

## UCSD Energy Center to host workshop on direct recovery of shale oil

**August 26, 1974**

The University of California, San Diego Energy Center will serve as host of a five-day workshop, September 3 to 7, sponsored by the National Science Foundation, Research Associated with National Needs (RANN), on direct recovery of shale oil from fractured, underground shale.

The U.S. shale oil reserves have been estimated to contain from one half to four times the amount of oil that is currently known to be recoverable from the total Middle Eastern reserves, depending on how rich the shale must be for economical recovery of oil. By fracturing the shale underground, without mining, and retorting the oil directly (in situ) from the fractured shale, environmental impact, water needs and recovery costs are expected to be appreciably smaller than for conventional mining followed by above ground retorting.

Participants from the U.S. Bureau of Mines, a number of major oil companies working on shale-oil recovery, and various government, industrial and university laboratories will hear a series of prepared lectures by active workers in the field. The purpose of the UCSD/RANN workshop is the preparation of recommendations for a program of research and development leading to efficient in situ oil recovery.

Professor S. S. Penner, Director of the UCSD Energy Center, will serve as Director of the workshop on In Situ Recovery of Shale Oil. UCSD professors Richard Emmerson (economics), Edward D. Goldberg (Scripps Institution of Oceanography), G. A. Hegemier (applied mechanics), and F. A. Williams (aerospace engineering) will serve as chairmen of working panels charged with cost evaluation, environmental-impact assessment, underground fracturing and underground recovery of shale oil, respectively.

A number of authors have advocated the use of nuclear bombs for fracturing of shale, followed by in situ recovery. Some published economic studies suggest that the use of nuclear blasts for fracturing, followed by in situ recovery, will allow shale-oil production for perhaps as little as \$2.00 per barrel, as compared with estimated costs of more than \$8.00 per barrel for conventional recovery processes.

Current governmental controls do not allow the use of nuclear bombs for oil-shale fracturing.

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