

How we built the largest new diamond mine in the world

When Gahcho Kué Mine officially began commercial production in March 2017, it was the culmination of a 20+ year effort. As the world's largest new diamond mine built since 2003, the \$1 billion diamond mine was delivered on budget and two months ahead of schedule. Getting there required the two joint venture partners, De Beers Canada and Mountain Province Diamonds, to work together to design, permit, and build a mine in one of the harshest climates in the world – Canada's Arctic – and nearly 300 km from the nearest all-season road.

The Gahcho Kué deposit was discovered in 1995 and the permitting process began in 2007. It wasn't until late 2014 that the regulatory instruments allowing construction to begin were in hand, launching the joint venture partners into a three-year construction phase that required a coordinated effort that relied upon detailed project planning and execution around a two-month transportation window which required a 420 km seasonal ice road over snow and ice.

The team of De Beers, Hatch, and JDS Mining and Engineering was responsible to build infrastructure similar to that of a small town, including accommodation for 600 construction and operations employees, an airstrip, storage for 40+ million litres of fuel, water/sewer treatment and power generation in addition to a mining and processing operation. Complicating the execution plan was the fact that the general contractor withdrew six months prior to the scheduled beginning of construction, necessitating a change in contracting strategy. The application of novel construction software was critical to the re-sequencing of the construction programme to align with a revised contracting strategy.

The procurement and engineering efforts focused on ensuring orders were placed so that critical materials could be fabricated and equipment purchased and staged for delivery up the winter road during February and March of 2014, 2015, and 2016 when close to 5,000 truckloads of goods, equipment and fuel were safely delivered to site.

The ramp-up to full production also took detailed planning by the De Beers team, which had already built and commissioned two other Canadian diamond mines in the past decade. This transition to production was no less challenging as the team overcame front-end winterization constraints and geotechnical challenges within the mine's first pit. Proudly, the team managed to push the process plant over its nameplate capacity and recover almost 6 million carats of diamonds during the first year of production.

And in addition to construction and commissioning, of course, any new mine needs to be financed. With a \$1 billion capital budget, that was a significant hurdle for both partners. Each took a different path. De Beers, as part of the Anglo American group, dealt with it through the Anglo global capital allocation process. Mountain Province explored and utilized a range of financing alternatives available to it as a publicly-listed Canadian junior mining company. Focusing on the Mountain Province experience, that range of alternatives was fairly wide, thanks in large part to the robustness of the

Gahcho Kué project, but aided as well by the quality of its operating partner De Beers. After a fairly extensive review of the options available to it, Mountain Province secured its capital primarily through a project lending facility, augmented by supportive equity raises including through utilization of the rights offering process. Nonetheless, it was a challenging and time-consuming process, and one that can never be taken lightly. Both partners are proud to have been able to pull together a project of the size and significance of Gahcho Kué.