DEPARTMENT of the INTERIOR

news release

GEOLOGICAL SURVEY

Don Finley (703) 860-7444

For Immediate Release November 14, 1977

URANIUM-BEARING ROCKS FOUND IN SIERRA MADRE OF WYOMING

Ancient beds of uranium-bearing rock that may contain minable deposits of the nuclear fuel have been found astride the Continental Divide in the Sierra Madre in Wyoming, according to a report released today by the U.S. Geological Survey, Department of the Interior.

This is the second group of potentially economic deposits of uranium reported in Wyoming in 1977 by the USGS under a cooperative mineral resource assessment program with the University of Wyoming, the Wyoming Geological Survey, and the U.S. Energy Research and Development Administration.

Reports released earlier this year by the USGS disclosed the discovery of beds of uranium-bearing conglomerates (naturally cemented gravel) in a 60-square-mile (155-square-kilometer) area about 30 miles (48 kilometers) west of Laramie in the Medicine Bow Mountains in Carbon and Albany counties. In both the Sierra Madre and the Medicine Bow Mountains, the uranium areas are largely within the Medicine Bow National Forest.

U.S. production of 12,700 tons (11,520 metric tons) of uranium oxide ore in 1976 was adequate to meet domestic demand, but USGS officials estimate that approximately as much uranium will have to be found in the next 25 years as was found in the past quarter century if the nuclear power industry is to have enough fuel to meet projected demand.

Dr. Robert S. Houston, the principal field investigator on the project, said the Sierra Madre uranium discoveries are in Carbon County about 70 miles (113 kilometers) west of Laramie, at altitudes ranging from about 8,000 to 9,000 feet (2,440 to 2,745 meters). Houston is head of the Geology Department at the University of Wyoming and a long-time intermittent employee of the USGS.

Paul J. Graff, Forreston, Ill., a graduate student at the University of Wyoming and a USGS summer employee, and Houston first suspected that there might be deposits in the Sierra Madre when they observed that surface rocks there were similar to the types found in the area of known uranium occurrences in the nearby Medicine Bow Mountains.

(more)

"We found surface evidence of uranium at five sites in a 32-square-mile area," Houston said, "with the concentrations of uranium in rocks at the surface indicating there may be economic deposits at depth in the area."

Measurements showed that radioactivity levels in the Sierra Madre study area were as much as 22 times normal, and comparable to the levels in the Medicine Bow area. Also, chemical analysis showed that surface rocks in the Sierra Madre area had as much as 131 parts per million uranium.

"This concentration of uranium is not high enough in itself to be an economic deposit," Houston said, "but based on other similar kinds of deposits and the fact that uranium is easily dissolved from surface exposures, it indicates that minable bodies of uranium may be found at depth underground."

He said the Sierra Madre uranium is in a pyritic quartz-pebble conglomerate, and that the uranium-bearing minerals probably were deposited in channels of ancient rivers.

"Although there are no other producing deposits or reserves in the United States of this type," Houston said, "two of the world's largest producing areas -- Blind River in Ontario, Canada, and Witwatersrand in South Africa -- are in similar quartz-pebble conglomerates.

"These kinds of ancient Precambrian pebble conglomerates are probably at least 2 billion years old," he added, "as compared to the more common domestic sandstone-type deposits that are generally less than 200 million years old.

"The surface evidence indicates that the Sierra Madre area is a good target for exploration," Houston added. "The only way to know for sure whether or not the deposits are worth mining is to drill in the area, to assess the extent, depth, and uranium content of the deposits."

Copies of the report by Graff and Houston, identified as USGS Open-File Report No. 77-830 and titled "Radioactive Conglomerate in Proterozoic (Precambrian X) Metasedimentary Rocks of the Sierra Madre, Wyo.," are available for review and inspection at USGS libraries at Room 4A100, USGS National Center, 12201 Sunrise Valley Drive, Reston, Va.; 1526 Cole Blvd., Golden, Colo.; and 345 Middlefield Rd., Menlo Park, Calif. Copies also are available for inspection at USGS Public Inquiries Offices at 1012 Federal Bldg., 1961 Stout St., Denver, Colo., and 678 U.S. Court House Bldg., Spokane, Wash.; Technical Library, U.S. Department of Energy, Grand Junction, Colo.; and Geological Survey of Wyoming, University of Wyoming, Laramie, Wyo.

Copies of the eight-page report may be purchased by mail from the Open File Services Section, Branch of Distribution, U.S. Geological Survey, Box 25425, Federal Center, Denver, Colo. 80225, telephone 303-234-5888. Prepayment to the U.S. Geological Survey is required. Prices are $1 for each paper copy of the report and $3.50 for each microfiche copy.

# # # #