

# THE TOXIC LEGACIES PROJECT

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**A SOCIAL SCIENCE AND HUMANITIES (SSHRC)  
PARTNERSHIP DEVELOPMENT PROJECT**

## What is Toxic Legacies?

Our 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). We have many exciting goals and activities planned:

- An educational website on the history of arsenic pollution at Giant Mine from the perspective of the Yellowknives Dene
- A community mapping study on land-use change at the Giant Mine site
- Workshops and reports on how to communicate with future generations about the dangers of arsenic at the Giant Mine site
- A documentary film on Giant Mine and communicating hazard to future generations
- A study of the Giant Mine Remediation Plan and environmental assessment



Giant Mine's Former Headframe (photo: John Sandlos)

This project grew out of the previous Abandoned Mines in Northern Canada Project ([www.abandonedminesnc.com](http://www.abandonedminesnc.com)).

## Giant Mine's Arsenic Problem

Arsenic pollution has been a pressing environmental issue near Yellowknife for over six decades. In 1949, highly toxic arsenic trioxide (a byproduct of the roasting process that separated gold from ore) spread widely from Giant Mine's roaster stack, causing severe health effects on Yellowknives Dene First Nation (YKDFN) members and others in and around Yellowknife due to the contamination of local food and water. The issue remains a concern today, as 237,000 tons of arsenic trioxide that was captured by pollution control equipment remains stored in chambers under the ground at the now-closed mine. The Canadian and NWT governments have proposed to freeze this toxic liability forever, a solution that has recently undergone an environmental assessment by the Mackenzie Valley Environmental Impact Review Board.

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## Our Projects

### YKDFN and Arsenic



Giant Mine Headframe  
(Photo by John Sandlos)

The Yellowknives Dene maintain strong historical memories of the arsenic pollution that accompanied the opening of Giant Mine. Many elders recall people becoming sick or dying from drinking contaminated water in the early days of the mine.

The mine also severely damaged the ecology of the Baker Creek Valley, cutting the Yellowknives off from an important berrying, hunting and fishing area.

This project will present the Yellowknives' perspective on arsenic pollution through a multi-media website. The site will include short videos, audio

clips, photographs, timelines, maps and recollections from community elders.

The website will also host educational material on the history of Giant Mine we are planning to develop for schools in the NWT (this was a recommendation from the recent environmental assessment).

The website will help to preserve Yellowknives memories of arsenic pollution in their community. It will also tell the story of a now largely forgotten chapter in the history of Yellowknife's gold boom and the development of northern Canada.

**The current proposal to freeze arsenic under Giant Mine forever raises many of the same issues as nuclear waste. How do we keep people in the future from entering the arsenic chambers?**

### Communicating with Future Generations

Have you ever wondered how to send a warning 10,000 years into the future? Would you use a sign, a monument, or a symbol of danger? Would you tell a warning story that could be passed from generation to generation?

Not many people think that far ahead, but governments faced with the problem of storing nuclear waste have had to study the kinds of messages that could be used to warn people in the deep future.

Less work has been done on long-term chemical waste issues. Yet, the current

proposal to freeze arsenic under Giant Mine forever raises many of the same issues as nuclear waste. How do we keep people in the future from entering the arsenic chambers? How can we explain to them what must be done to keep the arsenic contained?

Through community workshops and web-based reports, we will develop possible strategies and best practices for communicating the Giant Mine arsenic hazard with people in the very distant future.



Thermosyphons at frozen block test plot (photo by John Sandlos)

## The Guardians of Eternity

More and more university professors are turning to film as a way to get a bigger audience for their research. In keeping with this trend, Historian and filmmaker Ron Harpelle of Lakehead University will be working with independent filmmakers Kelly Saxberg (of Sheba Films) and France Benoit (who lives in Yellowknife) to make a documentary film about the arsenic issue at Giant mine.

Drawing from our work on communicating with future generations, the film will document different local perspectives on the long term impact of arsenic contamination at the Giant Mine site.

The film will focus in particular on Yellowknives Dene knowledge of the land around Giant Mine and changes that affected their communities. The film will also document local strategies to warn the future the site, through traditional knowledge and story passed down through generations. We hope the film will reach an international audience, contributing to everyone's knowledge of how best to deal with long term toxic waste issues.

For more about the film project, the filmmakers, and a short clip from their work, see "Guardians of Eternity" at <http://vimeo.com/35522130>



Giant Mine Headframe  
(Photo by John Sandlos)

## Community Land-Use Mapping

What did the land around Baker Creek look like before gold mining? How did Giant Mine change the land in that area?

Using aerial photos and interviews with Yellowknives Dene elders, we hope to re-build a picture of the Baker Creek Valley before mining and highlights its importance for hunting, fishing and gathering.

Using maps, photos and memories, we also plan to create a digital "fly-through" of Baker Creek as it was prior to mining, and at various stages of

development. We hope to display the fly-through videos online and possibly in museums as a testament to how the Yellowknives remember an important part of their traditional territory.

The community mapping project will draw on expertise within the Yellowknives communities and the Geography Department at Memorial University. A Masters student in Geography will take on large parts of the project under the supervision of Professor Arn Keeling. The project will provide crucial insights into the history of mining in Yellowknife.

**"We hope to re-build a picture of the Baker Creek Valley before mining"**

## Understanding Mine Remediation

Efforts to clean up the arsenic at Giant Mine have been ongoing since the late 1990s. The many studies, reports, hearings, and the recent environmental assessment have generated a massive archive of material about the issues surrounding mine remediation.

What can we learn from efforts to remediate up one of the worst toxic sites in Canada? What does the Giant Mine experience tell us about community involvement, the importance

of indigenous knowledge, and the role of history and memory in current mine remediation controversies? Tracing the history of the Giant Mine remediation project can address these and many other important questions. Working under the supervision of Professor John Sandlos at Memorial, a history MA student will delve into the massive paper train created by the remediation project, and as what we can learn from the process.



GMRP Sign with John Sandlos  
(photo by Kevin O'Reilly)

## The Toxic Legacies Project

### CONTACT US

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*Alternatives North*

Goyatiko Language Society



Social Sciences and Humanities  
Research Council of Canada

Conseil de recherches en  
sciences humaines du Canada

Canada

We're on the web: [http://www.abandonedminesnc.com/?page\\_id=470](http://www.abandonedminesnc.com/?page_id=470)

### Who are we?

The Toxic Legacies Project is a partnership among researchers at Memorial and Lakehead Universities, the Goyatiko Language Society, and Alternatives North. Project participants include

**Mary Rose Sundberg**, Goyatiko Language Society  
**Kevin O'Reilly**, Alternatives North  
**John Sandlos**, Memorial University  
**Arn Keeling**, Memorial University  
**Ron Harpelle**, Lakehead University  
**Kelly Saxberg**, Sheba Films  
**France Benoit**, Independent Filmmaker

### Project Timeline

The Toxic Legacies project will last for three years, and builds on work conducted by the Abandoned Mines Project (2009-12). Here is a timeline for all this work:

**Summer 2010:** Archival research on Giant Mine begins and continues to summer 2013

**Summer 2011:** Oral history interviews with Yellowknives elders

**November 2013:** Toxic Legacies funding application submitted

**March 2013:** Toxic Legacies awarded SSHRC funding

**July 2013:** Team planning meeting in Yellowknife

**October 2013:** Film shooting begins at Giant site (planning continues through fall and winter)

**Winter 2014:** Historical website planning

**June 2014:** YKDFN workshop to introduce the project; film shooting continues

**Fall 2014:** Workshop on communicating with future generations; film shooting continues; graduate students begin programs

**Winter 2015:** Report writing for communicating with future generations workshop; final film shooting

**Summer 2015:** Student field research; film editing; follow up workshop on communicating with future generations; History student completes work

**Fall 2015:** Historical website launch

**Winter 2016:** Community land-use study launch

**Spring 2016:** Film launch

**Summer 2016:** Geography student completes program; wrap-up activities