

EARTH ENGINEERING CENTER and MINING ENGINEERING

SEMINAR.

834 Mudd Building, Friday, September 20, 1996 at 2:00 PM

Measuring Groundwater and Seepage Flow Velocity In Boreholes

by

Prof. Satoshi Akibayashi, University of Akita, Japan

Measurements of groundwater flow velocity by means of borehole measurements can be affected by the presence of the measuring instruments in the borehole. This study presents the results of mathematical modeling and flow visualization tests on projecting the effect of cylindrical objects on flow measurements taken in boreholes in the presence of cylindrical objects.

Enhancement of the Steam-assisted Gravity Drainage Process for Heavy Oil Production

by

Prof. Kyuro Sasaki, University of Akita, Japan

Experiments have been carried out on the steam-assisted, gravity drainage(SAGD) process, using two-dimensional scaled reservoir models and video and infra-red visualization techniques. In industrial operation of SAGD, oil production rate increases with increasing vertical well spacing, but the lead time to start oil production by gravity drainage is longer. On the basis of the results, a modified SAGD process, by adding intermittent steam injection from the lower production well, has been proposed. By applying the modified process, the time to generate near break-through condition between two wells was shortened, and oil production was enhanced, as compared to the conventional SAGD process.