



GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE

CABIN 1 - 18 MINERAL CLAIMS

WATSON LAKE MINING DISTRICT

YUKON TERRITORY

60°41' N 130°32' W

NTS 105-B-9/B-10

for

S.E.R.E.M. Ltd.



Report by: Mike Stammers, Geologist

Date: December, 1979

090528



This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of \$ 7,200.00

Jamari

Resident Geologist or
Resident Mining Engineer

Considered as representation work under
Section 53 (4) Yukon Quartz Mining Act.

S. R. BAXTER
Supervising Mining Recorder

Commissioner of Yukon Territory

WATSON LAKE MINING DISTRICT

YUKON TERRITORY

60041, N 130032, W

NTS 105-B-9\B-10

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0 90728

105-B-9/10

ASSESSMENT REPORTS

Watson Lake M.D.

MAP No.

TYPE OF WORK: Geological & Geochemical report

REPORT FILED UNDER	S.E.R.E.M. Ltd.	
DATE PERFORMED	December '79	DATE FILED: December 24, 1979
LOCATION - LAT.	60°41'N	
	LONG. 130°32'W	
CLAIM Nos.	CABIN 1-18	
	YA36913-YA36930	
WORK DONE BY	Mike Stammers, Geologist	
WORK DONE FOR	S.E.R.E.M. Ltd.	
REMARKS	<p>090528</p> <p>Claims CABIN 1-18 were recorded in June 1979 over ground mapped as phyllite and minor slate of Lower Cambrian and (?) earlier age by Poole et al (1960). A granitic stock of Jurassic and/or Cretaceous age is in intrusive contact with metasedimentary rocks along the</p>	

STAR PRINTING, WHITEHORSE

*already had report on microfilm
Original card above.*

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INTRODUCTION

Eighteen mineral claims were staked in the Cabin Creek area, south-central Yukon in mid-June 1979 by S.E.R.E.M. Limited to cover favourable tungsten, greisen mineralization prior to a public release of government geochemical data of the area. In mid-September 1979, a nine day prospecting, geologic mapping and stream silt geochemistry survey led to the discovery of scheelite (WO₃)-skarn mineralization by prospector Alex Black and of disseminated molybdenum mineralization by prospector Peter Newman. Also several other showings of wolframite, arsenopyrite, pyrite, and pyrrhotite were discovered. The successful prospecting results were supplemented by highly anomalous stream silt geochemistry values in tin, tungsten, molybdenum and uranium. Based on favourable criteria including geochemistry, mineral discovery and geology an additional 152 claims were staked in early November 1979 by a S.E.R.E.M. field crew. This assessment report pertains to the original Cabin 1 - 18 block.

LIST OF CLAIMS

<u>Claim Name</u>	<u>Grant No.</u>	<u>Expiry Date</u>
CABIN 1 - 18 incl.	YA36913-YA36930 incl.	June 10,1980

YUKON

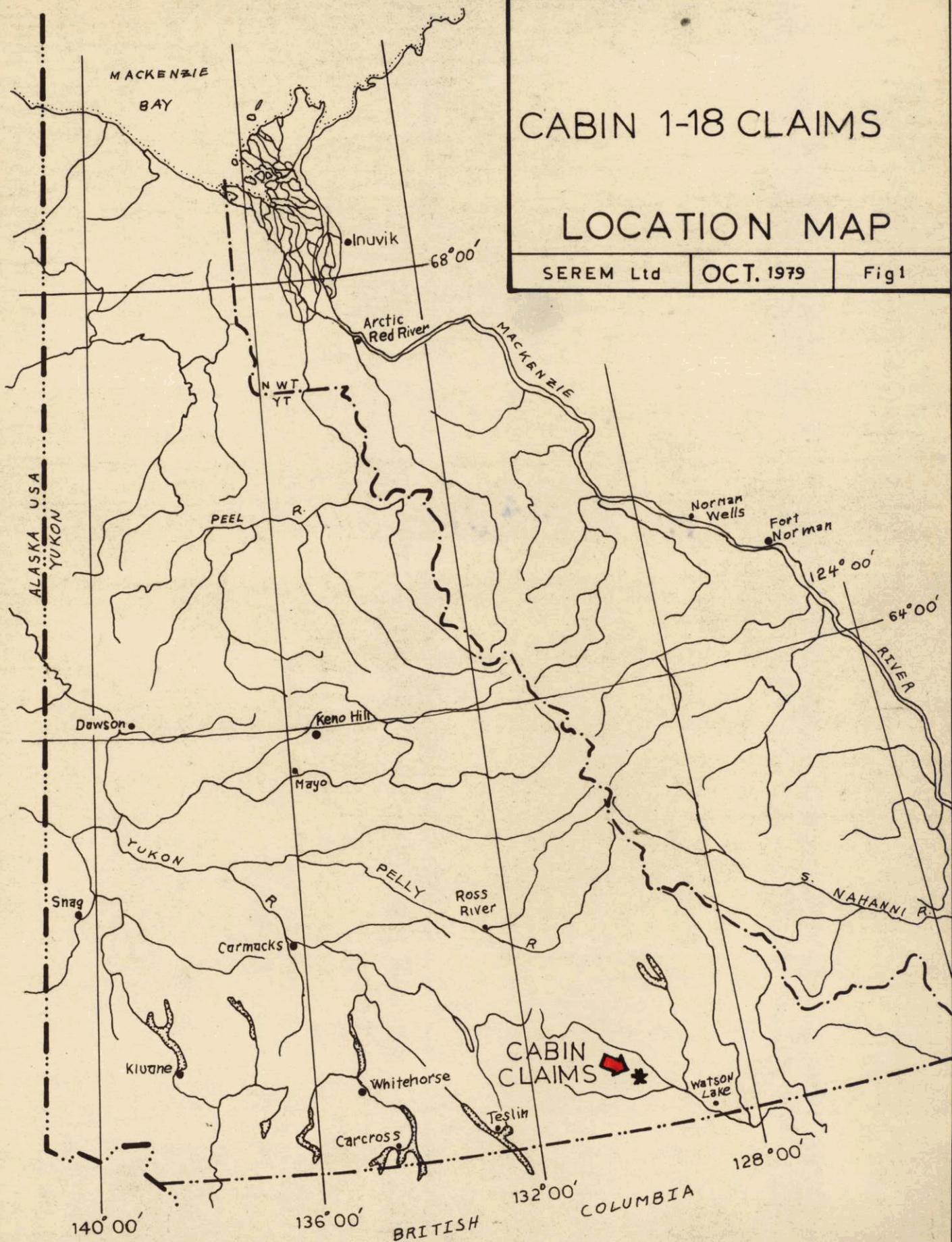
CABIN 1-18 CLAIMS

LOCATION MAP

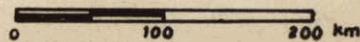
SEREM Ltd

OCT. 1979

Fig 1



Scale



LOCATION AND ACCESS

The Cabin 1 - 18 mineral claims are located 123 kilometers northwest of Watson Lake, Yukon and 66 kilometers north of Mile 710 (Rancheria) on the Alaska Highway.

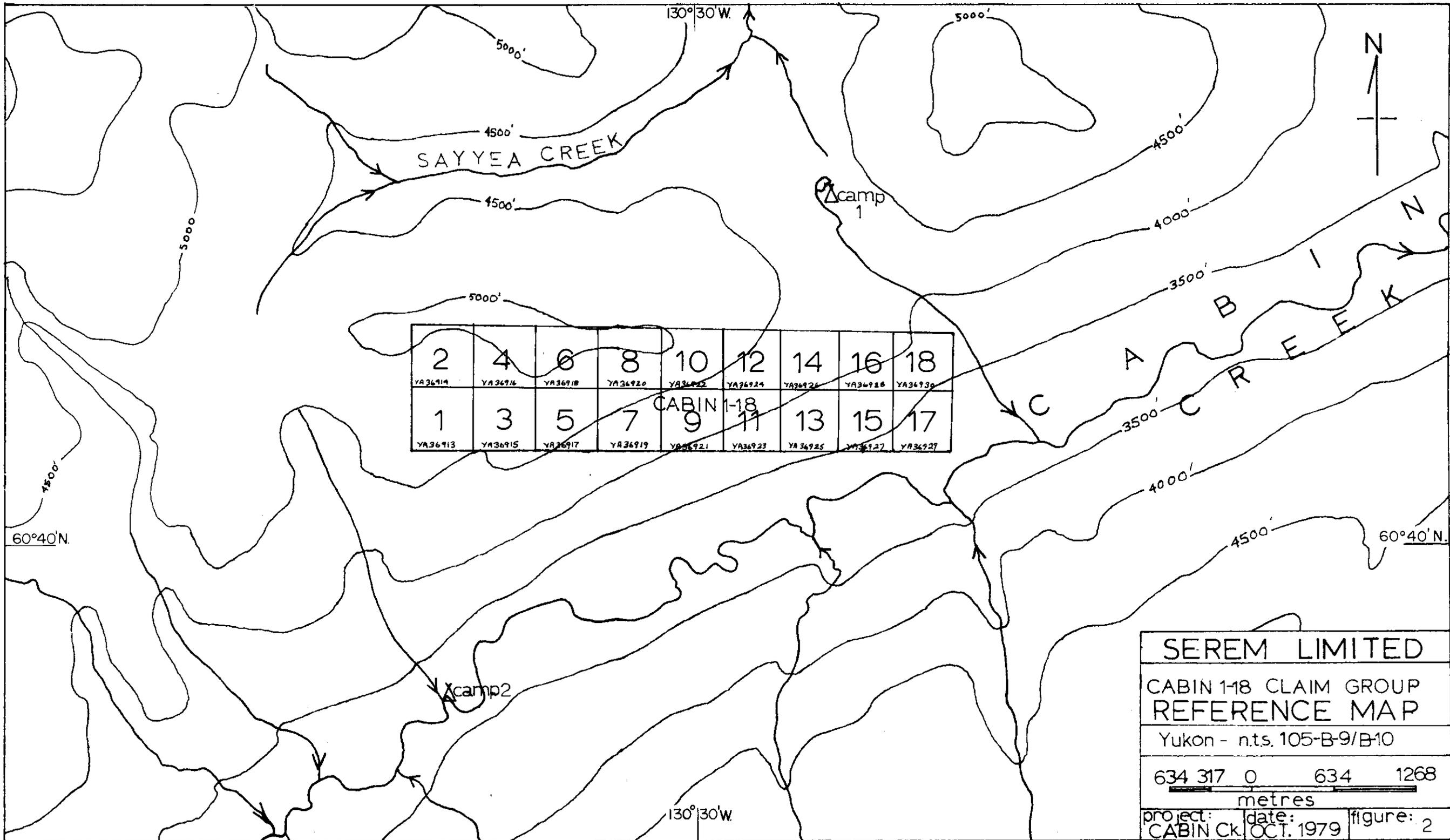
Access is by way of truck along the Alaska Highway from Watson Lake to Mile 710 and thence by helicopter to the Cabin Creek area.

PHYSIOGRAPHY AND CLIMATE

Elevations on the Cabin 1-18 mineral claims range between 970 and 1510 meters (3200 and 5000 feet) above sea level. The property lies on a moderately timbered north slope of Cabin Creek valley. Forest species include spruce, balsam, lodgepole pine, willow and poplar. A small area in the northwest section of the claim group lies above tree line and marks the divide to Sayyea Creek.

Outcrop in the area is generally sparse (less than 10%) and much of the claim group is covered by glacial drift. Climate in the Cabin Creek area is characterized by short, warm summers and long, cold winters. Precipitation in the area is light to moderate.

Wildlife in the Cabin Creek area is numerous and crews have spotted moose, caribou, wolf, wolverine, martin, grizzly and black bear.



2	4	6	8	10	12	14	16	18
YA36914	YA36916	YA36918	YA36920	YA36922	YA36924	YA36926	YA36928	YA36930
1	3	5	7	CABIN 1-18		9	11	13
YA36913	YA36915	YA36917	YA36919	YA36921	YA36923	YA36925	YA36927	YA36929

SEREM LIMITED		
CABIN 1-18 CLAIM GROUP REFERENCE MAP		
Yukon - n.t.s. 105-B-9/B-10		
634 317 0	634	1268
metres		
project: CABIN Ck.	date: OCT. 1979	figure: 2

EXPLORATION HISTORY

In 1971, two claim groups were staked in the immediate vicinity of the Cabin 1 - 18 claims. The first was staked in the area of the present day Elle claims to cover a strong aeromagnetic anomaly. No corresponding mineralization was discovered. The second claim group, the Tung, was staked to cover scheelite-pyrrhotite mineralization hosted by a garnet-diopside-tremolite skarn. The Tung claims were allowed to expire and have since been restaked as the On and the J claims in late June 1979. The Elle claims were staked by Eldorado Nuclear in late June 1979 to cover a large uranium geochemical anomaly as per data released by the government reconnaissance survey. A center of furious mining exploration activity over the past few years lies 80 kilometers to the southwest of the Cabin group in the Swift River area. Tin-tungsten-molybdenum exploration in the Seagull batholith area has been carried out by D.C. Syndicate, Du Pont and Amax.

REGIONAL GEOLOGY

Regional geology is based on mapping (G.S.C. Map 10-1960) by Green and Roddick undertaken in the 1950's.

The Cabin 1 - 18 mineral claims straddle the contact between a belt of Late Proterozoic to Early Cambrian metasedimentary rocks and a Cretaceous aged granodiorite to quartz monzonite stock. Lower Cambrian grey weathering limestone outcrops extensively two kilometers north of the Cabin Group.

The metasedimentary rocks in the area may be Hadrynian "Grit Unit" equivalents. Metamorphic rock types are variable as exhibited by the range in lithologies from phyllite to schist to rare occurrences of gneiss. Rocks in the area have a strong to moderate quartzose element. Marble and skarn rocks are reported to occur 30 kilometers to the south of Cabin Creek. Government mapping in the 1950's failed to recognize such lithologies in the Cabin Creek area.

The Cabin Creek Stock is a northwest trending, elongate, irregular body, 17 kilometers long and 10 kilometers wide. It is suspected to be an outlier of the Cassiar Batholith.

A major structural element, the Tintina Fault system lies approximately 20 kilometers to the northeast of the Cabin Creek area.

PROPERTY GEOLOGY

Principal lithological units on the claims area include porphyritic biotite-quartz monzonite to granodiorite; quartz-biotite schist; quartzite and skarn. Refer to Figure 3. Schistosity trends east-northeast and dips to the north. Strong fault linears and associated shearing, silicification and quartz veining have been identified. Bull quartz veining in the claims area is very common and occasionally has associated tungsten mineralization.

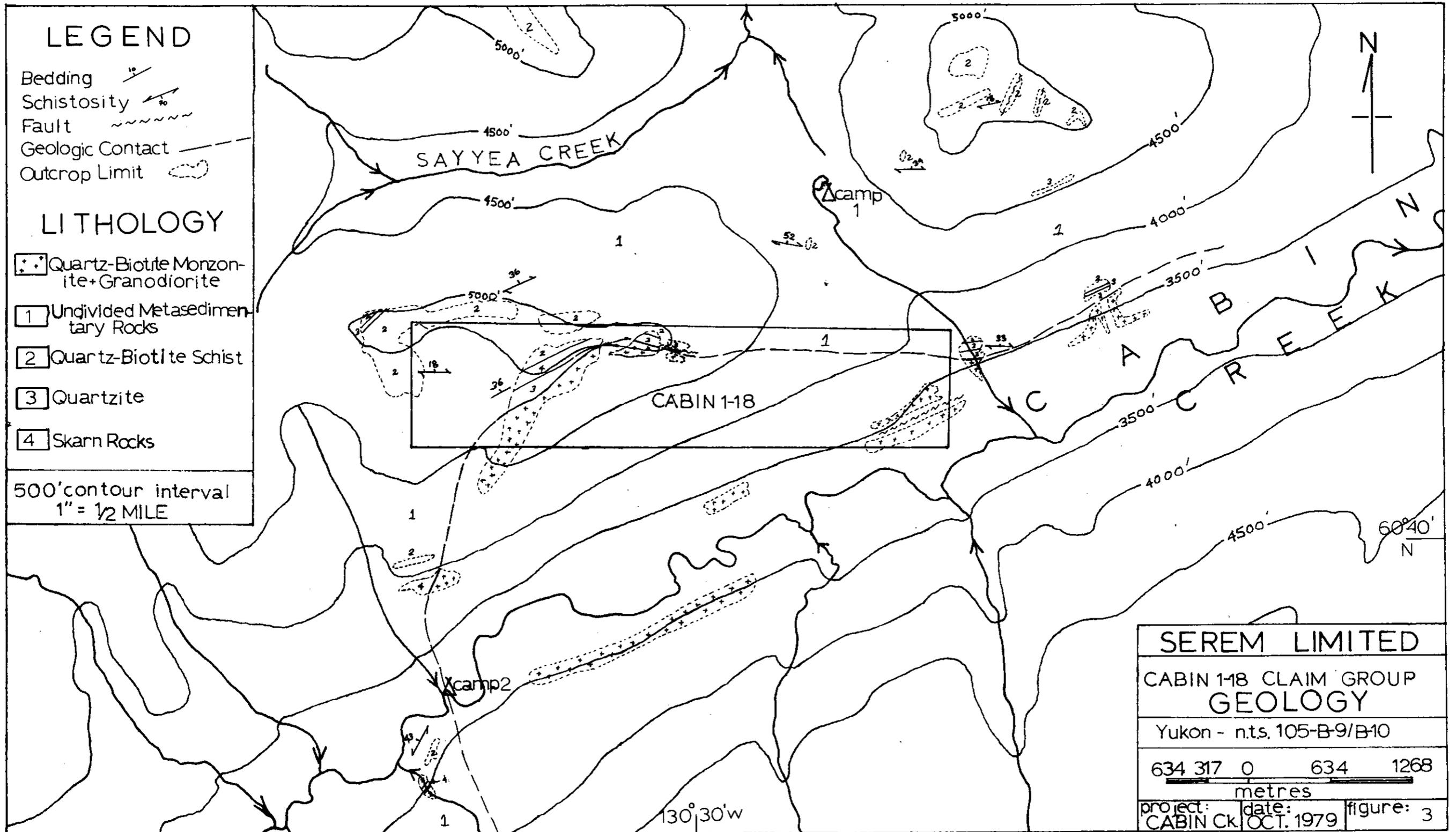
LEGEND

- Bedding
- Schistosity
- Fault
- Geologic Contact
- Outcrop Limit

LITHOLOGY

- Quartz-Biotite Monzonite+Granodiorite
- Undivided Metasedimentary Rocks
- Quartz-Biotite Schist
- Quartzite
- Skarn Rocks

500' contour interval
1" = 1/2 MILE



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CABIN 1-18 CLAIM GROUP GEOLOGY		
Yukon - n.t.s. 105-B-9/B-10		
634 317 0	634	1268
metres		
project: CABIN CK.	date: OCT. 1979	figure: 3

The igneous body (Cabin Creek Stock) that covers the claims area ranges in composition from a biotite-quartz granodiorite to a quartz-biotite monzonite. Local alteration of this granitoid stock to quartz-muscovite-sericite-fluorite greisen rock is not uncommon and may play a significant role in tin-tungsten-molybdenum mineralization. Sweats of bull quartz and coarse grained quartz-biotite monzonite off the main intrusive body are common.

Quartz rich biotite schist is the most abundant of the metasedimentary rocks in the area. Several beds of quartzite have been recognized in the schist terrain. Garnet-diopside tremolite-scheelite-pyrrhotite skarn rocks are found near the western margin of the stock in many parts of the claims area. Minor beds of marble and silicified marble are found adjacent to the skarn rocks. The limit of skarn outcrop and associated mineralization remains to be determined. Evidence to date indicates skarn possible over a distance of 3 kilometers as seen in three widely spaced outcrops.

GEOCHEMISTRY AND MINERALIZATION

A) Stream Silt Geochemistry

Three sets of stream geochemical data are available for discussion and include: Serem heavy metal, sieved silt samples -5; Serem regular stream silt samples -32; and G.S.C. Open File 563 (1979) silt and water samples. Please refer to Figure 4.

Heavy metal analysis has proved itself the most useful tool by providing a much higher detectability threshold than conventional silts. Elements which clearly demonstrate this are tin and tungsten. By contrast, uranium appears to move more effectively under chemical rather than physical processes and regular silt samples can be utilized. Refer to Appendix 3 for methods.

The results of the combined geochemical surveys may be described as quite encouraging with anomalous values in tin, tungsten, molybdenum, and uranium. The south side of Cabin Creek has moderate to strongly anomalous values in uranium (13 - 135 ppm); weakly to moderately anomalous values in tungsten (5 - 190H ppm); and moderately anomalous values in tin (19 - 65H ppm)*.

On the north side of Cabin Creek, two heavy metal samples indicate strongly anomalous values in tungsten (404 and 780 ppm) and one highly anomalous value in tin (150 ppm). Results of data from regular stream silt samples are inconclusive and heavy metal analysis is recommended.

Regional stream silt sampling by the Geological Survey of Canada depicts the Cabin Creek Stock as being uniformly highly anomalous in uranium and irregularly but moderately anomalous in tungsten, fluorine and molybdenum. G.S.C. data appears to provide us with a good guideline for further exploration.

* H - denotes heavy metal analysis

LEGEND

Geologic contact

Garnet → Diopside — Tremolite skarn
disseminated pyrrhotite ± scheelite

X Minerals: • aspy arsenopyrite
• po pyrrhotite
• wo wolframite
• Sch Scheelite
• py pyrite

□ Rock assay, analysis as specified.

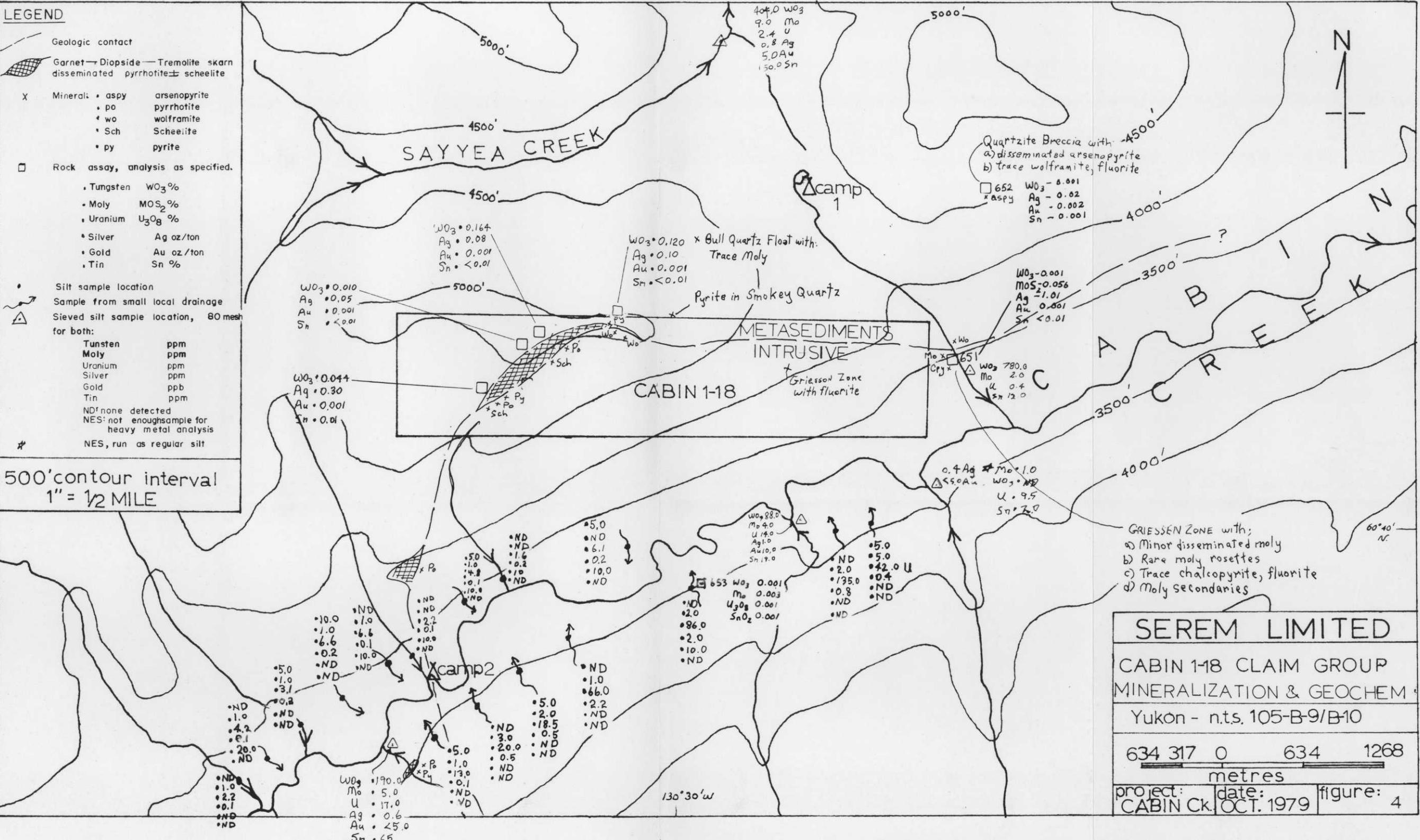
• Tungsten WO₃ %
• Moly MO₃ %
• Uranium U₃O₈ %
• Silver Ag oz/ton
• Gold Au oz/ton
• Tin Sn %

• Silt sample location
Sample from small local drainage
Sieved silt sample location, 80 mesh for both:

Tungsten	ppm
Moly	ppm
Uranium	ppm
Silver	ppm
Gold	ppb
Tin	ppm

ND: none detected
NES: not enough sample for heavy metal analysis
NES, run as regular silt

500' contour interval
1" = 1/2 MILE



WO₃ • 0.164
Ag • 0.08
Au • 0.001
Sn • < 0.01

WO₃ • 0.120 x Bull Quartz Float with
Ag • 0.10 Trace Moly
Au • 0.001
Sn • < 0.01

Quartzite Breccia with:
a) disseminated arsenopyrite
b) trace wolframite, fluorite

□ 652 WO₃ - 8.001
• aspy Ag - 0.02
Au - 0.002
Sn - 0.001

WO₃ • 0.010
Ag • 0.05
Au • 0.001
Sn • < 0.01

WO₃ - 0.001
MO₃ - 0.056
Ag - 1.01
Au - 0.001
Sn • < 0.01

0.4 Ag • Mo • 1.0
• 5.0 Au • WO₃ • ND
U • 9.5
Sn • 7.0

GRIESSON ZONE with;
a) Minor disseminated moly
b) Rare moly rosettes
c) Trace chalcopyrite, fluorite
d) Moly secondaries

SEREM LIMITED

CABIN 1-18 CLAIM GROUP
MINERALIZATION & GEOCHEM.

Yukon - n.t.s. 105-B-9/B-10

634 317 0 634 1268
metres

project: CABIN Ck. date: OCT. 1979 figure: 4

Table C-VIII-2 lists rock assay results for Cabin Creek samples:

TABLE C-VIII-2

CABIN CREEK ROCK ASSAY RESULTS

<u>Tag No.</u>	<u>Rock Type</u>	<u>WO₃ %</u>	<u>MoS₂ %</u>	<u>U₃O₈ %</u>	<u>Ag oz/t</u>	<u>Au oz/t</u>	<u>Sn %</u>
469	Skarn	0.010	--	--	0.05	0.001	0.01
470	Skarn	0.120	--	--	0.10	0.001	0.01
471	Skarn	0.164	--	--	0.08	0.001	0.01
472	Skarn	0.044	--	--	0.30	0.001	0.01
651	Greisen	0.001	0.056	--	1.01	0.001	0.01
652	Breccia	0.001	--	--	0.02	0.002	0.01
653	Greisen	0.001	0.003	0.001	--	--	0.001

Greisen mineralization has been discovered intermittently throughout the granodiorite intrusive body. Molybdenum mineralization with associated chalcopyrite and fluorite is found in the northeast section of the claims near the metasediment granodiorite contact. Elsewhere, fluorite is commonly found within the quartz-muscovite-sericite-feldspar intrusive greisen. No positive identification or discoveries of cassiterite have been made to date.

Minor pyrite, arsenopyrite, and wolframite has been found in brecciated quartzite in outcrops peripheral to the Cabin Creek Stock.

B) Mineralization

Mineralization appears to be related to the intrusion of the Cabin Creek Stock and possibly to a later, tectonic event. Table C-VIII-1 relates the type of mineralization with a mode of occurrence.

TABLE C-VIII-1

CABIN CREEK MINERALIZATION AND MODE OF OCCURRENCE

- | | |
|--------------------|--|
| 1) QUARTZ VEINING: | Wolframite, Molybdenite, Tourmaline |
| 2) SKARN ROCKS: | Scheelite, Pyrrhotite, Pyrite |
| 3) GREISEN ROCKS: | Molybdenite, Fluorite, Molybdenum
secondaries, Chalcopyrite |
| 4) QUARTZ BRECCIA: | Pyrite, Arsenopyrite, Wolframite |

Quartz veins are found peripheral to the stock in great numbers but are only rarely mineralized. Coarse blades of wolframite are found in quartz at two locations and fine disseminated molybdenite at one float location.

Tungsten-skarn mineralization has been positively identified in the northernmost of the three skarn outcrops in the property area. The possibility of further mineralization in all three known outcrops is good and an intensive night or hood lamping programme is necessary.

Clearly we are looking at four different mineralizing environments of which two are of economic interest: tungsten-skarn and molybdenum porphyry-stockwork.

DISCUSSION

During the nine days spent working on the Cabin 1-18 mineral claims (September 7 to 16, 1979 incl.) significant prospectors' finds of molybdenum and tungsten-skarn were made. These encouraging results are supplemented by some anomalous stream silt geochemistry values of tungsten, molybdenum, uranium and tin. These facts together with a suitably favourable geological environment add up to an important exploration target area.

RECOMMENDATIONS

The following programme is recommended for the 1980 field season on the Cabin 1 - 170 mineral claims:

- 1) Initial emplacement of a controlled cut line grid with follow-up soil geochemical sampling and geological mapping.
- 2) Three levels of prospecting, including:
 - a) Conventional hammer,
 - b) Ultraviolet hood or night lamping,
 - c) Scintillometer assisted.

APPENDIX 3

GEOCHEMICAL METHODS & ANALYSIS

Regular stream silt geochemical samples were collected in Kraft envelopes from the active part of the stream channel and sent to Vangeochem Laboratories in North Vancouver, B.C. for analysis of elements desired by standard atomic absorption methods.

All rock geochemical samples were selected from outcrop on or near the property. Samples were shipped to Min-En Laboratories in North Vancouver, B.C. for analysis by methods appropriate for each element.

Sieved stream silt geochemical samples were shipped to Min-En Laboratories, North Vancouver, B.C. for preparation and analysis. Below is a brief description of sampling and preparation methods used.

Samples are collected from streams by panning gravel and silt through a -40 mesh sieve. Panning and sieving continues until over 400 grams of material less than -40 mesh is collected. Care is taken to note the number of pans of gravel required to arrive at the desired 400 grams of product.

In the laboratory 400 grams of -40 mesh material is then sieved through -80 mesh screens. The material sized between -40 mesh and +80 mesh is weighed and the magnetic portion is removed. The remaining portion is processed by separating the greater than 3.2 specific gravity portion using a heavy medium with a specific gravity of 3.2. The heavy portion is then analysed for whatever elements are desired.

APPENDIX 4

STATEMENT OF QUALIFICATIONS

I, Michael A. Stammers, of Vancouver, B.C. hereby certify that:

1. I hold a B.A. in geology and geography from McMaster University, Hamilton, Ontario.
2. I am a geologist employed by S.E.R.E.M. Ltd. of 505 - 850 West Hastings Street, Vancouver, B.C.
3. I have worked in geology and mineral exploration for six years.
4. The field work described in this report was carried out under my supervision.
5. I have no financial interest in the claims covered by this report or in S.E.R.E.M. Ltd.

Dated this 17th day of December, 1979 at Vancouver, B.C.

A handwritten signature in black ink that reads "Mike Stammers". The signature is written in a cursive, slightly slanted style.

Michael A. Stammers,
Geologist

AFFIDAVIT

IN THE MATTER OF APPLICATIONS FOR CERTIFICATES OF WORK
FOR THE CABIN 1 - 18 MINERAL CLAIMS, WATSON LAKE MINING
DISTRICT, YUKON TERRITORIES, SUBMITTED ON BEHALF OF SEREM
LIMITED.

I, Michael A. Stammers, Geologist of SEREM Ltd., Suite 505
850 West Hastings Street, Vancouver, British Columbia, HEREBY
CERTIFY THAT

The preceeding SUMMARY OF COSTS totalling \$7,368.84 which
is submitted in support of the attached Application for
Certificates of Work, is the actual amount incurred by
SEREM Ltd., in conducting a geological and geochemical pro-
gram on the Cabin Mineral Claims, Watson Lake Mining District,
during the 1979 field season.

AND THAT Applications for Certificates of Work are attached
for the following Representation Work:

<u>GROUPS</u>	<u>MINERAL CLAIMS</u>	<u>GRANT NUMBERS</u>
CABIN GROUP I (106 B 10)	Cabin 1	YA 36913
	Cabin 2	YA 36914
	Cabin 3	YA 36915
	Cabin 4	YA 36916
	Cabin 5	YA 36917
	Cabin 6	YA 36918
	Cabin 7	YA 36919
	Cabin 8	YA 36920

8 claims - 4 years' work applied on each claim

\$3,200.00

MINERAL CLAIMS

GRANT NUMBERS

CABIN GROUP II
(106 B 9/10)

Cabin 9	YA 36921
Cabin 10	YA 36922
Cabin 11	YA 36923
Cabin 12	YA 36924
Cabin 13	YA 36925
Cabin 14	YA 36926
Cabin 15	YA 36927
Cabin 16	YA 36928
Cabin 17	YA 36929
Cabin 18	YA 36930

10 claims - 4 years' work applied on each claim

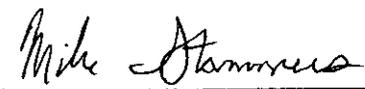
\$4,000.00

Balance of Cost Unapplied

\$ 168.84

SWORN BEFORE ME at Vancouver,)
)
 British Columbia, this 21st day)
)
 of December, 1979)


 _____)
KENNETH W. BALL)
Barrister & Solicitor)
 1004 - 595 HOWE STREET)
 VANCOUVER, B.C. V6C 2T5)
 685-3385)


 _____)
 Michael A. Stammers)

A Notary Public in and for the)
)
 Province of British Columbia)