BC Ministry of Energy, Mines and Petroleum Resources

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Geological Survey Branch

MINERAL POTENTIAL MAP 1993-1

MINERAL POTENTIAL OF THE MAHATTA CREEK MAP AREA

92L/5

By J.L. Hammack and G.T. Nixon

Scale 1:50 000

0 1 2 3 4 5

kilometres

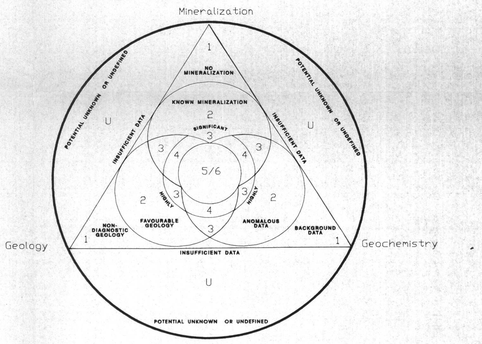
INTRODUCTION

Northern Vancouver Island has been a locus of mining exploration and activity since 1887. The region hosts the largest mine on Vancouver Island, the Island Copper open pit operation which has been a major producer of copper and molybdenum ore since 1971 and is scheduled for closure in 1996. Exploration has recently increased in the area in response to this closure in a search for new base and precious metal ore to supply the existing milling facilities. The prime economic metalliferous targets in the area are:

- Iron–copper–molybdenum (+/– gold) skarns hosted in limestone and ilmey–tuffs of the Bonanza and Vancouver Groups.
- Precious–metal–bearing epithermal systems within rocks of the Bonanza and Vancouver Groups.
- Copper–molybdenum porphyry stockworks within rocks of the Bonanza Group.
- Gold–enriched high–sulphidation systems transitional between porphyry and epithermal environments within the rocks of the Bonanza Group.
- Precious–metal–bearing mesothermal systems hosted in rocks of the Bonanza and Vancouver Groups.
- Manto–type deposits within limestones of the Parson Bay and Quatsino Formations.

Mahatta Creek map area is located near the northwestern extremity of Vancouver Island, due west of Port Alice. This mineral potential evaluation is based upon regional mapping completed in 1992 at a 1:50 000 scale. The area hosts one past producing metalliferous mine, the Yreka mine, situated just west of Neroutsos Inlet. Industrial minerals known to occur in the area include limestone of the Quatsino Formation, which has been quarried east of Neroutsos Inlet, as well as iron and garnet associated with skarns.

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 database 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 Gabe (1992). Revised 13 March, 1993.

METALLOGENIC MODEL[1]	COMMODITIES	RELEVANT EXAMPLES	POTENTIAL RECOGNIZED IN MAP AREA (Y/N)
Porphyry	Cu, Mo, Au	Island Copper Mine (92L/11)	Y
Epithermal veins	Au, Ag, Pb, Zn, Cu	Zeballos Gold Camp (92L/3)	Y
Transitional veins			Y
Mesothermal veins		Mt McIntosh (92L/12)	Y
Carbonate hosted (Manto)	Ag, Pb, Zn, Au	HPH Showing (92L/12)	Y
Skarn	Cu, Au, Fe, Garnet	Yreka Mine	Y
Sedimentary exhalative	Pb, Zn, Ag	None	Y
Volcanogenic massive sulphide	Pb, Zn, Cu, Ag, Au	None	N
Industrial minerals	Limestone	Jeune Landing Quarry	Y

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

SYMBOLS

⚒ Producer ⚒ Past Producer ■ Developed Prospect ⊞ Prospect ● Showing

REFERENCES

Matysek, P., Gravel, J.L., Jackaman, W. (1989): 1988 Regional Geochemical Survey, NTS 92L/10,21 – Alert Bay/ Cape Scott, British Columbia Regional Geochemical Survey RGS–23, GSC Open File 2040, 1:250 000 map series.

MINFILE (1989): Alert Bay & Cape Scott Mineral Occurrence Map (July/89): *B. C. Ministry of Energy, Mines and Petroleum Resources*, MINFILE map.

Nixon, G.T., Hammack, J.L., Hamilton, J.V. and Jennings, H. (1993a): Preliminary Geology of the Mahatta Creek Area, northern Vancouver Island, *B. C. Ministry of Energy, Mines and Petroleum Resources*, Open File 1993–10.

– (1993b): Preliminary Geology of the Mahatta Creek Area, northern Vancouver Island, *B. C. Ministry of Energy, Mines and Petroleum Resources*, Geological Fieldwork 1992, Paper 1993–1, pages 17–35.