

Manitoba Ambient Air Quality Data - 2003 Annual Pollutant Summary –
Continuous Monitoring (revised August 2007)

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	0.29	3.3	2.0 ^Δ	0	0 ^Δ	0	0 ^Δ	--	0 ^Δ
	9119 WINNIPEG, 65 ELLEN STREET	0.52	4.7	2.4 ^Δ	0	0 ^Δ	0	0 ^Δ	--	0 ^Δ
NITROGEN DIOXIDE (NO ₂) pphm	5131 BRANDON, ASSIN. COMM.COLLEGE	0.61	4.6	2.6	--	--	0	0	0	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	0.97	9.3	3.6	--	--	0	0	0	--
	9119 WINNIPEG, 65 ELLEN STREET	1.42	12.6	4.0	--	--	0	0	0	--
NITRIC OXIDE (NO) pphm	5131 BRANDON, ASSIN. COMM.COLLEGE	0.35	11.7	2.6	--	--	--	--	--	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	0.44	24.9	7.12	--	--	--	--	--	--
	9119 WINNIPEG, 65 ELLEN STREET	0.89	31.2	8.0	--	--	--	--	--	--
NITROGEN OXIDES (NO _x) pphm	5131 BRANDON, ASSIN. COMM.COLLEGE	0.96	14.9	4.7	--	--	--	--	--	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	1.39	29.8	10.6	--	--	--	--	--	--
	9119 WINNIPEG, 65 ELLEN STREET	2.32	36.4	12.0	--	--	--	--	--	--
SULPHUR DIOXIDE (SO ₂) ppm	7251 FLIN FLON, 143 MAIN STREET	0.01	0.81	0.13	96	215 ^o	13	10 ^o	--	0 ^o
	7271 [†] FLIN FLON, AQUA CENTRE	0.00	0.67	0.09	35	48 ^o	10	0 ^o	--	0 ^o
	7281 [†] FLIN FLON, HBM&S STAFFHOUSE	0.01	0.77	0.08	38	51 ^o	3	0 ^o	--	0 ^o
	7291 [†] CREIGHTON, SASK. CITY HALL	0.00	0.64	0.14	36	69 ^o	9	20 ^o	--	0 ^o
	7301 [†] FLIN FLON, HAPNOT COLLEGIATE	0.00	0.59	0.04	6	0 ^o	1	0 ^o	--	0 ^o
	7351 [†] THOMPSON, WATER TREAT. PLANT	0.00	0.77	0.09	11	22 ^o	2	0 ^o	--	0 ^o
	7361 [†] THOMPSON, EASTWOOD SCHOOL	0.00	0.41	0.08	30	40 ^o	4	0 ^o	--	0 ^o
	7371 [†] THOMPSON, RIVERSIDE SCHOOL	0.00	0.89	0.12	51	63 ^o	18	6 ^o	--	0 ^o
OXIDANTS OZONE (O ₃) pphm	5131 BRANDON, ASSIN. COMM.COLLEGE	2.77	7.7	5.1	326	~	0	~	0	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	2.29	6.8	5.4	237	~	0	~	0	--
	9119 WINNIPEG, 65 ELLEN STREET	2.05	7.0	4.9	129	~	0	~	0	--
AMMONIA (NH ₃) ppm	5131 BRANDON, ASSIN. COMM.COLLEGE	0.01	3.4	0.5	--	--	4	--	--	--

Notes:

- Δ averaged over 8 hours
- † denotes company supplied data
- o using 24-hour moving average
- ~ numerous exceedences of the 24 hour MDL and MAL which are currently under review
- no guideline or objective

Manitoba Ambient Air Quality Data - 2003 Annual Pollutant Summary –
Particulate Matter Monitoring (PM₁₀) (revised August 2007)

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 ₁₀)	7251 ⁴ FLIN FLON, 143 MAIN STREET	20.2/ -	100.1/578.0	-- --	-- 14 ⁶	-- 0			
	7283 ^{2,5} FLIN FLON, CREIGHTON SCHOOL A	16.9/14.6	42.6/ -	-- --	-- 0 ⁶	-- 0			
	7283 ^{3,5} FLIN FLON, CREIGHTON SCHOOL B	17.1/14.5	58.7/ -	-- --	-- 0 ⁶	-- --			
	7284 ¹ FLIN FLON, RUTH BETTS	12.9/11.4	28.0/ -	-- --	-- 0 ⁶	-- --			
	9119 ⁴ WINNIPEG, 65 ELLEN STREET	22.3/ -	88.7/262.9	-- --	-- 30 ⁶	-- 0			
	9119 ¹ WINNIPEG, 65 ELLEN STREET	19.8/15.9	45.7/ -	-- --	-- 0 ⁶	-- 0			
	5131 ⁴ BRANDON, ASSIN. COMM.COLLEGE	23.3/ -	154.3/819.5	-- --	-- 36 ⁶	-- 0			
LEAD (Pb)	7283 ^{2,5} FLIN FLON, CREIGHTON SCHOOL A	0.041/0.029	0.456	-- --	-- 0	-- --			
	7283 ^{3,5,9} FLIN FLON, CREIGHTON SCHOOL B	0.418/0.418	0.521	-- --	-- 0	-- --			
	7284 ^{1,7} FLIN FLON, RUTH BETTS	0.11/0.06	0.47	-- --	-- 0	-- --			
SULPHATES (SO ₄ ²⁻)	7283 ^{2,5,8} FLIN FLON, CREIGHTON SCHOOL A	1.55/1.23	8.81	-- --	-- --	-- --			
	7284 ^{1,7} FLIN FLON, RUTH BETTS	2.01/1.82	4.56	-- --	-- --	-- --			
ARSENIC (As)	7283 ^{2,5} FLIN FLON, CREIGHTON SCHOOL A	0.012/0.004	0.258	-- --	-- 0 ⁶	-- --			
	7283 ^{3,5,9} FLIN FLON, CREIGHTON SCHOOL B	0.006/0.000	0.074	-- --	-- 0 ⁶	-- --			
	7284 ^{1,7} FLIN FLON, RUTH BETTS	0.028/0.010	0.202	-- --	-- 0 ⁶	-- --			
CADMIUM (Cd)	7283 ^{2,5} FLIN FLON, CREIGHTON SCHOOL A	0.006/0.004	0.067	-- --	-- 0 ⁶	-- --			
	7283 ^{3,5,9} FLIN FLON, CREIGHTON SCHOOL B	0.042/0.042	0.063	-- --	-- 0 ⁶	-- --			
	7284 ^{1,7} FLIN FLON, RUTH BETTS	0.015/0.009	0.083	-- --	-- 0 ⁶	-- --			
COPPER (Cu)	7283 ^{2,5} FLIN FLON, CREIGHTON SCHOOL A	0.063/0.034	0.501	-- --	-- 0 ⁶	-- --			
	7283 ^{3,5,9} FLIN FLON, CREIGHTON SCHOOL B	0.152/0.128	0.563	-- --	-- 0 ⁶	-- --			
	7284 ^{1,7} FLIN FLON, RUTH BETTS	0.223/0.111	1.020	-- --	-- 0 ⁶	-- --			
ZINC (Zn)	7283 ^{2,5} FLIN FLON, CREIGHTON SCHOOL A	0.318/0.224	1.973	-- --	-- 0 ⁶	-- --			
	7283 ^{3,5,9} FLIN FLON, CREIGHTON SCHOOL B	0.244/0.215	1.417	-- --	-- 0 ⁶	-- --			
	7284 ^{1,7} FLIN FLON, RUTH BETTS	0.631/0.443	2.783	-- --	-- 0 ⁶	-- --			

Notes:

- All Concentration units for the above Table 4a are in ug/m³.
- No guideline or objective
- No data available
- 1 - 24 Hour sample collected every six days according to NAPS schedule
- 2 - 24 Hour sample collected every 2nd day
- 3 - 24 Hour sample collected daily
- 4 - Real-time continuous monitoring
- 5 - Station instrument changed from hivol (A) to dichotomous (B) in May 2003
- 6 - Ontario 24-hour guideline
- 7 - Metals analysis "biased" in that it was based on selected wind directions and/or TSP loading
- 8 - Data collected to May 2003
- 9 - Majority of data at or below detection limit

Manitoba Ambient Air Quality Data - 2003 Annual Pollutant Summary –
 Particulate Matter Monitoring (PM_{2.5}) (revised August 2007)

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 _{2.5})	9118 ⁴	WINNIPEG, SCOTIA & JEFFERSON	5.6/ -	21.5/44.3	--	--	--	--	--	--
	9119 ¹	WINNIPEG, 65 ELLEN STREET	8.6/7.2	25.2/ -	--	--	--	--	--	--
	9119 ⁴	WINNIPEG, 65 ELLEN STREET	5.3/ -	23.2/43.6	--	--	--	--	--	--
	5131 ⁴	BRANDON, ASSIN. COMM.COLLEGE	6.0/ -	22.8/144.3	--	--	--	--	--	--

Notes:

- All Concentration units for the above Table 4b are in ug/m³.
- No guideline or objective
- No data available
- 1 - 24 Hour sample collected every six days according to NAPS schedule
- 4 - Real-time continuous monitoring

Manitoba Ambient Air Quality Data - 2003 Annual Pollutant Summary –
Particulate Matter Monitoring (TSP) (revised August 2007)

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 ² 7283 ¹⁺ 7284 ^{3,7+}	FLIN FLON, 143 MAIN STREET CREIGHTON, SCHOOL FLIN FLON, RUTH BETTS	47/37 30/24 27/21	207 365 96	-- -- -- -- -- --	-- -- -- -- -- --	4 2 0	-- -- -- -- -- --	-- -- -- -- -- --	
LEAD (Pb)	7251 ² 7283 ¹⁺ 7284 ^{3,7+}	FLIN FLON, 143 MAIN STREET CREIGHTON, SCHOOL FLIN FLON, RUTH BETTS	0.23/0.10 0.04/0.03 0.09/0.05	2.54 0.26 0.54	-- -- -- -- -- --	-- -- -- -- -- --	1 0 0	-- -- -- -- -- --	-- -- -- -- -- --	
SULPHATES (SO ₄ ²⁻)	7251 ² 7283 ¹⁺ 7284 ^{3,7+}	FLIN FLON, 143 MAIN STREET CREIGHTON, SCHOOL FLIN FLON, RUTH BETTS	2.68/2.00 1.29/1.07 1.97/1.57	17.22 6.25 5.10	-- -- -- -- -- --	-- -- -- -- -- --	-- -- -- -- -- --	-- -- -- -- -- --	-- -- -- -- -- --	
NITRATES (NO ₃ ⁻)	7251 ²	FLIN FLON, 143 MAIN STREET	0.07/0.06	0.50	-- --	-- --	-- --	-- --	-- --	
ARSENIC (As)	7251 ² 7283 ¹⁺ 7284 ^{3,7+}	FLIN FLON, 143 MAIN STREET CREIGHTON, SCHOOL FLIN FLON, RUTH BETTS	0.053/0.022 0.009/0.000 0.025/0.009	0.691 0.186 0.223	-- -- -- -- -- --	-- -- -- -- -- --	3 ⁶ 0 ⁶ 0 ⁶	-- -- -- -- -- --	-- -- -- -- -- --	
CADMIUM (Cd)	7251 ² 7283 ^{1,9+} 7284 ^{3,7+}	FLIN FLON, 143 MAIN STREET CREIGHTON, SCHOOL FLIN FLON, RUTH BETTS	0.033/0.011 0.004/0.000 0.014/0.008	0.255 0.038 0.080	-- -- -- -- -- --	-- -- -- -- -- --	0 ⁶ 0 ⁶ 0 ⁶	-- -- -- -- -- --	-- -- -- -- -- --	
COPPER (Cu)	7251 ² 7283 ¹⁺ 7284 ^{3,7+}	FLIN FLON, 143 MAIN STREET CREIGHTON, SCHOOL FLIN FLON, RUTH BETTS	1.040/0.571 0.647/0.498 0.620/0.410	8.744 5.577 2.862	-- -- -- -- -- --	-- -- -- -- -- --	0 ⁶ 0 ⁶ 0 ⁶	-- -- -- -- -- --	-- -- -- -- -- --	
ZINC (Zn)	7251 ² 7283 ¹⁺ 7284 ^{3,7+}	FLIN FLON, 143 MAIN STREET CREIGHTON, SCHOOL FLIN FLON, RUTH BETTS	1.820/1.240 0.427/0.327 0.888/0.562	17.530 3.600 7.608	-- -- -- -- -- --	-- -- -- -- -- --	0 ⁶ 0 ⁶ 0 ⁶	-- -- -- -- -- --	-- -- -- -- -- --	

Notes:

- All Concentration units for the above Table 4c are in ug/m³.
- No guideline or objective
- + Company supplied data
- 1 - 24 Hour sample collected every 2nd day
- 2 - 24 Hour sample collected every three days, at each of two samplers until May, then every 3rd day sampling, synchronized with NAPS schedule at 1 sampler started
- 3 - 24 Hour sample collected every three days, synchronized with the NAPS schedule
- 6 - Ontario 24-hour guideline
- 7 - Metals analysis "biased" in that it was based on selected wind directions and/or TSP loading
- 9 - Majority of data at or below detection limit