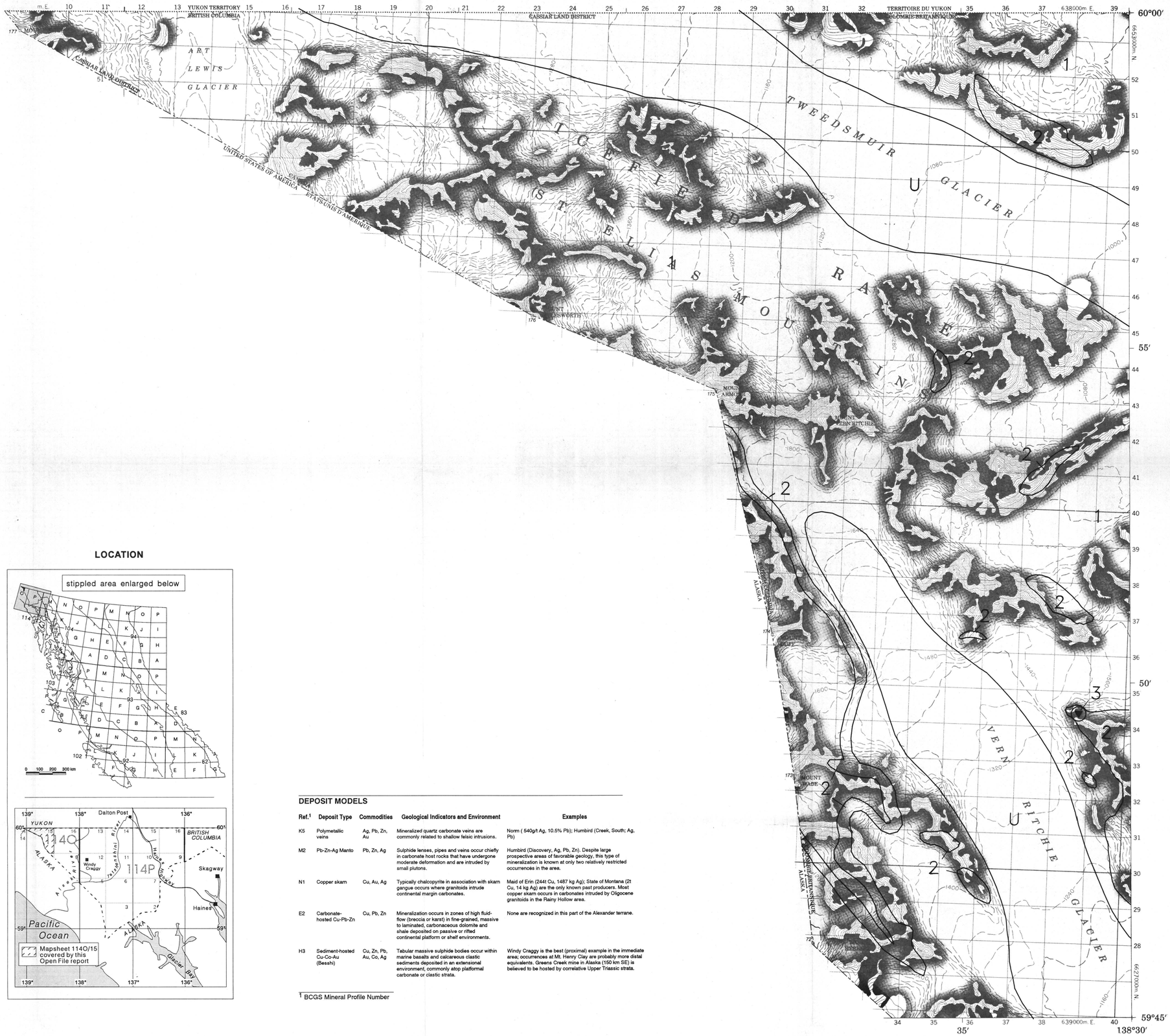


LOCATION

DEPOSIT MODELS

Ref.[1]	Deposit Type	Commodities	Geological Indicators and Environment	Examples
K5	Polymetallic veins	Ag, Pb, Zn, Au	Mineralized quartz carbonate veins are commonly related to shallow felsic intrusions.	Norm (540g/t Ag, 10.5% Pb); Humbird (Creek, South; Ag, Pb)
M2	Pb-Zn-Ag Manto	Pb, Zn, Ag	Sulphide lenses, pipes and veins occur chiefly in carbonate host rocks that have undergone moderate deformation and are intruded by small plutons.	Humbird (Discovery, Ag, Pb, Zn). Despite large prospective areas of favorable geology, this type of mineralization is known at only two relatively restricted occurrences in the area.
N1	Copper skarn	Cu, Au, Ag	Typically chalcopyrite in association with skarn gangue occurs where granitoids intrude continental margin carbonates.	Maid of Erin (244t Cu, 1487 kg Ag); State of Montana (2t Cu, 14 kg Ag) are the only known past producers. Most copper skarn occurs in carbonates intruded by Oligocene granitoids in the Rainy Hollow area.
E2	Carbonate-hosted Cu-Pb-Zn	Cu, Pb, Zn	Mineralization occurs in zones of high fluid-flow (breccia or karst) in fine-grained, massive to laminated, carbonaceous dolomite and shale deposited on passive or rifted continental platform or shelf environments.	None are recognized in this part of the Alexander terrane.
H3	Sediment-hosted Cu-Co-Au (Besshi)	Cu, Zn, Pb, Au, Co, Ag	Tabular massive sulphide bodies occur within marine basalts and calcareous clastic sediments deposited in an extensional environment, commonly atop platformal carbonate or clastic strata.	Windy Craggy is the best (proximal) example in the immediate area; occurrences at Mt. Henry Clay are probably more distal equivalents. Greens Creek mine in Alaska (150 km SE) is believed to be hosted by correlative Upper Triassic strata.

[1] BCGS Mineral Profile Number

0005062507

BC
Ministry of Energy, Mines and Petroleum Resources
Geological Survey Branch

MINERAL POTENTIAL MAP 1993-4
(sheet 1 of 3)

MINERAL POTENTIAL OF THE MOUNT AYLESWORTH MAP SHEET

NTS 114O/14 AND 114O/15

BY M. T. SMITH AND M. G. MIHALYNUK

Scale 1:50 000

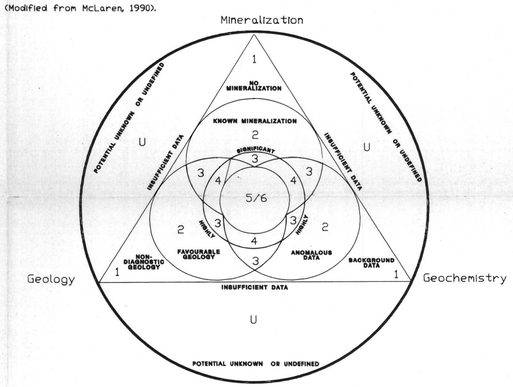
0 1 2 3 4 5
kilometres

INTRODUCTION

The Mount Aylesworth map area is underlain by metamorphosed sedimentary and volcanic rocks of Paleozoic and Mesozoic(?) age, intruded by Late Mesozoic granitic to dioritic rocks. Rocks in the northeastern half of the map sheet belong to the Alexander Terrane, whereas the tectonic affinity of rocks in the poorly-studied western and southern parts of the map sheet is not known. While there is potential for skarn mineralization along the margins of the intrusive rocks, and some potential for VMS deposits associated with volcanic rocks in the southern corner of the map sheet, the mineral potential for most of this map sheet is interpreted as low.

CLASSIFICATION OF MINERAL POTENTIAL

(Modified from McLaren, 1990).



QUALITATIVE DESCRIPTIONS OF METALLIC MINERAL POTENTIAL CLASSIFICATIONS

Class	Mineral Potential	Description
6	Extremely High	Known deposits (developed prospects) with significant identified resources in the ground. Very favourable supporting data from all applicable areas; very high degree of confidence in designation. Continued exploration highly probable; potential for mine developement is high.
5	Very High	Known prospects, developed prospects, past producing mines (with undefined resources in the ground) in highly favourable geological environment. Very good supporting data from all three criteria, high degree of confidence in designation. Future exploration expected.
4	High	Known or indicated resources in highly favourable geological environment. Very good supporting geological and geochemical data. 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 or more criteria; but significant occurrences lacking. Moderate degree of confidence in designation. Future exploration likely, particularly if near an area of higher designation. Good potential for upgrading classification.
2	Moderate	Moderately favourable environment for resource accumulation as indicated by one line of evidence (ie. favourable geology, mineralization or anomalous geochemistry with no other supporting data). Areas generally lack sufficient prospecting to identify resources. Moderate to low degree of confidence in designation. Future reconnaissance exploration to be expected. Good potential for upgrading classification.
1	Low	Current data indicates that the existence of resources is unlikely. Moderate to high degree of confidence in designation. Future exploration for deposit types considered is unlikely.
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.

SYMBOLS

▼ Lithogeochemical single element anomaly defined by very anomalous value

REFERENCES

Campbell, R.B. and Dodds, C.J. (1983): Geology, Yakutat Map Area (114O); *Geological Survey of Canada*, Open File 927, Scale 1:125,000.

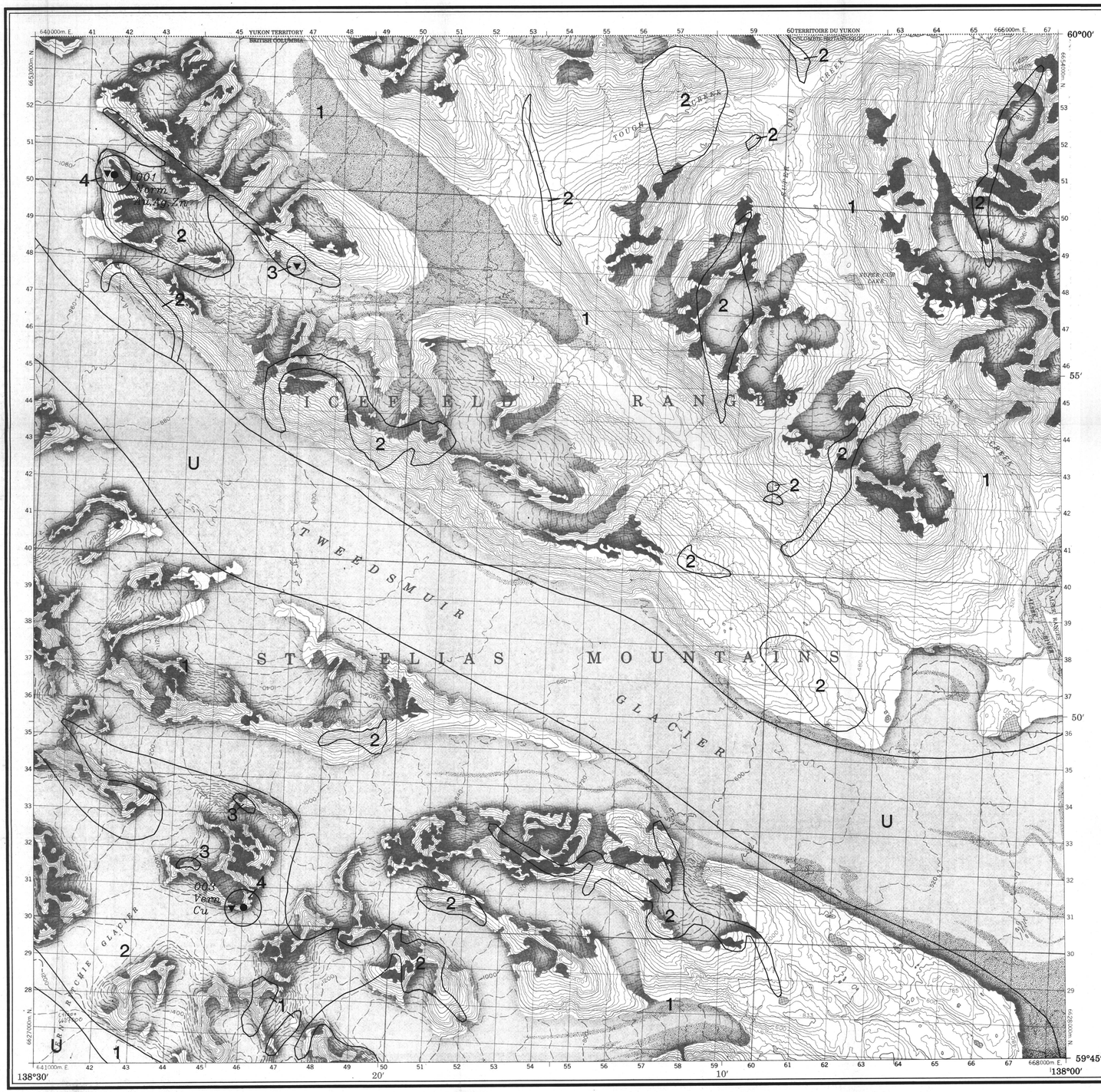
MacIntyre, D.G., Mihalynuk, M.G., Smith, M.T., Timmerman, J. and Deschênes, M. (1993): Yakutat Map Area Lithogeochemistry (NTS 114O); *in* Mihalynuk, M.G., *et al.*,Yakutat Map Area, Northwestern British Columbia; *B.C. Ministry of Energy, Mines and Petroleum Resources*, Open File 1993-12, Sheet 5 of 5.

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

Mihalynuk, M.G., Smith, M.T., MacIntyre, D.G., Timmerman, J., Deschênes, M. and Schiarizza, P. (1993): Yakutat Map Area, Northwestern British Columbia, (NTS 114O/9, 10, 14, 15, & 16); *B.C. Ministry of Energy, Mines and Petroleum Resources*, Open File 1993-12, Sheet 1 of 5.

Smith, M.T., Mihalynuk, M.G., Timmerman, J. and Deschênes, M. (1993): Mount Aylesworth Map Area Geology (114O/14 & 15); *in* Mihalynuk, M.G., *et al.*,Yakutat Map Area, Northwestern British Columbia; *B.C. Ministry of Energy, Mines and Petroleum Resources*, Open File 1993-12, Sheet 3 of 5.

NOTES:
1. No MINFILE localities are present on this map sheet.
2. Regional Geochemical Survey (RGS) stream sediment data are not available for this map sheet.



BC Ministry of Energy, Mines and Petroleum Resources

Geological Survey Branch

MINERAL POTENTIAL MAP 1993-4
(sheet 2 of 3)

MINERAL POTENTIAL OF THE SUPERCUB LAKE MAP SHEET

NTS 1140/16

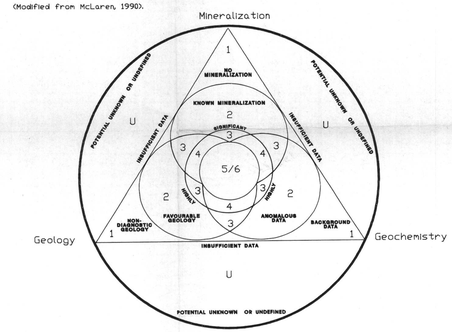
BY M.T. SMITH AND M.G. MIHALYNUK

INTRODUCTION

The Supercub Lake map area is underlain primarily by lower to middle Paleozoic limestone and sedimentary rocks of the Alexander Terrane, intruded by Jurassic to Cretaceous granitic to dioritic rocks. Areas of minor skarn mineralization and one polymetallic vein showing are associated with the margins of these intrusive bodies. At least one VMS horizon has been identified in association with volcanic rocks in the southwest corner of the map area. With the exception of the latter area, the mineral potential for most of the map area is rated as low.

CLASSIFICATION OF MINERAL POTENTIAL

(Modified from McLaren, 1990).



QUALITATIVE DESCRIPTIONS OF METALLIC MINERAL POTENTIAL CLASSIFICATIONS

Class	Mineral Potential	Description
6	Extremely High	Known deposits (developed prospects) with significant identified resources in the ground. Very favourable supporting data from all applicable areas; very high degree of confidence in designation. Continued exploration highly probable; potential for mine development is high.
5	Very High	Known prospects, developed prospects, past producing mines (with undefined resources in the ground) in highly favourable geological environment. Very good supporting data from all three criteria, high degree of confidence in designation. Future exploration expected.
4	High	Known or indicated resources in highly favourable geological environment. Very good supporting geological and geochemical data. 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 or more criteria; but significant occurrences lacking. Moderate degree of confidence in designation. Future exploration likely, particularly if near an area of higher designation. Good potential for upgrading classification.
2	Moderate	Moderately favourable environment for resource accumulation as indicated by one line of evidence (ie. favourable geology, mineralization or anomalous geochemistry with no other supporting data). Areas generally lack sufficient prospecting to identify resources. Moderate to low degree of confidence in designation. Future reconnaissance exploration to be expected. Good potential for upgrading classification.
1	Low	Current data indicates that the existence of resources is unlikely. Moderate to high degree of confidence in designation. Future exploration for deposit types considered is unlikely.
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.

LITHOGEOCHEMICAL SAMPLES

- ▼ Single element anomaly defined by very anomalous value
- ▼ Multi-element anomaly defined by very anomalous values
- ● Mineral showing (with MINFILE #, name and commodities)

ANOMALOUS THRESHOLDS

Cu	104 ppm	Pb	30 ppm
Zn	181 ppm	Sb	6.2 ppm
Co	36 ppm	Ag	0.50 ppm
As	64 ppm	Au	25 ppb

REFERENCES

Campbell, R.B. and Dodds, C.J. (1983): Geology, Yakutat Map Area (114O); *Geological Survey of Canada*, Open File 927, Scale 1:125,000.

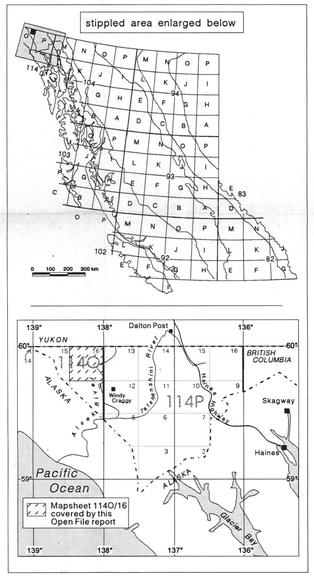
MacIntyre, D.G., Mihalynuk, M.G., Smith, M.T., Timmerman, J. and Deschênes, M. (1993): Yakutat Map Area Lithogeochemistry (NTS 114O); *in* Mihalynuk, M.G., *et al.*,Yakutat Map Area, Northwestern British Columbia; *B.C. Ministry of Energy, Mines and Petroleum Resources*, Open File 1993-12, Sheet 5 of 5.

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

Mihalynuk, M.G., Smith, M.T., MacIntyre, D.G., Timmerman, J., Deschênes, M. and Schiarizza, P. (1993): Yakutat Map Area, Northwestern British Columbia, (NTS 114O/9, 10, 14, 15, & 16); *B.C. Ministry of Energy, Mines and Petroleum Resources*, Open File 1993-12, Sheet 1 of 5.

Mihalynuk, M.G., Smith, M.T., Timmerman, J., Deschênes, M. and Schiarizza, P. (1993): Supercub Lake Map Area Geology (114O/16); *in* Mihalynuk, M.G., *et al.*,Yakutat Map Area, Northwestern British Columbia; *B.C. Ministry of Energy, Mines and Petroleum Resources*, Open File 1993-12, Sheet 4 of 5.

LOCATION



DEPOSIT MODELS

Ref.[1]	Deposit Type	Commodities	Geological Indicators and Environment	Examples
K5	Polymetallic veins	Ag, Pb, Zn, Au	Mineralized quartz carbonate veins are commonly related to shallow felsic intrusions.	Norm (540g/t Ag, 10.5% Pb); Humbird (Creek, South; Ag, Pb)
M2	Pb-Zn-Ag Manto	Pb, Zn, Ag	Sulphide lenses, pipes and veins occur chiefly in carbonate host rocks that have undergone moderate deformation and are intruded by small plutons.	Humbird (Discovery, Ag, Pb, Zn). Despite large prospective areas of favorable geology, this type of mineralization is known at only two relatively restricted occurrences in the area.
N1	Copper skarn	Cu, Au, Ag	Typically chalcopyrite in association with skarn gangue occurs where granitoids intrude continental margin carbonates.	Maid of Erin (244t Cu, 1487 kg Ag); State of Montana (2t Cu, 14 kg Ag) are the only known past producers. Most copper skarn occurs in carbonates intruded by Oligocene granitoids in the Rainy Hollow area.
H3	Sediment-hosted Cu-Co-Au (Besshi)	Cu, Zn, Pb, Au, Co, Ag	Tabular massive sulphide bodies occur within marine basalts and calcareous clastic sediments deposited in an extensional environment, commonly atop platformal carbonate or clastic strata.	Windy Craggy is the best (proximal) example in the immediate area; occurrences at Mt. Henry Clay are probably more distal equivalents. Greens Creek mine in Alaska (150 km SE) is believed to be hosted by correlative Upper Triassic strata.

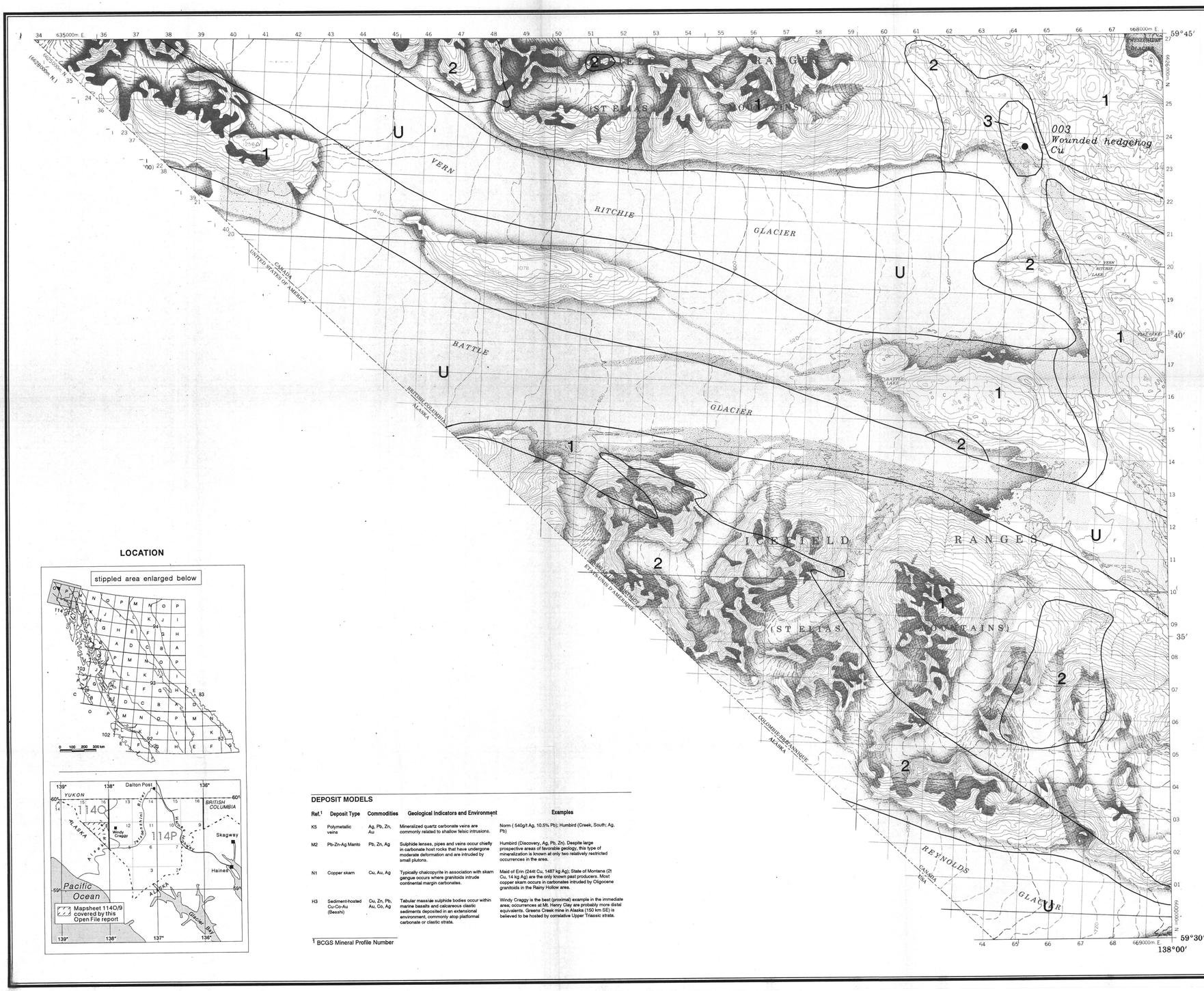
[1] BCGS Mineral Profile Number

DEFINITION OF ANOMALOUS THRESHOLDS (RGS)

Unpublished Regional Geochemical Survey (RGS) stream sediment data was used to identify drainage basins with anomalous geochemistry. All samples with concentrations of one or more element (Zn, Cu, Pb, Au, Ag, As, and Sb) at or above the 95th percentile are here defined as anomalous.

Scale 1:50 000

0 1 2 3 4 5 kilometres



LOCATION

DEPOSIT MODELS

Ref.[1]	Deposit Type	Commodities	Geological Indicators and Environment	Examples
K5	Polymetallic veins	Ag, Pb, Zn, Au	Mineralized quartz carbonate veins are commonly related to shallow felsic intrusions.	Norm (540g/t Ag, 10.5% Pb); Humbird (Creek, South; Ag, Pb)
M2	Pb-Zn-Ag Manto	Pb, Zn, Ag	Sulphide lenses, pipes and veins occur chiefly in carbonate host rocks that have undergone moderate deformation and are intruded by small plutons.	Humbird (Discovery, Ag, Pb, Zn). Despite large prospective areas of favorable geology, this type of mineralization is known at only two relatively restricted occurrences in the area.
N1	Copper skarn	Cu, Au, Ag	Typically chalcopyrite in association with skarn gangue occurs where granitoids intrude continental margin carbonates.	Maid of Erin (244t Cu, 1487 kg Ag); State of Montana (2t Cu, 14 kg Ag) are the only known past producers. Most copper skarn occurs in carbonates intruded by Oligocene granitoids in the Rainy Hollow area.
H3	Sediment-hosted Cu-Co-Au (Besshi)	Cu, Zn, Pb, Au, Co, Ag	Tabular massive sulphide bodies occur within marine basalts and calcareous clastic sediments deposited in an extensional environment, commonly atop platformal carbonate or clastic strata.	Windy Craggy is the best (proximal) example in the immediate area; occurrences at Mt. Henry Clay are probably more distal equivalents. Greens Creek mine in Alaska (150 km SE) is believed to be hosted by correlative Upper Triassic strata.

[1] BCGS Mineral Profile Number

BC Ministry of Energy, Mines and Petroleum Resources

Geological Survey Branch

MINERAL POTENTIAL MAP 1993-4
(sheet 3 of 3)

MINERAL POTENTIAL OF THE BATTLE GLACIER MAP SHEET

NTS 114O/9 AND 114O/10

BY M.T. SMITH AND M.G. MIHALYNUK

Scale 1:50 000

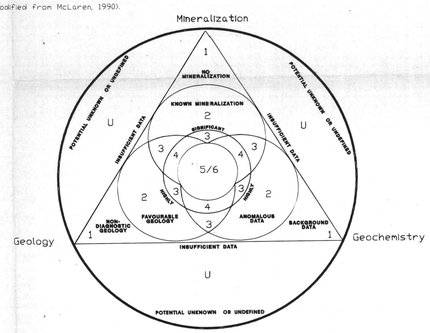
0 1 2 3 4 5 kilometres

INTRODUCTION

The Battle Glacier map area is underlain by strongly metamorphosed sedimentary and intrusive rocks and weakly metamorphosed limestone, greywacke, and other sedimentary rocks, and is intruded by large granodiorite to diorite bodies. A number of small areas of skarn mineralization have been identified along the margins of these intrusive bodies; the potential for other types of mineral deposits in this poorly-studied area is tentatively rated as relatively low.

CLASSIFICATION OF MINERAL POTENTIAL

(Modified from McLaren, 1990).



QUALITATIVE DESCRIPTIONS OF METALLIC MINERAL POTENTIAL CLASSIFICATIONS

Class	Mineral Potential	Description
6	Extremely High	Known deposits (developed prospects) with significant identified resources in the ground. Very favourable supporting data from all applicable areas; very high degree of confidence in designation. Continued exploration highly probable; potential for mine developement is high.
5	Very High	Known prospects, developed prospects, past producing mines (with undefined resources in the ground) in highly favourable geological environment. Very good supporting data from all three criteria, high degree of confidence in designation. Future exploration expected.
4	High	Known or indicated resources in highly favourable geological environment. Very good supporting geological and geochemical data. 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 or more criteria; but significant occurrences lacking. Moderate degree of confidence in designation. Future exploration likely, particularly if near an area of higher designation. Good potential for upgrading classification.
2	Moderate	Moderately favourable environment for resource accumulation as indicated by one line of evidence (ie. favourable geology, mineralization or anomalous geochemistry with no other supporting data). Areas generally lack sufficient prospecting to identify resources. Moderate to low degree of confidence in designation. Future reconnaissance exploration to be expected. Good potential for upgrading classification.
1	Low	Current data indicates that the existence of resources is unlikely. Moderate to high degree of confidence in designation. Future exploration for deposit types considered is unlikely.
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.

▽ Multi-element lithogeochemical anomaly defined by two or more anomalous values

● Mineral showing (with MINFILE #, name and commodities)

ANOMALOUS THRESHOLDS (RGS)

Cu	104 ppm	Au	26 ppb
Pb	30 ppm	Sb	5.2 ppm
Zn	181 ppm	As	64 ppm
Ag	0.50 ppm		

REFERENCES

Campbell, R.B. and Dodds, C.J. (1983): Geology, Yakutat Map Area (114O); *Geological Survey of Canada*, Open File 927, Scale 1:125,000.

MacIntyre, D.G., Mihalynuk, M.G., Smith, M.T., Timmerman, J. and Deschênes, M. (1993): Yakutat Map Area Lithogeochemistry (NTS 114O); *in* Mihalynuk, M.G., *et al.*,Yakutat Map Area, Northwestern British Columbia; *B.C. Ministry of Energy, Mines and Petroleum Resources*, Open File 1993-12, Sheet 5 of 5.

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

Mihalynuk, M.G., Smith, M.T., MacIntyre, D.G., Timmerman, J., Deschênes, M. and Schiarizza, P. (1993): Yakutat Map Area, Northwestern British Columbia, (NTS 114O/9, 10, 14, 15, & 16); *B.C. Ministry of Energy, Mines and Petroleum Resources*, Open File 1993-12, Sheet 1 of 5.

Mihalynuk, M.G., Smith, M.T., Timmerman, J. and Deschênes, M. (1993): Battle Glacier Map Area Geology (114O/9 & 10); *in* Mihalynuk, M.G., *et al.*,Yakutat Map Area, Northwestern British Columbia; *B.C. Ministry of Energy, Mines and Petroleum Resources*, Open File 1993-12, Sheet 2 of 5.

DEFINITION OF ANOMALOUS THRESHOLDS (RGS)

Unpublished Regional Geochemical Survey (RGS) stream sediment data was used to identify drainage basins with anomalous geochemistry. All samples with concentrations of one or more element (Zn, Cu, Pb, Au, Ag, As, and Sb_2) at or above the 95th percentile are here defined as anomalous. RGS coverage for this map sheet includes only the eastern, largely unglaciated areas.