

## Manitoba Ambient Air Quality Data - 2007 Annual Pollutant Summary – Continuous Monitoring

POLLUTANT Conc. Units	STATION NUMBER & LOCATION	ANNUAL MEAN	MAXIMUM DATA VALUES		# OF SAMPLES ABOVE M.D.L.		# OF SAMPLES ABOVE M.A.L.		# OF SAMPLES ABOVE M.T.L.	
			1-HR	24-HR	1-HR	24-HR	1-HR	24-HR	1-HR	24-HR
CARBON MONOXIDE (CO) ppm	9118 WINNIPEG, SCOTIA & JEFFERSON	0.30	1.8	1.33	0	0 <sup>Δ</sup>	0	0 <sup>Δ</sup>	--	0 <sup>Δ</sup>
	9119 WINNIPEG, 65 ELLEN STREET	0.46	3.7	1.93	0	0 <sup>Δ</sup>	0	0 <sup>Δ</sup>	--	0 <sup>Δ</sup>
NITROGEN DIOXIDE (NO <sub>2</sub> ) pphm	5131 BRANDON, ASSIN. COMM.COLLEGE	0.56	5.6	3.50 <sup>○</sup>	--	--	0	0 <sup>○</sup>	0	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	0.81	4.9	3.43 <sup>○</sup>	--	--	0	0 <sup>○</sup>	0	--
	9119 WINNIPEG, 65 ELLEN STREET	1.27	16.7	3.96 <sup>○</sup>	--	--	0	0 <sup>○</sup>	0	--
NITRIC OXIDE (NO) pphm	5131 BRANDON, ASSIN. COMM.COLLEGE	0.71	27.4	12.29 <sup>○</sup>	--	--	--	--	--	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	0.34	14.3	5.47 <sup>○</sup>	--	--	--	--	--	--
	9119 WINNIPEG, 65 ELLEN STREET	0.74	44.6	5.47 <sup>○</sup>	--	--	--	--	--	--
NITROGEN OXIDES (NO <sub>x</sub> ) pphm	5131 BRANDON, ASSIN. COMM.COLLEGE	1.26	33.0	15.71 <sup>○</sup>	--	--	--	--	--	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	1.14	18.7	8.91 <sup>○</sup>	--	--	--	--	--	--
	9119 WINNIPEG, 65 ELLEN STREET	2.01	52.5	8.89 <sup>○</sup>	--	--	--	--	--	--
SULPHUR DIOXIDE (SO <sub>2</sub> ) ppm <sup>10</sup>	7251 FLIN FLON, 143 MAIN STREET	0.01	0.98	0.15 <sup>○</sup>	172	457 <sup>○</sup>	45	47 <sup>○</sup>	--	0 <sup>○</sup>
	7271 <sup>†</sup> FLIN FLON, AQUA CENTRE	0.00	1.02	0.22 <sup>○</sup>	53	99 <sup>○</sup>	22	24 <sup>○</sup>	--	0 <sup>○</sup>
	7281 <sup>†</sup> FLIN FLON, HBM&S STAFFHOUSE	0.01	1.02	0.11 <sup>○</sup>	99	165 <sup>○</sup>	21	0 <sup>○</sup>	--	0 <sup>○</sup>
	7291 <sup>†</sup> CREIGHTON, SASK. CITY HALL	0.00	0.93	0.16 <sup>○</sup>	47	92 <sup>○</sup>	17	22 <sup>○</sup>	--	0 <sup>○</sup>
	7301 <sup>†</sup> FLIN FLON, HAPNOT COLLEGIATE	0.00	0.76	0.09 <sup>○</sup>	22	40 <sup>○</sup>	2	0 <sup>○</sup>	--	0 <sup>○</sup>
	7351 <sup>†</sup> THOMPSON, WATER TREAT. PLANT	0.00	0.68	0.09 <sup>○</sup>	23	19 <sup>○</sup>	2	0 <sup>○</sup>	--	0 <sup>○</sup>
	7361 <sup>†</sup> THOMPSON, EASTWOOD SCHOOL	0.00	0.53	0.04 <sup>○</sup>	23	0 <sup>○</sup>	4	0 <sup>○</sup>	--	0 <sup>○</sup>
	7371 <sup>†</sup> THOMPSON, RIVERSIDE SCHOOL	0.00	0.46	0.06 <sup>○</sup>	16	0 <sup>○</sup>	2	0 <sup>○</sup>	--	0 <sup>○</sup>
	7381 <sup>†</sup> THOMPSON, WESTWOOD	0.00	0.37	0.03 <sup>○</sup>	11	0 <sup>○</sup>	1	0 <sup>○</sup>	--	0 <sup>○</sup>
ppb	9119 <sup>◇</sup> WINNIPEG, 65 ELLEN STREET	0.41 <sup>◇</sup>	37.80 <sup>◇</sup>	3.95 <sup>◇</sup>	0	0 <sup>○</sup>	0	0 <sup>○</sup>	--	0 <sup>○</sup>
OXIDANTS OZONE (O <sub>3</sub> ) pphm <sup>11</sup>	5131 BRANDON, ASSIN. COMM.COLLEGE	2.5	6.3	4.8 <sup>○</sup>	30	~	0	~	0	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	2.3	6.4	4.5 <sup>○</sup>	20	~	0	~	0	--
	9119 WINNIPEG, 65 ELLEN STREET	2.1	6.2	4.1 <sup>○</sup>	5	~	0	~	0	--
AMMONIA (NH <sub>3</sub> ) ppm <sup>12</sup>	5131 BRANDON, ASSIN. COMM.COLLEGE	0.0	2.4	0.6 <sup>○</sup>	--	--	0	--	--	--

Notes: <sup>Δ</sup> Averaged over 8 hours  
<sup>†</sup> Company supplied data  
<sup>○</sup> Using 24-hour moving average  
<sup>◇</sup> 9119, 65 Ellen Street data measured in parts per billion (ppb)  
 ~ numerous exceedences of the 24 hour MDL and MAL which are currently under review  
 -- no guideline or objective  
<sup>10</sup> - SO<sub>2</sub> guidelines (ppm): MDL: 1hr-0.170, 24hr-0.060; MAL: 1hr-0.340, 24hr-0.110; MTL: 24hr-0.310  
<sup>11</sup> - O<sub>3</sub> guidelines (pphm): MDL: 1hr-5.0, 24hr-1.50; MAL: 1hr-8.20, 24hr-2.50; MTL: 1hr-20.0  
<sup>12</sup> - NH<sub>3</sub> guidelines (ppm): MAL: 1hr-2.0

Manitoba Ambient Air Quality Data - 2007 Annual Pollutant Summary – Particulate Matter Monitoring (PM<sub>10</sub>)

POLLUTANT	STATION NUMBER & LOCATION	ANNUAL ARITH/GEO MEAN	MAXIMUM DATA VALUES 24/1-HR	# OF SAMPLES ABOVE M.D.L.		# OF SAMPLES ABOVE M.A.L.		# OF SAMPLES ABOVE M.T.L.	
				1-HR	24-HR	1-HR	24-HR	1-HR	24-HR
INHALABLE PARTICULATE (PM <sub>10</sub> )	7251 <sup>5</sup> FLIN FLON, 143 MAIN STREET	17.52/11.51	87.13/318.00	--	--	--	10 <sup>6</sup>	--	--
	7283 <sup>4†</sup> CREIGHTON SK, HIGH SCHOOL	20.80/18.04	64.71/-	--	--	--	4 <sup>6</sup>	--	--
	7284 <sup>1†</sup> FLIN FLON, RUTH BETTS	10.24/8.48	24.84/-	--	--	--	0 <sup>6</sup>	--	--
	7381 <sup>5</sup> THOMPSON, WESTWOOD	10.39/6.88	53.24/401.00	--	--	--	3 <sup>6</sup>	--	--
	9119 <sup>5</sup> WINNIPEG, 65 ELLEN STREET	13.05/9.26	154.30/61.90	--	--	--	2 <sup>6</sup>	--	--
	9119 <sup>1</sup> WINNIPEG, 65 ELLEN STREET	14.89/11.73	39.41/-	--	--	--	0 <sup>6</sup>	--	--
	5131 <sup>5</sup> BRANDON, ASSIN.COMM.COLLEGE	23.41/12.92	153.30/787.90	--	--	--	30 <sup>6</sup>	--	--
LEAD (Pb)	7283 <sup>4,9†</sup> CREIGHTON SK, HIGH SCHOOL	0.17/0.17	0.46/-	--	--	--	0	--	--
	7284 <sup>1†</sup> FLIN FLON, RUTH BETTS	0.05/0.03	0.28/-	--	--	--	0	--	--
SULPHATES (SO <sub>4</sub> <sup>=</sup> )	7284 <sup>1†</sup> FLIN FLON, RUTH BETTS	1.34/1.17	3.90/-	--	--	--	--	--	--
ARSENIC (As)	7283 <sup>4,9†</sup> CREIGHTON SK, HIGH SCHOOL	0.01/0.00	0.13/-	--	--	--	0 <sup>6</sup>	--	--
	7284 <sup>1†</sup> FLIN FLON, RUTH BETTS	0.02/0.00	0.23/-	--	--	--	0 <sup>6</sup>	--	--
CADMIUM (Cd)	7283 <sup>4,9†</sup> CREIGHTON SK, HIGH SCHOOL	0.01/0.01	0.10/-	--	--	--	0 <sup>6</sup>	--	--
	7284 <sup>1†</sup> FLIN FLON, RUTH BETTS	0.01/0.00	0.14/-	--	--	--	0 <sup>6</sup>	--	--
COPPER (Cu)	7283 <sup>4,9†</sup> CREIGHTON SK, HIGH SCHOOL	0.06/0.03	1.05/-	--	--	--	0 <sup>6</sup>	--	--
	7284 <sup>1†</sup> FLIN FLON, RUTH BETTS	0.13/0.05	1.17/-	--	--	--	0 <sup>6</sup>	--	--
ZINC (Zn)	7283 <sup>4,9†</sup> CREIGHTON SK, HIGH SCHOOL	0.11/0.04	2.75/-	--	--	--	0 <sup>6</sup>	--	--
	7284 <sup>1†</sup> FLIN FLON, RUTH BETTS	0.77/0.08	4.73/-	--	--	--	0 <sup>6</sup>	--	--

Notes:

- All Concentration units for the above Table 4a are in ug/m<sup>3</sup>.
- No guideline or objective
- No data available
- <sup>1</sup> - 24 Hour sample collected every six days according to NAPS schedule (Hi-Vol)
- <sup>2</sup> - 24 Hour sample collected every six days according to NAPS schedule (Dichotomous)
- <sup>4</sup> - 24 Hour sample collected daily (Dichotomous)
- <sup>5</sup> - Real-time continuous monitoring (TEOM)
- <sup>6</sup> - Ontario 24-hour guideline
- <sup>9</sup> - Majority of data at or below detection limit
- † Company supplied data

Manitoba Ambient Air Quality Data - 2007 Annual Pollutant Summary – Particulate Matter Monitoring (PM<sub>2.5</sub>)

POLLUTANT	STATION NUMBER & LOCATION		ANNUAL	MAXIMUM	# OF SAMPLES		# OF SAMPLES		# OF SAMPLES	
			ARITH/GEO MEAN	DATA VALUES 24/1-HR	ABOVE M.D.L. 1-HR 24-HR	ABOVE M.A.L. 1-HR 24-HR	ABOVE M.T.L. 1-HR 24-HR			
INHALABLE PARTICULATE (PM <sub>2.5</sub> )	9118 <sup>5</sup>	WINNIPEG, SCOTIA & JEFFERSON	4.90/3.21	16.03/69.03	--	--	--	0 <sup>7</sup>	--	--
	9119 <sup>1</sup>	WINNIPEG, 65 ELLEN STREET	6.63/5.52	33.91/-	--	--	--	1 <sup>7</sup>	--	--
	9119 <sup>5</sup>	WINNIPEG, 65 ELLEN STREET	4.44/2.95	12.81/59.00	--	--	--	0 <sup>7</sup>	--	--
	5131 <sup>5</sup>	BRANDON, ASSIN. COMM.COLLEGE	4.78/3.04	18.55/74.90	--	--	--	0 <sup>7</sup>	--	--
	7251 <sup>5</sup>	FLIN FLON, 143 MAIN STREET	5.60/2.97	33.00/136.50	--	--	--	1 <sup>7</sup>	--	--
	7283 <sup>4†</sup>	CREIGHTON SK, HIGH SCHOOL	11.18/9.21	40.74/-	--	--	--	7 <sup>7</sup>	--	--
	7381 <sup>5</sup>	THOMPSON, WESTWOOD	3.43/1.74	45.04/155.00	--	--	--	2 <sup>7</sup>	--	--

Notes:

All Concentration units for the above Table 4b are in ug/m<sup>3</sup>.

-- No guideline or objective

- No data available

<sup>1</sup> - 24 Hour sample collected every six days according to NAPS schedule (Dichotomous)

<sup>4</sup> - 24 Hour sample collected daily (Dichotomous)

<sup>5</sup> - Real-time continuous monitoring (TEOM)

<sup>7</sup> - Based on Canada Wide Standard "level" for PM<sub>2.5</sub> (not the actual metric of the 98<sup>th</sup> percentile annual value averaged over 3 years)

<sup>†</sup> Company supplied data

## Manitoba Ambient Air Quality Data - 2007 Annual Pollutant Summary – Particulate Matter Monitoring (TSP)

POLLUTANT	STATION NUMBER & LOCATION		ANNUAL	MAXIMUM	# OF SAMPLES		# OF SAMPLES		# OF SAMPLES	
			ARITH/GEO MEAN	DATA VALUES 24-HR	ABOVE M.D.L. 1-HR 24-HR	ABOVE M.A.L. 1-HR 24-HR	ABOVE M.T.L. 1-HR 24-HR			
TOTAL SUSPENDED PARTICULATE (TSP)	7251 <sup>2</sup>	FLIN FLON, 143 MAIN STREET	43.90/34.24	192.00	--	--	--	4	--	0
	7283 <sup>3+</sup>	CREIGHTON SK, HIGH SCHOOL	26.63/20.04	98.70	--	--	--	0	--	0
	7284 <sup>2+</sup>	FLIN FLON, RUTH BETTS	22.92/18.09	92.73	--	--	--	0	--	0
LEAD (Pb)	7251 <sup>2</sup>	FLIN FLON, 143 MAIN STREET	0.23/0.07	2.71	--	--	--	0	--	--
	7283 <sup>3+</sup>	CREIGHTON SK, HIGH SCHOOL	0.03/0.02	0.42	--	--	--	0	--	--
	7284 <sup>2+</sup>	FLIN FLON, RUTH BETTS	0.07/0.03	0.88	--	--	--	0	--	--
SULPHATES (SO <sub>4</sub> =)	7251 <sup>2</sup>	FLIN FLON, 143 MAIN STREET	2.44/1.83	18.03	--	--	--	--	--	--
	7283 <sup>3+</sup>	CREIGHTON SK, HIGH SCHOOL	1.27/1.01	6.73	--	--	--	--	--	--
	7284 <sup>2+</sup>	FLIN FLON, RUTH BETTS	1.92/1.63	4.62	--	--	--	--	--	--
NITRATES (NO <sub>3</sub> -)	7251 <sup>2</sup>	FLIN FLON, 143 MAIN STREET	0.03/0.03	0.31	--	--	--	--	--	--
ARSENIC (As) <sup>13</sup>	7251 <sup>2</sup>	FLIN FLON, 143 MAIN STREET	0.07/0.02	0.58	--	--	--	15 <sup>6</sup>	--	--
	7283 <sup>3+</sup>	CREIGHTON SK, HIGH SCHOOL	0.01/0.00	0.24	--	--	--	0 <sup>6</sup>	--	--
	7284 <sup>2+</sup>	FLIN FLON, RUTH BETTS	0.02/0.00	0.17	--	--	--	0 <sup>6</sup>	--	--
CADMIUM (Cd)	7251 <sup>2</sup>	FLIN FLON, 143 MAIN STREET	0.04/0.01	0.66	--	--	--	0 <sup>6</sup>	--	--
	7283 <sup>3,9+</sup>	CREIGHTON SK, HIGH SCHOOL	0.00/0.00	0.11	--	--	--	0 <sup>6</sup>	--	--
	7284 <sup>2+</sup>	FLIN FLON, RUTH BETTS	0.02/0.00	0.17	--	--	--	0 <sup>6</sup>	--	--
COPPER (Cu)	7251 <sup>2</sup>	FLIN FLON, 143 MAIN STREET	1.34/0.77	9.11	--	--	--	0 <sup>6</sup>	--	--
	7283 <sup>3+</sup>	CREIGHTON SK, HIGH SCHOOL	0.39/0.31	1.63	--	--	--	0 <sup>6</sup>	--	--
	7284 <sup>2+</sup>	FLIN FLON, RUTH BETTS	0.68/0.51	3.21	--	--	--	0 <sup>6</sup>	--	--
ZINC (Zn)	7251 <sup>2</sup>	FLIN FLON, 143 MAIN STREET	1.62/1.03	6.85	--	--	--	0 <sup>6</sup>	--	--
	7283 <sup>3+</sup>	CREIGHTON SK, HIGH SCHOOL	0.46/0.05	5.52	--	--	--	0 <sup>6</sup>	--	--
	7284 <sup>2+</sup>	FLIN FLON, RUTH BETTS	0.86/0.18	4.23	--	--	--	0 <sup>6</sup>	--	--

## Notes:

All Concentration units for the above Table 4c are in ug/m<sup>3</sup>.

-- No guideline or objective

+ Company supplied data

<sup>2</sup> - 24 Hour sample collected every three days, synchronized with the NAPS schedule (with numerous exceptions)

<sup>3</sup> - 24 Hour sample collected every second day

<sup>6</sup> - Ontario 24-hour guideline

<sup>9</sup> - Majority of data at or below detection limit

<sup>13</sup> - As guidelines (ug/m<sup>3</sup>): MAL: 24hr-0.300