



Boroo Gold Mine

Project Category: Optimisation

Client: Centerra Gold Inc.

Location: Mongolia

Commodity: Gold



Scope of Work

OMC's scope of work was to undertake an optimisation of the comminution circuit and carry out a general audit of plant performance. Recommended changes to the circuit were made to increase plant capacity based on the audit, collection of survey data and modelling. A follow up audit was then undertaken a year and a half later and these are now scheduled annually.

Flowsheet

The Boroo 2.4Mtpa plant comprises a jaw crusher, overflow surge bin with static stockpile, SAG Ball and CIP circuit. The SAG mill is 8.53 m \varnothing x 2.6 m EGL with 2.8 MW drive and a 4.8 m \varnothing x 7.6 m EGL, 3 MW Ball mill.

Outcomes

Significant credit must be given to site personnel for this achievement through their ownership and application of the recommendations made following the 2005, 2007, 2008 Audits. This involved:

- Increasing the SAG mill ball charge from 4% to 8% to improve power efficiency. A reduction in the SAG mill ball size from 125 mm to 100 mm to minimise lump degradation. Production increased by 8.8% while achieving a 27 μ m finer grind size giving a 9.5 % increase in efficiency for a total improvement of 18.3%.
- New cyclone cluster; Cavex cyclones are suited to the coarser grind size. Improved operation of the classification to minimise fines misreporting to underflow.
- Upgrade of the mill discharge pumps with larger capacity units.
- Modifications to gravity circuit to increase gravity recovery from 45 to 57%.
- Improvements in operation of CIL circuit.