

'F' SAND

Major sand development is apparent in all three wells and traditionally the bulk of reserves have been mapped in these F Sands. In Pelican 4 and 5 an upper and lower sand are present. In earlier Amoco and SRL correlations the upper sand was also considered present in Pelican 1 but this interpretation is considered overly optimistic as the upper sand appears to have shaled out in Pelican 1. Also as the upper sand in Pelican 4 is poorly developed, further discussion is confined to the major lower sand in this well.

In Pelican 5 the upper sand from 2852 - 2861m gave log porosities in the order 9 - 15%, average 14% and Sw's from 50% - 100%, average 80% using an Rw equivalent to 10400 ppm NaCl. With Rw equivalent to 5200 ppm all Sw values are around 100%. This interval was tested; DST 5A from 2855-2860.5m recovered 85 barrels of GCM and WCM. This result appears to confirm the log analysis and indicates a non-productive zone.

The lower sand in Zone F in Pelican 5 from 2869-2892m was tested and cored. Cores 2 and 3 span the entire sand. Core 2 from 2863.5-2881.7m recovered 100%. The core is an example of a fining up channel sand sequence. Rare to 20% oil staining was reported throughout the core but generally the shows described are poor with little natural fluorescence and slow low intensity cuts and crush cuts. Core analysis on samples from 2869-2881m indicated ambient porosities in the range 8.4 - 20.8 % average 17%. Residual oil saturations ranged from 0 - 1.3% with 24 out of the 43 samples recording zero. Residual water saturations from the core analysis ranged from 41 - 75% with the lower values being in the cleaner bottom section of the core. Log derived porosities over the same interval ranged from 9-16% averaging around 13% which is in close agreement considering the core porosities are taken under ambient conditions and would be optimistic. Log derived Sw's ranged from 65% to 90%, averaging 80% with an Rw equivalent to 10400 ppm. With Rw = 5200 ppm Sw's indicate the entire sand is water bearing with all values greater than 90%.

DST 5 over the interval 2869-2833m recovered a small quantity of condensate. This was waxy and paraffinic and had an API gravity of 51° at 60°F. Although the well flowed small amounts of gas and condensate, no stable flow rates could be obtained.

A petrographic analysis on chips from Core 2 records a significant proportion of clay and fine grained constituents derived from lithic fragments. Grains exhibit clastic deformation caused by compaction. Other samples contain authigenic kaolinite-thought to represent a precipitate from circulating pore waters. Carbonate is also often present and widely dispersed. All these factors would have been likely to cause porosity reduction and will affect production.