

5781

PROSPECTING REPORT

ELIZA 1 - 4, 6 & MAY 14 MINERAL CLAIMS

TURNAGAIN RIVER AREA, 50° 40' N, 128° 05' W,

CLAIM MAP 104I/9E

LIARD MINING DIVISION, BRITISH COLUMBIA

BY Erik Ostensoe



FOR William Kuhn

October 28, 1975

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 5781 MAP .....

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## INTRODUCTION

The Eliza and May mineral claims cover the eastern portion of the Ram-Ewe tungsten prospect located immediately north of the confluence of the Cassiar and Turnagain Rivers in the Cassiar Mountains of northern British Columbia. This report is based on field sketches and observations recorded during August 1975 while the writer was working on the claims. The purpose of that work was to prospect the claims and make evaluation of the tungsten potential of that portion of the Ram-Ewe property.

## LOCATION

The Eliza and May mineral claims are located in Liard Mining Division at latitude 58° 40' N and longitude 128° 05' W (Figure 1). They are 72 miles east of Dease Lake, B.C. and about 105 miles south of Watson Lake, Y.T.

The claims are between elevations 5000 and 7000 feet on the south slope of a subsidiary range within the Ketchika Ranges of the Cassiar Mountains. The Turnagain River, one mile south of the claims, flows easterly from the relatively subdued topography of the Stikine Ranges through the more rugged Ketchika Ranges in a deeply incised valley. It joins the north-flowing Dall River a few miles east of the property.

## ACCESS

Access to the property for purposes of the examination was by helicopter from Dease Lake. Float-equipped aircraft can land at Rainbow and Blue Sheep Lakes, 20 miles southwest and 12 miles west of the area, respectively. In recent years a bulldozer was brought to the Ewe portion of the property to aid in trenching and road building but due to steep terrain could not be used on the Eliza and May claims.

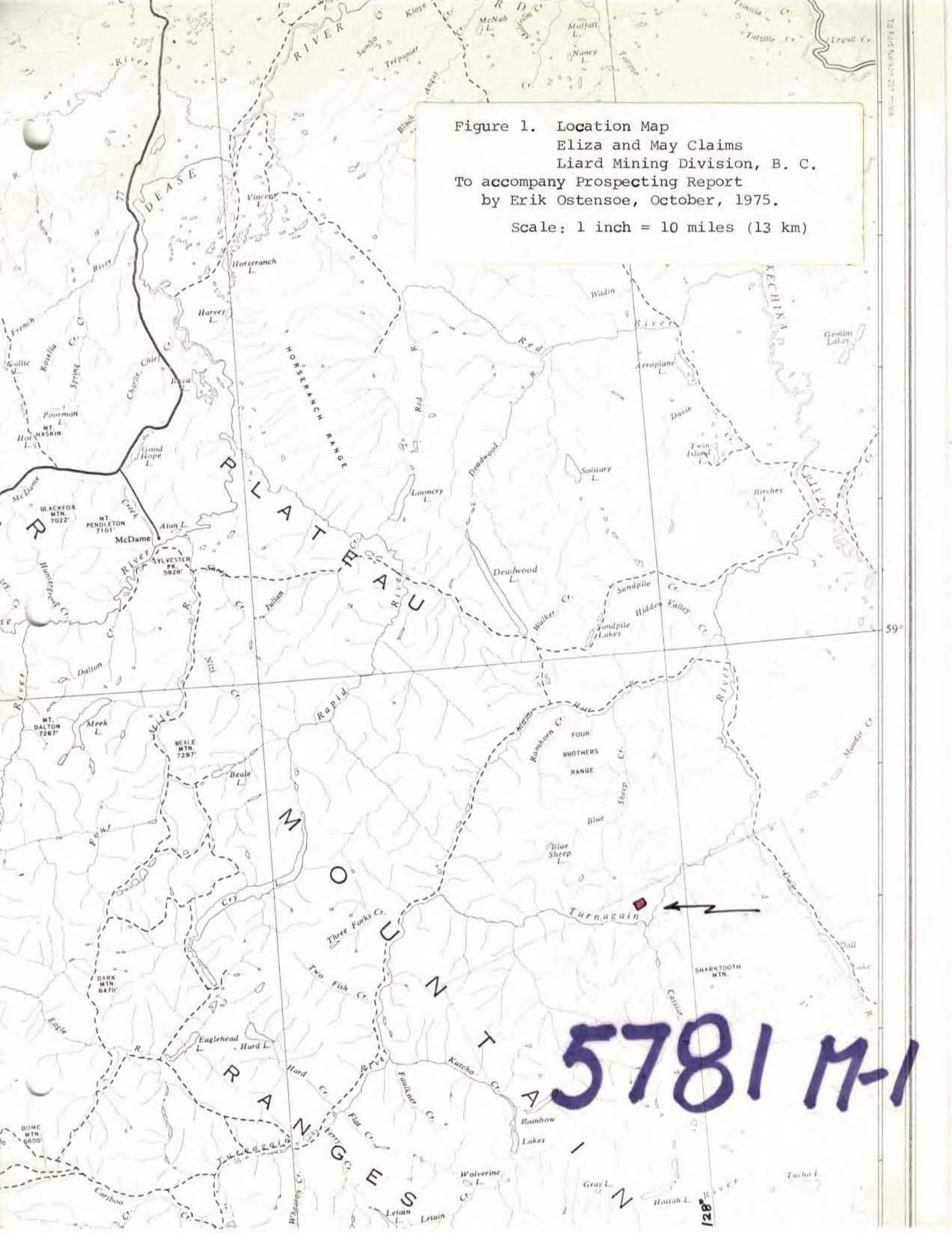
## OWNERSHIP

The Eliza 1 - 4, 6 and May 14 claims are owned by William Kuhn of Vancouver, B.C. Record numbers are 72202-5, 72207 and 72197 respectively.

## PREVIOUS WORK

The Ram-Ewe tungsten prospect was located in 1967 by the present owner, William Kuhn, who was then prospecting for Rip Van Mining Ltd. The latter company carried out diamond drilling and other work on the southwestern, "Ewe", portion of the property but apparently did little in the area of the present Eliza and May claims. El Paso Mining and

Figure 1. Location Map  
Eliza and May Claims  
Liard Mining Division, B. C.  
To accompany Prospecting Report  
by Erik Ostensoe, October, 1975.  
Scale: 1 inch = 10 miles (13 km)



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Milling Company, a successor company to Rip Van Mining, currently retains claims adjoining the west limit of the Eliza and May claims.

#### WORK DONE DURING AUGUST 1975

At the invitation of William Kuhn, Erik Ostensoe and Ed Kruckowski, geologists employed by Hecla Mining Company of Canada Limited, visited the Eliza and May claims in the period August 28 to August 31, 1975 inclusive.

A camp was established near tree line in the East Fork of Schist Creek.

The visit was sufficient to permit examination and prospecting of the claims but was too brief to permit a comprehensive geological mapping. The geologic section was not fully deciphered nor were extensive ultra-violet lamping surveys completed.

#### GEOLOGY

The Ketchika Ranges are comprised of granite rocks of the Cassiar Batholith intruded into clastic and carbonate rocks of Proterozoic through Middle Paleozoic age. In the immediate vicinity of the Eliza and May claims only the Proterozoic and Lower Cambrian age strata are recognized. According to Gabrielse (GSC map 29 - 1962, Cry Lake Sheet), one or both of two similar appearing formations may be present in the area: a Lower Paleozoic and earlier "quartz-mica schist, quartzite, crystalline limestone, hornfels, skarn, feldspar-quartz gneiss" and a Lower Cambrian age "quartzite, shale, siltstone, pebble conglomerate". Because these formations are similar it seems unlikely that they could be readily differentiated in the field, especially if, as appears probable, they have been metamorphosed by the emplacement of the Cassiar Intrusions.

Two granodiorite plutons are present in the vicinity of the Eliza and May claims (Figure 2). One body outcrops along the south edge of the claims, the other occupies the north portion. The Eliza and May zone of potentially significant tungsten mineralization lies between the plutons.

The southern pluton is simply a portion of the great Cassiar Batholith of Jura-Cretaceous age. It is extensive at lower elevations (below 5300 feet) north of Turnagain River as well as up to similar elevations south of the Turnagain and along the Cassiar River and other nearby tributaries. Emplacement appears to have been passive and the contact between granodiorite and skarned quartzite is assimilative rather than disruptive.

The second pluton outcrops in a 12 square mile area and is nearly circular. Petrologically it is very similar to the larger intrusive body: a grey-white leucocratic biotite granodiorite with a blocky fracture pattern and weakly developed foliation. Its emplacement appears to have been much more vigorous than the southern pluton and it is likely a somewhat later phase of the Cassiar Intrusive episode. In the vicinity of the Eliza and May claims the contact is a steeply dipping broken zone with a hornfelsic aureole consisting mainly of biotitization and pyritization in the quartzite formation. Much of the Eliza and May tungsten mineralization occurs within about 3000 feet of the second pluton but the contact zone, about 300 feet in width, is virtually barren. We do not have access to detailed information concerning tungsten distribution with respect to the rest of the area but a number of scheelite occurrences are reported in the general vicinity of the margin of the larger intrusive body.

On the Eliza and May claims a green and red laminated micaceous garnet - diopside quartzite skarn is in contact with the main granodiorite mass. It is schistose and uniformly metamorphosed, containing several percent red garnet. The unit was traced more than one mile east of the claims but only small quantities of scheelite were recognized. The strike of the formation is east-west with moderate northerly dips that range from 15° to 30° north. Numerous felsitic dykes and sills are present, ranging from one to three feet in thickness. In contrast to the enclosing rocks, they have been weakly metamorphosed.

The schistose meta-quartzite formation is overlain in the eastern part of the property by a ivory-white to buff-coloured monotonous medium-grained recrystallized limestone formation. This formation is notable for its consistency and persistence; no significant variation was recognized in examination of a section one mile long and 800 feet thick. No tungsten mineralization has been found in it. As illustrated in Figure 2 the limestone formation ends abruptly in the vicinity of the upper portion of the East Fork of Schist Creek in a north-striking zone of faulting and dykes. This zone is about 150 feet wide and contains two pegmatitic granite dykes, each about 20 feet wide, and several narrower basalt dykes. Some of the latter are fine-grained dark brown and homogeneous, others are equally dark in colour but are very coarse grained, mottled in appearance and exhibit a distinctive nodular weathering pattern.

West of this contact zone are reddish quartzites that form part of the north and northwest faces of the East Fork cirque and, as described above, are in contact with the northern granodiorite pluton. Somewhat obscured by the dark colours of the quartzite are narrow dark-weathering veins of rhodochrosite with trace to a few percent galena. These veins are only a few inches in width and represent the only material other than scheelite that might be of economic interest as galena found elsewhere in the region

is reported to carry silver values. Scheelite does not accompany galena.

The limestone-quartzite contact fault strikes north-south in the cirque wall but was not recognized to the south in the floor of the cirque even though adequate outcroppings were present. Nonetheless the limestone exposed west of the fault in the upper part of the cirque and on the ridge between East Fork and the main Schist Creek cirque is distinctly different from the limestone exposed east of the fault. The west limestone is thoroughly skarned and recrystallized, and is the host of the main tungsten mineral occurrences. It weathers both grey and light brown and is interlayered with some siliceous skarn beds.

A large number of flat-lying quartz veins occur in the limestone and where concentrated produce a sheeted appearance in the outcrops. They vary in thickness from 1/4 inch to 1 1/2 feet and commonly are separated by from 2 inches to 2 feet of recrystallized limestone. Each quartz vein is sandwiched between narrow, 3/8 inch to 1 1/2 inch wide, layers of gneissic brown-coloured skarny material consisting of white mica and quartz with minor amounts of calcite, diopside (?), garnet and scheelite. Scheelite is also present in the quartz veins, occasionally as large euhedral or subhedral crystals up to 2 inches in diameter and more abundantly as easily identified tiny "glints" that appear when rock is observed in ultra-violet light.

The scheelite mineralization is widespread in the area of quartz veining and no other specific controls were recognized. At any particular location the quantity of scheelite present with the quartz appeared to be totally unpredictable.

The limestone host rock in the area of mineralization was indistinguishable from barren rock found near by. It is all recrystallized even-textured rock that weathers to grey-colour and a rough textured surface. Banding is relatively coarse but apart from a few colour laminations there is little or no evidence of smaller scale primary bedding. Detailed mapping on the ridge between East Fork and Schist Creek would almost certainly yield much structural information pertinent to the distribution of tungsten minerals.

#### TUNGSTEN MINERALIZATION

Ultra-violet lamping surveys were conducted after dark as an aid in locating and evaluating the scheelite mineralization. In ordinary light the scheelite is indistinguishable from quartz and is seldom present in sufficient amounts to be readily identified in hand specimen-size pieces by its specific gravity. Under ultra-violet light however it fluoresces bright blue-white. Particularly in the southwest wall of the cirque at the head of East Fork of Schist Creek scheelite occurs in substantial quantities over a very large area. A second scheelite zone that occurs further south on the

same ridge is similarly mineralized but appears to have smaller dimensions. Elsewhere scheelite was noted in talus fragments and as scattered flecks in and near quartz veins.

Lamping surveys confirmed the occurrence of scheelite in outcrops and suggested its presence in amounts that could be economically significant. Due to a lack of familiarity with the type of deposit, no attempt was made to record visual estimates. Similarly it was not possible to estimate tonnages except in very general terms.

#### CONCLUSION

Prospecting of the Eliza and May claims indicates they are located in an area of skarned and hornfelsed carbonate and quartzite rocks that lie between two petrologically similar granodiorite intrusive masses. Scheelite occurs in an area of very significant dimensions and further prospecting and sampling may reveal the presence of a major tungsten resource. A program of assay sampling to determine possible tungsten content is required.



The following expenditures were incurred in carrying out field work and in report preparation re the accompanying Prospecting Report.

Transportation

2 men from Stewart to Dease Lake on August 27, 1975 and return to Stewart on September 1, 1975 via truck

500 miles @ \$0.15/mile 75.00

Helicopter Transportation

2 men from Dease Lake to Turnagain River on August 28, 1975, return to Dease Lake on August 31, 1975

1122.00

Groceries and Supplies

12 man days @ \$11.00/man day

132.00

Salaries

E. Ostensoe 10 days

900.00

E. Kruchkowski 6 days

420.00

Report preparation - secretarial, drafting & incidental

30.00

Total expenditures

2579.00

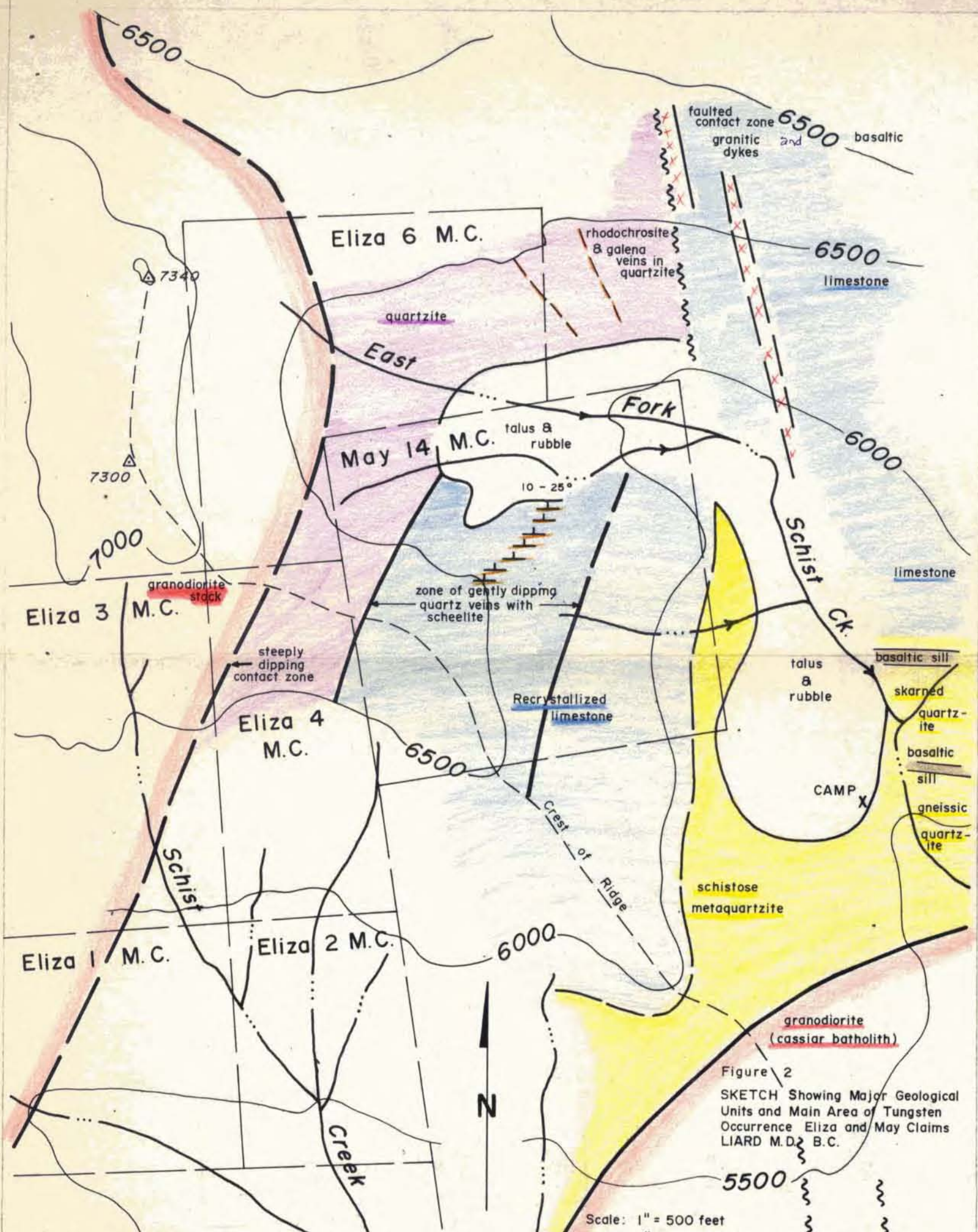
*Erik A. Ostensoe*

### STATEMENT OF QUALIFICATIONS

The work described in the accompanying prospecting report was done by Erik Ostensoe and Edward Kruchkowski. Their qualifications are detailed below:

- 1) Erik Ostensoe, B.Sc. (Hons.), Member: CIMM, Association of Exploration Geochemists; Geologist -  
Completed B.Sc. Honors course at University of British Columbia in 1960 and course requirements of M.Sc. at Queen's University in 1966; employed by Newmont Mining Corporation of Canada Ltd., under direction of Dr. G. W. H. Norman, P.Eng., from May 1960 through August 1964 as field geologist in Granduc Mine area, B.C., by Mount Billings Venture in south-eastern Yukon in summer 1965, by Scud Venture (Asarco) in Iskut River area, B.C. in Summer 1966 and by Granduc Mines, Limited (N.P.L.) and Hecla Mining Company of Canada Ltd., from October 1966 to present as Chief Geologist and Exploration Supervisor under the direction of P. I. Conley, P.Eng.
  
- 2) Ed Kruchkowski, B.Sc., Geologist -  
Completed B.Sc. course at University of Alberta (Edmonton) in May 1972; in summers of 1969, 1971 and 1972 employed by Hecla Operating Company in Schaft Creek area as corespitter, soil sampler and geologist respectively. In 1970 employed by consultant and assigned to projects in southeastern British Columbia. Employed by Hecla Operating Company as geologist from May, 1973 to June, 1974 and assigned to projects at Mess Creek, B.C. and Bute Inlet, B.C. under the direction of Erik Ostensoe and P. I. Conley, P.Eng. Thereafter employed by Granduc Mines, Limited (N.P.L.) and Hecla Mining Company of Canada Ltd. as geologist in charge of work on Sulphurets Creek property, B.C. and on other mineral exploration activities in Western Canada.





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*Erik A. Ostensson*