

Table 3

Manitoba Ambient Air Quality Data - 1998 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	0.4	5.8	4.0 ^A	0	0 ^A	0	0 ^A	--	0 ^A
	9119 WINNIPEG, 65 ELLEN STREET	0.6	5.6	2.5 ^A	0	0 ^A	0	0 ^A	--	0 ^A
NITROGEN DIOXIDE (NO ₂) pphm	5131 BRANDON, ASSIN. COMMUN. COLLEGE	0.8	6.5	3.1	--	--	0	0	0	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	1.2	5.7	4.0	--	--	0	0	0	--
	9119 WINNIPEG, 65 ELLEN STREET	1.7	8.2	6.0	--	--	0	0	0	--
NITRIC OXIDE (NO) pphm	5131 BRANDON, ASSIN. COMMUN. COLLEGE	0.5	29.7	5.1	--	--	--	--	--	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	0.6	41.0	12.5	--	--	--	--	--	--
	9119 WINNIPEG, 65 ELLEN STREET	1.2	30.9	10.4	--	--	--	--	--	--
NITROGEN OXIDES (NO _x) pphm	5131 BRANDON, ASSIN. COMMUN. COLLEGE	1.3	34.4	7.4	--	--	--	--	--	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	1.7	51.6	15.5	--	--	--	--	--	--
	9119 WINNIPEG, 65 ELLEN STREET	2.9	37.4	14.6	--	--	--	--	--	--
SULPHUR DIOXIDE (SO ₂) ppm	7251 FLIN FLON, 143 MAIN STREET	0.01	1.21	0.29	184	531	64	179	--	0
	7271* FLIN FLON, AQUA CENTRE	0.00	0.45	0.09	23	25	5	0	--	0
	7281* FLIN FLON, HBM&S STAFFHOUSE	0.01	1.00	0.21	154	373	55	132	--	0
	7291* CREIGHTON, SASK. CITY HALL	0.01	0.70	0.13	67	95	11	26	--	0
	7301* FLIN FLON, HAPNOT COLLEGIATE	0.00	0.94	0.12	34	44	12	9	--	0
	7351* THOMPSON, WATER TREATMENT PLANT	0.00	1.03	0.11	22	30	8	0	--	0
OXIDANTS OZONE (O ₃) pphm	5131 BRANDON, ASSIN. COMMUN. COLLEGE	2.8	6.7	4.9	227	~	0	~	0	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	2.3	7.2	4.9	200	~	0	~	0	--
	9119 WINNIPEG, 65 ELLEN STREET	1.5	6.5	3.4	15	~	0	~	0	--
AMMONIA (NH ₃) ppm	5131 BRANDON, ASSIN. COMMUN. COLLEGE	0.00	3.1	0.4	--	--	2	--	--	--
SOILING INDEX (COH) COH Units	9118 WINNIPEG, SCOTIA & JEFFERSON	0.06	1.0	0.5	--	6	--	0	--	--
	9119 WINNIPEG, 65 ELLEN STREET	0.07	0.9	0.3	--	0	--	0	--	--

Notes:

^A averaged over 8 hours * denotes company supplied data
the 24 hour MDL and MAL which are currently under review

-- no guideline or objective

- numerous exceedences of

Table 4a

Manitoba Ambient Air Quality Data - 1998 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	31 / 22	205 / -	--	--	--	10 ⁶	--	--
	7251 ⁴	FLIN FLON, 143 MAIN STREET	24.3 / 24.3	181.4 / 430.5	--	--	--	--	--	--
	7284 ¹	FLIN FLON, RUTH BETTS	16.0 / 13	51.4 / -	--	--	--	1 ⁶	--	--
	7285 ¹	FLIN FLON, SEWAGE PLANT	12.0 / 10	49.8 / -	--	--	--	0 ⁶	--	--
	9119 ⁴	WINNIPEG, 65 ELLEN STREET	22.0 /	101.5 / 210.5	--	--	--	--	--	--
	5131 ³	BRANDON, ASSIN. COMMUN. COLLEGE	17.6 / 14.8 23.1 /	47.2 / - 127.0 / 382.8	--	--	--	0 ⁶	--	--
LEAD (Pb)	7251 ¹	FLIN FLON, 143 MAIN STREET	0.515 / 0.110	8.370 / -	--	--	--	2	--	--
	7284 ¹	FLIN FLON, RUTH BETTS	0.809 / 0.375	3.092 / -	--	--	--	0	--	--
	7285 ¹	FLIN FLON, SEWAGE PLANT	0.365 / 0.107	1.823 / -	--	--	--	0	--	--
SULPHATES (SO ₄ ²⁻)	7251 ¹	FLIN FLON, 143 MAIN STREET	2.44 / -	13.82 / -	--	--	--	--	--	--
	7284 ¹	FLIN FLON, RUTH BETTS	1.753 / -	2.701 / -	--	--	--	--	--	--
	7285 ¹	FLIN FLON, SEWAGE PLANT	1.500 / -	2.496 / -	--	--	--	--	--	--
NITRATES (NO ₃)	7251 ¹	FLIN FLON, 143 MAIN STREET	0.13 /	1.19 / -	--	--	--	--	--	--
ARSENIC (As)	7251 ¹	FLIN FLON, 143 MAIN STREET	0.090 / 0.014	1.105 / -	--	--	--	7 ⁶	--	--
	7284 ¹	FLIN FLON, RUTH BETTS	0.091 / 0.046	0.322 / -	--	--	--	1 ⁶	--	--
	7285 ¹	FLIN FLON, SEWAGE PLANT	0.040 / 0.013	0.218 / -	--	--	--	0 ⁶	--	--
CADMIUM (Cd)	7251 ¹	FLIN FLON, 143 MAIN STREET	0.071 / 0.012	1.023 / -	--	--	--	0 ⁶	--	--
	7284 ¹	FLIN FLON, RUTH BETTS	0.107 / 0.037	0.323 / -	--	--	--	0 ⁶	--	--
	7285 ¹	FLIN FLON, SEWAGE PLANT	0.037 / 0.013	0.162 / -	--	--	--	0 ⁶	--	--
COPPER (Cu)	7251 ¹	FLIN FLON, 143 MAIN STREET	0.712 / 0.453	3.896 / -	--	--	--	0 ⁶	--	--
	7284 ¹	FLIN FLON, RUTH BETTS	0.417 / 0.315	1.033 / -	--	--	--	0 ⁶	--	--
	7285 ¹	FLIN FLON, SEWAGE PLANT	0.138 / 0.086	0.316 / -	--	--	--	0 ⁶	--	--
ZINC (Zn)	7251 ¹	FLIN FLON, 143 MAIN STREET	1.151 / 0.513	8.37 / -	--	--	--	0 ⁶	--	--
	7284 ¹	FLIN FLON, RUTH BETTS	0.975 / 0.709	2.77 / -	--	--	--	0 ⁶	--	--
	7285 ¹	FLIN FLON, SEWAGE PLANT	0.326 / 0.149	1.18 / -	--	--	--	0 ⁶	--	--

Notes: All Concentration units for the above Table 4a are in ug/m3.
-- no guideline or objective

a - ARITHMETIC MEAN

g - GEOMETRIC MEAN

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

4 - real-time continuous monitoring

6 - Ontario 24-hour Criteria

Table 4b Manitoba Ambient Air Quality Data - 1998 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 ¹	WINNIPEG, SCOTIA & JEFFERSON	6.4 /	62.1 / 140.9	--	--	--	--	--	--
	9119 ¹	WINNIPEG, 65 ELLEN STREET	6.9 / 6.0	21.5 / -	--	--	--	--	--	--

Notes: All Concentration units for the above Table 4b are in ug/m3.
 -- no guideline or objective

a - ARITHMETIC MEAN

g- GEOMETRIC MEAN

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

4 - real-time continuous monitoring

Table 4c Manitoba Ambient Air Quality Data - 1998 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	58 / 37	377	--	--	--	13	--	--
	7283 ^{1*}	CREIGHTON, SCHOOL	28 / 18	157	--	--	--	1	--	--
	7284 ^{1*}	FLIN FLON, RUTH BETTS	27 / 16	97	--	--	--	0	--	--
	7285 ^{1*}	FLIN FLON, SEWAGE PLANT	18 / 13	74	--	--	--	0	--	--
	9118 ^{1*}	WINNIPEG, 299 SCOTIA STREET	34 / 26	179	--	--	--	1	--	--
	9201 ¹	BRANDON, 1104 PRINCESS AVENUE	48 / 40	178	--	--	--	10	--	--
LEAD (Pb)	7251 ²	FLIN FLON, 143 MAIN STREET	0.47 / 0.10	9.93	--	--	--	2	--	--
	7283 ^{1*}	CREIGHTON, SCHOOL	0.08 / 0.07	1.22	--	--	--	0	--	--
	7284 ^{1*}	FLIN FLON, RUTH BETTS	0.65 / 0.31	3.09	--	--	--	0	--	--
	7285 ^{1*}	FLIN FLON, SEWAGE PLANT	0.19 / 0.14	1.16	--	--	--	0	--	--
SULPHATES (SO ₄ ²⁻)	7251 ²	FLIN FLON, 143 MAIN STREET	2.90 / -	27.43	--	--	--	--	--	--
	7283 ^{1*}	CREIGHTON, FIRE HALL	1.98 / -	8.82	--	--	--	--	--	--
	7284 ^{1*}	FLIN FLON, RUTH BETTS	3.00 / -	6.51	--	--	--	--	--	--
NITRATES (NO ₃ ⁻)	7285 ^{1*}	FLIN FLON, SEWAGE PLANT	1.68 / -	3.35	--	--	--	--	--	--
	7251 ²	FLIN FLON, 143 MAIN STREET	0.13 / -	1.82	--	--	--	--	--	--
ARSENIC (As)	7251 ²	FLIN FLON, 143 MAIN STREET	0.085 / 0.017	1.045	--	--	--	10 ⁶	--	--
	7283 ^{1*}	CREIGHTON, FIRE HALL	0.013 / 0.010	0.205	--	--	--	0 ⁶	--	--
	7284 ^{1*}	FLIN FLON, RUTH BETTS	0.067 / 0.053	0.363	--	--	--	1 ⁶	--	--
	7285 ^{1*}	FLIN FLON, SEWAGE PLANT	0.023 / 0.020	0.073	--	--	--	0 ⁶	--	--
CADMIUM (Cd)	7251 ²	FLIN FLON, 143 MAIN STREET	0.057 / 0.011	0.895	--	--	--	0 ⁶	--	--
	7283 ^{1*}	CREIGHTON, FIRE HALL	0.010 / 0.042	0.104	--	--	--	0 ⁶	--	--
	7284 ^{1*}	FLIN FLON, RUTH BETTS	0.077 / 0.063	0.281	--	--	--	0 ⁶	--	--
	7285 ^{1*}	FLIN FLON, SEWAGE PLANT	0.022 / 0.019	0.107	--	--	--	0 ⁶	--	--
COPPER (Cu)	7251 ²	FLIN FLON, 143 MAIN STREET	1.015 / 0.385	11.757	--	--	--	0 ⁶	--	--
	7283 ^{1*}	CREIGHTON, FIRE HALL	0.197 / 0.206	1.027	--	--	--	0 ⁶	--	--
	7284 ^{1*}	FLIN FLON, RUTH BETTS	0.984 / 0.793	2.442	--	--	--	0 ⁶	--	--
	7285 ^{1*}	FLIN FLON, SEWAGE PLANT	0.513 / 0.473	1.143	--	--	--	0 ⁶	--	--
ZINC (Zn)	7251 ²	FLIN FLON, 143 MAIN STREET	1.87 / 0.746	14.96	--	--	--	0 ⁶	--	--
	7283 ^{1*}	CREIGHTON, FIRE HALL	0.208 / 0.105	2.316	--	--	--	0 ⁶	--	--
	7284 ^{1*}	FLIN FLON, RUTH BETTS	1.363 / 0.856	3.885	--	--	--	0 ⁶	--	--
	7285 ^{1*}	FLIN FLON, SEWAGE PLANT	0.527 / 0.366	1.750	--	--	--	0 ⁶	--	--

Notes:

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

objective

1 - 24 Hour sample collected every six days according to NAPS schedule
 additional samples collected every NAPS cycle
 4 - real-time continuous monitoring

* - company supplied data

6 - Ontario 24-hour Criteria

a - ARITHMETIC MEAN

g- GEOMETRIC MEAN

-- no guideline or

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

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