DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

BULLETIN 1739-B
PLATE 1

MINERAL RESOURCE POTENTIAL MAP OF THE ALVORD DESERT AND EAST ALVORD WILDERNESS STUDY AREAS, HARNEY AND MALHEUR COUNTIES, OREGON

M/B Au, Ag, Hg
L/B B [1, 2]

M/C Geo

APPROXIMATE BOUNDARY OF EAST ALVORD WILDERNESS STUDY AREA (OR-002-073A)

L/B Geo

L/B O, G
L/B U [3] (entire study area)

L/B Au, Ag, Hg, B [1, 2]

L/B Au, Ag [1]

M/B Au
Ag, Hg [1, 2]

L/B Au, Ag, Hg, B [1]

M/C Geo

L/B O, G (entire study area)
L/B U [3] (entire study area)

APPROXIMATE BOUNDARY OF ALVORD DESERT WILDERNESS STUDY AREA (OR-002-074)

Geologic mapping by W. A. Lawson, 1986

EXPLANATION

Area having moderate mineral resource potential (M)

Area having low mineral resource potential (L)

Commodities

Au	Gold
Ag	Silver
Geo	Geothermal
Hg	Mercury
B	Boron
O, G	Oil and Gas
U	Uranium

[ ] Deposit types

1	Epithermal or hot-spring gold and silver in volcanic and volcaniclastic rocks
2	Epithermal mercury in volcanic and volcaniclastic rocks
3	Volcanogenic uranium

Base from U.S. Geological Survey, 1:24,000, Ancient Lake Well, Coyote Lake East, Coyote Lake West, Mickey Springs, Miranda Flat, Miranda Flat Southeast, Miranda Flat Southwest, Tule Springs, Tule Springs Northeast, 1981
Universal Transverse Mercator projection

SCALE 1:50 000

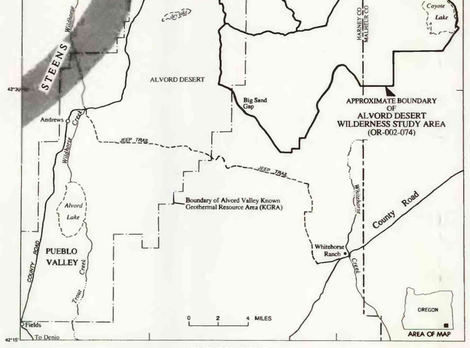
1 1/2 0 1 2 3 4 5 MILES

1 .5 0 1 2 3 4 5 6 7 KILOMETERS

CONTOUR INTERVAL 10 FEET
SUPPLEMENTARY CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

17°
TRUE NORTH
MAGNETIC NORTH
APPROXIMATE MEAN DECLINATION, 1989

OREGON
AREA OF MAP



INDEX MAP

CORRELATION OF MAP UNITS

Qal, Qd	HOLOCENE	QUATERNARY	CENOZOIC
QTb			
Tts, Tb	MIOCENE	TERTIARY	
Toc			
Ta			
Ts			

DESCRIPTION OF MAP UNITS

Qal	Alluvium (Quaternary)
Qd	Dune sand and eolian deposits (Quaternary)
QTb	Younger basalt (Tertiary)--Some original flow morphology preserved
Tts	Tuffaceous sediments (Tertiary)--Includes lacustrine sedimentary rocks, air-fall tuffs, and water-reworked ash interbedded with discontinuous outcrops of basalt and the tuff of Whitehorse Creek
Tb	Older basalt (Tertiary)--Discontinuous outcrops interbedded with tuffaceous sediments of Tts
Toc	Ash-flow Tuff of Oregon Canyon (Tertiary)
Ta	Andesite flows with interstratified pyroclastic rocks and tuffaceous sediments (Tertiary)
Ts	Steens Basalt (Tertiary)

Contact--Dashed where approximate

Normal fault--Dashed where approximate; dotted where concealed. Bar and ball on downthrown side

Strike and dip of bed

DEFINITION OF LEVELS OF MINERAL RESOURCE POTENTIAL AND CERTAINTY OF ASSESSMENT

LEVELS OF RESOURCE POTENTIAL

- H **HIGH** mineral resource potential is assigned to areas where geologic, geochemical, and geophysical characteristics indicate a geologic environment favorable for resource occurrence, where interpretations of data indicate a high degree of likelihood for resource accumulation, where data support mineral-deposit models indicating presence of resources, and where evidence indicates that mineral concentration has taken place. Assignment of high resource potential to an area requires some positive knowledge that mineral-forming processes have been active in at least part of the area.
- M **MODERATE** mineral resource potential is assigned to areas where geologic, geochemical, and geophysical characteristics indicate a geologic environment favorable for resource occurrence, where interpretations of data indicate reasonable likelihood for resource accumulation, and (or) where an application of mineral-deposit models indicates favorable ground for the specified type(s) of deposits.
- L **LOW** mineral resource potential is assigned to areas where geologic, geochemical, and geophysical characteristics define a geologic environment in which the existence of resources is permissive. This broad category embraces areas with dispersed but insignificantly mineralized rock, as well as areas with little or no indication of having been mineralized.
- N **NO** mineral resource potential is a category reserved for a specific type of resource in a well-defined area.
- U **UNKNOWN** mineral resource potential is assigned to areas where information is inadequate to assign a low, moderate, or high level of resource potential.

LEVELS OF CERTAINTY

- A Available information is not adequate for determination of the level of mineral resource potential.
- B Available information only suggests the level of mineral resource potential.
- C Available information gives a good indication of the level of mineral resource potential.
- D Available information clearly defines the level of mineral resource potential.

LEVEL OF RESOURCE POTENTIAL \ LEVEL OF CERTAINTY	A	B	C	D
	U/A	H/B HIGH POTENTIAL	H/C HIGH POTENTIAL	H/D HIGH POTENTIAL
		M/B MODERATE POTENTIAL	M/C MODERATE POTENTIAL	M/D MODERATE POTENTIAL
	UNKNOWN POTENTIAL	L/B LOW POTENTIAL	L/C LOW POTENTIAL	L/D LOW POTENTIAL
				N/D NO POTENTIAL

Abstracted with minor modifications from:

Taylor, R.B., and Steven, T.A., 1983, Definition of mineral resource potential: Economic Geology, v. 78, no. 6, p. 1268-1270.
Taylor, R.B., Stoneman, R.J., and Marsh, S.P., 1984, An assessment of the mineral resource potential of the San Isabel National Forest, south-central Colorado: U.S. Geological Survey Bulletin 1638, p. 40-42.
Cavaliere, C.H., compiler, 1984, Guide to preparation of mineral survey reports on public lands: U.S. Geological Survey Open-File Report 84-0787, p. 7, 8.