



Fig. 8(b)

this level is 2.7 km. Average thickness of lava (total volume/total area) is 1.99 km. An additional 3 km of lava would be required to cover the Apennine Mountains.

What areas in Mare Imbrium are comparable to the artificially flooded region? Figure 6a shows the location of two regions in south central and southwestern Mare Imbrium which appear comparable to the Apennine test area flooded to the level of Map 3 (Figure 8c). In the region between Archimedes and Copernicus, no portion of the second ring is exposed (Figure 10a) and the extension of the Apennine ring (Montes Carpatius) appears morphologically similar to the deeply incised Apennines of Map 3 (Figure 8c). To the west (Area C, Figure 10b) some subjacent topography is exposed southwest of Euler.

DeHon (1979a) has published an isopach map for the Imbrium region (Figure 11) prepared on the basis of the morphometry of buried craters. The diameter of flooded (ghost) or partially flooded (protruding rim) craters is measured; the average exterior rim height of fresh craters is known from the work of Pike (1977; 1978). If the crater is buried, the rim height provides a minimum thickness value; if the rim protrudes, the present rim elevation is subtracted from the average value for a fresh crater of the same diameter, yielding a thickness value. The data points are then contoured to produce the isopach map. DeHon's map of Imbrium (Figure 11) shows thicknesses in the southern Imbrium region which are less than the values proposed in this paper by a factor of two or three. What are the potential causes of discrepancies between these two techniques?