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Abstract: Two collaborative projects by the Institute for Research Construction, NRC, and the Laboratoire d'Aérothermique, CNRS, are described. The first entails the development of a computer program for two-dimensional transient heat flow; the second concerns a laboratory evaluation of the thermal properties of soils at very low temperatures. The computer program is based on a numerical method which has certain advantages for treating problems with moving interfaces such as arise in phase change problems. This method, previously limited to uni-dimensional cases, makes it possible to accurately track a moving phase change front while keeping calculation time to a minimum. A series of very low temperature thermal conductivity measurements carried out in the lab on LEDA clay is described.