

Hydrogeological Characteristics of Backfilled Opencast Coal Mines

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ABSTRACT

This paper may be useful to study the hydrologic regime in a surface mine backfilled area reclaimed by overburden dumps and coal-ash. The topics written here should be viewed as a potential area where research may be initiated. The scientific studies about the groundwater velocity, water table elevation, discharge rate and volume of water that will be stored in the spoil can be analyzed and predicted. The potential groundwater flow direction and flow paths can also be estimated. This hydrologic information used in conjunction with the overburden geochemical data can be used to improve mine drainage predictive models and methods. Hydrologic study will bring in a better understanding of the spoil/OB backfilled material that is contacted by the groundwater and the physical, spatial and sequential nature of this contact. This paper may be useful for special handling of overburden dumps, carbonaceous waste, acid-forming materials and placement of alkaline materials like fly-ash in the mine void of opencast mines.