B-13 STRUCTURE

EXPLANATION

The structure is crossed by one line and is mapped as being oval in shape, with a length of 7 miles and width of closure of 5 miles. It could, however, be considerably elongated, for the lines of control are widely spaced.

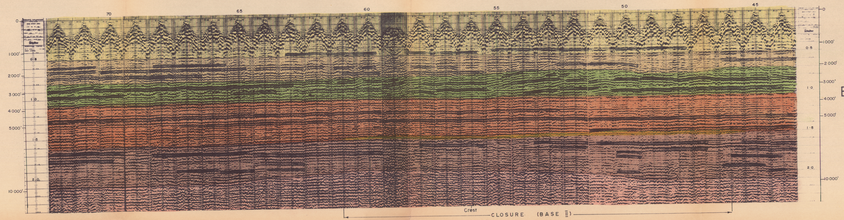
Closure at the base of Unit II amounts to 100 feet. (Probably B-13 passes through the plunge rather than the culmination). Draping extends to the middle of Unit II, or some 4,500 feet above basement.

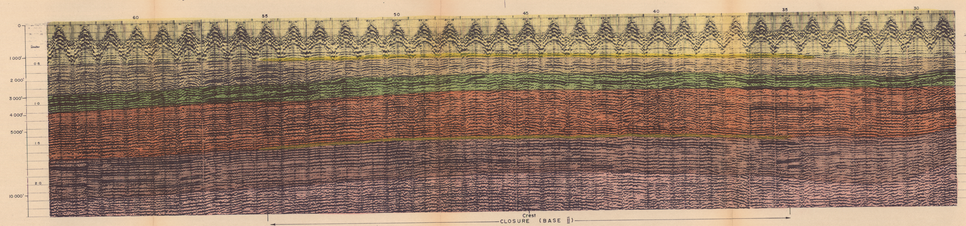
The structure is very close to the B-12-1-13 feature and represents a second, basinward, trend. The basement is not clearly defined, but is mapped in accordance with the reflections of Unit I which are unusually gentle and only slightly steeper than those of Unit II.

Oil Prospects.

This structure may be longer and have considerably more closure than now appears to be the case, for in all probability the line B-13 does not pass through the highest part. The potentialities of this feature should not be downgraded because of the small amount of closure that is indicated.

The questions of source beds, migration and reservoir possibilities, are similar to those discussed under B-4-16 and B-2-21-3.





B-2-21 STRUCTURE

EXPLANATION

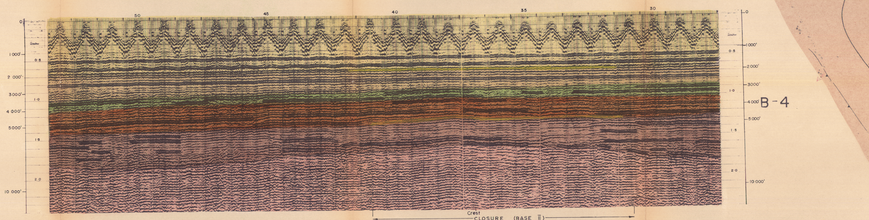
This drape structure displays movement extending as high as Unit IV. Because of this and the presence of northwest closure it is felt that the structure is not part of the B-12-1-13 nose.

The structure appears to be somewhat domal with an estimated length of 7 miles and closure width of 6 miles. The amount of closure is 400 feet, measured at the base of Unit II. The effective closure extends at least to the base of Unit IV where it amounts to 750 feet. Thus, at least 7,500 feet of section has closure.

Oil Prospects.

This is one of the most interesting of the drape structures. It has a relatively large amount of closure at the base of Unit II as well as through the section into Unit IV. Accumulation, therefore, is possible not only within the same (seismic) of Units I and II, but also within the I.-B. Bank and overlying Unit III.

The structure is in a favourable position for updip migration from the potential source beds of Units I and II in the deepest portion of the basin



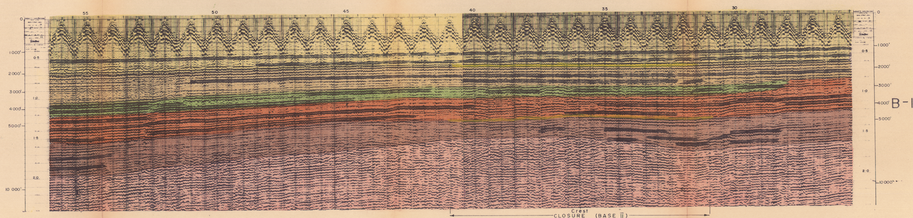
B-4-16 STRUCTURE

EXPLANATION

The structure is extended to be about 26 miles long. The width of closed area, measured at the base of Unit II, is 4 miles. The amount of drape at the base of Unit II is 125 feet on line B-4 and 200 feet on B-16. The effective draping extends upward to at least the base of Unit IV where it is 40 feet, thus involving about 4,500 feet of section. Closure would be appreciably greater were it not for the position of the structure within the steep hinge zone.

Oil Prospects.

Units I and II are the more likely to contain source beds, but Unit III must also be considered. The flanks or hinge zone location of this structure places it in a favourable position for updip migration. Accumulation is possible not only within the sands of Units I and II, but also within Unit III.



B-12-1-13 STRUCTURE

EXPLANATION

This feature is essentially a nosetonal plunging nose controlled by a pronounced, wide basement high or ridge. From the map Structure Top Basement it is seen that the basement high is a comparatively large feature that begins in the shallow water of the basin and from its crest plunges some 4,900 feet to B-13. In the area of B-12 and B-13 the basement high is 10 miles or so wide and has a relief of some 2,500 feet. Further to the southeast the top becomes quite shallow, but as B-13 it apparently has narrowed to about 7 miles and the relief has decreased to about 1,000 feet.

The other outstanding item in connection with the nose in the northwestern wedging out of Unit I over the crest of the basement high, shown on the map. Thickness of Unit I on the B-13 is about 1,100 feet thick but over the crest at B-12-1-13 is less than 300 feet or even absent. It thickens in the flanks to 2,500 feet.

The basement high, therefore, was in existence before Unit I was deposited and remained as an island during B-12 and B-13 until about the end of Unit I. A considerable amount of wedging and overlapping is seen on the flanks of the nose in B-12 and B-1. The overlying Unit II appears to have suffered no thinning that could be attributed to nose-formation, although some drape. The effective draping extended, though feebly, to the top of the I.-. Bank and the outcrops on the map (Structure Top Unit II) add some further effect of the moving feature.

The nose is at least 30 miles long and the plunge measured at the base of Unit II is about 2,000 feet.

B-12: Width of ridge 5 miles
Amount of drape 150 feet at base of Unit II.
Drape effective for 1,200 feet, to top of Unit II.

B-1: Width of drape 8 miles
Amount of drape 200 feet at base of Unit II.
Drape effective for 1,500 feet, to top of Unit II.

B-13: Width of drape 7 miles
Amount of drape 200 feet at base of Unit II.
Drape effective for 1,000 feet, to base of Lst. Bank.

It is noted that the B-12-1-13 nose stems from the shallow edge of the basin northward beyond the confines of the seismic control map of construction and some closed deep-lying beds is present on either side of the basin.

Oil Prospects.

The B-12-1-13 nose is the only feature of this type that has been found within the basin. It presents an interesting prospect for both the Unit I and Unit II.

The Unit I, as pointed out in the above discussion, is 2,500 feet thick down the plunge and 1,500 feet thick on the flanks of the nose. The beds on both planes are thick enough to form fault traps on the crest, on lines B-12 and B-1, and flanks would be favourable for stratigraphic traps for oil migrating from source beds updip or around gentle closures.

Possibly the most vital item in connection with the source beds, takes place in the northwest wedging toward the edge of the basin. This amounts to about 1,400 feet (from 1,500 to 2,900 feet) between B-12 and B-13. Facies changes may also play a part in providing effective traps.

STRATIGRAPHIC SEQUENCE



FIG 18 19

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BASS BASIN

048655

DRAPE STRUCTURES
NORTH EAST SIDE OF BASIN

R.H.H. SEPTEMBER, 1964

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SCALE OF MILES
0 5 10 15 20
1:250,000

OG 687

Bass Basin part I