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HYDROGEOLOGICAL CONDITIONS TERRITORIES OF THE BUFFER ZONE OF THE PROPOSED "TRANSKAZAKHSTAN" CHANNEL THIRD STAGE

Abstract. In order to obtain the greatest economic effect with the least capital investments for the construction of the proposed "Transkazakhstan" channel, and also correctly design and link the channel's route to the terrain, specific physico-geographical conditions and make the most rational decisions, it is necessary to study the hydrogeological conditions.

The main patterns of groundwater distribution in the study area are shown on a digital topographic basis combined with a 1: 500,000 scale hydrogeological map and an updated hydrogeological basis of 1: 200,000 scale, compiled in the form of a 20 km wide strip passing along the territory of the alleged "Transkazakhstan" channel. The map gives an overview of the hydrogeological conditions in this vast territory. It presents aquifers and complexes separated from each other by a black contour, which have considerable area distribution, the main information of which is given below. Description aquifers and complexes given in the text are slightly wider than shown in the narrow band channel track buffer.

In mapping used stratigraphic-hydrogeological principle display elements. In order to improve the information content of the map and its readability using methods characteristic units using hydrogeological information to present basic parameters of aquifers and complexes of wells considered the pool. The numbers near the wells indicate - at the top number and through the hyphen index of water-bearing rocks; On the left in the numerator - the rate, measured by cubic decimeters, flowing in one second (dm^3/s), in the denominator - lowering the water level in the well in meters (m); On the right in the numerator - the steady water level in the well, in meters (m), in the denominator - the mineralization of water, measured in grams, contained in one cubic decimeter (g/dm^3). The chemical composition of groundwater is shown in various colors: with a predominance of chloride anion - red, sulphate - yellow, hydrocarbonate - blue. The allocation of aquifers and complexes was carried out with age, homogeneous or close in age, facies and lithology composition and hydrogeological properties of the rock formations. Groundwater is confined to them, are ubiquitous throughout the area under consideration of the horizon. In the presence of several aquifers, both close and different by the lithological composition and permeability of water-bearing rocks, but combined by common hydrodynamic characteristics, such as the amount of pressure, the direction of movement of groundwater, their quality and having a clear hydraulic interconnection, are combined into aquiferous Complexes. In the investigated region, where groundwater is not widely distributed within certain stratigraphic subdivisions, but in the form of separate lenses, isolated interlayers, areas with local aquifers and complexes are allocated. Underground waters in this case are opened only by separate wells, and there is no hydraulic connection between layers of water-bearing rocks.

Key words: Hydrogeology, aquifer, aquiferous complex, basin, alluvial, lacustrine-alluvial, lacustrine and aeolian deposits, mineralization, flow rate, filter coefficient.