



Bingham Canyon Mine Rio Tinto Kennecott Utah Copper

Location: Bingham Canyon Mine - Salt Lake City, UT

Date: 2013 – 2015

Structure: Drainage Tunnel

Length: Between 7,660 feet (2,335 meters) and 15,000 feet (4,570 meters)

Cross-Section: Typically 18 feet x 18 feet (5 meters x 5 meters)

Geology: Quartz Monzonite Porphyry, Latite Porphyry, Quartzite, Monzonite with Moderate to Strong Alteration

Client: Rio Tinto Kennecott Utah Copper

Owner: Rio Tinto Kennecott Utah Copper



Figure 1. Overview of Bingham Canyon Mine.



Figure 2. Bingham Drainage Tunnel Excavation.

Drainage Tunnel Design Services:

The Bingham Canyon Mine is an open pit copper mine near Salt Lake City, Utah, USA, and is operated by the Rio Tinto subsidiary Kennecott Utah Copper (KUC). Historically, the area around the Bingham Canyon mine is a historic mining district dating back over 100 years. Several old underground mines exist in and around the open pit area. Some of the old tunnels of these mines are utilized by KUC for various mining activities. Figure 1 displays the overview of Bingham Canyon Mine.

Gall Zeidler Consultants (GZ) was commissioned by Rio Tinto Kennecott Copper (KUC) to perform tunnel design, rehabilitation design, and tunnel inspection services at the Bingham Canyon Mine. These services included the inspection of the Bingham tunnel and Pine Canyon-Parvenu tunnel and the Ground Support design for the drainage tunnels. Figure 2 displays the Bingham Drainage Tunnel Excavation. Additionally, GZ provided design services for the rehabilitation of the C6 tunnel. The C6 tunnel is approximately 3-miles long and was built in the 1950s. The tunnel connects the mine to the processing plant and conveys approximately 70,000 TPD of ore.

During the C6 tunnel rehabilitation design, GZ provided a risk assessment and developed a Ground Control Management Plan, which included an easy to install yielding support system. In addition, a Monitoring and Instrumentation Program as well as a Trigger Action Response Plan were developed to quantify the tunnel movements in response to future mining activities.