

Analysis of Physical and Chemical Properties of Drinking Water in the Jeyranbatan Reservoir

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Abstract

The article investigates the physical and chemical indicators of water in the Jeyranbatan reservoir to ensure the safety of drinking water. Their comparative analysis with the indicators adopted as standards in the world, Europe, CIS and on the Absheron peninsula is carried out. Indicators not covered by the relevant structures are treated independently, and the impact of their variability on water composition is considered both individually and cumulatively. Proper monitoring and especially proper determination of measurement frequency intervals directly make it possible to raise the water quality indicators to a high level.

Keywords: Water; Physical and chemical parameters; Security; Reservoir; Monitoring

Introduction

Water is the most important chemical compound for the world's population. 50-97% of the mass of plants and animals, more than 60% of the mass of humans consists of water. Chemical processes in the body take place in such an aquatic environment. Some of the water is either polluted or expensive to extract because it is deep, which is why people are salt-free. can use only 0.003% of water.

The term environmental safety can be referred to in new terms. It is one of the most important issues facing the globalized world in the 1980s. In this regard, the UN Declaration on Environmental Protection, the Declaration on Environment and Development were adopted in Rio de Janeiro, the UN Millennium Declaration, and the Johannesburg Declaration on Environmental Protection. Sustainable Security Development [1-4]. There are several approaches to the concept of environmental security. From them [5]

- Environmental security as a system of solutions. It is understood as a system of economic, legal, technological solutions aimed at protecting the vital interests of the environment and human life, economic and other activities, from the emergencies of natural and man-made origin, possible negative impacts of hazards, ensuring security guarantees.

- Environmental security as part of national security. One of the components of the national security, ensuring the preservation of ecological balance in the environment.

- Environmental security as a totality of processes, situations and actions aimed at ensuring the ecological balance. A totality of processes, situations and actions aimed at ensuring ecological balance in the natural

The most important of the morphometric properties of reservoirs are the surface area S , the volume V and the amplitude of the water level oscillation. The income side of their water balance is atmospheric precipitation, surface runoff, condensation of water vapour on the surface of the reservoir, underwater currents. The cost side is surface drainage from the reservoir, underground drainage, surface evaporation. The structure of the water balance of an arbitrary basin takes into account the different types of income and the relationship between costs. Problem statement. One of the most important issues is water security. Security means meeting all requirements. In this regard,

3. Electrical conductivity - although tested as a physical property of water, there is no limit to the norm.

4. Density - the density of water depends mainly on its temperature. As the state of water changes with temperature, so does the density, and therefore this parameter is not the norm.

The chemical indicators of water quality in the Jeyranbatan reservoir must take into account the following:

1. Sul des-S2 — mg/l- there is no limit of permissible concentration.

2. Dissolved gases :

• O_2 is measured in mg/l and %, mg/l should be greater than 4 in winter and less than 6 in summer.

There is no permissible concentration limit in%. There is no limit to the permissible concentration of CO_2 .

3. Chlorines:

• The allowable concentration of free CL_2 should be between 0.3-0.5 mg/l.

• The total allowable concentration of CL_2 should be less than 1.2 mg / l.

4. Roughness - the allowable concentration limit should be less than 7 mg-eq/l.

5. Alkalinity - there is no allowable concentration limit.

6. Main ions: CL^- (permissible concentration limit should be less than 350 mg/l), HCO_3^- , CO_3^{2-} , Ca^{2+} , Mg^{2+}

7. The salinity rate should be less than 1000 mg/l.

8. Biogenic substances - NH_4^+ - permissible concentration limit should be less than 0.5 mg/l, NO_2^- - 3.3 mg/l, NO_3^- - permissible concentration limit is 45 norms, PO_4^{3-} - allowable concentration limit is 3, Must be 5.

The quality of drinking water supplied to the Absheron Peninsula is periodically monitored at various stages, from sources to delivery to the user. Drinking water quality control begins with laboratory analysis of water sources. Drinking water quality control begins with laboratory analysis of water sources. Before drinking water is supplied to the network, it is strictly analyzed by specialists and the results are registered in the Central Laboratory.

In the Jeyranbatan Reservoir, it is analyzed based on samples taken from 7 points [6]. These are the Takhtakorpu-Jeyranbatan canal of the Jeyranbatan Reservoir (hereinafter CSA), next to the CSA water intake facility, next to the CSA South pumping station, CSA Southwest Dam leakage water, CSA South Dam, leakage water, CSA North East Dam, leakage, leakage Amelioration is the entrance to the pump station.

Solution: Requirements for drinking water there are norms adopted by various levels of institutions in the world regarding the composition of water. A large number of parameters are generally tested based on the physical and chemical characteristics of the water. During the implementation of the scientific work, the comparison of the average indicators of the International Health Organization, the European Union, the World Health Organization, the Absheron Peninsula, the Jeyranbatan Reservoir is considered.

Different norms are adopted in each standard and each institution on parameters. The tested parameters are as follows: Odor, taste,

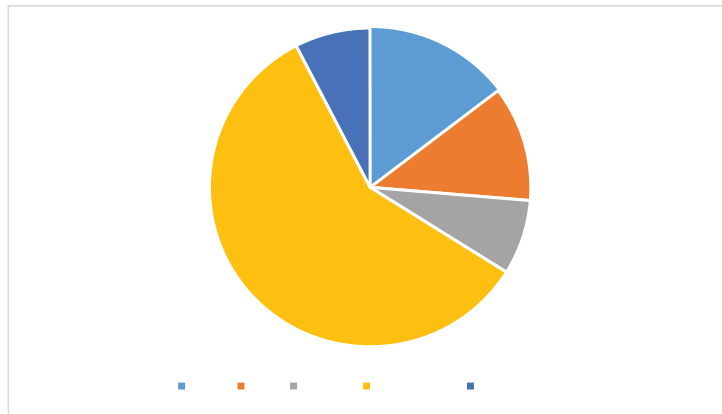


Figure 2: The situation in all institutions for turbidity.



