



Fig. 5a. Cratered terrain just east of Figure 4a in MC 27 showing the H2 system and regions closer to the Hellas

basin scarp. The footprint of Figure 5b is outlined in white. Scale bar is 100 km. (part of 211-5524).

occur singly and in small groups on the smooth plains immediately east and northwest of Isidis near the extensions of the Nili and Amenthes Fossae (Figure 1b). Both fields appear to be high-standing remnants of an older surface and in each case extend radially from Isidis to parallel the fretted terrain boundary of the cratered highlands (Figure 1b). Some features in the Hellas region originally interpreted as similar volcanic fields [Greeley and Spudis, 1978] appear to be pedestal craters with no other evidence for associated volcanism.

Relative Ages of Tectonic and Volcanic Events

A consistent model of regional volcanic and tectonic evolution requires a temporal sequence of activity. In this study the relative ages of plains units

are derived through conventional methods from the areal density of superposed craters referenced to craters greater than 5 km in diameter. Reference to a 5-km diameter avoids smaller craters where the crater populations can be affected by erosional or depositional processes, contamination by secondary craters, and possible effects of image resolution. This reference diameter also falls within a broad range of crater sizes where the crater production function is fairly constant near a -2 slope [Neukum and Hiller, 1981], thereby simplifying the extrapolation of data from larger diameters to the 5-km reference.

Linear tectonic features, however, do not permit such direct areal crater counts. Wise *et al.* [1979] and Plescia and Saunders [1982] dated Tharsis graben sets from stratigraphic relations within the se-