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092P/01

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NOTES OF MOUNT ARMOUR GEOLOGY

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August 30, 1984

MOUNT ARMOUR

I) GEOLOGIC STYLE - LITHOLOGY

- Map area dominated by major mafic volcanic sediment contact

i) Mafic Volcanics

- coarse to medium grain basalts, pillow basalts and possible sub-volcanic intrusions
- hiatus in volcanism demonstrated by thin N/S trending chert unit bounded by mafic volcanics, western margin of property

ii) Alteration Mafic Volcanics

- generally very light. Rare occurrences (cf. L35 900W) of light FeC development minor Py + sericite
- somewhat more widespread low grade cc development

iii) Sediments

- generally dominated by a quartz rich regime

@ cherts + ribbon cherts:

- dominant over much of the western portions of map area. Bedding in RC variable from 5-100cm.
- well developed chert bx's are noted, these show evidence of healing by secondary quartz but no sulphides. On no portion of the property was the equivalent of a Rea Bx noted.
- Between L45-L55 275W, the chert unit has been extensively altered by a Py-silica system. Suggestion has been forwarded that cherts in this region are acting as a cap rock.
- May appear anomalously thick due to folding e.g. <L 1+80N - 400W.

@ Quartz - Pebble Congl.

- Appears to be the facies equivalent of the massve chert unit.
- Generally well sorted quartz and chert pebbles, rounded to sub-rounded, may contain (locally) slight disseminated hematite.
- No distinctive alteration.

@ Quartz - Wackes and Quartzites

- Widespread distribution, may contain occasional argillite interbeds. These rocks occur in close proximity to the main sulphide showing. Small slightly pyritized exposures at L3+05S 75W.

@ Argillites: (Phyllites + Mudstones)

- Widespread distrubition possible association with main sulphide showing. Suggest, based on intuition (and without o/c evidence) that argillites may be thickening slightly in the vicinity of the main showing.
- Argillites, small o/c noted within 50m of second (south) massive sulphide showing.

@ Limestone - Limestone Cobble Bx

- Distribution confined entirely to Northern portions of map area. Appears to form classical reef and Fore-reef system.
- Bx's may have LST fragments in excess of 1.0m.
- No significant alteration associated with this unit.
- Dirty LST lens infrequently noted within unit 63.

Note: All other map units are essentially combinations of the above.

II GEOLOGIC STYLE: STRUCTURE

- All structural data summarized on Figures II-IV.
- Two distinctive and related fold styles

i) Large Scale 90^{o} warp

- Structure best demonstrated by gradual changes in bedding attitudes.
- Poles to bedding, Figure IV, in combination wih an estimated trend of the axial trace suggest the major fold is:
    1) Symetric about 165°
    2) Upright eastward facing axial plane 165/77E
    3) Plunging north at moderate 35-45° angles.

ii) Tight Isoclines

- A series of three (minimum) of these folds are discernible in the N-S trending o/c ridge and cliffs L1S - L5S approx. 300W.
- Most convincing structure at L1+30S - 325W.
- Significant that data of Figure II and Figure IV, do not allow for the development of a 2nd fold phase. These isoclines are compatible with the 90° warp fold, when viewed as smaller ancillary folds or drag folds.
- Position of axial trace of these folds is contigent on the relations, facing, of unit 61 (chert); 67 (wackes - fine graned quartz wackes). Chert progressively overlies - underlies - (repeated) wacke unit, as cliff face is traversed.

III SULPHIDE SHOWING - RELATION TO STRAT/STRUC.

- Strike relations derived from either pyrite fragmental "beds" (North Trench) or adjacent argillites (South Trench) and other spatially related attitudes, suggest that the two lenses represent stacked horizons, not a single folded horizon.
- Critical thickening of each of these pads may be occurring in the hinge region of the tight isoclines (35-40°, to 335°).
- Some characteristics of stratigraphy analogous to Besshi type deposits. (Salton Sea analogue). May be interesting to check cobalt content of massive sulphide pods.

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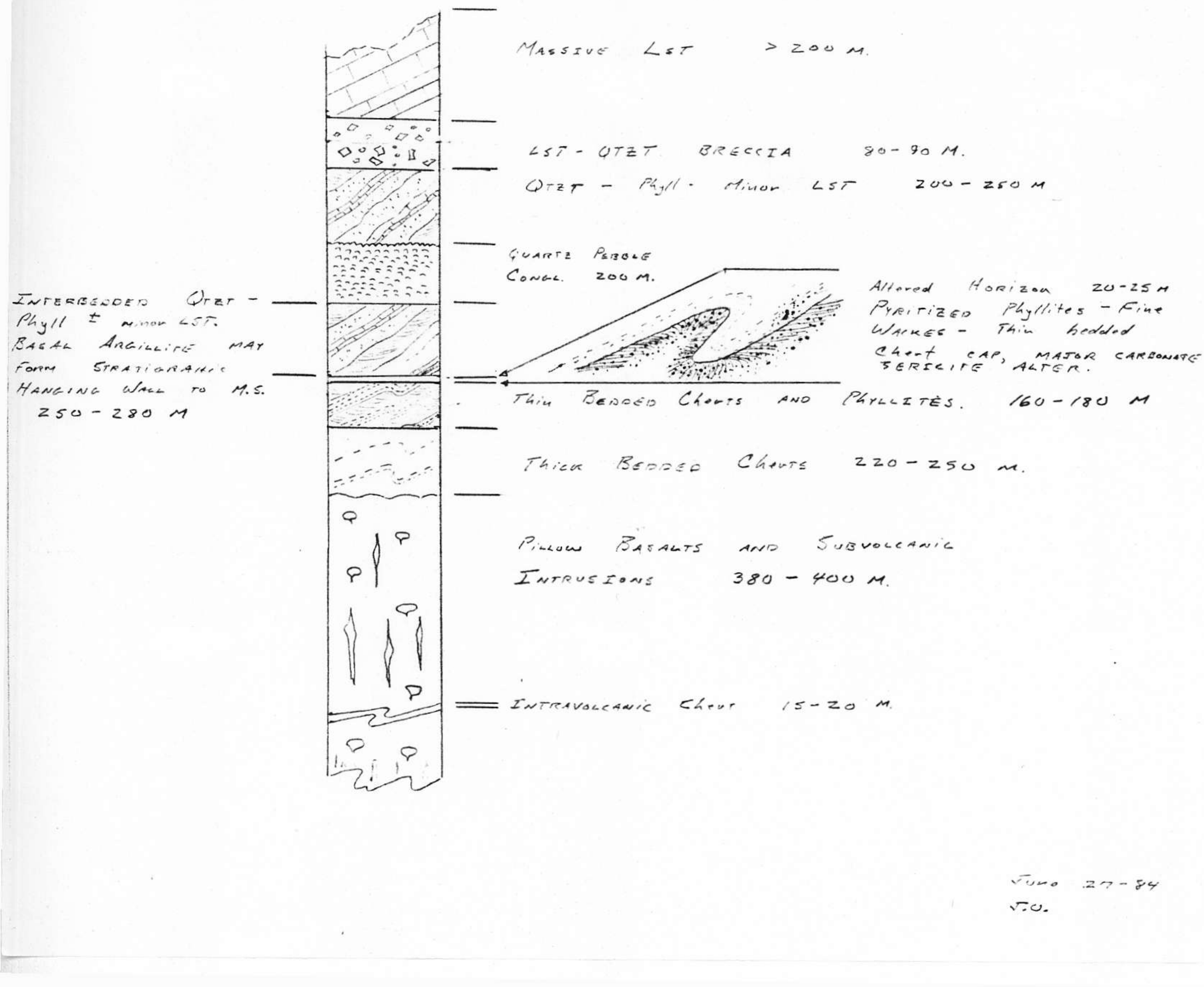
FIGURE I

GENERALIZED STRATIGRAPHIC COLUMN
MOUNT ARMOUR.

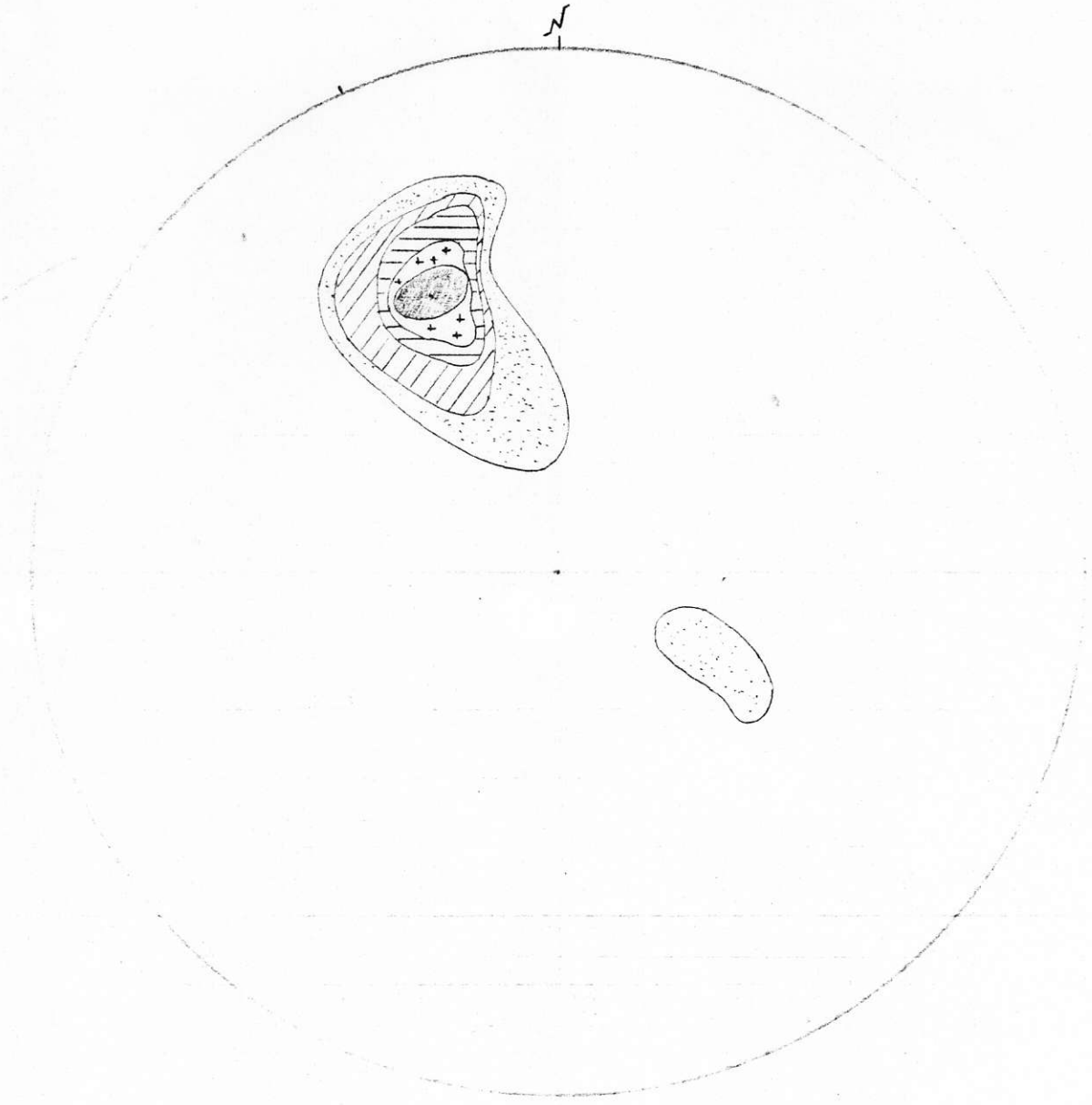
The thickness of the lithologies in this column are calculated from average attitude and contact relations. Fold repetitions are not represented within this section.



June 27-84
J.O.

FIGURE II

MOUNT ARMOUR LINEAR FABRIC



CONTOUR DENSITY
N = 24

5 - 10 %

10 - 20 %

20 - 30 %

30 - 35 %

35 - 40 %

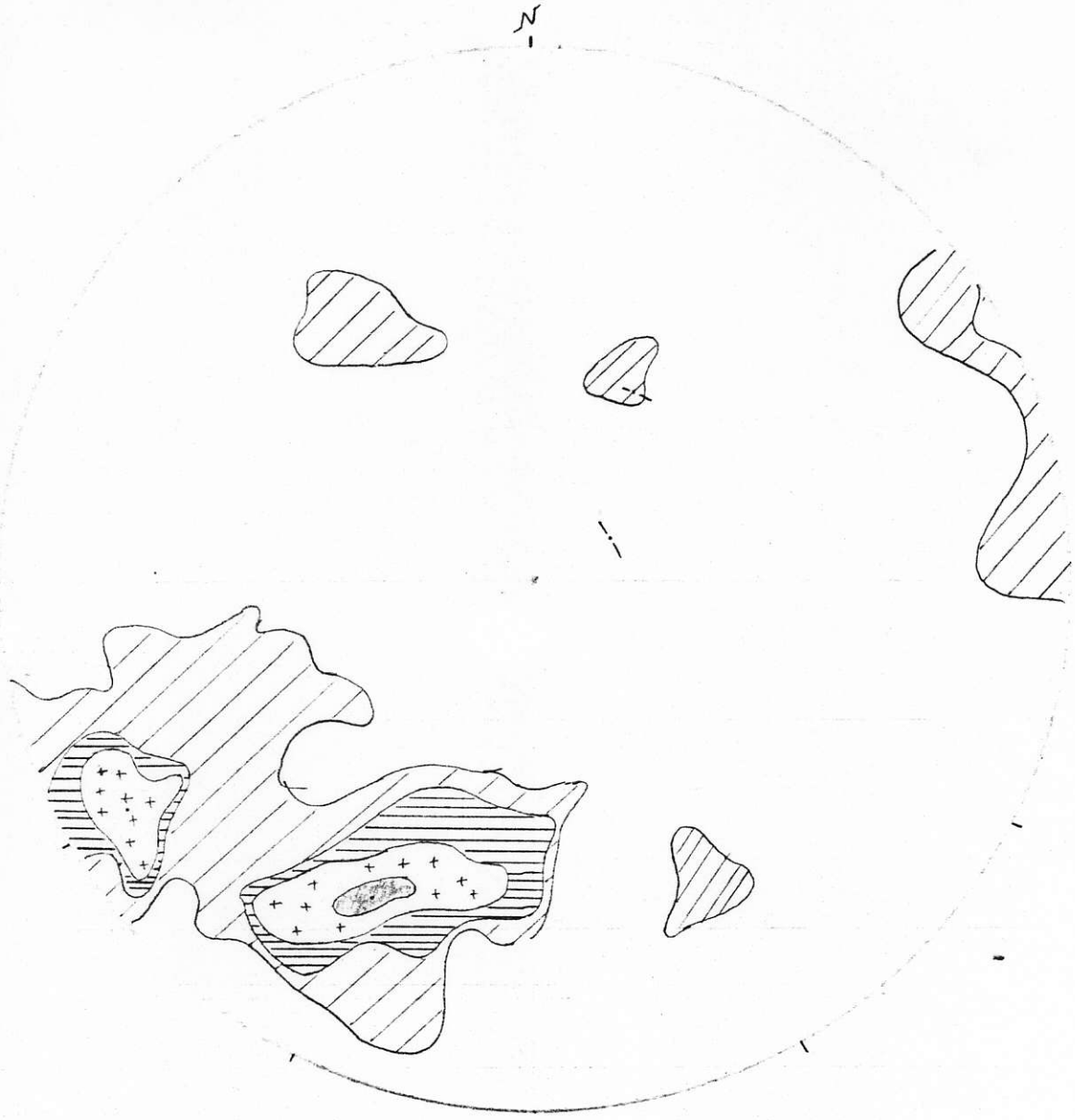
CONCENTRATION OF LINEAR DATA AT :

42 ⟶ 336

17/06/84
JO

FIGURE III

MOUNT ARMOUR FOLIATION DATA.



CONTOUR DENSETY.

- 2-5 %
- 5-8 %
- 8-10 %
- 10-12 %

CONCENTRATION OF PLANAR SURFACES ABOUT TWO POLES:

F_{1_p} = 34 → 203.5

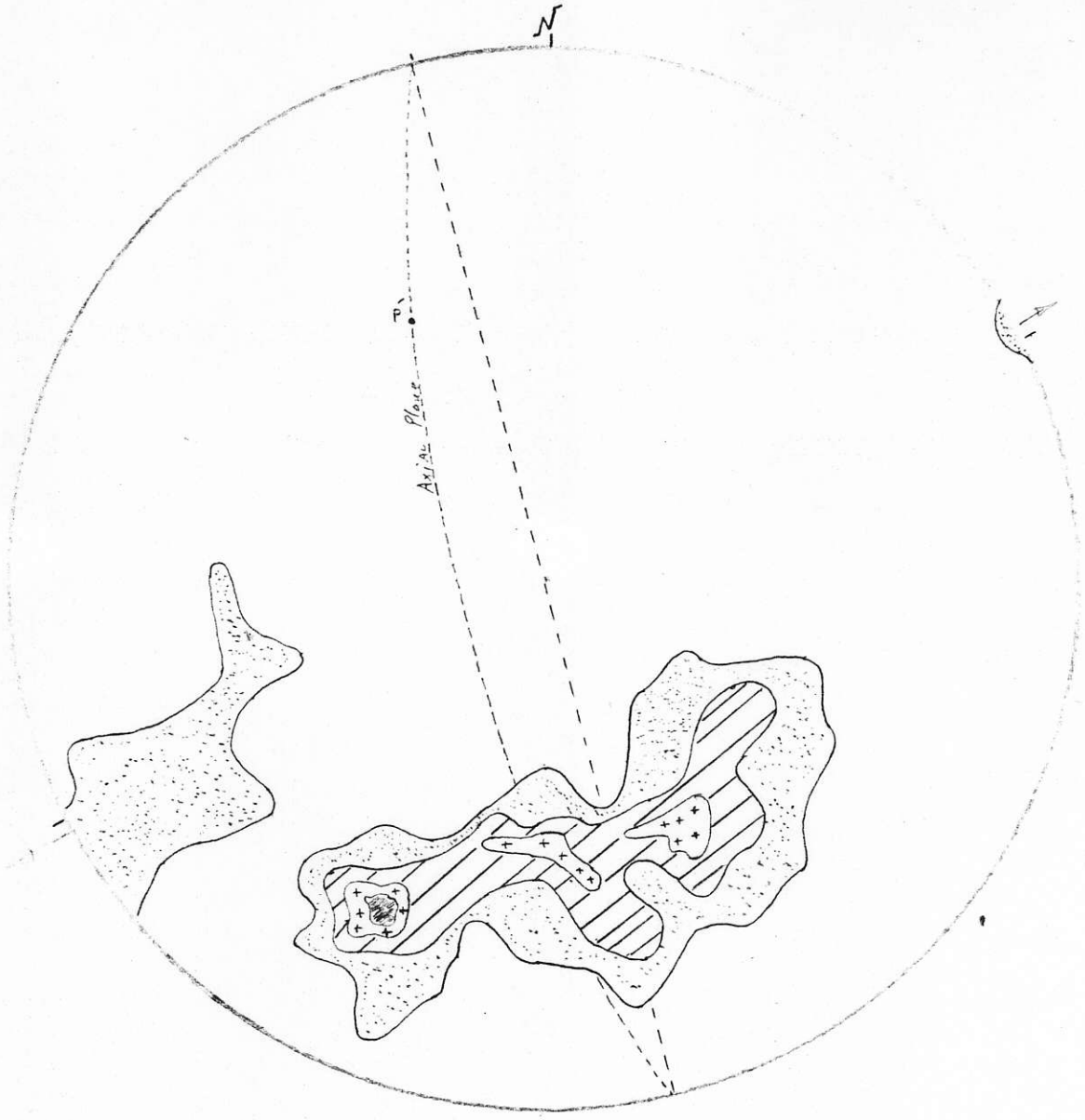
F_{2_p} = 12 → 240.5

F_1 118/57 NE

F_2 151/78 NE

FIGURE IV

MOUNT ARMOUR POLES TO BEDDING.



CONTOUR DENSITY

- 2 - 4 %
- 4 - 6 %
- 6 - 8 %
- 8 - 10 %

AXIAL PLANE ATTITUDE:
165/77 E