

Manitoba Ambient Air Quality Data - 2008 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	0.29	2.2	1.0 ^Δ	0	0 ^Δ	0	0 ^Δ	--	0 ^Δ
	9119 WINNIPEG, 65 ELLEN STREET	0.45	2.4	1.1 ^Δ	0	0 ^Δ	0	0 ^Δ	--	0 ^Δ
NITROGEN DIOXIDE (NO ₂) pphm	5131 BRANDON, ASSIN. COMM.COLLEGE	0.53	4.6	2.5 [°]	--	--	0	0 [°]	0	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	0.75	4.7	3.2 [°]	--	--	0	0 [°]	0	--
	9119 WINNIPEG, 65 ELLEN STREET	1.17	9.1	3.3 [°]	--	--	0	0 [°]	0	--
NITRIC OXIDE (NO) pphm	5131 BRANDON, ASSIN. COMM.COLLEGE	0.40	11.9	3.4 [°]	--	--	--	--	--	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	0.30	14.6	5.2 [°]	--	--	--	--	--	--
	9119 WINNIPEG, 65 ELLEN STREET	0.71	15.1	6.2 [°]	--	--	--	--	--	--
NITROGEN OXIDES (NO _x) pphm	5131 BRANDON, ASSIN. COMM.COLLEGE	0.93	15.5	5.9 [°]	--	--	--	--	--	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	1.05	19.1	8.3 [°]	--	--	--	--	--	--
	9119 WINNIPEG, 65 ELLEN STREET	1.86	20.9	9.1 [°]	--	--	--	--	--	--
SULPHUR DIOXIDE (SO ₂) ppm ¹⁰	7251 FLIN FLON, 143 MAIN STREET	0.01	0.96	0.23 [°]	126	298 [°]	32	83 [°]	--	0 [°]
	7271 [†] FLIN FLON, AQUA CENTRE	0.00	0.78	0.07 [°]	28	3 [°]	8	0 [°]	--	0 [°]
	7281 [†] FLIN FLON, HBM&S STAFFHOUSE	0.01	0.61	0.12 [°]	59	54 [°]	9	5 [°]	--	0 [°]
	7291 [†] CREIGHTON, SASK. CITY HALL	0.00	0.52	0.07 [°]	19	21 [°]	4	0 [°]	--	0 [°]
	7301 [†] FLIN FLON, HAPNOT COLLEGIATE	0.00	0.59	0.06 [°]	13	0 [°]	3	0 [°]	--	0 [°]
	7351 [†] THOMPSON, WATER TREAT. PLANT	0.00	1.06	0.06 [°]	31	19 [°]	8	0 [°]	--	0 [°]
	7361 [†] THOMPSON, EASTWOOD SCHOOL	0.00	0.86	0.08 [°]	30	19 [°]	7	0 [°]	--	0 [°]
	7371 [†] THOMPSON, RIVERSIDE SCHOOL	0.00	0.83	0.07 [°]	37	36 [°]	6	0 [°]	--	0 [°]
ppb	7381 [†] THOMPSON, WESTWOOD	0.00	0.78	0.10 [°]	18	24 [°]	6	0 [°]	--	0 [°]
	9119 [◊] WINNIPEG, 65 ELLEN STREET	0.51 [◊]	25.30 [◊]	5.26 ^{◊°}	0	0 [°]	0	0 [°]	--	0 [°]
OXIDANTS OZONE (O ₃) pphm ¹¹	5131 BRANDON, ASSIN. COMM.COLLEGE	2.62	6.3	4.9 [°]	52	~	0	~	0	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	2.36	5.7	4.8 [°]	10	~	0	~	0	--
	9119 WINNIPEG, 65 ELLEN STREET	2.08	5.6	4.3 [°]	1	~	0	~	0	--
AMMONIA (NH ₃) ppm ¹²	5131 BRANDON, ASSIN. COMM.COLLEGE	0.02	3.4	0.4 [°]	--	--	1	--	--	--

Notes: ^Δ Averaged over 8 hours
[†] Company supplied data
[°] Using 24-hour moving average
[◊] 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
¹⁰ - SO₂ guidelines (ppm): MDL: 1hr-0.170, 24hr-0.060; MAL: 1hr-0.340, 24hr-0.110; MTL: 24hr-0.310
¹¹ - O₃ guidelines (pphm): MDL: 1hr-5.0, 24hr-1.50; MAL: 1hr-8.20, 24hr-2.50; MTL: 1hr-20.0
¹² - NH₃ guidelines (ppm): MAL: 1hr-2.0

Manitoba Ambient Air Quality Data - 2008 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 ⁵ FLIN FLON, 143 MAIN STREET	17.2/10.7	80.6/433.7	--	--	--	16	--	--
	7283 ⁴⁺ CREIGHTON SK, HIGH SCHOOL	19.5/16.5	84.2/-	--	--	--	7	--	--
	7284 ¹⁺ FLIN FLON, RUTH BETTS	13.9/10.8	58.9/-	--	--	--	1	--	--
	7381 ⁵ THOMPSON, WESTWOOD	10.5/7.4	53.7/311.2	--	--	--	1	--	--
	9119 ⁵ WINNIPEG, 65 ELLEN STREET	10.9/8.6	73.8/208.4	--	--	--	1	--	--
	9119 ² WINNIPEG, 65 ELLEN STREET	14.4/12.3	36.0/-	--	--	--	--	--	--
	5131 ⁵ BRANDON, ASSIN.COMM.COLLEGE	23.8/14.4	255.3/918.9	--	--	--	34	--	--
LEAD (Pb)	7283 ^{4,9+} CREIGHTON SK, HIGH SCHOOL	0.17/0.17	0.42/-	--	--	--	0	--	--
	7284 ¹⁺ FLIN FLON, RUTH BETTS	0.06/0.03	0.67/-	--	--	--	0	--	--
SULPHATES (SO ₄ ⁼)	7284 ¹⁺ FLIN FLON, RUTH BETTS	1.82/1.49	7.13/-	--	--	--	--	--	--
ARSENIC (As)	7283 ^{4,9+} CREIGHTON SK, HIGH SCHOOL	0.01/0.00	0.06/-	--	--	--	0	--	--
	7284 ¹⁺ FLIN FLON, RUTH BETTS	0.03/0.00	0.47/-	--	--	--	1	--	--
CADMIUM (Cd)	7283 ^{4,9+} CREIGHTON SK, HIGH SCHOOL	0.01/0.01	0.05/-	--	--	--	0	--	--
	7284 ¹⁺ FLIN FLON, RUTH BETTS	0.01/0.00	0.32/-	--	--	--	0	--	--
COPPER (Cu)	7283 ^{4,9+} CREIGHTON SK, HIGH SCHOOL	0.06/0.03	1.05/-	--	--	--	0	--	--
	7284 ¹⁺ FLIN FLON, RUTH BETTS	0.03/0.02	0.33/-	--	--	--	0	--	--
ZINC (Zn)	7283 ^{4,9+} CREIGHTON SK, HIGH SCHOOL	0.11/0.04	2.75/-	--	--	--	0	--	--
	7284 ¹⁺ FLIN FLON, RUTH BETTS	0.31/0.04	3.64/-	--	--	--	0	--	--

Notes:

- All Concentration units for the above Table are in ug/m³.
- No guideline or objective
- No data available
- ¹ - 24 Hour sample collected every three days (Hi-Vol)
- ² - 24 Hour sample collected every six days according to NAPS schedule (Dichotomous)
- ⁴ - 24 Hour sample collected daily (Dichotomous)
- ⁵ - Real-time continuous monitoring (TEOM)
- ⁹ - Majority of data at or below detection limit
- ⁺ Company supplied data

Manitoba Ambient Air Quality Data - 2008 Annual Pollutant Summary – Particulate Matter Monitoring (PM_{2.5})

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 ⁵	WINNIPEG, SCOTIA & JEFFERSON	5.0/3.3	24.4/79.2	--	--	--	0 ⁷	--	--
	9119 ¹	WINNIPEG, 65 ELLEN STREET	6.2/5.4	19.1/-	--	--	--	0 ⁷	--	--
	9119 ⁵	WINNIPEG, 65 ELLEN STREET	4.5/3.1	21.7/46.8	--	--	--	0 ⁷	--	--
	5131 ⁵	BRANDON, ASSIN. COMM.COLLEGE	5.1/3.3	37.2/131.0	--	--	--	1 ⁷	--	--
	7251 ⁵	FLIN FLON, 143 MAIN STREET	6.4/3.2	56.9/364.8	--	--	--	7 ⁷	--	--
	7283 ^{4†}	CREIGHTON SK, HIGH SCHOOL	13.0/9.3	80.1/-	--	--	--	13 ⁷	--	--
	7381 ⁵	THOMPSON, WESTWOOD	3.2/1.9	29.5/83.1	--	--	--	0 ⁷	--	--

Notes:

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

-- No guideline or objective

- No data available

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

⁴ - 24 Hour sample collected daily (Dichotomous)

⁵ - Real-time continuous monitoring (TEOM)

⁷ - Based on Canada Wide Standard "level" for PM_{2.5} (not the actual metric of the 98th percentile annual value averaged over 3 years)

[†] Company supplied data

Manitoba Ambient Air Quality Data - 2008 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	35.4/28.1	178.0	--	--	--	3	--	0
	7283 ³⁺ CREIGHTON SK, HIGH SCHOOL	25.4/19.7	119.7	--	--	--	0	--	0
	7284 ²⁺ FLIN FLON, RUTH BETTS	22.6/17.2	92.8	--	--	--	0	--	0
LEAD (Pb)	7251 ² FLIN FLON, 143 MAIN STREET	0.23/0.07	2.76	--	--	--	1	--	--
	7283 ³⁺ CREIGHTON SK, HIGH SCHOOL	0.03/0.02	0.46	--	--	--	0	--	--
	7284 ²⁺ FLIN FLON, RUTH BETTS	0.06/0.03	0.77	--	--	--	0	--	--
SULPHATES (SO4=)	7251 ² FLIN FLON, 143 MAIN STREET	2.12/1.58	14.13	--	--	--	--	--	--
	7283 ³⁺ CREIGHTON SK, HIGH SCHOOL	1.19/0.95	3.78	--	--	--	--	--	--
	7284 ²⁺ FLIN FLON, RUTH BETTS	1.93/1.52	9.29	--	--	--	--	--	--
NITRATES (NO3-)	7251 ² FLIN FLON, 143 MAIN STREET	0.04/0.03	0.18	--	--	--	--	--	--
ARSENIC (As) ¹³	7251 ² FLIN FLON, 143 MAIN STREET	0.06/0.02	0.87	--	--	--	8	--	--
	7283 ³⁺ CREIGHTON SK, HIGH SCHOOL	0.01/0.00	0.09	--	--	--	0	--	--
	7284 ²⁺ FLIN FLON, RUTH BETTS	0.02/0.00	0.52	--	--	--	2	--	--
CADMIUM (Cd)	7251 ² FLIN FLON, 143 MAIN STREET	0.04/0.01	0.76	--	--	--	0	--	--
	7283 ³⁺ CREIGHTON SK, HIGH SCHOOL	0.00/0.00	0.05	--	--	--	0	--	--
	7284 ²⁺ FLIN FLON, RUTH BETTS	0.01/0.00	0.37	--	--	--	0	--	--
COPPER (Cu)	7251 ² FLIN FLON, 143 MAIN STREET	1.08/0.66	7.51	--	--	--	0	--	--
	7283 ³⁺ CREIGHTON SK, HIGH SCHOOL	0.27/0.12	1.66	--	--	--	0	--	--
	7284 ²⁺ FLIN FLON, RUTH BETTS	0.51/0.32	4.03	--	--	--	0	--	--
ZINC (Zn)	7251 ² FLIN FLON, 143 MAIN STREET	1.45/0.89	9.63	--	--	--	0	--	--
	7283 ³⁺ CREIGHTON SK, HIGH SCHOOL	0.14/0.03	1.84	--	--	--	0	--	--
	7284 ²⁺ FLIN FLON, RUTH BETTS	0.33/0.06	3.91	--	--	--	0	--	--

Notes:

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

-- No guideline or objective

+ Company supplied data

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

³ - 24 Hour sample collected every second day

¹³ - As guidelines (ug/m³): MAL: 24hr-0.300