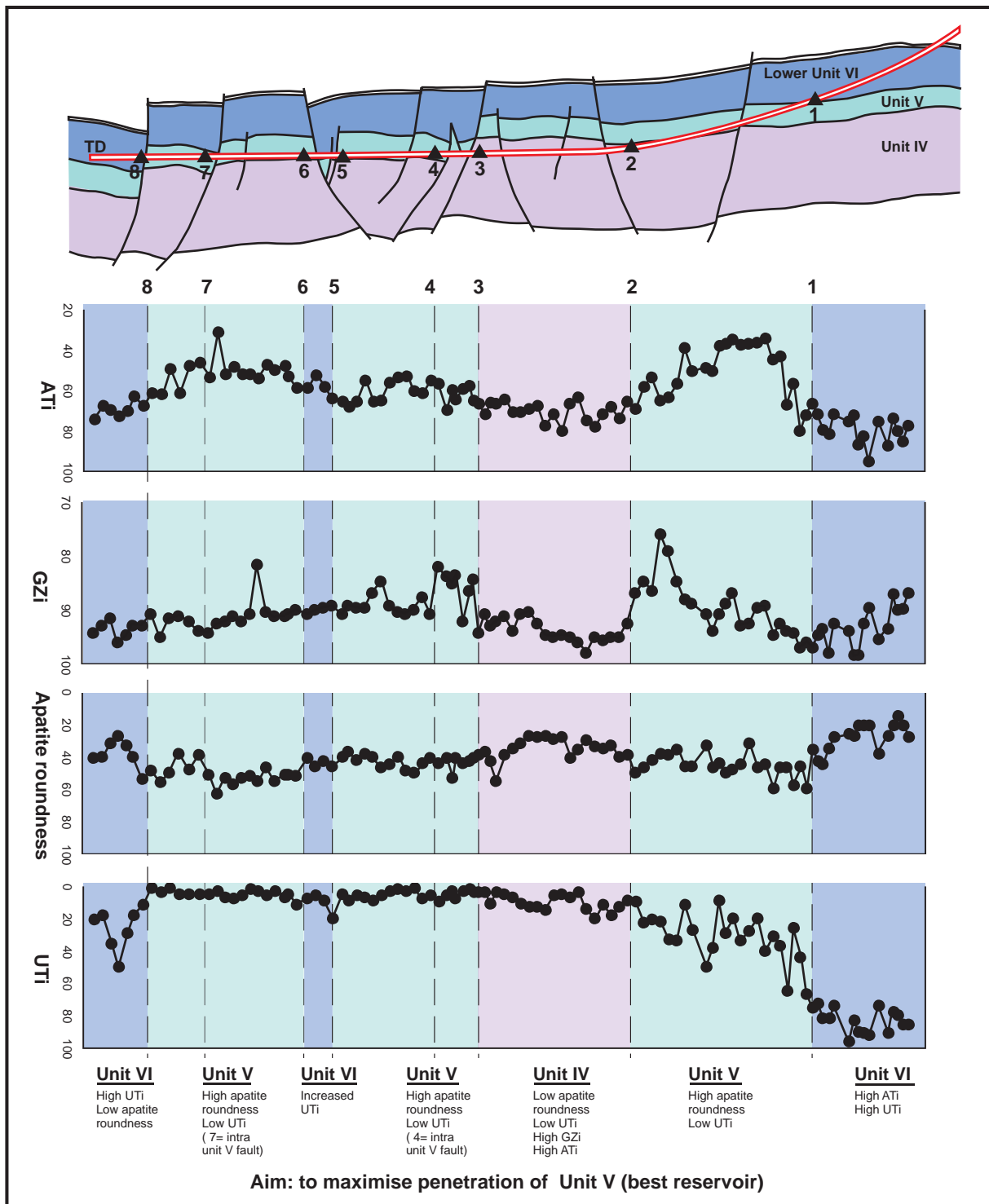


Geosteering horizontal wells using heavy mineral analysis

Clair Field well 206/8-10Z



HM Research Associates staff have applied heavy mineral analysis to monitor and steer high angle wells in four UKCS North Sea Fields. Over 15 wells have successfully been steered using this technique. Templates from core and cuttings are constructed from offset wells. This framework is then applied at well site to evaluate the stratigraphic position of the drill bit. Parameters are sufficiently sensitive to identify key stratigraphic events even where along-hole contamination dilutes the in-situ mineralogy. Examples can be seen in the Clair Field (above) where units can still be identified despite the dilution resulting from an along-hole penetration of over 1 km.