

# De Beers – Feasibility Study, Construction Management Gahcho Kué, Northwest Territories

JDS Energy & Mining Inc.

## OVERVIEW

Located at Kennady Lake, approximately 280km northeast of Yellowknife and 80km southeast of De Beer's Snap Lake Mine in the Northwest Territories, the Gahcho Kué (GK) Project is a joint venture between De Beers Canada Inc. (51%) and Mountain Province Diamonds Inc. (49%). The open pit mine produces 4.5 million carats annually with an 8,000 t/d processing facility.

## SCOPE

JDS was engaged as a technical advisor to Mountain Province Diamonds Inc. to add value to a sub-economic project development plan. JDS led a project re-scoping study which included changes to the waste and water management plan; processing rates; mining rates, mine equipment sizing and optimization to the production schedule; and revised project execution strategy. The improved results from this work culminated in the GKJV partners engaging JDS to produce a Definitive Feasibility Study. The DFS study significantly improved project economics and added enough value for the JV partners to justify project development and funding for the \$750M capital project.

In 2012 JDS was engaged by De Beers to provide: additional engineering; technical support to the permitting effort; life of mine concepts for potential underground development; and other support in advance of providing project management service for the detail design and construction of the GK Diamond Mine.

JDS partnered with Hatch to provide engineering, procurement and construction management (EPCM) services for the project which is accessible only by air for all but two months of the year when the site is supplied by a 420 km ice road. The work included construction of the crushing circuit, process plant, mine truck shop and warehouse, explosives facility, two 18M liter fuel tanks, 14 MW power generation plant, 450 man camp, office complex and connecting arctic corridors. Site development included a total of 3M m<sup>3</sup> in earthworks, including the construction of 20 km in roads, the facility pad work, a jet capable all-weather aerodrome, and seven water retention dykes. Construction of the mine also required a 25MBCM dewatering program and 8MBCM of mine pre-stripping. The 3.5M workforce-hour project was completed safely, on budget and on schedule with first ore delivered on June 14, 2016. The mine has been in profitable production since 2016.

