

## **MULTITEMPORAL ANALYSIS OF SURFACE WATER QUALITY IN A COAL MINING DISTRICT - SANTA CATARINA, BRAZIL**

1TAIOLI F., 2FERNANDES L. 1 Instituto de Geociências da Universidade de São Paulo, São Paulo, Brazil; 2 Departamento Nacional de Produção Mineral, São Paulo, Brazil.

Coal mining in the Santa Catarina Coal Basin, Brazil, began in 1885, and is distributed in an area of 492 km<sup>2</sup>. Since then it has caused serious environmental problems, primarily due to the acidification and sedimentation of the rivers that supply the neighbor cities for both human and agricultural and fishery industries consumption. In 1980 the region was considered as the 14th Critical Area to the Pollution Control and Environmental Quality Conservation of Brazil. After publication of a Interministerial Resolution (1982) the first official actions in order to minimize the environmental impact due to the coal mining industry were taken. This study presents the results of a periodic monitoring of environmental parameters (physic-chemical analysis) taken in the Mãe Luzia and Sangão rivers, besides the effluents of two coal mines during a period of 3 years, before and after the adoption of reclamation actions. More recently, the data has been compared with new analysis carried out in the same region. The results allow to conclude that, during all that period, there was no quality improvement in the rivers water characteristics, despite the adoption of reclamation actions by the active mines. It is supposed that the environmental passive due to mine waste tailings left unattended during almost 100 years is the responsible for the poor water quality.