



---

## **Appendix F**

# **Air Quality Tables**

---

Annual Mean Air Quality Data

Parameter of Interest	Maximum Acceptable Level Concentration <sup>4</sup>	Maximum Desirable Level Concentration <sup>4</sup>	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	2005 Annual Mean	2006 Annual Mean	Mean for Available Years 1995 through 2006	Maximum Peak Year
Ammonia (ppm)	-	-	0.01	0.03	0.01	0.00	0.02	0.01	0.02	0.01	0.01	0.00	0.02	0.02	0.01	1996
Nitrogen Dioxide (pphm)	5.3	3.2	1.04	-	0.57	0.8	0.88	0.69	0.52	0.58	0.61	0.54	0.53	0.50	0.66	1995
Nitric Oxide (pphm)	-	-	0.49	-	0.40	0.5	0.54	0.38	0.49	0.32	0.35	0.41	0.36	0.25	0.41	1999
Nitrogen Oxides (pphm)	-	-	1.51	-	0.94	1.3	1.33	0.96	0.98	0.91	0.96	0.94	0.88	0.74	1.04	1995
Oxidants Ozone (pphm)	1.5	-	2.60	3.02	3.1	2.8	2.78	2.58	2.64	2.70	2.77	2.22	2.19	2.70	2.68	1997
Inhalable Particulate (PM <sub>10</sub> ) {µg/m <sup>3</sup> }	-	-	-	-	15.8/- <sup>*1</sup>	23.1/- <sup>*1</sup>	21.2/- <sup>*1</sup>	19.8/- <sup>*1</sup>	22.3/- <sup>*1</sup>	21.9/ <sup>*1</sup>	23.3/- <sup>*1</sup>	20.9/- <sup>*1</sup>	19.67/11.31 <sup>*1</sup>	22.26/12.01 <sup>*1</sup>	21.0	2003
Inhalable Particulate (PM <sub>2.5</sub> ) {µg/m <sup>3</sup> }	-	-	-	-	-	-	-	-	5.8/- <sup>*1</sup>	5.2/- <sup>*1</sup>	6.0/- <sup>*1</sup>	5.0/- <sup>*1</sup>	4.70/2.82 <sup>*1</sup>	5.52/3.13 <sup>*1</sup>	5.4	2003
Total Suspended Particulate (TSP) {µg/m <sup>3</sup> }	70	60	36/31 <sup>+2,3</sup>	43/34 <sup>+2,3</sup>	33/31 <sup>+2,3</sup>	35/27 <sup>+2,3</sup>	37/32 <sup>+2,3</sup>	-	-	-	-	-	-	-	37	1996
Lead {µg/m <sup>3</sup> }	-	-	0.03/0.03 <sup>+2,3</sup>	0.03/0.03 <sup>+2,3</sup>	-	-	-	-	-	-	-	-	-	-	0.03	1996
Sulfates {µg/m <sup>3</sup> }	-	-	1.61/1.40 <sup>+2,3</sup>	1.73/1.42 <sup>+2,3</sup>	-	-	-	-	-	-	-	-	-	-	1.67	1996
Nitrates {µg/m <sup>3</sup> }	-	-	1.09/0.54 <sup>+2,3</sup>	0.77/0.49 <sup>+2,3</sup>	-	-	-	-	-	-	-	-	-	-	0.93	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> Data from Brandon 1104 Princess Avenue Air Monitoring Station

<sup>4</sup> Manitoba Conservation Ambient Air Quality Criteria

**Source:** Manitoba Conservation Website. These values have been provided by the Brandon Assiniboine Community College Air Monitoring Station.

**Assumptions:**

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	Maximum Tolerable Level Concentration <sup>2</sup>	Maximum Acceptable Level Concentration <sup>2</sup>	Maximum Desirable Level Concentration <sup>2</sup>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Maximum Peak Year
Ammonia (ppm) <sup>4</sup>	-	2.0	-	4	4.9	4.9	3.1	3.0	3.1	2.7	3.2	3.4	2.3	5.1	2.3	2005
Nitrogen Dioxide (pphm) <sup>3</sup>	53	21.3	-	13	-	7.8	6.5	6.6	7.1	7.9	5.0	4.6	6.6	4.2	4.3	1995
Nitric Oxide (pphm)	-	-	-	9.3	-	35.2	29.7	18.3	14.2	27.9	13.3	11.7	13.2	13.3	14.4	1997
Nitrogen Oxides (pphm)	-	-	-	16.4	-	35.6	34.4	20.8	18.3	31.2	17.2	14.9	19.6	16.9	18.1	1997
Oxidants Ozone (pphm) <sup>3</sup>	20	8.2	5	7.4	7.8	8.4	6.7	8.9	6.2	6.3	6.9	9.3	5.3	6.2	6.2	2003
Inhalable Particulate (PM <sub>10</sub> ) {µg/m <sup>3</sup> }	-	-	-	-	-	224.0 <sup>1</sup>	382.8 <sup>1</sup>	499.0 <sup>1</sup>	498.0 <sup>1</sup>	451.5 <sup>1</sup>	499.3 <sup>1</sup>	819.5 <sup>1</sup>	496.9 <sup>1</sup>	608.30 <sup>1</sup>	3975.2 <sup>1</sup>	2005
Inhalable Particulate (PM <sub>2.5</sub> ) {µg/m <sup>3</sup> }	-	-	-	-	-	-	-	-	-	165.2 <sup>1</sup>	166.1 <sup>1</sup>	144.3 <sup>1</sup>	109.3 <sup>1</sup>	120.20 <sup>1</sup>	307.4 <sup>1</sup>	2002

**NOTES:**

- No data available

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

<sup>2</sup> Manitoba Conservation Ambient Air Quality Criteria

**Source:** Manitoba Conservation Website. These values have been provided by the Brandon Assiniboine Community College Air Monitoring Station.

<sup>3</sup> Criterion is classified as an objective. The objective classification is for those air pollutants sufficiently widespread in presence and potential environmental effect that national limits have been developed

<sup>4</sup> Criterion is classified as a guideline. The guideline classification is used for those pollutants of a more localized presence for which provincial limits have been developed

<sup>5</sup> Criterion is classified as a Canada-wide Standard. A Canada-wide Standard (CWS) is a national standard developed under the Canada-wide Environmental Standards Sub-agreement by the federal, provincial and territorial governments for a contaminant of national priority.

**Assumptions:**

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

**Maximum Twenty Four-Hour Air Quality Data**

Parameter of Interest	Maximum Tolerable Level Concentration <sup>5</sup>	Maximum Acceptable Level Concentration <sup>5</sup>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Maximum Peak Year
Ammonia (ppm)	-	-	0.8	1	0.6	0.4	0.6	0.4	0.5	0.5	0.5	0.2 <sup>3</sup>	1.2 <sup>3</sup>	0.5 <sup>3</sup>	2005
Nitrogen Dioxide (pphm) <sup>6</sup>	-	10.6	3.8	-	2.9	3.1	3.3	3.0	3.0	2.7	2.6	3.05 <sup>3</sup>	2.59 <sup>3</sup>	2.33 <sup>3</sup>	1995
Nitric Oxide (pphm)	-	-	2.6	-	8.7	5.1	6.5	4.9	5.7	5.4	2.6	3.44 <sup>3</sup>	4.14 <sup>3</sup>	3.27 <sup>3</sup>	1997
Nitrogen Oxides (pphm)	-	-	5.3	-	9.6	7.4	9.5	7.6	7.9	8.1	4.67	6.48 <sup>3</sup>	6.73 <sup>3</sup>	5.57 <sup>3</sup>	1997
Oxidants Ozone (pphm)	-	-	4.9	5.7	7.1	4.9	6.5	4.6	4.6	4.7	5.1	4.5 <sup>3</sup>	4.5 <sup>3</sup>	4.7 <sup>3</sup>	1997
Inhalable Particulate (PM <sub>10</sub> ) {µg/m <sup>3</sup> } <sup>7</sup>	-	50	-	-	49 <sup>1</sup>	127.0 <sup>1</sup>	153.4 <sup>1</sup>	143.0 <sup>1</sup>	131.4 <sup>1</sup>	215.5 <sup>1</sup>	154.3 <sup>1</sup>	156.6 <sup>1</sup>	140.04 <sup>1</sup>	317.1 <sup>1</sup>	2006
Inhalable Particulate (PM <sub>2.5</sub> ) {µg/m <sup>3</sup> } <sup>8</sup>	-	30	-	-	-	-	-	-	17.9 <sup>1</sup>	25.6 <sup>1</sup>	22.8 <sup>1</sup>	22.9 <sup>1</sup>	21.60 <sup>1</sup>	34.7 <sup>1</sup>	2006
Total Suspended Particulate (TSP) {µg/m <sup>3</sup> } <sup>6</sup>	400	120	96 <sup>2,4</sup>	138 <sup>2,4</sup>	94 <sup>2,4</sup>	108 <sup>2,4</sup>	95 <sup>2,4</sup>	-	-	-	-	-	-	-	1996
Lead {µg/m <sup>3</sup> }	-	2	0.04 <sup>2,4</sup>	0.04 <sup>2,4</sup>	-	-	-	-	-	-	-	-	-	-	1996
Sulfates {µg/m <sup>3</sup> }	-	-	4.12 <sup>2,4</sup>	4.68 <sup>2,4</sup>	-	-	-	-	-	-	-	-	-	-	1996
Nitrates {µg/m <sup>3</sup> }	-	-	8.63 <sup>2,4</sup>	3.65 <sup>2,4</sup>	-	-	-	-	-	-	-	-	-	-	1995

**NOTES:**

- 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> Using 24-hour moving average

<sup>4</sup> Data from Brandon 1104 Princess Avenue Air Monitoring Station

<sup>5</sup> Manitoba Conservation Ambient Air Quality Criteria

**Source:** Manitoba Conservation Website. These values have been provided by the Brandon Assiniboine Community College Air Monitoring Station.

<sup>6</sup> Criterion is classified as an objective. The objective classification is for those air pollutants sufficiently widespread in presence and potential environmental effect that national limits have been developed

<sup>7</sup> Criterion is classified as a guideline. The guideline classification is used for those pollutants of a more localized presence for which provincial limits have been developed

<sup>8</sup> Criterion is classified as a Canada-wide Standard. A Canada-wide Standard (CWS) is a national standard developed under the Canada-wide Environmental Standards Sub-agreement by the federal, provincial and territorial governments for a contaminant of national priority.

**Assumptions:**

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