

## CONCLUSIONS

The vitrinite reflectance data indicates that the:

1. sediments from Koorkah-1 are sufficiently mature for the generation of:
  - light naphthenic oil from resinite-rich organic matter below 1950 metres depth.
  - significant quantities of gas from vitrinite (and to a lesser extent inertinite) rich organic matter below 2800 metres depth.
  - oil from exinite-rich organic matter below 2950 metres depth.
2. Organic richness of the sediments from Koorkah-1 is generally poor although sediments with fair organic richness occur in the intervals:  
1996 -2005 m  
2465.5 -2555 m

This low organic richness is uncharacteristic of Bass Basin wells previously examined and stems from a lack of thick coaly sequences and a lower organic content in the siltstones and shales of Koorkah-1.

3. Source potential for the generation of liquid hydrocarbons is generally poor (exinite contents <<5-10%; DOM contents <0.5-2%). Source potential for gas generation is also fairly poor with few mature sediments having vitrinite contents greater than 20% (DOM content of mature sediments range from 0.5-1%).

The uncharacteristic low organic richness and poor source quality in the Koorkah-1 location may be linked with a lower sedimentation rate in this location (Ibach, 1982).

4. Free oil is present in most samples below 2400 metres depth although this oil becomes significantly more abundant below 3050 metres depth. The majority of this oil is thought to have migrated into this sequence rather than to have been generated in situ.
5. Exsudatinite is present in the thin coaly intervals between 2806-2815 metres depth.