Abstract: 70 Mg/day of fine grained waste gneiss in slurry condition, together with 700 m³/day of water from the wet benefication plant flow from the Mikleuška gneiss quarry (Croatia) into the Kamenjača stream. The stream flows between two gneiss quarries, originating in the northern catchment area of which approximately 15 km² is predominantly covered by forest. The quality of water in the Kamenjača permanent stream should be protected from any contamination due to the activities in the Mikleuška quarry. The paper describes the aspects of sustainable technical, environmental and economical protection of the water quality in Kamenjača regarding gneiss mining.