Toxic Legacies Project Backgrounder

An Issue at Giant Mine…

Communicating With Future Generations

WHO ARE WE?

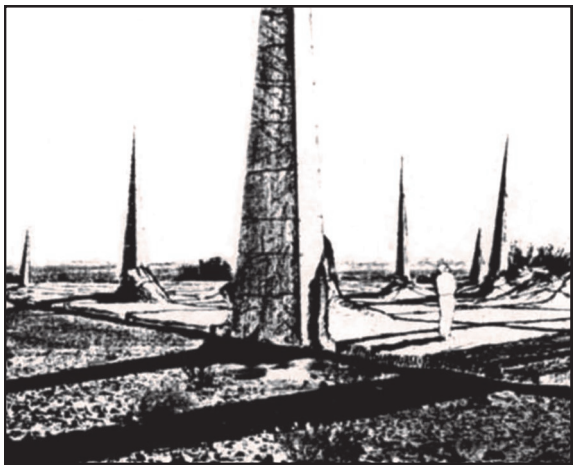
The Toxic Legacies Project will examine the history and legacy of arsenic contamination at Giant Mine. The project is a partnership among researchers at Memorial and Lakehead Universities, the Goyatiko Language Society (a Yellowknives Dene First Nation non-profit organization dedicated to the preservation of the Weledeh language), and Alternatives North (a Yellowknife environmental and social justice coalition that conducts public interest research).

OUR GOALS

We plan to produce publically accessible historical material (videos, reports, films, etc.) on the history of Giant Mine and how to communicate with future generations about the long term legacies of arsenic at the site. For more information, please visit our website (http://www.abandonedminesnc.com/?page_id=470).

Giant Mine and Remediation

This remediation project proposes to freeze 237,000 tons of toxic arsenic trioxide dust where it is currently stored underground. It is likely that water pumping, monitoring, and maintenance at the site will be necessary for a very long time to prevent the arsenic from seeping into the local environment. The recent environmental assessment of the project requires ongoing research into a permanent solution to the arsenic problem at Giant Mine within a 100 year time frame. Despite this, a century is a very long time (people have forgotten about toxic sites over shorter periods), and there is no guarantee that technology can be developed to safely remove all arsenic from the site.



Spikes Bursting through Grid, Safir Abidi. Concept by Michael Brill. Waste Isolation Plant Pilot Project. Used with permission.

Thinking about the Future

A system to communicate with future generations about the arsenic hazards will reduce the risk people will forget about the site. Such a system should have two goals:

- To warn future generations about the hazards from arsenic at the site
- To ensure future generations have all required information to properly maintain the site (and also the knowledge to not damage existing equipment such as the thermosyphons).

Designing such a communication system involves many challenges. One of the most difficult is to imagine who your audience might be. What languages will they speak? What level of technical knowledge will they have? Will they have the resources to maintain the site?

Has this been tried anywhere?

A great deal of work has been done on communicating with future generations at nuclear waste repositories; there is consensus that the “unknown audience” problem can best be addressed by having lots of different types of messages such as simple pictures, monuments, small markers, simple text, detailed text and complex technical archives. Some have also suggested that oral traditions and stories can be as effective, or more effective, than written messages in passing information from generation to generation.

Lakehead University

Alternatives North

Memorial University

Goyatiko Language Society

Social Sciences and Humanities Research Council of Canada
Conseil de recherches en sciences humaines du Canada
Canada

PROJECT PARTNERS

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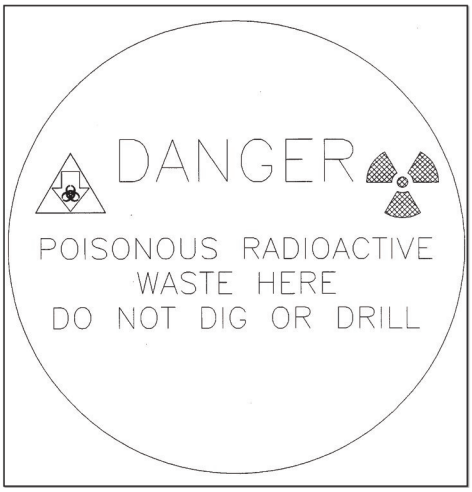
How Might it Work at Giant Mine?



Final Concept Textual Sign, Waste Isolation Pilot Plant website. Used with permission.

At Giant Mine, a messaging system might involve simple warning signs and text messages imploring people not to damage the thermosyphons, with more detailed technical information on how to replace this equipment when necessary and maintain other facilities such as the water treatment plant. Unlike nuclear waste, it is possible that the arsenic threat might be removed within a relatively short period of time (a matter of decades rather than the centuries it takes for nuclear waste to decay), so the emphasis might be on "relaying" information on how to maintain the site to people roughly a century from now.

Much of the work on communicating with future generations in the field of nuclear waste was completed by experts, but we suggest that a community working group would provide a crucial forum for input on the issue from residents of Yellowknife, Ndilo, and Dettah.

Key Questions

⇒ Will large-scale monuments attract rather that warn people away from the site?

⇒ Will future societies understand the symbols employed as signs of danger, especially considering how the meaning of signs such as the skull and crossbones and the swastika have changed very rapidly within our own time?

⇒ What languages should be employed at the site and how can we account for the fact that languages change rapidly over time (i.e., the English spoken in the 14th century Canterbury Tales is difficult to understand today)?

⇒ What materials should be used to construct monuments and signs at the site?

⇒ What media should be used to preserve archival records about the site?

⇒ How can stories and oral traditions help preserve memories of Giant Mine?

CONTACT US

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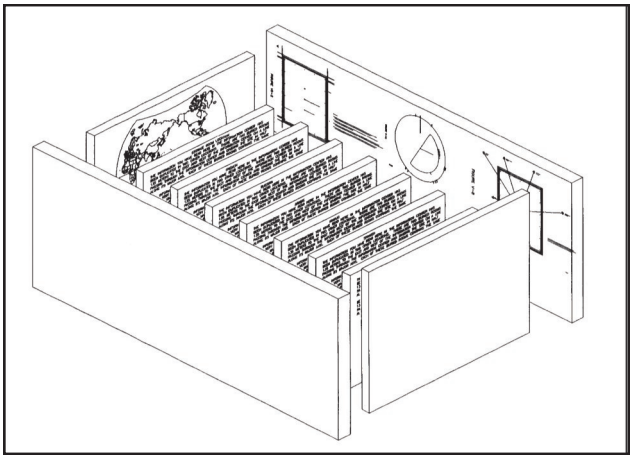

Concept for Underground Information Room, Waste Isolation Pilot Plant website. Used with permission.