

# MULTI METAL OPEN PIT MINE CASE STUDY

FINNISH MINE



250SH PUMP CASE STUDY



The client, a multi-metal Finnish mining company, contacted Pioneer in search of a pump suitable for removing the acidic waste leachate from the Ore BioLeaching process requiring higher flows and better reliability than the pumps they were currently using.

## THE PROJECT

After consultation with the client, it became apparent that they were looking to increase the capacity of the BioLeaching process on site at the mine.

The BioLeaching process utilises microbes to extract metals from the ore. Air is then blown into stacks of ore and the stacks are irrigated with an acidic production solution creating optimal conditions for microbial activity.

Stacked ore is first leached for approximately 15 months at a primary heap. The stack of ore is then reclaimed and conveyed onto a secondary heap for final leaching. BioLeaching is an energy-efficient way of producing nickel, for example.

On average, this method of nickel production is 20% lower than other methods of production.

## THE METHOD

Following the consultation an application survey of the site was carried out, including taking liquid samples of the leachate for analysis.

The team quickly identified that a Pioneer Pump 250SH, 10" Solids Handling diesel package pumpset with a CD4 MCu duplex stainless steel pumpend would give the client the required corrosion resistance they needed as well as the

high performance, low fuel burn that they had requested.

## THE RESULTS

After installing the first of the 10" solids handling 250SH pumpsets, the site was very impressed with the performance and fuel savings.

The stainless steel pump end and general reliability of the Pioneer 250SH resulted in minimal down time outside of servicing requirements meaning the client could keep the process running 24/7 all year round considerably increasing the output of the whole mine.

Following this success, the project was replicated with the client again with another pumpset being ordered to keep up with the growing demand and output on site.

## STAINLESS STEEL PUMPEND

## REMOTE CONTROL TELEMETRY

### PUMP FEATURES

- CD4 MCu duplex stainless steel pumpend to prevent corrosion from acidic waste materials
- High efficiency Scania diesel engine

### PERFORMANCE DETAILS

- Standard Max Flow: 1600m<sup>3</sup>/hr
- Standard Shut-Off: 93m
- Continuous Power: 232kW (311 HP)
- Solids Size: 3.5" (89mm)

### RESULTS

- Increased client output
- Reduced downtime
- Reduced fuel consumption