

GEOLOGICAL MAPPING OF SKARNS ON THE SHEEP
AND EWE CLAIMS, TURNAGAIN RIVER, B.C.
DURING THE 1979 SUMMER SEASON

CLAIMS: Sheep 1 to 4
Ewe 1, 3, 4 to 8
Lamb 12 Fraction
Liard Mining Division, B.C.
NTS 104 I - 9E
LATITUDE: 58°41'N
LONGITUDE: 128°07'W
UNION CARBIDE CANADA LIMITED

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 7672

PART 282

C. N. Forster
Vancouver, B.C.
January 1980

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Location

The Ewe and Sheep Claim Group is located approximately 169 kilometres south-south-east of Watson Lake or 114 km easterly from Dease Lake, B.C. The claims are within the Liard Mining Division. They are situated immediately opposite the junction of the Turnagain and Cassiar rivers, on the northwest side of the Turnagain. Access is by helicopter from Dease or Watson, although float planes may be used to transport loads to Blue Sheep Lake which is 15 km west-north-west of the claims.

Topography

The Turnagain River valley is deeply entrenched and shows signs of recent glaciation. Many of the smaller side valleys were formed by hanging glaciers and are cirques with steep walls at their head, a gradual slope to about 1600 metres elevation and then a steep drop to the river. The river is at about 760 metres elevation while peaks approximate 2190 metres. The claims cover a narrow ridge between about 1600 and 1980 metres elevation. At the higher elevations the slopes are extremely steep and much of the mapping was at the base of cliff faces.

Claims

The claims covered by mapping are the northern part of the Ewe Group, the Lamb 12 fraction and the Sheep Group. Record numbers are as follows:

Ewe 1	30870	29th July 1999
3	30872	"
4	30873	"
5	30874	"
6	30875	"
Lamb 12	38779	10th October 1979

Sheep 1	28021	5th September
2	28022	"
3	28023	"
4	28024	"

They are held by G. A. Noel

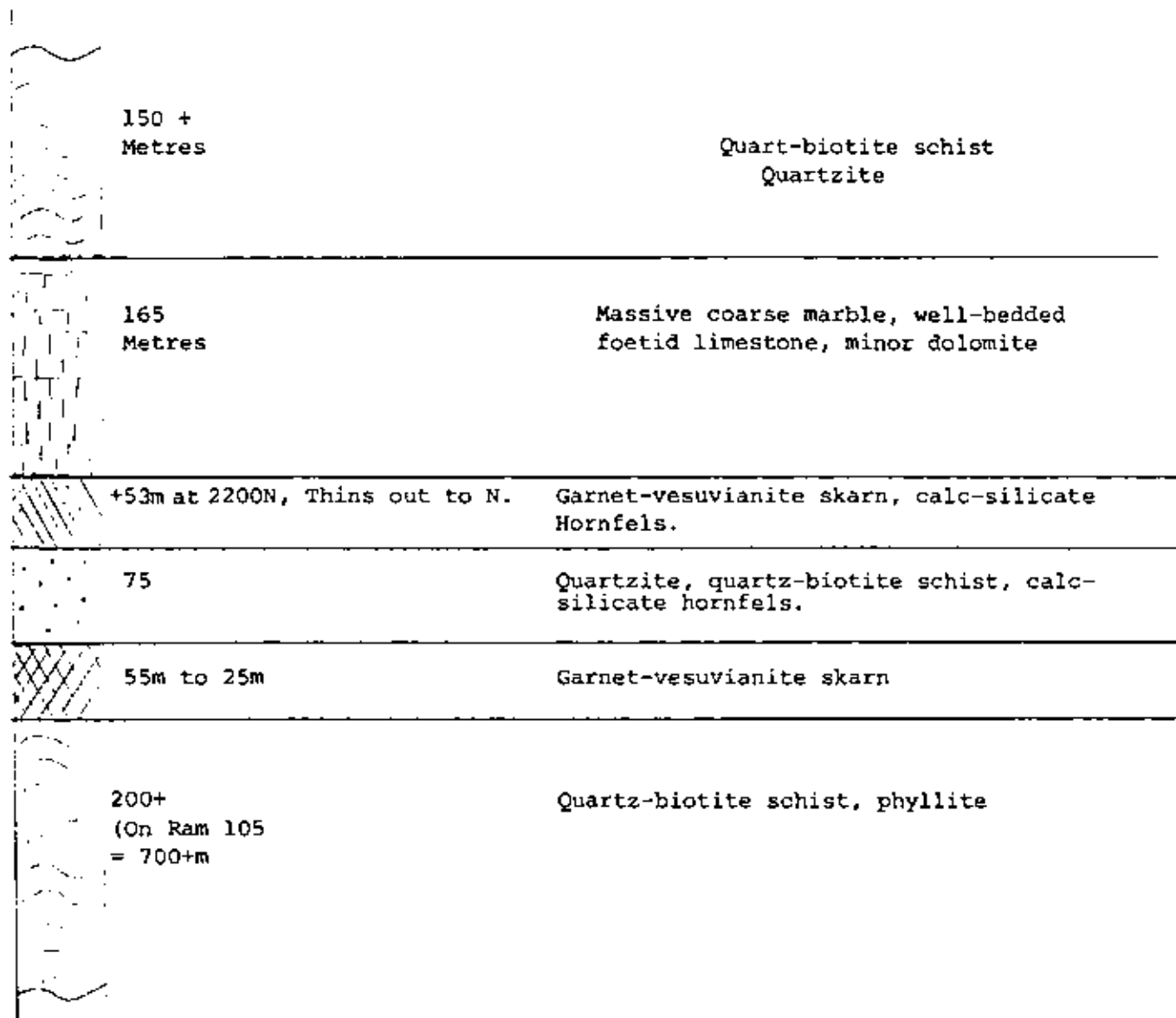
Work Done - Union Carbide Exploration

During the summer of 1979 Union Carbide's program consisted of detailed geological mapping at a scale of 1:1500. A Kern TD 1 theodolite was used for topographic control. The principal objective of this work was to extend the previous mapping of El Paso's north easterly into the adjacent claim block held under option and W. Kuhn. This work was part of a much larger program of mapping and diamond drilling being carried out concurrently on the Kuhn claims.

Geology

The El Paso claims are underlain by a sequence of Lower Cambrian and older quartzites, carbonates and schists that have been altered by the intrusion of the Cretaceous quartz monzonite Cassiar Batholith and a second younger satellite quartz monzonite stock.

The stratigraphic section is shown on the next page.



Vertical
Scale
1:5000

The Proterozoic (age) Lower Phyllite Unit, lies as a thick clastic buffer section between the granite and the overlying Lower Cambrian (?) carbonates and skarns.

Near the top of the phyllites is a 25 m to 55 m thick garnet, idocrase skarn that thins rapidly to the northeast from the area drilled by El Paso. The skarn in turn is overlain by a 75 metre section of quartzite, calc-silicate hornfels with intercalated schists. A second skarn, also garnet, idocrase in composition overlies this quartzite section and also thins to the northeast.

Overlying the upper skarn bank is a thick section of massive to well bedded limestone and dolomites. The skarn probably represents a lower, metasomatized unit of the carbonate package. The massive unbedded portions of the limestone section have been recrystallized to a coarse grained marble.

At the top of the stratigraphic section, and overlying the carbonates, is a second phyllite unit similar in composition and texture to the lower phyllite section. It is not known if these are separate, individual units or a repetition by thrust faulting or folding. Evidence for thrusting exists on the Kuhn property to the northeast.

As previously noted the Cassiar Batholith has risen to a level several hundred metres below the carbonate-phyllite contact. The granite-phyllite contact appears to dip gently north and west.

A younger circular stock with vertical contact is intrusive into the sediments in the northern portion of the claim block.

It is the writer's belief that the Cassiar Batholith underlying the carbonate-phyllite section is the source of the metasomatic fluids that altered the carbonate beds to garnet idocrase skarns - not the small

satellitic stock. This is substantiated by the skarns developed in the same stratigraphy above the Cassiar Batholith on the opposite side of the Turnagain River.

Mineralization

Scheelite mineralization occurs in the two idocrase, garnet skarn bands and in quartz veins developed in the phyllites and carbonates. Careful night lamping of El Paso's drill core confirms their assays ranging from trace to 0.30% WO₃. No re-assaying of the core was done.

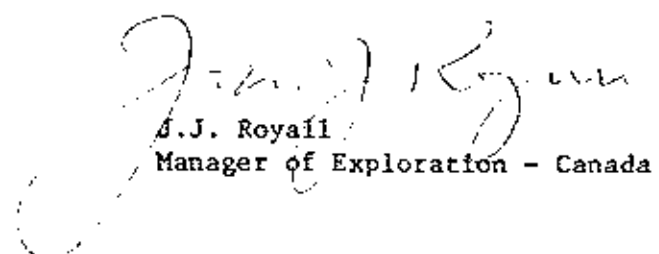
Night lamping of the north easterly skarn extensions, not previously mapped by El Paso, shows only very weak scheelite mineralization in this direction. Assays confirmed this with values of less than 0.01% WO₃.

Conclusions

The surface mapping and night lamping shows that the low tungsten values in El Paso's drill core and the surface outcrops does not increase along the skarn extensions. The scheelite mineralization does not appear to be related to the small stock but is probably due to the emplacement of the Cassiar Batholith. The thick section of phyllite roofing the batholith then acted as a barrier to the metasomatic and mineralizing fluids with the results that the skarns did not develop into higher grade diopside, massive sulphide bodies similar to the Cantung/Mactung deposits.

The geological mapping does not indicate any areas within the claim block that would have this phyllite "buffer zone" removed. There is little potential for the development of a large tonnage, high grade tungsten deposit on the El Paso claims.

C.N. Forster


J.J. Royall
Manager of Exploration - Canada

SHEEP CLAIMS - COST STATEMENT

Man Hours Worked

S. Fraser UCEX staff geologist - June 18th, 19th, 20th July 8th, 12th, 20th 6 days @ \$120 per day	720.00
T. Liverton UCEX staff geologist - June 18th, 19th 20th; July 8th, 12th, 20th 6 days @ \$120 per day	720.00
P. Levasque UCEX assistant geologist - June 19th, 20th 1 1/2 days @ \$60 per day	90.00
D. Simpson UCEX assistant geologist - June 19th, 29th 1 1/2 days @ \$60 per day	<u>90.00</u>
	\$1,620.00

Accommodation

15 man days @ \$30 per man/day	<u>450.00</u>
	\$2,070.00

Transportation

Quasar Helicopters, Richmond, B.C. (B1)	
July 10th 0.5 hrs	
July 17th <u>0.4 hrs</u>	
.09 hrs @ \$185	<u>166.00</u>
	\$2,236.00

<u>Rental - Survey Equipment</u>	75.00
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Drafting

Final map	<u>200.00</u>
	<u>\$2,511.00</u>

LAMB 12 FRACTIONS

S. Fraser	UCEX staff geologist @ \$120 - July 10	120.00
T. Liverton	UCEX staff geologist @ \$120 - July 10	120.00
C. Forster	UCEX staff geologist @ \$120 - July 10	<u>120.00</u>
		\$360.00
<u>Accommodation</u>		
	3 man days @ \$30	90.00
<u>Transportation</u>		
	131 Helicopter hour @ \$185 - 0.7 hrs.	<u>129.00</u>
		<u>\$579.00</u>

58°45'N

128°00'W

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Km

1:50,000

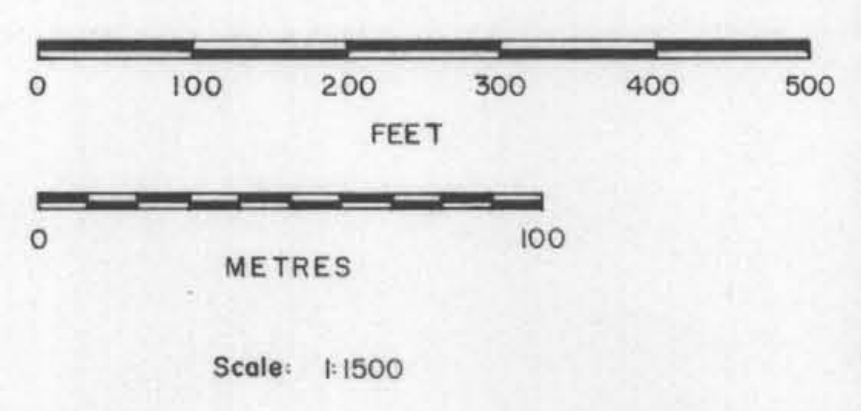
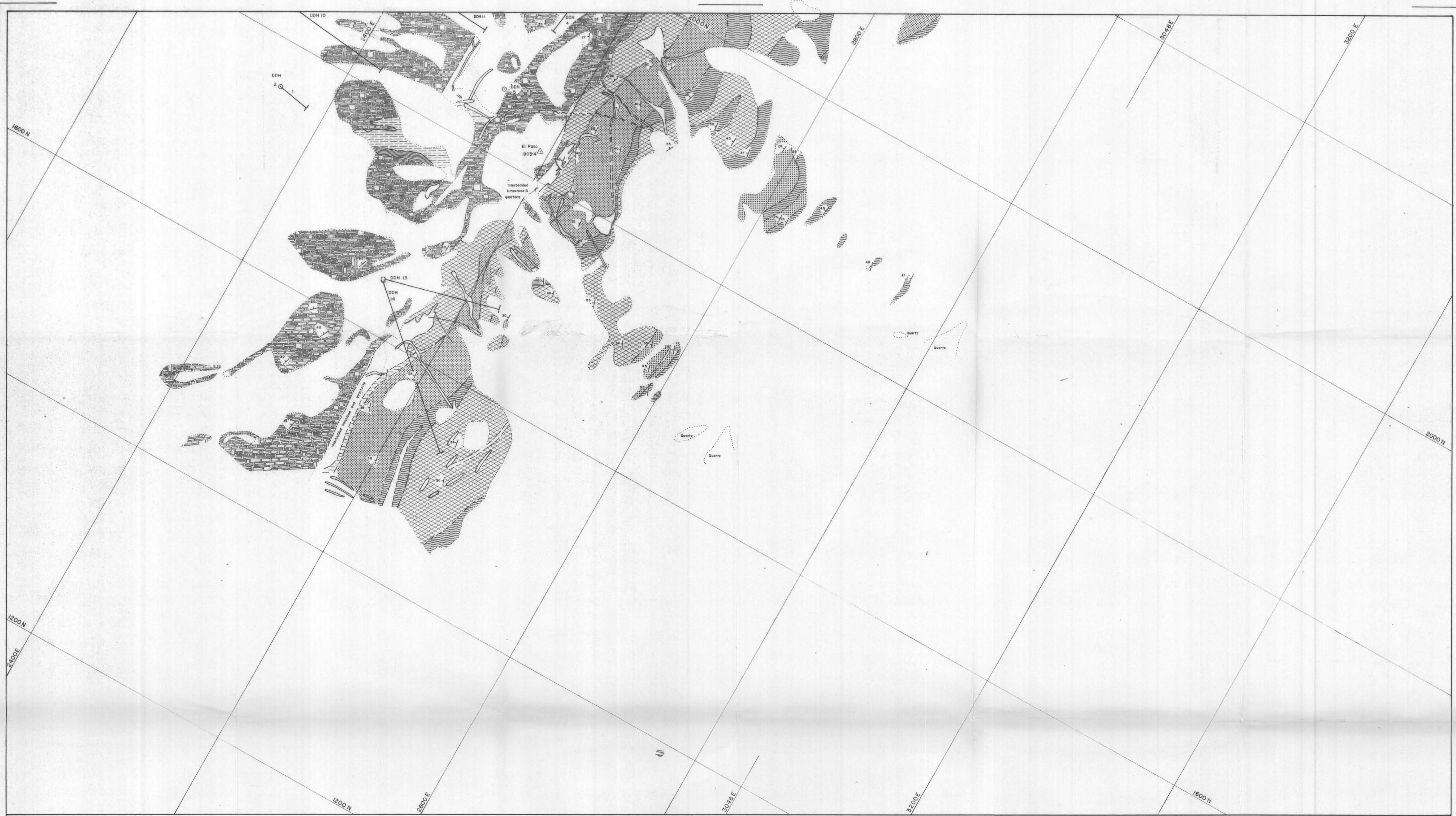
N.T.S. 1041-9E

EWE SHEEP

Turnagain River

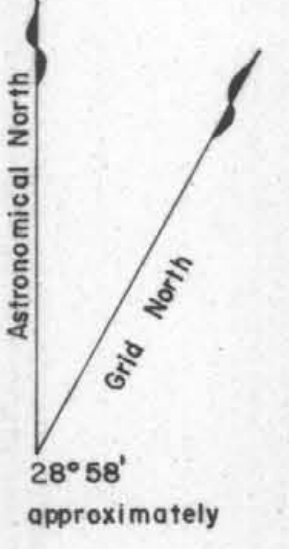
Cassiar River

SHEEP & EWE CLAIMS
LOCATION



- 1500 Topographic contours (Metric)
- Creeks and gullies
- Cornice 2080-1 Triangulation station
- Claim post
- Limit of rock exposure
- Strike & dip of bedding
- Strike & dip of foliation
- Geological contact - accurate
- Geological contact - approximate
- Geological contact - inferred
- Fault - minor

- LITHOLOGIES**
- Jurassic or Cretaceous
 - Quartz veins
 - Quartz - Monzonite and aplite dykes and sills
 - Lower Cambrian
 - Calc-silicate hornfels and skarn
 - Phyllite and quartz - muscovite - biotite schist
 - Micaceous quartzite
 - Dolomite
 - Limestone

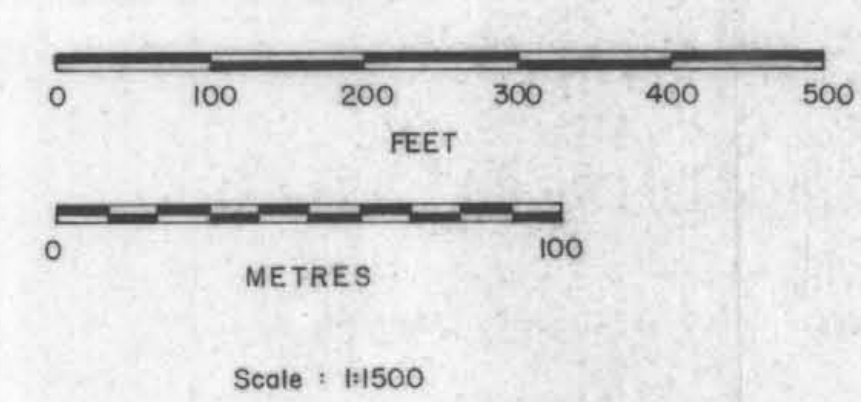


Vertical and horizontal control was provided by a small network of triangulation stations. Mapping was carried out using theodolite tachymetry. The East end of the base line is used as a datum for coordinates and reduced levels (assumed elevation 5250 Feet or 1600.20 Metres).

This sheet shows the mapping originally carried out at a scale of 1 inch to 100 feet by Rip Van mining. To enable the two survey coordinate systems to be tied, the following Rip Van stations were re-occupied: Numbers 1, 2, 3, 4, 39, 204, 234, 254, DDH 3, DDH 14 and the initial post for the Ewe 19 2 claims, which was used for the triangulation station "Ewe". Several points along a prominent skarn-limestone contact were also re-located.

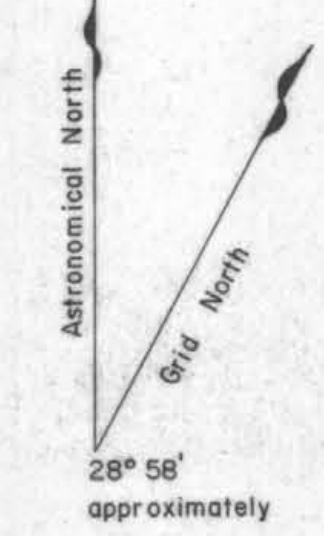
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TURNAGAIN RIVER, LIARD MINING DIVISION, B.C.	
GEOLOGICAL MAPPING	
Scale: 1:1500 Metric	N.T.S. Sheet 104 1 / 9E
Surveyed during 1979 Season	Compilation: T. Liverton, September 1979
Survey Grid: Metric (1979)	Sheet no.



- 1500 Topographic contours (Metric)
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- Carrice 20801 Triangulation station
- Claim post
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 - Lower Cambrian Phyllite and quartz-muscovite-biotite schist
 - Lower Cambrian Micaceous quartzite
 - Lower Cambrian Dolomite
 - Lower Cambrian Limestone



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Mapped during 1979 Season, S.F.B.T.L.	T. Liverton, September 1979
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