

Manitoba Ambient Air Quality Data - 2009 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	2.6	1.33 ^Δ	0	0 ^Δ	0	0 ^Δ	--	0 ^Δ
	9119 WINNIPEG, 65 ELLEN STREET	0.51	5.8	1.50 ^Δ	0	0 ^Δ	0	0 ^Δ	--	0 ^Δ
NITROGEN DIOXIDE (NO2) pphm	5131 BRANDON, ASSIN. COMM.COLLEGE	0.54	4.4	2.71 [○]	--	--	0	0 [○]	0	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	0.73	4.6	3.07 [○]	--	--	0	0 [○]	0	--
	9119 WINNIPEG, 65 ELLEN STREET	1.17	8.8	4.18 [○]	--	--	0	0 [○]	0	--
NITRIC OXIDE (NO) pphm	5131 BRANDON, ASSIN. COMM.COLLEGE	0.34	9.8	2.51 [○]	--	--	--	--	--	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	0.34	27.2	10.83 [○]	--	--	--	--	--	--
	9119 WINNIPEG, 65 ELLEN STREET	0.73	28.1	9.72 [○]	--	--	--	--	--	--
NITROGEN OXIDES (NOx) pphm	5131 BRANDON, ASSIN. COMM.COLLEGE	0.88	12.5	5.13 [○]	--	--	--	--	--	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	1.07	30.7	13.27 [○]	--	--	--	--	--	--
	9119 WINNIPEG, 65 ELLEN STREET	1.88	35.3	13.18 [○]	--	--	--	--	--	--
SULPHUR DIOXIDE (SO2) ppm ¹⁰	7251 FLIN FLON, 143 MAIN STREET	0.01	0.94	0.15 [○]	84	188 [○]	22	15 [○]	--	0 [○]
	7271 [†] FLIN FLON, AQUA CENTRE	0.00	0.64	0.09 [○]	28	45 [○]	10	0 [○]	--	0 [○]
	7281 [†] FLIN FLON, HBM&S STAFFHOUSE	0.01	0.71	0.09 [○]	49	89 [○]	14	0 [○]	--	0 [○]
	7291 [†] CREIGHTON, SASK. CITY HALL	0.00	0.93	0.07 [○]	25	21 [○]	7	0 [○]	--	0 [○]
	7301 [†] FLIN FLON, HAPNOT COLLEGIATE	0.00	0.54	0.09 [○]	9	21 [○]	4	0 [○]	--	0 [○]
	7351 [†] THOMPSON, WATER TREAT. PLANT	0.00	0.25	0.05 [○]	8	0 [○]	0	0 [○]	--	0 [○]
	7361 [†] THOMPSON, EASTWOOD SCHOOL	0.00	0.46	0.04 [○]	20	0 [○]	3	0 [○]	--	0 [○]
	7371 [†] THOMPSON, RIVERSIDE SCHOOL	0.00	0.48	0.04 [○]	7	0 [○]	1	0 [○]	--	0 [○]
7381 [†] THOMPSON, WESTWOOD	0.00	0.41	0.06 [○]	13	0 [○]	4	0 [○]	--	0 [○]	
ppb	9119 [◇] WINNIPEG, 65 ELLEN STREET	0.55 [◇]	14.60 [◇]	3.12 [◇]	0	0 [○]	0	0 [○]	--	0 [○]
OXIDANTS OZONE (O3) pphm ¹¹	5131 BRANDON, ASSIN. COMM.COLLEGE	2.28	5.50	4.11 [○]	0	~	0	~	0	--
	9118 WINNIPEG, SCOTIA & JEFFERSON	2.09	5.60	4.31 [○]	1	~	0	~	0	--
	9119 WINNIPEG, 65 ELLEN STREET	1.92	5.60	4.15 [○]	2	~	0	~	0	--
AMMONIA (NH3) ppm ¹²	5131 BRANDON, ASSIN. COMM.COLLEGE	0.01	2.50	0.47 [○]	--	--	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 - 2009 Annual Pollutant Summary – Particulate Matter Monitoring (PM₁₀)

POLLUTANT	STATION NUMBER & LOCATION	ANNUAL ARITH/GEO MEAN	MAXIMUM DATA VALUES 24/1-HR	# OF ABOVE		# 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	15.84/10.45	72.23/514.70	--	--	--	9	--	--
	7251 ³ FLIN FLON, 143 MAIN STREET	7.02/1.00	28.67/-	--	--	--	0	--	--
	7283 ⁴⁺ CREIGHTON SK, HIGH SCHOOL	28.20/23.25	167.50/-	--	--	--	27	--	--
	7284 ¹⁺ FLIN FLON, RUTH BETTS	11.73/9.10	33.12/-	--	--	--	0	--	--
	7381 ⁵ THOMPSON, WESTWOOD	8.57/6.20	28.09/201.40	--	--	--	0	--	--
	9119 ⁵ WINNIPEG, 65 ELLEN STREET	9.37/7.55	29.69/85.40	--	--	--	0	--	--
	9119 ² WINNIPEG, 65 ELLEN STREET	14.73/11.53	49.42/-	--	--	--	0	--	--
5131 ⁵ BRANDON, ASSIN.COMM.COLLEGE	21.53/11.83	250.63/2487.80	--	--	--	33	--	--	
LEAD (Pb)	7283 ^{4,9+} CREIGHTON SK, HIGH SCHOOL	0.17/0.17	1.00/-	--	--	--	0	--	--
	7284 ¹⁺ FLIN FLON, RUTH BETTS	0.09/0.03	1.15/-	--	--	--	0	--	--
SULPHATES (SO ₄ ⁼)	7284 ¹⁺ FLIN FLON, RUTH BETTS	1.52/1.06	4.59/-	--	--	--	--	--	--
ARSENIC (As)	7283 ^{4,9+} CREIGHTON SK, HIGH SCHOOL	0.01/0.00	0.23/-	--	--	--	0	--	--
	7284 ¹⁺ FLIN FLON, RUTH BETTS	0.04/0.01	0.46/-	--	--	--	1	--	--
CADMIUM (Cd)	7283 ^{4,9+} CREIGHTON SK, HIGH SCHOOL	0.01/0.01	0.06/-	--	--	--	0	--	--
	7284 ¹⁺ FLIN FLON, RUTH BETTS	0.02/0.00	0.22/-	--	--	--	0	--	--
COPPER (Cu)	7283 ^{4,9+} CREIGHTON SK, HIGH SCHOOL	0.04/0.03	1.10/-	--	--	--	0	--	--
	7284 ¹⁺ FLIN FLON, RUTH BETTS	0.13/0.05	1.39/-	--	--	--	0	--	--
ZINC (Zn)	7283 ^{4,9+} CREIGHTON SK, HIGH SCHOOL	0.07/0.04	1.43/-	--	--	--	0	--	--
	7284 ¹⁺ FLIN FLON, RUTH BETTS	0.59/0.04	4.03/-	--	--	--	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, synchronized with the NAPS schedule (with numerous exceptions)

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

³ - 24 Hour sample collected every three 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 - 2009 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	4.92/3.16	18.02/54.20	--	--	--	0 ⁷	--	--
	9119 ¹	WINNIPEG, 65 ELLEN STREET	5.66/4.52	16.26/-	--	--	--	0 ⁷	--	--
	9119 ⁵	WINNIPEG, 65 ELLEN STREET	4.30/2.73	14.64/52.60	--	--	--	0 ⁷	--	--
	5131 ⁵	BRANDON, ASSIN. COMM.COLLEGE	4.51/2.90	17.32/146.80	--	--	--	0 ⁷	--	--
	7251 ⁵	FLIN FLON, 143 MAIN STREET	4.58/2.42	29.26/129.60	--	--	--	0 ⁷	--	--
	7251 ¹	FLIN FLON, 143 MAIN STREET	5.33/1.00	28.50/-	--	--	--	0 ⁷	--	--
	7283 ⁴⁺	CREIGHTON SK, HIGH SCHOOL	14.27/11.43	60.65/-	--	--	--	19 ⁷	--	--
	7381 ⁵	THOMPSON, WESTWOOD	2.65/1.55	10.38/45.40	--	--	--	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 three days, synchronized with the 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 - 2009 Annual Pollutant Summary – Particulate Matter Monitoring (TSP)

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 ¹	FLIN FLON, 143 MAIN STREET	41.51/32.69	180.00	--	--	--	7	--	0
	7283 ³⁺	CREIGHTON SK, HIGH SCHOOL	31.32/22.76	244.06	--	--	--	3	--	0
	7284 ²⁺	FLIN FLON, RUTH BETTS	21.30/15.36	102.72	--	--	--	0	--	0
LEAD (Pb)	7251 ¹	FLIN FLON, 143 MAIN STREET	0.30/0.09	4.18	--	--	--	4	--	--
	7283 ³⁺	CREIGHTON SK, HIGH SCHOOL	0.02/0.02	0.28	--	--	--	0	--	--
	7284 ²⁺	FLIN FLON, RUTH BETTS	0.05/0.02	0.75	--	--	--	0	--	--
SULPHATES (SO4=)	7251 ¹	FLIN FLON, 143 MAIN STREET	1.93/1.28	15.33	--	--	--	--	--	--
	7283 ³⁺	CREIGHTON SK, HIGH SCHOOL	0.91/0.73	2.88	--	--	--	--	--	--
	7284 ²⁺	FLIN FLON, RUTH BETTS	1.34/0.94	5.08	--	--	--	--	--	--
NITRATES (NO3-)	7251 ¹	FLIN FLON, 143 MAIN STREET	0.06/0.04	0.37	--	--	--	--	--	--
ARSENIC (As) ¹³	7251 ¹	FLIN FLON, 143 MAIN STREET	0.08/0.03	1.04	--	--	--	8	--	--
	7283 ³⁺	CREIGHTON SK, HIGH SCHOOL	0.01/0.00	0.09	--	--	--	0	--	--
	7284 ²⁺	FLIN FLON, RUTH BETTS	0.02/0.00	0.38	--	--	--	1	--	--
CADMIUM (Cd)	7251 ¹	FLIN FLON, 143 MAIN STREET	0.06/0.01	3.57	--	--	--	1	--	--
	7283 ³⁺	CREIGHTON SK, HIGH SCHOOL	0.00/0.00	0.05	--	--	--	0	--	--
	7284 ²⁺	FLIN FLON, RUTH BETTS	0.01/0.00	0.07	--	--	--	0	--	--
COPPER (Cu)	7251 ¹	FLIN FLON, 143 MAIN STREET	1.16/0.63	13.12	--	--	--	0	--	--
	7283 ³⁺	CREIGHTON SK, HIGH SCHOOL	0.07/0.04	0.80	--	--	--	0	--	--
	7284 ²⁺	FLIN FLON, RUTH BETTS	0.20/0.09	2.56	--	--	--	0	--	--
ZINC (Zn)	7251 ¹	FLIN FLON, 143 MAIN STREET	2.39/1.42	20.38	--	--	--	0	--	--
	7283 ³⁺	CREIGHTON SK, HIGH SCHOOL	0.44/0.04	5.54	--	--	--	0	--	--
	7284 ²⁺	FLIN FLON, RUTH BETTS	0.42/0.05	4.63	--	--	--	0	--	--

Notes:

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

-- No guideline or objective

+ Company supplied data

¹ - 24 Hour sample collected every two out of three days, synchronized with the NAPS schedule (with numerous exceptions)

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