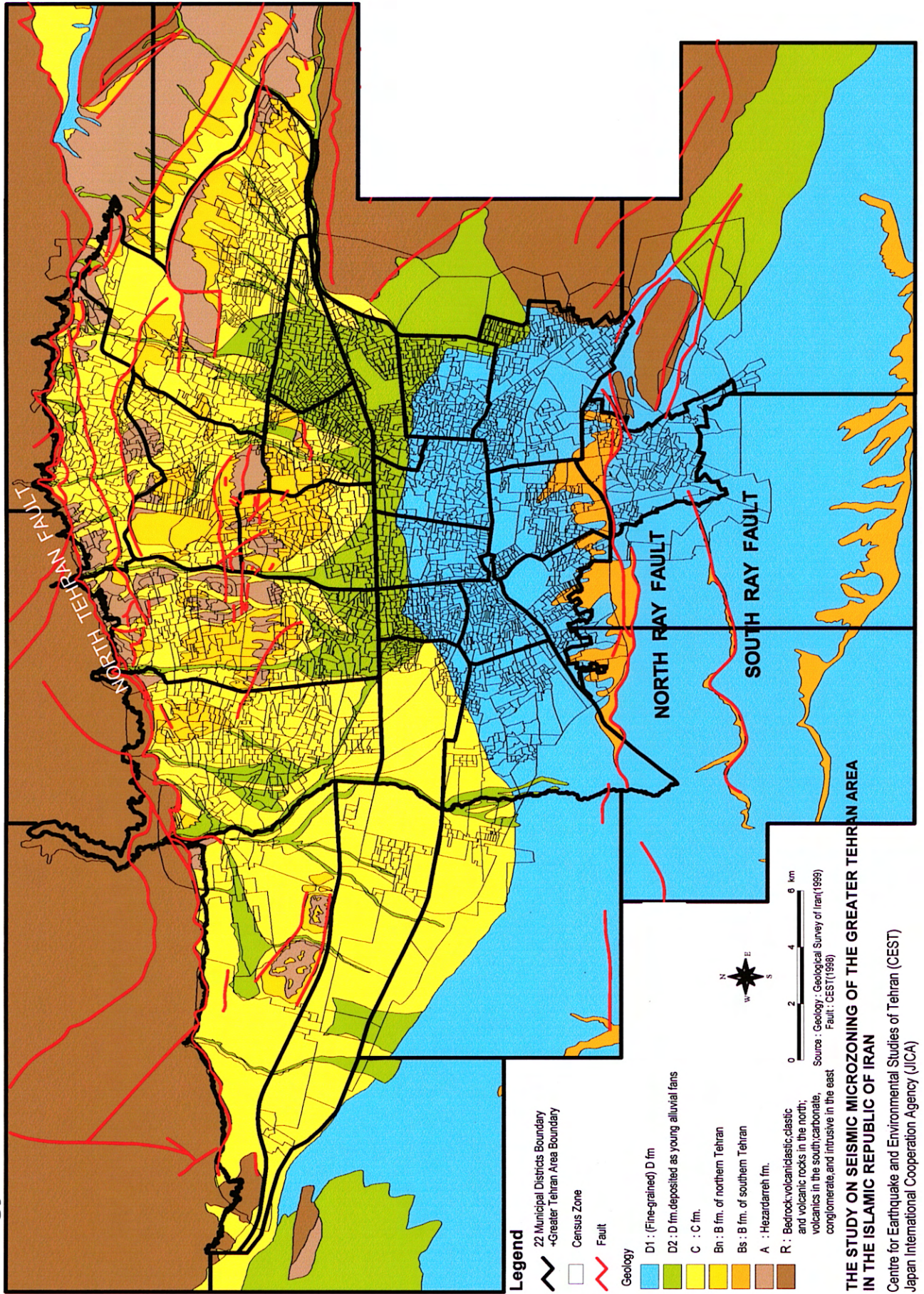


Figure 2.2.2

Geology



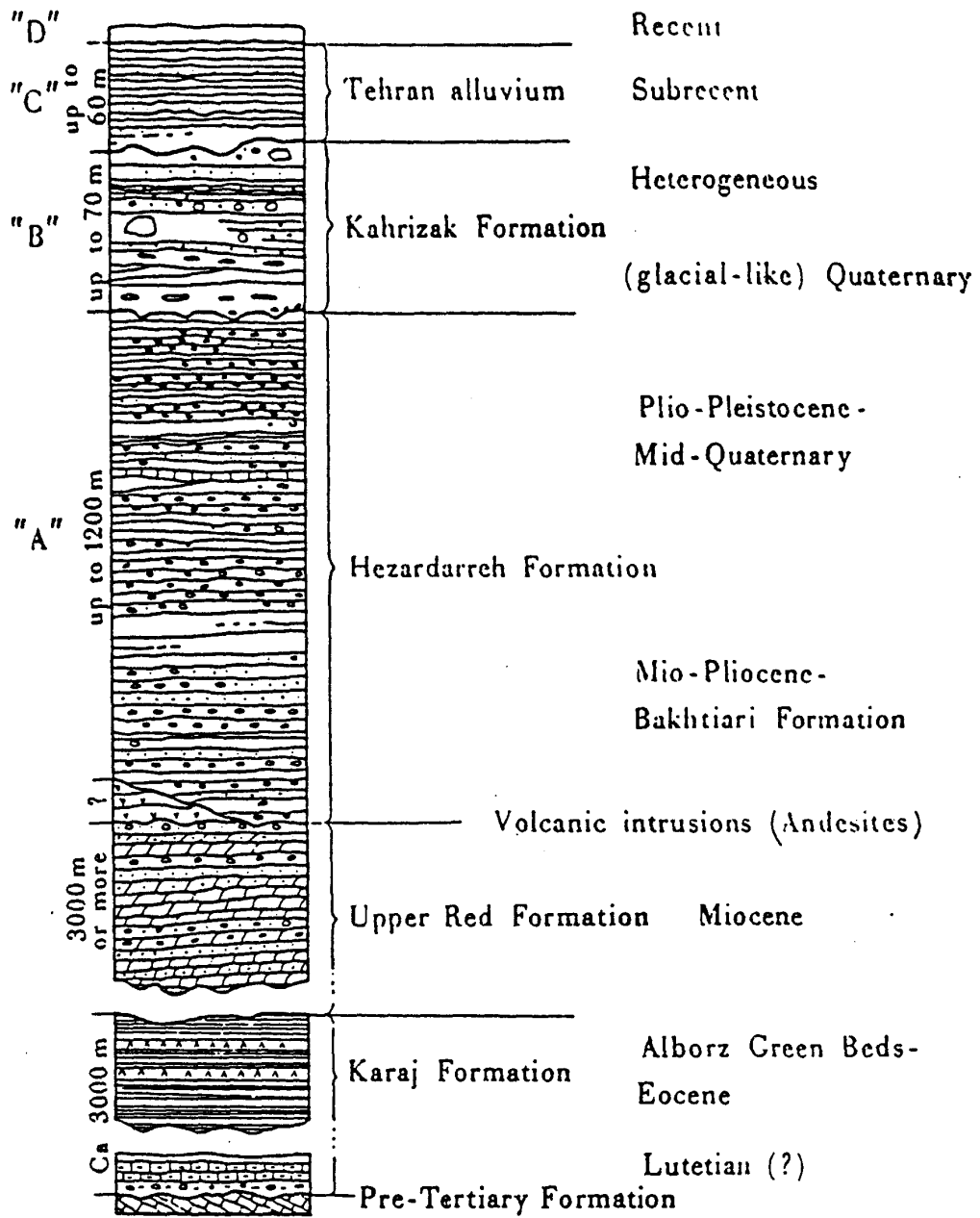


Figure 2.2.3 General Section of Alluvial Deposits in the Tehran Region

Source: Geological Observations on Alluvial Deposits in Northern Iran, H. Rieben, Geological Survey of Iran, Report No.9, 1966.

2.2.3. Fault

The distribution of the active faults in Iran was investigated in Berberian (1976). Distribution of active faults in and around the city of Tehran was originally and systematically compiled by Berberian et.al. (1983). Almost all reports and research papers refer to this early report. CEST (1998) and Abbassi et.al. (1999) compiled detail maps of fault distribution. Figure 2.2.2 shows the distribution of faults in and around the city of Tehran City.

Based on these reports, the features of main active faults in and around Tehran can be summarised as follows:

(1) Mosha Fault

The Mosha Fault is one of the fundamental faults of the central Alborz Mountains and is situated to the north of Tehran. The fault is concave towards the north and extends from the edge of the mountain range in the west to the eastern Alborz. Its trace has a sinuous pattern, with an E-W strike in the west, and a WNW-ESE strike in the central sector, gradually bending to E-W in the east. Dips occur everywhere to the north, varying between 35 and 70 degrees. The thrust movements on this fault were initiated before the Jurassic age, and cumulative displacements amount to at least 4 km. The fault can be considered an upthrust in some places and an overthrust in others.

(2) North Tehran Fault

The North Tehran Fault is the most prominent tectonic structure in the immediate vicinity of the city. It can be followed almost continuously at the foot of the Alborz Mountains for about 35km, from Kan in the west to Lashgarak in the east. The fault trace is E-W to ENE-WSW and slightly concave to the south. West of Kan, several NE-SW and E-W faults interrupt its continuity. East of Lashgarak, it enters a complex tectonic region where it joins with the Mosha-Fasham fault. Through its central part, between Kan and Lashgarak, the North Tehran Fault forms a well-marked boundary between the rocks of the Karaj Formation of the Border Folds and the alluvial deposits of the Pediment Zone, upthrusting the former southwards over the latter. A number of localities along this central part have been previously described by Rieben and by Engalenc; they were re-examined by Tchalenko et.al.

The date of the most recent fault movement for the North Tehran Fault is difficult to establish due to uncertainty about the age of the Red Beds that underlie thrust plane. West of Darabad, the North Tehran Fault is typically a reverse fault, despite local thrust structures of the type seen in Kan; east of Darabad, it is more clearly a low-angle thrust fault.

(3) South and North Ray Faults

The South and North Ray faults are the most prominent faults in the southern plains in Tehran. These faults are distributed throughout both sides of the Ray depression.