Appendix Table VIII-3: Air Quality in Vital Signs Communities, 2001-2006

	Seasonal Mean 8h Daily Max Ozone (ppb)						TEOM Seasonal Mean PM2.5 Concentrations (ug/m3)					
	2001	2002	2003	2004	2005	2006	2001	2002	2003	2004	2005	2006
Saint John	41	37	37	32	32	34	9.5	7.6	7.8	6.0	5.2	4.6
Fredericton	32	36	35	34	34	37	5.7		5.7	4.5	4.3	5.3
Montreal	44	42	41	37	40	36	8.7	10.3	9.0	8.6	10.0	7.5
Ottawa	44	42	42	35	40	39	9.2	9.0	7.5	7.0	8.1	6.5
Sudbury	45	45	43		45	42					6.2	5.6
Toronto	45	46	42	39	45	42	11.2	11.8	10.5	9.9	10.9	9.3
Guelph	51	50	42	44	50	46	10.0	10.3	8.3	9.6	10.3	8.4
Kitchener	48	53	49	44	49	45	9.1	11.0	9.8	10.1	11.2	8.9
London	48	53	49	42	48	45	10.7	n.a	12.2	13.0	13.4	10.9
Oakville	48	53	n.a	42	49	45	n.a	n.a	n.a	10.2	10.5	8.7
Saskatoon	31	33	31	32	34	32	n.a	n.a	n.a	4.1	4.1	5.3
Calgary	40	39	39	36	35	39	6.4	6.6	9.8	6.4	4.8	6.8
Lethbridge	n.a	n.a	n.a	44	42	44	n.a	n.a	n.a	4.9	3.5	5.0
Medicine Hat				43	41	45	n.a	n.a	n.a	3.6	3.5	4.6
Red Deer	41	43	43	37	40	41	5.7	5.8	6.4	5.2	4.3	5.7
Vancouver	30	30	33	31	29	32	5.1	5.3	5.7	5.8	5.7	5.5
Victoria	na	33	32	34	33	36	5.4	5.9	5.6	5.1	4.6	5.1

Source: Environment Canada. Data obtained by special request.

Note: The definitons for ground-level ozone and particulates are from the community accounts data published by the government of Newfoundland and Labrador

http://www.communityaccounts.ca/CommunityAccounts/OnlineData/acct_selection.asp?comval=prov&menucomval=prov&whichacct=env

Definition: Ground-level ozone is a reactive, unstable form of oxygen. In very high concentrations, it is a bluish gas. It has a characteristic sharp smell which may be recognized around electrical equipment such as motors or arc welders. In the concentrations found in outdoor air, ground-level ozone is both colourless and odourless. Ground-level ozone is formed in the air from other pollutants, most notably nitrogen oxides and hydrocarbons. Slow-moving air and strong sunshine greatly speed up the formation of ozone. Vehicle exhaust are large contributions of ground level ozone as well as industrial emissions. Gound-level ozone irritates the lungs and can make breathing difficult.

Exposure to high concentrations can result in chest tightness, coughing and wheezing. Ground-level ozone can also damage agricultural crops such as potatoes and tomatoes as well as affect trees and other vegetation. Ozone also weakens rubber and attacks metals and painted surfaces. Canada-Wide Environmental Standards (CWSs) have been developed for ground-level ozone. The standard to be achieved by 2015 is 65 ppb. This is based on the 4th highest measurement annually (8-hour means), averaged over 3 consecutive years.

Particulates are particles in the air either from a natural origin or as a result of human activity. PM-2.5 is particulate matter with an effective diameter of 2.5 microns or less which bypass filtration in the nose and may be deposited in the lungs. This is referred to as "respirable" particulate. Common natural sources of particulates include wind-blown soil dust, forest fires, sea salt, volcanoes, and plants, as well as, human activity such as fuel combustion and any other burning, travel on dirt roads, construction work, and mining and quarrying. is 30 mg/m3.

In analyzing particulates, PM-2.5 is of special significance in terms of health impacts since it has a higher chance of entering and remaining in the lungs if inhaled. People with existing breathing complaints such as asthma, bronchitis, or emphysema are likely to be adversely affected by high concentrations of particulates. Particulates can also cause corrosion and soiling of metalwork or other materials, damage vegetation, and reduce visibility. Canada-Wide Environmental Standards (CWSs) have been developed for PM-2.5. The standard to be achieved by 2010 This is based on the 98th percentile measurement annually (24-hour means), averaged over 3 consecutive years.