

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 REVENUE DEPARTMENT
ASSESSMENT REPORT
NO. **7672**

PAGE 192
E. Verdon
Vancouver, B.C.
September 1979

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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 are around 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 done around 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 1979
	2	28022	"
	3	28023	"
	4	28024	"

They are held by C. A. Noel

Regional Geology

The claims are situated over a roof pendant of Lower Paleozoic limestone, dolomite, phyllite, quartzite and quartz-biotite schist which is between portion of the Cassiar Batholith to the southeast and a large (6.5 km diameter) quartz-monzonite stock on the western side. Part of the carbonate sequence has been metamorphosed to pyroxene hornfels and garnet-vesuvianite skarn which contains disseminated scheelite and molybdoscheelite.

Previous Work and the 1979 Summer Work

The tungsten showings in this region were discovered by William Kuhn prior to 1969 and were staked by El Paso Mining and Milling. Between 1969 and 1971 they carried out extensive prospecting, detailed geological mapping at 1 inch to 100 feet scale and diamond drilling (14 holes) to test the skarn-type mineralization on the Ewe claims. Union Carbide have been working in the area, notably on the adjoining Ram and May group, to the north side, since 1977. This season the mapping was carried out to join that on the Ewe claims to the 1977 Ram and May work. This was accomplished at an initial scale of 1:500 metric and the final compilation prepared at 1:1500 scale. The full extent of calc-silicate hornfels and skarn horizons have been covered on the Sheep claims.

Mapping was done using theodolite tachymetry by traversing between triangulation stations established from the same base as previous work on

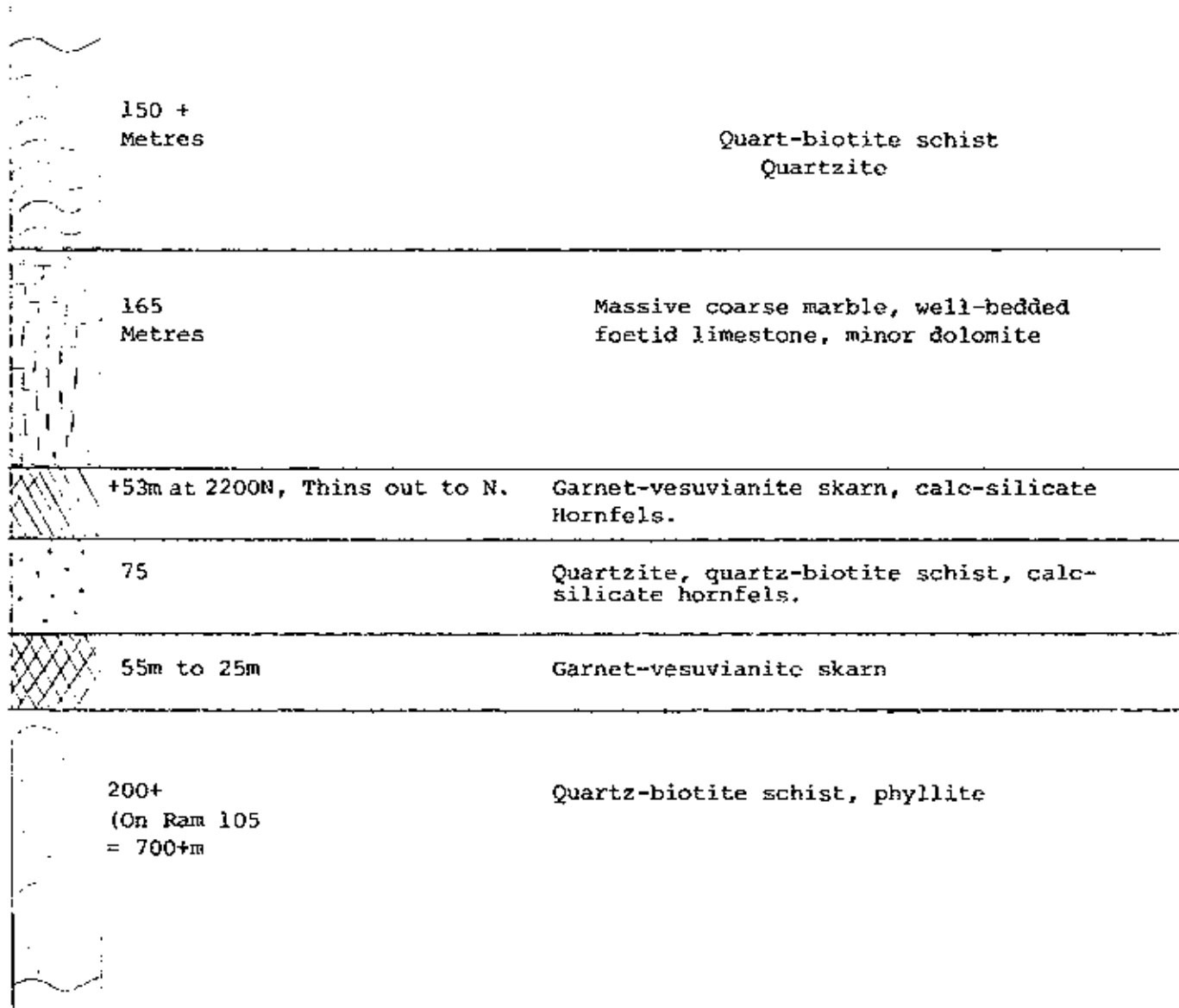
the Ram and May group. The coordinates shown taken the same origin but are shown as the equivalent metric units. Contours on the map were prepared by interpolation between spot heights. Claim posts located are as follows:

The "Ewe" triangulation station is coincident with the initial post for Ewe No. Final post for Ewe 3 is at 2335N, 2544E and initial post for Ewe 2 is at 2514N, 2805E.

Geology

The stratigraphic succession on these claims is comparable to that of the Ram and May area to the north. The skarns containing the scheelite mineralization occur at the top of a thick schist - pyllite unit, immediately below a carbonate succession. Most bedding attitudes observed indicate a general dip towards the WNW from 30° to 45°. The quartz-monzonite stock on the west side has a contact dipping very steeply east (80° to vertical) and the batholith contact in the Sheep claims also appears to have a steep dip westerly.

The stratigraphic column is as follows:



Vertical
Scale
1:5000

As noted, the skarn units thin out markedly to the north. Some abrupt facies changes between limestone, skarn and schist have been noted, particularly around 2300N, 2800E. All of the skarns are thinned to under 10 metres thickness where they are encountered on the north side of the ridge (2600N). Mineralogy of these skarns is predominantly a garnet - vesuvianite (idocrase) assemblage with pyroxene fairly subordinate. Very little sulphide was seen in the skarn.

Some scheelite was noted in thin quartzites and three chip samples were taken. These are shown on the 1:1500 scale map. Assays showed 0.01% WO_3 content. The skarns were not sampled at this time since a fairly extensive sampling program was planned for late in the season. Logistics of the drilling on other property prevented a return to the area later in the Summer.

Conclusions

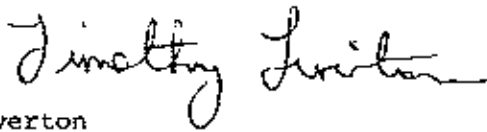
Without assay results for the skarns a fair assessment cannot be made of the potential for economic tungsten mineralization. The following points can be noted however:

1. There is a marked thinning of the skarn units to the north.
At the area drilled by El Paso, on the Ewe 5 and 6 claims, the lower skarn is approximately 110 metres thick. At the northern edge of the map sheet it is roughly 10 metres thick.
2. Grades would need to be higher than those encountered by El Paso in their drilling on the Ewe claims. Their drill holes numbers 5, 6, 13 and 14 encountered from 5 to 33 metre intersections with grades in the range of 0.15 to 0.2% WO_3 .

For units less than 10 metres thick grades would need to be 1% with

continuity along strike before each mineralization is of economic interest in this isolated locality.

To truly evaluate the claims the skarn and hornfels units should be chip sampled at as close intervals as practicable. It would be feasible to chip down outcrops on each small spur, as exposure is quite good. Closer to the Ewe claims sampling might be more difficult due to steeper slopes and cliffs.

A handwritten signature in cursive script that reads "Timothy Liverton". The signature is written in dark ink and is positioned above the typed name.

T. Liverton

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</u> - Survey Equipment	75.00
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Drafting

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

LAMB 12 FRACTION

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

Accommodation

3 man days @ \$30	90.00
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Transportation

131 Helicopter hour @ \$185 - 0.7 hrs.	<u>129.00</u>
	<u>\$579.00</u>

STATEMENTS OF QUALIFICATIONS OF AUTHOR

STUART FRASER: Graduated from Dalhousie University, Halifax, Nova Scotia with B.Sc. Degree in Geology and Chemistry in 1973.

Experience

- 1973 - 1975: Underground geologist with Granduc Operating Company in Stewart, B.C.
- 1975: Summer's work with Union Carbide Exploration Corporation, Vancouver, working as exploration geologist in northern B.C.
- 1975 - 1977: Mine geologist with Echo Bay Mines Ltd., Port Radium, N.W.T., supervising underground grade control, underground mapping, laying out diamond drill holes and core logging.
- 1977 to present: Project geologist with Union Carbide Exploration Corporation working throughout Canada.

58°45' N

128°00' W

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

NO.

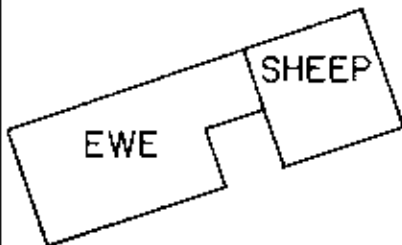
7672
PART 1082



Km

1:50,000

N.T.S. 1041-9E



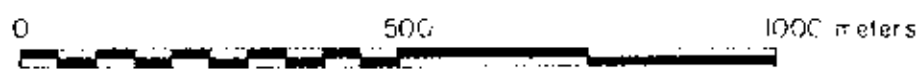
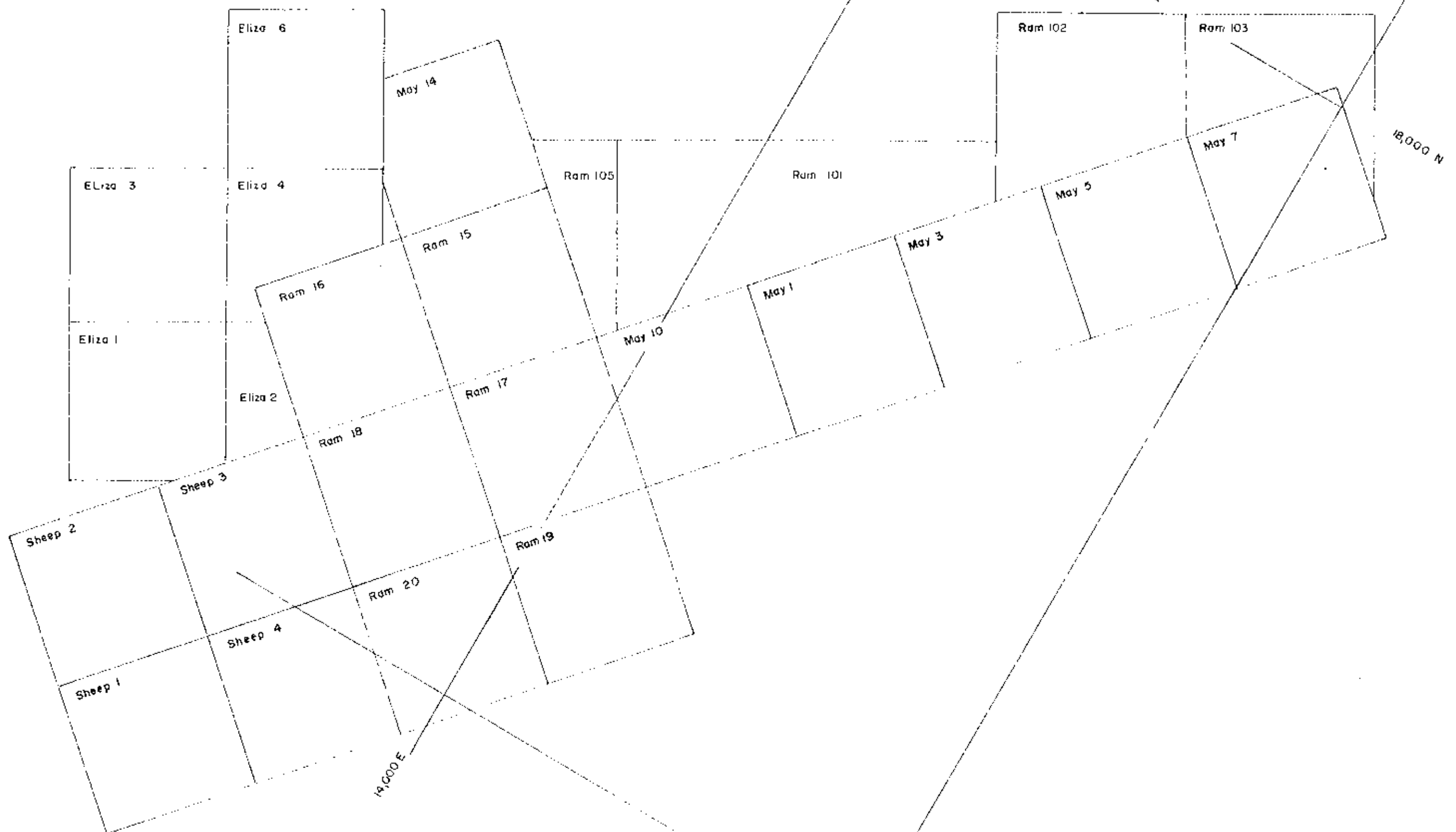
Turnagain

River

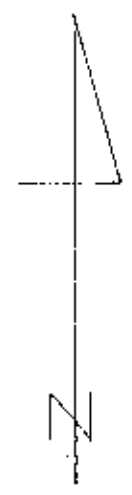
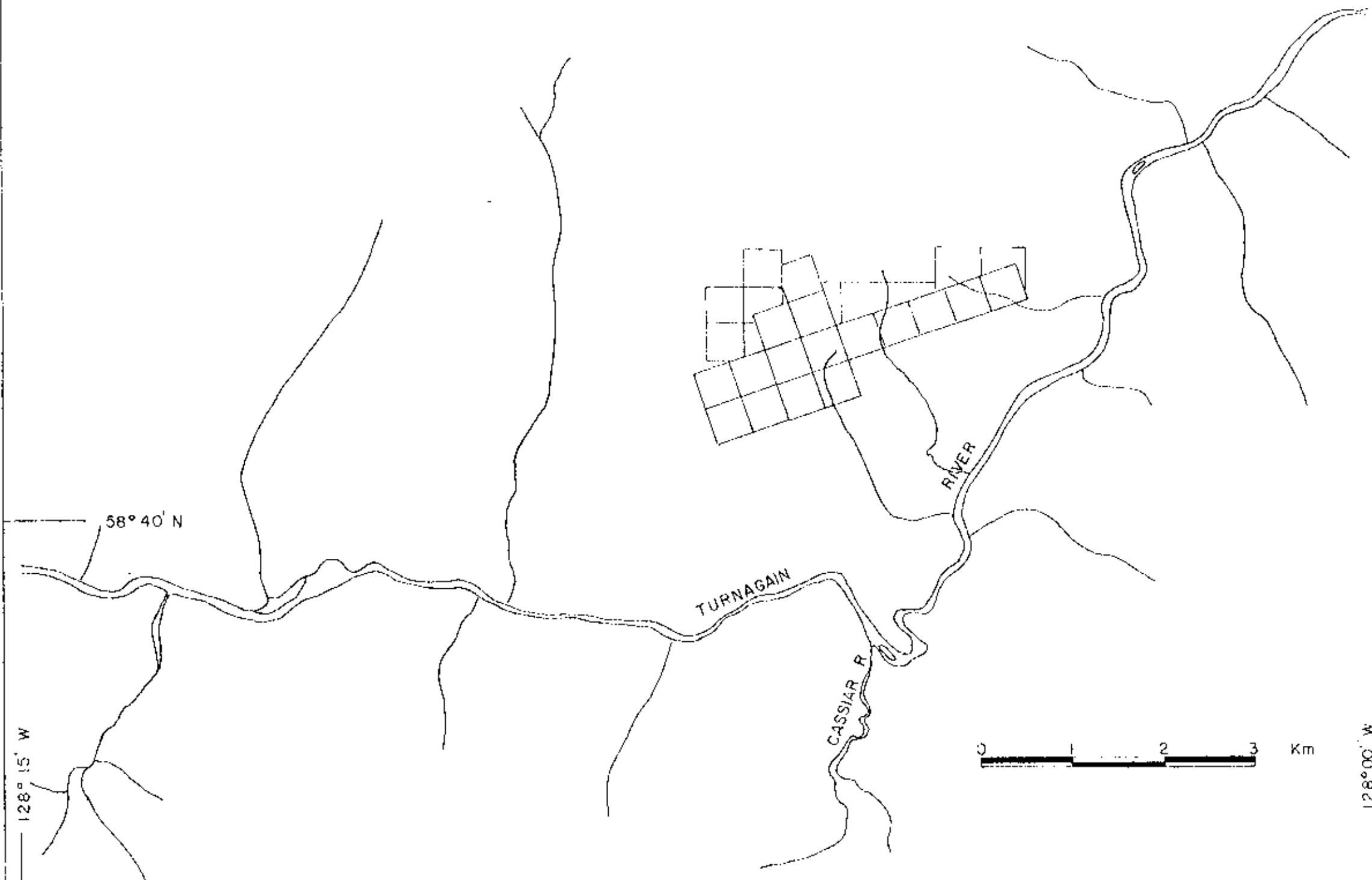
Cassiar

River

SHEEP & EWE CLAIMS
LOCATION



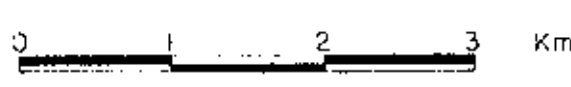
CLAIM MAP- RAM,
MAY, ELIZA & SHEEP
WITH MAP CO-ORDINATES
Scale 1:10,000

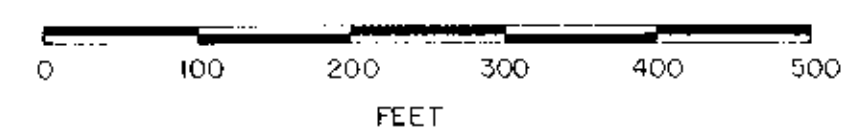
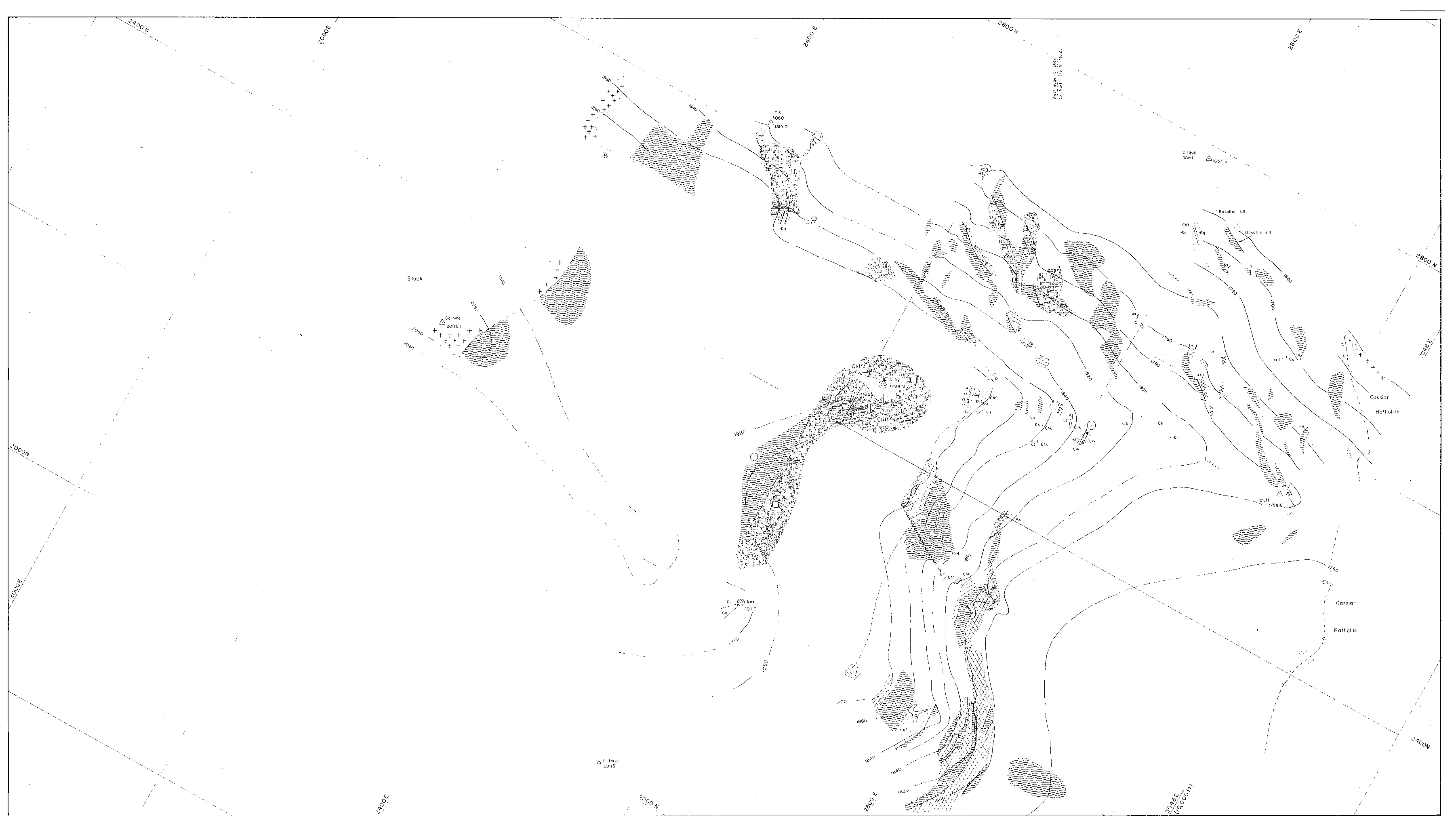


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PART 1 of 2
UNION CARBIDE CANADA LTD

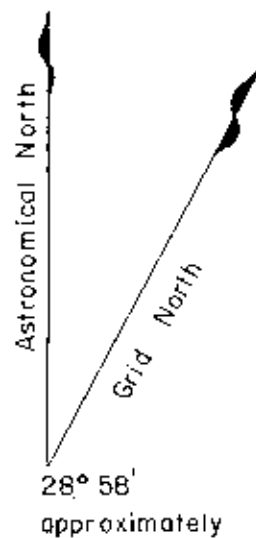
LOCATION MAP FOR
RAM, MAY, ELIZA & SHEEP
CLAIMS - TURNAGAIN R. AREA

AUTHOR T. Liverton, S. Fraser SHEET 1
SCALE 1:50,000 October 79





Scale: 1:1500



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).

- 1500 Topographic contours (Metric)
- Creeks and gullies
- 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
 - Calc - silicate hornfels and skarn
 - Lower Cambrian
 - Phyllite and quartz - muscovite - biotite schist
 - Miocene quartzite
 - Dolomite
 - Limestone

MINERAL SERVICES BRANCH
 FIELD REPORT
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PART 1082

UNION CARBIDE CANADA LIMITED

SHEEP AND EWE CLAIMS
 TURNAGAIN RIVER, LIARD MINING DIVISION, B.C.
GEOLOGICAL MAPPING

Scale: 1:1500 Metric	N.T.S. Sheet 104 I / 9E
Mapped during 1979 Season, S.F.A.T.L.	T.Liverton, September 1979
Survey Grid: Metric (1979)	Sheet no.