

HYDROECOLOGICAL MAP OF THE OIL PRODUCING REGION OF THE REPUBLIC OF TATARSTAN, RUSSIA

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Oil production in the Republic of Tatarstan has broken ecological and hydrogeological equilibrium, and resulted in drinking water shortages. In order to evaluate technogenic damage to underground water, Exploration Dept. of TatNeft Co. has drawn an underground water pollution map that highlights four pollution degrees of 1) No technogenic impact from TatNeft Co. or agricultural activity; 2) Moderate stable pollution below maximum permissible but far above natural values. Such a degree of pollution indicates a problem of preventing further contamination that usually requires engineering solutions; 3) Middle/dangerous pollution. Such areas require immediate prophylactic and rehabilitation measures. Drinking water pollution is near or above maximum permissible; 4) High pollution with one or more contaminating component(s) far above maximum permissible concentration. Drastic rehabilitation measures can be very expensive in such areas, and a process of water self-purification usually takes a long time. Water supply from these sources must be either strictly limited or prohibited.