

# New Shale Technology Promising

By Jack Anderson

With unconcealed excitement, the Federal Energy Office is investigating a revolutionary technique for extracting oil from shale at a cheap \$1.18 a barrel without massive ecological damage.

Energy director William Simon is talking privately of an all-out government effort, on the scale of the Manhattan Project which developed the atomic bomb, to bleed the mountains of Colorado, Utah and Wyoming of critically needed oil.

An estimated 1.8 trillion barrels of oil, nearly three times the world's present proven reserves, are locked in the shale rock formations of the Rockies. At the current rate of consumption, this would be enough to supply U.S. oil needs for 140 years.

The problem is separating the oil from the rock. Previous proposals called for extensive strip mining, which would devastate the Western scenery. The shale would be heated until the oil dripped out. But the heat would also expand the rock, which would have to be discarded in huge, unsightly piles. New mountains of discarded shale would be created.

But now Occidental Petroleum has developed a way to extract the oil inside the mountains, without the massive strip mining and monstrous shale

dumps. Even more promising, the Occidental process would reduce the cost from around \$5 to \$1.18 a barrel.

The cost estimates were made by an independent Stanford research group, which studied Occidental's pilot project in Colorado. The final cost of delivering the oil to suppliers, after all the pumping and piping has been figured in, would run between \$2 and \$3 a barrel.

The Occidental method consists essentially of blasting a chamber inside the oil-bearing rock formation. Natural gas is then injected into the chamber and fired. This produces intense temperatures, which separates the oil from the rock. The oil seeps to the bottom of the formation, where it is pumped away.

The expanding shale gradually fills up the chamber, and the mountain is left virtually undisturbed except for the mining shaft required to gain entrance.

Occidental's enterprising chairman, Dr. Armand Hammer, showed a movie of the new process the other day to Simon and his staff. Simon's experts then questioned the Occidental technicians thoroughly.

The energy chief came away from the briefing highly impressed. He is now preparing to send his specialists to Colorado to study the Occidental operation firsthand. A crash program, say the Occidental engineers,

could relieve the U.S. oil shortage within three years.

Nixon's Sound System—Despite President Nixon's extreme sensitivity over the Watergate tapes, he now wants to install a new recording system in the White House.

It won't be used, however, to make secret tapes of the conversations in the Oval Office, a la Watergate, but to record the crooners and comedians who perform at official White House functions in the East Room.

The President's communications experts want a sound system so sophisticated it may never be built.

The specifications, sent confidentially to potential bidders, call for "two mixing consoles" capable of taking the sounds from 16 different microphones and then mixing them onto a two-track stereo tape.

Although the system is supposed to be used in the White House, which is buffeted only by the President's tirades and has been cooled down only to 68 degrees, the two identical consoles must survive "a shock of 5 G's" and temperatures 80 degrees below zero.

Unlike Rose Mary Woods' tape recorder, the new sound system is also supposed to be designed with the best fail-safe features that modern technology can provide.

We consulted half a dozen sound engineers and technicians, who estimated the two fancy consoles will cost the taxpayers more than \$200,000.

One expert described the proposed sound system as "space-age technology." Another called it "a highly professional system requiring extremely sophisticated engineering."

Some of the engineers we consulted made comments that might interest the Watergate prosecutors. They cited the highly detailed specifications as evidence that the White House communications experts are far too professional to produce tape recordings marred with erasures and excessive background noises.

Cdr. Tom Coats of the White House Communications Agency, who prepared the solicitation offer, explained he was trying to obtain "the best and most economical system" available. Having given us his "position on this," the commander declared he could not "talk about it anymore" and refused to answer further questions.

Footnote: Until the Nixon takeover, the Marine Corps has recorded the performances at the White House. The master tapes were filed in the Marine Band library where they have remained, virtually untouched, for 10 these many years.