



Deep subsurface geological phenomena and related processes in the Elbasani-Tirana region, Albania

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Abstract: Important geological phenomena occur in the Elbasani-Tirana region in central Albania. The evaporite diapir of Dumrea represents a spectacular surface exposure of Permian-Triassic evaporites. It is still tectonically active. The Vlora-Elbasan-Dibra deep-seated fault has influenced the structure of the Albanides through generation of deep faults and rheology toward the axis of regional compression. This deep-seated fault is still active, generating frequently strong earthquakes. Thermo-mineral water springs occur near Elbasani City. Their temperature on the surface reaches up to 60 °C. They generate from the deep subsurface and their geological model is conceived based on seismic works. The Tirana Depression consists of molasse formations transgressively overlying the Kruja and Ionian tectonic zones. Its western flank is composed of a range of hills with very steep slopes and geological strata with 90° dip. Faults that reach almost to the surface are evidenced by studying the deep subsurface with seismic works. These important geological phenomena of the deep subsurface and related processes must be carefully studied as they have a notable impact on urban and industrial developments.

Key words: Dumrea evaporite diapir, thermo-mineral waters, Tirana Depression

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