

Shock petrography observation of the Tavan Khar Ovoo structure, Southeastern Mongolia

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Tavan Khar Ovoo structure first has been identified from satellite image. In satellite image, structure displays distinctive circular geometry typical of simple impact structure with pronounced rim and crater is almost completely filled by quaternary sand. This interpretation relies upon only structural and morphologic aspects as shock evidence has not yet been reported until this time. Impact features could include unusual rock or mineral fracturing, planar fractures, planar deformation features, formation of high pressure polymorphs and presence melt.

This work attempted to ascertain might be changed rock texture, mineralogical phase by shock effect and to identify chemical composition of consists crater rim rocks. Samples collected outside of the crater rim, were studied for their petrographic characteristics and analyzed for their major and trace elements composition analyses by XRF.

Optical microscopy and macroscopic are presence some shock metamorphic effects, such as the possible shatter cones, melt clasts and few quartz grains with PDFs.

Our next stage is to investigate the PGE abundance and to evaluate whether any siderophile enrichment exists.