

UNIQUE FIELDS OF UNDERGROUND BISCHOFITE BRINES IN DNIEPER-DONETS BASIN (EASTERN UKRAINE): GEOLOGY, GEOCHEMISTRY, APPLICATIONS.

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A number of gigantic fields of Bischofite Brine have been discovered in Dnieper-Donets Petroliferous Basin. The bischofite bed (up to 30m) occurs within depth interval 1500-2500m at the certain stratigraphic level within Lower Permian (geol. age about 270 mln years) multicycle saliferous strata. When drilling in, this mineral ($MgCl_2 \cdot 6H_2O$) obtains liquid properties and its extracting from the well is not a particular problem. Total resources of East Ukrainian bischofite brine have no equal in the World. According to our preliminary investigations natural bischofite brine extracted from some wells is ecologically clean non-toxic solution. It contains up to 95% of $MgCl_2$ and essential admixture of potassium, sodium, calcium, iodine, bromine, lithium, cesium, etc. Bischofite brine became an object of commercial interests not so long ago. The sphere of its possible application is extending swiftly. Bischofite brine is: 1) ideal source material for the production of metallic Mg; 2) indispensable reagent for the manufacture of high-quality refractors, artificial facing materials, drilling fluids, metallurgic fluxes and so on. It should be particularly emphasized the environmental (medical, agricultural, ecological) aspects of bischofite brine application. Bischofite brine is the key ingredient of different radio-nuclides-extracting soil-additions. Vital importance of bischofite brine technologies for Sustainable Environmental Development is justified.