



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF WASHINGTON



EXPLANATION

- METALLIC AND NONMETALLIC COMMODITIES**
- A. Highly favorable geologic environment for resources of indicated commodities
 - B. Favorable geologic environment for resources of indicated commodities
 - C. Unfavorable geologic environment for resource accumulations
 - D. Insufficient data to evaluate
- Au, Ag, Cu → Commodity occurrence
- GEOHERMAL RESOURCES**
- I. Known Geothermal Resource Area (KGRA) as designated by USGS in 1978
 - II. Area of high heat flow and geothermal resource potential
 - III. Area of low-temperature geothermal resource potential
- Geo → Geothermal manifestation

MAP SHOWING MINERAL RESOURCE POTENTIAL OF
PROPOSED WILDERNESS AREAS, WASHINGTON

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This map and reference list were compiled in response to a request from the House of Representatives, United States Congress, for a mineral resource evaluation of 29 areas in Washington currently under consideration for inclusion in the National Wilderness Preservation System under provisions of the Wilderness Act of 1964 (Public Law 88-577) and related acts. These areas are outlined on the map, and the mineral resource potential is indicated by appropriate symbols.

Information on the occurrences of metallic and non-metallic commodities is largely from the USGS Mineral Resource Data System (MRDS). Deposits and occurrences of Ag, Au, Bi, Co, Cr, Cu, Fe, Hg, Mn, Mo, Ni, Pb, Sb, Se, U, V, and Zn, as well as asbestos (Asb), garnet (Grt), and limestone (Ls) are plotted. Evaluation of geothermal (Geo) and combustible fuel (coal) resources is based on a literature search of recent publications; a complete index or data file of these resources is not yet available for Washington.

Markings "A" (high potential), "B" (low-to-moderate potential), and "C" (low-to-zero potential) indicate an area's prospective potential for the commodities indicated. Usually an area marked "A" or "B" has both unpatented and patented mining claims. An extensive examination of individual county records would be required to determine the nature and number of claims in a given area. The value of areas marked "A" or "B" could be quite high. Extensive field exploration would be needed to determine the value or importance of these areas. Markings "I" (known designated geothermal resource area; KGRA - designated by USGS in 1978), "II" (area of high heat flow and geothermal resource potential), and "III" (area of low-temperature geothermal resource potential) indicate geothermal resource potential where applicable.

Some of the areas in question have been examined by the USGS. Results of these studies are summarized in U.S. Geological Survey Professional Paper 1300. Reports have been issued or will be issued for: Cougar Lakes, Goat Rocks, Mount Adams, Eagle Rock, Glacier Peak, Silver Priest, and Long Swamp (a portion of the Pasayten additions). USGS Open-File Report 83-392 indicates the status and areas of these reports.

REFERENCE LIST

Church, S. E., Hammond, P. E., and Barnes, D. J., 1983, Mineral Resource potential of the Indian Heaven Roadless Area, Skamania County, Washington: U.S. Geological Survey Open-File Report (in press).

Dings, M. G., and Whitebread, D. H., 1965, Geology and ore deposits of the Metaline zinc-lead district, Pend Oreille County, Washington: U.S. Geological Survey Professional Paper 489A, 109 p.

Everts, R. C., Ertoken, J. S., Bishop, K. R., and Benham, J. R., 1983, Mineral resource potential map of Long Swamp Roadless Area, Okanogan County, Washington: U.S. Geological Survey Miscellaneous Field Studies Map (in press).

Grant, A. R., 1969, Chemical and physical controls for base-metal deposition in the Cascade Range of Washington: Washington Division of Mines and Geology Bulletin 58, 107 p.

Hollister, V. F., 1979, Porphyry copper-type deposits of the Cascade volcanic arc, Washington: Minerals Science and Engineering, v. 11, p. 22-35.

Hunting, M. J., 1956, Inventory of Washington Minerals, Nonmetallic minerals (2nd edition): Washington Division of Mines and Geology Bulletin 37, Part II, 495 p.

_____, 1960, Inventory of Washington Minerals (2nd edition): Washington Division of Mines and Geology Bulletin 37, Part I, 258 p.

Hunting, M. J., Bennett, M. A. G., Livingston, V. E., Jr., and Moen, W. S., 1961, Geologic map of Washington: Washington Division of Mines and Geology, scale 1:500,000.

Kroemer, M. A., Kaler, K. L., Schuster, J. E., Bloomquist, R. C., Simpson, S., and Blackwell, D. D., 1981, Geothermal resources of Washington: Washington Division of Geology and Earth Resources Map GN-25, scale 1:500,000.

Lawson, W. A., and Everts, R. C., 1983, Map showing the status of mineral resource potential evaluation of wilderness and roadless areas, Washington: U.S. Geological Survey Open-File Report 83-392, scale 1:1000,000.

Livingston, V. E. Jr., 1971, Geology and mineral resources of King County, Washington: Washington Division of Mines and Geology, Bulletin 63, 200 p.

Magill, E. A., 1960, Manganese deposits of the Olympic Peninsula, Washington: U.S. Bureau of Mines Report of Investigations 5330, 82 p.

MacFarland, C. R., 1981, Oil and gas exploration in Washington, 1900-1981: Washington Department of Natural Resources, Division of Geology and Earth Resources Information Circular 67R, 119 p.

Miller, F. K., Schaub, S. W., and Rodriguez, E. A., 1982, Mineral resource potential map of the Salmo-Priest Wilderness Study Area (RARE 86-981 A1-981), Pend Oreille County, Washington: U.S. Geological Survey Miscellaneous Field Studies Map MF-1192, scale 1:68,000.

Moen, W. S., 1978, Mineral resource maps of Washington: Washington Division of Geology and Earth Resources Map GN-22, scale 1:1,000,000.

_____, 1968, Mines and mineral deposits of Whatcom County, Washington: Washington Department of Natural Resources, Division of Mines and Geology Bulletin No. 57, 134 p.

Park, C. F., Jr., 1963, Geology and ore deposits of the Metaline Quadrangle, Washington: U.S. Geological Survey Professional Paper 202, 81 p.

Rinehart, C. D., and Fox, K. F. Jr., 1972, Geology and mineral deposits of the Loomis Quadrangle, Okanogan County, Washington: Washington Division of Mines and Geology Bulletin 64, 124 p.

Simmons, G. C., VanMoy, R. M., and Zilka, N. T., 1974, Mineral resources of the Cougar Lakes-Mount Aix area, Yakima and Lewis Counties, Washington, with a section on aeromagnetic data by W. E. Davis: U.S. Geological Survey Open-File Report 74-243, 79 p.

U.S. Forest Service, 1979, Washington roadless and undeveloped area evaluation II (RARE II), final environmental statement: U.S. Forest Service map, scale 1:1,000,000.

This map is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature.