

## BACTERIAL LEACHING OF URANIUM

Bacterial leaching of uranium ores, a production method since 1962, uses water or an acid solution to dissolve uranium oxidized by bacteria. The water is pumped to the surface where recovery of ammonium diuranate is carried out by conventional ion exchange methods.

*R. A. MacGregor, surveyor, geologist, and presently underground superintendent, has been with Stanrock Uranium Mines (Ontario) since 1960. He developed bacterial leaching of uranium at Stanrock, the first mine in the area to use this process on a commercial scale.*

## MICROWAVE PHYSICAL PROPERTIES SENSORS

A technique using a waveguide for transmitting a microwave signal to instruments outside the reactor can measure both temperature and gas coolant impurities inside high-temperature high-flux reactors.

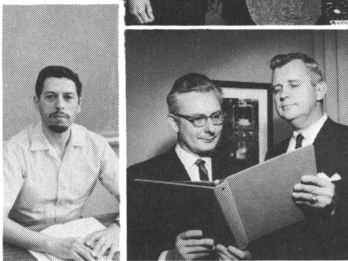
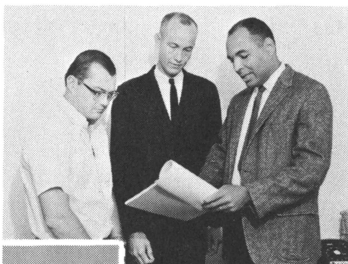
*T. Roger Billeter (left) (MSEE, University of Washington, 1961), a senior research engineer at Battelle-Northwest's Instrument Research and Development Section, has primary responsibility for development of temperature and impurity measuring sensors. Donald P. Brown (center) (MSEE, University of Washington, 1965) is a senior research engineer specializing in thermal- and fast-neutron detectors for in-core application. Ward G. Spear (MSEE, University of Idaho, 1960) manages the IRD Section.*



## GAMMA AND NEUTRON DOSE IN A W-H<sub>2</sub>O CORE

The absolute gamma dose in a tungsten water-moderated reactor critical assembly, measured with CO<sub>2</sub>-filled ionization chambers with graphite walls, agreed with Monte Carlo calculations within 10%. Calibrated polyethylene-walled chambers, filled with ethylene, measured mixed fluxes which could be partitioned into separate gamma and neutron doses.

*George Houghton, Gerald Trimble, and Clyde Jupiter (upper left to right) are on the Accelerator Physics Department Staff at Gulf General Atomic where their research includes subcritical assembly studies, neutron transport, reactor kinetics, and detector instrumentation. David Spielberg (inset), an advisory scientist at the United Nuclear Corporation, has worked on problems of shielding and air scattering. Paul Klann (lower left) and Walter Paulson are nuclear engineers at the NASA Lewis Research Center where they are involved with fast reactor design for space power applications.*



# Corrigendum

On page 293 of the November 1968 issue of *Nuclear Applications* (Authors and Papers section), the photograph at the bottom of D. A. Costanzo and L. T. Corbin should be at the top of the page; each of the top three photographs should then be moved down one position to appear opposite the proper text.