

Measurements of the Observation of Rock Mass Movements in Field No.1 in the “klodawa” Salt Mine S.A.

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SUMMARY

Observations of the movements of the rock mass, which are performed in field no. 1, began in 1962 at the level of 450 m, by setting up observation lines for leveling and length measurements. Then, at the end of the 1980s, the bases for measuring the linear convergence of the pavement and the chamber were stabilized. The next stage was the extension of the leveling network in field no. 1. The length measurements of the observation line at the level of 450 m ended in 1979, and the leveling measurements in 1994. After 2005, the network of leveling measurements was supplemented, and in 2010, measurements of horizontal displacements were commenced on the newly established observation line perpendicular to the longer axis of field no. 1 at the level of 450 m. In the following years, the network for monitoring the movements of the rock mass was supplemented and geodetic measurements were performed. In 2020, measurements were made on all available observation lines (measurement of the observation line from 1962) and leveling network. These measurements allowed for the correlation of displacements to one elevation system. The current monitoring network allows the determination of horizontal and vertical displacements as well as convergence. Thanks to this, the control the deformation processes taking place in field 1 was done. The stability of the rock masses is the crucial issue for the mine and for the safety of the surface.

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