

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF MINES

**Mineral investigation of Mount Trumbull Wilderness  
Study Area, Mohave County, Arizona**

U.S. Bureau of Mines Mineral Land Assessment  
MLA 31-84  
1984

By  
McDonnell, J.R., Jr.

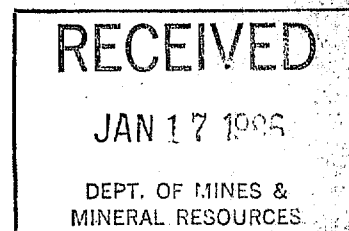
This open file report summarizes the results of a Bureau of Mines wilderness study and will be incorporated in a joint report with the U.S. Geological Survey. The report is preliminary and has not been edited or reviewed for conformity with the U.S. Bureau of Mines editorial standards. Work on this study was conducted by personnel from Intermountain Field Operations Center, Building 20, Denver Federal Center, Denver, CO 80225.

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**STUDIES RELATED TO WILDERNESS**  
**Bureau of Land Management Wilderness Study Area**

The Federal Land Policy and Management Act (Public Law 94-579, October 21, 1976) requires the U.S. Geological Survey and the U.S. Bureau of Mines to conduct mineral surveys on certain areas to determine their mineral values. Results must be made available to the public and be submitted to the President and the Congress. This report presents the results of a mineral survey of the Mount Trumbull Wilderness Study Area (AZ-010-052), Mohave County, Arizona.

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SUMMARY

The Mount Trumbull Wilderness Study Area contains no known mineral or oil and gas occurrences; rock units that underlie the study area are not known to be locally mineralized but oil shows have been reported in rock units that may underlie the area at depth. Bureau of Mines investigations disclosed neither mining claims nor mining activity within the study area; oil and gas leases that covered the study area in 1982 were terminated in 1983.

INTRODUCTION

During 1983-84, the Bureau of Mines conducted a mineral survey of the Mount Trumbull Wilderness Study Area (WSA), Mohave County, Arizona, as part of a joint effort with the Geological Survey. The investigation included a review of available published and unpublished material related to the mineral resources and mining activity of Mount Trumbull and vicinity. Mining claim information and land status plats were obtained from the Bureau of Land Management (BLM) State Office, Phoenix, Arizona. Minerals availability information was collected from Bureau of Mines files and other sources; these sources are cited where necessary.

A field examination of the WSA was conducted in April 1983. This examination included reconnaissance of Mount Trumbull and vicinity by fixed-wing aircraft and four-wheel-drive vehicle, as well as a foot traverse across the WSA. No mining activity or mineralized occurrences were found; therefore, no samples were collected.

### Geographic and geologic setting

The Mount Trumbull WSA (fig. 1) encompasses 7,285 acres in northeastern Mohave County in the Arizona Strip of northern Arizona. The study area is about 50 mi southwest of Fredonia, Arizona, and about 60 mi southeast of St. George, Utah. Access to the WSA from Fredonia is by improved dirt roads and Forest Service roads from state highway 389. Access from St. George is by a partly paved county road in Main Street Valley, improved dirt roads, and Forest Service roads. Foot trails provide access within the WSA.

Mount Trumbull is on the Uinkaret Plateau, one of the major structural blocks of the Colorado Plateau province. The mountain is a steep-sided, mesa-like feature that rises nearly 2,000 ft above the surrounding plains to an elevation of 8,028 ft. The Mount Trumbull platform is capped by a series of Tertiary basalt flows with well-developed columnar jointing, separated by thin beds of volcanic ash and scoria. The 200- to 500-ft-thick lava cap overlies Triassic Moenkopi shale. (See Koons, 1945, pg. 169-170.)

The region is semiarid, but precipitation, temperature, and vegetation vary locally because of wide ranges in elevation.

### Mining activity

No records were found that indicated mining claims within the WSA; however, a group of unpatented claims that are controlled by Energy Fuels Inc., Denver, Colorado, begin about 2 mi east of the WSA boundary (fig. 2). The claims continue to the north and east away from the WSA, and are part of Energy Fuels' ongoing uranium exploration program in northern Arizona.

Field reconnaissance of Mount Trumbull and vicinity disclosed no mining activity within the WSA. Two pits, about 3 mi north and about 2 mi east of the WSA respectively, were cut in cinder cones; the material was probably

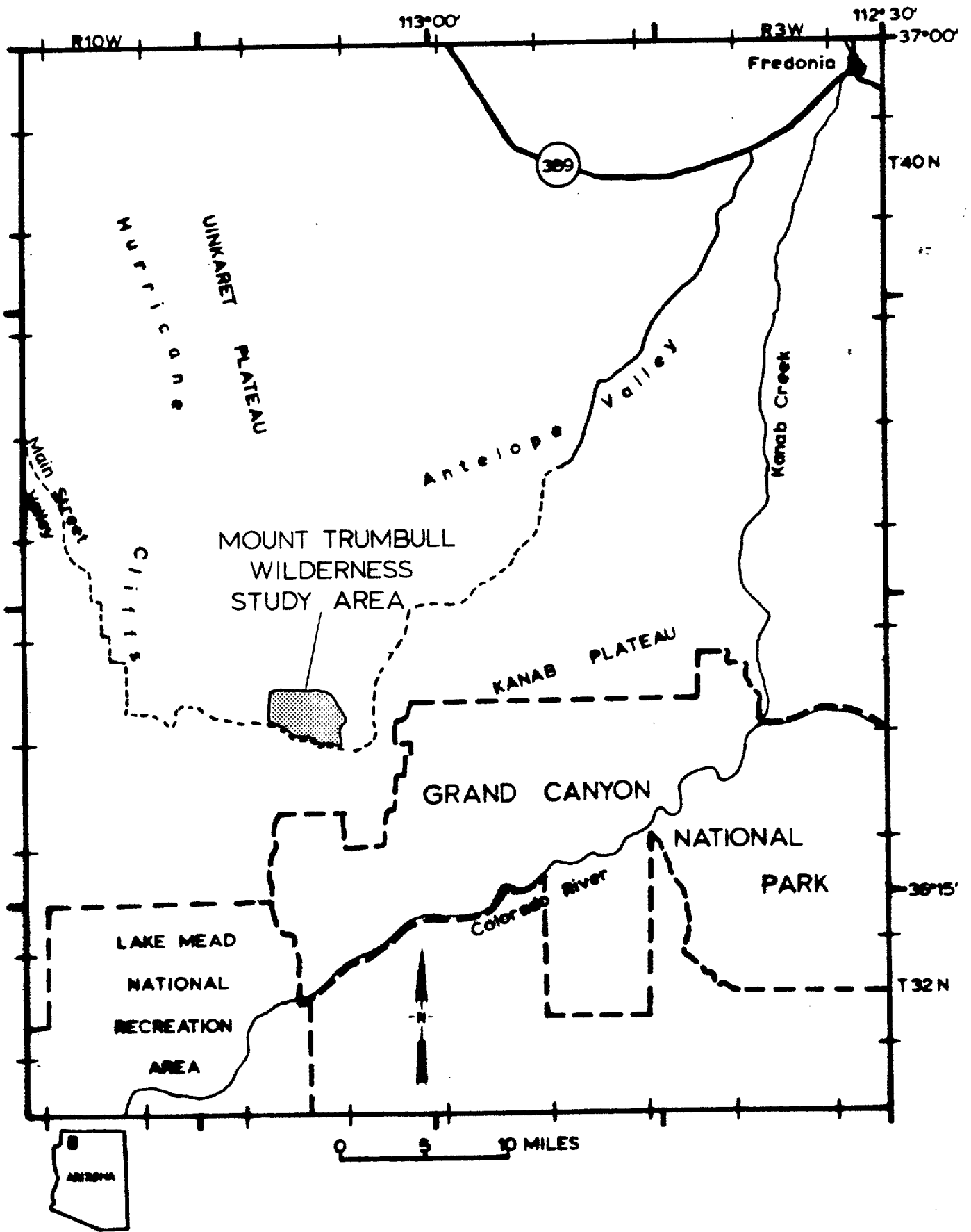


Figure 1.--Index map of the Mount Trumbull Wilderness Study Area, Mohave County, Arizona.

used locally as road fill. Three similar cinder cones occur within the WSA (fig. 2) and many additional cones occur throughout the region (Koons, 1945, map). Bureau files also list a gypsum occurrence 2-3 mi northeast of the WSA (fig. 2), but the property was not examined.

#### Oil and gas

Currently (January 1984), no leases or lease applications are held in the Mount Trumbull WSA, but BLM Oil and Gas plats dated September 1982, show federal oil and gas leases covering the entire WSA. The leases, held by Gulf Oil Corp., were terminated in May 1983.

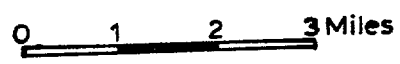
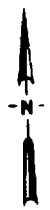
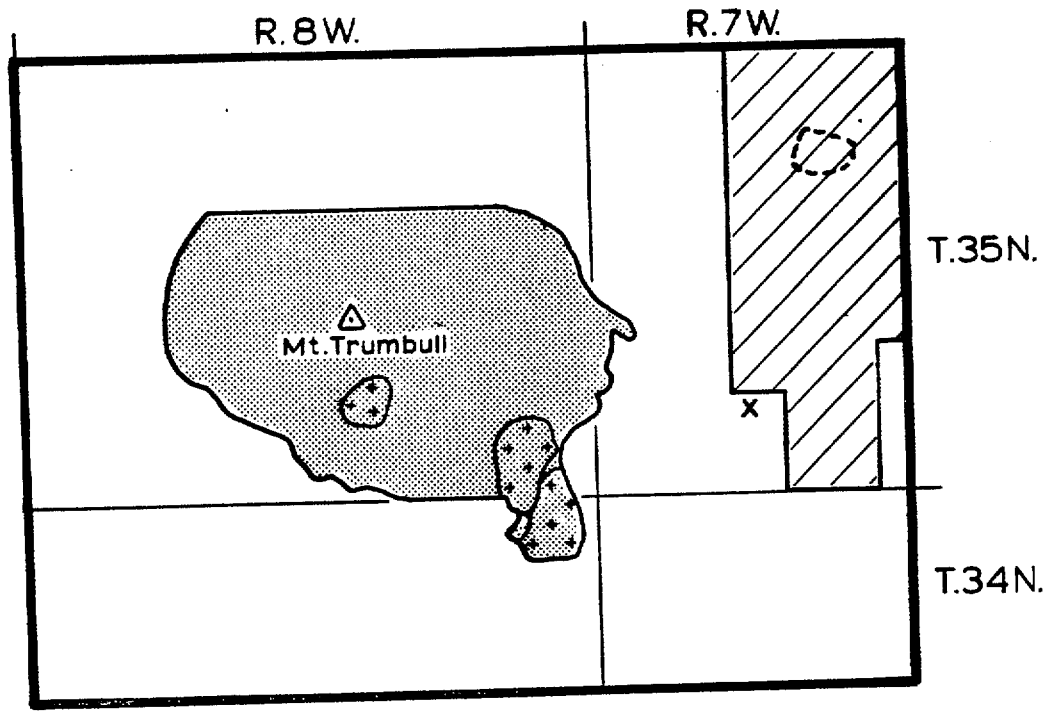
Oil shows have been reported for several exploratory holes that were drilled 10-30 mi north to northwest of the WSA. The oil was detected in sedimentary rock units that are relatively flat-lying and may be projected at depth beneath the WSA. The holes, however, have had no commercial production and have been plugged and abandoned.

A Geological Survey report on the petroleum potential of wilderness lands in Arizona (Ryder, 1983, p. 17) rated the hydrocarbon potential of an area that included the WSA as low.

#### CONCLUSION

The mineral investigation of the Mount Trumbull Wilderness Study Area by Bureau of Mines personnel disclosed no mining activity, and no mineral or oil and gas occurrences within the WSA. Nearby mining activity and a mineral occurrence included: claim staking for uranium, cinder pits, and a gypsum occurrence, but none are known to extend into the WSA. Three cinder cones do occur within the WSA, but numerous cones throughout the region provide other sources of cinder material.





EXPLANATION






-  APPROXIMATE AREA OF MOUNT TRUMBULL WILDERNESS STUDY AREA
-  UNPATENTED CLAIMS (As of October 1982)
-  CINDER CONE
-  CINDER PIT
-  APPROXIMATE LOCATION OF REPORTED GYPSUM OCCURRENCE

Figure 2.--Mining activity in the vicinity of the Mount Trumbull WSA, Arizona.

Federal oil and gas leases held by Gulf Oil Corp. covered the WSA in 1982, but had been terminated in 1983. Oil shows have been reported for holes near the WSA in rock units that may underlie the WSA at depth; however, none of the holes have been commercially developed, and they have been plugged and abandoned. A Geological Survey report rated the hydrocarbon potential of the region as low, and it is unlikely that the WSA has buried hydrocarbon occurrences that would be developed in the foreseeable future.

Rock units in the study area consist mostly of Tertiary basalt flows that cap Triassic Moenkopi shale. None of the units are known to be locally mineralized and no oil and gas indicators are known in the study area; they are probably barren within the WSA.

#### REFERENCES

- Koons, E. D., 1945, Geology of the Uinkaret Plateau, Northern Arizona: Geological Society of America Bulletin, v. 56, no. 2, p. 151-180.
- Ryder, R. T., 1983, Petroleum potential of wilderness lands in Arizona in Petroleum potential of wilderness lands in the Western United States: U.S. Geological Survey Circular 902-A-P, 22 p.