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Volcanic system of Isidis Planitia

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[POSTER]

In the 1970s, data sent by the Viking probes showed fields of cones of unknown origin on images from the northern areas of Mars. Cones on Isidis attract special attention of scientists because it is not known why they are arranged in a kind of linear structure with a characteristic arched shape. Arched cone structures called „thumbprint terrains” on Isidis are being described in the literature for years, but definitive interpretation of the mechanism forming these cones is yet to be discovered. The reason for the shape of these linear structures has not been explained. There are many hypotheses about the genesis of these linear cones, from postglacial forms, through ash degassing. We suspect that cones may be formed similarly to Icelandic volcanic system from the Reykjanes Peninsula, where the pressure of magmatic chamber causes the crust to tear in a characteristic linear and concentric way producing dikes. Another considered phenomenon is volcanic mud emanating from the crevices.