

# **Apron Feeder, Copper Ore Mining**

Chesterton Lubricants/MRO Chemicals

Mining
Products: Chesterton 601 Chain Drive Pin &
Bushing Lubricant
Case Study 012 LMRO

## Challenge

#### **Background**

The chains of an apron feeder are exposed to moisture and abrasive dirt. Water and abrasive dust residue buildup caused excessive wear as well as severe corrosion in the pin and bushing. Chain links are replaced every 1-2 weeks, and the whole chain is replaced every month.

| Goal: Extend Chain Life/Reduce ( | Costs |        |
|----------------------------------|-------|--------|
| Chain Consumption:               | 36 ft | /month |
| Total Chain Cost:                | \$    | 8,030  |
| Lubrication:                     | \$    | 100    |
| Total Monthly Cost:              | \$    | 8,130  |
| Annual Chain Cost:               | \$9   | 96.336 |



Water and abrasives wear the chain.

### **Solution**

#### **Product**

- Applied Chesterton 601 Chain Drive Pin and Bushing Lubricant on the chains without prior cleaning.
- The lubricant's high-capillary action penetrated the pin and bushing rapidly, removing the residue built-up on the chains.
- Chesterton 601's corrosion inhibitor and extreme pressure additive kept the chains well lubricated and corrosion free.

#### **Results**

- After 1 month using Chesterton 601 in the oil bath, the detergency action of this product kept the chain free from sludge.
- After 12 months, chain life doubled, and primary crusher production rates increased by 30%.

| Chain Consumption:  | 18 ft/mont |
|---------------------|------------|
| Total Chain Cost:   | \$ 4,015   |
| Lubrication:        | \$ 650     |
| Total Monthly Cost: | \$ 4,665   |
| Annual Savings:     | \$40,536   |

\$=USD



Chesterton 601 penetrates, removing sludge and residue build-up as it lubricates.



After 12 months of use, chain life increased 200% and ore processing productivity by 30%.