

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

**MINERAL RESOURCES OF THE MOUNTAIN LAKES
WILDERNESS STUDY AREA,
KLAMATH COUNTY, OREGON**

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U.S. Geological Survey
Open-File Report 89-541

Prepared by the U.S. Geological Survey and the U.S. Bureau of Mines
for the U.S. Bureau of Land Management

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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 U.S. Bureau of Mines to conduct mineral surveys on certain areas to determine the mineral values, if any, that may be present. 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 Mountain Lakes (OR-011-001) Wilderness Study Area, Klamath County, Oregon.

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ABSTRACT

At the request of the U.S. Bureau of Land Management, the 334-acre Mountain Lakes Wilderness Study Area (OR-011-001) was evaluated for identified mineral resources (known) and mineral resource potential (undiscovered). In this report, the area studied is referred to as the "the study area."

No mineral resources are identified within the study area. The area has no potential for oil and gas or geothermal energy.

INTRODUCTION

This mineral survey was requested by the U.S. Bureau of Land Management and is the result of a cooperative effort by the U.S. Geological Survey and the U.S. Bureau of Mines. An introduction to the wilderness review process, mineral survey methods, and agency responsibilities was provided by Beikman and others (1983). The U.S. Bureau of Mines evaluates identified resources at individual mines and known mineralized areas by collecting data on current and past mining activities and through field examination of mines, prospects, claims, and mineralized areas. Identified resources are classified according to a system that is a modification of that described by McKelvey (1972) and the U.S. Bureau of Mines and U.S. Geological Survey (1980). U.S. Geological Survey studies are designed to provide a scientific basis for assessing the potential for undiscovered mineral resources by determining geologic units and structures, possible

environments of mineral deposition, presence of geochemical and geophysical anomalies, and applicable ore-deposit models. Goudarzi (1984) discussed mineral assessment methodology and terminology as they apply to these surveys. See appendixes for the definition of levels of mineral resource potential and certainty of assessment and for the resource/reserve classification.

Evaluation of the Mountain Lakes Wilderness Study Area was done in 1987 by the U.S. Geological Survey and the U.S. Bureau of Mines (Winters, 1988). Fieldwork consisted of checking existing geologic maps, looking for altered rocks that may indicate mineralization, and examining existing mining claims near the study area. The geology of this region was previously mapped at a scale of 1:62,500 by Smith (1983), and the study area was included in the mineral resource appraisal of the adjacent Mountain Lakes Wilderness in the Winema National Forest by Smith and others (1983).

LOCATION, ACCESS, AND CHARACTER

The Mountain Lakes Wilderness Study Area is located in southwestern Oregon, 13 mi northwest of Klamath Falls, Oregon, approximately 4 mi southwest of Oregon state highway 140 (fig. 1). Access to the area is provided by graded U.S. Forest Service roads and numerous logging roads that form switchbacks up an east-facing slope to the boundaries of the study area. The study area comprises a forested and brush-covered, east-facing slope, encompassing 334 acres. It is bounded on its north, east, and south sides by private lands which have recently been clearcut logged, and on its west side by the Mountain Lakes Wilderness, which is part of the Winema National Forest.

GEOLOGY

Most of the study area is underlain by volcanic rocks of the High Cascades volcanic province. Lava exposed at the surface is basaltic andesite, possibly representing a single block lava flow, of Pliocene age (5.3 to 1.6 Ma; see appendixes for geologic time chart). Along the

northern margin of the study area, this lava is covered by glacial deposits of Quaternary age (less than 1.6 Ma).

APPRAISAL OF IDENTIFIED RESOURCES

No mineral resources were identified within the study area, and no mining claims are located in or adjacent to the study area. The lava that underlies the study area is largely covered by soil and vegetation and possesses no unique characteristics that would make it desirable for use as building or decorative stone. Such lavas are abundant throughout the Cascade Range from northern California to Washington.

APPRAISAL OF MINERAL AND ENERGY RESOURCE POTENTIAL

Our field examinations confirm the conclusions of the earlier studies by Smith and others (1983) that there are no identified resources nor are there any indications of undiscovered resources. There is no evidence of mineralization in the study area, nor are the rocks in the study area likely to host mineral deposits. Previous studies by Smith and others (1983) document that these lava and glacial deposits are unmineralized elsewhere in the Mountain Lakes Wilderness and the adjacent Sky Lakes Roadless Area.

The study area has no potential for oil and gas, certainty level D. Most likely, the study area is underlain at depth by plutonic rocks that are the unerupted equivalents of the High Cascades volcanic rocks. This geologic environment is not conducive for the generation of hydrocarbons, the lavas would make poor reservoirs for hydrocarbons due to low permeability and porosity, and excessive heat associated with this magmatic environment would have destroyed any hydrocarbons that may have existed in the region. The study area lies in a region previously evaluated by Fouch (1982, 1983) as having no potential for oil and gas.

There are no hot springs and no geothermal leases, exploration or development in the area (Muffler, 1979; Bliss, 1983). Therefore, the study area has no potential for geothermal energy resources, certainty level D.

CONCLUSIONS

There are no identified mineral or energy resources, there is no indication of undiscovered mineral resources, and there is no potential for undiscovered oil, gas, or geothermal energy resources in the Mountain Lakes Wilderness Study Area.

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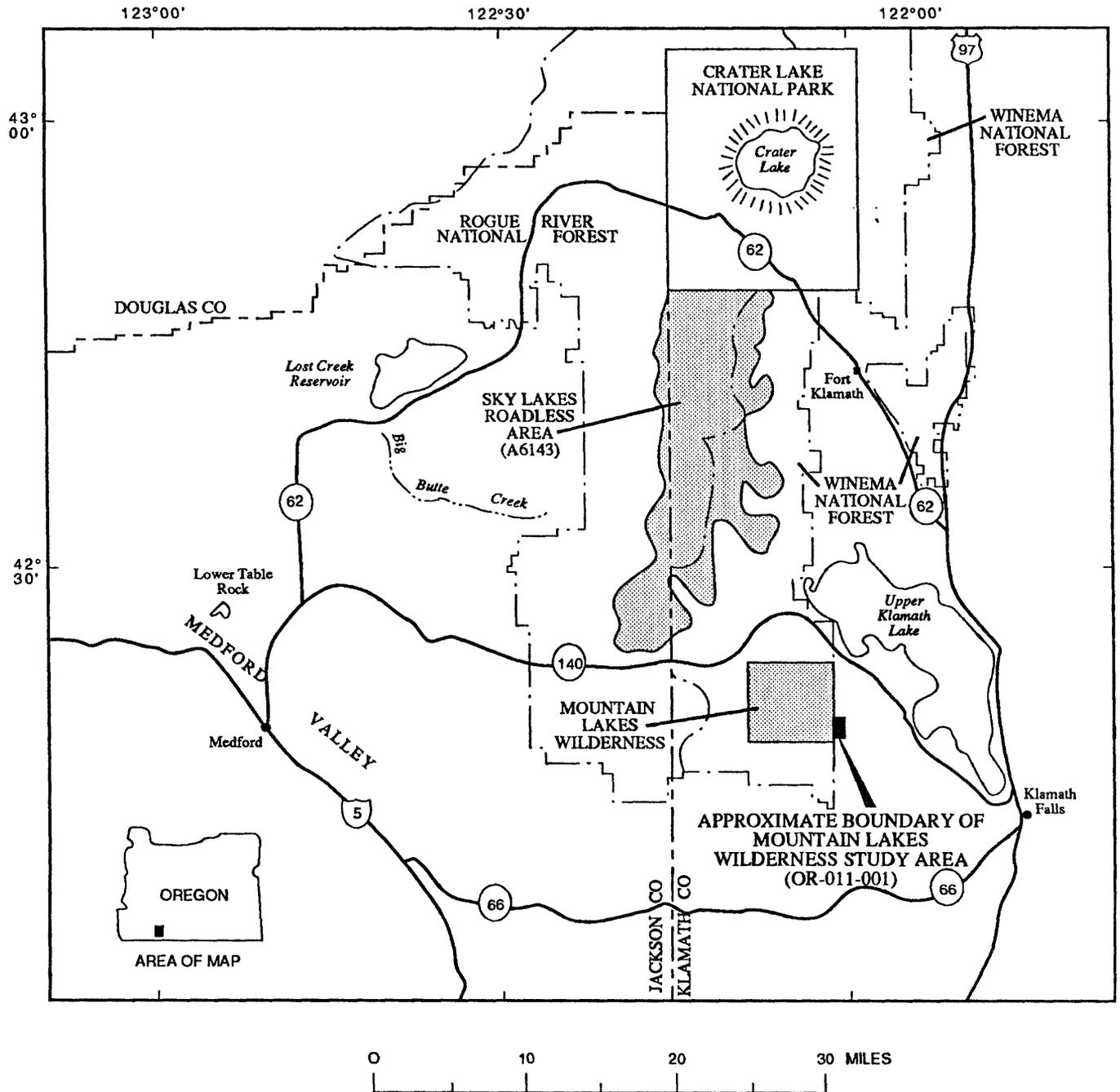


Figure 1. Index map showing location of the Mountain Lakes Wilderness Study Area, Klamath County, Oregon.