

## The Origin of the Tehran Plain

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### Abstract

The Tehran plain is situated in a graben bounded by Mosha Fashan Fault to the northeast, North Tehran Fault to the northwest and Sorkh Heasr Fault and its extension to the south. Moreover the plain has been cut by some north - south trending faults which extend it to the south. The alluviation in this graben is very strong and the thickness in some places exceeds 1 km.

In addition to the present outwash there are four distinct units of alluvium deposit as defined by Rieben (1955) from A to D which are separated mostly by the angular Unconformities. the following features of the alluvium deposits are remarkable:

1) The Hezardarreh Formation, Unit A, is more tectonized than the Bkhtyari Formation of the same age Zagros Mountain Ranges.

2) The strongly heterogeneous Kahrizak Formation, Unit B, with pebbles and boulders up to one hundred cubic meters in volume is peculiar and cannot be correlated with any other formation in Iran. The kahrizak Formation is a key for a better understanding of the tectonic activities in the region.

3) Numerous unconformities in the Quaternary indicate strong and continuing tectonic activities which are not known to the author in other parts of Iran.

Analysis of the tectonic framework of the area reveals a regional compression from the Arabian plate in the southwest and an additional pressure, causing rupture in the Tehran plain, from the southeast.