

INTRODUCTION

This map shows (1) the current status of land classification for leaseable minerals and (2) the probability of exploration activity for leaseable minerals and associated geothermal resources. The map is based on the Geologic Map of California, 1965, and on the Geologic Map of California, 1977, which is available from the California Department of Conservation, Division of Mines, and Geology, 1500 Stockton Street, Sacramento, California 95832. The survey was compiled from published reports and from data in the files of the U.S. Geological Survey.

Leaseable Mineral Land Classifications

The mineral land classifications map depicts the status of leaseable mineral land classifications within the boundaries of the State of California. The map is based on the Geologic Map of California, 1965, and on the Geologic Map of California, 1977, which is available from the California Department of Conservation, Division of Mines, and Geology, 1500 Stockton Street, Sacramento, California 95832. The survey was compiled from published reports and from data in the files of the U.S. Geological Survey.

Mineral deposits occur in unconsolidated formations and in existing districts within the geologic provinces. In unexplored parts of a mining district, similar geologic environments may contain concealed ore bodies similar to those that were mined. Explained (known) ore bodies encourage exploration effort in rough proportion to past productivity. Therefore, in districts for which historical records are available, land-use mineral exploration is reasonably predictable.

The purpose of the map of mineral exploration potential is to indicate localities where future exploration will probably be conducted, and the degree of probability. Accordingly, the map may aid in land-use planning to a lesser extent in mineral prospecting, and possibly as a first step in resource assessment.

The map is based on geologic maps of California, and on the geologic provinces of California. The map is based on the Geologic Map of California, 1965, and on the Geologic Map of California, 1977, which is available from the California Department of Conservation, Division of Mines, and Geology, 1500 Stockton Street, Sacramento, California 95832.

Known Geothermal Resources Area (GSA)

Lands shall be classified as a Known Geothermal Resource Area if geologic data, nearby discoveries of geothermal steam or associated geothermal resources, areas of competitive interests, or pertinent engineering and economic data... indicate the probability of finding geothermal resources that will yield steam or heated fluids to wells. One or more of the following indications are prerequisite:

1. Volcanism of late Tertiary or Quaternary age especially cinder cones, cinder cones, and volcanic vents.

2. Geology, topography, and volcanism, or thermal springs at least 40° (22.2°C) greater than average ambient temperature.

3. Subsurface geothermal gradients generally in excess of two times normal, as reflected in deep water wells, oil well tests, and other test holes.

Oil and Gas

Lands shall be classified as a Known Oil and Gas Resource Area if geologic data, nearby discoveries of oil and gas, or associated geologic resources, areas of competitive interests, or pertinent engineering and economic data... indicate the probability of finding oil and gas resources that will yield oil and gas to wells. One or more of the following indications are prerequisite:

1. Volcanism of late Tertiary or Quaternary age especially cinder cones, cinder cones, and volcanic vents.

2. Geology, topography, and volcanism, or thermal springs at least 40° (22.2°C) greater than average ambient temperature.

3. Subsurface geothermal gradients generally in excess of two times normal, as reflected in deep water wells, oil well tests, and other test holes.

Known Geologic Structure (KGS)

Lands shall be classified as a Known Geologic Structure for oil and gas if they have defined boundaries or undified boundaries. A determination by the Area Oil and Gas Supervisor that a well capable of producing oil and/or gas in commercial quantities has been completed is a prerequisite.

Definition of the stratigraphic or structural unit known to contain oil or gas. Structure, stratigraphy, permeability, porosity, water or gas content, and reservoir capacity are considered in defining boundaries of areas that are prospectively available for oil and gas.

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PROSPECTIVELY AVAILABLE LANDS

Lands are classified as prospectively available for oil and gas if sufficient of the following criteria apply:

1. A section of sedimentary rocks, either sandstone or shale, with a minimum thickness of 1,000 feet (305 m).

2. The sedimentary rocks have not been metamorphosed to the extent that they are no prospects for oil and gas.

3. The sediments have not been intruded by igneous rocks to the extent that there are no prospects for oil and gas.

4. The fact that the rocks may be under a thick cover of volcanic rocks, alluvium or lacustrine deposits, and glacial debris, or other type of deposit does not eliminate them.

Basin for classification: T. R. SBGN California

Production: None

Geologic map: 18 20 34-36

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REPORTED OCCURRENCES OF SELECTED MINERALS IN THE MENDOCINO QUADRANGLE, CALIFORNIA

Index Location-SBGN No. T. R. Name(s) and (or) type of working

Mineral deposit Type Size (feet) Host rock Year Amount

Production Amount

Geology and (where available) comments

Reference

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