

## Meet the Team!

The Giant Mine Remediation Directorate is made up of highly skilled engineers, biologists and generally hard working folk. Here are profiles of two team members, in particular, who occupy two new positions in the office. A complete listing of staff in the Giant Mine Remediation office is at the bottom of this page. Contact the office at anytime if you have questions.

### Director of the Giant Mine Remediation Project

There is a new face around the project office these days. On October 4, 2010, Mark Palmer began his job as the new Director of the Giant Mine Remediation Project.

Mark comes to us from Edmonton where he worked for Public Works and Government Services Canada, also on the Giant Mine Remediation Project. No stranger to the North, Mark worked in Yellowknife and Whitehorse for INAC for 12 years before moving to Edmonton in 2000.

Welcome Mark!

### Lisa Colas, Community Consultation Officer

As mentioned in *Public Engagement*, ongoing community participation is a big part of the Giant Mine Remediation Project. To continue to keep the public informed of all the different aspects of the site, a Community Consultation Officer position was created in February 2010. Lisa Colas was hired for the job. Lisa has worked for INAC for more than 10 years in several different roles but says that this new position is truly her dream job.

A lifelong Northerner and a member of the Yellowknives Dene First Nation, Lisa has always lived near Giant Mine, either in Dettah or N'dilo. She remembers as a child driving past the mine every day on her way to and from school from her home in Dettah. In her new role, Lisa works with residents of Yellowknife and surrounding Aboriginal communities to keep them up to date on the Giant Mine Remediation Project.

If you have any questions about the project, or would like to receive information about the Giant Mine Remediation Project, please contact Lisa at (867) 669-2775.

### Who is a part of the Giant Mine Project Directorate?

Mark Palmer, Director

Martin Gavin, Manager

Lisa Colas, Community Consultation Officer

Tara Kramers, Project Specialist

Manuel Lim, Project Specialist

Benny Nordahn, Mine Systems Officer

Adrian Paradis, Head, Environmental and Technical Services

Angela Rogers, Administrative Project Coordinator



## What's Happening at Giant Mine?

### Public Engagement



Input from the public has been an important aspect of the site since the development of the Remediation Plan. It continues to be key as the project moves into the environmental assessment stage. The project is at the "preliminary design stage" and the Project Team will be seeking public input on the detailed design, particularly on how the mine's surface

will be cleaned up. Participation from Aboriginal groups and all other Yellowknife-area residents is essential to make sure the site is cleaned up in a way that reflects the needs of the public.

The Remediation Team will continue to offer several ways for the public to be a part of the clean up project. Public events and community meetings have proved to be an effective a means of staying in touch. The Team will also hold workshops with a particular focus on key topics to ask for feedback.

Events and opportunities for participation in the Giant Mine Remediation Project will be advertised through the media. Contact the Project Office for more information.



### Community Participation through the Giant Mine Community Alliance

The Community Alliance is a group of local residents who represent various organizations and interests in the community. Created to ensure an avenue of communication between the public and the Project Team, the Alliance meets monthly to voice any concerns and receive updates on the project.

Current members include representatives from the:

- Yellowknife Chamber of Commerce
- City of Yellowknife
- NWT Mining Heritage Society
- Northern Territories Federation of Labour
- North Slave Metis Alliance
- General Public – Health

The Yellowknives Dene First Nation and the Government of the Northwest Territories sit as Observers.

Public Works and Government Services Canada handles all contracting and procurement related to the care and maintenance contracts at Giant Mine.

Currently the Alliance has three vacancies it would like to fill: two **General Public Representatives** and an **Environmental Representative**, which could be either a member of the general public or an organization. If you would like more information or have an interest in attending, contact the Alliance via email at [GMCA-ACMG@inac-ainc.gc.ca](mailto:GMCA-ACMG@inac-ainc.gc.ca) or call Lynda Comerford at 873-4746.

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et du Nord Canada



Welcome to the winter 2010 issue of What's Happening at Giant Mine. On behalf of both the Government of Canada and the Government of the Northwest Territories Department of Environment and Natural Resources, thank you for picking up our new issue.

The GNWT and INAC have agreed to work together as co-proponents for the long-term remediation of Giant Mine to protect the health and safety of Northerners and the integrity of the environment. Through this relationship, both parties have agreed to take responsibility for specific aspects of the site.

The Remediation Plan for Giant Mine is being assessed by the Mackenzie Valley Environmental Impact Review Board. Implementing the Remediation Plan at the earliest opportunity is in everyone's best interest.

In this newsletter you will find information about the environmental assessment, as well as updates on care and maintenance work at the site, progress on the Freeze Optimization Study and information on how you can participate in the project as a citizen or a business person.

The Giant Mine Project Team is available to answer questions and address concerns from the public. Should you have questions about the project, or on anything you see in our newsletter, please contact the Giant Mine Remediation Project Office at 669-2426.

*Sincerely,*

*Trish Merrithew-Mercredi*  
Regional Director General  
Indian and Northern Affairs Canada  
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*Gary Bohnet*  
Deputy Minister  
Environment and Natural Resources  
Government of the Northwest Territories



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Canada





## Developer's Assessment Report



The Developer's Assessment Report has been submitted! The Developer's Assessment Report for the Giant Mine Remediation Project was submitted to the Mackenzie Valley Environmental Impact Review Board at the end of October.

Now that the Giant Mine Remediation Plan is in the environmental assessment stage of the regulatory process, the Mackenzie Valley Environmental Impact Review Board (Review Board) requested that the Project Team prepare a report outlining the project activities and their long term effects. This is done by setting a location and a timeframe for the assessment and figuring out the most important features of the environment that need to be protected. This report is called a "Developer's Assessment Report" or "DAR".

The Review Board requested that the DAR look at the project over 25 years. This consists of two stages, one after the other: 10 years to freeze all of the underground arsenic; and 15 years of monitoring to show that the plan is working and the site has been properly cleaned up. After year 25, monitoring and maintenance activities will make sure the site remains stable over the long-term.

Both Canada and the GNWT prepared the DAR for the Review Board. The next step is for the Board to review the DAR and begin its consultation process.

To read the DAR and its supporting documents, please visit [www.reviewboard.ca](http://www.reviewboard.ca)

The **Developer's Assessment Report** is more than 1000 pages long, not including supporting documentation.

## Care and Maintenance Contract



In order to ensure that people and the environment are well protected, care and maintenance activities at Giant Mine have been going on at the site since Indian and Northern Affairs Canada took it over in 1999.

A contractor, hired by Public Works and Government Services Canada, is in charge of care and maintenance at the site. The contractor must ensure the mine remains in compliance with relevant environmental regulations, maintaining site security and public safety, treatment of site water, and the maintenance and repair of infrastructure both above and below ground until remediation can begin.

The most recent contract was awarded to Deton'Cho/Nuna Joint Venture in 2008. A new care and maintenance contract will be open to tender in 2010 and awarded in early 2011.

INAC and Public Works and Government Services Canada continue to work with Aboriginal governments and organizations to come up with a fair, accountable and open procurement process that aligns requirements of land claims agreements with those of the federal government procurement process to maximize Aboriginal opportunities. The Government of the Northwest Territories' Department of Industry, Tourism and Investment is also working with the federal government on procurement practices to maximize opportunities for Northerners.

The bid for care and maintenance of the site will be posted on the federal government's public tendering site, [www.merx.com](http://www.merx.com) and on the GNWT's Contract Registry [www.contractregistry.nt.ca](http://www.contractregistry.nt.ca)

## Giant Mine Dewatering Project Wins Consulting Engineers of Alberta Award: Pumping System at Giant Keeps the Mine from Flooding



On February 5, 2010, a project designed for the Government of Canada at the Giant Mine site was given an **Award of Excellence** at the Consulting Engineers of

Alberta 2010 Showcase Awards. Presented in the Natural Resources, Mining and Industrial category, the project which was designed by AECOM Canada Ltd represents a practical solution to an ongoing challenge at the site. Each year, the Consulting Engineers of Alberta Showcase Awards recognize projects and firms that have found exceptional solutions to engineering challenges.

As part of the care and maintenance work on site, the project, locally known as the "Akaitcho Dewatering Project", was designed to pump the water from below the Akaitcho shaft at the mine to a holding pond on the surface. Designed by AECOM Canada Ltd for the Government of Canada, the system ensures all contaminated water from the mine is collected and directed to a holding pond on the surface. During the summertime, the water in the holding pond is treated at the existing water treatment plant so the water discharged from the mine is in compliance with regulations. By pumping excess water out of the mine and treating it, the arsenic trioxide dust stored underground stays above the mine water elevation and contaminated mine water doesn't leave the mine site.

## On the Ground: Water Treatment Successes this Season



The equivalent of 200 Olympic-sized swimming pools of mine water is treated each season at Giant Mine. Mine water has low-level arsenic contamination.

### Construction Challenges and Innovative Solutions

Construction was a challenge for many reasons. The project needed two new electrical substations and significant underground mining development to house the system.

The pump system had to be built from the bottom up so pipe sections were lowered 750 feet down the Akaitcho Shaft and assembled underground.

To do this, the care and maintenance contractor, Deton'Cho/Nuna Joint Venture, worked with the existing steps and ladders, some of which date back to the 1950s, to rebuild them and establish a safe climbing structure in the shaft.

### Operational Performance

The system has performed as designed and has maintained the mine in a stable, dewatered condition since November 2008. The system works year-round to pump water to the surface using two different pumping lifts. The lift systems are matched in capacity and together pump 275 cubic metres an hour, or the equivalent of two and a half Olympic sized swimming pools a day.

Above ground, a computer system allows the operator to see what's going on underground while remotely controlling the equipment. The pump system is completely automated with remote access and notifications.

One of the largest responsibilities at the site is keeping all mine water treated and safely discharged. All year round, surface water seeps into the mine and is pumped to tailing ponds for storage. Then, during the summer, this water is pumped to the on-site water treatment plant to remove arsenic and other contaminants before it is released into the environment.

The site has a significant water monitoring program (surveillance network program) to ensure the site complies with Canada's Metal Mining Effluent Regulations. Groundwater and wells monitoring points have been established around the periphery of the mine site and undergo routine sampling.

Water released into the natural environment from Giant Mine always exceeds water quality standards. However, this summer, the Remediation Team had an exceptionally successful season. This year the treatment system worked better than ever with the majority of water treated and released being ten times better than the standard limit!

## The Freeze Optimization Study



While the remediation plan undergoes an environmental assessment, INAC has been able to proceed with a Freeze Optimization Study at Giant Mine. This study is a small-scale test of the frozen process which was proposed in the remediation plan. The Mackenzie Valley Environmental Impact Review Board removed the study from the scope of the environmental assessment. Construction for the Freeze Optimization Study has been ongoing since June 2009.

The study results will be used to inform the environmental assessment process and provide information about the operation such as power requirements, rate of freezing, as well as more accurate cost estimates.

At the begining of 2011, the study is planned to move from the construction to the operational phase. This is the portion of the project where the freeze plants become operational and begin to freeze the rock around the underground arsenic chamber.

Stay tuned for updates on the Freeze Optimization Study from the Project Team at community meetings and in the media.

Part of the **Remediation Plan** sets out options for water treatment at the site during remediation and post-remediation monitoring. The preferred option for water management is the construction of a new water treatment plant for the treatment and year-round discharge into Great Slave Lake.