

aimed towards fulfilling this general objective.

5.5 CONCLUSIONS

The results of the present models appear to confirm the following.

- (1) The lowermost EVCM is in the zone of maximum generation-preservation of hydrocarbons. This zone has rarely been penetrated, as most wells were terminated in the upper EVCM.
- (2) The mature section is probably wet gas to slightly oil prone. All the more oil prone sections tend to be immature. The deeper sections are dry gas prone.
- (3) The upper EVCM are only marginally mature, and younger sediments are all immature.
- (4) Below 18,000 the sediments are super-mature (mainly Otway Group sediments) and above 9,000' they are immature.
- (5) Igneous intrusives have the potential to significantly affect the local maturation history. This aspect of maturation in the Bass Basin is difficult to quantify. Local maturation may be accelerated adjacent to intrusives and thermal blanket effects of igneous bodies may retard maturation of source rocks above them.
- (6) An average increase of 5°C/km in the geothermal gradient over those calculated previously by Nicholas and others (1981) is likely. Available data indicates that the deeper central basin has a cooler gradient (37°C/km)