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SEPARATION OF THE FLOW IN THE INTAKE OF DAMLESS WATER INTO THE ABMC AND ITS PERFORMANCE CHARACTERISTICS

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Abstract. In the years of operation, the water consumption from ABMC has increased several times and reaches 400 m^3/s in the current period. With the wide application of multi-layer gidromechanization devices, reconstruction of the ABMC main structure and Canal became possible due to the transfer of such water costs. With the increase in the volume of water intake, the volume of sludge entering along with the water also increased. A large amount of floating and attracting turbidity entering the river causes the channel to sink in its own right, Reducing the live cross-section of the channel and the ability to pass.

Keywords: channel, river, water intake, flow rate, sludge, right bank, dam, width of the river.

1.Introduction

The length of the water intake channels in the area of water intake from the Amu River to the AMU-Bukhoro canal varies considerably throughout the year and year[1,2], depending on the water content of the river and the location of the river fairway. In order to maintain the necessary water holding capacity of the canal[5], the exploitation service is obliged to use the zemsnaryads with large expenditure costs in order to carry out timely cleaning and other corrective work from the entrance to the main building of the ABMC in accordance with the length of the water intake channels[4].

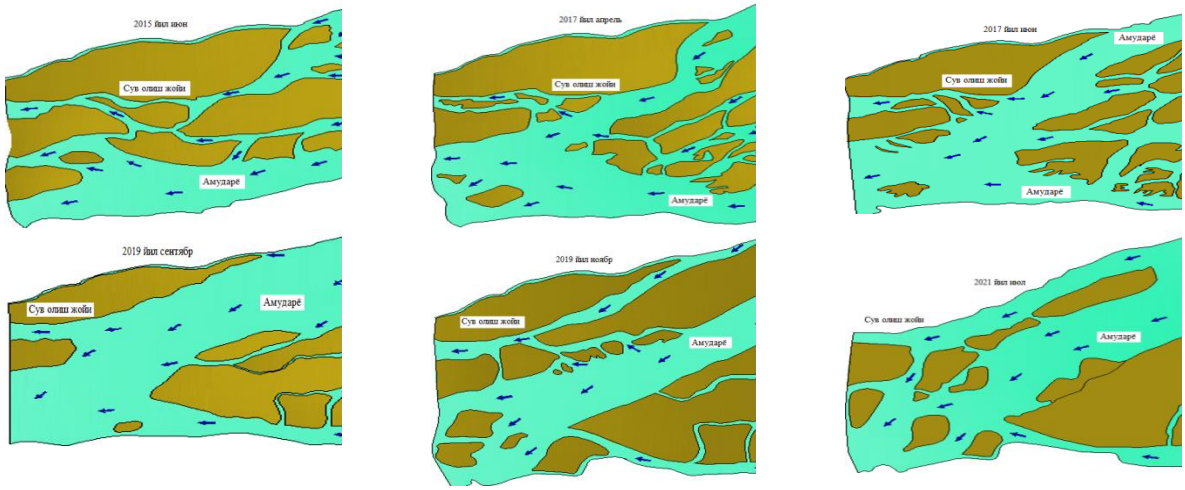


Figure.1. Further deformation processes in the area of obtaining water without a dam from the amudarya to ABMC.

The complexity of the process of intensive, intensive re-formation of Uzan and the deposition of mud on the length of the water intake channels necessitates rational use of the existing park of zemsnaryads in the organization of cleaning works.

On the basis of the use of research material, the analysis of the ingress and deposition of mud into the No. 1 water intake channel of ABMC was carried out. As the data of the measurements show, there is a sharp decrease in the turbidity and a decrease in the degree of purification of the flow from the entrance to the intake Channel №1 to the head purifier[6-7].

The decrease in the speed of water leakage, turbidity and the clarification of the flow along the length of the water intake channels largely depends on the water consumption level [3], River turbidity and the size of water consumption passing through the ABMC main structure. The decrease in water turbidity and the sharpness of the flow depends mainly on the amount of water to be taken. Water consumption also depends on the length of the water intake channel under which it is conducted. Clay particles of mud <0,005 mm increase from 15% to 36% from the entrance stvor to the main building of ABMC. D = 0,05 dust particles of the shield turbid also increase from 38% to 66% from the entrance to the main building of the ABMC. d = sand particles from 0,05 to 0,25 mm, on the contrary, decrease from 3% to 71%, d >0,25 mm sludge particles decrease from 1,3% to 0,15% [7,8,9,10,11].

2.Methods

As a result of the data analysis, the conditions of water intake without dams were studied, and studies to reduce the entry of muddy sediments into the entrance channel itself showed that when the streams were divided in the area of water intake without dams, the complexity of the turbid processes was taken into account and the condition was considered without devices against muddy sediments.

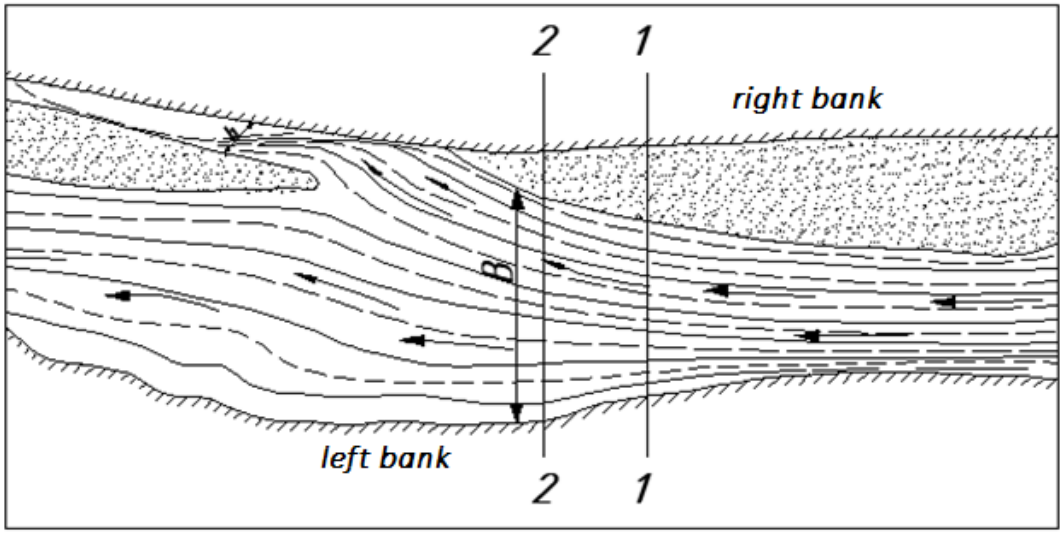


Figure.2 The appearance of Ozen depths and flow propagation lines on the surface in the flow division at ABC

The analysis of laboratory and field data shows that the lower the flow rate of the river is lower than the surface, the less inertia is due to the surface of the stream particles in the bottom, and the more they are affected by the deflection of the stream. This is explained by the fact that the flow at the bottom is much wider near the entrance channel than the flow at the surface.

Figure.2. It is shown that the bottom (straight lines) and correspondence (rings) lines of the currents up to 1-1-cross section do not change their direction of Flow relative to the dynamic axis of the main current. Their noticeable curvature at 1-2-stvors begins depending on the input channel, and it is possible to see that the curvature of the flow lines at the bottom begins a little earlier than on the surface.

At 2-cross-section, the bottom and surface lines of the streams will have a significantly more accurate deflection than the input channel. The above-mentioned regularity is preserved – the flow

lines at the bottom have a large curvature and are deformed in the main uzanda much wider than in the tub.

At the top of the water inlet, the surface flow lines are significantly deviated and pass to the opposite side of the water inlet. The current here is squeezed out of the upper shore and by the extraction of water, its intensity largely depends on the amount of water consumption. Small coefficients of water intake for α can occupy more than half the width of the inlet area water intake by squeezing out the liquid streams. Although the bottom lines of the streams are smaller than the upper edge of the water intake, but nevertheless set aside a significant amount. The described picture shows the water exchange in the upper part of the entrance, that is, the formation of a circulation zone. Therefore, it is not a violation of the edges and bottom in the washable channels, on the contrary, it is characterized by the formation of turbid sediments in the upper part of the entrance wall.

The main purpose of the management of the use of ABMC is to ensure a continuous high water level in front of the regulator of the main building. The highest water levels are provided by regular cleaning work on the length of the inlet channel. It is also possible to carry out the construction of the hydrotechnical facility Su'ni "Prokop", that is, dug to extract water from the river, in order to provide the canal with continuous water supply. The construction of a pioneer tranche with a width of 50 meters depth of 0.70-1.2 meters in order to organize a fairway in an area close to the right Shore from the water intake plant showed that the water intake plant increases the efficiency of operation and sharply reduces the intensity of washing the right Shore. The dimensions of this hydrotechnical structure depend on the water consumption necessary for the river and the Access channel, the amount of muddy sediments and the relief of the river. Because it is worth paying attention to the constant operation of the hydrotechnical structure,cleaning in a natural and artificial mechanical way. High water levels in front of the head unit of the ABC are provided at the entrance and at the length of the two channels №1 and №2 perform continuous cleaning work. About 29 different types of zemsnaryas by type and capacity, the working nature of the silt is aimed at ensuring high water consumption and level of water regulator in the ABK head unit. This is achieved by properly organizing the cleaning work of the express service and placing the zemsnaryads in the desired place and time.

3.Results and discussion

According to the analysis of the results of monitoring the volume of water intake, consumption of turbid discharges and purification of turbid sediments for the years 2005 and 2020 in the main part of ABMC, the maximum indicators of these values were shown to be in may, June, July and August.

In order to prevent the further development of other processes between themselves in obtaining water, it is necessary to fully restore the system of dams protecting the coast. Recommendations were developed to combat high turbid sediment deposits between the water bodies and to improve the conditions of water intake and regulation of the Amudarya River in the ABMC region, as well as to combat turbid wastes.

4.Conclusion.

- To combat muddy sediments, to preserve the Left Bank from erosion and to improve the conditions for obtaining water in ABMC, to fill the coastal parts with stones and to reduce the width of the river to 750 m, to direct the flow of Amudarya water from the left to the right, as noted above, a total of 5 state-scale 1, 2, 3, 4, 5 - additional protective dumbbells of Traverse dumbbells should be built complex, but the restoration and construction of other types of shimmering dumbbells should be based on the books.

-In recent years, in addition to providing these existing traversal dumbbells faction with the help of 60-70 sm Bush (kharsangtosh) and soil mexanizms, a total of 14 small directional micropores have been built. Therefore, on account of it, it was improved to take water from the Amudarya.

- It is recommended to restore the passage of river streams along the old river bank to eliminate highly accumulated turbid sediments, that is, it is sufficient to direct them along the line of the water

intake Channel №1, to PK 65, which later goes to the old river bank. In this way, the problem of combating muddy sediment piles in the area of water intake is completely eliminated. On the plot of PK 65 it is desirable to carry out water consumption from ABMK River to 300 m3/h, water intake at a width of 150-160 m, depth of 3,0 m and a speed of 1,0-1,5 m/H.

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