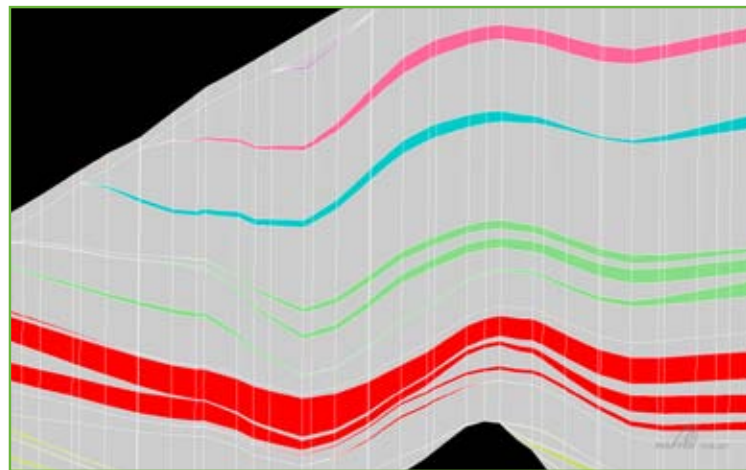


A new slant on strat modelling

Vulcan's HARP modelling provides the best technique for accurate modelling of stratigraphic units, crucial for the planning of coal operations.

THE CHALLENGE

In open cut mines, coal from thin or low quality seams is often spread throughout the overburden stockpiles. Pockets of spontaneously combusting coal can then inhibit reclamation over a large area. Identifying this problematic reject coal at the modelling and planning stage would allow it to be selectively mined and disposed of safely.



Cross section through a Vulcan HARP model showing coal seams in coloured blocks with burden shown in grey.

The seams are folded in places and thicken/thin along strike.

The HARP process provides accurate modelling of thin seams, down to centimetre scale, which are easily visualised.

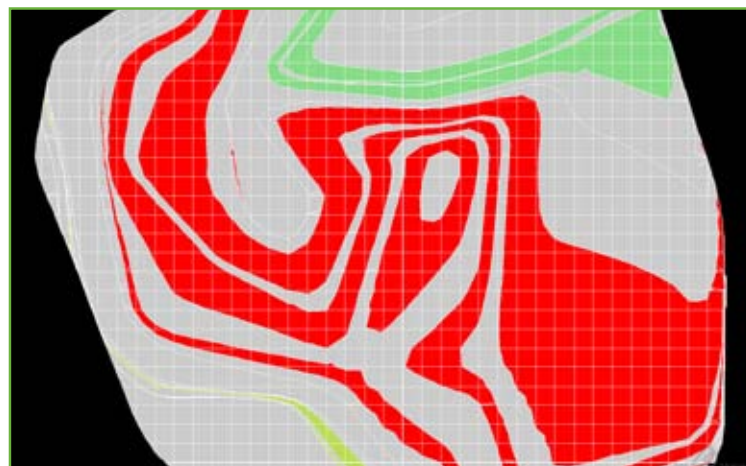
The HARP process provides the geologist with tools for interpretation and interpolation of coal horizons using drillhole data and downhole geophysical characterisation. Emphasis on modelling of the shallowest, thickest and best quality seams is of greatest importance to the economic viability of mining.

Operationally it is also important to understand the spatial distribution of thinner uneconomic seams which must be mined during burden removal. The mining, management and storage of this waste coal often needs to be planned well in advance to prevent potential spontaneous combustion and associated environmental impacts.

THE SOLUTION

Once mining has commenced, HARP modelling can be enhanced using positional information of seam contacts collected by I-Site scanning of highwalls.

The I-Site data can be modelled using smart line interpretation and imported into Vulcan to control the HARP modelling process in the vicinity of the highwall. This ensures that the geological model provided to the mine planner represents the best understanding of the known geological data.



Plan view slice through a folded and domed sequence of coal strata.

The integrity of thin seams is maintained in the HARP model, even in a complexity folded example such as this.