

## GROUNDWATER IN THE TITICACA LAKE BASIN, PUNO PERÚ

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The studied area is part of the Titicaca Lake Basin, Puno, Perú with about 3840 m. above sea level. The cold and rainy climate, affected by dry periods during most part of the year, difficult the development of local and regional agriculture. The local morphology of the area is characterized by a soft waved plain surface contrasting with a set of elongated shaped or isolated hills. This geomorphological pattern was developed over volcanic and sedimentary formations from Cretaceous to Tertiary. These rock sequences exhibit great structural complexity and are related to the tectonic evolution of the Peruvian Andean Cordillera. The investigation of the aquifer system on unconsolidated deposits of the Azángaro Formation was based mainly on, lithological data from 80 wells, vertical electrical soundings and hydrodynamic tests. Based on geological profiles and stratigraphic column of the Azángaro Formation it was defined three distinct units: the upper one is composed of fine grained sediments interbedded with sand and gravel layers; in the middle unit sandy sediments are recognized and the lower one is composed of clayey sediments. The thickness of the aquifer vary from 30 to 60m, and the hydrodynamic parameters are  $K = 19 \text{ m/day}$ ,  $T = 758 \text{ m}^2/\text{day}$ . The yield varies from 100 to 360  $\text{m}^3/\text{h}$  with specific yield from 10 to 20  $\text{m}^3/\text{h.m}$ . In some particular cases this value can reach 80  $\text{m}^3/\text{h.m}$ .