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LINEAMENT ANALYSIS EFFICIENCY FOR QUALITY MANAGEMENT AT DEPOSITS OF NONMETALLIC BUILDING MATERIALS

The last decades are marked with active implementation of data on remote sensing, including especially space survey materials, in the practice of earth sciences.

The question of determining the most effective system of a deposit development in certain geological conditions was always important in mining. The study of lineament analysis efficiency is necessary to optimize the management of mining non-metallic minerals.

The function of geostructural indicators should be taken as the objective function of optimal process management that will ensure effective extraction of non-metallic building materials

Let's consider the basic content and objectives of the lineament analysis. The term "lineament" is used to describe linear objects allocated by images of closed areas. Lineament and geodynamic analysis is a complex of geological, geomorphologic, remote sensing and other methods of mapping the fields of tectonic fractures and geodynamic activity. The analysis is to obtain the original model of lineament field by decoding materials of aerospace surveys. Decoding lineaments consists of the following sequence:

1. The process starts with the selection of the area to be studied;. Geographical or UTM coordinates of the area are used to retrieve DEM (Digital Elevation Model) data.

2. The next step consists of determination of the lineaments in the area under study. A combination of topographic maps, aero and sat-photos, and the DEM is used.

3. The next step is the integration of the lineament data with the available geophysical and geochemical information. Further, all this information is differentiated and integrated into one layer of information using a correlation model. All useful information in a one-layer map is called "prospective map"

4. Using a combination of software, such as SURFER, ENVI, MapInfo, etc., we proceed with the graphical modelling of the integrated data. The prospective map shows all the potential targets in the area. Next, the preliminary target areas are compared with the claim maps (if they exist) and with the available geological and assessment work data to make a final proposal of the potential areas.

Therefore, taking into account mentioned above, we can conclude that the use of lineament analysis, in addition to theoretical interest, is of great practical importance in the control of mineral deposits quality. It allows reducing significantly the costs and time for identification and analysis of structural and tectonic structure, which will enable to choose the best and more cost-effective way of mining.

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