



Fig. 5. North of Ismeniae Fossae (Fig. 1): A. Topographic map of the region; 100 m contour interval. Arrows show direction of flow. Boxes show locations of panels B–H. B. Linear LDA emerging from alcoves in the dichotomy boundary scarp; THEMIS V12356003. C. Circumferential LDA emerging from alcoves and showing flow patterns around obstacle; THEMIS V03469007. D. Multiple LDA coalescing and flowing around obstacles; note small superposed lobe in upper center; THEMIS V13604003. E. Distal LDA flowing into a crater and forming a piedmont-like lobe; THEMIS V12356003. F. Multiple LDA converging to form LVF; THEMIS V13579004. G. Linear LDA converging to form LVF; THEMIS V03469007. H. Linear LDA converging and forming LVF; THEMIS V13916010.

diverted and sometimes join with LDA from other adjacent mesas. In the circumferential LDA surrounding the mesas, similar relationships are observed (Fig. 5C); here two major LDA lobes source in alcoves as a series of small lobes that join together into larger lobes, extending down to the base of the LDA. Many additional smaller lobes source in smaller alcoves between these two and bend around the major obstacle and rejoin distally to form portions of the broad distal LDA.

West of this area (Fig. 5A), circumferential LDA again are composed of numerous individual lobes sourcing in alcoves of various sizes (Fig. 5D), flowing downslope as discrete, but conjoined lobes, and flowing around obstacles (lower right) toward the adjacent lowlands (lower left); the 4 km wide alcove in the top middle displays at least two generations of lobes (one which extends to the distal reaches of the LDA, and two smaller, apparently superposed lobes confined to the

Fig. 4. Mammers Valles, Northern Arabia Terra–Deuteronilus Mensae region (Fig. 1). A. Topographic map of northern Mammers Valles; contour interval 100 m. Arrows show mapped directions of flow. Boxes show locations of panels B–H. B. LDA in northwest valley wall; THEMIS V04406006. C. LVF from emerging from tributaries and feeding LDA; THEMIS V05542017. D. Floor texture between LDA emerging from walls on opposite sides of the valley; note arcuate depressions (arrows); THEMIS V10572015. E. LDA meeting in the valley center and being distorted down-gradient; THEMIS V139290003. F. LDA merging and distorting down-gradient to become LVF; THEMIS V02521012. G. Narrow portion of Mammers Valles with LVF from a tributary merging with valley wall LDA and forming folds and LVF; THEMIS V14004008. H. LVF flowing down-gradient out of the narrow part of the valley and into a wide depression, and forming large piedmont-like lobes; THEMIS V14004008.