

Groundwater Inrush from Coal Seam Floors Controlled by Faults

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Abstract The influences of a fault on the groundwater inrush from the coal seam floors were obtained from the micro-analysis of fissures and the filling characteristics in the fault zones and the macroscopic studies of the distributions, the throws, the natures, and so on. And then the effects of faults on the others factors of the groundwater inrush were analyzed. The faults are the primary controlling factor of the groundwater inrush, not only their role in the groundwater inrush, but also their role in the control of the others factors for the groundwater inrush. Based on the results of previous studies, the mechanisms of the groundwater inrush from faults were further clarified. This problem will be discussed on two cases. One is that the permeable faults are revealed by the working faces and roadway tunneling, at the same time the groundwater inrush occur through the hydraulic gradient. The other is the impermeable faults are reactivated by the couple interactions of the seepage field of the aquifers and the stress field by the mining effects, and then the groundwater inrush accidents occur.

Keywords fault, groundwater inrush from coal seam floor, controlling effect

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