Journal of Environmental Hydrology

ISSN 1058-3912

Electronic journal of the International Association for Environmental Hydrology

On the World Wide Web at http://www.hydroweb.com

JEH Volume 9 (2001), Paper 6, March 2001 Posted March 9, 2001

GROUNDWATER CONTAMINATED WITH ARSENIC AND FLUORIDE IN THE ARGENTINE PAMPEAN PLAIN

A. Cabrera
M. Blarasin
G. Villalba
Department of Geology, National University of Río Cuarto, Argentina

ABSTRACT
The phreatic aquifer of the Los Jagüeles basin is made up principally of Quaternary loessic sediments. It has sodium bicarbonate (high and middle basin) and sodium sulfate (lower basin) water, with fluoride and arsenic concentrations that exceed the permissible limits for human consumption. The major contents of fluoride and arsenic are found in the middle basin, where the predominance of loess, bicarbonate waters, and the highest Na^{+}/Ca^{++} index values coincide. The fluoride is derived from the main components of loess, with anion exchange being the most important release mechanism. Arsenic is derived from the alteration of volcanic glass and, although it is generally related to reducing conditions, it occurs in the basin under oxidizing conditions. In this paper, some appropriate techniques to lower the concentrations of fluoride and arsenic are suggested.

Reference: *Cabrera, A., M. Blarasin and G. Villalba;* ***Groundwater Contaminated with Arsenic and Fluoride in the Argentine Pampean Plain,*** *Journal of Environmental Hydrology, Vol. 9, Paper 6, March 2001.*

CONTACT:

Mónica Blarasin
Department of Geology
National University of Río Cuarto
Río Cuarto, Argentina

Email: mblarasin@exa.unrc.edu.ar

Return to HydroWeb Homepage