

**LAYERED OUTCROPS ON MARS.** Michael C. Malin, Malin Space Science Systems, P.O. Box 910148, San Diego CA 92191-0148 (malin@msss.com).

Layered and massive outcrops on Mars, some as thick as 4 km, display the geomorphic attributes and stratigraphic relations of sedimentary rock. Sequences in some locations imply a dynamic depositional environment during early martian history. Subaerial (such as aeolian, impact, and volcani-clastic) and subaqueous processes may have contributed to the formation of the layers. Affinity for impact craters suggests cominance of lacustrine deposition, alternatively, the materials were deposited in a dry, subaerial setting in which atmospheric variations mimicked a subaqueous depositional environment. The source regions and transport paths for the materials are not preserved.