The Calculation of Rock Salt Underground Cavities Parameters with Asymmetry of Horizontal Section Development

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Abstract

The analysis of actual dimensions of underground cavities obtained with help of a hydrolocator at construction of underground storage in rock salt has shown that, as rule, a horizontal cross section of such cavities have too seldom circle cross section.

Usually, horizontal cross sections of opening (working) are enough well approximated by transverse cross sections in the form of ellipses with various ovality.

Most of horizontal cross sections of underground cavities are approximated by ellipses with ovality 0,07-0,25. In the series of cases an ovality of cross section achieves a value which equal to 1,2. In such cross sections a value of semi-majory axis exceed a value of semi-minory axis by fore times.

Distinguishing peculiarities of mass exchange in such opening is inconstancy of a value of solving speed coefficient over a perimeter of opening in a horizontal cross section.

It has been developed the program of the base technological parameters calculation of underground cavity construction process with horizontal cross sections of various ovalicity.

Examples of base technological parameters calculation of underground cavity construction process with horizontal cross sections having various ovalicity are given.