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93M/7

SUMMARY REPORT  
FOR THE  
PROSPECTS AT SUSKWA PASS

French Peak Area  
Omineca Mining Division  
British Columbia

Lat.  $55^{\circ}21'$  N.- Long.  $126^{\circ}54'$  W.

NIS 93 M/7

Willard D. Tompson  
May 21, 1992

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### SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

The BAB porphyry copper prospect is 51 kilometers east-northeasterly from Hazelton, British Columbia. The prospects occur in subalpine terrain of low relief and are largely covered by an undetermined thickness of glacial till.

Host rocks are Cretaceous biotite-feldspar-quartz porphyry which displays widespread argillic and sericitic alteration. The porphyry intrudes Hazelton Group volcanic and sedimentary rocks. A large pyritic zone occupies the prospect area and is 2.5 kilometers long and 1.6 kilometers wide.

The prospects received some attention during the years, 1967 to 1971. Two geochemical surveys were done during that period of time, but were very difficult to interpret due to widespread, clayey overburden. An induced polarization survey produced some strong anomalies which were not coincident with geochemical copper anomalies. A bulldozer trenching program was of marginal value because bulldozers had difficulty with deep overburden. Six diamond drill holes were drilled in an area of geochemical copper anomalies, but copper values in the core were low and it is concluded that the anomalies were transported anomalies.

It is recommended that the area be geologically mapped in detail and that a new induced polarization survey be conducted in order to identify new drill targets.

Summary Report  
for the  
Prospects at Suskwa Pass  
French Peak Area  
Omineca Mining Division  
British Columbia

PROPERTY AND LOCATION

The BAB porphyry copper prospect lies 51 kilometers east-northeasterly from the village of Hazelton, British Columbia and is 3.5 kilometers west of French Peak (Figure 1).

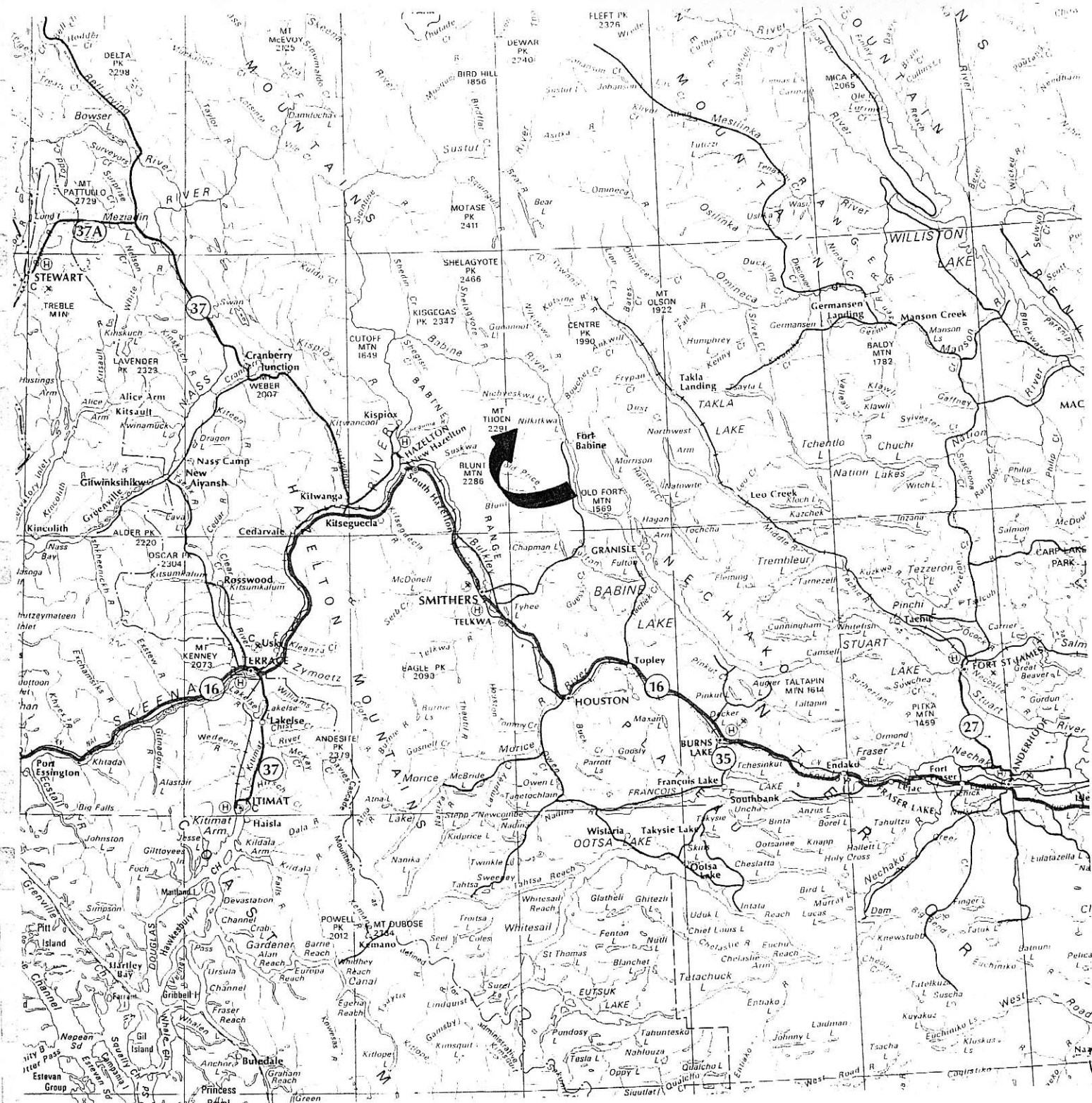
The prospect area is near the southern boundary of the Skeena Mountains physiographic unit (Holland, 1964) where Skeena Mountains unit adjoins the Nechako Plateau physiographic unit. The area is characterized by rounded topographic features below elevations of 5000 feet (1524 m) but steep, abrupt topography is predominant above 1550 meters and there are several prominent peaks, such as Netalzul Peak at 2350 meters elevation and French Peak at 2014 meters.

The area in which previous exploration work was done is subalpine, has low relief and is covered with glacial drift. The area of low relief is crudely rectangular in shape and is about 1500 meters in an east-northeast direction and 1000 meters in a north-northwest direction. The shape is probably structurally controlled.

ACCESS

There are at present two means of road access to the claim area (Figure 2). The Suskwa River logging road is accessed from Hazelton, and during the summer is passable to regular vehicular traffic from Highway 16 to Natlan Creek. However, from Natlan Creek to the claim area, access is via 4-wheel drive trail through Suskwa Pass, a distance of about 27 kilometers. The Nilkitkwa logging road is accessed from the Smithers area. It traverses the west side of Babine Lake and at 90 kilometers, a logging road at Tsezakwa Creek lies westerly toward Suskwa Pass. At about 9 kilometers the road ends, but from the end of the road a 4-wheel drive trail continues to Suskwa Pass, an additional 6 kilometers. Distance to the BAB claim from the 4-wheel drive trail in Suskwa Pass is about 4 kilometers.

Flight distance to the claim area is 65 kilometers from Smithers. There are several helicopter charter companies in Smithers.



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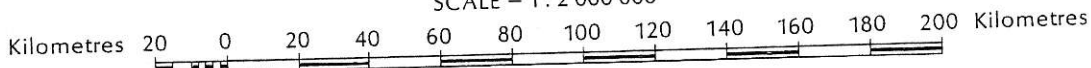


Figure 1.- Location map showing Suskwa- French Peak area, Omineca Mining Division, British Columbia.

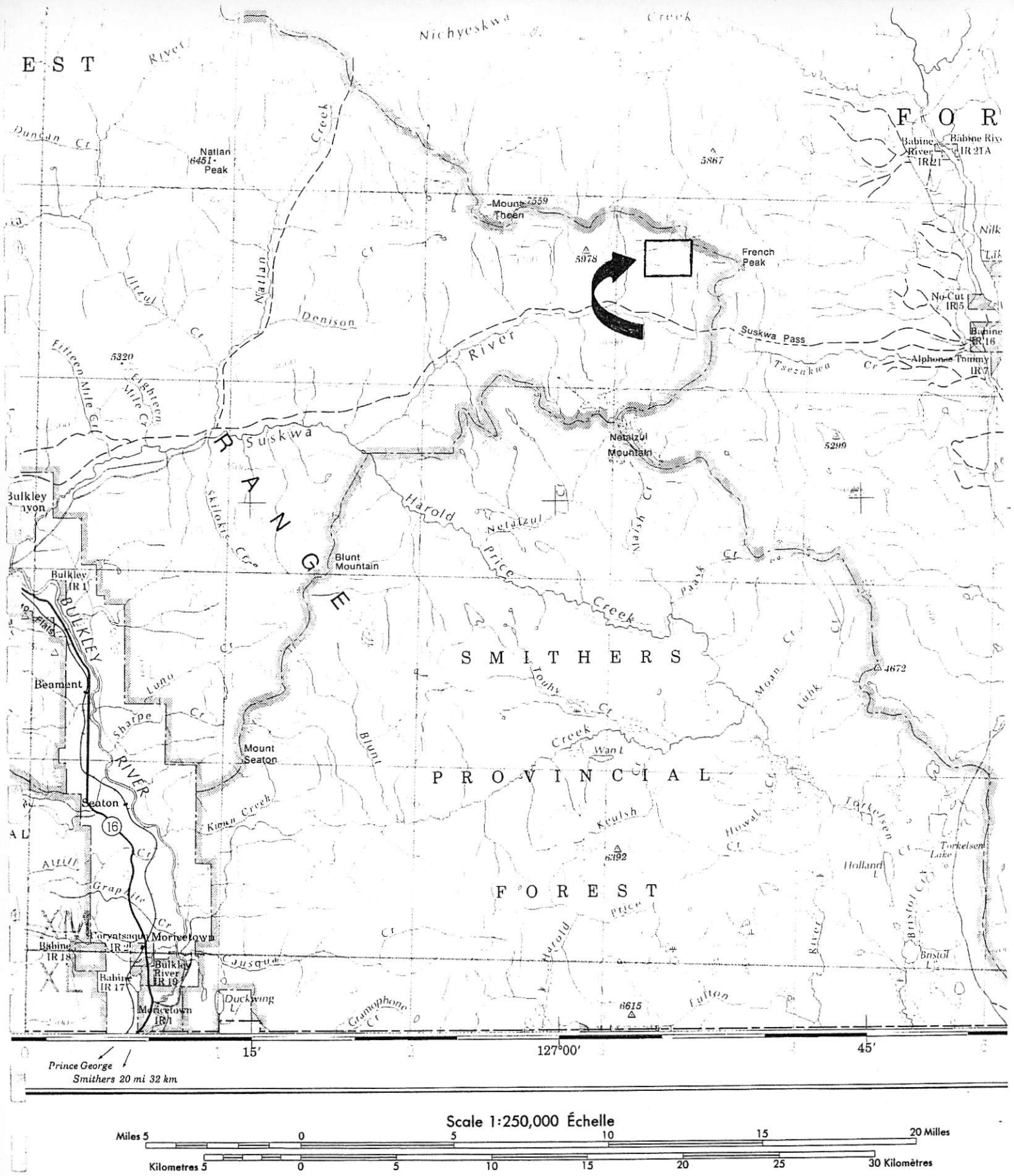


Figure 2.- Map showing location of BAB claim and roads to claim area.

### CLAIMS

The BAB claim (Figure 3) was staked April 13, 1992 by Lorne B. Warren, Box 662, Smithers, B.C. Record number is, 308600. The registered owner as of May 12, 1992 is Lorne B. Warren.

### HISTORY

The first record of exploration work in this claim area is an unpublished report by J.L. Walker(1967) which was done for Mastadon-Highland Bell Mines, Ltd. Walker commented upon the geochemical survey which was done in the summer of 1967 and attempted to explain the disparity between high geochemical values in the soil and unexpected low metal values in the underlying bedrock.

R.S. Verzosa(1967, p. 4 and 5) in a report for Mastadon-Highland Bell Mines Ltd. described the geology of the Suskwa claim group, which includes the area now claimed as the BAB claim.

E.R. Wozniak(1968a) commented on the evaluation of the geochemical data by Walker(1967) and recommended an induced polarization survey followed by diamond drilling of anomalies. Later in the year, Wozniak(1986b) reported on the field program which had been conducted by Mastadon-Highland Bell Mines Ltd. and in that report, summarized the geology of the area. Seigel Associates Ltd. conducted induced polarization surveys on the claim group in August, 1968. This was done for Mastadon-Highland Bell Mines Ltd. and was reported upon by Baird(1968).

Mastadon-Highland Bell Mines Ltd. allowed the claims to lapse in 1969 and the area was staked by C.F. Kowall for Silver Standard Mines Ltd.

Kowall(1970) examined the prospects for Silver Standard Mines Ltd. and recommended re-sampling the Mastadon-Highland Bell trenches, detailed geochemical soil surveys and diamond drilling.

During the summer of 1971, Silver Standard Mines Ltd. conducted the work as proposed by Kowall(1970). The old geochemical grid was extended, trenches were re-sampled and six diamond drill holes were drilled for a total of 1505 feet (459 m). Core size and recoveries were not recorded in the report noted above.

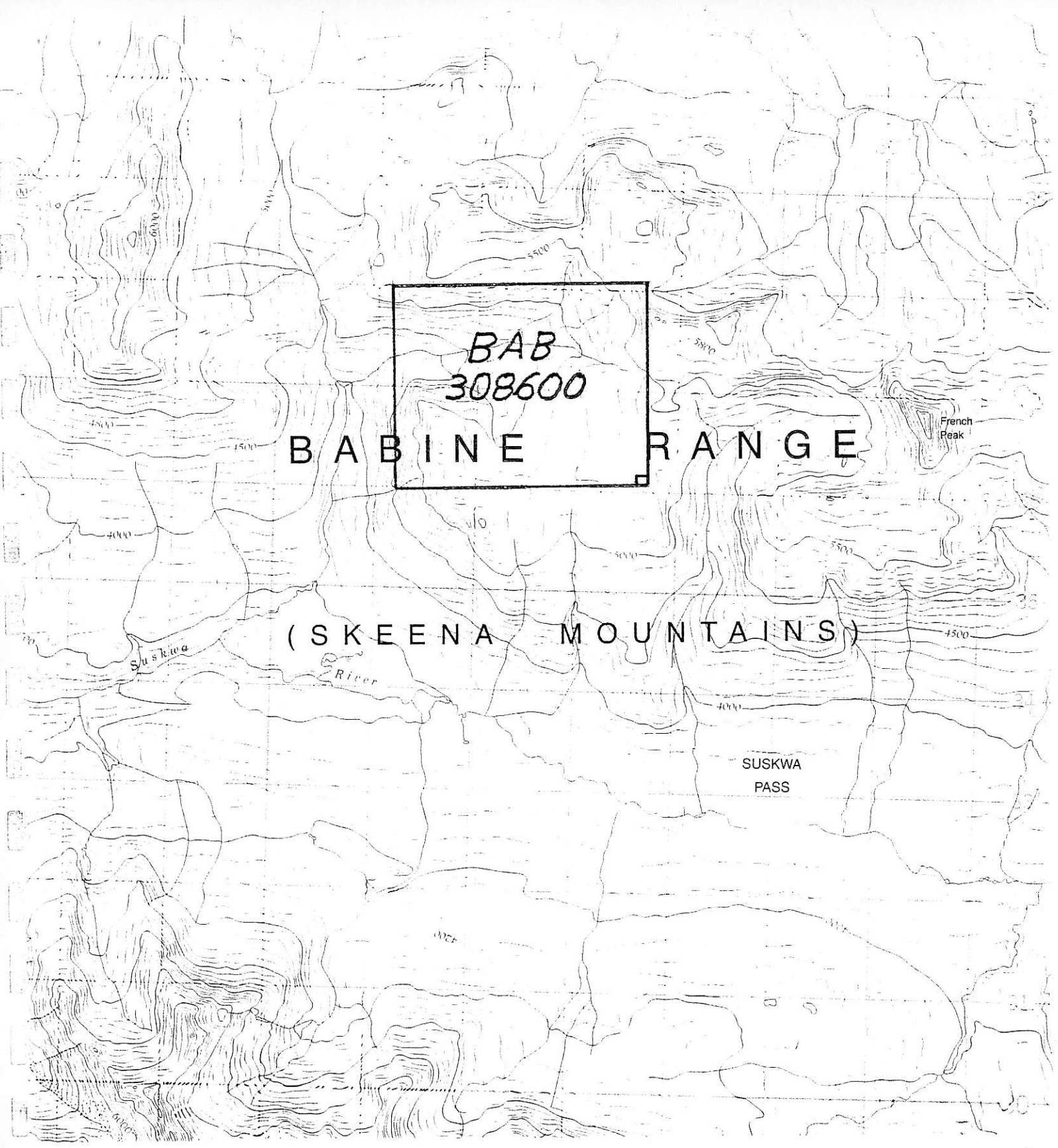


Figure 3.- Map of BAB claim, Record Number 308600.



The claims were allowed to lapse after the 1971 drill program and no additional work has been done on the claim area since that time.

#### GEOLOGY OF CLAIM AREA

The upper Suskwa River area lies within the Intermontane tectonic belt and is underlain by Jurassic and Middle and Late Jurassic volcanoclastic, sedimentary and volcanic rocks which are intruded by Early Cretaceous biotite-feldspar-quartz porphyries.

#### Hazelton Group

Richards(1973) identified three units of Hazelton Group rocks in the prospect area;

##### Jurassic Hazelton Group

Volcanoclastic sandstone, siltstone and mudstone; granitic-volcanic cobble conglomerate; minor shale and argillaceous coal beds.

Feldspathic greywacke; silty argillite; argillaceous siltstone; minor sandstone and conglomerate.

##### Middle and Late Jurassic Hazelton Group

Subareal feldspar-augite basalt to andesite porphyry flow, breccia, lahar and tuff; feldspar porphyry, breccia and tuff; red lapilli tuff and red breccia; minor acid pyroclastics, volcanic sandstone and coaly seams.

#### Intrusive Rocks

The Hazelton Group rocks are intruded by Early Cretaceous biotite-feldspar-quartz porphyry. The intrusive rocks are strongly fractured and display widespread argillic and sericitic alteration.

Kowall(1970) and Verzosa(1967) noted extensive development of hornfels in the intruded rocks with strong fracturing and pyritization. The pyritic zone underlies the entire prospect area and strikes east over a length of about 2500 meters and has a width of 1600 meters.

### Faults

At least three systems of normal faults (Figure 6) are prominent in the prospect area (Richards, 1973). One set of faults strikes about N.10°W. and another strikes N.40°W. These are enclosed in a system of N.85°W. faults along Suskwa River and Nichyeskwa Creek, which suggests that the prospect area lies in a horst.

### EXPLORATION RECORD

Bulldozer trenching by Mastadon-Highland Bell Mines Ltd. in 1967 proved to be of marginal value as the exposures in the trenches were reported to be, "generally poor". Minor chalcopyrite and a 6 inch tetrahedrite vein were reported in biotite-feldspar porphyry, along with quartz stockworks associated with north-south shearing. Geochemical soil surveys that same year produced high geochemical anomalies over a large area, but the bedrock source was not found.

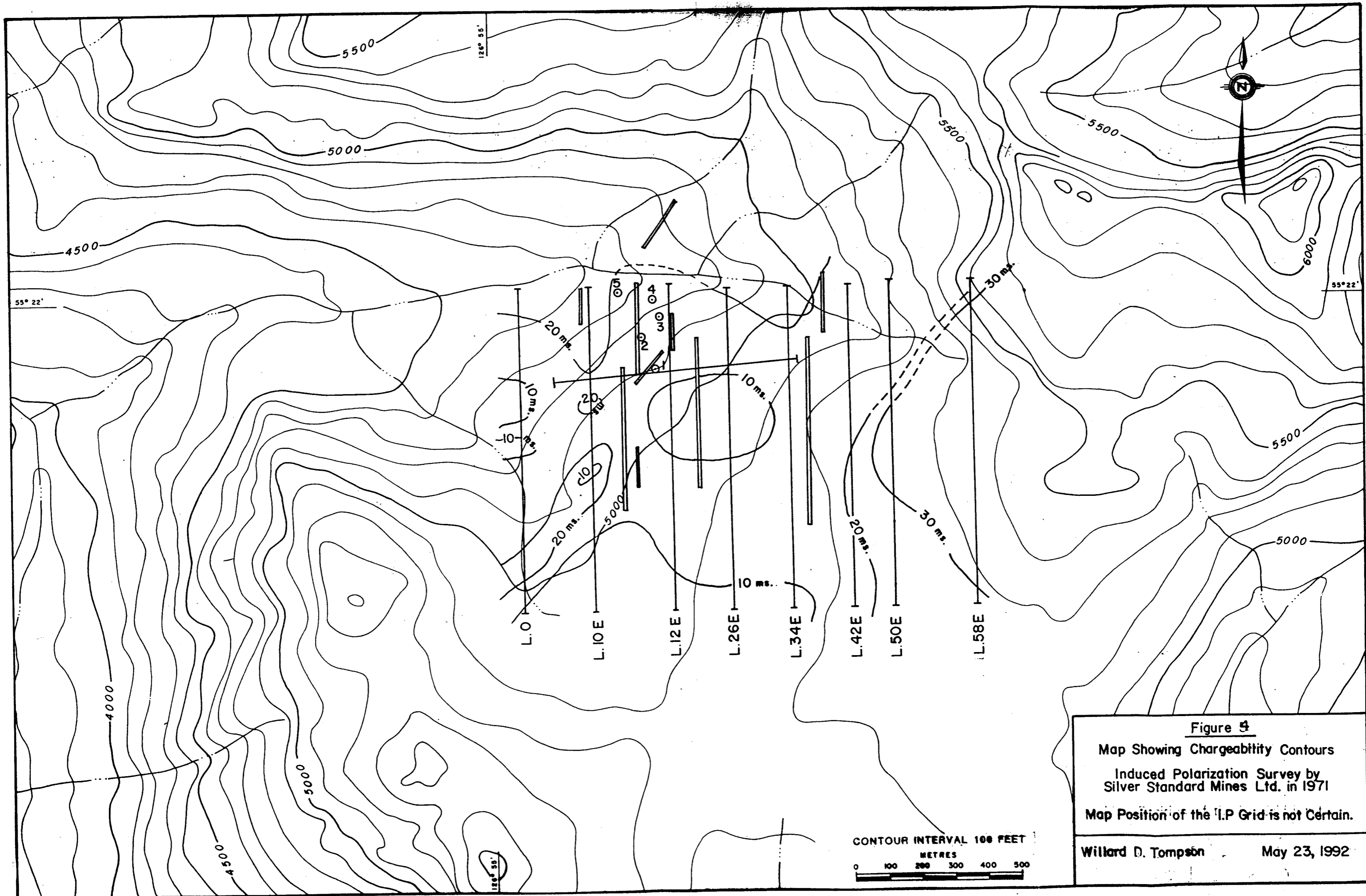
Mastadon-Highland Bell Mines Ltd. contracted Seigel Associates Ltd. to conduct an induced polarization survey on the claims in the summer of 1968 (Figure 4). Baird (1968) in reporting on the results of the survey stated;

"The observed chargeability values vary considerably across the grid, but are almost everywhere moderately to very high by normal standards. The actual range of chargeability values is from a low of 1.0 to a maximum of 34.5 milliseconds."

Baird (1968) also noted that if graphite exists in the hornfels, that it would produce a chargeability response.

Kowall (1970, p.1) staked claims for Silver Standard Mines Ltd., after those which had been owned by Mastadon-Highland Bell Mines Ltd were allowed to lapse. During the summer of 1970, Silver Standard Mines Ltd. re-sampled the bulldozer trenches, but reported that bedrock was exposed in only 30 to 40 percent of the trenches.

In 1971, Silver Standard Mines Ltd. extended the geochemical survey grid and drilled six diamond drill holes.



**Figure 4**  
 Map Showing Chargeability Contours  
 Induced Polarization Survey by  
 Silver Standard Mines Ltd. in 1971  
 Map Position of the I.P Grid is not Certain.

Willard D. Tompson      May 23, 1992



A large, strong geochemical anomaly (Figure 5) with values ranging from 200 to 4000 ppm copper occurs in an area of low relief which has a mantle of glacial till of unknown depths. The geochemical anomaly is about 1600 feet (488 m) long in an east-west direction and 1000 feet (305 m) wide. A large irregularly-shaped zinc anomaly (figure 5) with values greater than 400 ppm zinc is peripheral to the copper anomaly and is greater than 1800 feet (585 m) in an east-west direction and 1500 feet (457 m) wide. It should be noted that the samples included in the geochemical survey are both soil samples and samples from bulldozer trenches (Kowall, 1971, geochemical survey maps).

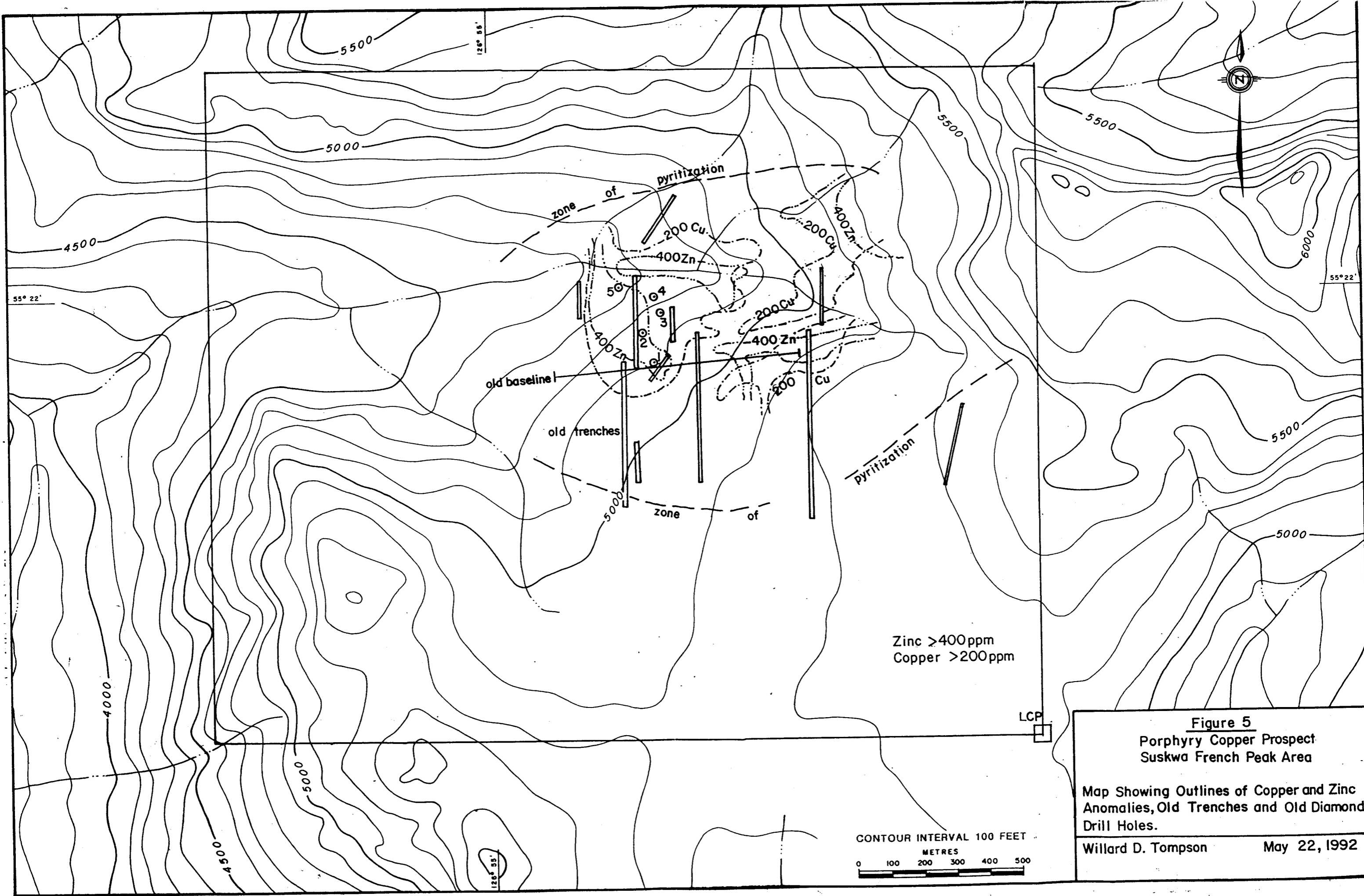
Silver Standard Mines Ltd. drilled six diamond drill holes in 1971 (Kowall, 1971) for a total of 1505 feet (459 m). The holes were drilled near the contact of intrusive rocks and hornfels in an area of structural complexity, in which coincident magnetic, induced polarization and geochemical anomalies were shown to occur (Figures 4, 5, 7 and 8).

According to drill logs by Kowall (1971) the intrusive porphyry displays argillic to sericitic alteration with about 1 to 2 percent disseminated pyrite throughout the core. The best assay intersection occurred in diamond drill hole number 3, where the interval from 23 feet (7.0 m) to 100 feet (30.4 m) assayed; Cu=0.23 percent, Mo=0.011 percent. No assays were made for gold and only four intervals were assayed for silver. In DDH No. 1, suspected tetrahedrite occurrences were assayed through the interval from 30 feet (12.2m) to 70 feet (21.3 m) and returned an assay of; Ag=0.08 o.p.t. There is no record in the drill logs or report regarding drill core size or core recovery.

#### CONCLUSIONS

An area of low relief which lies 3 kilometers northerly from Suskwa Pass and 3.5 kilometers west of French Peak, was examined by exploration companies during the years, 1967 to 1971 as a possible porphyry copper prospect. Outcrops of limonite-stained hornfels of Hazelton Group sedimentary and volcanic rocks apparently attracted prospectors to the area.

Hazelton Group rocks are intruded by biotite-feldspar-quartz porphyry of Early Cretaceous age. The porphyry occupies an area of low relief and is reportedly largely covered by glacial till throughout the prospect area.



**Figure 5**  
**Porphyry Copper Prospect**  
**Suskwa French Peak Area**

Map Showing Outlines of Copper and Zinc Anomalies, Old Trenches and Old Diamond Drill Holes.

Willard D. Tompson May 22, 1992

CONTOUR INTERVAL 100 FEET  
 METRES  
 0 100 200 300 400 500



Figure 6  
Portion of Landsat-5TM  
Showing  
Fault Systems  
Suskwa-French Peak Area  
Scene ID: 52383-184421

Map 5257G, Jusukwa River

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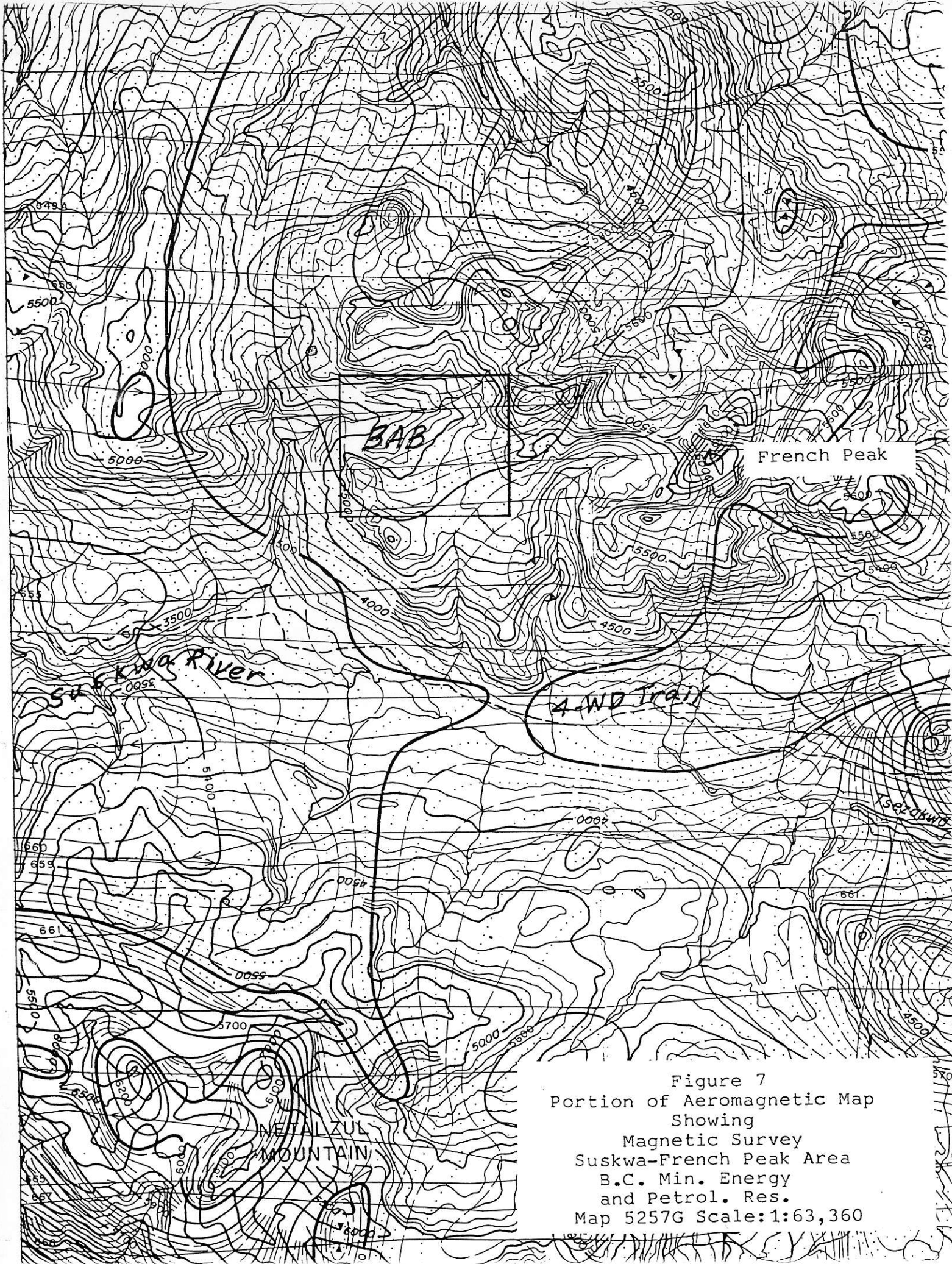
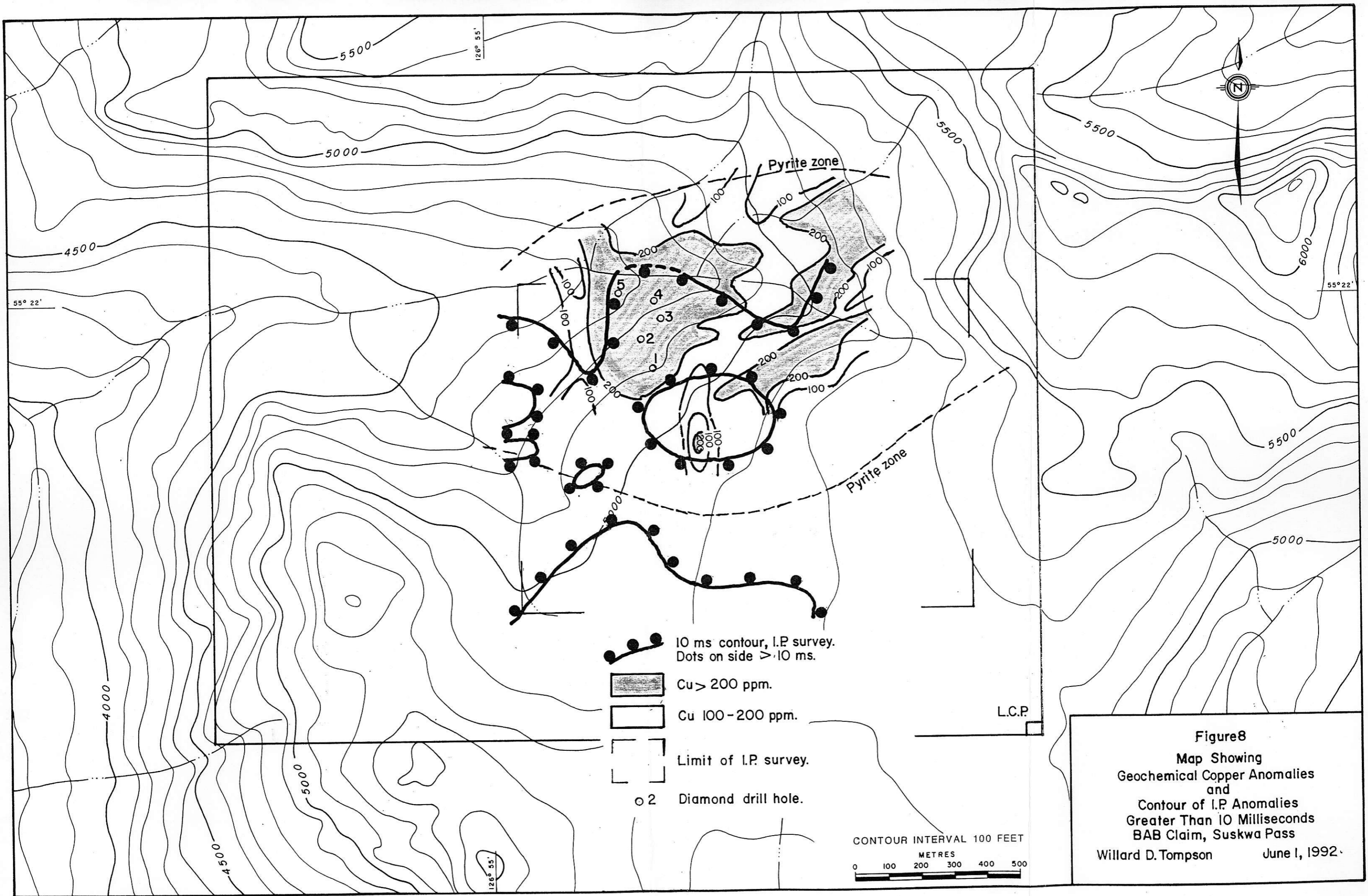


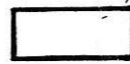
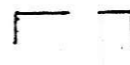



Figure 7  
 Portion of Aeromagnetic Map  
 Showing  
 Magnetic Survey  
 Suskwa-French Peak Area  
 B.C. Min. Energy  
 and Petrol. Res.  
 Map 5257G Scale: 1:63,360

580

580



-  10 ms contour, I.P. survey.  
Dots on side > 10 ms.
-  Cu > 200 ppm.
-  Cu 100 - 200 ppm.
-  Limit of I.P. survey.
-  2 Diamond drill hole.

CONTOUR INTERVAL 100 FEET  
 METRES  
 0 100 200 300 400 500

**Figure 8**  
**Map Showing**  
**Geochemical Copper Anomalies**  
**and**  
**Contour of I.P. Anomalies**  
**Greater Than 10 Milliseconds**  
**BAB Claim, Suskwa Pass**  
 Willard D. Tompson June 1, 1992.



Bulldozer trenching in 1967 and 1968 failed to disclose a bedrock source for the very high and relatively large copper geochemical anomalies (Figure 5). Deep overburden made trenching difficult. Furthermore, nearly all of the trenching was done in a north-south direction and at least some copper mineralization and quartz stockworks are associated with north-south shearing (Wozniak, 1968, p.14). Thus, some zones of fracturing, quartz veining and mineralization may be missed in north-south trenches.

The induced polarization survey in 1968 (Baird) was conducted over an area of 6600 feet (2012 m) in an east-west direction by 3500 feet (1067 m) north-south (Figure 4). Chargeability values were generally high, suggesting the presence of metallic sulfide minerals in the intrusive porphyry. However in areas which are underlain by hornfel, Baird (1968) pointed out that the responses may be partly due to a presence of graphite in the rocks.

Diamond drilling in the area of geochemical and geophysical anomalies produced long intervals of 0.05 to 0.12 percent copper assays. One 10-foot (3.0 m) interval assayed 0.44 percent copper (DDH No. 3, 70-80 ft.). Silver assays were made in a 40-foot (12.2 m) interval in DDH No. 1, from 30 to 70 feet (9.1-21.3 m) where tetrahedrite was suspected. The interval assayed; Ag=0.08 o.p.t. Gold assays were not made in any of the core samples.

The diamond drill holes were all placed within an area of 60 by 240 meters in the zone of geochemical copper and zinc anomalies (Figure 5). It is noted from the topography in Figure 5 that the anomalies occur in an area where small creeks drain flat-lying, overburden-covered areas to the south and higher ground to the east. Thus, downslope migration of metallic ions to the north and west may have affected the positions of the anomalies.

Figure 8, Page 13 of this report is a map which summarizes geochemical and induced polarization surveys and shows those surveys in their relationships with diamond drill holes, 1 to 5.

Very large areas which produced induced polarization responses greater than 10 milliseconds are covered by overburden and were not tested by drilling. Furthermore, large areas of geochemical anomalies were not covered by the induced polarization surveys. As noted above, diamond drilling was confined to a very small area, thus most of the geochemical and induced polarization anomalies were not tested by drilling.

Summary of Assay Values in Drill Core

DDH No.	Depth		Interval	Assays	
	From	To	Feet	Cu	Mo
1	70	110	40	0.15	0.009
1	160	180	20	0.21	0.003
1	320	340	20	0.12	0.010
2	20	40	20	0.12	0.007
2	70	90	20	0.12	0.007
2	170	213	43	0.13	0.009
3	23	110	87	0.22	0.011
3	140	210	70	0.14	0.009
3	300	340	40	0.15	0.002
4	50	70	20	0.13	0.017
4	120	140	20	0.14	0.014
5	30	70	40	0.12	0.012

RECOMMENDATIONS

High geochemical values and strong induced polarization responses in this area of known copper mineralization are too large to ignore (Figures 4 and 5). Kowall (1971) after working two years on the prospects concluded that large areas of induced polarization anomalies and copper geochemical anomalies had not been tested by drilling.

Overburden depths are stated by Kowall (1970) to be 6 to 30 feet (1.8-9.1 m) and are shown on drill logs to average 20 feet (6 m) in the locality where the holes were drilled. Wozniak (1967) showed that clay is abundant in the unconsolidated surface deposits.

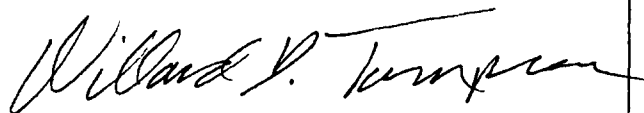
The altered intrusive rocks are covered by a mantle of glacial till which is believed to be up to 30 feet (9.1 m) thick and which has a high content of clay. This unpredictable veneer which obscures the bedrock rendered the previous soil surveys nearly impossible to interpret and will do the same with future soil geochemical surveys.

Therefore, detailed geological mapping followed by new induced polarization surveys are recommended to further evaluate the potential of the

BAB mineral claim. It was shown in the earlier work that quartz stockworks in biotite-feldspar-quartz porphyry are associated with north-striking shearing (Wozniak, 1968b, p.14). Thus, grid lines for a new I.P. survey should be oriented in an array which will adequately explore the north-striking structures.

A new induced polarization survey may show that additional testing by diamond drilling is required. If so, a drill program may benefit from information which was developed by the earlier explorationists, in addition to information which will be acquired in new geological studies and a new induced polarization survey.

Respectfully submitted



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Willard D. Tompson, P. Geo.

REFERENCES CITED

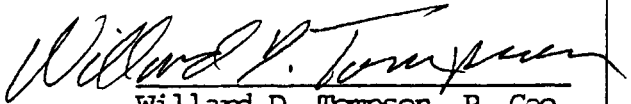
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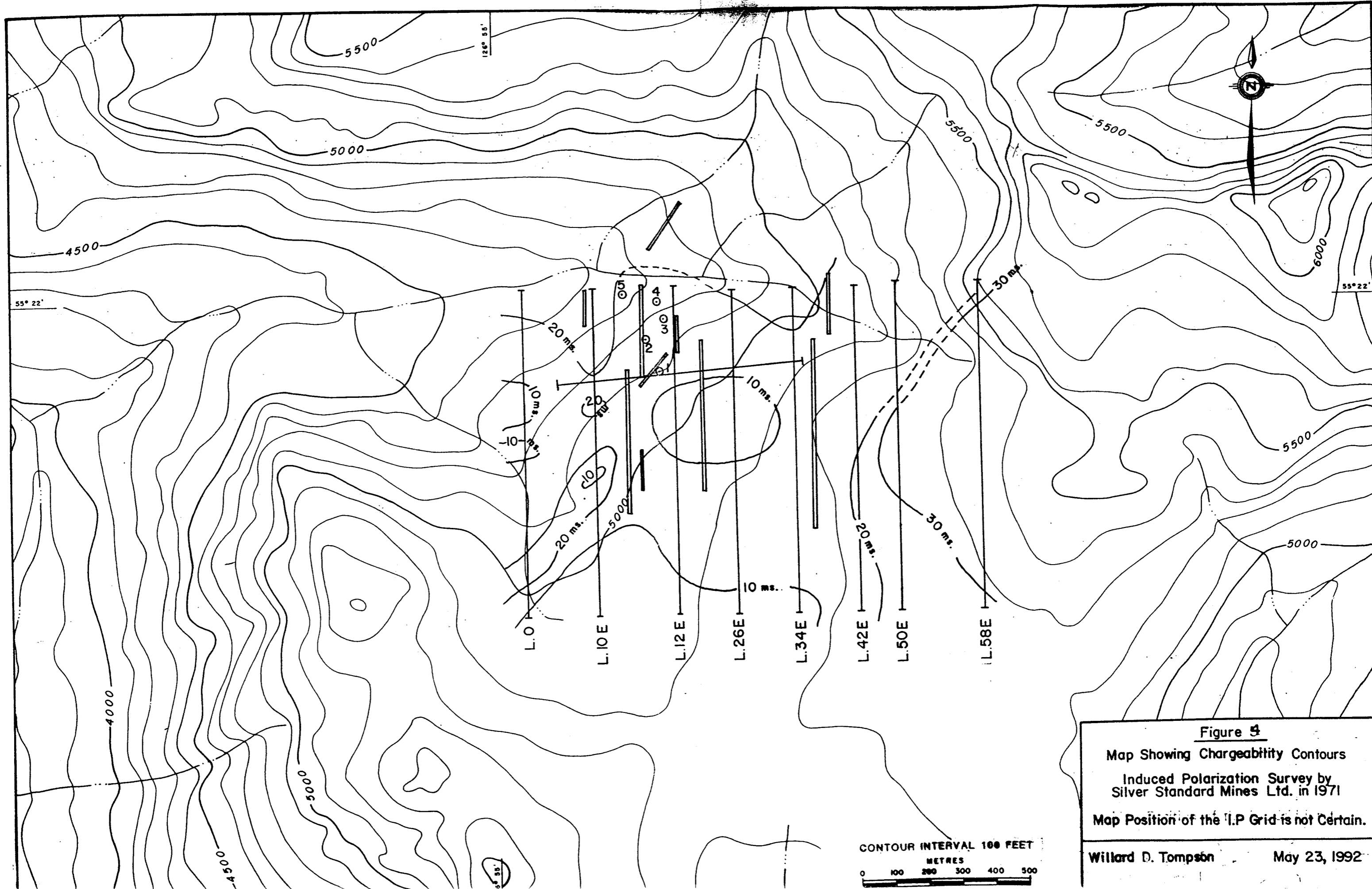
CERTIFICATE

I, Willard D. Tompson, of Smithers, British Columbia do hereby certify:

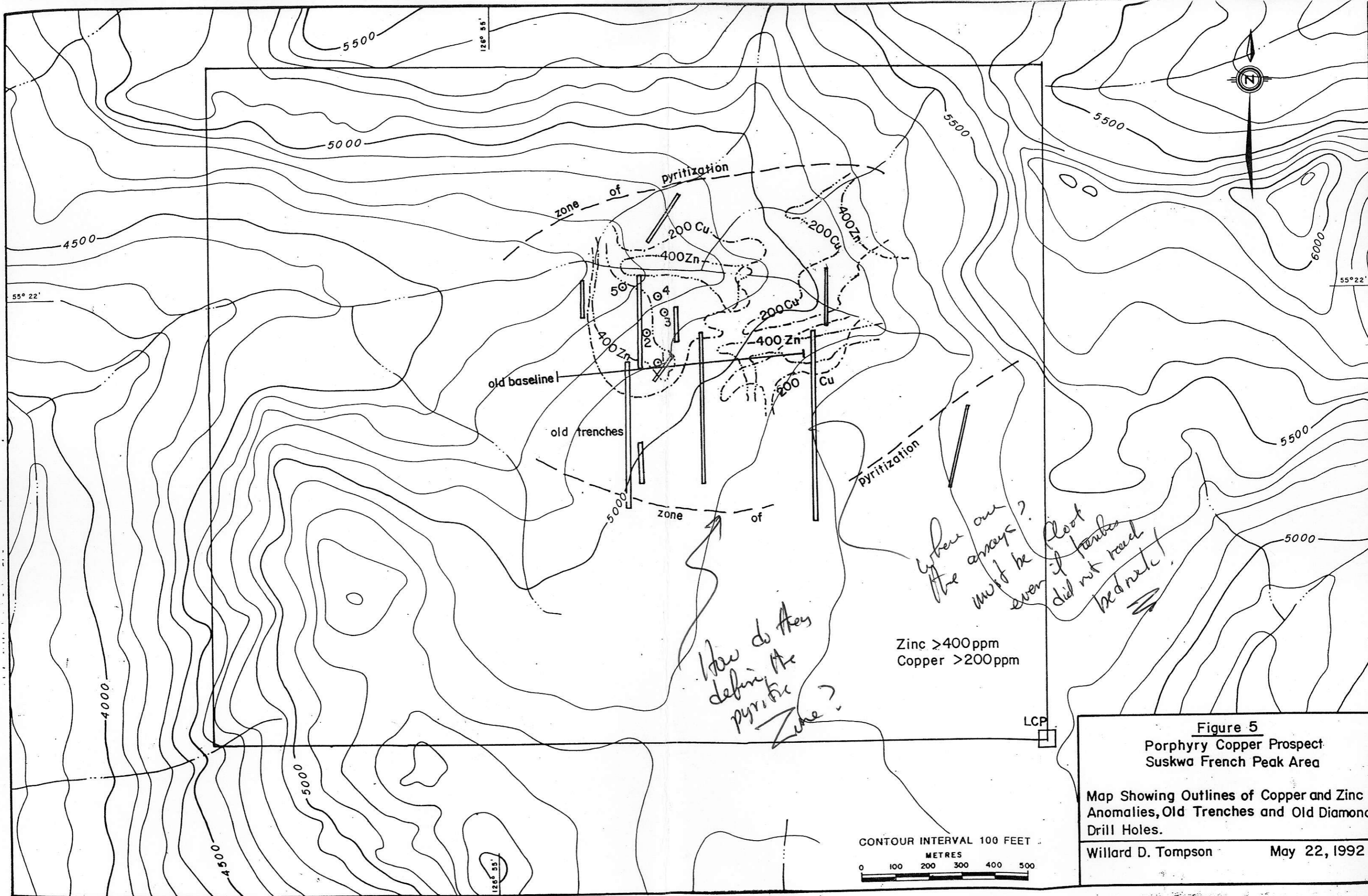
1. THAT I am a consulting geologist residing at 1380 Cronin Place, Smithers, British Columbia;
2. THAT I hold a Master of Science degree (Geology) from Montana State University, Bozeman, Montana;
3. THAT I am registered as a Professional Geoscientist by the Association of Professional Engineers and Geoscientists of British Columbia;
4. THAT I am a Fellow of the Geological Association of Canada;
5. THAT I have practiced my profession for more than 30 years;
6. THAT this report is based upon a review of published information of the Suskwa-French Peak area and a thorough assessment of the unpublished data which are recorded in, "References Cited" in this report;
7. THAT I have no financial interest in the BAB claim nor any other claim or company with claims in the Suskwa-French Peak area;
8. THAT this report may be used for any purpose which the owner or his assigns deem necessary.

Dated at Smithers, British Columbia, this 29 day of May, 1992.

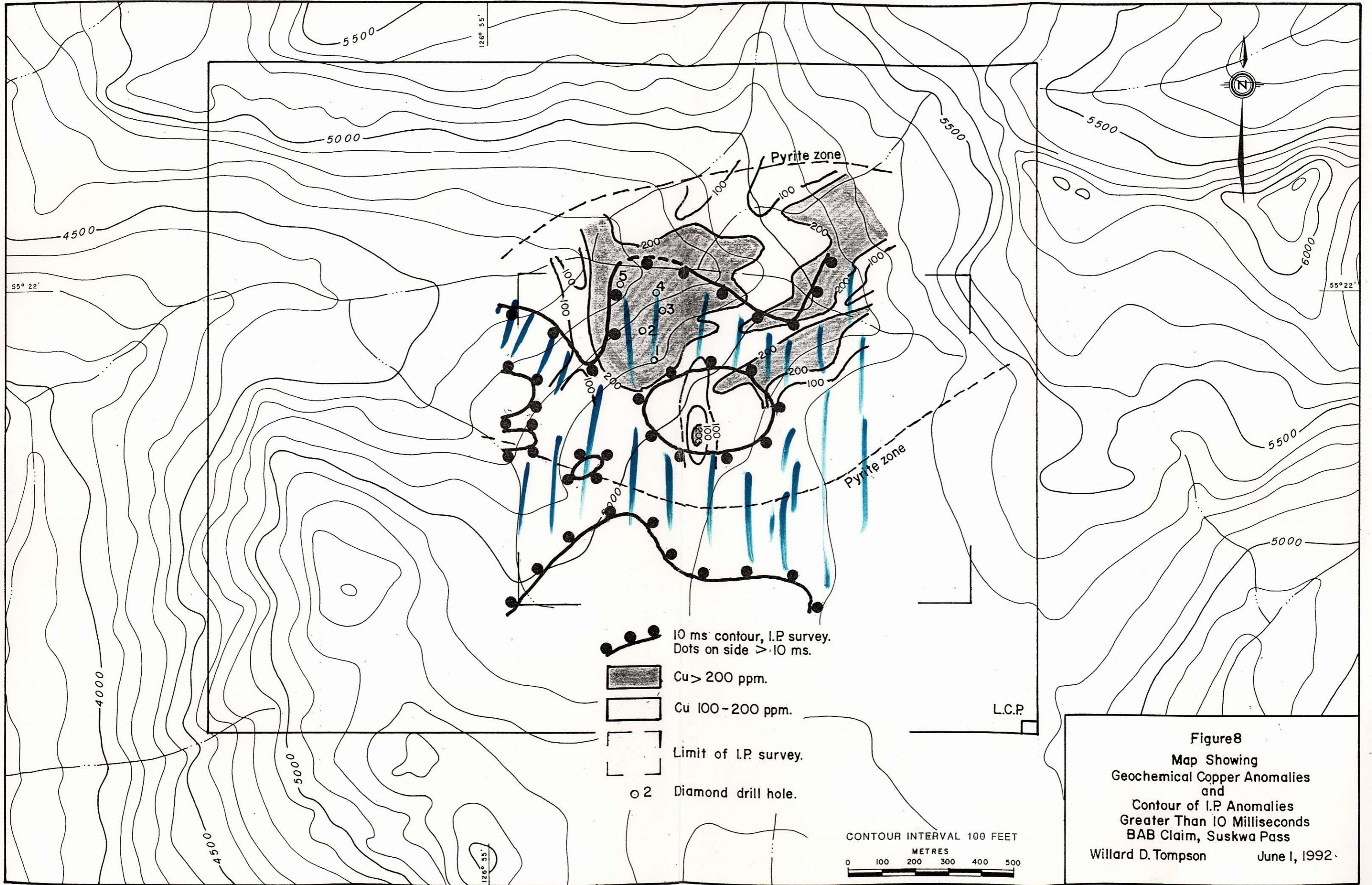
  
Willard D. Tompson, P. Geo.  
Consulting Geologist




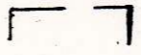



**Figure 4**  
 Map Showing Chargeability Contours  
 Induced Polarization Survey by  
 Silver Standard Mines Ltd. in 1971  
 Map Position of the I.P. Grid is not Certain.  
 Willard D. Tompson May 23, 1992



**Figure 5**  
 Porphyry Copper Prospect  
 Suskwa French Peak Area  
 Map Showing Outlines of Copper and Zinc  
 Anomalies, Old Trenches and Old Diamond  
 Drill Holes.  
 Willard D. Tompson      May 22, 1992



-  10 ms contour, I.P. survey.  
Dots on side > 10 ms.
-  Cu > 200 ppm.
-  Cu 100 - 200 ppm.
-  Limit of I.P. survey.
-  2 Diamond drill hole.

CONTOUR INTERVAL 100 FEET  
 METRES  
 0 100 200 300 400 500

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 Willard D. Tompson June 1, 1992