

3 RESULTS

3.1 Introduction

The Rocky Cape seismic data were interpreted in two passes. The first project was to identify if the large Clarke Lead was viable and the second was to extend this interpretation northwards incorporating the 1994 reprocessing.

The improved grid spacing gained by the acquisition together with the better data quality from the reprocessing project allowed a significant improvement in the understanding of the structural geology of T/18P. Several prospects and leads have been confirmed, while the extra work did downgrade the Clarke & Aroo 1 updip Leads.

3.2 Regional Structure

3.2.1 Clarke Area

The Clarke Lead is located in northern T/25P and straddles the T/18P permit boundary. It falls where the northern end of the NW-SE trending ridge, which separates the Pelican Trough from the Yolla Trough, meets the basin edge ramp.

The Lead was thought to be a massive low-side fault closure against a major bounding fault prior to the Rocky Cape Survey. Unfortunately, the greater infill coverage provided by the Rocky Cape data showed that the fault style is more likely to be a complicated arrangement of en echelon faults and relay ramps (Figures 3.1 to 3.4). Very little of the original closure remains after this interpretation however, potential exists for stratigraphic traps in the Clarke area, particularly in the deeper section which onlaps the basement ramp.

3.2.2 Bass 3 High

The Rocky Cape Seismic Survey had a two fold target on the Bass 3 High. Firstly the updip potential from Bass 3 was to be identified and secondly a better understanding of the flank geometries was sought. Structural mapping of the key Palaeocene horizon confirmed that more than 30ms updip potential from Bass 3 was possible with closure covering approximately 23 square kilometres (Figures 3.5 and 3.6). The lead had been mapped by R. Smit in 1986 and called Ibis. Bass 3 had been drilled on a small half graben (Fig 3.7) in the greater structure but a FIT had recovered 29 cubic feet of gas and 800 cc of condensate from a Palaeocene aged sand at 2054mKB (Fig 3.8). The possible pay zone is capped by a regionally extensive shale seen also in Aroo 1, Koorkah 1 and Yolla 1 which should represent a robust top seal on the updip culmination. Clearly Bass 3 may have intersected the perimeter of a gas field which is developed further updip and therefore Ibis probably represents the lowest risk prospect in the T/18P inventory.

The EVCM thins dramatically over the Bass 3 high to the extent that the well was able to penetrate basement which consisted of Cambrian meta-sediments. The prominence and longevity of the Bass 3 high is reflected in the stratal geometries seen on the flanks of it (Fig 3.7). The thinning of the EVCM may allow pinchout type stratigraphic traps to develop particularly for Late Cretaceous strata which initially onlapped the Bass 3 High before eventually being deposited over the crest where they were intersected by the Bass 3 well. The trapping potential of the