The Dobšiná chrysotile asbestos mine is located in the Spiš-Gemer Portion of the Slovak Ore Mountains, where chrysotile asbestos formed in the cracks of a small serpentinisised basic-ultra basic magmatite body. The abandoned open-pit mine is about hundred meters from the north to the township Dobšiná. Due to the mining activity, serpentinites and serpentinite debris to the north from the township Dobšiná. Due to the waste dumps and the rock flour, and trans- down from the hilltop erodes asbestos fibres from the hillfoot, implying that the current sedimentation pattern (asbestos concentrating effect of water) occurred in the past, too.

Asbestos fibres were extracted from the excavated serpentinite in the processing plant: the rock was first crushed and ground, the debris was separated according to grain size on a moving sieve-series, then the fibres were sucked up by air from the sieves. The residual “rock flour” was deposited in the mining area. The de- posited serpentinite weighs approximately three million tons, and has roughly 2% residual asbestos content. PV-panels have been set up on part of the former mine area, and there are some plans for the utilization of the waste material, too: production of silica is in the experimental phase, and there was a proposal to use the waste material for CO2 capture. The oldest waste heap, on the east- ern side of the township, has been taken back by nature without human interference: a thin layer of soil developed, and a young forest grew up in the last few decades.

Currently, the mine area is the only possible source of asbestos, it may contaminate both air and runoff water. The present study is aimed at checking these possibilities, especially as the township is in the closest vicinity of the mine. Raw (original asbestos-content), ungraded (variable grain size) loose debris, and ground waste material are the major source of asbestos fibres, they are piled up on a stepwise slope with ca. 6–7 lev- els. We tried to trace the dissemination routes of the fibres. The most common spreading track of asbestos fibres is the transportation by rainwater. Rainwater flowing down from the hilltop erodes asbestos fibres from the lose serpentinite debris and the rock flour, and trans-ports them downwards, in the direction of the township.