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The study of Sahand strata-volcanoes pyroclastic sequence in NW Iran (E.Azerbaijan Province).

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The Sahand strata volcanoes are extinct volcanoes in the NW of Iran, which, situated in the northern part of Urumieh-Dokhtar magmatic arc (UDMA). The UDMA extends from NW to SE of Iran and is magmatic arc of Zagros orogenic belt. The UDMA contains intrusive and volcanic rocks of Eocene - Quaternary age. Composition of Sahand lavas (12 Ma-140 Ka) varies from andesite to dacite and rhyodacite. The eruption of Sahand volcanoes is accompanied with intensive explosions that dispersed vast pyroclastic materials in studied area. Pyroclastic sequence in lower part composed of alternation of volcanic sands, silty-clay layers, lapilli pumice and unconsolidated conglomerates with juvenile and cognate volcanic materials. Towards the upper part of sequence pumice, unconsolidated conglomerates, mudflows and lahars are dominant. The stratigraphic relation of studied tephra display density grading, which is normal for volcanic sands, silty-clays and reverse for lapilli pumice. The white color Pumice layers with high porosity comprised of highly vesiculated volcanic glass and rounded lapillus. Repeated pumice layers indicate frequent eruptions and explosion activities in Sahand. Armored lapilli and mantled volcanic bombs are a part of tephra materials. The lahars and mud flows composed from angular to sub-angular andesitic to dacitic volcanic rocks fragments, lapilli and ash-sized minerals and lithic without grading. With regards to heterolithologic composition of lahars probably they derived from collapse of crater walls or avalanching of rain-soaked debris covering steep volcanic slopes. Formation of Sahand volcanoes occurred in post collisional tectonic setting related to convergence and collision of Arabian plate with microplate of Iran.

Key words: Sahand, Iran, pyroclastic, lapilli, lahar