

REPORT

014486

on

CAB GROUP OF MINERAL CLAIMS

(61° 52' N, 133° 22' W)

Map Sheet N.T.S. 105 F/14

of

RISBY TUNGSTEN MINES LTD.

in the

WHITEHORSE MINING DISTRICT

Yukon Territory

Canada

by

W.S. READ, B.Sc., P.Eng.

Cobble Hill, B.C.

Canada

3 November, 1977

WAYLAND S. READ, B.SC., P.ENG.  
CONSULTING GEOLOGIST

AREA CODE 604-TELEPHONE 743-2279

881 CHERRY POINT ROAD, COBBLE HILL, B.C. V0R 1L0 CANADA

3 November, 1977

Mr. W.B. Warke  
Risby Tungsten Mines Ltd.  
#905 - 355 Burrard Street  
Vancouver, B.C.

Dear Sir,

Please find attached my report on the CAB mineral claims of Risby Tungsten Mines Ltd., located near Ross River, Yukon Territory.

From examinations during assessment programs in the summers of 1976 and 1977 the writer feels that this property has very good exploration potential for tungsten.

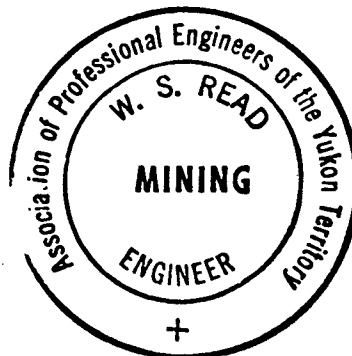
The current strong demand and price for the metal gives further encouragement to explore and develop the property at this time.

Yours very truly,



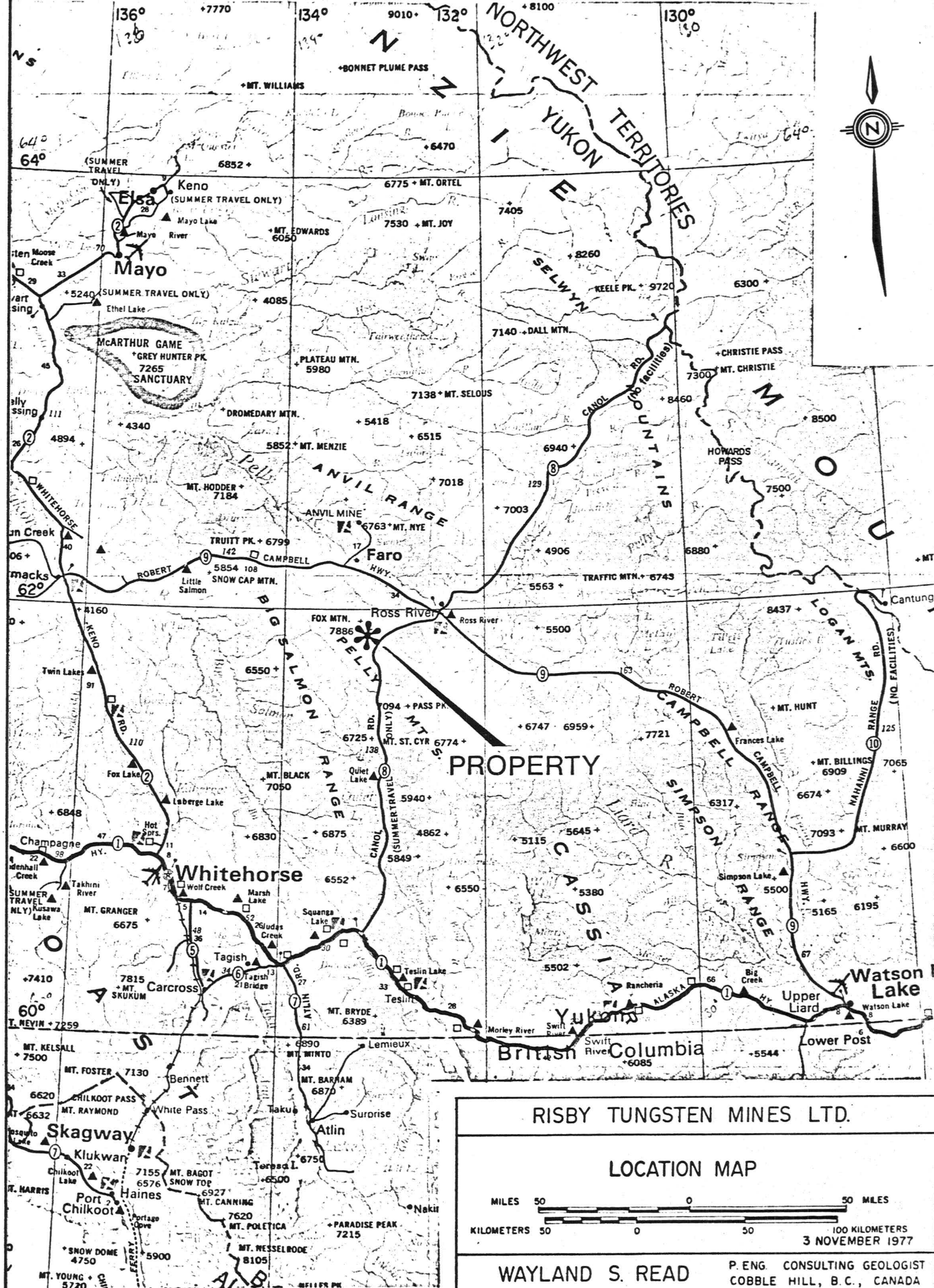
W.S. Read, P.Eng.

wsr/e  
att.



## TABLE OF CONTENTS

	<u>Page No.</u>
LOCATION AND ACCESSIBILITY	1
TOPOGRAPHY AND VEGETATION	2
HISTORY	4
CLAIMS HELD BY COMPANY	7
GEOLOGY :	8
General	8
Claims Area	9
Mineralization	12
DIAMOND DRILLING	16
CONCLUSIONS	19
RECOMMENDATIONS	20
ESTIMATE OF COSTS	22
BIBLIOGRAPHY	23
CERTIFICATE OF QUALIFICATIONS	24
TABLE 1 (3 p.)	Assay Results $WO_3$ 1968, from Report R.J. Darney March 1969.
TABLE 2	Proposed Drilling
ENCLOSURES:	
Figure 1 - Geological Map.	1 in. = 200 ft.
" 2 - Geological Cross Sections A-C.	1 in. = 200 ft.
" 3 - " " " D-K.	1 in. = 200 ft.
" 4 - Rock Sample Assay Results	1 in. = 200 ft.
" 5 - Compilation Map	1 in. = 1/3 mile



**RISBY TUNGSTEN MINES LTD.**

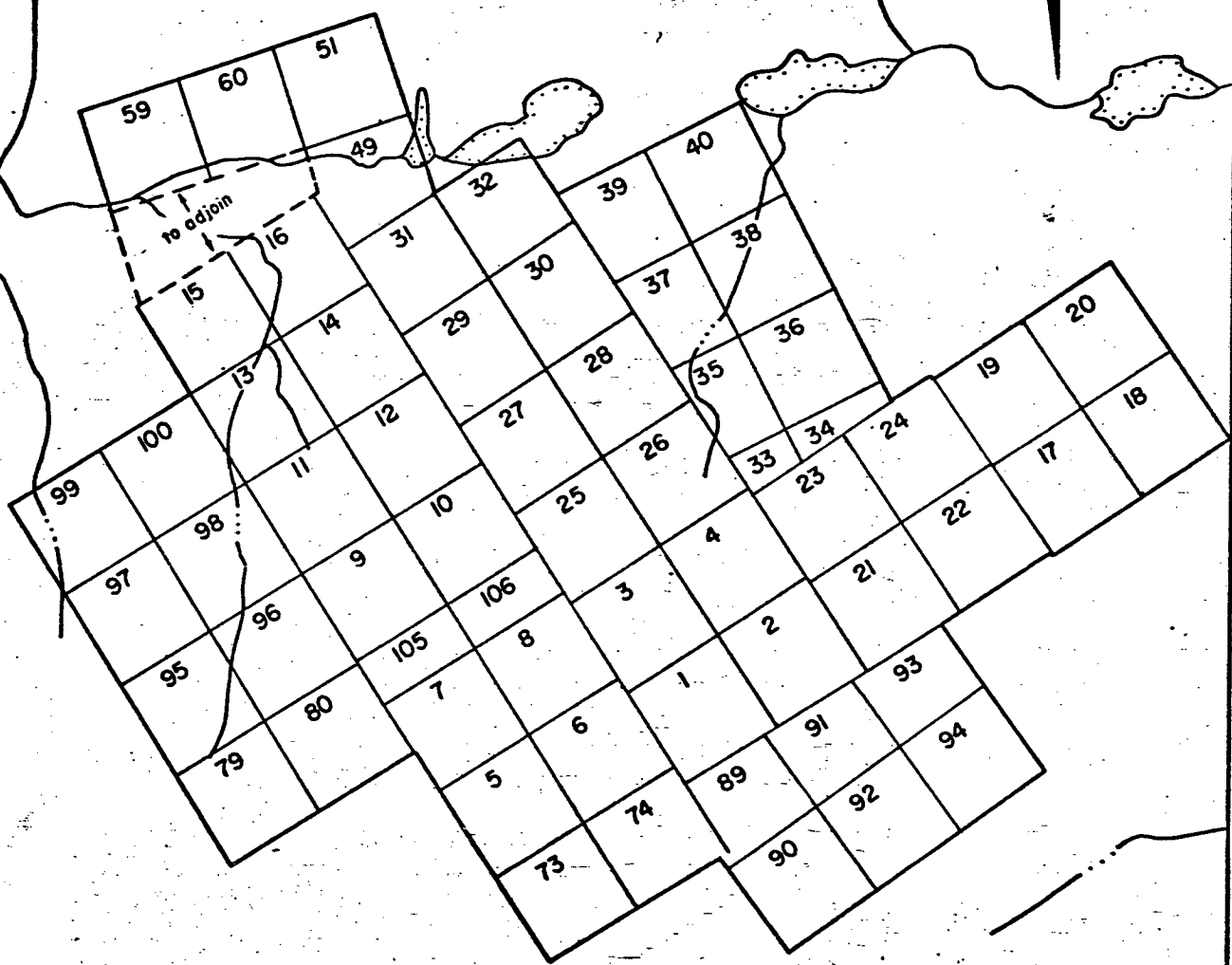
---

**LOCATION MAP**

MILES 50 0 50 MILES  
KILOMETERS 50 0 50 100 KILOMETERS  
3 NOVEMBER 1977

---

**WAYLAND S. READ** P. ENG. CONSULTING GEOLOGIST  
COBBLE HILL, B. C., CANADA

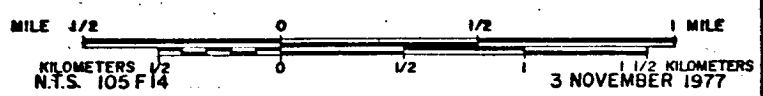


61° 52' N.

133° 22' W

RISBY TUNGSTEN MINES LTD.

CLAIM MAP



WAYLAND S. READ

P. ENG. CONSULTING GEOLOGIST  
COBBLE HILL, B.C., CANADA

## LOCATION AND ACCESSIBILITY :

The CAB mineral claims of Risby Tungsten Mines Ltd. are situated at 61° 52' north latitude and 133° 22' west longitude on map sheet 105 F14 of the National Topographic System; in the Whitehorse Mining District, Yukon Territory, Canada.

They are about 36 air miles (58 kilometres) west of the village of Ross River, 4 miles (6.4 kilometres) south of Fox Mountain peak, and about 12 miles (19 km.) northwest of the Canol Road.

Elevations on the claims group vary from about 4,400 feet to over 6,500 feet above mean sea level, with the main showings in a cirque at about the 5,700 foot level.

Access is by helicopter from Ross River or by fixed-wing aircraft to a small lake (elevation about 4,400 feet) 1-1/2 miles (2.4 kilometres) north of the main showings. The most practical approach at present is to truck equipment to where Fox Creek crosses the Canol Road and lift it to the campsite on the property by helicopter.

A 15 mile (24 km.) tote trail from the Canol Road to the property has been proposed, but even with its long range benefits the cost of construction would be too large a percentage of the proposed budget. Feasibility of road construction should be pursued for future programs.

A large group of claims starting 3 miles (5 km.) to the east of the CAB group is being drilled. Favourable results there could result in road construction much closer to the property.

TOPOGRAPHY AND VEGETATION :

The property is mostly above timberline with elevation ranging from about 4,400 feet to over 6,500 feet above mean sea level.

The main showing lies at the 5,700 foot level on a steep northerly trending ridge between two north-facing cirques, on the northwest limits of Twin Mountain. From the cirque floor at 5,500 feet, the walls rise sharply to the southwest, to an elevation of 6,500 feet, and approximately to 6,000 feet to the north. The main (No. 2) zone is approximately half way up the northern slope.

The area is characterized by steep slopes with some bluffs and knife-edge ridges. Talus covers much of the slopes.

Vegetation is limited to low grass in the higher areas with increasing clumps of scrub spruce and willow, as one descends to the valley bottoms. There is no wood for building or fuel on the property.

Ice and snow persist in patches well into August, and the constant melting supplies two main streams flowing off the mountains. There is no impounded water and hence, in late August and early September, through night freezing and lack of snow, the stream flow declines at a rapid rate, limiting the drill season to mid-September.

Typical of mountainous areas, the weather is unpredictable, but from observation and reports, many days in July and August witness low cloud cover, heavy rain showers and scattered snow showers. Windy periods as well as the previously mentioned

weather conditions limit flying time around the ridge area.

The area of the drill camp in the east cirque at the head of Dolly Creek is a far superior campsite to that of the original site, shown on Figure 1, on Varden Creek.

HISTORY :

The CAB mineral claims (1 - 32) were staked by Peter Risby of Ross River, Yukon Territory, during the early part of June 1968. Atlas Explorations Ltd. optioned the property in August 1968 and carried out a limited exploration program on the claims and surrounding area, which included limited geological mapping, geochemical soil sampling and sampling of the mineralized zones.

In 1969, efforts on the CAB group were concentrated on detailed mapping of No. 1 and No. 2 showings by plane table at a scale of 1 inch equals 200 feet, by J.M. Bremner.

A 5,000 foot baseline oriented at N 38° W with short crosslines was established over the No. 2 showing. A limited amount of rock sampling was undertaken to indicate extension of the known limits of mineralization, and as a check on grades obtained during the 1968 sampling operations. Geochemical silt sampling of two creeks (Dolly and Varden Creeks), which run parallel to the No. 2 showing, and soil sampling of the western grid served to define more precisely the best zones of mineralization.

On the basis of this work, 5,000 feet of drilling was recommended for the two mineralized zones of No. 2 showing, and 3,000 feet for the No. 1 showing.

In 1971, the title of the claims was transferred and registered in the name of Risby Tungsten Mines Ltd. (N.P.L.).

A diamond drilling program was initiated by the Caltor Syndicate during the 1971 field season, which resulted in 3,563 feet of BQ wireline drilling to test part of No. 2 Showing. Eight holes were drilled from 4 set-ups. Three of the drill sites were along the top of the ridge between the two cirques. The 8th hole was drilled from the valley to the east. It was drilled vertical instead of at  $-45^{\circ}$  and could not reach projected mineralization (Antoniuk P. 6).

Holes 1 and 4, both vertical, 600 feet (183 metres) apart are considered to have intersected the same horizon and returned values of 0.63%  $WO_3$  over 18.2 feet (5.5 metres) for a true width of 13.9 feet and 1.07%  $WO_3$  over 13.0 feet (4.0 metres) for a true width of 9.9 feet. The balance of the holes returned low values. From the latest examination, it is indicated that holes 2, 3 and 8 were stopped short of the projected mineralization, hole 5 has intrusive at the projected intersection, hole 6 intersected low values and intrusives, and hole 7 may have been stopped short in a sill.

The drilling was wide spaced and inconclusive. There appears to have been no attempt to correlate the surface data with drill hole information.

Hole 7 was completed 24 August, 1971 and hole 8 was completed on 30 August, 1971.

Planned drilling on the No. 1 Showing was cancelled because of bad weather and icing conditions. Showing No. 2 was by no means

fully explored and Showing No. 1 remains untested.

During 1971 the Caltor Syndiate had expenditures of \$86,262.73 on the CAB group including \$43,224.18 on diamond drilling. The Syndicate took shares for the work which were later gifted back.

Five years assessment work was recorded on the 106 claims. This kept the claims in good standing until 1976.

The Canadian Mining Journal 1971 Mineral Industry Review issue February 1972, P.127 gives an account of tungsten at the time.

"Published prices for tungsten, 65% WO<sub>3</sub>, c.i.f. European ports, declined from 29.37 pounds sterling a metric ton (\$64 a short ton unit) in January to 17.40 pounds sterling (\$38 a short ton unit) in August, recovered to 20.46 pounds in October, but was quoted at 16.50 to 17.50 pounds a metric ton unit (\$36 - \$38 a short ton unit on December 10, 1971".

"The United States General Services Administration continued to offer tungsten for sale from stockpile --- on an off the shelf basis at \$55. per short ton unit of WO<sub>3</sub> ---".

"Tungsten sales from excess United States stockpile were approximately 0.7 million pounds in 1971, --- 11.8 million pounds (1970) and 38.3 million pounds (1969)".

In 1976, 16 claims had assessment paid in lieu of work and assessment work applied on an additional 38 claims. Thus, 54 claims were retained and 52 perimeter claims allowed to lapse.

In 1977, assessment work in the form of trenching and sampling were applied on the 54 claims and an additional 8 claims were staked.

Metals Week October 31, 1977 quotes \$154-\$160 short ton unit 65% WO<sub>3</sub>.

London \$170-\$178. metric ton unit, 65% WO<sub>3</sub>.

CLAIMS HELD BY COMPANY :

The company holds the following mineral claims:

<u>Claim Name and Number</u>	<u>Grant Number</u>	<u>No. of Claims</u>	<u>Recording Date</u>	<u>Due Date</u>
CAB 1 - 16	25386 - 25401	16	July 15/68	Oct. 15
CAB 17 - 32	25506 - 25521	16	July 29/68	July 29
CAB 33 - 40	25822 - 25829	8	Aug.30/68	Aug. 30
CAB 49	25838	1	Aug.30/68	Aug. 30
CAB 51	25840	1	Aug.30/68	Aug. 30
CAB 59, 60	15848, 25849	2	Aug.30/68	Aug. 30
CAB 73, 74	25923, 25924	2	Sept.9/68	Sept. 9
CAB 79, 80	YA19483, YA19484	2	Aug.10/77	Aug. 10
CAB 89 - 94	25939 - 25944	6	Sept.9/68	Sept. 9
CAB 95 - 100	YA19485, YA19480	6	Aug.10/77	Aug. 10
CAB 105, 106	26151, 26152	2	Sept.23/68	Sept. 23
		<u>62</u>		
	<u>TOTAL</u>			

Work has been filed to bring all due dates of the above claims to 1978, with some additional work remaining to be filed.

GEOLOGY :

General:

The area of the claims that has been mapped is described by J.M. Bremner as comprising "a uniform sequence of sedimentary rocks, at least 1,000 feet in thickness (No. 2 showing) of probably Lower Cambrian age, which has been intruded and uplifted to the west by a Cretaceous quartz monzonite batholith".

This age relationship compares favourably with the description of the MacMillan Tungsten property of AMAX Northwest Mining Co. Ltd., to the northeast on the Yukon-Northwest Territories border, discovered in 1962. "The deposit occurs in Lower Paleozoic limestone and limestone breccia at the eastern margin of the Selwyn sedimentary basin adjacent to a Cretaceous quartz monzonite rock. Four tabular zones of scheelite - pyrrhotite - diopside skarn occur in flat-lying strata. Numerous scheelite-quartz veins occur in hornfels above and below the skarn zone. Geological reserves total 30 million tons, grading 0.9%  $WO_3$ ."

Similarly, to the east, on the Yukon-Northwest Territories border, at Canada Tungsten Mining Corp. Ltd., the ore limestone has been dated as Cambrian, and in the vicinity are major intrusions of Cretaceous granitic rocks. The original orebody was in a skarn zone at the base of the Cambrian limestone, containing about 1.5 million tons with estimated grades of 2.47%  $WO_3$  and 0.5% Cu. This was contained

in a tabular area of approximately 650 feet long by 300 feet wide, by 65 feet thick.

The new Canada Tungsten "E Zone" contains over 4 million tons of grade estimated at 1.6%  $WO_3$  and 0.23% Cu, and has been supplying the concentrator at about 175,000 tons/year since late 1974.

Claims Area:

Bremner mapped the sedimentary units as consisting of highly siliceous biotite and chlorite schists containing numerous thin interbedded limy bands. The latter measure from 1" to 2 feet in thickness, and are traceable along strike for up to 600 feet. A few narrow discontinuous bands of quartzite outcrop close to the intrusive contact. A number of concordant quartz veins locally up to 6 feet in thickness, are present in the southern portion of No. 2 showing. At or close to the intrusive contact, the sediments have generally been recrystallized to a pale brownish-green garnet-diopside skarn, which in the southern and to a lesser extent in the northern part of the map area, have been gossaned due to oxidation of pyrrhotite and pyrite introduced along fractures.

The intrusive consists of massive, medium to coarse grained, grey, quartz-monzonite, which becomes progressively more foliated and leucocratic closer toward the sedimentary contact. At the contact, it invariably possesses a gneissic texture. Contrastingly, sills of

similar material injected between the sedimentary strata of No. 1 Showing ridge, and the southern part of No. 2 Showing, have granitic textures, with narrow fine-grained chill borders.

The sediment-intrusive contact is sharply defined everywhere it is exposed.

Due to the uniformity and high competency of the sedimentary sequence, Bremner stated that there has been no folding of the strata, and all orogenic adjustments have been accomplished by faulting.

Quartz-monzonite intrusion did produce a slight doming of the sediments however. No. 2 Showing tilted northeastwards at about  $45^{\circ}$ ; south of the large gossan area, and on No. 1 Showing the sediments dip generally at a steep angle in a southeasterly direction. Angle of dip becomes less near the top of No. 2 Showing ridge, suggesting close proximity of the eroded dome open to the west.

Faulting in an east-west direction is more easily recognized than those in a northerly direction, due to the direction of bedding and topography.

The age of the faulting in relation to the mineralization is not known. There is little evidence to support the large fault shown on the drill section by P.G. Marshall between drill holes 1-71 and 4-71. When the surface showings are incorporated with drill sections, the trace of the mineralization, from the limited data, is unusually regular. (See sections B-B', I-I', J-J'). Also with a section oblique to the strike

(Marshall), a small deflection of the drill hole could make a considerable difference in the point of intersection. No angle and few dip tests were recorded on the drill logs. One would also expect some doming of the intrusive into the overlying sediments.

Not enough information has been collected to determine if there is any change in concentration of mineralization adjacent to the faults, or if they may have even a subtle effect on localizing the tungsten mineralization, but this should not be overlooked.

The fault passing near BL2 + 00S could have some left hand movement or a down throw block to the north.

In the No. 1 Showing area, quite intense faulting has been shown on the map, but there are insufficient exposures to make a valid interpretation. A magnetometer might be a very useful mapping tool in helping to interpret these areas.

The mineralization dips into the mountain and the distance from the surface to any particular subsurface elevation can vary drastically according to topography. This will affect geophysical interpretations as well as the length of drill holes. The preliminary layout of diamond drill holes has taken this into consideration and as can be seen by the sections, the greatest density of drilling has been laid out along sections where the back of the mountain is closest to the projected mineralization. The exact layout will need to be flexible, as ability to construct drill sites, geophysical data becoming available and results of early drilling

give new structural information.

The favourable intrusive-sedimentary contact to the north is covered with light overburden and presents an excellent geochemical-geophysical target to date unexplored.

Thin beds of limestone have been observed and mapped. Not enough data is available to determine if there is local thickening of the beds. An excellent target area would be where mineralized solutions could come in contact with the base of a limestone formation. This could happen either at an intrusive contact or some distance stratigraphically above the contact if the underlying sedimentary rock would allow passage of mineralized solutions, such as the fractured "chert" formation underlying the original Canada Tungsten orebody.

Mineralization:

The No. 2 Showing is believed to be the eastern flank of an eroded dome, whose apex was probably located above the present valley containing Varden Creek.

Two parallel mineralized skarn horizons on the southern area, are at and parallel to the intrusive contact for approximately 1,200 feet. The main (lower) skarn zone averaging over 25 feet thick, is directly above the intrusive contact and to date has been found to contain the most scheelite (tungsten) mineralization. A second parallel skarn zone, averaging 15-20 feet thick, 10-30 feet stratigraphically above the first

zone, is separated by interbedded quartz biotite schist and local sills of quartz monzonite intrusive.

The skarn containing the scheelite (tungsten) mineralization has been sampled from infrequent outcrops on the grid from about 24 + 00 N to about 21 + 00 S. The large gossan area on the bluffs south of the grid area has been tested in spots with an ultra-violet lamp and several mineralized areas are reported to have fluoresced. This extremely steep surface area of mineralization would extend at least 300 feet south of the grid.

A very important area for surface exploration exists between the area on line 24 + 00 N at the north end of the old grid, where a grab sample assayed 5.60%  $WO_3$ , and to the northwest about 4,000 feet where staining and mineralization in the gorge on Varden Creek gave a stream silt sample high of 65 ppm  $WO_3$ . This contact area is nearly completely overburden covered and offers an excellent target for geophysical and geochemical exploration of a geological projection. This target area when projected to the creek, has a strike length of nearly a mile and gives the No. 2 area a length of approximately 2 miles to be explored.

Thus No. 2 Showing has a parallel hanging wall zone for about 1,200 feet, has been partially sampled over a length of 4,500 feet, has indications of tungsten mineralization for at least 9,100 feet and is open to the northwest which can be projected to make a prime exploration target 2 miles in length.

Tungsten samples have values ranging from a high of 5.60% to a low of trace  $WO_3$ . In earlier sampling values were found to be inconsistent between samples, and what is even more frustrating, individual sample results could vary greatly between different assay offices.

However, the average of 81 samples taken in 1968 were Cantung X-Ray - 0.58%, Whitehorse Assay Office - 0.41% and Coast Eldridge - 0.55%  $WO_3$ . (Table I P.1-3.) It should be noted that the earlier assays plotted on the Rock Sample Assay Results map are the lower averaging from the Whitehorse Assay Office.

The No. 1 Showing is west of the south end of the No. 2 Showing. It has received only minimal sampling and mapping.

It differs in several ways from the No. 2 Showing, and in the writer's opinion, is a favourable exploration target. It is more heavily gossaned, probably because of higher sulphide content, and is almost at right angles to the south end of No. 2 Showing.

The exposure is flanked by intrusives and could possibly be a roof pendant. There is limited exposure in an area of heavy rubble. The age of the intrusive in relationship to the batholith is not known and there is a question as to whether it is part of the batholith or a later dyke, that could have been emplaced as a release of tension during or after the later stages of mineral depositions along a trend of structural weakness. In my brief examination it would appear that this area

localized more fracturing as a result of intrusion and later tension release than other mineralized areas of the property.

The No. 1 Showing needs and deserves additional exploration in the form of grid control, additional detailed geological investigation and geophysics. The final follow-up diamond drilling layout should be guided by the results of this exploration and could possibly be quite different than that proposed in 1968 and shown in this report, although the footage would be similar.

DIAMOND DRILLING :

Part of the No. 2 Showing was drilled by Caltor Syndicate in 1971.

3,563 feet of BQ wire line drilling resulted in 8 holes from 4 set-ups as follows:

<u>Location</u>	<u>Hole No.</u>	<u>Bearing</u>	<u>Angle</u>	<u>Footage</u>
8 + 20 S, 2 + 50 E	1		Vertical	601
" "	2	180°	-49°	476
" "	3	218°	-66°	353
14 + 50 S, 1 + 50 E	4		Vertical	334
" "	5	175°	-66°	247
24 + 00 S, 0 + 00	6		Vertical	600
" "	7	322°	-45°	352
10 + 00 S, 13 + 00 E	8		Vertical	600

Holes 1 and 4 returned the best and deepest intersections. They were both vertical and about 600 feet apart.

Hole 1 (Section B-B') was about 500 feet down dip from the section trenched during the 1977 assessment program, where two parallel skarn zones were sampled and assayed. The lower zone average 0.54% WO<sub>3</sub> over 22.5 feet, including one section that averaged 1.15% over 7.5 feet. The upper zone was poorly mineralized and the best sample was 0.15% WO<sub>3</sub> over 4.0 feet. The hole intersected 18.2 feet (13.9 feet true width) averaging 0.63% WO<sub>3</sub> and a lower 4.7 feet assaying 0.05% WO<sub>3</sub>.

Hole 4 (Section G-G') was about 300 feet down dip from a surface sample of two parallel zones. The upper surface zone average 0.89%  $WO_3$  over 10.0 feet. The lower zone was sampled twice; one sampling gave 0.77%  $WO_3$  over 25.0 feet, including one section averaging 0.95%  $WO_3$  over 15 feet. The second sampling gave 0.63%  $WO_3$  over 15 feet, including 0.80%  $WO_3$  over 9.0 feet. The hole intersected 13.0 feet (9.9 feet true width) averaging 1.07%  $WO_3$ . The balance of the holes returned low values, at least three of which (2, 3 & 8) were stopped short of the projected mineralization. Hole 5 had intrusive at the projected intersection, hole 6 intersected low values and intrusives and hole 7 may have been stopped short in a sill.

The drilling was widely spaced and the geologists concerned found them difficult to correlate, with holes drilled from the same set-up intersection radically different rock sequences, however the drill reports do not show any attempt at trying to correlate the surface data with drill hole information.

Hole 7 was completed 24 August, 1971 and hole 8 at a lower elevation near the camp was completed on 30 August 1971.

Planned drilling on the No. 1 Showing was cancelled because of bad weather and icing conditions.

No. 2 Showing has only started to be explored and No. 1 Showing remains untested.

During 1971 the Caltor Syndicate had expenditures of \$86,262.73

on the CAB group including \$43,224.18 on diamond drilling.

Detailed examination of the core with a UV lamp by P. Marshall found only rare occurrences of scheelite in metasediments, and the best scheelite mineralization associated with sulphide mineralization in skarns.

Both geologists associated with the drilling program recommended additional drilling on the No. 2 and No. 1 Showings. P. Marshall recommended 4,500 feet and T. Antoniuk recommended 4,900 feet at a 1971 estimated cost of \$100,000.00.

CONCLUSIONS :

The 62 CAB mineral claims of Risby Tungsten Mines Limited are located over favourable areas of known tungsten mineralization approaching two miles in length.

Data is wide spaced and incomplete, requiring much more extensive and detailed exploration and development work.

There has been a great variation between sample results and even between assays of the same sample from different assay offices. This will require considerable surface trenching and blasting to fresh surfaces on a reasonably systematic basis to get an accurate estimate of average widths and grades. As a rough guide only, many of the assay sections range in the order of 0.50% to 0.75%  $WO_3$  over widths of about 25 feet, with many individual assays over 1.00%. The highest sample was 4.21% over 5.0 feet and the highest grab sample plotted was 5.60%.

Because of the potentially large size combined with sections of tungsten mineralization approaching economic grades, and the current favourable price and demand for the metal, a reasonably large exploration and development program on the CAB group of mineral claims is warranted.

RECOMMENDATIONS:

It is recommended that a three stage program be conducted on the property from a camp located in the east cirque, in the area of the old drill camp.

1. A surface exploration program of line cutting, geochemistry, geophysics and geology to help further delimit drill targets and explore areas of potential economic importance.

2. A reasonably systematic program of trenching and blasting to fresh surfaces, to get an accurate estimate of widths and grade of surface mineralization, to use in conjunction with diamond drilling, to determine an estimate of tonnage and grade.

3 (a)	Diamond drilling on No. 1 Showing	3,000 feet
(b)	Diamond drilling on No. 2 Showing	<u>7,400 "</u>
	<b>TOTAL</b>	<b>10,400 feet</b>

Trenching crews from (2) will be used to help blast and crib drill sites on the mountain side. Anticipate all drill moves by helicopter.

Because of the short season and uncertain weather conditions, a good camp will need to be supplied and the various programs well

organized and coordinated. The first stage of the program should start as early in June as possible and endeavour to have drilling completed by the end of August. If possible some of the lower level step out diamond drill holes near the campsite should be left to last as access and servicing would be less of a problem there when the weather deteriorates.

ESTIMATE OF COSTS

Pre engineering and preparation for program		\$ 9,000.00
Camp and supplies for 16-18 men		20,000.00
Mobilization and demobilization - allow		5,000.00
Food, cooking and heating fuel		17,550.00
Grid line extensions and renewal	25 miles @ \$275.	6,875.00
Magnetomer survey		5,000.00
Geochem. survey		4,500.00
E.M. survey		6,000.00
Trenching and drill site preparation - Labour		20,400.00
Two drills, steel, parts and explosives		6,000.00
Assaying		5,000.00
Diamond Drilling 10,400 feet @ \$22.00 ft.		228,800.00
Helicopter - Camp service 15 trips x 3 = 45 hrs. x \$325.	\$14,625.00	
Helicopter - Drill moves 13 x 4 = 52 hrs. x \$325.	16,900.00	
Helicopter - Camp move in and out 30 x \$325.	<u>9,750.00</u>	41,275.00
Consulting & Geological Engineering		20,000.00
Geologist 5 months @ \$3,000.		15,000.00
Surveyor - Draughtsman 4 months @ \$1,800.		7,200.00
Cook 3 months @ \$1,600.		4,800.00
Geological Assistant 3 months @ \$1,400.		4,200.00
Truck rentals		5,000.00
Radio		2,500.00
Expediting		3,000.00
		<u>\$437,100.00</u>
Contingencies - approximately 14%		<u>62,900.00</u>
<b>TOTAL</b>		<u><u>\$500,000.00</u></u>

BIBLIOGRAPHY

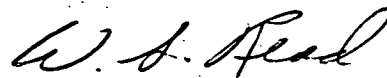
- Antoniuk, T. (1971) Report on 1971 Drill Program CAB Claim Group, Caltor Syndicate, November 1971.
- Bremner, J.M. (1969) Geological Report CAB Claim Group, Atlas Explorations Ltd., December 1969.
- Brock, J.S. (1968) Proposed Exploration Program CAB Mineral Claims - Atlas Explorations Ltd., August 13, 1968.
- Darney, R.J. (1969) Geological and Geochemical Report, CAB Mineral Claim Group, Atlas Explorations Limited, March 1969.
- Harris, F.R. MacMillan Tungsten Property, Can. Min. Met. Bulletin, Sept. 1976, P.64.  
(Summary of paper to be presented Oct.14, 1976).
- Little, H.W. (1956) Tungsten Deposits of Canada, G.S.C. Economic Geo. Series No. 17, P.10.
- Read, W.S. (1966) Report on Study and Compilation of Ore Reserves and Geological Data for Canada Tungsten Mining Corporation Limited, Tungsten, N.W.T., March 1, 1966. Private report.
- Read, W.S. (1966) Report on the Baker Prospect, Canada Tungsten Mining Corporation Limited, December 12, 1966. Private report.
- Read, W.S. (1976) Report on CAB Group Mineral Claims, Risby Tungsten Mines Ltd., September 30, 1976.

CERTIFICATE OF QUALIFICATIONS

I, Wayland Stuart Read of Cherry Point Road, Cobble Hill, B.C.,  
do hereby certify that:

1. I am a practising mining geologist and my address is Cherry Point Road, Cobble Hill, B.C.
2. I am a graduate in geology from Acadia University, Wolfville, Nova Scotia, and have been granted the degree of Bachelor of Science in Geology and have engaged in practising my profession for the past nineteen years.
3. I am a member of the Association of Professional Engineers of British Columbia and the Yukon Territory, a Fellow of the Geological Association of Canada and a Member of the Canadian Institute of Mining and Metallurgy.
4. This report is based on my personal work on the property during assessment programs in 1976 and 1977, with additional office study of geological and corporate data.

Respectfully submitted,



Wayland S. Read, B.Sc., P.Eng.  
Consulting Geologist

Cherry Point Road  
Cobble Hill, B.C.

3 November, 1977

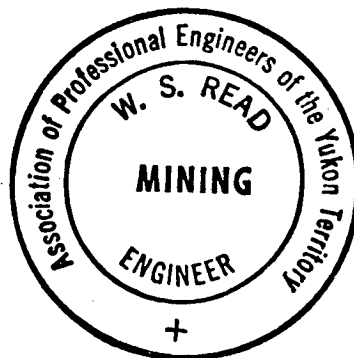


TABLE 1  
CAB MINERAL CLAIMS

Assay Results  $WO_3$

<u>Sample No.</u>	<u>Location</u>	<u>Assayed By</u>		
		<u>Cantung X-Ray</u>	<u>Whitehorse Assay Office</u>	<u>Coast Eldridge</u>
5701	LA2 5-10	0.45	0.15	0.27
5702	10-15	0.84	0.44	0.70
5703	15-20	0.57	0.52	0.53
5704	20-25	1.39	0.92	1.01
5705	A3 grab	1.08	0.62	0.66
5706	A3-1 grab	0.12	0.32	0.27
5707	A4 grab	0.83	1.22	1.44
5708	LA3 0-5	1.21	1.10	1.16
5709	5-10	1.10	1.66	0.93
5710	10-15	0.46	0.33	0.76
5711	15-20	0.27	0.27	0.52
5712	20-25	0.58	0.10	0.41
5713	25-30	Tr.	Tr.	0.02
5714	A5 grab	Tr.	2.94	3.16
5715	A6 grab	0.98	0.39	0.51
5716	A7 grab	0.48	0.53	0.41
5717	A8 grab	1.88	0.02	0.13
5718	LA4 0-5	0.33	0.44	0.45
5719	5-10	1.00	Tr.	0.08
5720	10-15	0.48	0.09	0.17
5721	15-20	Tr.	0.04	0.07
5722	20-25	0.30	0.02	0.05
5723	25-30	0.12	0.04	0.33
5724	LA5 0-5	1.11	0.41	0.51
5725	5-10	0.29	Tr.	0.19
5726	10-15	0.79	0.32	0.10
5727	15-17	Tr.	0.02	0.02
5728	A9 grab	0.21	0.26	0.37
5729	A10 grab	0.27	Tr.	0.19
5730	A10-1 grab	0.63	0.67	0.54

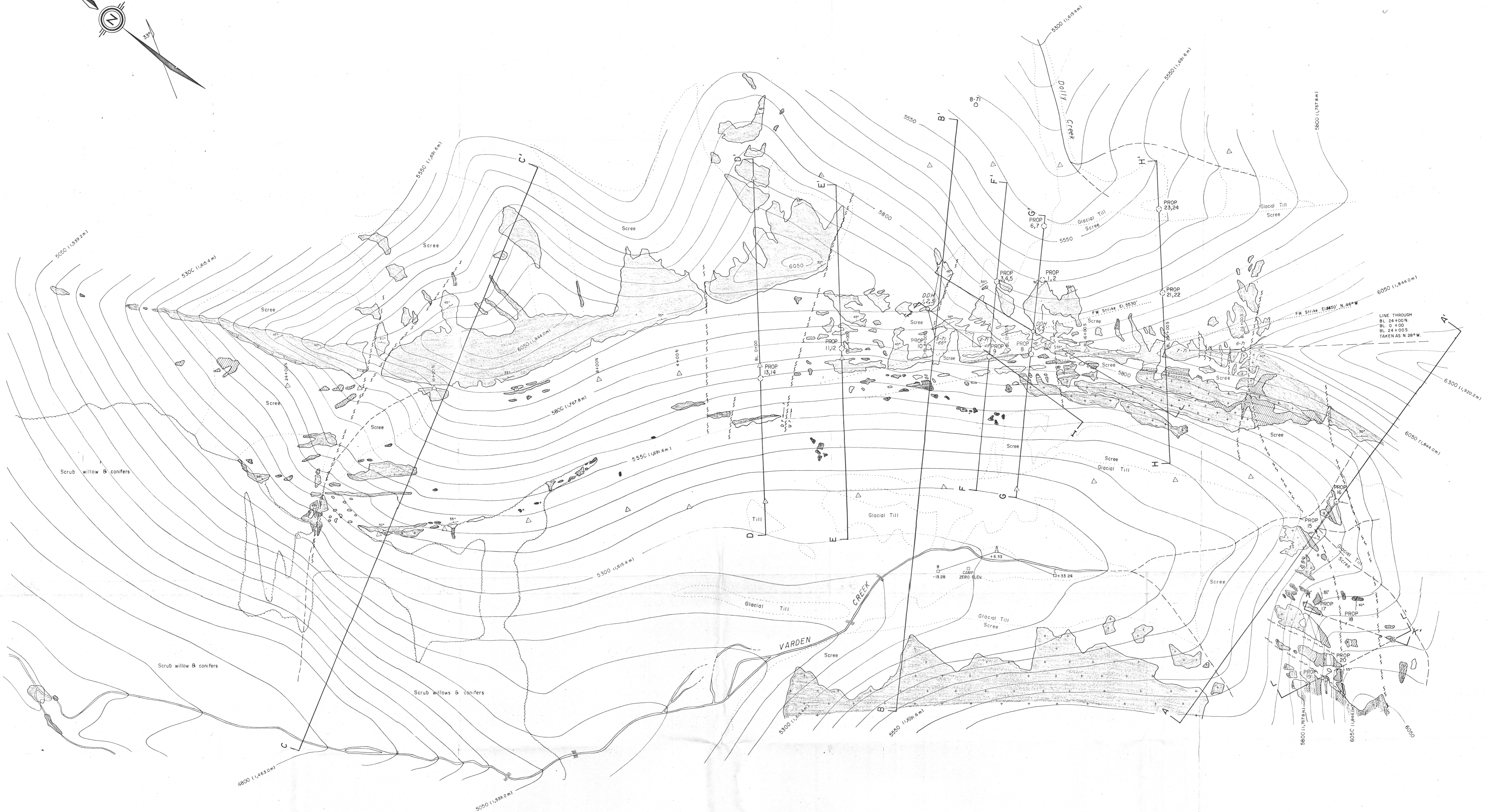
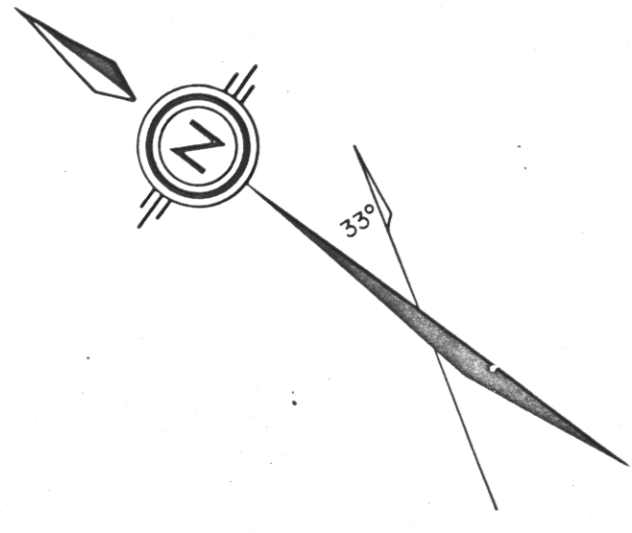
<u>Sample No.</u>	<u>Location</u>	<u>Assayed By</u>		
		<u>Cantung X-Ray</u>	<u>Whitehorse Assay Office</u>	<u>Coast Eldridge</u>
5731	All grab	0.14	0.21	0.38
5732	All-1 grab	0.55	0.52	0.59
5733	All-2 grab	0.34	0.33	0.69
5734	A12 grab	0.10	Tr.	0.01
5735	A12-1 grab	1.58	0.57	0.64
5736	A13 grab	0.30	0.22	0.53
5737	A14 grab	0.46	0.54	0.64
5738	A15 grab	1.11	0.73	0.78
5739	A15-1 grab	0.70	0.34	0.47
5740	A16 grab	1.59	0.14	0.39
5741	ED 1	0.28	Tr.	0.01
5742	ED 2	Tr.	Tr.	0.06
5743	ED 3	0.08	0.11	0.39
5744	ED 4	0.08	0.10	0.24
5745	ED 5	0.37	0.18	0.27
5746	ED 6	1.82	0.69	0.52
5747	ED 7	2.00	1.65	0.92
5748	ED 8	Tr.	0.02	0.12
5749	ED 9	Tr.	0.02	0.02
5750	ED 10	0.28	0.15	0.30
5770	L1 0-5	2.25	1.18	0.75
5771	5-10	0.06	0.38	0.36
5772	10-15	2.85	1.67	4.21
5773	15-20	0.51	0.81	0.89
5774	20-25	0.10	0.03	
5775	L2 0-5	0.08	0.05	0.18
5776	5-10	0.72	0.29	0.36
5777	10-15	0.21	0.11	0.27
5778	15-20	0.18	0.28	0.55
5779	20-25	0.99	0.68	1.02
5780	25-30	0.59	0.32	0.46

<u>Sample No.</u>	<u>Location</u>	<u>Assayed By</u>		
		<u>Cantung X-Ray</u>	<u>Whitehorse Assay Office</u>	<u>Coast Eldridge</u>
5781	L2 30-35	0.22	0.17	0.38
5782	35-40	0.31	0.38	0.64
5783	L3 0-5	0.91	0.69	0.84
5784	5-10	0.50	0.52	0.68
5785	10-15	0.44	0.31	0.68
5786	15-20	0.52	0.84	0.85
5787	30-35	0.54	0.73	0.90
5789	A1 grab 0-5	0.10	0.12	0.16
5790	5-10	0.28	0.33	0.50
5791	10-15	0.10	0.10	0.16
5792	15-20	0.12	0.22	0.32
5793	20-25	0.12	0.05	0.15
5794	LA1 0-5	1.04	0.24	0.62
5795	5-10	0.62	0.46	0.82
5796	10-15	0.06	0.12	0.21
5797	15-20	1.02	0.88	1.12
5798	20-25	0.98	0.35	0.60
5799	A2 grab	0.27	0.06	0.16
5800	LA2 0-5	0.14	0.23	0.43
5851	ED 11	0.54	0.09	0.33
5852	ED 12	0.10	0.17	0.33
Average 81 samples		0.58	0.41	0.55

TABLE 2

PROPOSED DRILLING

<u>Showing Area</u>	<u>Sec-tion</u>	<u>Set-up Location</u>	<u>Water Supply</u>	<u>Hole No.</u>	<u>Azi-muth</u>	<u>Dip</u>	<u>Length (Feet)</u>	<u>Total Length (Feet)</u>	
1		28 + 30 S/ 9 + 50W	Varden Creek	15 16	256°	-47° -90°	250 300	550	
1		31 + 60S/ 16 + 40W/	Varden Creek	17 18 19 20	332° 332° 284° 284°	-45° -67° -47° -65°	500 600 650 700	2,450	3,000
Layout subject to revision.									
2	G	14 + 00S/ 3 + 40E	Dolly Creek	1 2	240°	-60° -90°	300 350	650	
2	F	11 + 75S/ 3 + 40E	Dolly Creek	3 4 5	240° 240°	-36° -66° -90°	375 375 450	1,200	
2	G	14 + 20S/ 6 + 00E	Dolly Creek	6 7	240°	-63° -90°	350 400	750	
2	G	13 + 20S/ 0 + 15W	Dolly Creek ?	8		-90°	250	250	
2	F	11 + 10S/ 0 + 20W	Dolly Creek ?	9		-90°	250	250	
2	B	8 + 00S/ 0 + 40E	Dolly Creek	10		-90°	375	375	
2	E	4 + 00S/ 0 + 50E	Dolly Creek	11 12	232°	-68° -90°	400 475	875	
2	D	0 + 00 0 + 60W	Dolly Creek	13 14	232°	-68° -90°	425 525	950	
2	H	20 + 00S/ 3 + 00E	Dolly Creek	21 22	232°	-45° -90°	250 300	550	
2	H	20 + 00S/ 7 + 00E	Dolly Creek	23 24	232°	-45° -90°	400 550	950	
2			Dolly Creek	25			600	600	
								<u>7,400</u>	
<b>TOTAL</b>									<b>10,400 feet</b>



**LEGEND**

- |  |  |  |                             |
|--|--|--|-----------------------------|
|  | DIORITE                                |  | BEDDING STRIKE & DIP        |
|  | QUARTZ MONZONITE (GRANITIC - GNEISSIC) |  | FAULT - DEFINED, ASSUMED    |
|  | GARNET - DIOPSIDE SKARN                |  | WATERFALL                   |
|  | LIMESTONE, MARBLE                      |  | DIAMOND DRILL HOLE          |
|  | QUARTZ - CHLORITE SCHIST               |  | PROPOSED DIAMOND DRILL HOLE |
|  | QUARTZ - BIOTITE SCHIST                |  | UNDIFFERENTIATED            |
|  | GOSSAN                                 |  |                             |

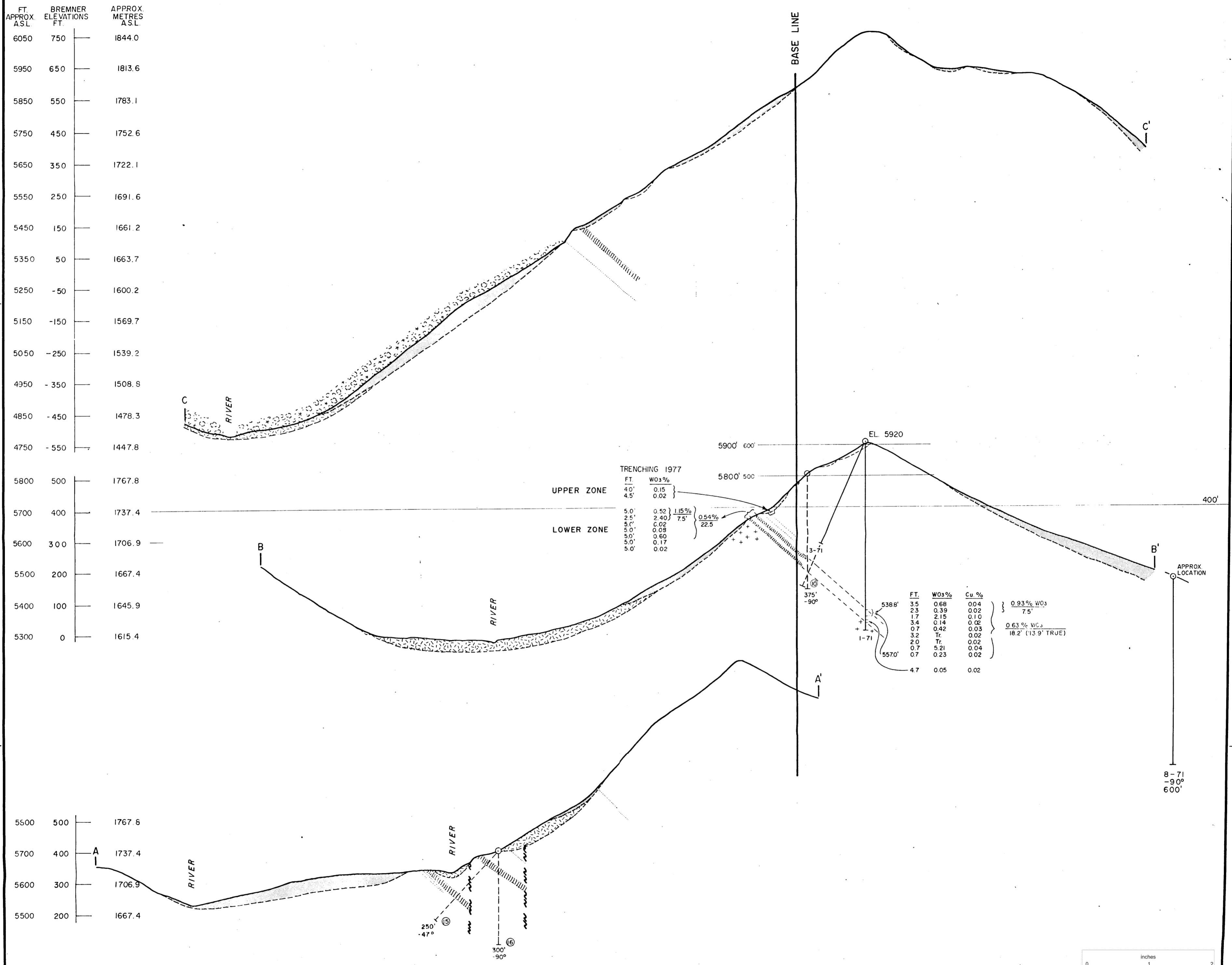
NOTE: Geology base map and plane-table control by J.M. Bremner, Atlas Explorations Ltd., 1969.

To accompany report by W.S. READ, P.Eng., dated 3 Nov. 1977.



<b>RISBY TUNGSTEN MINES LTD.</b> CAB MINERAL CLAIMS - ROSS RIVER, YUKON, CANADA N.T.S. 105 F 14 61° 52' N, 133° 22' W		
<b>GEOLOGICAL MAP</b> <b>PRELIMINARY TOPOGRAPHY</b>		
DRAWN: oltair DATE: 3 Nov. 1977	REVISED:	No. 1
<b>WAYLAND S. READ</b> P. ENG. CONSULTING GEOLOGIST COBBLE HILL, B.C., CANADA		

# To Accompany Figure 1



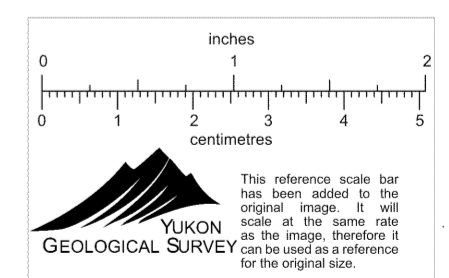
**LEGEND**

○ DIAMOND DRILL HOLE

○ PROPOSED DIAMOND DRILL HOLE

AFTER J.M. BREMNER - ATLAS EXP. LTD. 1967  
WITH ADDITIONS BY W.S. READ

To accompany report by W.S. READ, P.Eng., dated 3 Nov. 1977 *W.S. Read*



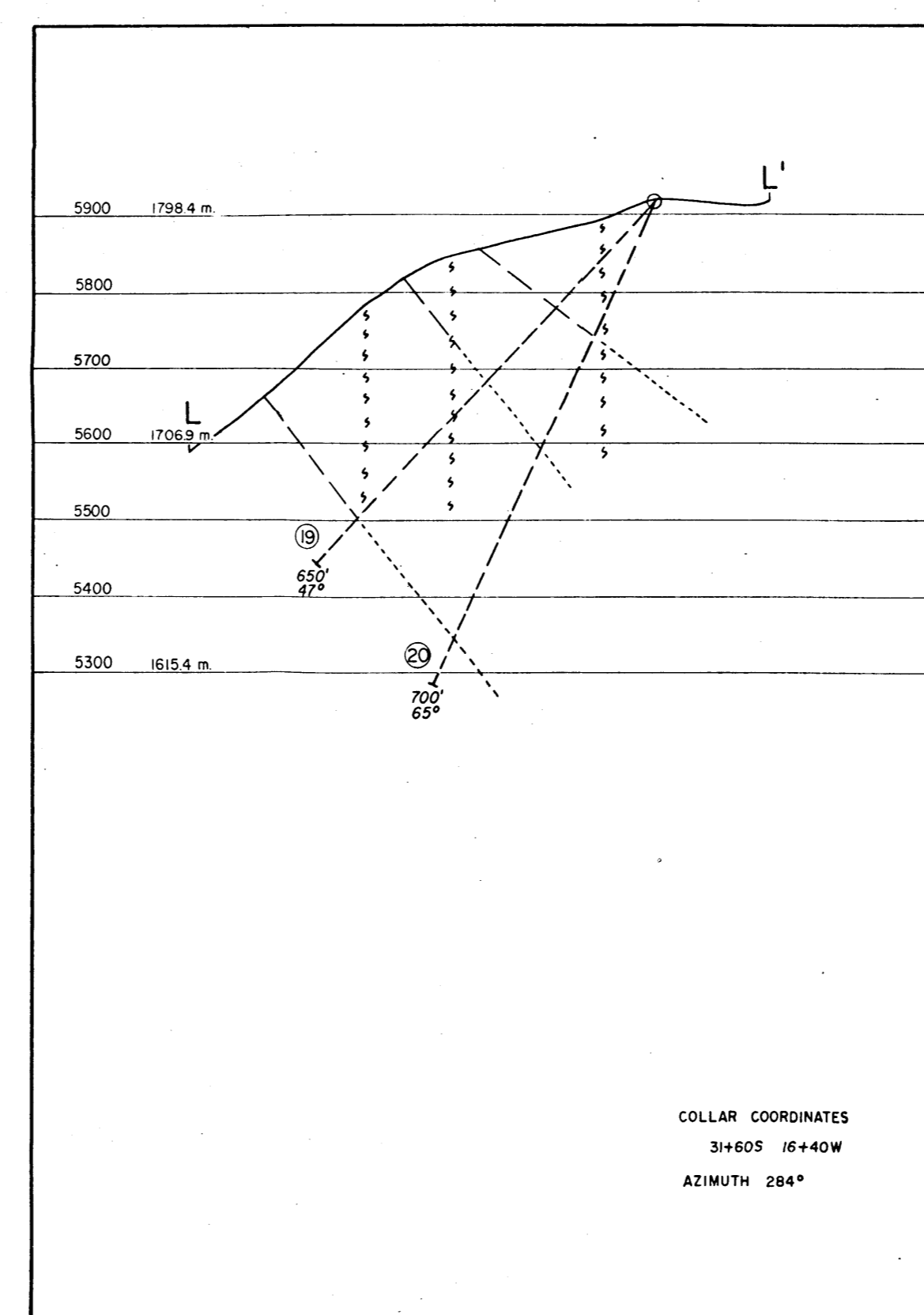
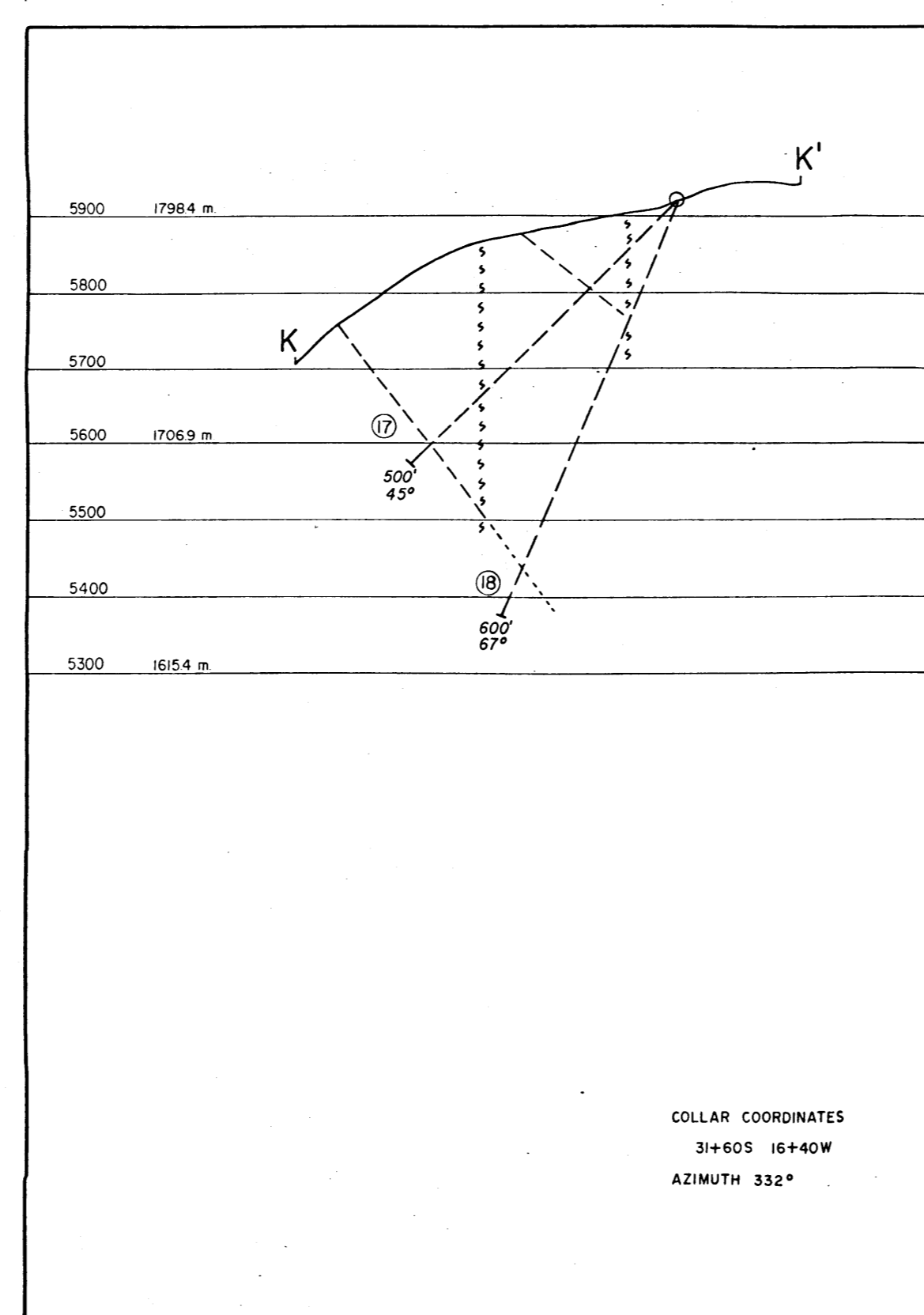
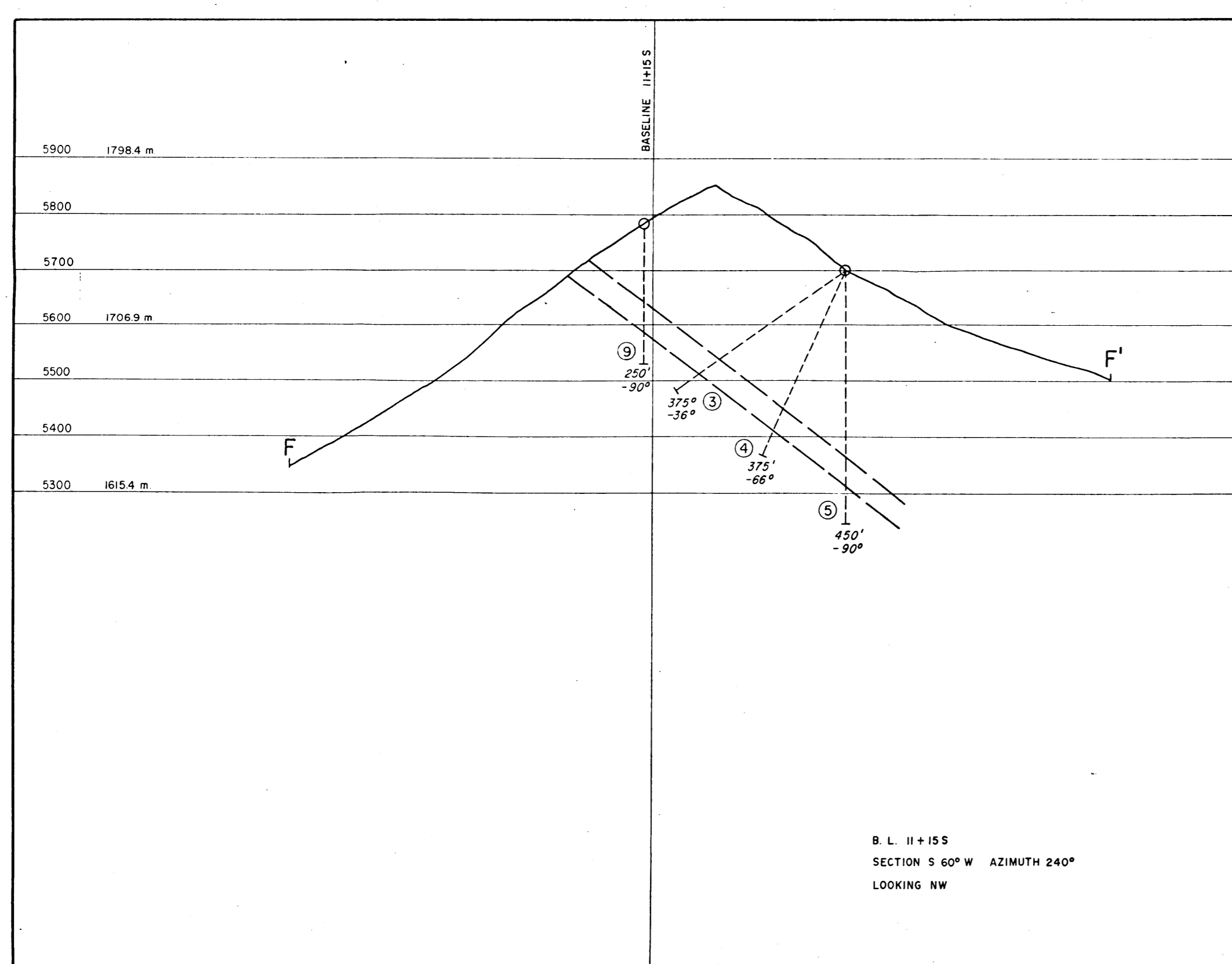
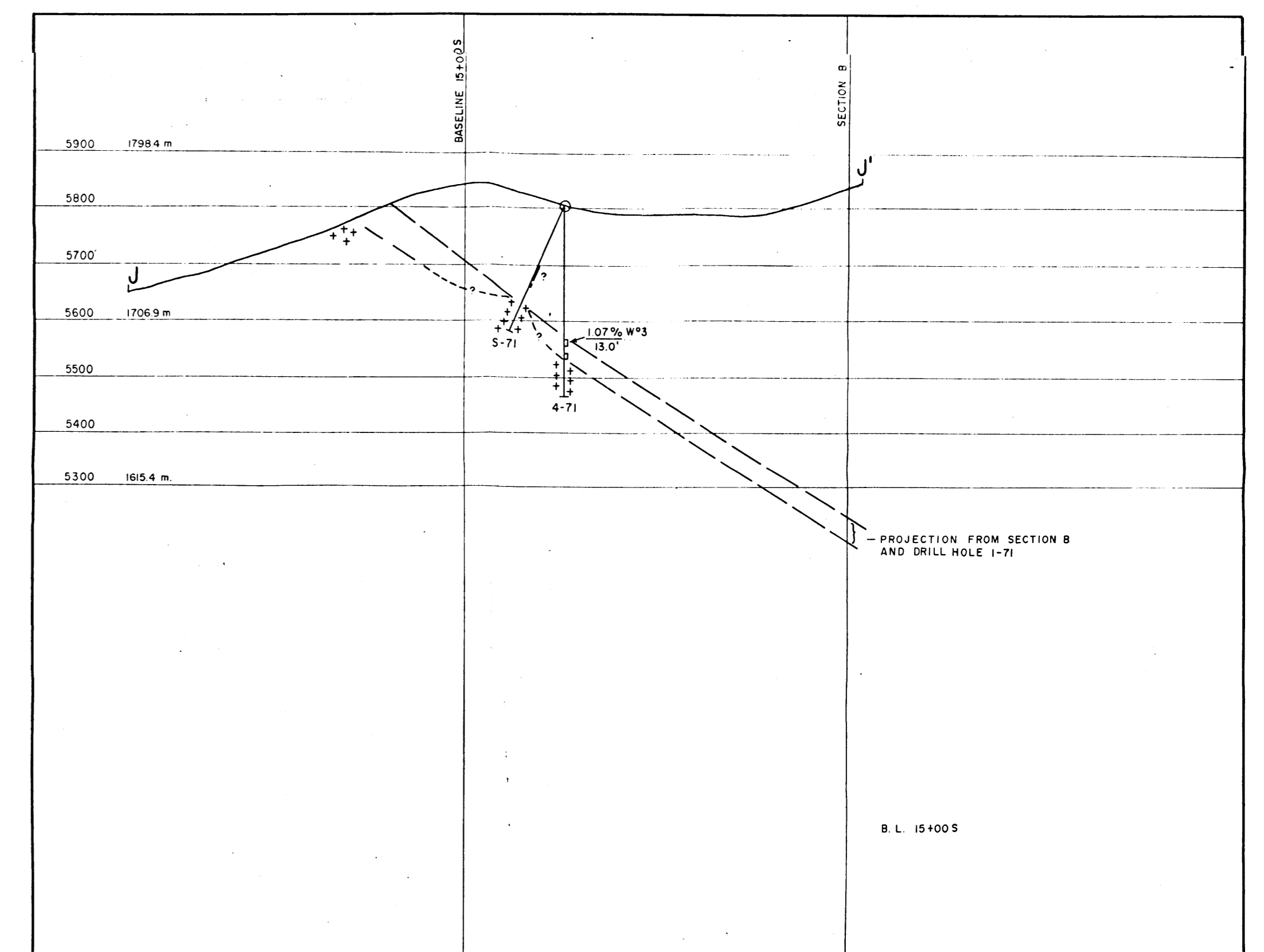
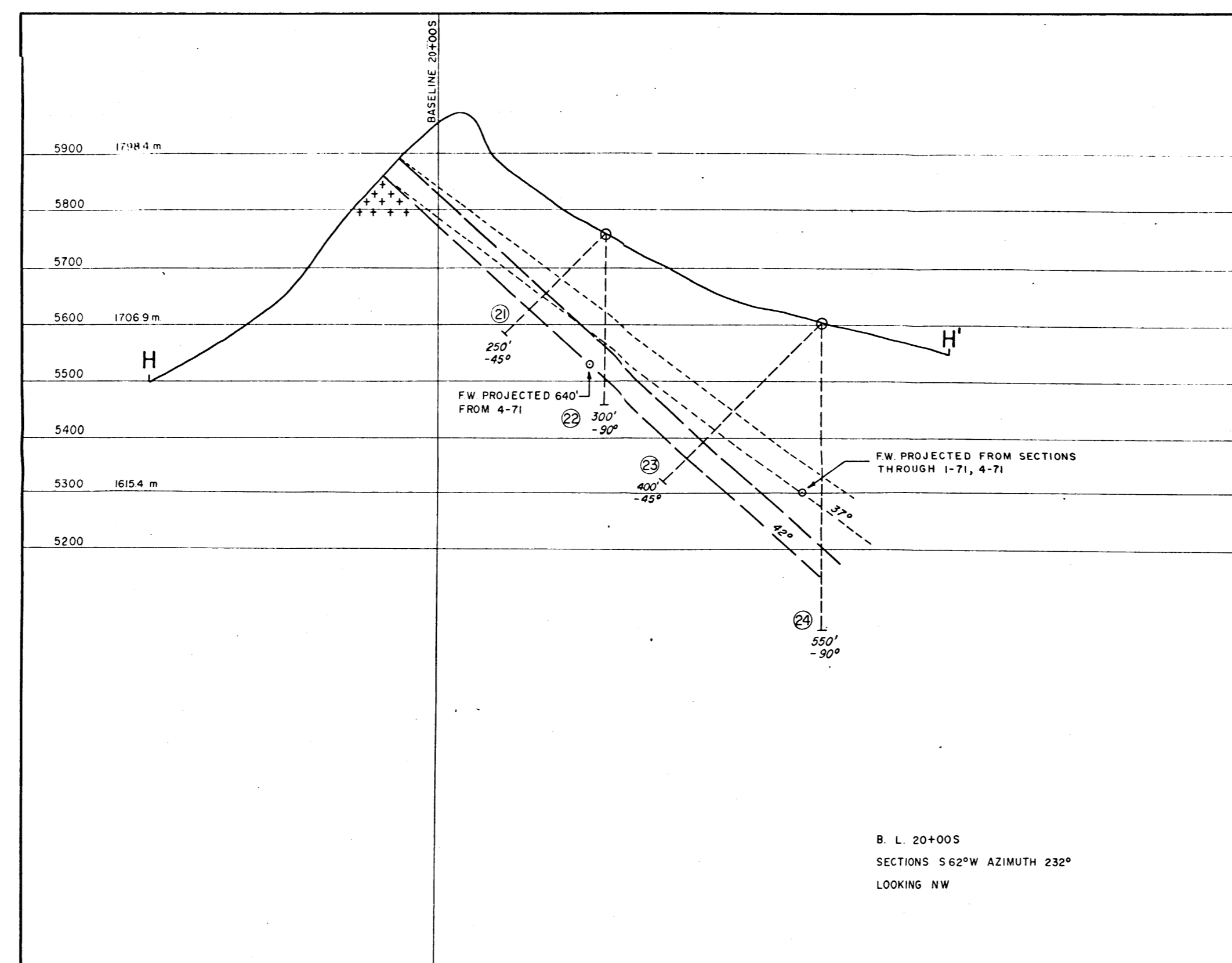
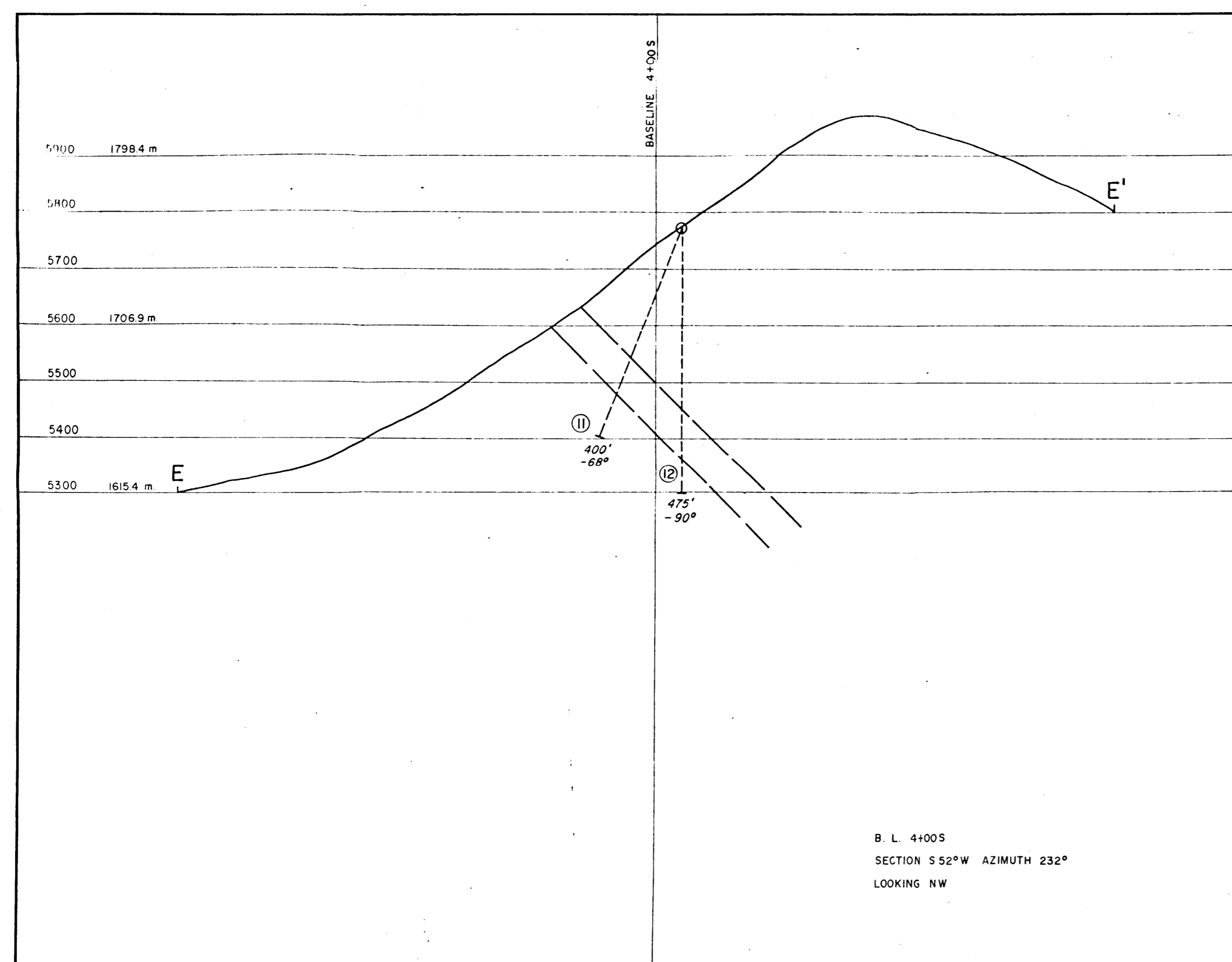
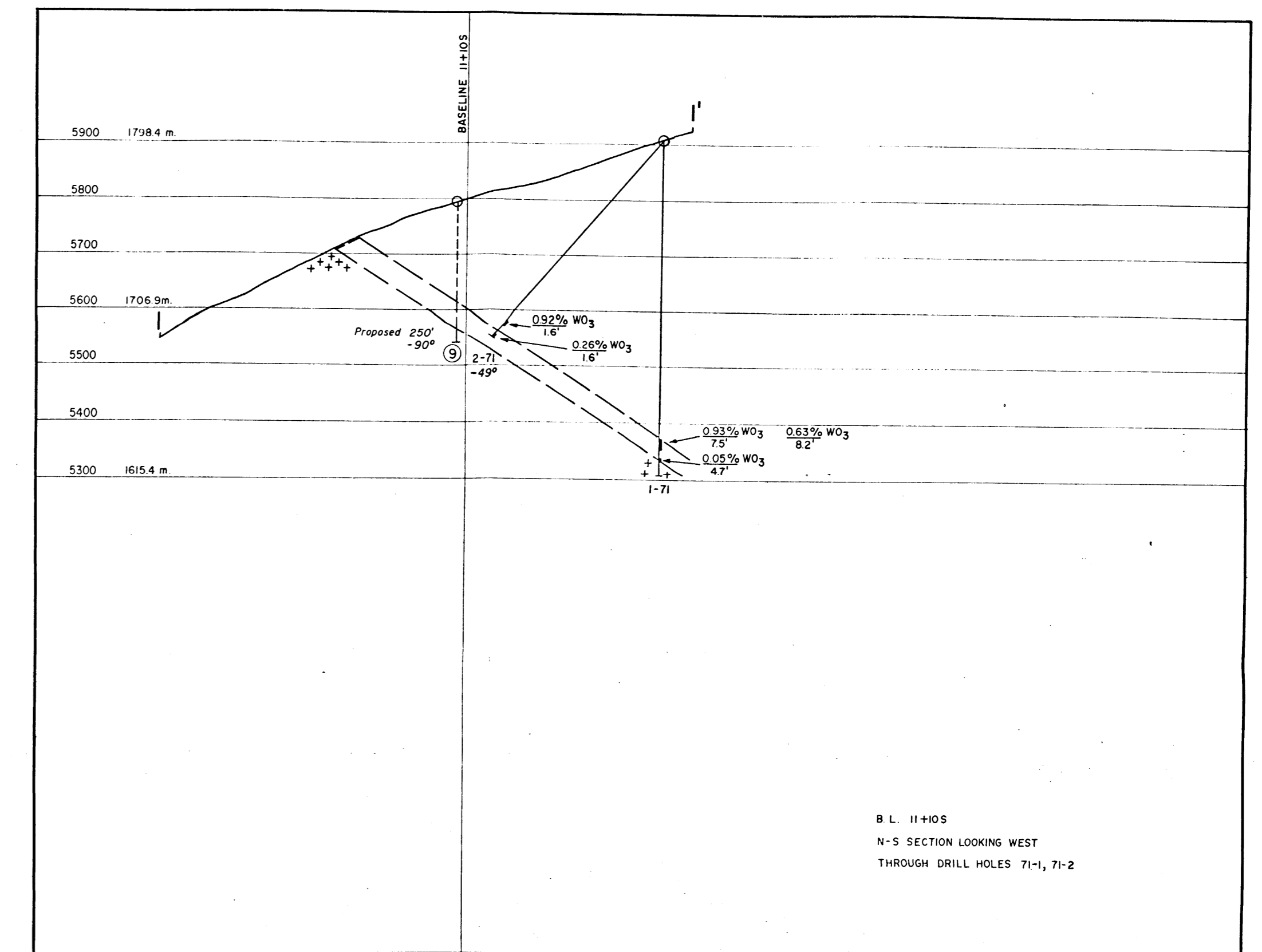
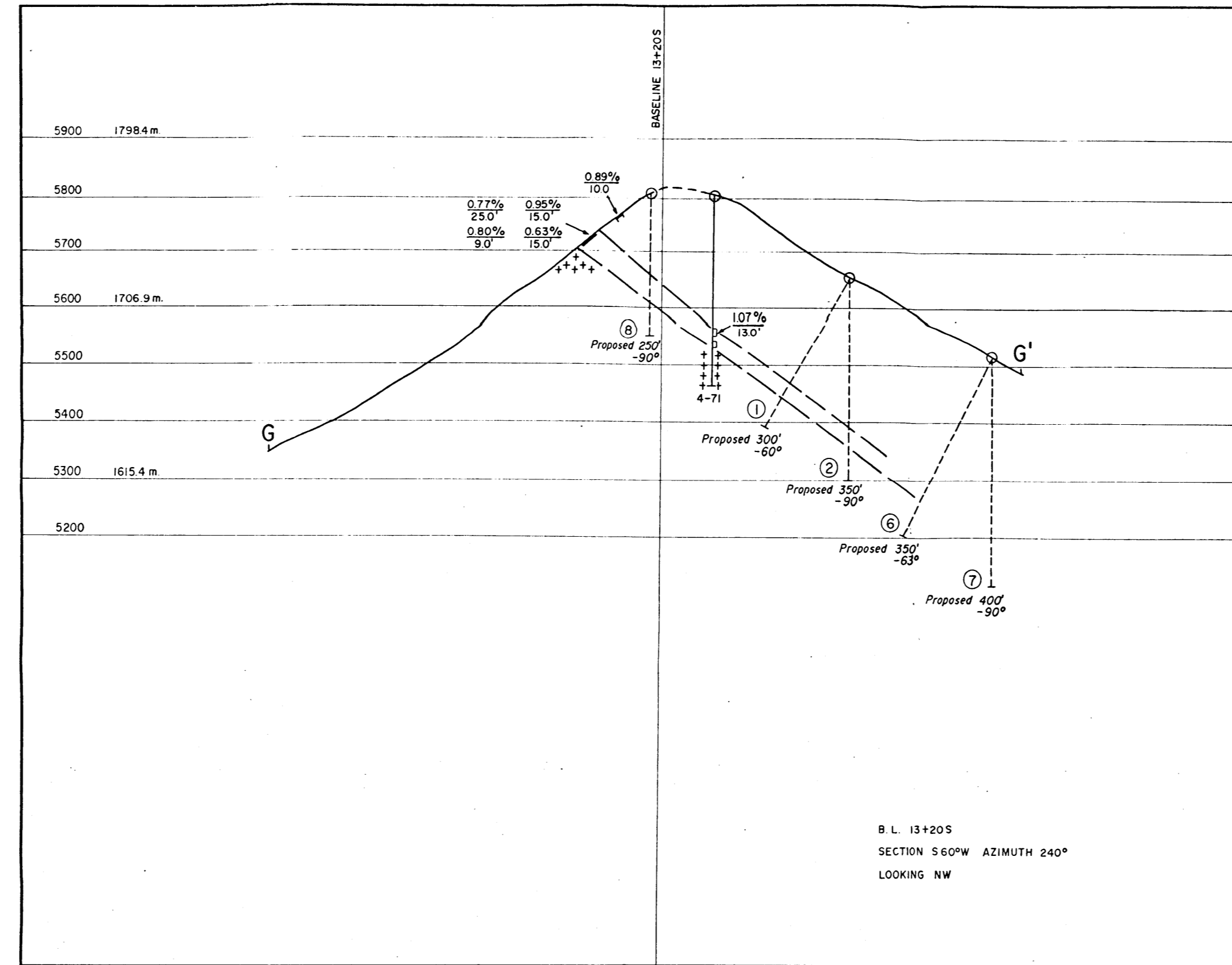
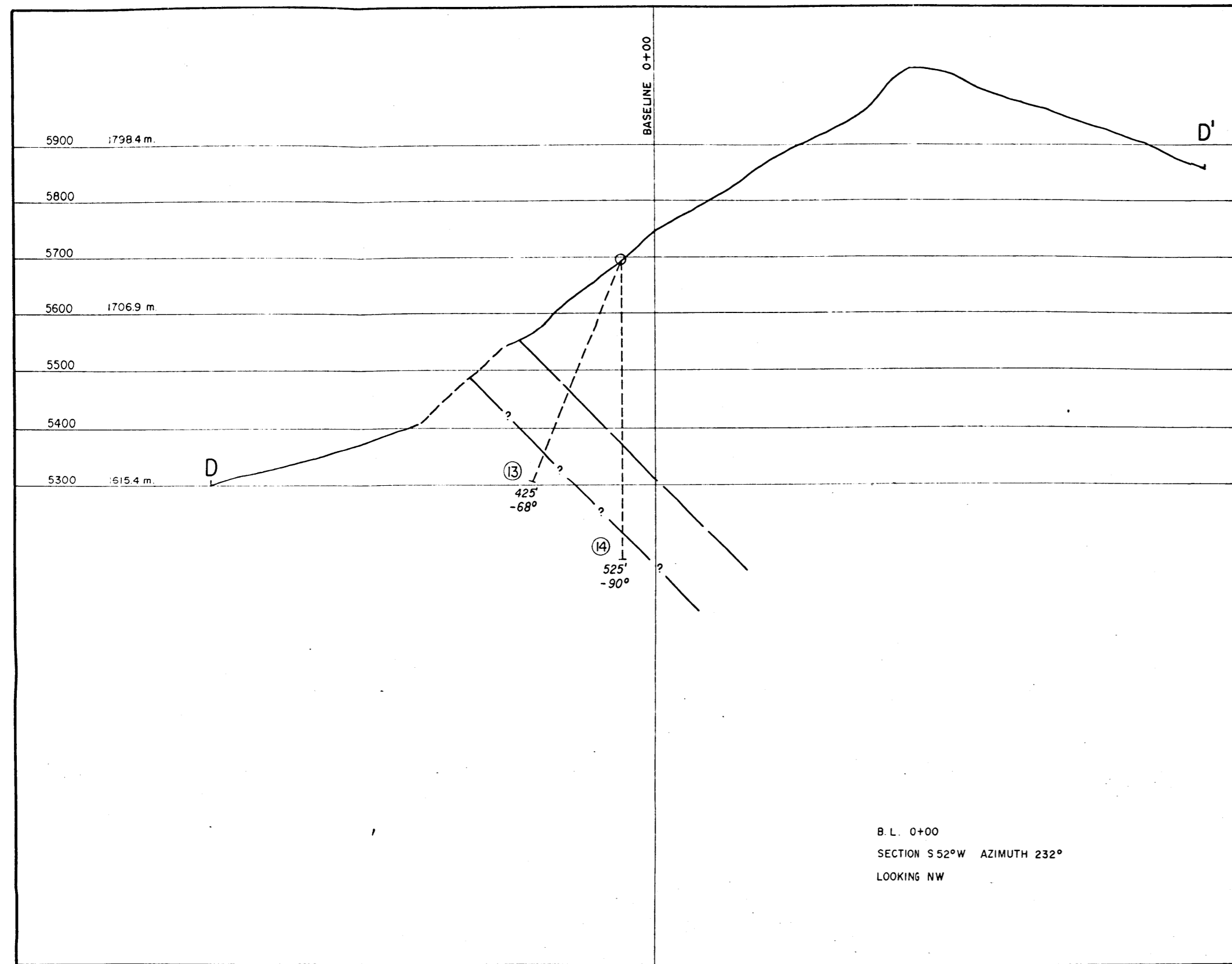
**RISBY TUNGSTEN MINES LTD.**  
CAB MINERAL CLAIMS - ROSS RIVER, YUKON  
N.T.S. 105 F14 61°52'N, 135° 22' W

**GEOLOGICAL SECTIONS: A-C**

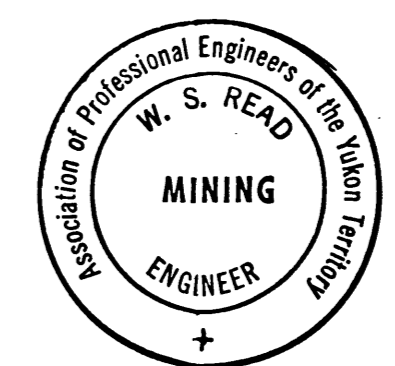
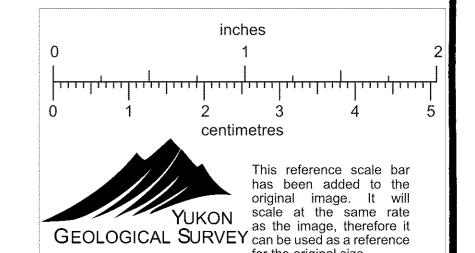
FEET 0 100 200 300 400 500 600 FEET  
METRES 0 50 100 150 200 METRES

DRAWN: DATE: 3 NOVEMBER 1977  
REVISED: NO. 2

WAYLAND S. READ P.ENG. CONSULTING GEOLOGIST  
COBBLE HILL, R.C., CANADA



- LEGEND**
- DIAMOND DRILL HOLE
  - PROPOSED DIAMOND DRILL HOLE



**RISBY TUNGSTEN MINES LTD.**  
CAB MINERAL CLAIMS - ROSS RIVER, YUKON, CANADA  
N.T.S. 105 F 14 61°52'N, 133°22'W

**GEOLOGICAL SECTIONS  
'D' TO 'L'**

FEET 200 100 0 200 400 600 800 FEET  
METRES 50 100 150 200 225 METRES

DRAWN: *altov* REVISION: 

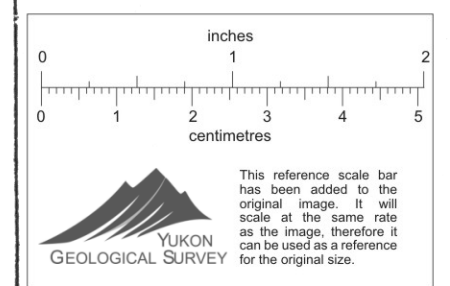
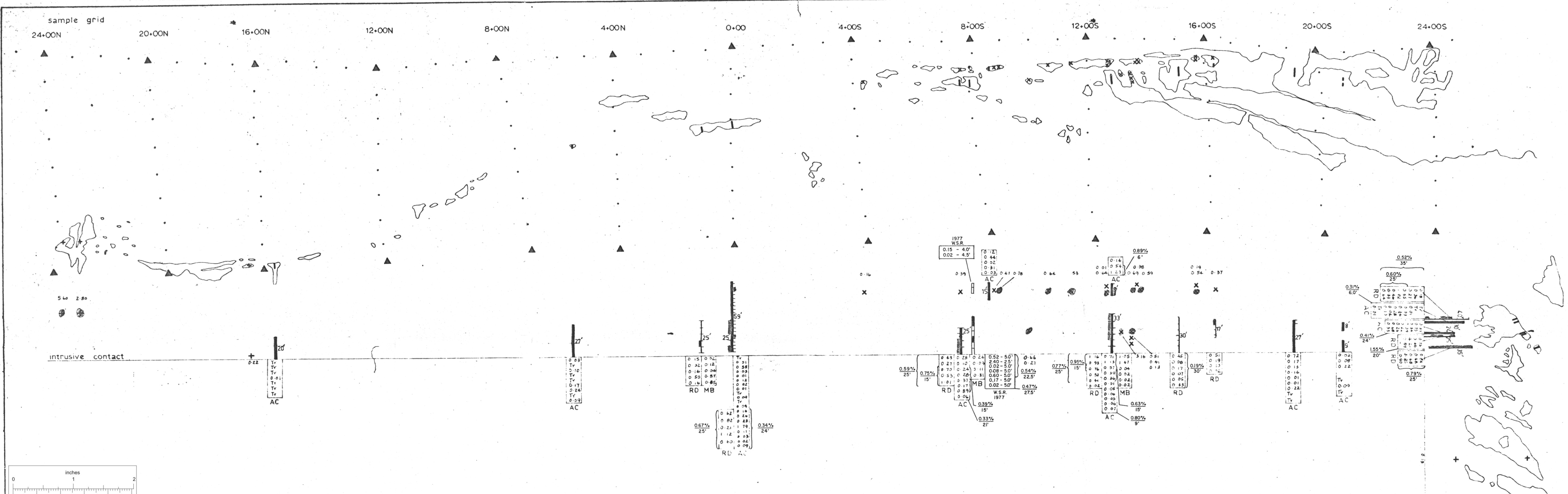
--	--

  
DATE: 3 Nov 1977 No. 

--

WAYLAND S. READ P. ENG. CONSULTING GEOLOGIST  
COBBLE HILL, B.C., CANADA

To accompany report by W.S. READ, P.Eng., dated 3 Nov 1977. *W.S. Read*



**RISBY TUNGSTEN MINES LTD.**  
 CAB MINERAL CLAIMS - ROSS RIVER, YUKON  
 NTS 105 F14 61°52'N, 133°22'W

**ROCK SAMPLE ASSAY RESULTS (%WO<sub>3</sub>)**

SCALE: FEET 0 100 200 300 400 500 600 FEET  
 METRES 0 50 100 150 200 METRES

DRAWN: WAYLAND S. READ  
 DATE: 1 NOVEMBER 1977

REVISED: \_\_\_\_\_  
 NO. 4

P. ENG. CONSULTING GEOLOGIST  
 COBBLE HILL, B.C., CANADA

**— LEGEND —**

- x CHANNEL AND GRAB SAMPLE — R. DARNEY (AUG. 1968)
  - AC PANEL SAMPLE — ARCHER-CATHRO (SEPT. 1968)
  - + CHANNEL AND GRAB SAMPLE — M. BREMNER (SEPT. 1969)
- Scale of Intrusive Contact: strike 1" = 200'  
 width 1" = 50'
- 0.50% - 0.99%  
 1.00% AND HIGHER
- CHANNEL SAMPLING AND AVERAGING BY W.S. READ





CHANNEL SAMPLE RESULTS

CHANNEL NUMBER	LENGTH	AVERAGE %W <sub>03</sub>
A	40'	0.48
B	25'	1.24
C	35'	0.80
D	30'	0.19
E	33'	0.63
F	25'	0.59
G	25'	0.67

GRAB SAMPLE ASSAY

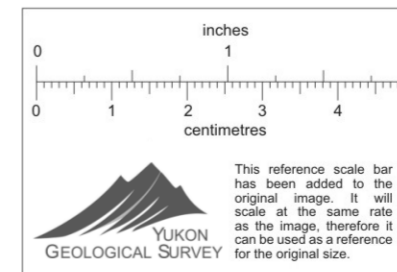
SAMPLE NUMBER	%W <sub>03</sub>
a	0.92
b	0.5
c	0.58
d	0.22

DIAMOND DRILL RESULTS

DRILL HOLE	INTERVAL	WIDTH	%W <sub>03</sub>
R-1-71	538.8 - 550.4	11.6'	0.68
R-1-71	555.6 - 557	1.4'	2.72
R-4-71	232.1 - 245.1	13'	1.07



Compiled by W. Roberts  
 Drawn by C. George 1972  
 Revised by W. S. READ, 1977



LEGEND

- 3 x MEDIUM GRAINED QUARTZ MONZONITE
- 2 FINE-COARSE GRAINED GARNET-DIOPSIDE SKARN AND IRREGULAR PYRRHOTITE BANDS WITH SCHEELITE MINERALIZATION.
- 1 INTERBEDDED QUARTZITE, QUARTZ BIOTITE SCHIST, AND LIMESTONE.
- GEOLOGICAL CONTACT, ASSUMED, DEFINED
- DIAMOND DRILL HOLES 1971
- CHANNEL SAMPLE LOCATIONS (PARTIAL)
- + GRAB SAMPLE LOCATIONS
- M TUNGSTEN GEOCHEMICAL ANOMALY (OVER 100ppm W<sub>03</sub>)

**RISBY TUNGSTEN MINES LTD.**  
 CAB MINERAL CLAIMS - ROSS RIVER, YUKON  
 NTS 105 F14 61°52'N, 133°22'W

**COMPILATION MAP**

FEET 1000 500 0 1000 2000 3000 FEET  
 METRES 200 100 0 100 200 300 400 500 600 700 METRES

DRAWN: 3 NOVEMBER 1977 REVISED: NO. 5

WAYLAND S. READ P. ENG. CONSULTING GEOLOGIST  
 COBBLE HILL, B.C., CANADA

To accompany report by W. S. READ P.Eng., dated 3 Nov. 1977