

Organic Richness

Organic richness is generally poor in the samples examined from Koorkah-1 (Table 3), with DOM contents generally less than 1%. Organic richness is fair in the following intervals:

1996 - 2005 m
2465.5 - 2555 m

In these samples DOM contents range up to 1-2%.

The low organic richness in this well in comparison to other Bass Basin wells studied is largely due to the absence of the thick coaly sequences which are prolific in other parts of the basin. However, this effect is coupled with the lower organic richness of the shale and siltstone sediments in the Koorkah-1 location.

Organic Matter Type and Source Quality

Exinite contents are significantly lower in Koorkah-1 than other parts of the Bass Basin. The estimated proportions of exinite in the dispersed organic matter included in the shales, siltstones and coals, ranges from <<5% to 10% (Table 2). Only one sample contained cuttings with a greater proportion of exinite and in this case the exinite was bitumen (sandstone 1906-1915 metres depth).

Vitrinite contents are similar in this well to the shales and siltstones in wells previously examined. However, the vitrinite contents are low in the intervals 2465.5-2617 metres depth and 2905-3013 metres depth indicating a slightly more oxidising environment of deposition.

Free oil occurs in most samples below 2400 metres although this oil becomes significantly more abundant below 3050 metres depth. This oil is thought to have migrated into these sediments rather than to have been generated in situ.

Exsudatinite is present in the coals from 2806-2815 metres depth.

Bitumen is present in a large proportion of the samples below 1700 metres depth. This bitumen is likely to be a contaminant from the drilling mud (Gilsonite) in many of these samples. However, in the sidewall core sample from 3062 metres depth the bitumen occurs as small spheres (up to 0.05 mm diameter) in the silty shale and is unlikely to be a contaminant.