

Questions and answers

Is it safe to live in the village of Deloro?

Yes. Comprehensive environmental sampling and urine testing results show that Deloro is a safe community.

While the study confirms that there is contamination in the community, there is no significant link between this contamination and health risks to residents.

The water supply is safe.

Is it safe to eat homegrown vegetables from Deloro?

Vegetables grown in Deloro are safe to eat. While there are elevated levels of arsenic within the soil, it does not contaminate vegetables. Sampling of garden vegetables shows there is no significant difference between garden vegetables from Deloro and vegetables grown in typical Ontario soil.

Is Deloro's drinking water safe?

Yes. Deloro's drinking water is safe.

Deloro has one of the most comprehensively sampled water supplies in the province. Testing was intensified during the study and confirmed to be safe and within Provincial Drinking Water Objectives.

The use of lead alloy pipes is a concern in a small number of older homes. Homeowners with lead pipes are encouraged to let the water run for an appropriate period of flushing to rid the system of standing water prior to drinking, beverage preparation, and cooking.

Did urine samples supplied by Deloro residents indicate any signs of arsenic?

Despite the elevated levels of arsenic in Deloro's soil, residents do not appear to have higher levels of urinary arsenic. The urine samples provided by Deloro residents contained arsenic levels that were comparable to those provided by residents in Havelock.

Everyone in Ontario is exposed to a certain amount of arsenic. It is present in air, soil and everyday food items.

The results suggest that the greatest source of arsenic for Deloro residents is their regular diet, as it is for all residents of Ontario.

Arsenic levels found in the air were actually lower than the average background levels in Ontario.

Is arsenic present in people's homes?

While the study concludes that arsenic is present in carpets and indoor dust, it did not find a significant link between this contamination and health risks.

The ministry was thorough in its testing. Sampling from participating residences typically included:

- indoor swipes for dust at two locations were tested for metals (including cobalt, lead, nickel, silver, arsenic and uranium) and for alpha and beta radioactivity;
- indoor dustfall at one location was tested for metals, alpha and beta radioactivity;
- indoor air at two locations was tested for metals;
- drinking water for metals and radionuclides
- soil for metals and radionuclides
- biological monitoring (urine testing) for total and speciated arsenic levels;
- radon gas testing at two locations.

Swipe samples are considered to be the most accurate indicator of exposure. Measurement of indoor dust can also be measured via a vacuum pump method but tends to underestimate risks.

The risk assessment at Deloro was based on standard ratios of indoor dust to outdoor dust because a significant number of the indoor swipe samples contained arsenic in levels that were too low to detect. The method used ensured that indoor dust concentration would not be underestimated.

Were radiation levels tested in the village?

Yes. More than 175,000 gamma radiation measurements were recorded.

The study determined that overall, radiation risks to residents are within the range of the natural background levels that are typically found in Ontario. Gamma radiation levels above background were found adjacent to the western fence of the mine site and at one vacant property. In addition, there were three small pockets within the village.

While the levels found were not deemed to pose an immediate health risk, the ministry of the Environment plans to remove the affected soil to a contained section on the mine site.

Tests for indoor radon gas identified several residences in the village that have or may have radon gas levels in excess of the Federal/Provincial Task Force criteria for radon in houses. None of the measured values exceeded Health Canada's radon guideline. The ministry will work directly with all affected residents to reduce radon exposures. It should be noted that one out of every twenty homes in Ontario is typically susceptible to radon contamination.

Does arsenic contamination in Deloro pose a cancer risk?

The cancer risk from arsenic contamination in Deloro is considered to be comparable to the typical risk for Ontario residents.

A typical Ontario cancer risk is estimated to be 0.963 cases per 1000 people, whereas the risk in Deloro is estimated to be 1.17 cases per 1000 people. This estimate suggests that the maximum risk within Deloro is less than 0.2 times higher than the typical risk for Ontario.

How credible are the results of this study?

The Environmental Health Risk Study in the Village of Deloro was the most comprehensive of its kind in Ontario.

The study's conclusions are based on thousands of samples – including soil, indoor and outdoor air and dust, drinking water, radon gas, radioactivity, garden vegetables and a comparison of urine samples from Deloro and another Eastern Ontario community.

More than forty experts contributed to the study, including a number of North America's most senior scientists, toxicologists, engineers and medical doctors. The Ministry of the Environment designed the study in co-operation with the local Medical Officer of Health, the Ministry of Health, the Ministry of Labour and an internationally renowned physician who specializes in pediatrics and toxicology.

Research was carried out with the assistance of four independent consulting firms and the final study was peer reviewed by top Canadian and U.S. experts on arsenic, radioactivity and health risk assessment to ensure the highest quality and reliability.

What action will the ministry take to fulfill the recommendations made in the health risk study report?

The ministry plans to spend about \$1.66 million to address the issues identified in the report. Priorities will include maintaining drinking water safety, improved security on the mine site, the removal of isolated pockets of soil and measures to reduce radon gas.

The ministry's \$1 million environmental health risk study is part of a larger \$18 million effort to rehabilitate the abandoned mine site over the next three years.

Why did it take the ministry so long to complete the study?

The Ministry of the Environment committed itself to providing Deloro residents with accurate information as soon as it was available. The time spent working on the study and having an expert panel of peers review it was necessary to ensure residents received reliable information.

The health and safety of Deloro residents is the ministry's prime concern. Residents were assured during the sampling and analysis phase of the health study, that any samples that indicated an immediate health hazard would be reviewed with the medical doctors on the study's Technical Steering Team and communicated immediately to the affected residents. These experts did not find any results that suggested a need for immediate intervention.

Is the abandoned mine site safe?

No. The abandoned Deloro Mine site is not safe. Over the years, the Ministry of the Environment has addressed many of the physical hazards left by past mining and industrial operations. However, the mine site is highly contaminated and it is unsafe to trespass on the property.