        | <4                                  | 7        | 24        | 830            | 2.37             | 2.8              | 2.3       | 29             | 23        | 2                             | 7.83        | 930            | 930          |
| 25-Dec-04        | 30.7        | 10                                  | 9        | 24        | 740            | 2.48             | 2.8              | 2.3       | 28             | 24        | 1                             | 7.87        | 4,300          | 4,300        |
| 26-Dec-04        | 30.7        | 7                                   | 6        | 25        | 770            | 2.58             | 2.9              | 2.4       | 29             | 24        | 2                             | 7.79        | 2,300          | 2,300        |
| 27-Dec-04        | 31.3        | 8                                   | 6        | 24        | 750            | 2.53             | 2.9              | 2.4       | 29             | 24        | 2                             | 7.82        | 4,300          | 4,300        |
| 28-Dec-04        | 31.8        | 13                                  | 8        | 24        | 760            | 2.58             | 2.6              | 2.4       | 26             | 24        | 2                             | 7.93        | 750            | 750          |
| 29-Dec-04        | 30.7        | 9                                   | 7        | 24        | 740            | 2.53             | 2.7              | 2.4       | 26             | 24        | 3                             | 8.08        | 9,300          | 9,300        |
| 30-Dec-04        | 31.1        | 8                                   | 8        | 24        | 750            | 2.69             | 2.9              | 2.4       | 28             | 25        | 2                             | 7.92        | 9,300          | 4,300        |
| 31-Dec-04        | 32.1        | 6                                   | 8        | 24        | 770            | 2.70             | 2.8              | 2.4       | 24             | 25        | 2                             | 7.79        | 4,300          | 4,300        |
| <b>Total:</b>    | 1009        |                                     |          |           |                |                  |                  |           |                |           |                               |             |                |              |
| <b>Max:</b>      | 35.6        |                                     |          |           |                |                  |                  |           |                |           |                               |             |                |              |
| <b>Min:</b>      | 30.7        |                                     |          |           |                |                  |                  |           |                |           |                               |             |                |              |
| <b>Average:</b>  | <b>32.5</b> | <b>8</b>                            | <b>6</b> | <b>21</b> | <b>670</b>     | <b>2.29</b>      | <b>2.5</b>       |           | <b>25</b>      |           | <b>2</b>                      | <b>7.89</b> |                |              |
| <b>Geo.Mean:</b> |             |                                     |          |           |                |                  |                  |           |                |           |                               |             | <b>3,480</b>   | <b>2,930</b> |

**Notes:**

(1) \* = 30 day rolling average

(2) effluent ammonia load based upon Raw Sewage flows and Final Cell NH3-N concentrations

(3) nr - not recorded; na - not analyzed; ns - no sample

(4) Final Effluent flow data unavailable