

Director General,  
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AIR POLLUTION - ARSENIC - YELLOWKNIFE & OTHER CENTRES

On November 29, 1970 the Committee appointed to Monitor and Investigate Arsenic and Mercury Pollution in the Northwest Territories considered a report published in June 1970 by the Radiation Protection Division on Neutron Activation Analysis of Air Filter Samples collected at Halifax, Ottawa, Toronto, Windsor, Vancouver, Coral Harbour, Resolute and Yellowknife over two-day periods during February 1970, and over a further two-day period at Yellowknife during April 1970.

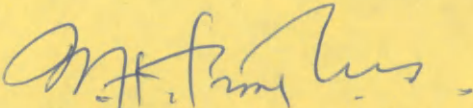
The values for Resolute, Vancouver, Windsor and Ottawa were all less than 0.001 microgrammes arsenic per cubic metre. The value for Toronto was less than 0.01. The values for Yellowknife were 0.005 in February and 0.04 in April. The samples were collected at the Yellowknife Airport.

In view of our lack of information about air pollution over Yellowknife, the Committee felt that regular air sampling should be recommended and carried out over a period of a year at at least one site in the populated portion of the city. This possibility was discussed by telephone with Dr. S.O. Winthrop, Chief, Air Pollution Control Division, who expressed interest.

There is no cause for undue concern since the amounts reported above are low. The level of arsenic in the atmosphere at El Paso, Texas is usually  $1.4 \mu\text{g}/\text{m}^3$ , and in the City of Anaconda, Montana where there is a copper smelter, the level reaches  $2.5 \mu\text{g}/\text{m}^3$ . The maximum acceptable standard in the U.S.S.R. and in Czechoslovakia is  $3 \mu\text{g}/\text{m}^3$ . There are no established standards in Canada or in the United States for outside air arsenic content, but there are recommendations in the United States that continuous exposure over a 24-hour period should remain less than  $0.75 \mu\text{g}/\text{m}^3$ .

The chief effects on human health of air polluted with arsenic are skin irritation, dermatitis, mucous membrane irritation, bronchitis, and perforation of the nasal septum. It has been estimated in the United States that a fatal body loading would require accumulation between 70,000 and 180,000 microgrammes of arsenic.

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