

What are gold mine tailings?

Tailings are a by-product of a gold mining process that was common in the late 1800s and early 1900s. Gold-bearing rocks that also contain arsenic were crushed and spread over liquid mercury to remove the gold. The mercury was then evaporated, leaving the gold. The remaining sand-like substance, known as tailings, was typically dumped into low-lying areas or lakes and streams near the mine. Some mercury was lost through spills and has accumulated in the tailings.

Where are the tailings?

There are 64 gold mining districts in mainland Nova Scotia. Each district may have more than one tailings site within it. A map of the districts is at www.gov.ns.ca/enla/goldmines . Maps of specific tailings sites are about 100 years old and may not be complete. Simply living in one of the districts does not mean that you have contamination of your water or property.

What are the health risks of arsenic and mercury in these mine tailings?

Most Nova Scotians are not likely being affected because their level of exposure is probably extremely low. Exposure to arsenic and mercury is generally through ingestion. People who live near tailings could be exposed if they come into contact with tailings. The risks can be reduced by treating well water, following fish consumption advisories, washing hands and produce, and avoiding contact with tailings. Nova Scotians should not use tailings sites for recreation. Sites at Montague Gold Mines and Goldenville have been posted with warning signs to discourage recreational use of tailings in those communities. More information is available in the fact sheet Arsenic and Gold Mine Tailings.

How can I reduce my risk of exposure?

Most measures to reduce exposure are simply good habits that are always recommended, regardless of proximity to gold mine tailings:

- test your well water and if there's arsenic present, install treatment technology and continue testing to ensure it's working
- wash your hands frequently and before eating
- wash fruits and vegetables before eating, whether they're from the grocery store or your own garden
- follow freshwater fish advisories that have been recommended for more than 15 years to avoid mercury

There are a couple of other common sense measures that people should take:

- don't use tailings for recreation or let children play around them
- don't use tailings as fill for driveways, gardens or children's sandboxes
- remove shoes after being outdoors, so soil won't be tracked into the house

How can I tell if I live on or near the tailings?

If a property is in an old gold mining district, and it has a sandy substance on it, that may be tailings. Photos of tailings as compared to normal soil are available at www.gov.ns.ca/enla/goldmines , along with descriptions of where all the sites that have been studied are located.

Are there any homes built directly on tailings?

We only know of one dwelling – a cottage – on tailings and we've contacted the owner. We don't anticipate finding many more because tailings sites are generally remote and many are on Crown land. We are working at getting more information and we will advise owners if we find tailings on properties with homes or buildings on them. Soil testing may be needed to tell whether tailings are present on some properties.

How can I tell if I have these chemicals in my water?

Mercury is not very soluble, so it isn't usually a concern in drinking water. Arsenic is present throughout Nova Scotia and can be a concern in drinking water, but can be easily detected with the regular testing. Public drinking water supplies test and treat the water, and private well owners should, too. Treatment technologies are available to remove arsenic from private wells. More information on safe well water is available at www.gov.ns.ca/enla/water .

Is it harmful to eat fish or shellfish caught near tailing sites?

Agriculture and Fisheries has issued a freshwater fish consumption advisory for the past 15 years because of mercury. The following is recommended in all areas of the province, whether tailings are present or not:

- rainbow trout – safe to eat
- brook trout and white perch under 25 cm – safe to eat once a week
- other freshwater fish – safe to eat once every two weeks, except for children under eight and pregnant or nursing women

As a precaution, Department of Fisheries and Oceans has closed one beach to shellfish harvesting at Upper Seal Harbour in Guysborough Co. due to the high levels of arsenic found in clams there. Only recreational, not commercial harvesting was taking place at this beach. Commercial shellfish are tested so there is no problem with arsenic or mercury in the shellfish you buy in stores.

Is it harmful to drive bicycles, dirtbikes or ATV's on tailings?

You should avoid driving on tailings. Some tailings are dusty and driving on them may raise contaminated dust. Or, you may fall off. If dust gets in your mouth, or on your hands or clothes, you may be exposed to arsenic.

Is it harmful to eat produce grown in contaminated soil or watered with contaminated water?

Fruits and vegetables should always be washed before eating. Most produce would not absorb chemicals from the soil or from water used to help them grow, so washing off soil and dust is sufficient. Root vegetables grown directly in tailings may absorb more chemicals, so eating them should be avoided. These recommendations are for private gardens. No commercial agricultural operations are located near the tailing sites.

Who should I call if I want myself or my children tested?

To be at risk, you would need to be exposed at high levels on an ongoing basis. If we find that a specific group is at risk and we determine testing is necessary, the medical officer of health will notify these people and coordinate testing. In the meantime, the best way to reduce risk is to reduce exposure with the measures listed above.

Who can I call for more information?

There are numerous provincial and federal experts. To reach one of them for specific questions, Nova Scotians can call the provincial public inquiries line: **424-5200 in HRM or 1-800-670-4357**. Calls will be directed to the appropriate agency for answers.