

Table 3

Manitoba Ambient Air Quality Data - 2002 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	0.37	2.8	2.0 ^Δ	0	0 ^Δ	0	0 ^Δ	--	0 ^Δ
	9119	WINNIPEG, 65 ELLEN STREET	0.54	4.1	2.2 ^Δ	0	0 ^Δ	0	0 ^Δ	--	0 ^Δ
NITROGEN DIOXIDE(NO ₂) pphm	5131	BRANDON, ASSIN. COMM.COLLEGE	0.58	5.0	2.7	--	--	0	0	0	--
	9118	WINNIPEG, SCOTIA & JEFFERSON	0.99	6.6	4.0	--	--	0	0	0	--
	9119	WINNIPEG, 65 ELLEN STREET	1.43	6.4	4.4	--	--	0	0	0	--
NITRIC OXIDE (NO) pphm	5131	BRANDON, ASSIN. COMM.COLLEGE	0.32	13.3	5.4	--	--	--	--	--	--
	9118	WINNIPEG, SCOTIA & JEFFERSON	0.49	22.8	8.3	--	--	--	--	--	--
	9119	WINNIPEG, 65 ELLEN STREET	0.93	30.4	7.9	--	--	--	--	--	--
NITROGEN OXIDES(NO _x) pphm	5131	BRANDON, ASSIN. COMM.COLLEGE	0.91	17.2	8.1	--	--	--	--	--	--
	9118	WINNIPEG, SCOTIA & JEFFERSON	1.47	25.6	11.1	--	--	--	--	--	--
	9119	WINNIPEG, 65 ELLEN STREET	2.33	34.7	12.1	--	--	--	--	--	--
SULPHUR DIOXIDE(SO ₂) ppm	7251	FLIN FLON, 143 MAIN STREET	0.01	0.99	0.17	74	96	17	25	--	0
	7271	FLIN FLON, AQUA CENTRE	0.00	0.44	0.05	25	0	2	0	--	0
	7281	FLIN FLON, HBM&S STAFFHOUSE	0.01	0.74	0.10	40	44	9	0	--	0
	7291	CREIGHTON, SASK. CITY HALL	0.00	0.63	0.11	60	89	19	0	--	0
	7301	FLIN FLON, HAPNOT COLLEGIATE	0.00	0.38	0.03	10	0	1	0	--	0
	7351	THOMPSON, WATER TREAT. PLANT	0.00	0.19	0.04	1	0	0	0	--	0
	7361	THOMPSON, EASTWOOD SCHOOL	0.00	0.35	0.07	13	10	1	0	--	0
7371	THOMPSON, RIVERSIDE SCHOOL	0.00	0.54	0.09	33	40	6	0	--	0	
OXIDANTS OZONE(O ₃) pphm	5131	BRANDON, ASSIN. COMM.COLLEGE	2.70	6.9	4.7	144	~	0	~	0	--
	9118	WINNIPEG, SCOTIA & JEFFERSON	1.94	7.2	5.0	55	~	0	~	0	--
	9119	WINNIPEG, 65 ELLEN STREET	2.00	7.9	4.7	47	~	0	~	0	--
AMMONIA(NH ₃) ppm	5131	BRANDON, ASSIN. COMM.COLLEGE	0.01	3.2	0.5	--	--	2	--	--	--

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

Table 4a

Manitoba Ambient Air Quality Data - 2002 Annual Pollutant Summary –
Particulate Matter Monitoring (PM₁₀)

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 ₁₀)	7251 ⁴	FLIN FLON, 143 MAIN STREET	22.6 / -	145.2/1359.0	--	--	--	29 ⁶	--	--
	7283 ^{1,7}	FLIN FLON, CREIGHTON SCHOOL	21 / 14	93 / -	--	--	--	1 ⁶	--	--
	7284 ¹	FLIN FLON, RUTH BETTS	13 / 11	43 / -	--	--	--	0 ⁶	--	--
	7285 ^{1,7,8}	FLIN FLON, SEWAGE PLANT	10 / 9	38 / -	--	--	--	0 ⁶	--	--
	9119 ⁴	WINNIPEG, 65 ELLEN STREET	21.4 / -	166.7/501.0	--	--	--	21 ⁶	--	--
	9119 ¹	WINNIPEG, 65 ELLEN STREET	18.3 / 15.5	62.6 / -	--	--	--	1 ⁶	--	--
5131 ⁴	BRANDON, ASSIN. COMM.COLLEGE	21.9 / -	215.5/499.3	--	--	--	27 ⁶	--	--	
LEAD (Pb)	7283 ^{1,7,8}	FLIN FLON, CREIGHTON SCHOOL	0.048/0.035	0.175	--	--	--	0 ⁶	--	--
	7284 ^{1,8}	FLIN FLON, RUTH BETTS	0.153/0.103	0.381	--	--	--	0 ⁶	--	--
	7285 ^{1,7,8}	FLIN FLON, SEWAGE PLANT	0.121/0.092	0.285	--	--	--	0 ⁶	--	--
SULPHATES (SO ₄ ²⁻)	7283 ^{1,7,8}	FLIN FLON, CREIGHTON SCHOOL	0.932/0.755	1.862	--	--	--	--	--	--
	7284 ^{1,8}	FLIN FLON, RUTH BETTS	1.817/1.627	3.524	--	--	--	--	--	--
	7285 ^{1,7,8}	FLIN FLON, SEWAGE PLANT	1.775/1.607	4.337	--	--	--	--	--	--
ARSENIC (As)	7283 ^{1,7,8}	FLIN FLON, CREIGHTON SCHOOL	0.021/0.005	0.132	--	--	--	0 ⁶	--	--
	7284 ^{1,8}	FLIN FLON, RUTH BETTS	0.029/0.014	0.117	--	--	--	0 ⁶	--	--
	7285 ^{1,7,8}	FLIN FLON, SEWAGE PLANT	0.035/0.013	0.322	--	--	--	1 ⁶	--	--
CADMIUM (Cd)	7283 ^{1,7,8}	FLIN FLON, CREIGHTON SCHOOL	0.004/0.004	0.010	--	--	--	0 ⁶	--	--
	7284 ^{1,8}	FLIN FLON, RUTH BETTS	0.024/0.011	0.159	--	--	--	0 ⁶	--	--
	7285 ^{1,7,8}	FLIN FLON, SEWAGE PLANT	0.018/0.009	0.092	--	--	--	0 ⁶	--	--
COPPER (Cu)	7283 ^{1,7,8}	FLIN FLON, CREIGHTON SCHOOL	0.041/0.018	0.195	--	--	--	0 ⁶	--	--
	7284 ^{1,8}	FLIN FLON, RUTH BETTS	0.347/0.232	0.998	--	--	--	0 ⁶	--	--
	7285 ^{1,7,8}	FLIN FLON, SEWAGE PLANT	0.227/0.190	0.540	--	--	--	0 ⁶	--	--
ZINC (Zn)	7283 ^{1,7,8}	FLIN FLON, CREIGHTON SCHOOL	0.166/0.055	0.896	--	--	--	0 ⁶	--	--
	7284 ^{1,8}	FLIN FLON, RUTH BETTS	0.555/0.248	2.172	--	--	--	0 ⁶	--	--
	7285 ^{1,7,8}	FLIN FLON, SEWAGE PLANT	0.305/0.169	0.975	--	--	--	0 ⁶	--	--

Notes:

All Concentration units for the above Table 4a are in ug/m3.

1 - 24 Hour sample collected every six days according to NAPS schedule

7 – Sewage Plant HiVol moved to Creighton School in December

-- no guideline or objective

4 - real-time continuous monitoring

6 -Ontario 24-hour guideline

8 – metals analysis "biased" in that it was based on selected wind directions and/or TSP loading

Table 4b

Manitoba Ambient Air Quality Data - 2002 Annual Pollutant Summary –
Particulate Matter Monitoring (PM_{2.5})

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 _{2.5})	9118 ⁴ WINNIPEG, SCOTIA & JEFFERSON	5.7/-	33.6/101.2	--	--	--	--	--	--
	9119 ¹ WINNIPEG, 65 ELLEN STREET	6.5/5.8	18.7/-	--	--	--	--	--	--
	9119 ⁴ WINNIPEG, 65 ELLEN STREET	6.2/-	36.2/88.7	--	--	--	--	--	--
	5131 ⁴ BRANDON, ASSIN. COMM.COLLEGE	5.2/-	25.6/166.1	--	--	--	--	--	--

Notes:

All Concentration units for the above Table 4b are in ug/m3.
schedule

-- no guideline or objective

1 - 24 Hour sample collected every six days according to NAPS

4 - real-time continuous monitoring

Table 4c

Manitoba Ambient Air Quality Data - 2002 Annual Pollutant Summary –
Particulate Matter Monitoring (TSP)

POLLUTANT	STATION NUMBER & LOCATION	ANNUAL ARITH/Geo MEAN	MAXIMUM DATA VALUES 24-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	
TOTAL SUSPENDED PARTICULATE (TSP)	7251 ²	FLIN FLON, 143 MAIN STREET	45/34	142	--	--	--	9	--	--
	7283 ^{1,8}	CREIGHTON, SCHOOL	77/31	3601	--	--	--	8	--	--
	7284 ^{1,8}	FLIN FLON, RUTH BETTS	27/21	102	--	--	--	0	--	--
	7285 ^{1,8}	FLIN FLON, SEWAGE PLANT	19/16	68	--	--	--	0	--	--
	9118 ⁷	WINNIPEG, 299 SCOTIA STREET	31/27	81	--	--	--	0	--	--
9119 ^{1,3}	WINNIPEG, 65 ELLEN STREET	53/40	402	--	--	--	11	--	--	
LEAD (Pb)	7251 ²	FLIN FLON, 143 MAIN STREET	0.28/0.12	3.17	--	--	--	0	--	--
	7283 ^{1,8}	CREIGHTON, SCHOOL	0.17/0.07	3.39	--	--	--	0	--	--
	7284 ^{1,8}	FLIN FLON, RUTH BETTS	0.15/0.10	0.41	--	--	--	0	--	--
	7285 ^{1,8}	FLIN FLON, SEWAGE PLANT	0.12/0.09	0.54	--	--	--	0	--	--
SULPHATES (SO4=)	7251 ²	FLIN FLON, 143 MAIN STREET	2.70/2.10	13.08	--	--	--	--	--	--
	7283 ^{1,8}	CREIGHTON, SCHOOL	1.77/1.36	8.32	--	--	--	--	--	--
	7284 ^{1,8}	FLIN FLON, RUTH BETTS	1.85/1.66	3.40	--	--	--	--	--	--
	7285 ^{1,8}	FLIN FLON, SEWAGE PLANT	1.90/1.69	4.25	--	--	--	--	--	--
NITRATES (NO3-)	7251 ²	FLIN FLON, 143 MAIN STREET	0.07/0.06	0.49	--	--	--	--	--	--
ARSENIC (As)	7251 ²	FLIN FLON, 143 MAIN STREET	0.044/0.019	0.361	--	--	--	2 ⁶	--	--
	7283 ^{1,8}	CREIGHTON, SCHOOL	0.151/0.019	4.548	--	--	--	5 ⁶	--	--
	7284 ^{1,8}	FLIN FLON, RUTH BETTS	0.037/0.016	0.220	--	--	--	0 ⁶	--	--
	7285 ^{1,8}	FLIN FLON, SEWAGE PLANT	0.031/0.010	0.282	--	--	--	0 ⁶	--	--
CADMIUM (Cd)	7251 ²	FLIN FLON, 143 MAIN STREET	0.046/0.014	0.642	--	--	--	0 ⁶	--	--
	7283 ^{1,8}	CREIGHTON, SCHOOL	0.005/0.004	0.041	--	--	--	0 ⁶	--	--
	7284 ^{1,8}	FLIN FLON, RUTH BETTS	0.019/0.009	0.145	--	--	--	0 ⁶	--	--
	7285 ^{1,8}	FLIN FLON, SEWAGE PLANT	0.023/0.010	0.132	--	--	--	0 ⁶	--	--
COPPER (Cu)	7251 ²	FLIN FLON, 143 MAIN STREET	0.969/0.533	6.201	--	--	--	0 ⁶	--	--
	7283 ^{1,8}	CREIGHTON, SCHOOL	0.560/0.417	3.967	--	--	--	0 ⁶	--	--
	7284 ^{1,8}	FLIN FLON, RUTH BETTS	0.688/0.550	1.904	--	--	--	0 ⁶	--	--
	7285 ^{1,8}	FLIN FLON, SEWAGE PLANT	0.639/0.486	1.781	--	--	--	0 ⁶	--	--
ZINC (Zn)	7251 ²	FLIN FLON, 143 MAIN STREET	2.284/1.584	14.460	--	--	--	0 ⁶	--	--
	7283 ^{1,8}	CREIGHTON, SCHOOL	0.773/0.121	19.204	--	--	--	0 ⁶	--	--
	7284 ^{1,8}	FLIN FLON, RUTH BETTS	0.851/0.345	4.619	--	--	--	0 ⁶	--	--
	7285 ^{1,8}	FLIN FLON, SEWAGE PLANT	0.602/0.300	2.259	--	--	--	0 ⁶	--	--

Notes:

All Concentration units for the above Table 4b are in ug/m3.

-- no guideline or objective

*- company supplied data

1 - 24 Hour sample collected every six days according to NAPS schedule

2 - 24 Hour sample collected every three days, synchronized with the NAPS schedule

3 - 3 additional samples collected every NAPS cycle

4 - real-time continuous monitoring

6 - Ontario 24-hour Guideline

8 - metals analysis "biased" in that it was based on selected wind directions and/or TSP loading