

GD ENERGY PRODUCTS HELPS LEADING U.S. MINERS STAY DRY

GD Energy Products (GDEP) solved critical dewatering challenges in a major U.S. copper mine.

WORKING IN DEEP, OBSTRUCTED TERRAIN

A major copper mine in the southwest of the United States was 7,000 feet deep and contained a narrow 8 ft wide mine elevator that was used to transport workers downhole. The copper deposit was not only deep, but additional rocks also covered it after it was formed. For mines this deep and obstructed, the crew implemented a new technique known as “panel caving.”

PANEL CAVING

Panel caving involves mining underneath an ore body, allowing it to progressively collapse under its weight as the crew carries away the fallen deposits from the base of the formation. When working at depths thousands of feet below surface, the ambient temperature in the mine ranges from 140° to 165° Fahrenheit. The air needs to be cooled via large ventilation fans or air chillers located on the surface so that workers can spend time in the mine without suffering from heat exhaustion.

MINE DEWATERING

Mine dewatering is a process that removes water in deep mines that experience water seepage through the surrounding rocks. An effective dewatering plan/strategy usually helps miners manage site water needs, ensuring that the right level of water is maintained underground to support a variety of different processes and safeguard the safety of the miners.

GDEP'S TGHA 400 HP PUMPS PUT TO WORK

GDEP was responsible for selecting the right pumps and charging packages for the job. More importantly, the pumps needed to be transported in pieces down an 8-foot wide square shaft and reassembled to successfully dewater and cool the mine.

GDEP Model TGHA 400 HP pumps were selected for the task due to their reliability and durability at depths below 7,000 feet. Each GDEP TGHA 400 HP pump package was broken down into three separate pieces (TGHA bare pump, 400 HP main drive motor and skid) for lowering down through the mine shaft. GDEP service technicians were used to provide supervision for reassembly of pumps on skids, installation of drive motors, alignment of drive couplings and initial startup of units.

EFFICIENCY RESTORED

The GDEP pumps were operational in the Fall of 2019 and are providing the working conditions necessary for successful operations in one of the most cutting-edge mines in the world. GDEP provides a superior solution - best performance, efficiency, and reliability, combined with unrivalled expertise and project management support.

CHALLENGE

- Install pumps for a mine dewatering process in a 7,000 feet deep and obstructed copper mine to keep workers underground safe and dry.

SOLUTION

- TGHA 400 HP pump packages were broken down into separate pieces for lowering down an 8-foot wide square shaft and reassembled at the bottom of the mine.

RESULTS

- GDEP pumps and process successfully dewatered the mine, providing working conditions necessary for successful mine operations.

LOCATION



THE PROCESS

