



**FIG. 23**

HAEMATITE EXPLORATIONS PTY. LTD.  
BASS BASIN

SHELF REEF  
SOUTH WEST SIDE OF BASIN

3 km

048059

SCALE OF MILES

OG. 677

**EXPLANATION:**

On both the northeast and southwest edge of the basin extensive areas display buildups. These are believed to have grown from a common shelf reef or part of reef platforms.

These features are recognized in the surveyed area over distances of 30 x 12 miles on the northeast flank and 35 x 10 miles on the southwest flank. The maximum thickness of the shelf reef where built up is about 2,000 feet, otherwise probably about half that amount. It is assumed that growth of the shelf reef is from the base of the Unit II.

The buildups are expressed in a prominent reflection marking the top of Unit II and rise as much as 500 feet. Where not built up, only a slight rise of the reflection marks the front of the shelf reef. The lower beds of the overlying Unit III wedge out against the buildups, but the higher beds assume a draping attitude. While the buildups were growing they apparently kept ahead of sediments being deposited in the adjacent area. If the overlap of Unit III was instrumental in terminating the buildups it would imply that the sediments were turbid. The prominent reflection is common also to the reefs rising from the SE, flank and the same wedge and drupe relationship with the overlying Unit III is seen.

As may be observed from the regional map, the shelf reefs coincide with the magnetometer basement ridge that is apparent on both the northeast and southwest edge of the basin. Inasmuch as the ridge was apparently somewhat positive throughout the development of the basin, it would be expected that the shelf reefs would be confined to this area of slower subsidence. Thus the northeast and southwest shelf reef areas would tend to be structurally higher than the areas adjacent.

**Oil Prospects:**

There are several favourable factors that make the shelf reefs of both northeast and southwest sides of the basin attractive from the standpoint of possible oil accumulation. (1) The overall reef area is structurally high, (2) the reef area is situated upland from the deepest portion of the basin where optimum conditions for source beds are generally pictured. The source bed potentialities are further enhanced by the presence of an enclosed basin during Unit I and the lower part of Unit II. (3) The conditions are ideal for uplap migration from Units I and II as well as lateral migration from lower Unit III. (4) Good reservoir conditions are assured, and (5) probably good sealing conditions are provided from uplap pinchouts and from capping by argillaceous sediments of the overlapping Unit III.