



Spring 2015

Roaster Deconstruction Update

Background

The Roaster Complex was a group of structures at Giant Mine. When the mine was operating, this complex was where the ore was roasted at extremely high temperatures to extract the gold.

The Roaster closed in 1999 and by 2013 the building had deteriorated to a point that it was assessed as posing an unacceptable risk to on-site workers, neighbouring communities and the environment. A plan was put in place to address these risks.

What was done

Over two work seasons, all 10 structures that made up the Roaster Complex were safely decontaminated and deconstructed. The first five were taken down in 2013 and the remaining five in 2014.

This has significantly reduced risk to workers, the public and the environment.

This highly specialized work was contracted through a competitive process and awarded to Parsons Canada Ltd. Work started in 2013 and was substantially completed in the fall of 2014. Parsons Canada Limited worked with Yellowknives Dene First Nations companies such as Det'on Cho Logistics and Det'on Cho Nahanni, as well as other companies.

Ensuring safety of on-site workers



A safer site

- The Roaster Complex was once one of the most contaminated groups of structures in the country. Its high concentrations of arsenic dust and asbestos posed high risks to onsite workers and were becoming a risk to the public.
- With the work done in the 2013 and 2014 the Roaster Complex has been safely decontaminated and deconstructed.



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Many procedures were developed and put in place to keep workers safe. Workers were trained and supervised to ensure they followed all of the right steps. These procedures and associated training included subjects such as:

- entering and exiting high-risk work zones,
- cleaning facilities,
- using and caring for personal protective equipment,
- working with hazardous materials,
- decontamination techniques,
- proper personal hygiene, and
- conducting daily inspections and quality control.

As an additional line of defence to protect from exposure to arsenic, workers' urine was tested weekly for arsenic levels as part of the medical monitoring program. Medical monitoring protocols were developed in conjunction with the Workers' Safety and Compensation Commission.

Medical monitoring results were personally delivered to roaster workers to ensure they received the information, which also provided an additional opportunity to discuss and coach employees on safety procedures.

Protecting the local environment



To contain dust and limit exposure to the local environment, some Roaster Complex structures were encased in a special shrink-wrapped enclosure. Negative air pressure inside each building was used to draw air and any potential

Waste by the numbers

- **1 m³:** the amount of arsenic impacted waste each TDG bag holds.
- **7,000:** the approximate number of TDG bags currently on site. **610** are currently stored under waterproof environmental liners until summer 2015; the others are in steel shipping containers.
- **364:** the total number of shipping containers that will be filled and placed in the temporary storage area on the Central Tailings Pond by the end of 2015.
- **3,000 tonnes:** the approximate mass of arsenic-impacted waste currently stored in the temporary storage area on the Central Tailings Pond. This is equivalent to around 1,400 Ford F-150 pickup trucks.



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contaminated dust inward. In addition, all of the air inside the enclosure was filtered before release.

Air monitors closely monitored work activities to assist in deciding if additional measures were needed to control dust and protect the workers and surrounding communities. Together these measures ensured that the Roaster work had no impact on the nearby communities. (See *Air Quality Monitoring Network* *handout for more details*).

Managing waste safely



Transportation of Dangerous Goods bags and shipping containers in Material Storage Area.

The decontamination and deconstruction of the Roaster Complex produced a significant amount of waste, which has been safely packaged until it can be disposed of once the Remediation Plan is implemented.

- All arsenic and asbestos impacted waste is being stored in lined Transportation of Dangerous Goods (TDG) bags.
- Most waste bags are in shipping containers in the temporary storage area on the Central Tailings Pond; others are under waterproof environmental liners until they can be moved to containers when the warmer weather makes it safe to do so.
- This area is secured by a chain-link fence, and inspected regularly.
- Runoff water from the Central Tailings Pond is collected and treated at the mine's water treatment plant.

Quality of water discharged

To ensure that the water quality being discharged from the site is within regulations, the pond that holds treated water ("polishing pond") is tested daily.

During the two years that the Roaster work was underway, it was never necessary to stop the release of water due to high arsenic levels in the water. Water quality treatment and monitoring will continue.

What's next

Once things begin to thaw in the spring, the remaining minor clean-up will be completed and the Roaster Deconstruction project will come to a close. The site will remain fenced off until full remediation begins.

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The work that will be done to complete the project includes:

- moving TDG waste bags, stored under waterproof environmental liners over the winter, into shipping containers in the temporary storage area on the Central Tailings Pond,
- removing any debris from deconstruction that may have frozen to the ground and
- scraping the surface soil and raking debris into TDG waste bags.

The concrete foundations will remain in place and will be addressed during later remediation.

We want to hear from you

There will be many opportunities to participate in this project in the coming months and years. Engagement will be critical to addressing EA measures, licensing and permitting, as well as project design.

Want to learn more? Here's how:

- Attend community information sessions and stakeholder meetings
- Learn about the project online: www.giant.gc.ca
- Follow us on Twitter @GiantMine
- Talk to us: 867-669-2426
- Come see us: 3rd floor, Gallery Building, 4923 52 Street, Yellowknife

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Le point sur la déconstruction de complexe de grillage.

Moving Forward Together



Canada 