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Features loess soils (south-eastern part of the city of Dushanbe, Tajikistan)

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Studied section of loess soils (density 1.6 - 1.7 g/cm3, a porosity of 40 - 44%, humidity 12 to 16%) in the south-eastern part of the city of Dushanbe (Tajikistan). Studied loess soils throughout the section (depth 1 - 6 meters) have a fairly uniform distribution of particles content: sand (size 2 ... 0.05 mm) (from 18 to 25%), dusty (size 0.05 0.005 ... mm) (61 to 69%) and clay (less than 0.005 mm in size) (11 to 15%). It is known that the amount of swelling of loess rocks is primarily determined by content of clay particles. Swelling clay particles smaller than 1 micron, selected from loess rock large (320%), while particles larger than 5 microns do not swell substantially. The most characteristic species with swelling montmorillonite-hydromica composition of minerals, the least - rocks with quartz-kaolinite-hydromica composition. The process of swelling in the first 3 - 6 times longer than the second (Guidelines on the testing of loess soils, 1982). All the studied soils, according to the classification of GOST 25100-2011, refer to the little swelling and swelling medium. This may be due to the fact that on the particle size distribution in the studied loess soils of the fraction less than 0.005 mm is 11 - 15%. Mineral composition is not yet determined, but we know that in the loess rocks in the fraction of the size and content of montmorillonite mixed-minerals is 10 - 50% (Supporting engineering-geological sections of loess rocks of Northern Eurasia, 2008).