



Arsenic near Yellowknife, Ndilq and Dettah

1. What is arsenic and where does it come from?

Arsenic is a natural element in our environment. It is found at low levels in the soil, sediments, snow, plants, mushrooms, rocks, water, fish and wildlife. In some locations, such as the Yellowknife area, arsenic levels are naturally higher than other places, due to the local geology. However, gold mining activities have released large amounts of additional arsenic into the environment. When the gold was roasted, arsenopyrite (a form of arsenic that is found naturally in the rock) was converted into arsenic trioxide. This arsenic trioxide was released into the immediate environment surrounding Yellowknife, Ndilq and Dettah.

2. What are the different forms of arsenic?

Arsenic can be found in many different forms, including inorganic arsenic and organic arsenic. Inorganic arsenic is of greatest concern for potential health effects. An example of inorganic arsenic is arsenic trioxide, which was a by-product of the gold roasting process that occurred historically in the Yellowknife area. Organic arsenic is less of a concern for potential health effects. An example of organic arsenic is arsenobetaine, which is a form of arsenic that can be found in fish. Arsenobetaine is less harmful than inorganic arsenic. The ratio of inorganic arsenic and organic arsenic present in a particular medium can vary, which is why it is important to test for the different forms in the environment rather than just looking at total arsenic.