826039
Tatsamenie Lake
104K/08

Mr. Alex Davidson,
Minnova Inc.,
3 rd Floor, 311 Water St.,
Vancouver, B.C.
V6B 1B8

MAR 28 1991
Ans'd

March 21 - 1991

REQUEST for RESEARCH FUNDING:
REGIONAL and ECONOMIC GEOLOGY,
TATSAMENIE LAKE DISTRICT, N.W. B.C.

J. OLIVER'S DOCTORAL THESIS

Dear Mr. Davidson:

This letter outlines a request for geoscience research funding for a Ph.D study currently in progress on map sheet 104/K. Dr. C.J. Hodgson at Queen's University, is my academic associate on this project.

The fieldwork for this program has been completed over a three year period from 1987 to 1990. A detailed 1:10,000 and 1:5,000 scale map and data base has been built over an area of approximately 200 square kilometres (see attached map).

I. PROJECT GOALS

The thesis project addresses several points relevant to exploration, to our understanding of larger scale tectonic processes, and to the quality of our existing geoscience data base. Some of these include:

1. Within the Stikine Arch, is there potential to upgrade gold poor, copper-molybdenum porphyries with post-dating precious metal epithermal systems?

As explorationists, have we unnecessarily blinded ourselves in our search for copper-gold porphries solely to those within alkalic settings? I suspect that the copper-molybdenum and gold(?) porphyries of the Tatsamenie area may have the potential to significantly modify the existing models for copper-gold porphyries.

2. There has been a protracted sequence of mineralization in the project area. Within a 200 square kilometre area, an Upper Triassic gold deposit (the Golden Bear deposit), mid-Cretaceous copper-molybdenum porphyry deposits and Tertiary epithermal gold occurrences are documented. These mineralizing events have common, but poorly understood, lithotectonic elements. The temporal, lithologic and structural controls on gold and porphyry mineralization in the Tatsamenie district have correlates across much of the Stikine Arch. Resolution of these controls, and the linkages between deposit types, will serve to better define our search strategies for economic mineral deposits across much of the northwestern cordillera of British Columbia.

3. On map sheet 104K our existing geoscience data base is primarily based on Souther's reconnaissance fieldwork conducted between 1958 and 1961. As an industry we have an acute need to significantly upgrade our overall data base. This thesis project develops the fundamental tools and technical data which are required to more effectively implement exploration strategies in the northern cordillera.

II. PREVIOUS FUNDING ALLOTMENTS

Relevant to any funding considerations are the following:

1. The project area crosses property boundaries and is not controlled by any one corporation or individual. The data base generated by this project is not parochial and will have broad applications to mineral exploration.

2. The project area lies more than 300 km north of the MDRU project in the Iskut. It is not funded by this project, although the tectonic linkages may be significant.

3. The funding breakdown for the three years of fieldwork completed by this project may be outlined:

1988	Canada-BC MDA & Queen's U	$ 20,700
1989	Canada-BC MDA & Queen's U	$ 28,400
1990	Homestake Mineral Dev. Co.	$ 8,950
	J. Oliver	$ 8,550
	Total Funding	$ 66,600

This regional map and interpretive study has been built by one person working with a bare minimum of infrastructure. Strong value for dollar has already been achieved.

III. FUNDING REQUIREMENTS

To complete this project the following funds are required:

I. Geochronology

8 hornblende, sericite and zircon mineral separates @ $200.00 per sample ... $ 1,600.00

4 Ar/Ar dates @ $250.00 per sample ..... $ 1,000.00

4 Zr dates, 3 fraction analysis, @ $1,200 per sample ..... $ 4,800.00

Subtotal ..... $ 7,400.00

II. Geochemistry and Lithogeochemistry

1. XRF Whole RocK and Trace Element Analysis

XRAL Labs Quantitative Research Quality analyses, $ 140.00 per sample

35 samples @ $140.00 per sample ..... $ 4,900.00

2. Stable Isotopes, Sulphur, Oxygen and Hydrogen

six samples @ $450.00 each ..... $ 2,700.00

Subtotal $ 7,600.00

III. Microprobe, XRD and Petrography

1. 4 hours of microprobe time @ $100.00 per hour ..... $ 400.00

2. 10 full spectrum clay analysis @ $60.00 per sample ..... $ 600.00

3. 35 Petrographic Sections @ $10.00 per section ..... $ 350.00

Subtotal $ 1,350.00

TOTAL FUNDING REQUIREMENTS ..... $ 16,350.00

To meet this end I am looking for funding from industry. I would ask that you would consider a contribution in the range of $1000.00 to $2,500.00.

Any contributor will be provided with an interim summary of these results and a complete copy of the thesis available in 1992. Should you have any questions or comments please feel free to contact myself or Dr. Hodgson.

I recognize that our industry is currently in a strained financial position. However, without developing our own geoscience data bases, and geoscientists, our long-term viability will become even more tenuous. I would urge you to support this project.

Any contribution to this research may be made to:

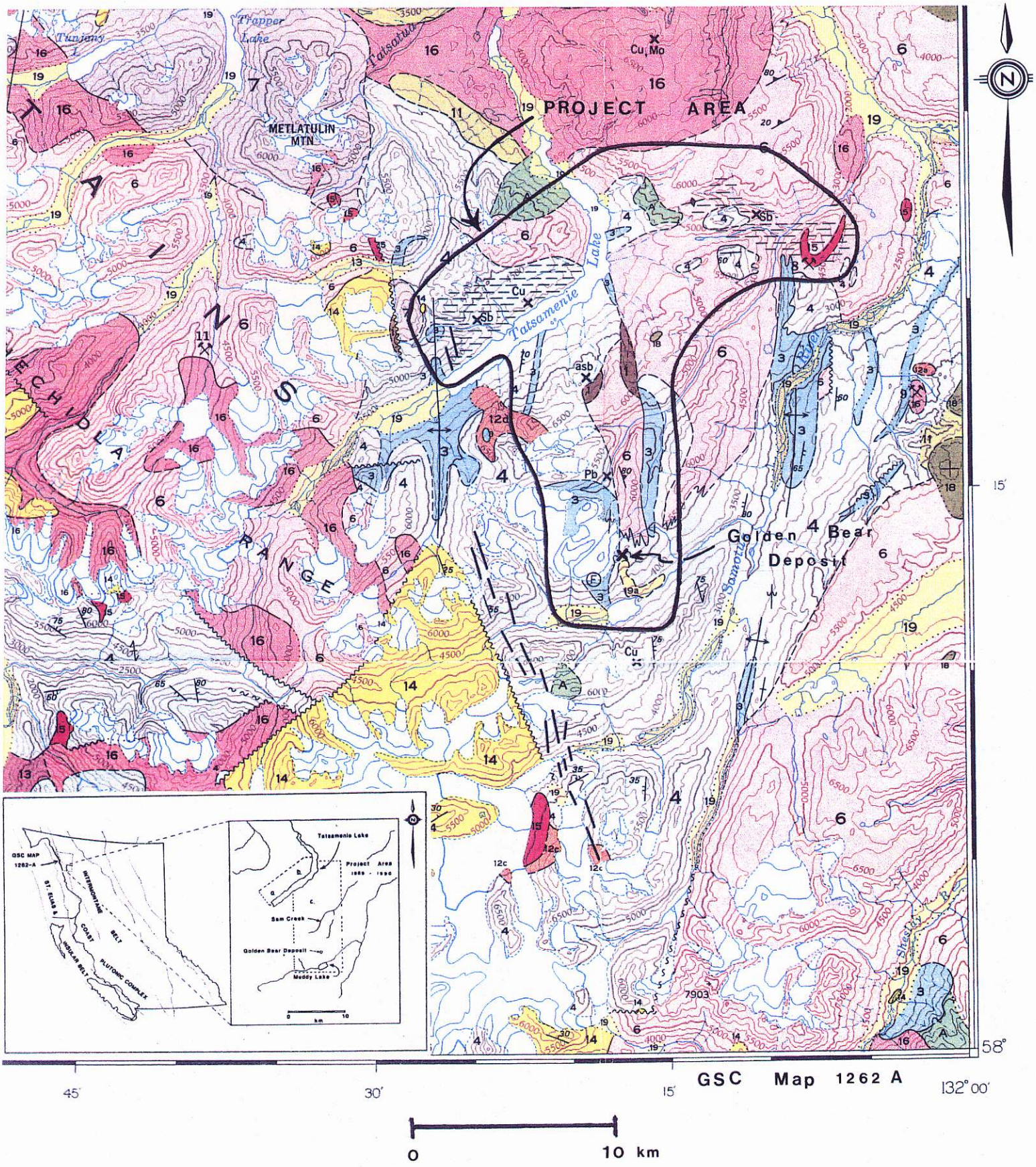
Queen's University,
c/o Dr. C.J. Hodgson,
Dept. of Geological Sciences,
Queen's University,
Kingston, Ontario.
K7L 3N6

Funding of applied research at a recognized institution is tax deductible.

Sincerely,

Jim Oliver.

c.c.: C.J. Hodgson


PROJECT AREA
METLATULIN MTN
Tatsamenie Lake
Golden Bear Deposit
Trapper Lake
Tunjany L.
Cu, Mo
Cu
Sb
Pb
asb
Sam Creek
Muddy Lake
7903
GSC MAP 1262-A
INTERMONTANE BELT
COAST PLUTONIC COMPLEX
ST. ELIAS & INSULAR BELT
Project Area
0 km 10
45'
30'
15'
132° 00'
58°
15'
0 10 km
GSC Map 1262 A

LEGEND

QUATERNARY
PLEISTOCENE AND RECENT

19 — *Fluviatile gravel, sand, silt; glacial outwash, till, alpine moraine and undifferentiated colluvium;* 19a, *landslides*

TERTIARY AND QUATERNARY
LATE TERTIARY AND PLEISTOCENE
LEVEL MOUNTAIN GROUP

18 — *Basalt, olivine basalt, related pyroclastic rocks; in part younger than some of 19*

17 — *HEART PEAKS FORMATION: rusty-weathering trachyte and rhyolite flows, pyroclastic rocks, and related intrusions*

CRETACEOUS AND TERTIARY
LATE CRETACEOUS AND EARLY TERTIARY
SLOKO GROUP

14 — *Light green, purple and white rhyolite, dacite, and trachyte flows, pyroclastic rocks, and derived sediments*

15 16 — *Probably genetically related to 14;*
15. *Felsite, quartz-feldspar porphyry*
16. *Medium- to coarse-grained, pink, biotite-hornblende quartz monzonite*

PRE-UPPER CRETACEOUS

13 — *CENTRAL PLUTONIC COMPLEX: granodiorite, quartz diorite: minor diorite, leuco-granite, migmatite and agmatite; age and relationship to 12 uncertain*

JURASSIC AND/OR CRETACEOUS
POST MIDDLE JURASSIC

12 — 12a, *hornblende-biotite granodiorite;* 12b, *biotite-hornblende quartz diorite;* 12c, *hornblende diorite;* 12d, *augite diorite. Age and relationship to 13 uncertain*

JURASSIC
LOWER AND MIDDLE JURASSIC
LABERGE GROUP (10, 11)

11 — *TAKWAHONI FORMATION: granite-boulder conglomerate, chert-pebble conglomerate, greywacke, quartzose sandstone, siltstone, shale*

10 — *INKLIN FORMATION: well bedded greywacke, graded siltstone and silty sandstone, pebbly mudstone, limy pebble conglomerate;* 10a, *limestone*

TRIASSIC
UPPER TRIASSIC

9 — *SINWA FORMATION: limestone; minor sandstone, argillite, chert*

STUHINI GROUP (7, 8)

7 8 — 7. *Mainly volcanic rocks; andesite and basalt flows, pillow lava, volcanic breccia and agglomerate, lapilli tuff; minor volcanic sandstone, greywacke, and siltstone*
8. *KING SALMON FORMATION: thick bedded, dark greywacke, conglomerate, mudstone, siltstone, and shale; minor andesitic lava, volcanic breccia, tuff, limestone, limy shale; locally enclosed in 7*

LOWER OR MIDDLE TRIASSIC (?)

6 — *Fine- to medium-grained, strongly foliated diorite, quartz diorite; and minor granodiorite; age uncertain*

TRIASSIC AND EARLIER
PRE-UPPER TRIASSIC

4 — *Fine-grained, clastic sediments and intercalated volcanic rocks, largely altered to greenstone and phyllite; chert, jasper, greywacke, limestone;* 4a, *mainly chert, slate, argillite; minor greenstone;* 4b, *mainly greenstone;* 4c, *limestone, may include some 1*

5 — *Quartz-albite-amphibole gneiss; quartz-biotite schist, garnetiferous schist, augen gneiss, tremolite marble; mainly metamorphosed equivalents of 3 and 4, may be in part older than 3*

PERMIAN

3 — *Chiefly limestone and dolomitic limestone; minor chert, argillite, sandy limestone*

PERMIAN (?)

1 2 — *May not all be of the same age*
1. *Peridotite, serpentite, small irregular bodies of gabbro and pyroxene diorite*
2. *Fine- to medium-grained gabbro and pyroxene diorite*

A — *Diorite gneiss, amphibolite, migmatite; age unknown*

MINNOVA

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April 3, 1991

Mr. Jim Oliver
c/o Dept. of Geological Sciences
Queen's University
Kingston, Ontario
K7L 3N6

Dear Jim:

Thanks very much for your Tatsamenie proposal. It is certainly very interesting and deserving of funding. Unfortunately Minnova Inc. has never worked in the Tatsamenie Lake area nor do we plan to in the near future. Thus we must decline to contribute to your research project. Minnova is funding research at Samatosum and in B.C. through the MDRU.

Best of luck in your efforts.

Yours truly,

A. J. Davidson
Exploration Manager
W. Canada, USA and International

AJD/gh