



SOME VIEWS AND OPINIONS ON THE HYDROCHEMICAL REGIME AND FILTRATION PROCESSES OF THE TUDAKOL RESERVOIR

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ANNOTATION

We all know that the world's water resources have been declining in recent years, including in Central Asia. Uzbekistan, our sunny country, is no exception. To substantiate the relevance of this topic, we can only cite the example of the Tudakul reservoir. As a result of our scientific research, we need to properly organize the operation of this reservoir, which is one of the largest reservoirs, and change the ecological balance of the environment in a positive direction).

KEYWORDS: *Global, filtration, ameliorative, resource, mineral, landscape, geophysical, geochemical, morphological, secondary salinization, wetting, waterlogging, wind erosion, hydrological and hydrochemical regime, dam, piezometer, hydrobiological, hydroecological, ponur, polymer, monitor.*

Introduction. It is no secret that at the moment, in addition to the rest of the world, the role of reservoirs in Central Asia, which are being built and built in order to prevent the limitation of water resources, as well as their waste in vain, is immeasurable. For this reason, it is relevant to study the hydrochemical regime of reservoirs and monitor the filtration processes to study them scientifically and practically.

In the strategy of action for the further development of the Republic of Uzbekistan in 2017-2021, tasks such as "Further improvement of the reclamation of irrigated lands, introduction of modern water and resource-saving technologies into the field of agricultural production", global climate changes and mitigation of the negative impact of the Aral Sea disaster on agricultural development and life

The imposition of the issue. From the point of view of the given tasks, we conducted our scientific research work at the Tudakol reservoir.

Todakul reservoir is located on the territory of Kiziltepa District of Navoi region, 26 km from the district center, 35 km from the city of Bukhara. The collected water is used to irrigate crop fields during the summer irrigation season in Gijduvan, Shofirkon, Vobkent, Peshku, Romitan, Kagan, Bukhara, Jondor of Bukhara region and Qiziltepa, Karmana districts of Navoi region.

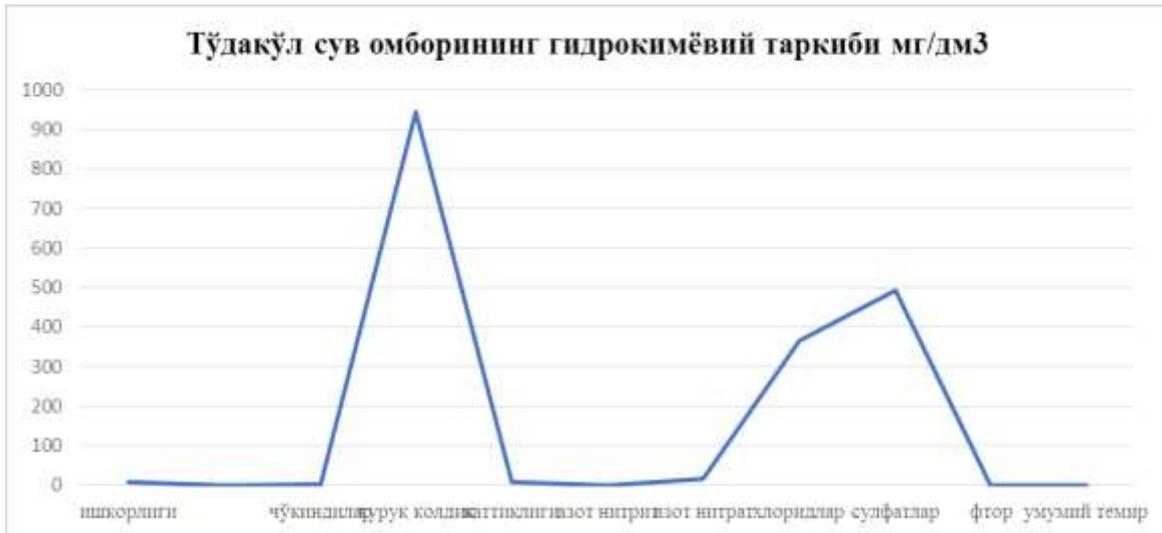
Technical parameters of Tudakol Reservoir

1-Table

1	reservoir capacity	W=1200 mln.m ³
2	useful size	W=650 mln.m ³ .
3	dead volume	550 mln.m ³ .
4	the length along the coast	55 km
5	average depth	7 m.
6	dam length	4,2 km.
7	dam elevation	12 m.
8	Upper sign of the dam (otmetka)	228 m.

Data from the Department of use of the Amu-Bukhara machine channel 2021.

As can be seen from the table, the volume of the Tudakol reservoir during 2021 is W=1200 million.m³, useful volume W=650 million.m³, dead volume 550 million.m³, the length along the coast is 55 km, the average depth is 7 m, the length of the dam is 4.2 km, the height of the dam is 12 m, the top mark of the dam (otmetka) is 228 m. founded.



Based on laboratory analysis, the following were found.

Results analysis and examples; reservoir turbidity in 1 liter of water 1.6 mg/dm³, water alkalinity 6.8 mg/dm³, dry residue 943.0 mg/dm³, total hardness 8.5 mg/dm³, nitrogen nitrite 0.01 mg/dm³, nitrogen nitrate 16.6 mg/dm³, chlorides 365.0 mg/dm³, sulfates 491.0 mg/dm³, fluorine in water 0.06 mg/dm³, nitrogen ammonium and total iron quantities were not observed.



1-Picture. Tudakol Reservoir

The results of the analysis on the composition of the puddle water formed during filtration from the Tudakol reservoir at a temperature of +8 and +13 on 4.12.2020.

The top of the Tudakol reservoir is 18-25 m wide (built from a local grout without a project) reinforced with upper beif kharsang stone, while work is underway to build drainage in lower beif. 33 pezometers were installed. As a result of water filtration from the dam, puddles formed in some areas of the reservoir. We witnessed the following results through the analysis of water from this puddle in the conditions of the laboratory.



Results analysis and examples; hence, the turbidity of 1 liter of water in the pond is 4.2 mg/dm³, water alkalinity is 6.8 mg/dm³, dry residue is 4126.0 mg/dm³, total hardness is 45.5 mg/dm³, nitrogen ammonium is 0.23 mg/dm³, nitrogen nitrite is 0.018 mg/dm³, nitrogen nitrate is 22.6 mg/dm³, chlorides are 980.0 mg/dm³, sulfates are 2113.0 mg/dm³, water the content of fluorine and total iron was not observed. As can be seen from figure 2-3 below, a number of large and small lakes were formed in the filtration process from the gurunty dam of the Tudakol reservoir. For this reason, it has negatively affected the reclamation of land and has caused an erratic process in the dam of the reservoir, which is fraught with damage to the stability of the ecological environment. The reservoir leads to faster degradation of the dam.





In the conclusion, it is worth saying that the effective use of Water Resources from reservoirs, including Tudakol reservoir, in order to avoid waste, to avoid the negative ecomeliorative state of irrigated land, we will provide the following suggestions and considerations:

- Organization of the design of reservoirs on a scientific basis.
- Development of measures for the practical use of reservoirs in the long term.
- Constant control of the protection zone of reservoirs.
- Sharply reduce the negative impact of reservoirs on the environment from an ecological point of view.
- To take the necessary measures to shorten the process of rapid blurring that may occur.
- Regular monitoring of the dynamics of water levels in reservoirs.
- Organization of the use of reservoirs in various branches of the national economy, including in rural agriculture, on the basis of a strict limit.
- A positive solution to the issue of specialist personnel in the effective management of the hydrological regime of reservoirs.
- Regular maintenance of reservoir monitoring.
- Scientific study of hydrobiological and hydroecological properties of water bodies.
- In order to prevent the filtration process taking place from the Tudakol reservoir, it is necessary to make polymer or concrete coatings in front, re-open and compact the dams, install a ponur on the front part.
- Monitor the operation of the peizometers placed on the dumbbells in the prescribed order.

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