

**City of Winnipeg
Water and Waste Department
South End Water Pollution Control Centre Monitoring Data
January 2013**

| Licence 2716RR | Raw Sewage | Final Effluent 24 Hour Composite | | | | | | | | | | Final Effluent Grab Sample | | |
|--------------------|---------------|-------------------------------------|---------|-----------|---------|-----------|---------|----------------|---------------------|---------------------|-------------------|-------------------------------|-------------|------------|
| | | TSS | | BOD5 | | cBOD5 | | Ammonia | Ortho Phosphorus | Total Phosphorus | Total Nitrogen | Temp. | pH | E.Coli |
| | | (mg/L) | (mg/L)* | (mg/L) | (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-Jan-13 | 44.1 | <4 | 9 | 27 | 34 | 6 | 8 | 1,531 | 4.03 | 4.1 | 40 | 14 | 6.65 | 4 |
| 2-Jan-13 | 45.0 | 8 | 9 | 25 | 33 | 6 | 8 | 1,288 | 3.42 | 4.1 | 40 | 14 | 6.64 | 9 |
| 3-Jan-13 | 46.2 | 8 | 9 | 29 | 33 | 6 | 8 | 1,316 | 3.50 | 4.1 | 40 | 15 | 6.61 | 9 |
| 4-Jan-13 | 47.3 | 8 | 9 | 30 | 32 | 6 | 8 | 1,255 | 3.37 | 4.1 | 40 | 15 | 6.56 | 9 |
| 5-Jan-13 | 48.8 | 8 | 9 | 27 | 32 | 5 | 8 | 1,280 | 3.27 | 4.1 | 40 | 14 | 6.67 | <3 |
| 6-Jan-13 | 52.4 | 7 | 9 | 34 | 32 | 7 | 8 | 1,351 | 3.12 | 4.1 | 40 | 14 | 6.68 | 4 |
| 7-Jan-13 | 49.4 | 5 | 8 | 34 | 32 | 5 | 8 | 1,444 | 3.62 | 4.1 | 40 | 14 | 6.52 | <3 |
| 8-Jan-13 | 54.3 | 8 | 8 | 33 | 31 | 7 | 8 | 1,813 | 3.83 | 4.1 | 40 | 15 | 6.74 | <3 |
| 9-Jan-13 | 55.1 | 7 | 8 | 36 | 30 | 6 | 8 | 1,736 | 3.95 | 4.1 | 40 | 15 | 6.80 | 930 |
| 10-Jan-13 | 55.2 | 9 | 8 | 34 | 30 | 8 | 8 | 1,556 | 3.65 | 4.1 | 40 | 15 | 6.61 | 93 |
| 11-Jan-13 | 51.7 | 15 | 9 | 35 | 30 | 9 | 8 | 1,592 | 3.92 | 4.1 | 40 | 14 | 6.61 | 2,300 |
| 12-Jan-13 | 48.0 | 15 | 9 | 34 | 29 | 13 | 8 | 1,556 | 4.06 | 4.2 | 40 | 14 | 6.71 | 15 |
| 13-Jan-13 | 48.6 | 17 | 9 | 36 | 30 | 14 | 8 | 1,466 | 3.97 | 4.2 | 40 | 14 | 6.62 | 93 |
| 14-Jan-13 | 48.1 | 17 | 9 | 48 | 30 | 22 | 9 | 1,704 | 4.11 | 4.2 | 40 | 15 | 6.62 | 930 |
| 15-Jan-13 | 46.4 | 17 | 10 | 30 | 30 | 13 | 9 | 1,712 | 4.43 | 4.2 | 40 | 15 | 6.66 | 150 |
| 16-Jan-13 | 46.1 | 8 | 9 | 24 | 29 | 10 | 9 | 1,476 | 3.95 | 4.2 | 40 | 15 | 6.66 | 120 |
| 17-Jan-13 | 45.7 | 6 | 9 | 23 | 29 | 9 | 9 | 1,589 | 4.20 | 4.2 | 40 | 15 | 6.59 | 15 |
| 18-Jan-13 | 45.4 | 5 | 9 | 24 | 29 | 8 | 8 | 1,613 | 4.35 | 4.3 | 40 | 15 | 6.58 | 43 |
| 19-Jan-13 | 45.5 | 4 | 9 | 24 | 28 | 8 | 8 | 1,567 | 4.08 | 4.3 | 40 | 15 | 6.66 | 7 |
| 20-Jan-13 | 46.5 | 11 | 9 | 24 | 28 | 12 | 8 | 1,734 | 4.48 | 4.3 | 41 | 14 | 6.63 | <3 |
| 21-Jan-13 | 48.4 | 6 | 9 | 22 | 28 | 9 | 8 | 1,714 | 4.19 | 4.3 | 41 | 15 | 6.45 | 21 |
| 22-Jan-13 | 45.3 | 11 | 9 | nr | 27 | nr | 8 | 1,722 | 4.42 | 4.4 | 41 | 15 | 6.54 | 23 |
| 23-Jan-13 | 45.3 | 8 | 9 | 29 | 28 | 10 | 8 | 1,779 | 4.40 | 4.4 | 41 | 15 | 6.62 | 43 |
| 24-Jan-13 | 45.4 | 8 | 9 | 30 | 28 | 11 | 9 | 1,667 | 4.76 | 4.4 | 41 | 14 | 6.60 | <3 |
| 25-Jan-13 | 45.1 | 9 | 9 | 35 | 29 | 13 | 9 | 1,672 | 4.53 | 4.4 | 42 | 14 | 6.60 | 4 |
| 26-Jan-13 | 46.9 | 12 | 9 | 32 | 29 | 11 | 9 | 1,704 | 4.62 | 4.5 | 42 | 14 | 6.50 | <3 |
| 27-Jan-13 | 47.0 | 23 | 10 | 36 | 30 | 20 | 9 | 1,604 | 4.43 | 4.5 | 42 | 15 | 6.61 | 93 |
| 28-Jan-13 | 46.8 | 37 | 11 | 59 | 31 | 32 | 10 | 1,591 | 5.02 | 4.6 | 42 | 15 | 6.54 | 9,300 |
| 29-Jan-13 | 45.0 | 22 | 11 | 35 | 31 | 23 | 11 | 1,517 | 4.66 | 4.6 | 42 | 15 | 6.52 | 20 |
| 30-Jan-13 | 46.5 | 16 | 11 | 32 | 32 | 14 | 11 | 1,591 | 4.42 | 4.7 | 43 | 15 | 6.54 | 9 |
| 31-Jan-13 | 45.3 | 13 | 12 | 31 | 32 | 11 | 11 | 1,608 | 4.39 | 4.7 | 43 | 14 | 6.91 | 4 |
| Max: | 55.2 | | | | | | | | | | | | | |
| Min: | 44.1 | | | | | | | | | | | | | |
| Average: | 47.6 | 11 | | 32 | | 11 | | 1,572 | 4.10 | | | 14 | 6.62 | |
| Total Flow: | | | | | | | | | | | | | | |
| Geo.Mean: | | | | | | | | | | | | | | 21 |

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 98.6 ML/D per clause 27 of Licence 2716RR
- (6) Bracketed Coliform results not used in the Geometric Mean calculation
- (7) Raw wastewater flows in excess of 100 ML/D will by-pass the secondary process
- (8) Total Nitrogen results are calculated from TKN and nitrate values