

CLONES OF MARTIAN LIGHT- AND DARK-COLORED STREAKS IN THE SOUTHWESTERN DESERT OF EGYPT

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Light- and dark-colored streaks abound in the southwestern part of the Western Desert of Egypt. In Apollo photographs and Landsat images, they appear similar to the streaks photographed by Mariner 9 and Viking spacecraft on Mars.

Field investigation indicates that light-colored streaks are made of sand accumulations in the form of dunes and sand sheets. The sand is derived from the Great Sand Sea to the north of the streaks. Sand grains are distinguished by a red color due to the presence of hematite as surface coating and microfracture fill. The red sand color gives the locality a Mars-like appearance.

Dark-colored streaks are usually sand-free zones in the lee of topographic highs. Behind these highs the streaks form teardrop shapes that taper downwind. Other dark streaks are caused by light-colored zones on either side. The dark surfaces are made of lag. In most areas the lag is immature with numerous angular rock fragments. Beneath the rock fragments and quartz grains there is usually a layer of extremely fine sand.