

GROUND WATER QUALITY IN THE VICINITY OF THE COAL FIRED POWER PLANT KOLUBARA

Vukovic Z., Mandic M., Drndarski N.N. The Institute of Nuclear sciences

Basin of Kolubara is an area in Serbia, located in the middle part of the Kolubara River watershed, known by its substantial reserves of coal and open cut coal mining exploitation and is being used as a fuel for coal-fired power plants.

Two micro locations of Kolubara basin, an open cut coal mining and coal-fired power plant Kolubara A of 310 MWe power together with wet ash repository, have been tested. Testing have comprised the analyses of soluble components of the ash. The aim of the research has been to establish in which degree ash depositing affect ground water quality and to analyze the parameters significant for transport of pollutants to the environment including mechanical, sorption and retardation characteristics of the soil. Terrain of these locations down to the first level of ground waters at the depth of 4-6 meters is consisted of humus, clay deposits mostly of illite type, sand and gravel. Lignite deposits are located at the average depth of 25-50 meters. It is shown that water soluble predominant components of the coal ash Calcium, Magnesium and Sulphate, do change ground water quality, while toxic heavy metals detected in coal ash leachate, due to small concentration and slow migration, have no significant influence.