

Table 3

Manitoba Ambient Air Quality Data - 1997 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	4.1	2.9 ^A	0	0 ^A	0	0 ^A	--	0 ^A
	9119 WINNIPEG, 65 ELLEN STREET	0.55	5.4	2.3 ^A	0	0 ^A	0	0 ^A	--	0 ^A
NITROGEN DIOXIDE (NO ₂) pphm	5131 BRANDON, ASSIN. COMMUN. COLLEGE	0.57	7.8	2.9	--	--	0	0	0	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	1.22	9.6	4.6	--	--	0	0	0	--
	9119 WINNIPEG, 65 ELLEN STREET	1.77	7.4	4.9	--	--	0	0	0	--
NITRIC OXIDE (NO) pphm	5131 BRANDON, ASSIN. COMMUN. COLLEGE	0.40	35.2	8.7	--	--	--	--	--	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	0.60	25.2	6.4	--	--	--	--	--	--
	9119 WINNIPEG, 65 ELLEN STREET	1.15	31.2	7.3	--	--	--	--	--	--
NITROGEN OXIDES (NO _X) pphm	5131 BRANDON, ASSIN. COMMUN. COLLEGE	0.94	35.6	9.6	--	--	--	--	--	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	1.74	29.5	9.4	--	--	--	--	--	--
	9119 WINNIPEG, 65 ELLEN STREET	2.90	38.0	10.8	--	--	--	--	--	--
SULPHUR DIOXIDE (SO ₂) ppm	7251 FLIN FLON, 143 MAIN STREET	0.02	1.38	0.39	145	740	105	336	--	26
	7271* FLIN FLON, AQUA CENTRE	0.00	0.25	0.04	2	0	0	0	--	0
	7281* FLIN FLON, HBM&S STAFFHOUSE	0.01	0.94	0.44	181	490	70	124	--	16
	7291* CREIGHTON, SASK. CITY HALL	0.00	0.71	0.07	30	44	7	0	--	0
	7301* FLIN FLON, HAPNOT COLLEGIATE	0.00	0.65	0.09	19	21	4	0	--	0
	7351* THOMPSON, WATER TREATMENT PLANT	0.00	0.67	0.07	23	16	5	0	--	0
OXIDANTS OZONE (O ₃) pphm	5131 BRANDON, ASSIN. COMMUN. COLLEGE	3.1	8.4	7.1	563	~	6	~	0	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	2.2	7.5	5.2	174	~	0	~	0	--
	9119 WINNIPEG, 65 ELLEN STREET	1.7	6.6	4.7	60	~	0	~	0	--
AMMONIA (NH ₃) ppm	5131 BRANDON, ASSIN. COMMUN. COLLEGE	0.01	4.9	0.6	--	--	5	--	--	--
SOILING INDEX (COH) COH Units	9118 WINNIPEG, SCOTIA & JEFFERSON	0.1	1.3	0.2	--	0	--	0	--	--
	9119 WINNIPEG, 65 ELLEN STREET	0.1	1.4	0.3	--	0	--	0	--	--

Notes:

^A 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 - 1997 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 ¹	FLIN FLON, 143 MAIN STREET	22 / 34 ⁹	86 / -	--	--	--	3	--	--
	7251 ⁴	FLIN FLON, 143 MAIN STREET	19.5 / -	248.5 / 459.5	--	--	--	--	--	--
	7284 ¹	FLIN FLON, RUTH BETTS	12 / 10	39 / -	--	--	--	0	--	--
	7285 ¹	FLIN FLON, CENTOBA/SEWAGE PLANT	9 / 7	42 / -	--	--	--	0	--	--
	9118 ⁴	WINNIPEG, SCOTIA & JEFFERSON	19.0 ⁹ / -	89.0 / 216.8	--	--	--	--	--	--
	9119 ⁴	WINNIPEG, 65 ELLEN STREET	21.8 / -	102.4 / 283.3	--	--	--	--	--	--
9119 ¹	WINNIPEG, 65 ELLEN STREET	19.7 / 16.3	61.7 / -	--	--	--	1	--	--	
5131 ⁴	BRANDON, ASSIN. COMMUN. COLLEGE	15.8 / -	49 / 224.0	--	--	--	--	--	--	
LEAD (Pb)	7251 ¹	FLIN FLON, 143 MAIN STREET	0.36 / 0.12	2.39 / -	--	--	--	0	--	--
	7284 ¹	FLIN FLON, RUTH BETTS	0.11 / 0.06	0.94 / -	--	--	--	0	--	--
	7285 ¹	FLIN FLON, CENTOBA/SEWAGE PLANT	0.05 / 0.04	0.28 / -	--	--	--	0	--	--
SULPHATES (SO ₄ ²⁻)	7251 ¹	FLIN FLON, 143 MAIN STREET	32.64 / -	8.64 / -	--	--	--	--	--	--
	7284 ¹	FLIN FLON, RUTH BETTS	1.89 / -	5.26 / -	--	--	--	--	--	--
	7285 ¹	FLIN FLON, CENTOBA/SEWAGE PLANT	1.62 / -	5.12 / -	--	--	--	--	--	--
NITRATES (NO ₃ ⁻)	7251 ¹	FLIN FLON, 143 MAIN STREET	0.13 / -	0.75 / -	--	--	--	--	--	--
ARSENIC (As)	7251 ¹	FLIN FLON, 143 MAIN STREET	0.054 / 0.024	0.458 / -	--	--	--	2	--	--
	7284 ¹	FLIN FLON, RUTH BETTS	0.011 / 0.003	0.079 / -	--	--	--	0	--	--
	7285 ¹	FLIN FLON, CENTOBA/SEWAGE PLANT	0.005 / 0.002	0.040 / -	--	--	--	0	--	--
CADMIUM (Cd)	7251 ¹	FLIN FLON, 143 MAIN STREET	0.057 / 0.014	0.704 / -	--	--	--	0	--	--
	7284 ¹	FLIN FLON, RUTH BETTS	0.024 / 0.003	0.297 / -	--	--	--	0	--	--
	7285 ¹	FLIN FLON, CENTOBA/SEWAGE PLANT	0.009 / 0.005	0.050 / -	--	--	--	0	--	--
COPPER (Cu)	7251 ¹	FLIN FLON, 143 MAIN STREET	0.472 / 0.345	2.312 / -	--	--	--	0	--	--
	7284 ¹	FLIN FLON, RUTH BETTS	0.094 / 0.041	0.577 / -	--	--	--	0	--	--
	7285 ¹	FLIN FLON, CENTOBA/SEWAGE PLANT	0.056 / 0.026	0.354 / -	--	--	--	0	--	--
ZINC (Zn)	7251 ¹	FLIN FLON, 143 MAIN STREET	1.14 / 0.74	4.34 / -	--	--	--	0	--	--
	7284 ¹	FLIN FLON, RUTH BETTS	0.24 / 0.08	1.42 / -	--	--	--	0	--	--
	7285 ¹	FLIN FLON, CENTOBA/SEWAGE PLANT	0.10 / 0.02	0.76 / -	--	--	--	0	--	--

Notes:

All Concentration units for the above Table 4a are in ug/m³. ^a - ARITHMETIC MEAN ⁹ - GEOMETRIC MEAN -- no guideline or objective
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 5 - replaced 10 um sampling head with 2.5 um head

Table 4b

Manitoba Ambient Air Quality Data - 1997 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 ^{4,5,6}	WINNIPEG, SCOTIA & JEFFERSON	4.2 / -	15.0 / 109.5	--	--	--	--	--	--
	9119 ¹	WINNIPEG, 65 ELLEN STREET	6.4 / 5.8	15.3 / -	--	--	--	1	--	--

Notes:

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

a - ARITHMETIC MEAN

g- GEOMETRIC MEAN

-- no

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

5 -replaced 10 um sampling head with 2.5 um head

6- TEOM PM 2.5 data corrected to remove offset and slope factors as per NAPS directive

Table 4c

Manitoba Ambient Air Quality Data - 1997 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	42 / 29	156	--	--	--	3	--	0
	7283 ^{1*}	CREIGHTON, FIRE HALL	25 / 22	131	--	--	--	1	--	0
	7284 ^{1*}	FLIN FLON, RUTH BETTS	24 / 14	98	--	--	--	0	--	0
	7285 ^{1*}	FLIN FLON, CENTOBA/SEWAGE PLANT	17 / 14	61	--	--	--	0	--	0
	9118 ¹	WINNIPEG, 299 SCOTIA STREET	34 / 28	101	--	--	--	0	--	0
	9119 ^{1 3}	WINNIPEG, 65 ELLEN STREET	45 / 41	160	--	--	--	7	--	0
9201 ¹	BRANDON, 1104 PRINCESS AVENUE	33 / 31	94	--	--	--	0	--	0	
LEAD (Pb)	7251 ²	FLIN FLON, 143 MAIN STREET	0.34 / 0.11	2.98	--	--	--	0	--	--
	7283 ^{1*}	CREIGHTON, FIRE HALL	0.06 / 0.04	0.64	--	--	--	0	--	--
	7284 ^{1*}	FLIN FLON, RUTH BETTS	0.14 / 0.13	1.91	--	--	--	0	--	--
	7285 ^{1*}	FLIN FLON, CENTOBA/SEWAGE PLANT	0.07 / 0.04	1.34	--	--	--	0	--	--
SULPHATES (SO ₄ ²⁻)	7251 ²	FLIN FLON, 143 MAIN STREET	3.14 / -	18.18	--	--	--	--	--	--
	7283 ^{1*}	CREIGHTON, FIRE HALL	1.70 / -	6.08	--	--	--	--	--	--
	7284 ^{1*}	FLIN FLON, RUTH BETTS	2.10 / -	9.01	--	--	--	--	--	--
	7285 ^{1*}	FLIN FLON, CENTOBA/SEWAGE PLANT	1.71 / -	6.32	--	--	--	--	--	--
NITRATES (NO ₃ ⁻)	7251 ²	FLIN FLON, 143 MAIN STREET	0.13 / -	0.92	--	--	--	--	--	--
ARSENIC (As)	7251 ²	FLIN FLON, 143 MAIN STREET	0.053 / 0.016	0.793	--	--	--	4	--	--
	7283 ^{1*}	CREIGHTON, FIRE HALL	0.014 / 0.000	0.292	--	--	--	0	--	--
	7284 ^{1*}	FLIN FLON, RUTH BETTS	0.013 / 0.003	0.248	--	--	--	0	--	--
	7285 ^{1*}	FLIN FLON, CENTOBA/SEWAGE PLANT	0.008 / 0.002	0.190	--	--	--	0	--	--
CADMIUM (Cd)	7251 ²	FLIN FLON, 143 MAIN STREET	0.049 / 0.012	0.656	--	--	--	0	--	--
	7283 ^{1*}	CREIGHTON, FIRE HALL	0.010 / 0.004	0.136	--	--	--	0	--	--
	7284 ^{1*}	FLIN FLON, RUTH BETTS	0.024 / 0.009	0.303	--	--	--	0	--	--
	7285 ^{1*}	FLIN FLON, CENTOBA/SEWAGE PLANT	0.010 / 0.006	0.121	--	--	--	0	--	--
COPPER (Cu)	7251 ²	FLIN FLON, 143 MAIN STREET	0.845 / 0.420	8.067	--	--	--	0	--	--
	7283 ^{1*}	CREIGHTON, FIRE HALL	0.258 / 0.197	0.685	--	--	--	0	--	--
	7284 ^{1*}	FLIN FLON, RUTH BETTS	0.431 / 0.305	1.902	--	--	--	0	--	--
	7285 ^{1*}	FLIN FLON, CENTOBA/SEWAGE PLANT	0.510 / 0.291	7.973	--	--	--	0	--	--
ZINC (Zn)	7251 ²	FLIN FLON, 143 MAIN STREET	1.71 / 0.58	10.87	--	--	--	0	--	--
	7283 ^{1*}	CREIGHTON, FIRE HALL	0.15 / 0.04	1.76	--	--	--	0	--	--
	7284 ^{1*}	FLIN FLON, RUTH BETTS	0.47 / 0.13	5.03	--	--	--	0	--	--
	7285 ^{1*}	FLIN FLON, CENTOBA/SEWAGE PLANT	0.24 / 0.06	2.95	--	--	--	0	--	--

Notes:

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

a - ARITHMETIC MEAN

g- GEOMETRIC MEAN

-- no guideline or

objective

* - company supplied data

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

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

3 - 3

4 - real-time continuous monitoring