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## **Appendix C**

# **Air Quality Tables**

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## Annual Mean Air Quality Data

Parameter of Interest	1995 Annual Mean	1996 Annual Mean	1997 Annual Mean	1998 Annual Mean	1999 Annual Mean	2000 Annual Mean	2001 Annual Mean	2002 Annual Mean	2003 Annual Mean	2004 Annual Mean	Mean for Available Years 1995 through to 2005	Maximum Peak Year
Carbon Monoxide (ppm)	0.73	0.62	0.55	0.60	0.55	0.57	0.67	0.54	0.52	0.36	0.57	1995
Nitrogen Dioxide (pphm)	1.83	1.82	1.77	1.70	1.77	1.66	1.43	1.43	1.40	1.33	1.61	1995
Nitric Oxide (pphm)	1.37	1.27	1.15	1.20	1.11	1.10	1.10	0.93	0.89	0.93	1.11	1995
Nitrogen Oxides (pphm)	3.18	3.08	2.90	2.90	2.86	2.55	2.48	2.33	2.32	2.26	2.69	1995
Oxidants Ozone (pphm)	1.70	1.55	1.70	1.50	1.62	1.35	1.61	2.00	2.05	1.74	1.68	2003
Soiling Index (COH Units)	0.10	0.10	0.10	0.07	0.02	-	-	-	-	-	0.08	1997
Inhalable Particulate (PM <sub>10</sub> ) {µg/m <sup>3</sup> }	24.1/- <sup>*1</sup>	22.0/- <sup>*1</sup>	21.8/- <sup>*1</sup>	22.0/- <sup>*1</sup>	21.4/- <sup>*1</sup>	18.7/- <sup>*1</sup>	19.0/- <sup>*1</sup>	21.4/ <sup>*1</sup>	22.3/ <sup>*1</sup>	17.3/ <sup>*1</sup>	21.00	1995
Inhalable Particulate (PM <sub>2.5</sub> ) {µg/m <sup>3</sup> }	-	-	6.4/5.8 <sup>*2</sup>	6.9/6.0 <sup>*2</sup>	8.2/6.9 <sup>*2</sup>	4.2/ <sup>*1</sup>	5.5/ <sup>*1</sup>	6.2/ <sup>*1</sup>	5.3/ <sup>*1</sup>	4.2/ <sup>*1</sup>	5.86	1999
Total Suspended Particulate (TSP) {µg/m <sup>3</sup> }	50/41 <sup>*2,3</sup>	49/39 <sup>*2,3</sup>	45/41 <sup>*2,3</sup>	48/40 <sup>*2,3</sup>	50/41 <sup>*2,3</sup>	48/37 <sup>*2,3</sup>	46/36 <sup>*2,3</sup>	53/40 <sup>*2,3</sup>	-	-	48.63	2002
Lead {µg/m <sup>3</sup> }	0.04/0.04 <sup>*2</sup>	0.04/0.03 <sup>*2</sup>	-	-	-	-	-	-	-	-	0.04	1996
Sulfates {µg/m <sup>3</sup> }	1.97/1.70 <sup>*2</sup>	1.32/1.13 <sup>*2</sup>	-	-	-	-	-	-	-	-	1.65	1995
Nitrates {µg/m <sup>3</sup> }	1.10/0.55 <sup>*2</sup>	0.13/0.07 <sup>*2</sup>	-	-	-	-	-	-	-	-	0.62	1995

### NOTES:

\* Annual arithmetic/geometric mean

- No data available

<sup>1</sup> Real-time continuous monitoring

<sup>2</sup> 24 hour sample collected every six days according to NAPS schedule

<sup>3</sup> 3 Additional samples collected every NAPS cycle

<sup>4</sup> Averaged over 8 hours

<sup>5</sup> Using 24-hour moving average

**Source:** Manitoba Conservation Website. These values have been provided by the Winnipeg - 65 Ellen Street Air Monitoring Station.

### Assumptions:

Where applicable, "real-time continuous monitoring" data was selected over "24-hour sample collected every six days according to NAPS schedule" data.

If a parameter had the same data value for multiple years, the most recent year value was selected for "maximum peak year".

When averaging data values for parameters with both arithmetic mean and geometric mean, the arithmetic mean value was used.

## Maximum One-Hour Air Quality Data

Parameter of Interest	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Maximum Peak Year
Carbon Monoxide (ppm)	7.90	8.00	5.40	5.60	5.50	4.40	4.50	4.10	4.70	3.50	1996
Nitrogen Dioxide (pphm)	9.10	8.00	7.40	8.20	12.90	7.10	6.20	6.40	12.60	9.90	1999
Nitric Oxide (pphm)	51.60	35.80	31.20	30.90	50.50	25.70	34.20	30.40	31.20	28.20	1995
Nitrogen Oxides (pphm)	57.80	42.10	38.00	37.40	63.30	31.70	40.10	34.70	36.40	31.70	1999
Oxidants Ozone (pphm)	6.90	5.80	6.60	6.50	6.50	5.20	6.70	7.90	7.00	5.30	2002
Soiling Index (COH Units)	3.60	0.80	1.40	0.90	0.60	-	-	-	-	-	1995
Inhalable Particulate (PM <sub>10</sub> ) {µg/m <sup>3</sup> }	319.5 <sup>1</sup>	355.8 <sup>1</sup>	283.3 <sup>1</sup>	210.5 <sup>1</sup>	433.3 <sup>1</sup>	233.0 <sup>1</sup>	398.4 <sup>1</sup>	501.0 <sup>1</sup>	262.9 <sup>1</sup>	248.6 <sup>1</sup>	2002
Inhalable Particulate (PM <sub>2.5</sub> ) {µg/m <sup>3</sup> }	-	-	-	-	-	32.6 <sup>1</sup>	70.1 <sup>1</sup>	88.7 <sup>1</sup>	43.6 <sup>1</sup>	86.9 <sup>1</sup>	2002

### NOTES:

\* Annual arithmetic/geometric mean

- No data available

<sup>1</sup> Real-time continuous monitoring

<sup>2</sup> 24 hour sample collected every six days according to NAPS schedule

<sup>3</sup> 3 Additional samples collected every NAPS cycle

<sup>4</sup> Averaged over 8 hours

<sup>5</sup> Using 24-hour moving average

**Source:** Manitoba Conservation Website. These values have been provided by the Winnipeg - 65 Ellen Street Air Monitoring Station.

### Assumptions:

Where applicable, "real-time continuous monitoring" data was selected over "24-hour sample collected every six days according to NAPS schedule" data.

If a parameter had the same data value for multiple years, the most recent year value was selected for "maximum peak year".

When averaging data values for parameters with both arithmetic mean and geometric mean, the arithmetic mean value was used.

## Maximum Twenty Four-Hour Air Quality Data

Parameter of Interest	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Maximum Peak Year
Carbon Monoxide (ppm)	4.8 <sup>4</sup>	2.70	2.3 <sup>4</sup>	2.5 <sup>4</sup>	3.0 <sup>4</sup>	2.4 <sup>4</sup>	2.8 <sup>4</sup>	2.2 <sup>4</sup>	2.4 <sup>4</sup>	1.38 <sup>4</sup>	1995
Nitrogen Dioxide (pphm)	5.10	4.90	4.90	6.00	6.00	4.60	4.40	4.40	4.00	4.50 <sup>5</sup>	1999
Nitric Oxide (pphm)	15.50	8.60	7.30	10.40	10.00	7.50	15.40	7.90	8.00	9.53 <sup>5</sup>	1995
Nitrogen Oxides (pphm)	20.60	13.00	10.80	14.60	12.60	10.30	19.50	12.10	11.96	13.35 <sup>5</sup>	1995
Oxidants Ozone (pphm)	5.20	4.20	4.70	3.40	4.80	3.60	4.20	4.70	4.90	3.8 <sup>5</sup>	1995
Soiling Index (COH Units)	0.70	0.20	0.30	0.30	0.10	-	-	-	-	-	1995
Inhalable Particulate (PM <sub>10</sub> ) {µg/m <sup>3</sup> }	102.4 <sup>1</sup>	91.3 <sup>1</sup>	102.4 <sup>1</sup>	101.5 <sup>1</sup>	114.7 <sup>1</sup>	62.0 <sup>1</sup>	93.9 <sup>1</sup>	166.7 <sup>1</sup>	88.7 <sup>1</sup>	104.4 <sup>1</sup>	2002
Inhalable Particulate (PM <sub>2.5</sub> ) {µg/m <sup>3</sup> }	-	-	15.3 <sup>2</sup>	21.5 <sup>2</sup>	45.5 <sup>2</sup>	9.1 <sup>1</sup>	19.5 <sup>1</sup>	36.2 <sup>1</sup>	23.2 <sup>1</sup>	19.6 <sup>1</sup>	1999
Total Suspended Particulate (TSP) {µg/m <sup>3</sup> }	202.0 <sup>2,3</sup>	158.0 <sup>2,3</sup>	160.0 <sup>2,3</sup>	178.0 <sup>2,3</sup>	199.0 <sup>2,3</sup>	181.0 <sup>2,3</sup>	155.0 <sup>2,3</sup>	402.0 <sup>2,3</sup>	-	-	2002
Lead {µg/m <sup>3</sup> }	0.13 <sup>2</sup>	0.13 <sup>2</sup>	-	-	-	-	-	-	-	-	1996
Sulfates {µg/m <sup>3</sup> }	6.53 <sup>2</sup>	3.77 <sup>2</sup>	-	-	-	-	-	-	-	-	1995
Nitrates {µg/m <sup>3</sup> }	13.19 <sup>2</sup>	2.02 <sup>2</sup>	-	-	-	-	-	-	-	-	1995

### NOTES:

\* Annual arithmetic/geometric mean

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<sup>1</sup> Real-time continuous monitoring

<sup>2</sup> 24 hour sample collected every six days according to NAPS schedule

<sup>3</sup> 3 Additional samples collected every NAPS cycle

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**Source:** Manitoba Conservation Website. These values have been provided by the Winnipeg - 65 Ellen Street Air Monitoring Station.

### Assumptions:

Where applicable, "real-time continuous monitoring" data was selected over "24-hour sample collected every six days according to NAPS schedule" data.

If a parameter had the same data value for multiple years, the most recent year value was selected for "maximum peak year".

When averaging data values for parameters with both arithmetic mean and geometric mean, the arithmetic mean value was used.