

AMOCO AUSTRALIA PETROLEUM COMPANY
PELICAN NO. 5

CONCLUSIONS AND RECOMMENDATIONS

Abnormal Formation Pressures

As with other wells drilled on the Pelican structure, an increase in formation pressure was noted below 9000 ft (2743 m).

Mud weights were progressively raised while drilling, mainly on the strength of background gas and connection gas values.

RFT results generally confirm the magnitude of the mud weights used, with the exception of around 11 - 12,000 ft (3353 - 3657 m) which could have been drilled underbalanced by up to 1.2 ppg of mud weight. The well did not flow due to the tight nature of the formations penetrated.

A final mud weight of 15.8 ppg was used at T.D. Background gas values were present with this mud weight, and it is expected that should drilling ever take place below this depth, higher mud weights again are to be expected. Sufficient Barite stocks must be maintained on the rig in anticipation of this.

High Bottom Hole Temperatures

At T.D., static bottom hole temperatures of 350 - 360°F were inferred from wireline logging runs.

These high bottom hole temperatures combined with heavy CO₂ contamination meant that on every trip, large additions of Lignite and Lignosulphonate were necessary to maintain the desired mud properties. Despite these serious problems, the mud properties were kept within the desired specifications, and hole condition was good at all times.

As the bottom hole temperature increased with drilling, the use of thermally sensitive polymers was phased out, and the use of thermally resistant deflocculants was commenced.