

5.0 SOURCE ROCK, THERMAL HISTORY AND MATURATION

5.1 INTRODUCTION

Oil has been recovered from Cormorant 1 and gas-condensate from Bass 3, Pelicans 1, 2, 3 and 4 (See Table 2.1). There are also numerous good shows from other wells in the basin. Pipipa 1, which reached total depth prior to encountering the main reservoir section of the adjacent Pelican Field, had particularly strong shows. Hence, the generation of hydrocarbons within of the Bass Basin has been empirically established.

The lack of success in finding a commercial-sized petroleum accumulation within the Basin, despite the encouraging indications, requires a more detailed evaluation of the source rock type, maturation history and volume and timing of generation. This would ensure that future targets are optimised for these factors.

Nineteen wells have been drilled in the basin, but data is relatively sparse for an area of about 12 million acres.

In addition, much of the primary data has not been readily available to SAOGC for this study.

The discussion which follows is based on the primary source rock maturation investigations of Kantsler and others (1978) and Nicholas and others (1981). It was considered that a complete re-evaluation of the heat flow data was required. That work has been integrated with all of the above information (via Lopatin Time-Temperature Maturation Plots) into a preliminary regional assessment of the hydrocarbon generative potential of the basin.