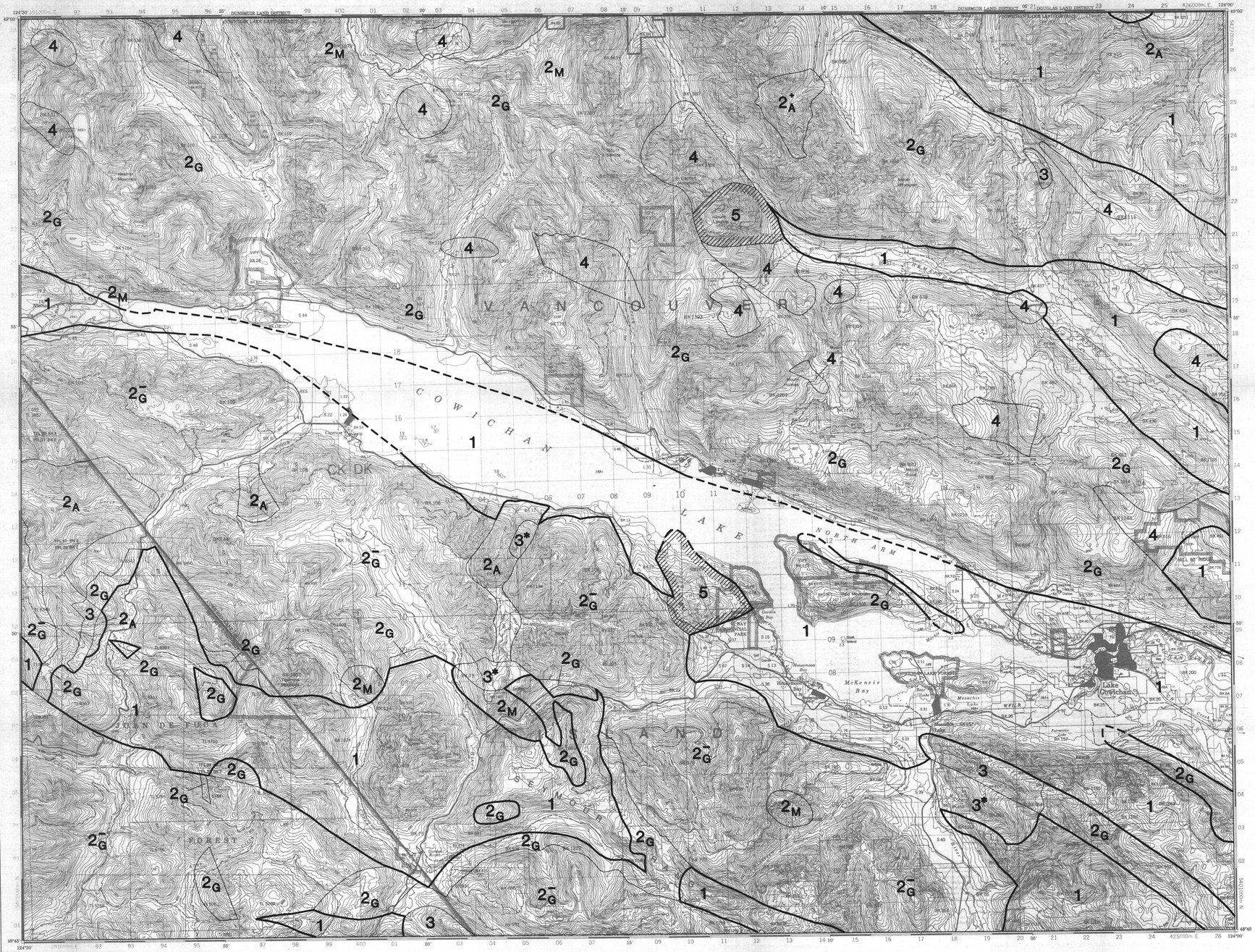

Energy, Mines and Resources Canada

BC Province of British Columbia

This project is a contribution to the Canada/British Columbia Mineral Development Agreement, 1985–1990.

BC Ministry of Energy, Mines and Petroleum Resources

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BRITISH COLUMBIA GEOLOGICAL SURVEY

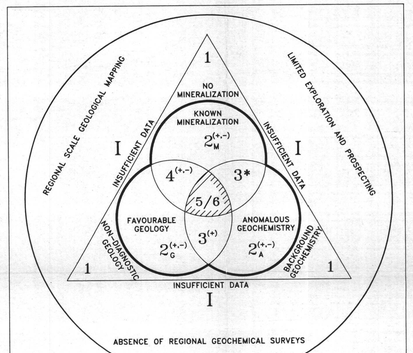
MINERAL POTENTIAL MAP 1992–2

MINERAL POTENTIAL OF THE COWICHAN LAKE AREA NTS 92C/16

BY N.W.D. MASSEY

KILOMETRES 0 1 2 3 4 KILOMETRES

SCALE 1 : 50 000



PLUS AND MINUS SIGNS (+,–) ARE USED TO INDICATE LOCALIZED AREAS OF MORE OR LESS FAVOURABLE DATA. SUBSCRIPTS IN CLASS 2 DESIGNATIONS DEFINE THE SINGLE TYPE OF FAVOURABLE DATA.

CLASSIFICATION OF MINERAL POTENTIAL

(AMENDED FROM McLAREN, 1990)

QUALITATIVE DESCRIPTIONS OF MINERAL POTENTIAL CLASSIFICATIONS

Class	Mineral Potential	Description
6	Very High	Known deposits with identified resources in the ground. Favourable supporting data from all three sources; high degree of confidence in designation. Continued exploration highly probable; potential for mine development is high.
5	High	Known occurrences in highly favourable metallogenic environment. Supporting data from all three sources; high degree of confidence in designation. May include known deposits or past producing mines with unknown resources in the ground. Future exploration highly probable.
4	Moderate to high	Known or indicated mineral resources in favourable geological environment. Supporting data from these two sources specifically; moderate degree of confidence in designation. Future exploration to be expected.
3	Moderate to high	Favourable geological and geochemical environment, but significant mineral occurrences lacking. Supportive data from these two sources; moderate degree of confidence in designation. Future exploration likely, particularly if near areas of higher potential.
2	Moderate	Supporting data from one of three sources, usually geological or geochemical; areas generally lack sufficient prospecting to identify mineralization. Moderate to low degree of confidence in designation. Reconnaissance exploration to be expected. Good potential for upgrading of classification.
1	Low	Current data is non-diagnostic for favourable metallogenic environment. Moderate to high degree of confidence in designation. Little likelihood for future exploration for deposit types considered.
I	Indeterminate	Current data is either outdated or insufficiently detailed for a reasoned determination of mineral potential. High degree of confidence in designation. Future exploration to be expected in portions of the area.

NOTE: THIS CLASSIFICATION HAS BEEN APPLIED ONLY TO METALLIC MINERAL DEPOSITS AND SOME INDUSTRIAL MINERALS (RHODONITE, LIMESTONE). INSUFFICIENT DATA ARE AVAILABLE AT THIS TIME TO ADEQUATELY ASSESS THE POTENTIAL FOR OTHER INDUSTRIAL MINERALS, OR THE FUELS

INTERPRETIVE NOTES FOR USERS

Minerals are unique among British Columbia's natural resources because they cannot be seen and can only be directly inventoried after a long and expensive exploration process. In areas with a history of exploration and mining, sufficient data may be available to confirm that a mineral resource does exist, even if in currently uneconomic quantities (for example, the Blue Grouse area near Gordon Bay). However, much of the province's inventory of undiscovered mineral resource consists only of an estimation of the potential for the occurrence of a mineral deposit. This mineral potential map of the Cowichan Lake area reflects these varying levels of certainty in our knowledge of the mineral inventory.

The geologic processes that create mineral deposits are becoming increasingly well known. Numerous models describing how mineral deposits form have been developed in recent years, based on experience gained from studying known deposits as they are explored and mined. Mineral potential estimates focus on matching the geological features of a specific area with those of a mineral deposit model. The features used in the mineral potential classification here are geological characteristics, geochemical characteristics and the presence or absence of known mineral occurrences. In the classification diagram, a higher mineral potential classification is given to areas with more features that satisfy the deposit model.

Land use planners and resource managers using this map must recognize that mineral potential evaluations are not hard and fast statements of fact. These statements are dynamic and variable and will change with additional geological information. More often than not, mineral potential ratings will be either confirmed or increased with new knowledge. Gathering new geological information may be stimulated for many reasons, such as more prospecting, better access to the area, technological advances or updated government surveys. Periodic reassessments of the mineral potential ratings assigned here will be undertaken as new information becomes available. Specifically, areas with moderate or moderate to high mineral potential (Classes 2, 3 and 4) can be expected to cover areas of future mineral discoveries and this must be accounted for in land use planning.

REFERENCES:

McLAREN, G.P. (1990): A Mineral Resource Assessment of the Chilko Lake Planning Area; B.C. Ministry of Energy, Mines and Petroleum Resources, Bulletin 81

MASSEY, N.W.D., (1992): Geology and Mineral Resources of the Cowichan Lake Sheet, Vancouver Island, (92C/16); B.C. Ministry of Energy Mines and Petroleum Resources, Paper 1992–3.

MASSEY, N.W.D., FRIDAY, S.J., TERCIER, P.E., and RUBLEE, V.J. (1991): Geology of the Cowichan Lake Area, NTS 92C/16, B.C. Ministry of Energy, Mines and Petroleum Resources, Geoscience Map 1992–2, scale 1 : 50 000.

MATYSEK, P.F., GRAVEL, J.L., JACKAMAN, W. AND FEULGEN, S. (1990) British Columbia Regional Geochemical Survey, Stream Sediment and Water Geochemical Data, Victoria/Cape Flattery – NTS 92B/92C, Data Booklet; B.C. Ministry of Energy, Mines and Petroleum Resources, RGS 24.

MINFILE (1990): Cape Flattery Mineral Occurrence Map, NTS 92C (June/90); B.C. Ministry of Energy, Mines and Petroleum Resources, MINFILE data.