

Client overview

The client has a turnover of more than USD 5 billion. The mine handles 1 million tonnes of coal every year and is operated by surface miner, trucks and shovels.

Challenges

- Interface with geo-physical loggers for assessment of coal quality
- Preparation of block model matching the mining practice of surface miner in thin veneers of coal
- Efficiently manage field surveys and update block model accordingly
- Production planning to achieve consistent supply of high quality coal from captive mine to reduce power generation cost used for smelting

The Mining Practice at Client Site

At the mine, the overburden is removed using ripper-dozer, loader and dumper combination. The coal seam was earlier explored by wide space drilling. During production stage, the quality is estimated by close spaced drilling with geophysical logging. The geophysical logs have direct relation with calorific value of coal deposit.

The coal is extracted and transported to the captive power plant of aluminium smelter using surface miner and trucks. The production department concentrates on maximising the yield of coal by selective extraction in order to bring down the power generation cost.

Solutions

The client management reposed confidence in CMC and desired to reconfiguring Crystal to suit their practice needs. The Crystal, base solution, was reconfigured and customised to suit the mining practice of the client and their priorities.

Technical architecture

- The solution runs on WINDOWS environment and is developed around VC++ and OOPS.
- The solution is a highly user-friendly package with powerful graphical tools and quick response times.
- Intel Processor based workstations with high end graphics, digitizer and Plotter are the basic hardware requirements

Benefits

- o Timely response to market with flexible planning tools
- o Accurate geological and survey models
- o Accurate estimation of volumes handled in the mine
- o Time saving in map generation
- o Efficient management of quality and survey data of the mine

The solution has helped the management in best use of the mining practice and has ultimately resulted in reduction of power generation cost by around 7%, so vital for aluminium smelting.