- carbonaceous product with a size of 0.035-0.1 mm, ash content up to 50% and humidity up to 35% - 8.5-9.6%.

Thus, positive ecological, sanitary-and-epidemiological and social consequences at development of tailings will allow to receive the following positive results: development of tailings will allow to release capacities for the further storage of tails; the need for a new tailings dump disappears; allows to receive additional marketable products; contributes to the reduction of industrial waste.

**Key words:** mining enterprise, tailings dump, coal-containing product, mobile complex, sludge

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# DOUBLE-UNIT LONGWALLS AS THE METHOD FOR MINING CONCENTRATION

SHAVARSKYI Yaroslav[1]

*[1]JARAD Recycling Technology, Sosnica, Poland*

**Purpose.** Justifying the mining concentration by using double-unit longwalls in different geological conditions at economically expedient level.

**Methodology.** Using the practical researches and analytical strengths justifications of the rockmass it was defined the possibility of double-unit longwall usage for mining the coal reserves from thing and very thin seams.

**Findings.** One of the directions of mining operations intensification is the search for internal reserves using existing mining equipment. This is motivated by the aging of the park of mechanized complexes, deterioration of mining and geological conditions and other negative factors. Such situation is especially noticeable in state-owned mines. In the work of these enterprises is offered to introduce grouping of several wallfaces on limited volumes of mine fields. Researches were provided for the conditions of mines of the Lviv-Volyn coal basin. In this case, the preparatory working provides the ventilation (the middle draft) and transport networks is

conducted at workings, which outline this area. The proposed technological solutions are tested according to the criteria of rock pressure and changes in stress-strain state. The software package SolidWorks was used as a IT product, and the well-known principles of Hoek Brown criterion was used for determining of deformations. The use of double-unit (paired) or even triple wallfaces provide significant economic benefits and has a positive social impact on the staff serving them. An economic assessment proves the validity of the proposed approaches.

The study was conducted as part of the individual researches of the author.

**Key words:** double-unit longwall, concentration of mining works, thing coal seam, technology, rock stresses

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