



CORNELL PUMP COMPANY

APPLICATIONS

MINING



REDI-PRIME® HELPS UPTIME AND COSTS ON A SLURRY PUMPING SYSTEM

In 2011 a local mining operation in the Pacific Northwest approached a Cornell Distributor for a solution to recurring pump failure/maintenance issues. The mine used a leading manufacturer's self-priming trash pump to move light slurry, with a specific gravity of 1.1, from a collection area to a silt clarifier.

With a design flow requirement of 1100 GPM @ 75' TDH (which included a 12' suction lift), the existing pump chosen was running 1500+ RPM (belt driven), requiring a 50-HP motor when the consistency reached the optimum 1.1 specific gravity.

Initially, the pump wouldn't run longer than 45 days before failure, so it had been converted to the manufacturer's suggested wear-resistant material. Even with this change, the mine might expect only 120 days of operation before the pump was utterly worn out.

The inefficient operation, continuous belt maintenance, priming-related issues, and continuing pump failures led them to spend nearly \$35,000 annually on this one system alone.

The Cornell REDI-PRIME® 6NHTA offered them the opportunity to install a guaranteed priming system that would pass the solids and slurry independent of the pump operation (no continuous recirculation through the volute), run at a speed 20 percent lower than the existing pump, be directly driven (no belts required) and increase the pump efficiency from 58 to 75 percent, thereby significantly reducing the power consumption.

The REDI-PRIME® pump recently surpassed the first anniversary of its commissioning date, and so far, the pump has not been pulled from service or required any maintenance attention since installation.

Testing indicates the pump is still operating at optimum efficiency. The deferred maintenance costs have more than been paid for the project installations costs, and the estimated power savings of 6.7kw/hr is producing another \$3,500.00 in annual savings.