

BRITISH COLUMBIA DEPARTMENT of MINES and PETROLEUM RESOURCES

LEGEND

AREA CLASS

Area containing orebodies in production or about to go into production; geologic environment highly favourable;

area of intensive exploration.

l A large deposits known or probable l B medium deposits known or probable l C small deposits known or probable

Some deposits known; type of occurrence and geological environment favourable; some exploration at advanced stages; continued exploration.

> 2 A large deposits possible 2 B medium deposits possible 2 C small deposits possible

No significant deposits known; geological environment 3 favourable; present and future exploration likely.

> 3 A large deposits possible 3 B medium deposits possible 3 C small deposits possible

Some indication of mineral potential; geological status indeterminate at present; exploration possible.

> No indication of mineral potential; exploration unlikely. Sand, gravel, clay, alluvium, till or drift which cover

> > areas of varied mineral potential.

LOCATION AND SIZE

D

Mineral deposit of known significance. Number refers Small Medium Large ⊙2 ⊖5 ●8 to descriptive notes.

Former mine. Known reserves depleted. Location of mineral deposit of unknown or minor Χ6 significance. A few deposits are numbered and described

in notes.

LODE METAL DEPOSITS ⊙ ⊕ ●

Metal symbols: Mo-molybdenum Au-gold Pb-lead Ag-silver Sb-antimony Cu-copper U-uranium Cr-chromium W-tungsten Fe-iron Zn-zinc Hg-mercury Mn-manganese

Listed adjacent to deposit symbol in order of dollar value for individual deposits.

OTHER DEPOSITS

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Placer area or locality. Gold placer unless designated as: (0) 0 Pt-platinum, U-radioactive minerals.

Location of industrial mineral deposit. Symbols:

> mg-Magnesite asb-Asbestos m-Marl ash-Volcanic ash nal-Natro-alunite ba-Barite perl-Perlite be-Beryl pyo-Pyrophyllite bls-Bloating shale salt-Sodium chloride diat-Diatomite si-Silica fl-Fluorite sl-Saline lake deposits gnl-Granules stn-Building stone gr-Graphite t-Talc gyp-Gypsum trav-Travertine ja-Jade ls-Limestone

Maximum extent of limestone-bearing formations where considered economically significant.

Maximum extent of coal-bearing formations. Coal exposure

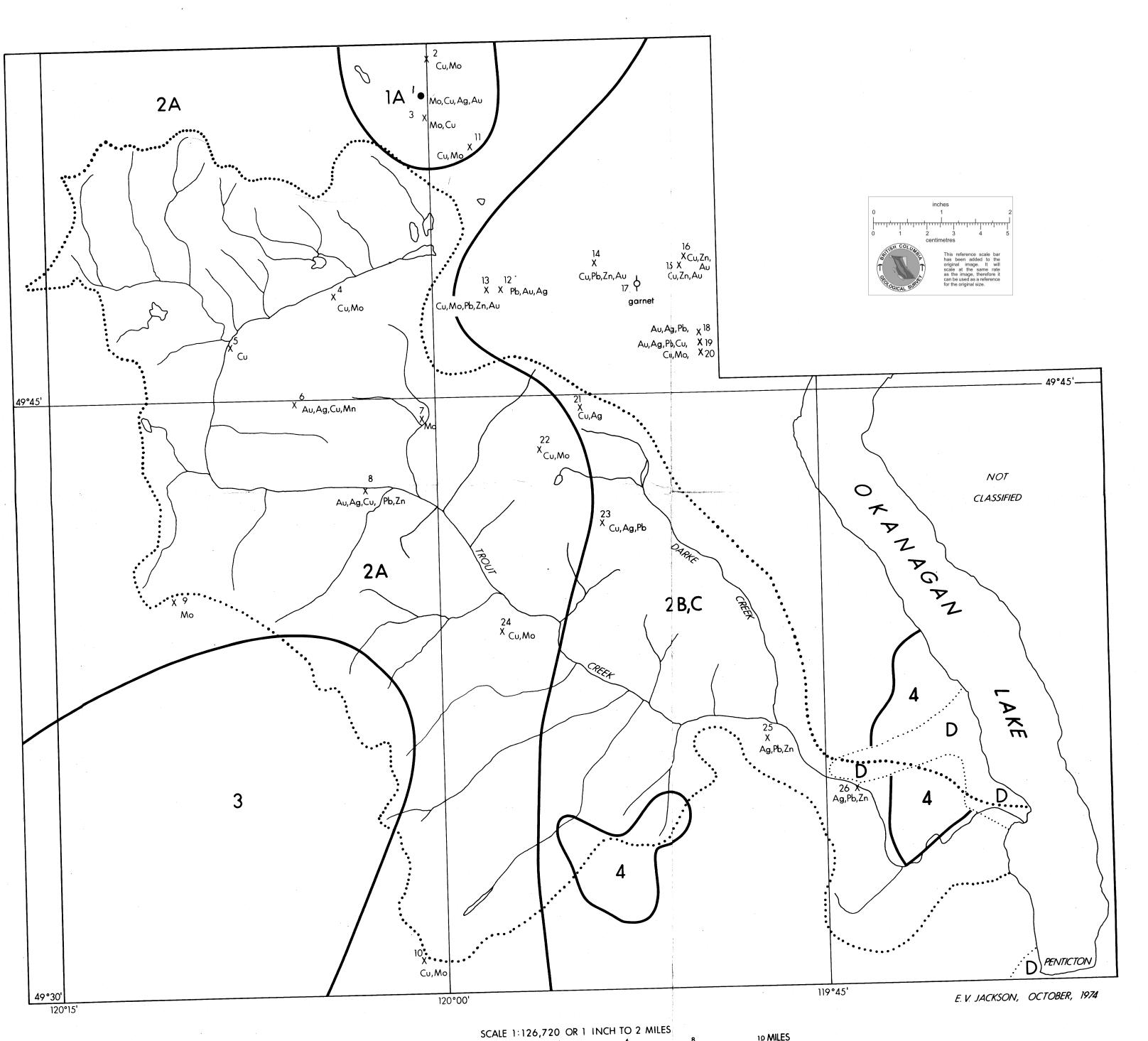
Boundary of probability area. Approximate boundary of Regional District.

Estimated area of potential petroleum or natural

ф Approximate boundary, Trout Creek basin.

gas reserves. Abandoned hole drilled for petroleum or natural gas.

MINERAL DEPOSIT - LAND USE MAP



EXPLANATION

PURPOSE: The map is an appraisal of mineral potential to be used as an aid in evaluation and overall land use studies. It shows the location and extent of regions in which mining activities exist or can be expected.

The map is based on research using available files (particularly the B.C. Mineral Inventory File), publications, and geological maps.

CLASSIFICATION: The two parameters used to classify regions on this map are probability and size.

Probability is the Ekelihood of finding an orebody. It is estimated on the basis of an evaluation of the geological environment (including geophysical and geochemical data where available) and the aerial distribution, geological type, and number of mines and prospects a given area contains. A basic assumption is that areas of favourable geology containing the greatest density of mineral deposits or extensions of such areas based on similar geology have the highest probability of containing economically viable deposits.

In areas of no known deposits, an evaluation of the geological environment alone (i.e., rock type, structure, age, extent, etc.) is used to estimate the probability and size parameter.

Areas of class l probability are based on deposits of known value, normally producing or past producing mines or properties at an advanced stage of evaluation or development. The boundaries are based on the known or most likely geological factors which control ore distribution, such as fault or sheer zones; specific plutonic rock types and in some cases their age and lithologic subdivisions; the type, composition, structural complexity, and age of the intruded rocks; and the degree of regional or localized thermal metamorphism.

Areas of class 2 probability are based on the same parameters although details of the geology of the mineral deposits are normally far less complete.

Areas of class 3 and class 4 probability are delimited on the basis of geological boundaries. Usually class 3 areas contain localized areas of higher potential or are adjacent to similar environments of higher potential. Class 4 areas are confined to geologically less promising terrains.

Areas of class 5 probability may be poorly defined with no discrete boundaries. They generally include regions which are geologically unlikely (although in some cases capable) of being mineralized. Because they may have received little attention from exploration companies, the amount of information available on possible mineral occurrences is very limited. They are not considered, at present, worthy of more than reconnaissance mineral exploration.

Areas of alluvium, sand, gravel, or till of Recent or Pleistocene age mask bedrock geology and deposits, yet some mineral deposits may be discerned in underlying bedrock by geophysical or geochemical methods. Placer deposits are enclosed in alluvial material, and such material may provide sand and gravel for local construction needs.

Size is based on the total amount of metal in or removed from the ground portrayed as a dollar value using the following prices. These are not normally the prices received by producers or past producers, but they yield comparative values for geological extrapolation.

silver, \$2.00 per ounce mercury, \$6.58 per pound molybdenum, \$1.50 per pound MoS₂ tungsten, \$2.15 per pound WO₃ copper, 50 cents per pound gold, \$100.00 per ounce iron ore, \$8.00 per ton with 60 per cent Fe

lead and zinc, 15 cents per pound nickel, \$1.35 per pound Cut-off grades generally applicable in 1972 are used when possible, yet some calculations for deposits in a preliminary exploration stage are based on 1972 sub-marginal grades. Future cut-off grades of large tonnage properties will likely decrease, a factor which should be considered in terms of future land use.

A - Large - equivalent value more than \$500 million B - Medium - equivalent value \$25 million to \$500 million C - Small - equivalent value \$0.5 million to \$25 million

In most instances, insufficient information is available to make valid calculations and the size must be estimated from comparisons with similar types of occurrences in comparable geological terrains. This method is more commonly used in elevating partially investigated occurrences to the small size category.

DESCRIPTION OF MINERAL DEPOSITS

1. BRENDA MINE Porphyry, 34, 292, 074 tons mined, 1970 - 1973. Production - 31,740 tons molybdenite concentrate; 130, 593, 066 1b. Cu; 1,083,079 oz., Ag; 15,682 oz., Au. Reserves (Dec. 31, 1973) - 136,637,000 tons: 0.179% Cu, 0.077% MoS₂.

2. NORTH BRENDA Porphyry. (Cu, Mo) Porphyry. (Mo, Cu)

.3. <u>MAC</u> Porphyry. (Cu, Mo) 4. MYRTLE, CHUB Skarn. (Cu) 5. <u>TC.</u>

6. KATHLEEN MOUNTAIN Silicified shear zone. (Au, Ag, Cu,Mn)

Porphyry. (Mo) 7. DECANO Vein. (Au, Ag, Cu, Pb, Zn) 8. JESSIE Porphyry. (Mo)

9. EMPRESS Porphyry. (Cu, Mo) 10. <u>heD</u> Porphyry. (Cu, Mo) 11. <u>WP - CATI</u>

12. ALMA MATER (RAT 22) Silicified shears. (Pb, Au, Ag)

13. SILVER KING (RAT 1) Silicified shears. (Cu, Mo, Pb, Zn, Au)

14. IRON HOPSE Skarn, vein (Cu, Pb, Zn, Au) 15. BLUEBELL (PATRICIA; TED 2)

Skarn. (Cu, Zn, Au)

16. BLUEBELL (PATRICIA; TED 3,4)

Skarn. (Cu, Zn, Au) 17. ---- (garnet)

18. LITTLE DUNCAN Vein. (Au, Ag, Pb) Vein. (Au, Ag, Pb, Cu) Vein, Sheer. (Cu, Mo) 20. <u>SID</u> Shear. (Cu, Ag) 21. CACHE

Porphyry. (Cu, Mo) 22. <u>JASS</u> Vein. (Cu, Ag, Pb) 23. <u>GLAD</u> Porphyry. (Cu, Mo) 24. <u>X</u>

25. BATHFIELD SILVER LODE

Vein. One ton mined, 1939. Production - 19 oz. Ag; 65 lb. Pb; 30 lb. Zn Shear, vein. 2 tons milled,

1926 - 1927. Production - 89 oz. Ag; 153 lb. Pb; 141 lb. Zn

Base Geology Sources

Carr, J. M. (1967): The Geology of the Brenda Lake Area, B. C. Dept. of Mines and Pet. Res., M.M.A.R. 1967, pp. 183 - 210.

Little, H. W. (1961): Geology of Kettle River (West Half), Geol. Surv., Canada, Map 15-1961.

Rice, H.M.A. (1947): Geological Map of Princeton Area, Geol. Surv., Canada, Map 888A.

82E/12E,12W,13W 92H/9E, 16E

To accompany "Mineral Potential of Trout Creek Basin! E. V. Jackson, Oct. 15, 1974