

## **BIO-AND HYDROGEOCHEMICAL METHODS FOR ESTIMATION OF NATURAL ECOSYSTEMS IN ORE-BEARING FIELDS OF UZBEKISTAN**

TALIPOV R.M., SHUKUROV N.E., KIM O.A.

The main landscapes impurity with heavy metals within near-Tashkent region would be an integrated metallurgical plant, heat-resistant and refractory metals works and some chemical industrial enterprises. For the study of technogenous anomalies, the topo-graphic- geochemical profiles 40-45km long on both banks of the Akhangaran-river and the Chirchik-river, and 20 transverse profiles 15-20km long have been drawn. Soil samples at a depth of 0-5cm and 10-20cm and also plant tests of prevailing species and all water springs have been tested. A number of problems on biochemistry was Investigated. Tests of plant ashes sampled under different ecological conditions have shown that the contents of Pb, Zn, As, Cu a.o. are higher than those in soil. It was established that contamination of soils, waters and plants by industrial enterprises reaches 30-40 km away from contamination source and covers large area. The contents of Pb, Zn, Cu, Cd, As in the upper soil layers of the integrated plant are 100 times higher, than the amount of their clarkes and would be arranged to the upper soil layers. Subsurface and surface waters are rather contaminated by sulphate and a number of other cations. The contamination of soil waters and cover beds by trace elements causes the concentration increase in plants. Subsurface waters near metallurgical plant differ from those of ore-bearing areas. One of the main contaminant of the environment appear to be the industrial drainage. In industrial waters the concentration of toxic elements significantly exceed the lower limit. Dangerous concentrations contain Zn, Cu, Cd, Pb and some other elements. Plants and cover beds within the industrial enterprises also include high content of heavy metals which can react unfavorably upon animals and people. Rich data are given.