

geothermal energy in Tunisia

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The applications without increasing stop to the imposed energy by the modern life rhythm oblige the planners to appeal to all natural source of energy. Threatened by the exhaustion of fossils energy (Oil and Coal), the man struggles to do discover and farm the energy called new and renewable. Among of the last forms of energy the role of geothermic. Obvious, by the discovering of farming methods, the calorie go into the ground could be recovered by an efficient and economy manner, and used in many things. Thanks to relatively important numbers of petroleum exploration wells drilled in eastern Tunisia and the lack of accurate knowledge about the local deep water reservoirs, we undertook the work to study the underground temperature variations, the regional geothermal gradient behavior and main characteristics of the reservoirs considered as a promising one either for oil or for hot water. The aim of this paper is to obtain a first reliable evaluation of the geothermal potential of Tunisia. Thanks to various existing geological, hydrogeological and petroleum data, it was possible to distinguish the main geothermal features of the country, by evaluating both the underground temperature and the potential reservoirs, Hot spring either the already known or newly inventoried, have been analyzed and a few geothermometers applied SiO₂, Na/K and Na-k-Ca. Only the SiO₂ gave plausible values with 90°C as a maximum temperature. A detailed geothermal study was also focused on the greatest sedimentary basin of the country where, by using the numerous petroleum exploration well information, we may: - gather and treat some 545 temperature values, either as BHT or DST this permitted us to estimate the geothermal gradient for each well and to construct the geothermal map, ranging from 21 to 46°C/Km. BHT values were corrected by considering DST values as references. - Study the multilayered aquifers system with its main reservoirs and their main characteristics: structure, thickness, hydrodynamics, salinity and temperature.