GEOTHERMICS IN EL PILAR REGION,NORTHEASTERN VENEZUELA

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Venezuela has been covered by a geothermal inventory with analysis of water, gases and mineral deposits. The results show that the only place with possibilities to find high enthalpy fluids at shallow depth is El Pilar region in northeastern Venezuela. From 1975 to 1994 many works by Venezuelans and commissions from El Salvador, Japan, France and Italy, were carried out covering the reconnaissance stage. In 1999 an updated review report has been prepared for the Venezuelan Petroleum Corporation, available from the author. A few kilometers north of boiling springs and fumaroles there are outcrops of riolite, and a gravimetric model suggests the presence of a large pluton underground. Geochemistry is the field most intensively studied producing constraints for the geothermal model, with the following features: Heat source: A young shallow granitic body. Reservoir rocks: Probably fractured sandstone from Cretaceous age. Sealing rocks: probably selfsealing and/or pelitic rocks. Recharge areas: High and forested mountains around the prospect. Temperature and reservoir configuration at depth: Deeper reservoir: Cl-Na waters, around 300ºC, minimum depth 1.1 km. Upper reservoir: 200-230ºC, depth around 300 m. Upper zone above water table dominated by steam and gases. Drilling deep exploratory wells is the obvious step to follow, they would have to be located in the middle of the major accumulations of fumaroles and gas emissions at Las Minas and Mundo Nuevo sites. This geothermal project could eventually lead to the generation of electricity, and the direct use in agriculture-related industries and also in medical and tourist applications.