

Air Monitoring Program

The purpose of the study was to define outdoor air concentrations of the six Chemicals of Concern (COCs) (arsenic, cobalt, copper, lead, nickel and selenium) in populated locations within the Sudbury area for use in the human health risk assessment (HHRA). The network of 20 monitors collected air samples over a one-year period.

Where did we sample?

The map shows the location of the 10 monitoring sites and the type and number of monitors located at each site. We chose these sites because they were close to residences, schools, agricultural areas, and smelting operations. We also included a reference site for comparison at Windy Lake Provincial Park to provide information about air quality not affected by smelting operations.

Air samples were collected at each site over a 24-hour period every six days from October 2003-October 2004. Air samples were then sent to the laboratory for analysis of metal levels.

Summary of results

We collected over 1,350 air samples over the one-year period. Results for each of the CoCs were compared to Ontario Ministry of the Environment (MOE) Ambient Air Quality Criteria.



On average, very low concentrations of the CoCs were measured in the air during the one-year study, at levels well below MOE Ambient Air Quality Criteria levels.

Some elevated metal levels were seen at the Travers/West End site, which is near a large waste rock pile, and in the communities of Copper Cliff and Falconbridge, which are located closest to the smelting operations. Although higher than levels seen at the other sites, metal levels in the air at these sites are still well below MOE air quality criteria.

How will these results be used in the HHRA?

These results are currently being used in developing Sudbury-specific models for the HHRA.

