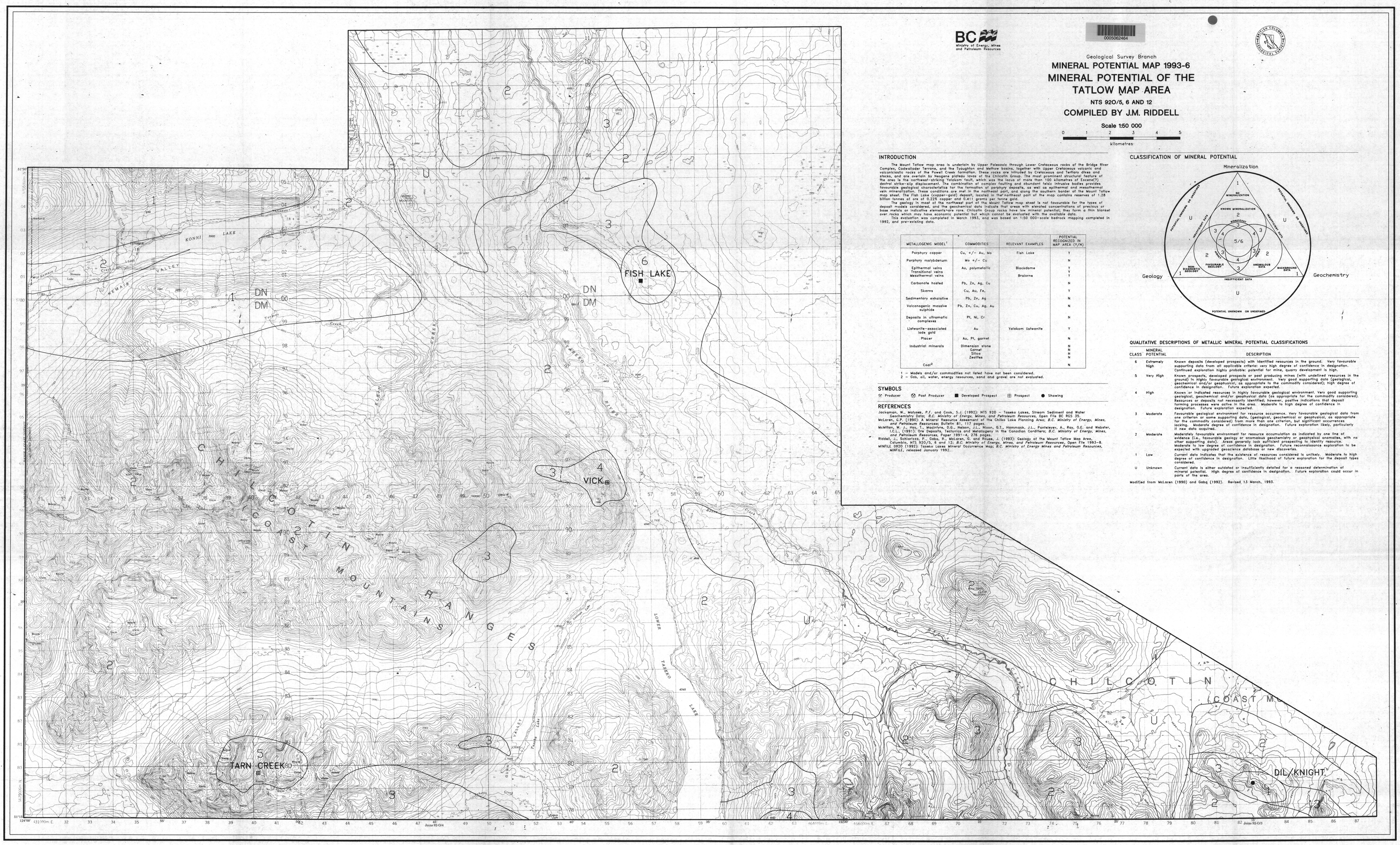

BC Ministry of Energy, Mines and Petroleum Resources

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Geological Survey Branch

MINERAL POTENTIAL MAP 1993-6

MINERAL POTENTIAL OF THE TATLOW MAP AREA

NTS 920/5, 6 AND 12

COMPILED BY J.M. RIDDELL

Scale 1:50 000

0 1 2 3 4 5

kilometres

INTRODUCTION

The Mount Tatlow map area is underlain by Upper Paleozoic through Lower Cretaceous rocks of the Bridge River Complex, Cadwallader Terrane, and the Tyaughton and Methow basins, together with Upper Cretaceous volcanic and volcaniclastic rocks of the Powell Creek formation. These rocks are intruded by Cretaceous and Tertiary dikes and stocks, and are overlain by Neogene plateau lavas of the Chilcotin Group. The most prominent structural feature of the area is the northwest-striking Yalakom fault, which was the locus of more than 100 kilometres of Eocene(?) dextral strike-slip displacement. The combination of complex faulting and abundant felsic intrusive bodies provides favourable geological characteristics for the formation of porphyry deposits, as well as epithermal and mesothermal vein mineralization. These conditions are met in the northeast part, and along the southern border of the Mount Tatlow map area. The Fish Lake porphyry copper prospect in the northeast part of the map contains reserves of 1.28 billion tonnes at ore of 0.22% copper and 0.41 grams per tonne gold.

The geology in most of the northwest part of the Mount Tatlow map sheet is not favourable for the types of deposit models considered, and the geochemical data indicate that areas with elevated concentrations of precious or base metals or indicative elements are rare. Chilcotin Group rocks have low mineral potential; they form a thin blanket over rocks which may have economic potential but which cannot be evaluated with the available data.

This evaluation was completed in March 1993, and was based on 1:50 000-scale bedrock mapping completed in 1992, and pre-existing data.

METALLOGENIC MODEL[1]	COMMODITIES	RELEVANT EXAMPLES	POTENTIAL RECOGNIZED IN MAP AREA (Y/N)
Porphyry copper	Cu, +/- Au, Mo	Fish Lake	Y
Porphyry molybdenum	Mo +/- Cu		N
Epithermal veins	Au, polymetallic	Blackdome	Y
Transitional veins			Y
Mesothermal veins		Bralorne	Y
Carbonate hosted	Pb, Zn, Ag, Cu		N
Skarns	Cu, Au, Fe,		Y
Sedimentary exhalative	Pb, Zn, Ag		N
Volcanogenic massive sulphide	Pb, Zn, Cu, Ag, Au		N
Deposits in ultramafic complexes	Pt, Ni, Cr		N
Listwanite-associated lode gold	Au	Yalakom listwanite	Y
Placer	Au, Pt, garnet		N
Industrial minerals	Dimension stone		N
	Garnet		N
	Silica		N
	Zeolites		N
Coal[2]			N

1 – Models and/or commodities not listed have not been considered.
2 – Gas, oil, water, energy resources, sand and gravel are not evaluated.

SYMBOLS

Producer · Past Producer · Developed Prospect · Prospect · Showing

REFERENCES

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CLASSIFICATION OF MINERAL POTENTIAL

QUALITATIVE DESCRIPTIONS OF METALLIC MINERAL POTENTIAL CLASSIFICATIONS

CLASS	MINERAL POTENTIAL	DESCRIPTION
6	Extremely High	Known deposits (developed prospects) with identified resources in the ground. Very favourable supporting data from all applicable criteria; very high degree of confidence in designation. Continued exploration highly probable; potential for mine, quarry development is high.
5	Very High	Known prospects, developed prospects or past producing mines (with undefined resources in the ground) in highly favourable geological environment. Very good supporting data (geological, geochemical and/or geophysical, as appropriate to the commodity considered); high degree of confidence in designation. Future exploration expected.
4	High	Known or indicated resources in highly favourable geological environment. Very good supporting geological, geochemical and/or geophysical data (as appropriate for the commodity considered). Resources or deposits not necessarily identified; however, positive indications that deposit forming processes were active in the area. Moderate to high degree of confidence in designation. Future exploration expected.
3	Moderate	Favourable geological environment for resource occurrence. Very favourable geological data from one criterion or some supporting data, (geological, geochemical or geophysical, as appropriate for the commodity considered) from more than one criterion, but significant occurrences lacking. Moderate degree of confidence in designation. Future exploration likely, particularly if new data acquired.
2	Moderate	Moderately favourable environment for resource accumulation as indicated by one line of evidence (i.e., favourable geology or anomalous geochemistry or geophysical anomalies, with no other supporting data). Areas generally lack sufficient prospecting to identify resource. Moderate to low degree of confidence in designation. Future reconnaissance exploration to be expected with upgraded geoscience databases or new discoveries.
1	Low	Current data indicates that the existence of resources considered is unlikely. Moderate to high degree of confidence in designation. Little likelihood of future exploration for the deposit types considered.
U	Unknown	Current data is either outdated or insufficiently detailed for a reasoned determination of mineral potential. High degree of confidence in designation. Future exploration could occur in parts of the area.

Modified from McLaren (1990) and Gaba (1992). Revised 13 March, 1993.