

FLUORIDE OCURRENCE IN GROUNDWATER. SALDUNGARAY REGION (PROVINCE OF BUENOS AIRES, ARGENTINA)

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Spatial variations of fluoride concentration in groundwater in Saldungaray city (south of Province of Buenos Aires) affect water quality for human supply and decrease the aquifer reserves. The study region is a piedmont area, located near a hill area (west) and the fluvial valley of Sauce Grande River (East). Two hydrogeological units can be identified: bedrock (Paleozoic) and clastic sediments (Cenozoic). These sediments consist of sandy - silt with variable amount of calcium carbonate (Pampean sediments). Its greatest thickness occurs near the river, where it is 60 meters. Groundwater flow is coincident with topography in spite of having a lower gradient. Fresh water is exploited from this unit and it has low salt contents (dissolved solids 400 to 800 mg/l). Fluoride concentration varies between 0,2 and 5 mg/l. The highest values (upper 2 mg/l) are located in a urban as well as in a rural sector. The relation between spatial variations of fluoride concentrations with groundwater flow and hydrogeological characteristics allow the association of the increase of fluoride content with natural processes. It can be related with volcanic ash spread in the sediment unit.