Mine increases ore recovery at a given concentrate quality

Advanced process control (APC) advantageously deployed in the flotation plant

**SITUATION**

Flotation - selectively concentrating and separating valuable minerals from gangue in the process slurry
- Variability in the ore makes human operator control challenging with shift-to-shift variations occurring due to varying operator experience, optimization techniques and ability
- Large variations in reagent dosages, concentrate grade and recovery

**SOLUTION**

Advanced process control for flotation
- A plant model and cost functions that describe the process and operations
- Optimal set points are chosen automatically
- Online analyzers and blending algorithms reconcile actual feed with quality specifications for better predictability of disturbances (e.g. feed surges) and long term effects of control decisions

**SUCCESS**

Significant flotation performance improvement
- Recovery increased by 1%
- Reduction of variability in production grade
- Increased stability of froth levels and reagent consumption
- Performance and quality increase in real time

**SCOPE OF DELIVERY**

ABB Ability™ Expert Optimizer for mining

**BENEFITS**

- Quality: 1%
- OPEX: 5%
- Throughput/yield: 1%