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Golden Bear

PRELIMINARY ASSESSMENT  
OF TATSASMENIE LAKE AREA  
MINERAL POTENTIAL  
WITH SPECIAL REFERENCE TO PROPOSED ACCESS ROADS

By

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## SUMMARY

- 1 TATSAMENIE LAKE AREA IS PART OF A BELT OF VOLCANIC AND SEDIMENTARY ROCKS EXTENDING FROM STEWART TO THE TAKU RIVER WITH EXCELLENT MINERAL POTENTIAL.
- 2 THROUGHOUT THIS BELT THE NUMBER OF KNOWN MINERAL DEPOSITS REFLECTS THE AMOUNT OF EXPLORATION ACTIVITY.
- 3 MANY AREAS WITHIN THE BELT ARE LARGELY UNEXPLORED BECAUSE THEY ARE REMOTE FROM ROAD OR WATER ACCESS
- 4 CHEVRON CANADA RESOURCES LTD. FOUND NUMEROUS GOLD OCCURRENCES IN THE TATSAMENIE LAKE AREA WITH MODEST EXPLORATION EXPENDITURES.
- 5 THE BEAR AND FLEECE MINERALIZED ZONES LIE ALONG A MAJOR GOLD-BEARING STRUCTURE WHICH CAN BE TRACED FOR 20 KILOMETRES; THIS COULD BE A NEW MINING CAMP.
- 6 THE THREE PROPOSED ROADS TO THE GOLDEN BEAR PROJECT DO NOT DIFFER SIGNIFICANTLY IN ACCESSING MINERAL POTENTIAL.
- 7 ANY ACCESS ROAD TO THE GOLDEN BEAR PROJECT WILL RESULT IMMEDIATELY IN MORE EXPLORATION AND CLAIM STAKING IN THE TATSAMENIE LAKE AREA.

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## 1. Introduction

A major exploration program is in progress on the Bear zone of the Golden Bear property (also known as Muddy Lake) which is located 137 kilometres west of Dease Lake (Figure 1). It is accessible by fixed wing aircraft (floats or wheels) from Dease Lake, Telegraph Creek, Atlin or Whitehorse. A winter bulldozer road extends 75 kilometres from Telegraph Creek to the Golden Bear property.

The Bear Zone is covered by the Bear claim which is part of a larger property owned by Chevron Canada Resources Ltd. In 1986 Chevron joint ventured part of their property, including the Bear claim, with North American Metals B.C. Corp. The latter company is the operator and must spend \$9 million to earn a 50% interest. North American Metals B.C. Inc. is proposing to bring their Bear zone gold/silver deposit into production in 1988.

Three possible road access routes have been suggested for the Golden Bear project (Figure 2). All three routes will provide easier access to a part of British Columbia which has been largely ignored by explorationists in the past. This report provides a preliminary assessment of the mineral exploration opportunities in the Tatsamenie Lake area and evaluates the relative benefits of the proposed roads.

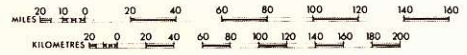
## 2. Terms of Reference

For the purposes of this study, two regions were examined to establish the mineral potential of the Tatsamenie Lake area. The first, identified as Region A, covers the southeast corner of the Tulsequah (104K 1,2,7,8) and southwest corner of the Dease Lake (104J 5,6,7,8) 1:250,000 map sheets (Figure 1). Telegraph Creek, the only community in the vicinity, is located just outside the southeast corner. The second region is the the belt of volcanic and sedimentary rocks which stretches from the Stewart area to the Taku River (Figure 1), here identified as Region B.

The mineral deposits and geology of Region A are reviewed in this report to assess the mineral potential of the Tatsamenie Lake area. It is necessary to examine the mineral potential of a larger area, Region B, to determine the mineral potential of the Tatsamenie Lake area.

# MAP 1 NORTHWESTERN DISTRICT

Figure 1. Location of Golden Bear Project



GEOLOGISTS' AREAS .....●●●●●●●●●●

MINING DISTRICTS .....~

**D.V. Lefebure**



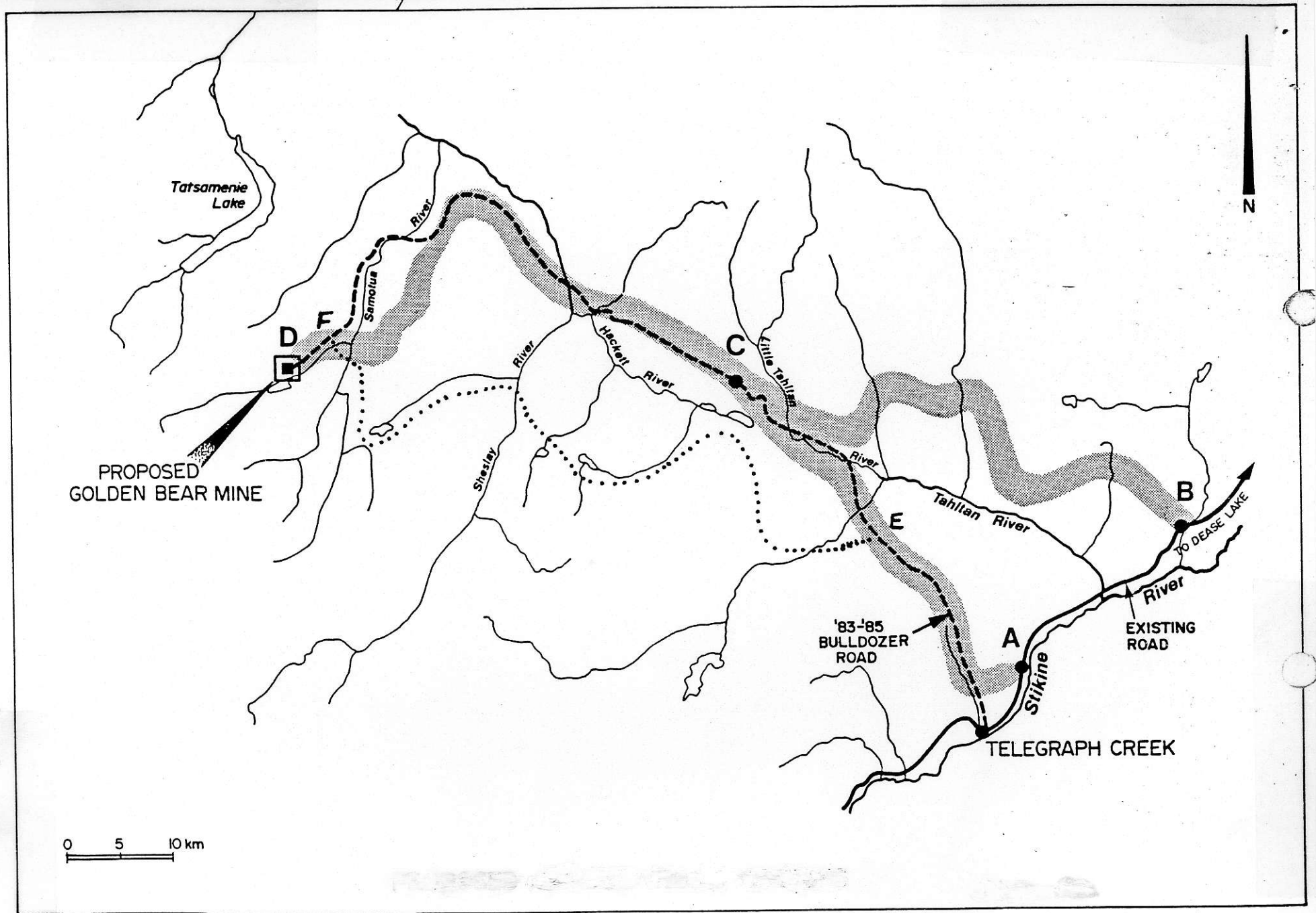


Figure 2. Proposed Access Road Options for the Golden Bear Project



### 3. Sources of Information

Very little published data exists for the Tatsamenie Lake area. This is clearly shown by the limited references to mineral occurrences in Minister of Mines Annual Reports for Region A. Claim maps, Minfile, assessment reports, Chevron Canada Resources Ltd. files and B.C. Geological Survey Branch and Geological Survey of Canada publications were all used to provide data for this study. The information provided by Chevron geologist Godfrey Walton was particularly helpful in preparing this report.

### 4. Exploration History of the Tatsamenie Lake Area

#### 4.1 Early Exploration History

Prospectors heading north along the Telegraph Creek trail to Atlin and the Klondike in the late 1800's were the first explorationists in the general area of Tatsamenie Lake. At this time placer gold was discovered in the Dease Lake, Cassiar and Telegraph Creek areas. There are no records of any exploration activity in the Tatsamenie Lake area, although the Chechilda Creek designated placer area is approximately 10 kilometres to the west (Map 1).

In the 1950's exploration began for copper deposits in the area. During the next 25 years a number of major companies, including Newmont, Kennco, Dupont, Kerr Addison and Noranda, began regional exploration programs for porphyry copper style mineralization. At least two companies, American Uranium and Mattagami, examined the uranium potential of the area.

#### 4.2 Recent Exploration History

In 1981 Chevron Canada Resources Ltd. started a regional exploration program to explore for gold in the belt of volcanic and sedimentary rocks which extends from south of Stewart to the Taku River. Chevron recognized an area with mineral potential west of Telegraph Creek which was poorly known and little explored. Approximately \$2 million was spent by Chevron on regional exploration in this area which identified numerous showings, including the Bear and Fleece zones. Subsequent to finding the Muddy Lake property, Chevron spent much of its effort in drilling off the mineralized zones on this property. In 1986 Chevron joint ventured part of the Muddy Lake property to North American Metals B.C. Corp.

#### 4.3 Current Claim Status

The claims in good standing in Region A as of February 10, 1987 are shown on Maps 1 and 2. Most of the claims in good standing within the study area are held by Chevron Canada Resources Limited. which owns claims contiguous to the Golden Bear property as well as several smaller claim blocks in the area. Only 5 small claim blocks are in good standing in the eastern half of Region A, two of them along the Hackett River. Skyline Exploration

Limited, Dome Exploration (Canada) Ltd., Kenneco and Tom Lisle are some of the owners of claims in Region A.

It is very unusual for so few companies to be involved in an area where a major deposit is being developed with expenditures of millions of dollars a year. This contrasts with the Stewart area where virtually all the ground from Stewart to the Iskut River is staked (Map 5). A road into the Golden Bear project would undoubtedly result in claim staking and more exploration in the Tatsamenie Lake area.

## 5. Geology

The Tatsamenie Lake area lies along the western margin of the Intermontane Belt which is flanked to the west by the Coast Plutonic Complex and in part to the east by the Bowser Basin.

The geology of the Tatsamenie Lake area has been described by Souther (1971). More recent summaries of the area between Tatsamenie and Bearskin Lakes have <sup>been</sup> made by Schroeter (1986, 1987) who states that:

"The Tatsamenie Lake area is underlain by intensely folded and regionally metamorphosed Permian, Triassic, and older strata that are separated by a pre-Upper Triassic unconformity from less folded and less metamorphosed Mesozoic sedimentary and volcanic rocks. The Mesozoic strata are overlain unconformably by flat-lying Late Tertiary and Pleistocene plateau basalts of the Level Mountain Group. Three main episodes of tectonic activity have affected the strata: (1) the mid-Triassic Tahltanian Orogeny; (2) an upper Jurassic event, and (3) an early Tertiary event."

## 6. Mineral Occurrences

The belt of volcanic and sedimentary rocks (Region B) which extends from south of Stewart to the Taku River hosts a wide variety of mineral deposits (Maps 3, 4). Exploration has focussed on porphyry, volcanogenic massive sulphide, skarn, mesothermal and epithermal deposits (Table 1). Numerous deposits have been found including the Anyox, Dolly Varden, Kitsault, Granduc, Silbak Premier, Tulsequah Chief and Big Bull mines. Other significant discoveries are the Galore Creeek, Schaft Creek, Polaris-Taku, Erickson-Ashby, Reg and Sulphurets deposits (Map 3). Potential exists for other types of deposits containing asbestos and uranium.

In Region B many of the mineral deposits and all the mines cluster around water or road access routes. This reflects the remoteness of much of the Region. The number of known mineral deposits within each section of this belt of volcanic and sedimentary rocks reflects the amount of exploration activity. The Stewart and Taku River areas, for example, have a significant history of exploration which has resulted in numerous deposits and mineral occurrences. Other areas, such as Tatsamenie Lake,



Table 1. Major Types of Mineral Deposits in Region B

TYPE	COMMODITIES	EXAMPLES
1. PORPHYRY	Cu, Mo, Au	Galore Creek, Schaft Creek, Kitsault
2. VOLCANOGENIC MASSIVE SULPHIDE	Cu, Zn, Pb, Au, Ag, Cd	Tulsequah Chief, Granduc, Big Bull, Anyox
3. SKARNS	Cu, Fe, Au	
4. MESOTHERMAL	Au, Ag	Golden Bear
5. EPITHERMAL	Ag, Au, Cu	Silbak Premier, Reg, Sulphurets

have fewer showings and no past producers because they are underexplored.

All mineral occurrences in the Tatsamenie Lake area (Region A) are listed in Table 2 and plotted on Map 6. As well, 21 new mineral occurrences identified by Chevron Canada Resources Ltd. are plotted on Map 6. Chevron identified the Bear zone and more than 25 other showings with modest regional exploration expenditures of \$2 million in the Tatsamenie Lake area.

#### 7. Proposed Access Road Options

Three access road options have been proposed for the Golden Bear project (Figure 2). All three routes would provide road access to a remote area where the current mode of transportation is by air from Telegraph Creek or Dease Lake.

The two access routes, A-C-D and B-C-D (Figure 2), proposed by North American Metals B.C. Inc. differ only along their eastern portions which lie in an area of no known mineral potential (Map 6). The third proposed access road E-F need only be compared to the C-D section of the other two proposed routes. The E-F route does not pass as close to known mineral occurrences as C-D, however, it is very probable that new mineral occurrences would be found along much of the E-F route. Access to the mineral occurrences along the Hackett and Shesley Rivers could be provided by short roads to the particular property. Therefore, the three proposed road options to the Golden Bear project provide similar benefits with respect to accessing an area of known mineral potential.

Table 2. List of Minfile Mineral Occurrences in the Tatsamenie Lake Area (Region B)

Mineral Inventory Number	Name	Commodities	Deposit Type	Comment
104K 014	Norm	Tulsequah Sheet Cu, Mo	porphyry, skarn	104K8 Cu2, #5924
026	LC1	Mo	porphyry?	104K7 Mo2, #9410
027	LC2	Cu, Pb, Zn, Ag, Mo	vein	104K1 Cu1, #9578
032	MC	Cu, Mo, Ag, Sb		104K8 Cu5, #6400
033	Karen	Mo, Cu	porphyry	104K7 Mo1, #3241, TGS, Aug. 1980
034	Norm	Cu, Mo, Fe	porphyry, skarn	#3842
035	Bing	Cu, Mo, Sb		104K8 Cu1, BCDM MMAR 1965-17
036	Tess	Cu, Mo		104K2 Cu1, #4628
037		Sb		104K7 Sb1
✓ 038	Tatsamenie L.	Ab		104K8 Asb1
039	Tan	Cu		#11820
040		Cu, Mo	porphyry	#8962
041		Cu		
042		Pb		104K8 Pb1, #11663
056		Mo	porphyry	#8932
061	Tito	Cu		104K8 Cu6
063	Tun	Cu, Mo		104K7 Cu2
069	Tatsamenie Ls	Ls	sediment	industrial mineral file
076	Terr	Au, Ag, Cu, Pb	vein	#12695
077	Thor	Cu, Ag	vein	#11693
078	Inlaw	Pb, Cu, Au, Ag, Zn	vein	#13107
079	Muddy Lake*	Au	vein	#11663, #10754, #1311, #13112
✓ 080	Ram	Au, Ag	vein	#10760, #13068
✓ 081	Nie	Au	vein	#10759, #11965
✓ 082	Slam	Au, Ag, As, Sb	vein	#11818
*** outside area of study ***				
083	Outlaw	Au, Ag, Mn, Pb, Zn	vein	#10532, 12654
084	Hart	Au	vein, stockwork	#9859, 11233, 12141, 13811

\* the Bear Main zone on the Golden Bear property.

## 8. Conclusions

1. There is very little data available to properly assess the mineral potential of the Tatsamenie Lake area.
2. The area is underexplored as shown by its short exploration history and known mineral potential.
3. A modest exploration program by Chevron Canada Resources Ltd. located more than 25 new mineral occurrences including the Bear gold deposit.
4. Present access to the Tatsamenie Lake area is adversely affecting mineral exploration and claim staking.
5. The belt of volcanic and sedimentary rocks extending from south of Stewart to the Taku River has considerable mineral potential and hosts numerous mineral deposits of different types.
6. The abundance of known mineral occurrences and mineral deposits within this belt is a function of exploration activity which has been controlled in the past by access.
7. The three proposed access road options to the Golden Bear property provide similar benefits with respect to accessing potential mines in the Tatsamenie Lake area (Region A).

## 9. Selected References

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