

Report

on

Moly-Taku Claims

Atlin Mining Division, B.C.

<u>Claim name</u>	<u>Record no.</u>	<u>Units</u>
Moly 1	201(3)	1
Moly 2	202(3)	4
Moly 3	203(3)	18
Moly 4	204(3)	18
Taku 1	205(3)	18
Taku 2	206(3)	18

Location: Lat. 58°27'N, Long. 133°22'W

Owner: Frank Onucki, Vancouver, B.C.

Operator: Marge Enterprises Ltd., Vancouver, B.C.

Prepared by: Andrew E. Nevin, Ph.D., P.Eng.

March 7, 1978

6639

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. <u>6639</u>
MAP NO. _____

March 7, 1978

Dr. J.A. Garnett  
Geological Division  
Ministry of Mines and Petroleum Resources  
Parliament Buildings  
Victoria, British Columbia  
V8V 1X4

Delivered by hand via Mr. Frank Onucki

Dear Sir:

Re: Report on Moly-Taku Claims,  
Atlin Mining Division, British Columbia,  
dated December 16, 1977

The above report was prepared by me on behalf of Marge Enterprises Ltd. for a purpose different than that of filing for assessment work.

We have been requested by Mr. Ray Hrkac, Managing Director of Marge Enterprises Ltd., to provide two additional items and make the report available to Mr. Frank Onucki, holder of the claims, for assessment work purposes. It is our understanding that the report might be acceptable if these deficiencies are cured.

Herewith, then, please find an Itemized Cost Statement in the total amount of \$8,510.02, developed from an examination of vouchers supplied by Marge Enterprises Ltd. which are in accord with my knowledge of the field work performed, and a Location Map which shows the claims more accurately. The original report is appended to this letter as well.

CONSULTING GEOLOGISTS

MINERALS • AGGREGATES • GEOTHERMAL RESOURCES • ENVIRONMENT

The claims held by Mr. Onucki and subject of this report are:

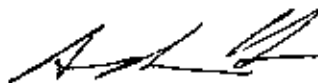
<u>Name</u>	<u>record no.</u>	<u>units</u>
Moly 1	201(3)	1*
Moly 2	202(3)	4*
Moly 3	203(3)	18
Moly 4	204(3)	18*
Taku 1	205(3)	18
Taku 2	206(3)	18*
		<u>77*</u>

\*Net holdings are slightly less, since some units lie across the international boundary in the U.S.

We are pleased to support Mr. Onucki and our client in this work.

Very truly yours,

NEVIN SADLIER-BROWN GOODBRAND LTD.



Andrew E. Nevin, Ph.D.,



Attached  
Itemized Cost Statement  
Location Map  
Report of December 16, 1977

ITEMIZED COST STATEMENT

Nevin Sadlier-Brown Goodbrand Ltd.		
Geologist, Sept. 23-Oct. 3,		
Nov. 16-Dec. 16, 1977, 31.4 hrs.		
@ \$40.00/hr.	\$1,256.00	
Report preparation and maps	308.95	
Field expenses	<u>111.33</u>	\$1,676.28
Client company		
Geologist, Sept. 27-30,		
4 days @ \$100.00/day	400.00	
Prospector, Sept. 27-30,		
4 days @ \$100.00/day	<u>400.00</u>	800.00
Chemex Labs, Assays		83.00
Helicopter services, Sept. 26-30,		
including fuel		1,708.05
Fixed wing services, incl. fuel		2,745.62
Groceries and expendable supplies		536.98
Travel, air fares (Vancouver-project, r.t.)		<u>960.09</u>
Total expended		<u>\$8,510.02</u>



**MOLY-TAKU CLAIMS**

LOCATION MAP

Scale  
1:600 000  
(1cm = 6km)

MARGE ENTERPRISES LTD.

Report  
on  
Moly-Taku Claims  
Atlin Mining Division, British Columbia

by  
Andrew E. Nevin, Ph.D, P.Eng.

December 16, 1977

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CONSULTING GEOLOGISTS

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SUMMARY

The Moly-Taku property is located in British Columbia, 15 miles south of the old Tulsequah mining community and 40 miles east of Juneau, Alaska, and consists of mining claims holding a net of about 70 units, or about 4300 acres. As yet the property has no established ore reserves; nor has the outcrop which is the inferred source of detrital molybdenum porphyry been examined properly, despite nearly twenty years of intermittent interest by various prospectors and underfinanced small companies.

The principal evidence that the Moly-Taku is an important prospect is several tons of moly-bearing alaskitic quartz monzonite porphyry found in a terminal moraine and in a medial moraine on the surface of an active glacier. The source area has been narrowed down to one side and headwall, which are steep, rugged, and difficult of access on foot or by helicopter, and where mobility, mapping and sampling by ordinary means are impossible.

The irony--or the opportunity for Marge Enterprises--is that access and mobility will be difficult only in the exploration stage. Should the deposit meet commercial criteria, say, 100 or 200 million tons of 0.5 or 0.6 per cent MoS<sub>2</sub>, production access might be accomplished by means of a 5 mile tunnel and about 40 miles of road to deep water ocean shipping.

During our examination of the property September 27-30, 1977 in company with Mr. R.A. Brkac we offered our outside opinion that acquisition of the property by Marge Enterprises from the claim holder, Mr. Frank Onucki, would be justified. This report further suggests a first step in the exploration, a seven-man crew having helicopter support and mountaineering and blasting skills and equipment, with the objective of mapping and sampling the exposed faces. The estimated cost of this is \$130,000 if undertaken in 1978. If results indicate a case for continued work, a second stage might be drilling from underground stations, with access via the Wright Glacier in Alaska.

REPORT ON MOLY-TAKU CLAIMS, ATLIN MINING DIVISION, BRITISH COLUMBIA

1.0 INTRODUCTION

1.1 Terms of Reference

Nevin Sadlier-Brown Goodbrand Ltd. were engaged by Marge Enterprises Ltd. to examine the Moly-Taku Claims and to advise on the acquisition of these claims from the prospector, to offer suggestions for further exploration if warranted, and to summarize our findings in a report. Accordingly the period September 26 through October 1, 1977 was spent travelling and examining the property, part of the time in company with Mr. Ray Urkac, Managing Director of Marge Enterprises and Mr. Frank Onucki, Prospector.

Our terms of reference from Marge Enterprises are concluded with the preparation of this report. We have not been engaged to manage exploration on the claims.

1.2 Scope of Report

The area currently covered by the Moly-Taku Claims has been held from time to time during the past two decades by other individuals or companies under different claim names. In some instances previous holders have taken a few initial exploration steps. This report summarizes any observations and conclusions based on the short field examination and makes use of available previous data.

The moly-bearing porphyry was examined in the moraine and in place in the lower bedrock exposures. Mr. Urkac and I were unable to accomplish one of our objectives--to examine the headwall of the cirque, which is the reported source of the detrital moly.

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### 1.3 Location and Access

The claims adjoin the border between British Columbia and the United States, immediately east of Juneau, Alaska (see Drawing 1). The claims are 15 miles south of the now abandoned Polaris-Taku Mine, 40 miles east of Juneau, 80 miles south of Atlin, B.C., and 170 miles south of Whitehorse, Yukon. They are located on NTS map sheet 104 K/6W, and centered on latitude  $58^{\circ} 27'$  and longitude  $133^{\circ} 22'$ . Access is via aircraft, on foot, or on snowmobile during the winter.

Border Lake, which lies across the Canadian-U.S. border in the northwestern part of the claims, is suitable for landings and take-offs by a Beaver or a Cessna 185. Within the claim group a helicopter is a necessity during all times of the year except those when the glaciers have a heavy enough snowpack covering the crevasses to be suitable for surface transportation.

A recent ruling by Revenue Canada, Customs and Excise requires chartered aircraft from the United States to clear customs in Canada before landing elsewhere within Canadian jurisdiction. This means that air charterers from Whitehorse or Atlin must be used, or charters from Juneau must clear at Atlin before landing on the property.

### 1.4 Terrain

One of the important factors in the exploration and eventual mining, if warranted, of the Moly-Taku property is the terrain and local geography. The claims lie in the high and jagged mountains of the Coast Range immediately south of the Taku River. Mt. Ogden has an elevation of 7441 feet and Border Lake is approximately 2800 feet. The glacier which lies on the north slope of Mt. Ogden feeds into a small river which flows north into the Sittakanay River, at elevation 700 feet, which in turn flows into the Taku at an elevation of a few hundred feet.

Immediately south and west of the claims, mainly on the American side of the border, is the large Wright Glacier which also flows northwest into the Taku River. Border Lake lies in a narrow pass between the two glaciers, and with its immediate surroundings has a

sub-boreal rain forest vegetation.

Elsewhere the claims lie on steep or vertical rock slopes and glaciers. No area within the claims is conducive to casual travel by foot or vehicle. The glaciers would make suitable avenues during the winter when sufficient snowpack is present to bridge or fill the crevasses, but transverse crevasses and, at the heads of the glaciers in the cirques, the headwall crevasses render the ice a difficult avenue during most of the year. Given the crevasses, the sloping surfaces of the glaciers, the knife-edge or jagged ridges, and the frequent gusty winds, there are few safe helicopter landing spots and few places that a man without considerable mountaineering skills and equipment could travel once he has landed.

The inhospitable nature of the terrain is one reason that the Moly-Taku showing has not yet been explored; a concept for dealing with these hardships during the exploration stage and a mining stage, if warranted, are outlined in Section 4.0.

#### 1.5 Claim Status and Opinion

The claims described in this report are shown in Drawing 2. All were staked by Mr. Frank Onucki, 602 Dunsmuir St., Vancouver. Claims Moly 1 through Moly 4 were staked on February 23, 1977 and Claims Taku 1 and 2 on February 24, 1977. All were recorded in Atlin on March 18, 1977. As is evident, a total of 77 units are claimed, however the international border reduces the net holdings to 70 units or slightly less.

No assessment work has been done. The only restriction on title, according to records at the Ministry of Mines, is that certain claims may not be conveyed to Iskut Silver Mines before February 20, 1978 under the section of the Mineral Act which prohibits a free miner from holding ground within a year of the lapsing of previously held claims.

All of the claims were staked from one Legal Corner Post, and in the case of the Taku's these posts were witnessed, without the complete installation of the corner and boundary marker posts. It has been customary in rugged parts of the Coast Range to witness claims and there is a good deal of precedent for the Mining Recorder to accept such staking. (All previous claims on this area were witnessed.) Since the introduction of Modified Grid Staking in

British Columbia, witness staking has in general been less acceptable; however in these circumstances it is our opinion that Mr. Onucki has secure title to the mineral rights and that the claims were staked in compliance with the letter and intent of the Mineral Act.

## 2.0 PROSPECTING HISTORY

### 2.1 Regional

The Taku River area was the site of a gold discovery in 1875 and was used as access to the Klondike during the last few years of the 19th century. The Tulsequah Chief property was discovered in 1923 and the properties later known as the Polaris-Taku and the Big Bull in 1929, along with several other mineral showings.

The Polaris-Taku operated from 1937 through 1951, producing 8 million dollars in gold from 700,000 tons of ore. The Big Bull and Tulsequah Chief produced from 1951 through 1957, milling about 1 million tons of ore which yielded 94,000 ounces of gold, 3½ million ounces of silver and several thousand tons of copper, lead, zinc and cadmium.

These base and precious metal deposits occurred in Stuhini volcanic rocks as replacements and stringers associated with silica, carbonate, and albite alteration.

As well as the massive sulphides, the region is known for the scattered occurrence of quartz monzonite porphyries. These intrude the older rocks and many have the characteristics of molybdenum or copper porphyries. The region attracted considerable effort on the part of major exploration companies during the 1960's and early 1970's.

### 2.2 Moly-Taku Property

Molybdenite, sphalerite and large-scale pyritization were first noted in the claim area by a Geological Survey of Canada field party under the leadership of Dr. J.G. Souther in the period 1958-1960. This news was made public by a press release. Subsequently, according to a report by the late Dr. Chris Riley, two

prospectors, Kol Lovang and George White entered the area and staked the first claims. These were subsequently optioned to the Wenner Gren Co., which prospected the area.

In 1961 Max Martin restaked the ground and sold it to one Richard White, who in turn optioned it to Totem Minerals Ltd. An assessment report by Roderick C. Macrae, who was an employee of Julian Mines Ltd. at that time, presented a crude geological map made during that year. The property was held by other companies in the middle 1960's; however, there are no public records as to the activity and we believe that little work was done.

Mt. Ogden Mines Ltd. was incorporated in 1967 and acquired the property. During 1967 they established a camp on Border Lake and skidded a small diamond drill up the glacier to a location as shown in Drawing 6. The drill setup was chosen as a compromise between minor bedrock moly mineralization and the few accessible locations at that time. The drill broke down after drilling 50 feet and was stored at the site, where it still sets. Dr. Riley's report states that 40 feet carried sub-ore values in moly.

At the same time Mt. Ogden engaged one C.B. Selmsler to conduct an airborne EM survey which he did by a rather unusual method and duly reported this in B.C. Ministry of Mines Assessment Report #1627. This report does not contribute substantially to an understanding of the geology or geophysics of the claim area.

Iskut Silver Mines Ltd. held the ground by staking in 1976, which claims lapsed in early 1977 without the owner having worked on them.

In February, 1977 Mr. Onucki staked the claims on his own behalf and reached an agreement with Marge Enterprises Ltd. to option and purchase the property.

### 3.0 OBSERVATIONS ON THE PROPERTY

#### 3.1 Moly in Moraine

Moraine is a general term for broken rock debris which is transported and deposited by glacial ice. Glaciers acquire their transported load of broken rocks by plucking material from the lower surface, from the sides of the valley, from small rocky spurs between the confluences of two glaciers, and from landslides and slope failures onto the surfaces of the glaciers. The pile of broken rocks along the edge of an existing or pre-existing glacier is called a lateral moraine. Where two glaciers come together and flow down the valley merged, the lateral moraines from each are mixed together and carried down the glacier as a medial moraine, good examples of which are shown in the air photos of Drawing 4 as dark stripes. The accumulated debris at or beyond the toe of a glacier is called a terminal moraine. Thus the prospector can gain considerable knowledge about the nature and proportion of the rocks in an ice-filled basin by inspection of the various moraines.

These were precisely the circumstances which lead to the discovery of the Moly-Taku mineralization: Molybdenite was first noticed in the terminal moraine, tracked up the glacier to a specific medial moraine, and further traced to one side and head-wall of a particular cirque.

Drawings 4 and 6 indicate the zone of a medial moraine where several tons of angular fragments of porphyry containing significant quantities of MoS<sub>2</sub> were noted by previous prospectors, by Mr. Onucki, and by Mr. Hrkac and me during our examination in September.

Incidental to the moly occurrence, but of some possible significance is the occurrence of zinc, occurring as black sphalerite, in an iron-bearing tactite which evidently derives from the opposite wall of the valley. This morainal occurrence has been observed, but not to our knowledge located in place, owing to the presence of crevasses in the glacier and the extreme steepness and instability of the slope on the west wall of the valley.

Because of weather, time limitations, the absence of helicopter landing places, and the difficulties of surface travel it was not

possible for us to inspect the headwall of the cirque which is labeled as the inferred source of MoS<sub>2</sub>. Dr. Souther (personnel communication, December 7, 1977) stated that in the few localities he visited the headwall had some spectacular large moly rosettes. There are no recorded observations on the grade of mineralization present in that zone, however. It is our understanding that the group under the supervision of Mr. Macrae did visit the area briefly on foot and made several passes with a low flying helicopter, but their map of the headwall shows simply a distribution of rock type and has no data whatsoever of the presence or absence of molybdenum mineralization.

### 3.2 Ablation of Glacier

Glaciers are fed by snow fall in their upper portions, which then consolidates and flows down a valley as a massive ice body, until eventually the influence of higher temperatures and running water waste the ice and terminate the glacier at its toe. When the various forces of accumulation and shrinkage are in balance the toe stays in the same position. When accumulation exceeds shrinkage the toe surges forward.

Observations during the past several decades on the north slope of Mt. Ogden indicate that the glacier in the center of the claims has been shrinking rapidly (see Drawing 5). Dr. Souther reported that snow and ice were almost at the top of the headwall in the late 1950's. The diamond drill which was set up by Mt. Ogden Mines Ltd. in 1967 is currently perched on the rock at least 100 feet above the glacier. Ablation appears to be affecting the Mt. Ogden glacier in all dimensions: at the toe, at intermediate elevations, and at the headwall. The practical implication of this is that the inferred source of the molybdenum being transported by the medial moraine is much better exposed now than it has been in the past. Considerably more geologic information is available to the explorer.

### 3.3 Geology

The regional geology is shown in Drawing 3. The principal

country rock is a Permo-Triassic metasedimentary and metavolcanic sequence. This is intruded by a Cretaceous-Tertiary quartz monzonite porphyry.

Some additional detail on the claim area is shown in Drawing 6. The Permo-Triassic sequence consists of tuffite, a diabase sill, and a thin- to thick-bedded sequence of shales and carbonates. The tuffites tend to be of two types. The predominate type is a fine-grained, dull grey-green, diopside-epidote-garnet unit, with or without copious quantities of fine-grained disseminated pyrite, magnetite, or strong traces of sphalerite. The other type is a white calc-silicate rock containing calcite, dolomite, wollastonite, or tremolite. Both tuffites tend to be exceedingly hard rock.

The distribution of these rocks is shown in Drawing 6. Generally they strike northwest and dip deeply to the northeast. In detail however bedding planes are tightly folded and contorted.

There are two intrusives into this pile. One is a series of widely-spaced, light-coloured dikes which follow an orthogonal pattern and which are little economic concern. The important intrusive is an irregular body of light-coloured quartz monzonite porphyry. There are various fine and coarse phases of this porphyry; however, the typical rock is described as follows: The grain size of the phenocrysts is about 0.5 mm, and they seem to be equally distributed among quartz, potassium feldspar and plagioclase feldspar, as closely as can be determined by the hand lens. Total phenocrysts are about 40 per cent of the rock, most of the remainder being a very fine-grained white groundmass. Mafic minerals are usually lacking. Occasionally one finds biotite grains, or dark feathers which appear to be secondary manganese.

Molybdenum occurs in this rock in several modes. One is straight, planar veinlets, all parallel, and ranging in thickness up to about  $\frac{1}{2}$  cm and spaced about 10 cm apart. These are commonly accompanied by silica-rich envelopes of one cm thickness. A second mode of occurrence of the molybdenite is as finely disseminated grains in the interstices of the rock. A third mode is as coarse 5 mm blocks associated with large irregular clots of quartz, with or without the appearance of having been deposited in an open void.

The rock commonly contains open voids up to  $\frac{1}{2}$  cm across.

These are generally lined with euhedral quartz prisms and muscovite mica. In general, exposures and float observed are not oxidized to extremes, but many quartz-lined voids contain strong traces of jarosite or ferrimolybdate, presumably an oxidation product of pyrite or molybdenite.

This description is based upon the inspection of several tons of broken fragments in the medial moraine (as previously described) and one-half day spent in the area near and above the 1967 diamond drill hole.

Molybdenum is not entirely confined to the porphyry. Several fragments of moly-mineralized tactite were found on the medial moraine. Generally this is the hard, dark green variety, although it tends to be intensively silicified and the moly occurs as very coarse books in silica veins. These commonly carry more finely disseminated or coarse pyrite than the usual green tactite.

The upper contact of the porphyry was inspected southeast of the diamond drill hole. The porphyry is in intrusive contact with the tactite, which is deformed, contorted, and silicified in that location. Numerous pyritized areas are indicated in Drawing 6. For the most part these are red or orange gossans which were observed from the air or from the surface of the glacier. The westernmost exposure was inspected in detail, and serves as the basis for the tentative statement that the gossans appear to be due to simply pyritized tactite.

However, some carry metal values. The zinc mineralization noted previously is found here and there in the terminal moraine (see next Section). According to Mr. Onucki much of the zinc-bearing rock derives from the southernmost medial moraine, in which case its source area is in the vicinity of the "snow field" indicated in Drawing 6. This area is overlain by jagged blocks of partially consolidated snow, almost glacial ice, and is one of the least stable slopes in the area and was not inspected.

#### 3.4 Quantitative Data

Approximately 3 or 4 tons of moly-bearing porphyry was inspected along a 1200-foot length of the medial moraine. One of



the larger and better mineralized pieces of this porphyry, a 30-pound fragment was collected by Mr. Hrkac during our inspection. This contained four subparallel veinlets. A piece was sawed from the middle crosscutting these fractures and assayed by Chemex Labs Ltd., North Vancouver, B.C. It reported 0.48 per cent MoS<sub>2</sub>, 0.02 ounces per ton of silver, and less than 0.003 ounces per ton of gold. Smaller fragments of much higher grade were collected from the moraine, as well as lower grade samples, but were not assayed.

Mr. Hrkac also collected several samples of mineralized tactite assayed for other metals, which reported as in the following table.

Table: Assays from Grab Samples from Moraine

<u>Sample No.:</u>	<u>% Cu</u>	<u>% Pb</u>	<u>% Zn</u>	<u>Oz/ton Ag</u>	<u>Oz/Ton Au</u>
23963	-0.01	-0.01	6.62	0.02	0.003
23964	0.07	0.91	17.3	3.00	0.010
23965	0.48	0.77	0.86	1.06	0.003

("-" reads "less than")

Mineralized porphyry in place at the diamond drill hole was not sampled for assay, since it contains only traces of moly scattered here and there and is obviously far below grade.

The headwall of the cirque, where Dr. Souther reported spectacular moly mineralization in some outcrops was not visited, nor are there known quantitative data on these exposures.

#### 4.0 ECONOMIC CONSIDERATIONS

##### 4.1 Target Orebody

The tonnage and grade of moly needed for commercial production from the Moly-Taku Claims will not be known precisely until such time as a feasibility study might be warranted and all the various

elements of production cost are estimated in detail. Using a rule-of-thumb derived from operating moly mines elsewhere, we might assume that in order to be economic, geologic reserves on the order of 100 million tons grading 0.5 or 0.6 per cent MoS<sub>2</sub> would be required. As has been stated in this report there are no known reserves on the Moly-Taku Claims. In our opinion, however, it would be reasonable and would follow good exploration practice to continue exploration on the claims in anticipation of finding a target in that approximate size and grade range.

#### 4.2 Mining and Haulage Concept

The Moly-Taku Claims are very close to tide water in the Taku River and to deep-water shipping at the port of Juneau, Alaska. The immediate environment, however, is one of the world's least hospitable spots for access and mobility; but the problems are not insurmountable. The setting of the deposit compares favorably with others, such as Ertzberg, in Indonesia; the Black Angel in Greenland; The Henderson Mine in Colorado; or even Granduc in the Coast Range of British Columbia. So the problem is transportation from the mine site to tide water. One means which has been discussed for this is a tunnel some 5 miles in length to connect the inferred deposit area with the Sittakanay River, as shown in Drawing 4. The tunnel might connect with a mill and a road down the Sittakanay and Taku Rivers to tide water.

Another consideration which would enter into logistics of mining would be provision for the intermittent floods on the Taku River, which occur at unpredictable intervals, originating from a self-emptying glacial lake upstream. Periodically the ghost town of Tulsequah is inundated to a level of several feet by such flood waters.

#### 4.3 Access and Logistics for Exploration

The first exploration effort aimed at the headwall of the cirque would be done most efficiently by establishing a supply base at Border Lake, suitable for fixed wing landings, and a fly camp or bad weather emergency camp up high on the glacier near the headwall. A small helicopter should be stationed on the job for access back and forth, as well as for transport around the inferred moly zone.

The second exploration stage, if one is warranted, might consist of extensive surface drilling, or drifting and underground drilling or sampling. Such a program would require a considerable assemblage of heavy equipment and considerable fuel and other provisions. In this instance a winter road might be constructed up the Wright Glacier on the Alaska side of the border and might extend to a tunnel mouth or road at the head of the cirque. An alternate to this would be a landing strip on the Wright Glacier large enough to accommodate a DC3 or Hercules transport.

## 5.0 SUGGESTED EXPLORATION APPROACH

### 5.1 Initial

As has been stated the inferred source area for the significant grades and quantities of moly found in the medial moraine has not been examined nor sampled in detail. Even if it had been, the ice has receded enough to expose considerably more outcrop than that exposed a decade ago, and a re-inspection would be warranted.

The initial exploration stage in this instance would consist of detailed sampling, of the type often done prior to property acquisition in more accessible area. Our suggestion would be to put together a small crew of skilled individuals to spend 4 to 6 weeks in the area, with proper equipment and support, to map and sample the surface exposures exhaustably. The crew should consist of a senior project manager, either from Marge Enterprises or a consultant to Marge Enterprises, one junior geologist, two operators familiar with Cobra drills and dynamite, one experienced mountain climber and expert on glaciers, one cook, and one helicopter pilot. Others who would be involved part-time would be an expeditor and a fixed wing pilot from Juneau, Atlin or Whitehorse.

The function of this crew would be to work at a scale of no less than 1:1,000 around the headwall and wherever else indications warrant it, to sample all exposed mineralization in bulk and to properly assess whether a follow-up stage would be warranted.

### 5.2 Follow-up

The recommendation for and design of a second stage of exploration would be contingent upon the outcome of the first. At this time, should a second stage be warranted, we visualize a subsurface sampling program, conducted from underground stations to avoid the problems of weather, ice and rock falls. As noted in Section 4.3, the access route which appears easiest at this time might be a winter bulldozer road or a landing strip on the Wright Glacier.

5.3 Estimated CostsA. Initial Stage - Mapping and Sampling


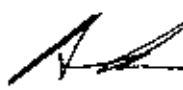
Crew payroll cost - 5 men, 6 weeks plus 1.5 weeks mob and demob	\$ 30,000
Helicopter, Bell 47G4, 150 hours @ \$185 or Allouette II, 125 hours @ \$270, allow approx.	34,000
Helicopter fuel, delivered, 4000 gal @ \$2	8,000
Camp, drilling and mountaineering equipment	20,000
Food, other fuels, expendable supplies	5,000
Fixed wing supply and personnel flights, excluding helicopter fuel	4,000
Freight, Vancouver - Atlin, r.t., supplies and bulk samples	4,500
Engineering and Management	12,000
Other expenses	2,500
Contingency for bad weather and unexpected events	<u>10,000</u>
	<u>\$130,000</u>

B. Underground Drilling Stage

The cost of Stage 2 cannot be estimated until results are obtained from Stage 1. Similar projects in remote places are conducted over several seasons of work at costs ranging from about \$300,000 to \$1 million per season.

Respectfully submitted,

NEVIN SADLER-BROWN GOODBRAND LTD.



Andrew E. Nevin Ph.D., P.Eng.

APPENDIX 'A' - CERTIFICATE

I, Andrew E. Nevin, hereby certify that:

1. My residence address is 926 Montroyal Blvd., North Vancouver, B.C., my office address is 5th floor - 134 Abbott Street, Vancouver, B.C. V6B 2K4; and that I am a Geologist by occupation.
2. I hold a B.Sc. in Geophysics from St. Lawrence University, an M.A. in Geology from University of California, Berkeley, and a Ph.D in Geology from University of Idaho. I have been practicing my profession since 1961, and I am a member of the Association of Professional Engineers (Geological) of the Province of British Columbia, and a Registered Professional Geologist in the State of Idaho.
3. I have examined the Moly and Taku Claims on September 27-30, 1977, and reviewed the data thereon personally.
4. I hold no direct or indirect beneficial interest in the above property nor in the securities of Marge Enterprises Ltd. nor do I expect to receive any.

  
  
Andrew E. Nevin, P.Eng.

December 16, 1977

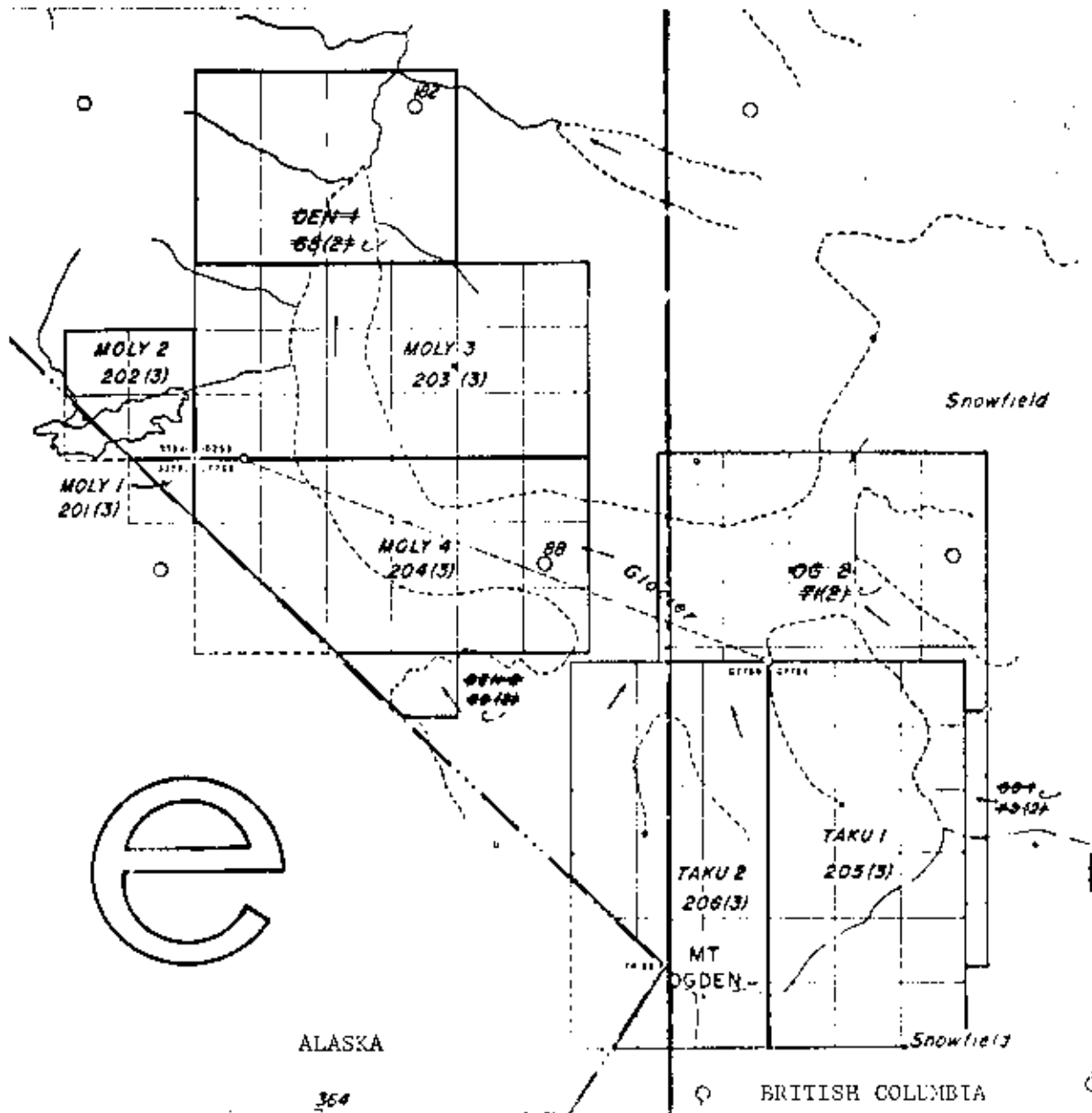
APPENDIX B: REFERENCES

- Macrae, Roderick, C.  
1961: Geological Report on the Nan Claim Group for Totex Minerals Limited; 6 pp., appendices, map, B.C. Ministry of Mines No. 383.
- Riley, Christopher, P.Eng  
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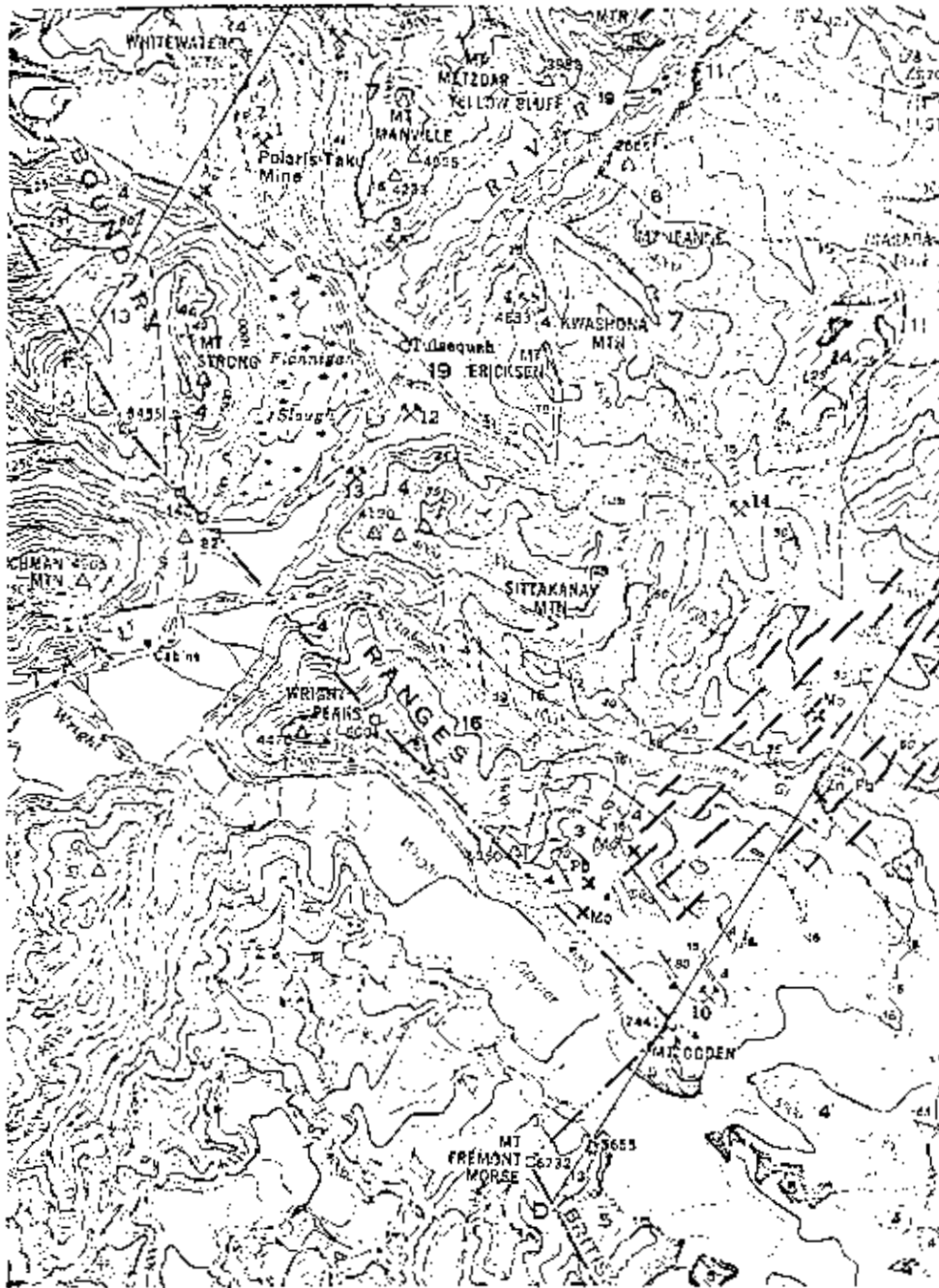
Drawing 1 - Location Map



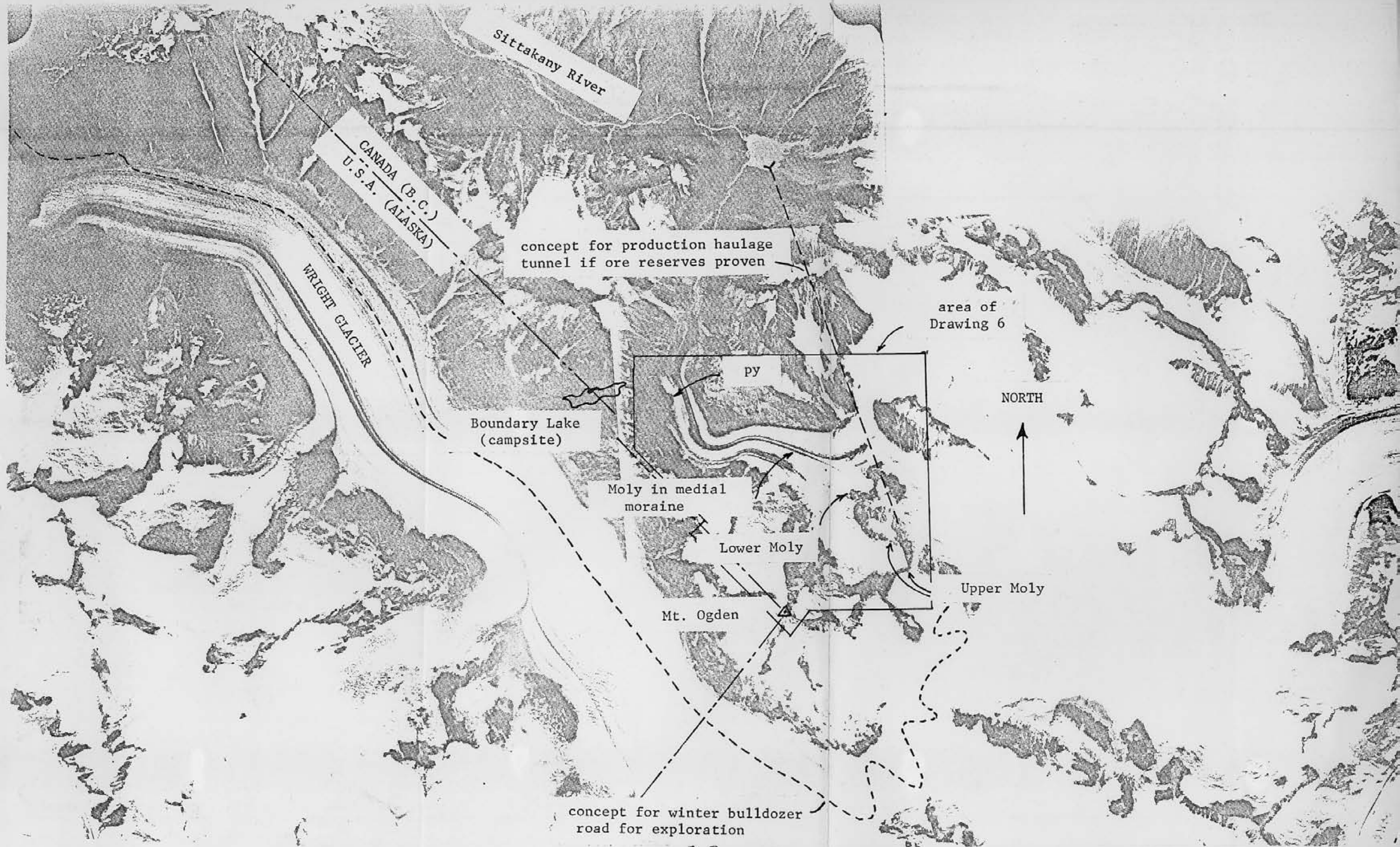


Drawing 2 - Claims Map Reproduced from  
Ministry of Mines Map 104-K 6W  
of April 7, 1977, scale 1:50,000

<u>LEGEND</u>	
<u>Unit</u>	<u>Summarized Description</u>
19	Quaternary alluvium talus, drift
16	Quartz monzonite coeval with 14
15	Felsite and porphyry coeval with 14
14	Cretaceous-Tertiary Sloko group; rhyolite, dacite
12a	Jura-Cretaceous granodiorite
11	Jurassic Takwahoni fm; conglomerates
8	Triassic Stuhini group; greywacke, conglomerate
7	Triassic Stuhini group; andesites, basalts, agglomerates
5	Gneiss, schists marbles; metamorphosed 3 and 4.
4	Permo-Triassic clastic sediments and intercalated volcanics
3	Permian limestone, dolomite, minor chert, argillite
<u>Mineral Properties Shown</u>	
1	Polaris Taku
3	Big Bull
10	Moly-Taku Claims, formerly Nan
12	Surveyor
13	Council
14	Baker



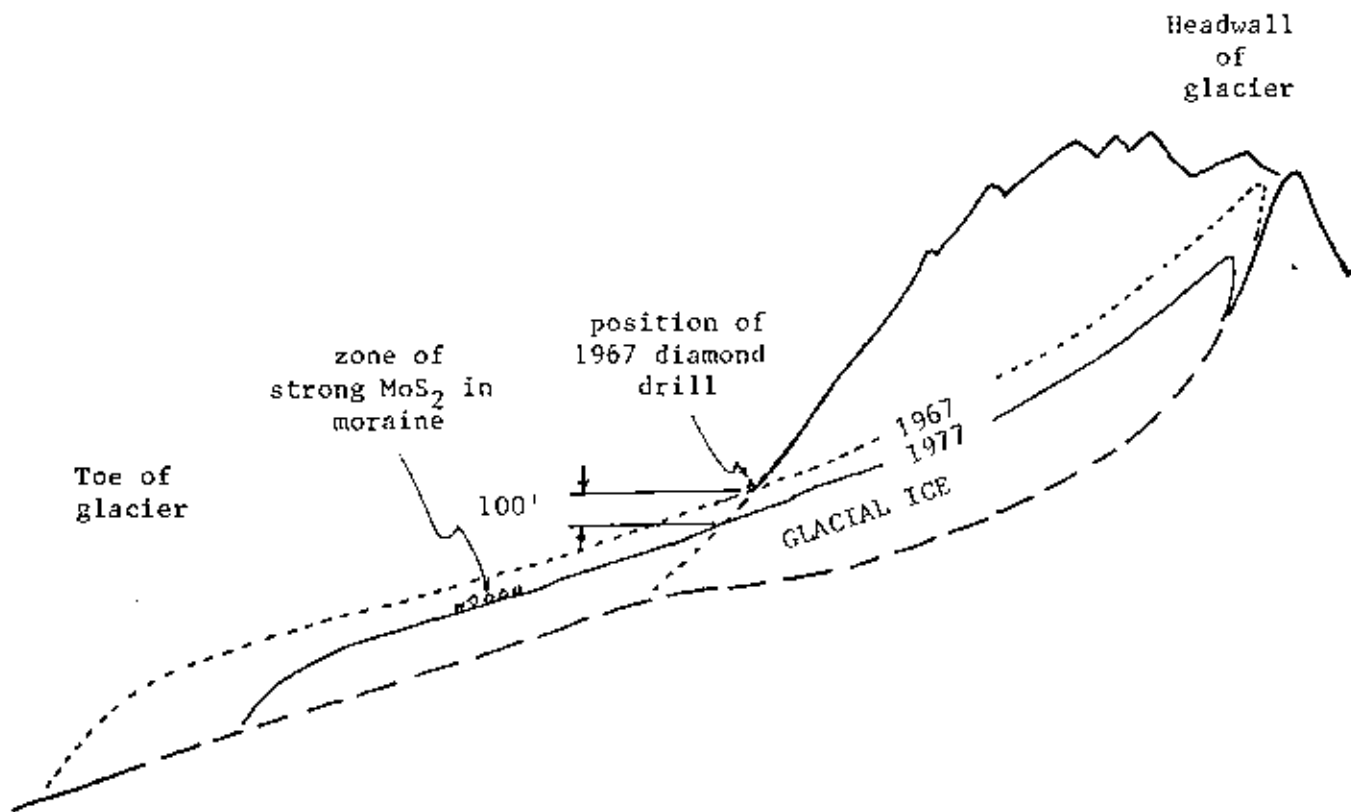
Drawing 3 - Regional Geology reproduced from Souther (GSC Map 1262A), scale 1:250,000



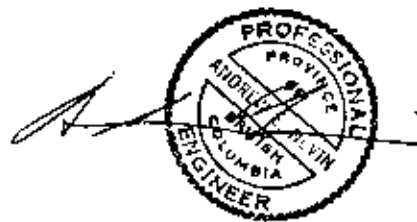
NEVIN | SADLIER-BROWN | GOODBRAND | LTD

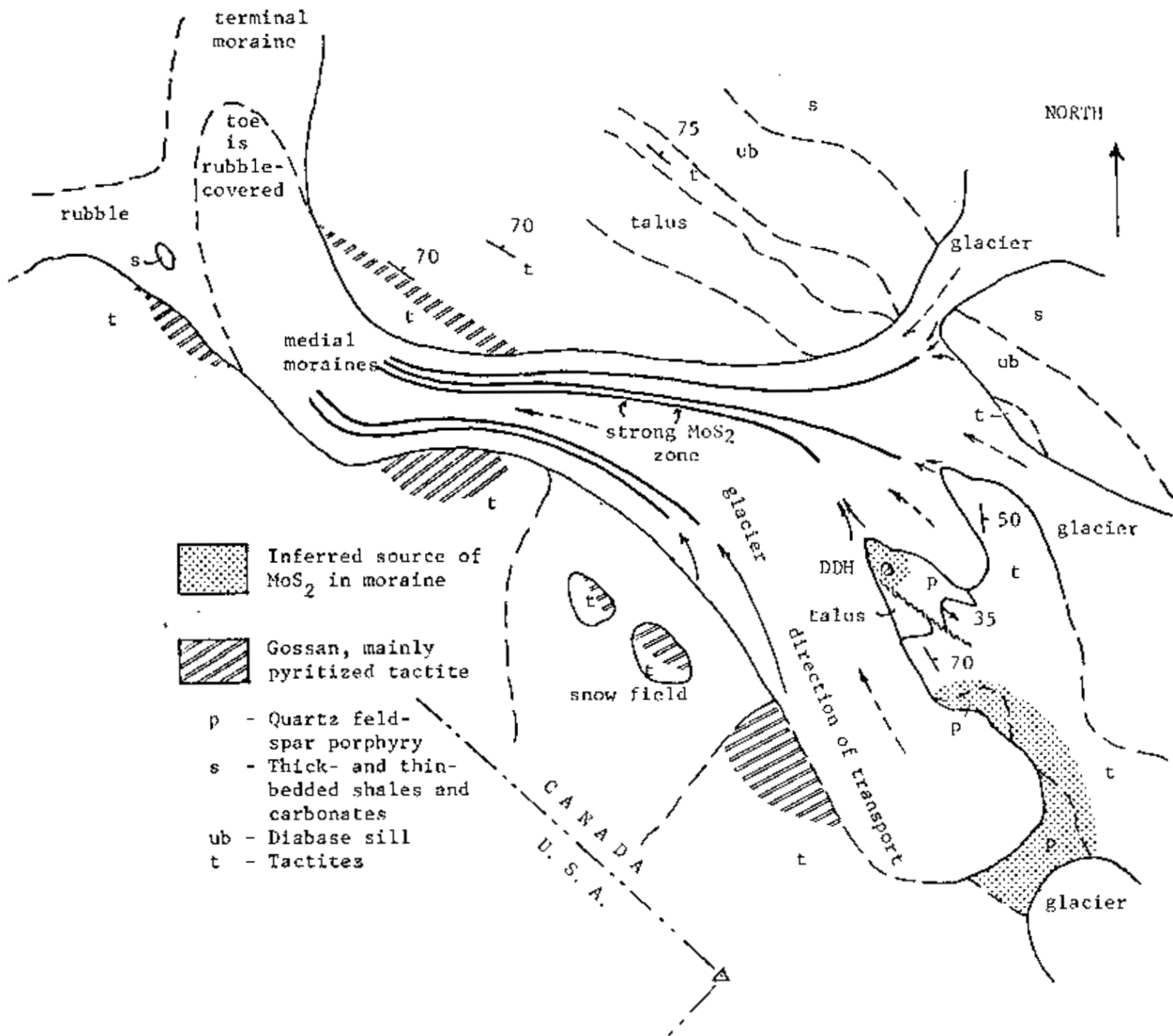


Drawing 4 - Air photos A 24219-34 and 50 annotated to show principal features and some concepts for exploration and production transportation; scale 1:75,000, some distortion at join.



Drawing 5 - Sketch showing observed ablation, or shrinking in all dimensions, of glacier since 1967; a continuation of a process started before 1960; not to scale; note that the inferred source of the moly in the moraine is much better exposed than in the past, although traversing the steep edges of glaciers is difficult.





Drawing 6 - Sketch map of outcrop, based on field plotting of observations on 1:30,000 blow-up of 4-mile topographic map, with some data from references; source of material in moraines is inferred.

