CONCLUSIONS

Age equivalent sandstones (with a similar stratigraphic position within the E.V.C.M.) to those that tested hydrocarbons in the Yolla-1 well are present in the Koorkah-1 well. However, no encouraging shows of hydrocarbons were seen during the drilling of the Koorkah well. Only poor indications of hydrocarbon fluorescence were noted in sidewall cores. Petrophysical analyses of Schlumberger Wireline Logs showed all zones to be water wet with minor indications of immovable hydrocarbons (see Appendix 4 and Enclosure 8). The lack of hydrocarbons in the Koorkah-1 well may be accounted for by the following:

1. The results of the geochemical analyses (vitrinite reflectivity and pyrolysis) show that the sedimentary section down to around 2950 meters in the Koorkah well is thermally immature to marginally mature for the generation of liquid hydrocarbons. In addition, the D.O.M. within the claystones and siltstones is dominated by vitrinite and inertinite with only minor resinites present (see Appendix 7). Under these conditions, the main hydrocarbon that is likely to be generated below 2950 meters is gas. Traces of free oil prevalent from 2400 meters to total depth are considered to represent early maturity oil that has migrated from a deeper more mature resinite rich section, possibly offstructure.

2. Petrophysical analyses and lithological descriptions indicate that sandstones of Paleocene age have only fair porosity, and that permeability is low due to clay matrix and silica cement plus the presence of locally abundant mica. The sandstones of Late Cretaceous age have poor porosity and permeability because of a high clay matrix plus calcite cement. Therefore, neither the Paleocene nor the Late Cretaceous sandstones encountered in the Koorkah-1 well can be considered as being suitable for the accumulation of large volumes of hydrocarbons.