

// Project Experience

Proyecto Riotinto

Location: Spain
Scope: Engineering and Procurement (with Construction and Commissioning assistance)
Completion: 2019

The Riotinto mine complex comprises an open-pit mine that exploits a volcanogenic massive sulphide deposit and a process plant that produces a copper concentrate. The mine complex historically produced copper, sulphur, gold and silver prior to its acquisition by Atalaya Mining. The process route comprises crushing, grinding, froth flotation and concentrate dewatering. SENET was initially approached by Atalaya Mining for the first phase. The first phase entailed refurbishing, modifying and recommissioning the processing plant as well as reinstating plant operations. SENET initially conducted an in-depth plant equipment condition assessment prior to the commencement of the design to establish the extent of reusable equipment available. The final design combined reusable equipment and new equipment to treat 5.0 Mt/a of ROM ore. The first phase was successively executed to completion.

SENET was awarded the second phase, which involved an upgrade of the process plant to increase the ROM ore throughput to 9.5 Mt/a. Prior to the design a debottlenecking exercise was conducted to identify process constraints. The resulting scope of work included increasing the screening capacity with an extra screen and increasing the flotation capacity with the addition of tank cells. Two 7.6 MW hybrid ball mills, a concentrate thickener and two filter presses were also included in the final design.

With the successive completion of the second phase, the third phase was undertaken by SENET to further increase the plant ROM ore throughput to 15.0 Mt/a with minimal capital expenditure. The final design included installing a 23 MW SAG mill. The flotation and dewatering capacities were increased with the addition of tank flotation cells, a concentrate thickener and two filter presses.

