

## **Geophysical Methods in Studing Engineering-Geocryological Conditions**

TIMOFEYEV, V.M., GORYAINOV, N.N. (All-Russian Research Institute for Hydrogeology & Engineering Geology (VSEGINGEO), Moscow, Russia)

A methodical technique has been elaborated to study engineering-geological conditions of the permafrost using landscape-indicator and geophysical express-methods. The technique gives the possibility to: see inhomogeneous engineering-geocryological conditions; optimize placing and a quantity of observation boreholes to be installed; extrapolate the surveying results obtained in key sites to an adjacent territory; reveal characteristic features of the permafrost in an area under study.

The geophysical methods include: electrical profiling, vertical electrical sounding, magnetic surveying, seismic surveying and high-precise gravitational surveying. The borehole measurements use electrical logging, gamma logging, gamma-gamma logging and neutron logging. VSEGINGEO has developed and applied for the first time new perspective technologies of electrical profiling and electrical logging with the use of capacity sensors.