Coal Mine Water Retention Bulkhead Design and Construction\textsuperscript{1}

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\textbf{Abstract:} The use water retention bulkheads to impound water and/or fine coal waste in underground workings is increasing in the coal mines of the Eastern United States. Mine Consulting Services Inc. and Minova USA have recently designed and installed two significant bulkhead sets, each with materials specifically selected for the geological and hydrological setting. The first bulkhead set was required in response to water inundation from overlying old workings into a Kentucky mine operating in the Kentucky No. 9 Coalbed. The second bulkhead set was constructed in a deep Mary Lee and Blue Creek Coalbed longwall mine in Alabama to minimize pumping and water treatment costs.

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