



Figure 66. Contour diagram of poles to bedding from traverses in Slick Hills. Data from present author, Babaei (1980), Barthelman (1968), and Brookby (1969). Also plotted are principal faults and fold axes (plunge indicated where appropriate). Data illustrate (1) relatively gentle folding and variable plunge of structures in horst, (2) consistency and intensity of folds in central graben, (3) slight departure of fold axes from trend of Meers Fault in graben, (4) "anomalous" trend of Saddle Mountain Syncline, and (5) "anomalous" trend, consistent plunge, and steepness of folds near Blue Creek Canyon.

Fold and Fault Genesis

The most obvious analysis of the stresses that produced the folding and faulting is that maximum principal stress was oriented approximately N. 40° E., that is, perpendicular to the average fold-axis trend and to the usual (nonanomalous) trend of the Blue Creek Canyon Fault. Within the Lawtonka Graben, the degree of crustal shortening from folding alone,

parallel to this trend, is approximately 60 to 80 percent at the present level of erosion.

However, the Lawtonka Graben is wedge shaped (fig. 46), and both the fold axes and the Blue Creek Canyon Fault diverge by 10° to 15° from the Meers Fault to the south (figs. 46, 66, 67). The latter is a more substantial structure than the Blue Creek Canyon Fault, and has a trend (N. 70° W.) that is more characteristic of major faults elsewhere in southern