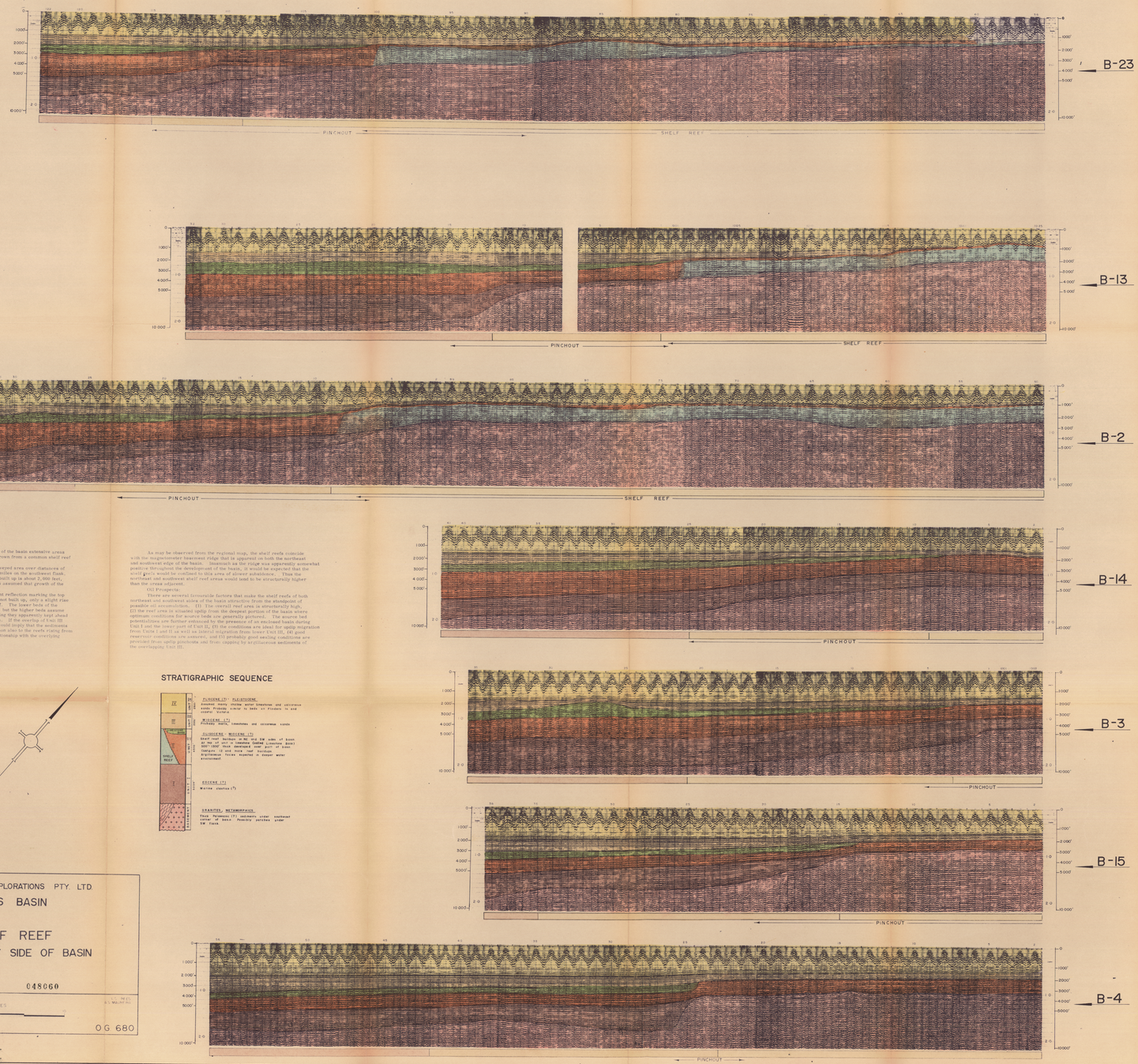

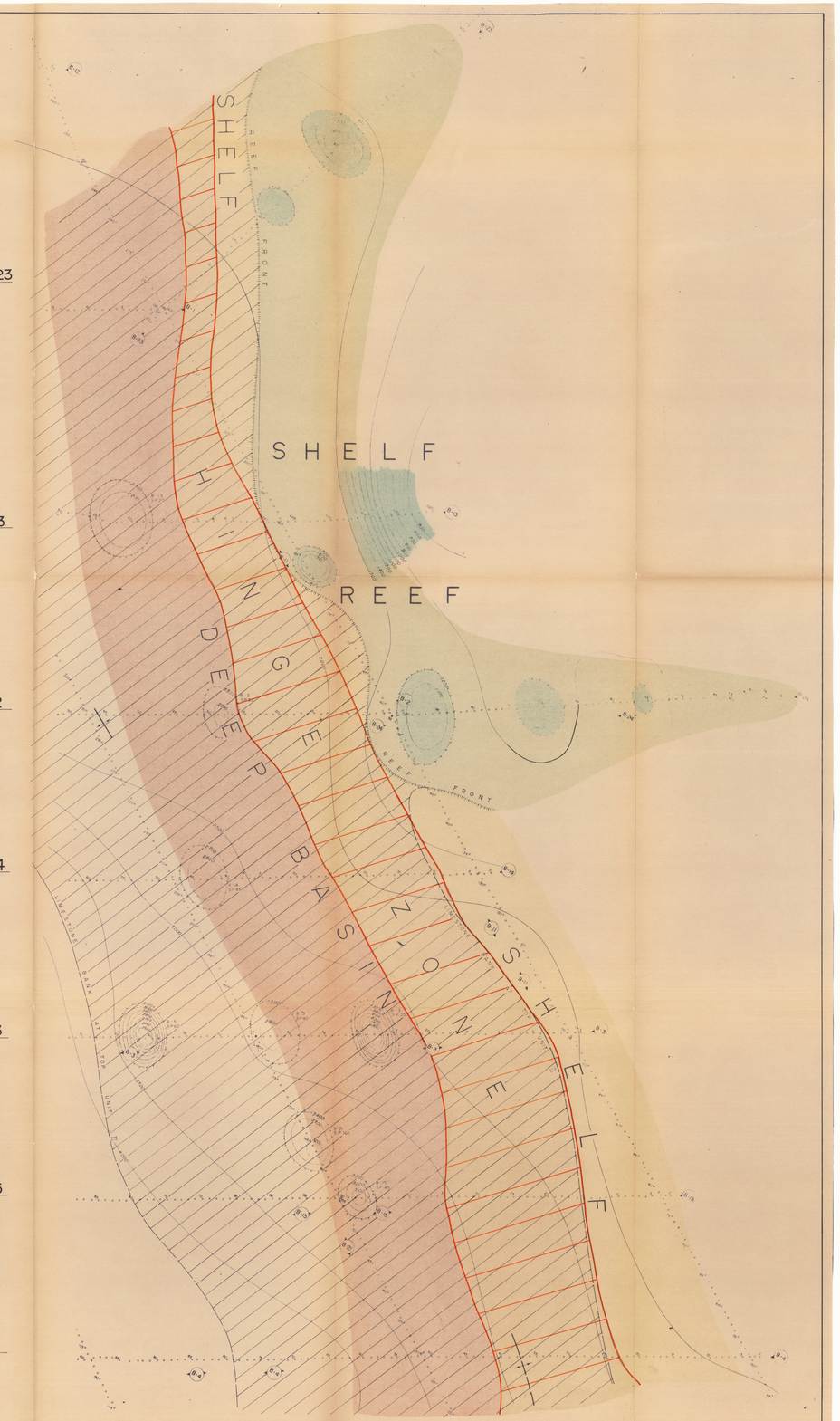

EXPLANATION:

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

These features are recognized in the surveyed area over distances of 30 x 12 miles on the northeast flank and 15 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 bulldups 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 bulldups, but the higher beds assume dropping attitude. While the bulldups were growing they apparently kept ahead of sediments being deposited in the adjacent area. If the overlap of Unit III is a result of maintaining the bulldups it would imply that the sediments were turbid. The prominent reflection is common also to the reefs rising from the L.s. Hank and the same wedge and drape 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 expressed on both the northeast and southwest edge of the basin. Inasmuch as this ridge is 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.

(4) 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 updip from the deepest portion of the basin where optimum conditions for source beds are generally performed. 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 updip 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 updip pinchouts and from capping by argillaceous sediments of the overlapping Unit III.

STRATIGRAPHIC SEQUENCE

FIG. 24

HAEMATITE EXPLORATIONS PTY. LTD.

BASS BASIN

SHELF REEF

NORTH EAST SIDE OF BASIN

5 cm

048060

G.H.H. SEPTEMBER, 1964

SCALE OF MILES

1 0 1 2 3 4 5

1:125,000

W.P.C.
D. MALIN P.G.

OG 680

Bass Basin part I