1984 Assessment Report

Geophysical and Geochemical Survey GEOLOGICAL BRANCH ASSESSMENT REPORT

					47 . 4 8. <u>e</u>
Claim:	GLORY CLAIM GR	OUP			
Claims:	HIT, GLORY	$\overline{\boldsymbol{z}}$	\bigcirc	0	2
Commodity:	Silver, Gold,	Conver		TO AND	

Location: Volcanic Creek - Greenwood M.D. 14 km north of Grand Forks 82E 1W 49° 09'N 118° 23'W

Consultant L. Sookochoff, P.Eng. and Sookochoff Consultants Inc. Author: 311-409 Granville Street Vancouver, B.C., V6C 1T2

Owner: MURRAY KLEIN Box 2213 Grand Forks, B.C.

Operator:

G. NAKADE BOX 1739 GRAND FORKS, B.C.

Work Dates: Nov. 1, 1984 - Dec. 3, 1984

Submittal Date: February 11, 1985.

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84-1394-13292 12/85

Province of Min British Columbia Ene

Ministry of Energy, Mines and Petroleum Resources

ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S)	TOTAL COST
Geochemical Geophysical	\$ 3087.50
AUTHOR(S) Laurence Sookochoff P.Eng. SIGN	IATURE(S)
DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILE	December 5,1984 YEAR OF WORK 1984
PROPERTY NAME(S)Glory .claim .group	
· · · · · · · · · · · · · · · · · · ·	
COMMODITIES PRESENT	·····
	NTS .82E .1W
LATITUDE	GITUDE
NAMES and NUMBERS of all mineral tenures in good standing (when work (12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified M	k was done) that form the property [Examples: TAX 1-4, FIRE 2 Mining Lease ML 12 (claims involved)]:
Glory (12 units)	
Hit (2 .units)	
· · · · · · · · · · · · · · · · · · ·	·····
OWNER(S)	
(1) Murray Klein (2)	
. <u>Box 224</u>	· · · · · · · · · · · · · · · · · · ·
MAILING ADDRESS	
.Box .2213 Grand Forks B.C. VOH 1H0	·····
OPERATOR(S) (that is, Company paying for the work)	
(1) George Nakade	
· · · · · · · · · · · · · · · · · · ·	
MAILING ADDRESS	
Box 1739	
Grand Forks B.C. VOH 1H0	· · · · · · · · · · · · · · · · · · ·
	· · · · · · · · · · · · · · · · · · · ·
SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, Underlain by Permean Anarchist Group of	
fault zones trending northerly through .	· · · · · · · · · · · · · · · · · · ·
···· the results of the geochemical survey.	
REFERENCES TO PREVIOUS WORK	

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	COST APPORTIONED
GEOLOGICAL (scale, area)			
Ground			
Photo			
GEOPHYSICAL (line-kilometres)			
Ground	2.8	Glory	\$ 1000.00
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			[
GEOCHEMICAL (number of samp			
Soil		Glory	\$1887.50.
Silt	· · · · · · · · · · · · · · · · · · ·		••••
Rock			
Other			
DRILLING (total metres; number	of holes, size)		
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying	· · · · · · · · · · · · · · · · · · ·]	· · · · · · · · · · · · · · · · · · ·
Petrographic	· · · · · · · · · · · · · · · · · · ·		
Mineralogic	· · · · · · · · · · · · · · · · · · ·		
Metallurgic			· · · · · · · · · · · · · · · · · · ·
PROSPECTING (scale, area)			
PREPARATORY/PHYSICAL			
Legal surveys (scale, area)			
Topographic (scale, area)	· , ,		
Photogrammetric (scale, area)			
Line/grid (kilometres)			
Road, local access (kilometres)			
Trench (metres)			• • • • • • • • • • • • • •
Underground (metres)			
		TOTAL C	cost\$288750 .
FOR MINISTRY USE ONLY	NAME OF PAC ACCOU	NT DEBIT CREDIT REMARKS:	
Value work done (from report)			
Value of work approved			
Value claimed (from statement)			,
Value credited to PAC account			

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Information Class

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1984 Assessment Report

on the

GLORY CLAIM GROUP

SUMMARY

(T)

The fieldwork of a geophysical and geochemical survey was carried out on the GLORY claim group from November 1, 1984 to December 3, 1984, the results of which disclosed two correlative anomalous zones within an area indicated to be underlain by the Anarchist Group of rocks.

The GLORY claim group is located 14 km north of Grand Forks and adjacent and within four km of two properties on which massive sulphide zones are known to occur and from which past production is documented.

The properties include one of production from which "1,250 tons of ore shipped up to 1920 assaying 0.43 oz Au/ton and 3.9 oz Ag/ton" and another where drilling revealed zones of up to "75 feet of .07 oz Au/ton to 26 feet of .20 oz Au/ton".

A total of 55 soil samples were obtained from the GLORY Claim group for 2.8 line km in addition to 2.8 km of VLF-EM and Magnetometer survey.

INTRODUCTION

During November 1984 geophysical and geochemical surveys were carried out on the GLORY claim of the GLORY claim group.

The purpose of the exploration program was to locate gold potential massive sulphide bearing zones or mineralization associated with porphyrites and/or comparable to those known to exist on properties sediments in the immediate area.

As the surveys completed were successful in delineating potential areas of mineralization, this report relates information as to the results thereof and recommendations as to procedure for follow up exploration on the claim group.

PROPERTY

The property is consists of two contiguous claims consisting of 14 units. Particulars are as follows:

Claim Name	Units	Record No.	Expiry Date*			
HIT	2	$3943 \\ 3942$	December 5, 1986			
GLORY	12		December 5, 19865			

* Pending approval of two years assessment work applied December 5, 1984.

LOCATION AND ACCESS

The GLORY claim group is within 14 km north of Grand Forks and adjacent and east of the Granby River and covering Volcanic Creek.

Access is via the paved North Fork highway north from Grand Forks. Secondary roads extend from the North Fork highway to the HIT claim and along Volcanic Creek to the GLORY claim.

WATER AND POWER

A year round water supply would be available from Volcanic Creek which bisects the property.

A commercial power line is within one km of the property.

PHYSIOGRAPHY AND CLIMATE

The property lies within the Christina Range of the Monashee Mountains characterized by moderate to steep forest sloped mountains to elevations of 1,950 meters.

Elevations on the property range up to 1,200 meters above sea level in the western portion from 610 meters near Granby River.

Moderate stands of pine with fir, alder and poplar are predominant on the property with considerable recently logged off portions in the area.

The general climate is of long arid summers, with moderate winters which would provide a surface exploration season of up to 10 months of the year.

HISTORY

The history of the area stems from placer deposits discovered along Rock Creek and Boundary Creek west of Grand Forks in the early 1850's.

gold-copper deposits were discovered at Then in 1890 of Rossland. 55 km east Grand Forks stimulating following year, prospecting throughout the area. The large low grade copper deposits were discovered near Phoenix, 13 km northeast of Grand Forks. The Phoenix district produced about 15 million tons of ore averaging slightly over 1.5% copper with significant gold and silver values. The Phoenix mine ceased operations in 1919. however was later reopened and in production to 1978.

immediate vicinity of the GLORY claim group, In the exploration and development on the Pathfinder property (two km to the north) to 1920 resulted in "1,250 tons of being shipped assaying 0.43 oz. Au/ton and 3.9 oz. ore On the Hick claim four km to the northwest, Ag/ton". exploration has been intermittently carried out since In 1939 production from the HEK (Simpson Mine) was tons of ore from which 2,592 ounces of gold and 90 1901. 364 of ounces of silver were extracted. The Simpson is one of zones known on the property. Diamond drilling during few 1970's on a mineral zone south of the Simpson Mine the returned values ranging from "75 feet of .07 oz Au/ton to 26 feet of .20 oz Au/ton[#].

There is no known previous exploration on ground covered by the GLORY claim group.

GEOLOGY

The general geology of the area is of Nelson and Coryell and Valhalla Intrusives to the north in contact with sedimentary rocks and greenstones of Palaezoic age to the south. Local to extensive areas of Intrusive also occur within the Palaezoic rocks. Overlying are the Paleocene or Eocene Phoenix group of predominantly volcanics with minor tuffs and sediments and the Kettle River Formation of predominantly rhyolitic intrusives and flows in addition to local sediments.

The GLORY claim group is indicated to be underlain by the Permean Anarchist Group of rocks with the Coryell Intrusives to the south and north.

A regional northeasterly trending fault zone passes through the eastern portion of the HON claim block. The structure marks the contact between the Anarchist Group and the Monashee Groups to the east.

The <u>Anarchist Group</u> consists very largely of highly metamorphosed sedimentary rocks but includes also altered greenstones and possibly also altered intrusive rocks. The sedimentary members of the group are the altered equivalents of quartzite, slate and limestone, micaceous quartzites, mica schists and crystalline limestone. The sheared greenstones possibly represent both intrusive and extrusive types.

A second group of rocks within the anarchist series are light grey, granitic rocks, quite generally gneissic, the outcrops of which have in some cases a slightly rusty appearance. Quartz and microcline predominate with orthoclase and albitic oligoclase generally present. These granitic rocks are intrusive into the schists of the Anarchist series.

Another group of rocks within the Anarchist series consists of sheared basic intrusives which can in local areas be represented as serpentine with considerable pyrite development in association with shear zones.

Feldspar porphyry "dykes" are also common. The rock is described as a "pale pink to flesh colored, fine grained rock with granitic texture. Quartz is fairly common and feldspar, shreds of biotite, hornblende, small individuals of apatite and some iron ore make up the balance of the rock." The Coryell Intrusives are reddish to buff syenite that grade locally into granite or shankenite. Some of the smaller bodies are composed of augite monzonite of olivine syenite.

Mineralization on the <u>Hek claim</u> adjoining to the south occurs as "veins" of massive pyrrhotite with accompanying pyrite and chalcopyrite in varying degrees and variable to no quartz.

The Simpson mine zone is described as "a quartz filled shear zone in the Anarchist greenstone skarn area which has been mineralized with pyrite, pyrrhotite and chalcopyrite across a width of 100 feet or more". Former production from this area returned an average of 0.71 oz Au/ton and 0.25 oz Ag/ton.

A second mineralized area is in part indicated by a gossan zone with "disseminate pyrite, pyrrhotite and chalcopyrite within quartz diorite over an area of 500 feet by 1,000 feet". The width of the zone is reported as approximately 30 feet.

On the Pathfinder workings two km north of the GLORY group there are reportedly four distinct veins "running parallel and from eight to 21 feet in width. There are good showings on all the veins".

GEOCHEMICAL PROCEDURE

1. Survey Procedure

A grid was established covering the central portion of the GLORY claim from its western edge.

Samples were picked up at 50 meter intervals along the grid lines. Samples were selected from the B horizon of the brown to brownish gray sandy-loam forest soil at a depth of commonly 30 centimeters. The soil was placed in a brown wet-strength paper bag with the grid coordinates marked thereon. A total of 55 samples were analyzed.

2. Testing Procedure

All samples were tested by Acme Laboratories of Vancouver, B.C. The testing procedure is first to thoroughly dry the sample. (The samples were not sifted.) Then .500 grams of material is digested with 3 ml. of 3:1:3 HCL to HNo3 to H2O at 90 deg. for one hour. The sample is diluted to 10 mls. with water. The samples were then analyzed by atomic absorption for six metals - copper, zinc, silver, lead, arsenic and antimony.

3. Treatment of Data

In assessing the data results the 1983 background, sub-anomalous and anomalous values were used and determined utilizing a pocket calculator with a mean and standard deviation readout.

The sub-anomalous threshold value, which is a value not but an indicator of potential considered anomalous, one standard deviation from mineralization, is taken as The anomalous values or the the mean background value. taken at two standard indicator values are prime deviations from the mean background values.

The results of the data treatment were as follows:

	Cu	Ag	РЬ	Zn	As Sb	
Mean background value	35.6	. 18	14.7	102.1	10.1 2.19	
Sub-Anomalous	49.9	.29	20.6	152.8	16.3 2.82	
Anomalous value	64.2	.41	26.5	202.5	22.5 3.45	

There were only two antimony samples above the background value of 2 ppm. The results are shown with the silver geochem map.

All values are in parts per million.

GEOPHYSICAL SURVEY

VLF-EM SURVEY

The same grid line and stations were utilized for the geophysical survey as for the geochemical survey.

A sabre Model 27 VLF-EM Receiver instrument manufactured by Sabre Electronics of Vancouver was utilized in the VLF-EM survey.

The VLF-EM Receiver measures the amount of distortion produced in a primary transmitted magnetic field - in this case Seattle at a frequency of 24.6 Khz - and a secondary magnetic field which may be induced by a conductive mass such as a sulphide body. The VLF-EM unit - due to its relatively high frequency - can detect low conductive zones such as fault or shear zones, carbonized sediments or lithological contacts.

The major disadvantage of the VLF method, however is that the high frequency results in a multitude of anomalies from unwanted sources such as swamp edges, creek and topographical highs.

The raw field data was utilized in plotting the VLF-EM results. The grid system of the geochemical survey was used for the geophysical survey with readings taken at 25 meter intervals.

MAGNETOMETER SURVEY

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The magnetometer survey was carried out utilizing a Model G-10 fluxgate magnetometer manufactured by Geotronics Instruments of Vancouver.

All rocks contain some magnetite from very small fractions of a percent up to several percent, and even several tens of percent in the case of magnetic iron deposits. The distribution of magnetite or certain characteristics of its magnetic properties may be used in exploration or mapped for other purposes.

The anomalies from naturally occurring rocks and minerals chiefly from the presence of the most common are due magnetic mineral magnetite or of related minerals including limenite and pyrrhotite (with sulfide mineralization).

Magnetic anomalies in the earth's magnetic field are caused by two different kinds of magnetism: induced and remanent. Induced magnetization refers to the action of the field on the material wherein the ambient field is enhanced and the material itself acts as a magnet.

The proportion of magnetism is related to the magnetic susceptibility of the material. Typically, more basic igneous rocks have a higher susceptibility than the acid igneous rock; the latter in turn have a higher susceptibility than sedimentary rocks.

The remanent magnetization is often the predominant magnetization (relative to the induced magnetization) in many igneous rocks. The remanent mineralization is important in geological mapping.

Magnetic minerals may also occur in association with sulphide zones or may be decomposed through the action of dynamic or thermal metamorphism. Thus the survey results could indicate lithology structure, alteration patterns and most significantly, mineral zones in a favorable geological environment.

From the field data, an average determined value of 54,000 gammas was subtracted from each reading and the results were contoured on 100 gamma intervals.

RESULTS OF THE 1984 GEOCHEMICAL AND GEOPHYSICAL SURVEYS

A correlation direct and associated antimony-arsenic-leadsilver anomaly occurs centered at and around 5750E 4+50N over up to two grid lines (100 meters). A zinc sub-anomaly also occurs within this area in addition to near sub anomalous copper values. The anomalous zone trends northerly and is open to the north and south.

A contained silver value of .8 ppm Ag within the zone is double the anomalous value.

A second localized anomalous area occurs at the southwest corner of the grid area. The area extends northerly across two lines and is initiated with an antimony anomaly in line 2+00N 0+50E with a borderin arsenic anomaly extending for 100 meters from line 2+00N 0+00E to 3+00 0+50E and northward into near sub anomalous values and anomalous lead values at 4+00N 0+50E. A zinc anomaly is correlative in part and extends from 3+00N 0+50 to 1+00E to 4+00N 1+00E with values of up to 291 ppm Zn in a background of 102.1 ppm.

A copper sub-anomaly is correlative at 3+00N 0+50E with an extensive sub-anomalous area from 3+00N to 5+00N and 1+50E to 2+50E.

thus a general area over 400 meters (2+00 N to 5+00 N) up to 250 meters wide (0+00E to 2+50E) contains anomalous and sub anomalous values of antimony, lead, zinc, copper, silver and arsenic.

In correlating the mag surveys with the correlative geochemical anomalies, it appears that a magnetometer high occurs in the eastern anomalous area and a general low with peripheral substantial mag highs in the western anomalous area.

Between the two areas a significant northerly trending mag high occurs across two grid lines (4+00N and 5+00N) with a break on a southern grid line 3+00N with a continuation on line 2+00N The VLF-EM survey disclosed a prominent cross over at 4+00N 4+90E with a weakening northward at line 5+00N. The crossover correlates with the correlative geochemical anomaly.

A local one line crossover occurs within the area of the western anomalous area.

CONCLUSIONS

With the indicated geology underlying the property of metasediments with minor volcanics and predominantly greenstones, the two correlative geochemicaly anomalous northerly trendings formations could indicate areas containing units of volcanics and/or sediments with associated mineralization.

The eastern VLF-EM anomaly correlating with the geochemical anomalies could indicate shear zones along contacts of the units or the expression parallel structure to the regional structure along the eastern boundary.

The parallel structure is indicated on the regional geological map - Map 6 - 1957 Kettle River (East Half).

RECOMMENDATIONS

It is recommended that geochemical and geophysical recce surveys be completed over the remainder of the property area in addition to recce geological mapping in order to and in the interpretation of the survey of each the survey of the surv

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Detailed surveys or prospecting shoul the two correlative anomalous areas

February 11, 1985 Vancouver, B.C.

BIBLIOGRAPHY

- COCKFIELD, W.E. Lode Gold Deposits of Fairview Camp, Camp McKinney and Vidette Lake Area and the Dividend-Lakeview Property near Osoyoos, B.C., Memoir 179, 1935
- KLOBUSICKY, T. Bryell Minerals Ltd. Grand Forks, B.C. Property, Geological Report January 1972.
- McNAUGHTON Greenwood Phoenix Area, British Columbia, G.S.C. Paper 45-20 Canada Dept. of Mines, Ottawa 1945
- SOOKOCHOFF, L. Geological Report on the Pathfinder Group for Aries Resources Ltd., February 22, 1980.
 - Geological Report on the Hek and Hel claims for Aries Resources Ltd., February 25, 1980.

CERTIFICATE

I, Laurence Sookochoff, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geologist and principal of Sookochoff Consultants Inc. with offices at 311-409 Granville Street, Vancouver, B.C., V6C 1T2.

I further certify that:

- 1. I am a graduate of the University of British Columbia (1966) and hold a B.Sc. degree in Geology
- 2. I have been practising my profession for the past eighteen years.
- 3. I am registered with the Association of Professional Engineers of British Columbia.
- 4. The information for this reporterwas obtained from sources as cited under bible of Ephy of ad f r om the supervision of the geophysical Car surveys Rcal reported on herein.

VCE SOOKOCI ookochoff, P.Eng. Laurence S Consulting Georogist.

February 11, 1985 Vancouver, B.C.

GLORY CLAIM GROUP

1984 ASSESSMENT REPORT

GEOPHYSICAL AND GEOCHEMICAL SURVEYS

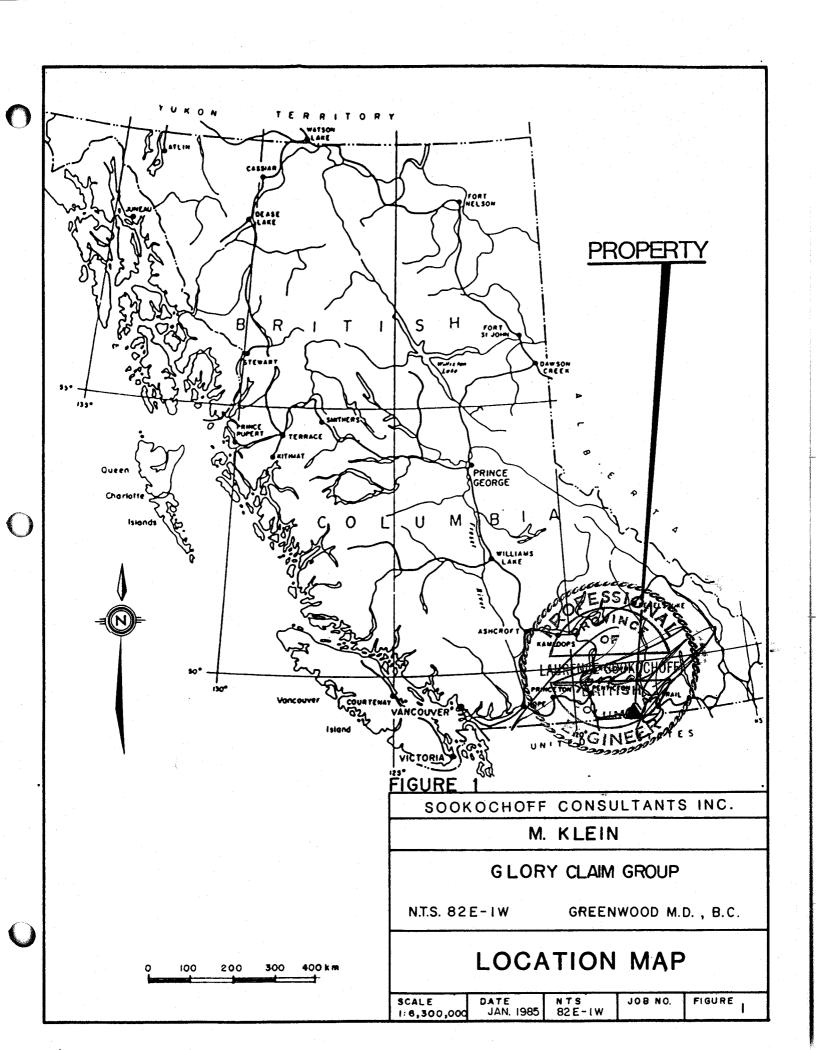
AFFIDAVIT OF EXPENSES

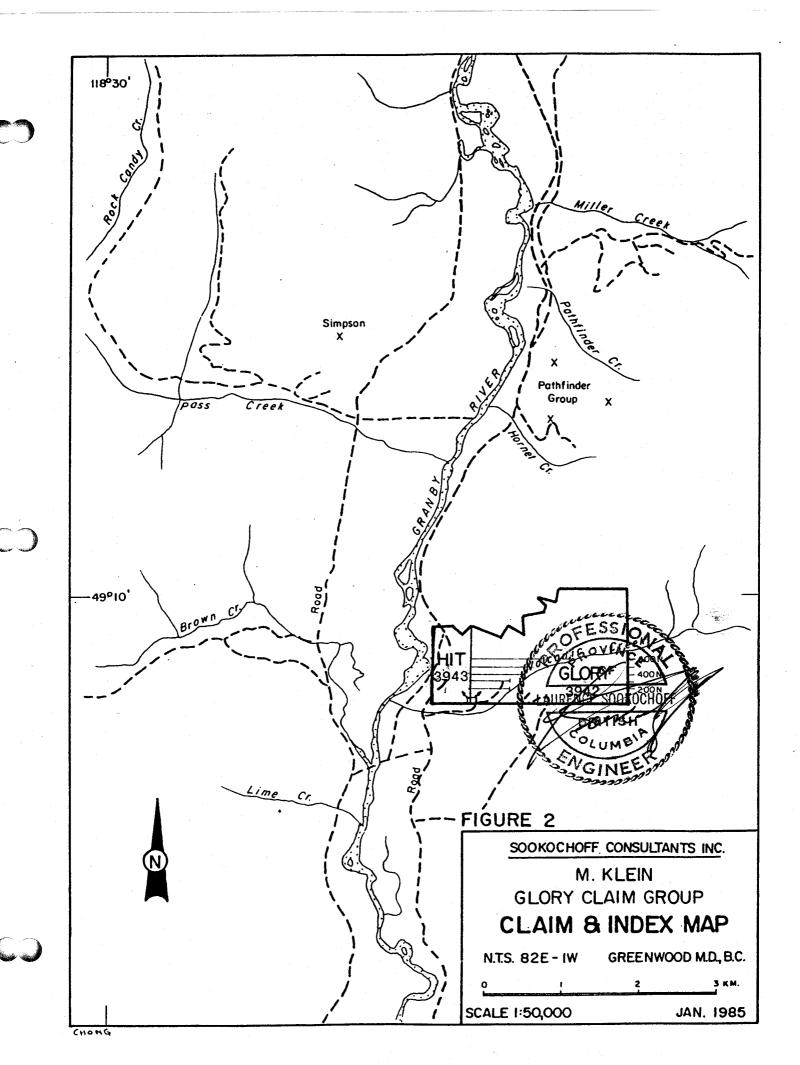
The fieldwork of the geophysical and geochemical surveys were carried out on the GLORY mineral claim, Greenwood M.D., B.C. from November 1, 1984 to December 3, 1984 to the value of the following:

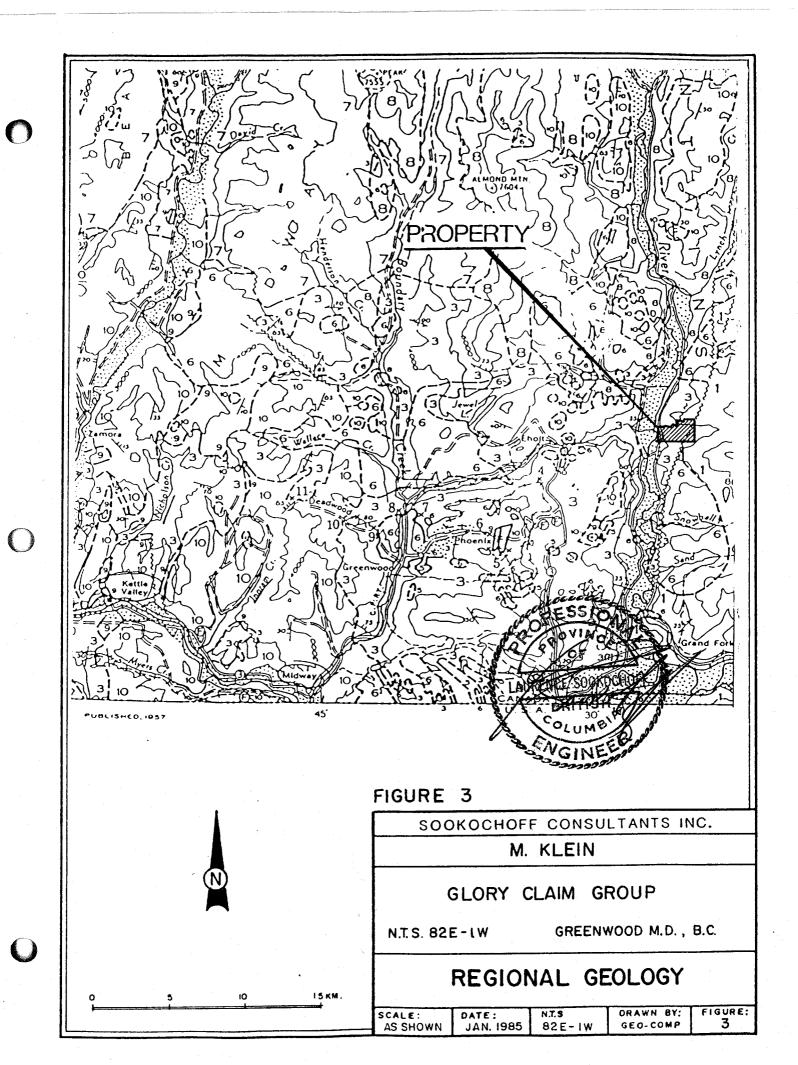
Fieldwork 2 men - M. Klein, A. Kabatoff	
6 man days @ \$165	\$990.00
Vehicle rental, 3 days @ \$65	
plus gas and mileage	240.00
Assaying 55 samples @ \$8.50	467.50
Field supplies	70.00
Room and board 3 days @ \$40/man/day	240.00
Data Compilation, drafting & printing	580.00
Supervision and Report	500.00

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\$3,087.50







LEGEND

TERTIARY MIOCENE(?)

11 Basalt, olivine basalt

PALEOCENE OR EOCENE

PHOENIX VOLCANIC GROUP 10 Andesite, trachyte; minor basalt; locally, interbedded tuff, shale, and/or siltstone

9 KETTLE RIVER FORMATION: rhyolite and dacite tuff; locally, conglomerate, sandstone, and shale; minor rhyolite flows and intrusive porphyritic rhyolite

PALEOCENE(?)

8 CORYELL INTRUSIONS: syenite; monzonite, shonkinite and granite

CRETACEOUS(?)

LOWER CRETACEOUS(?)

7 VALHALLA INTRUSIONS: granite, porphyritic granite



NELSON INTRUSIONS: granodiorite, porphyritic granite; diorite, monzonite, quartz monzonite



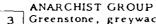
5 Ultrabasic intrusions, serpentinite

JUR ASSIC

ROSSLAND GROUP

A Andesite, latite; agglomerate and flow breccia; minor greywacke

PERMIAN(?)

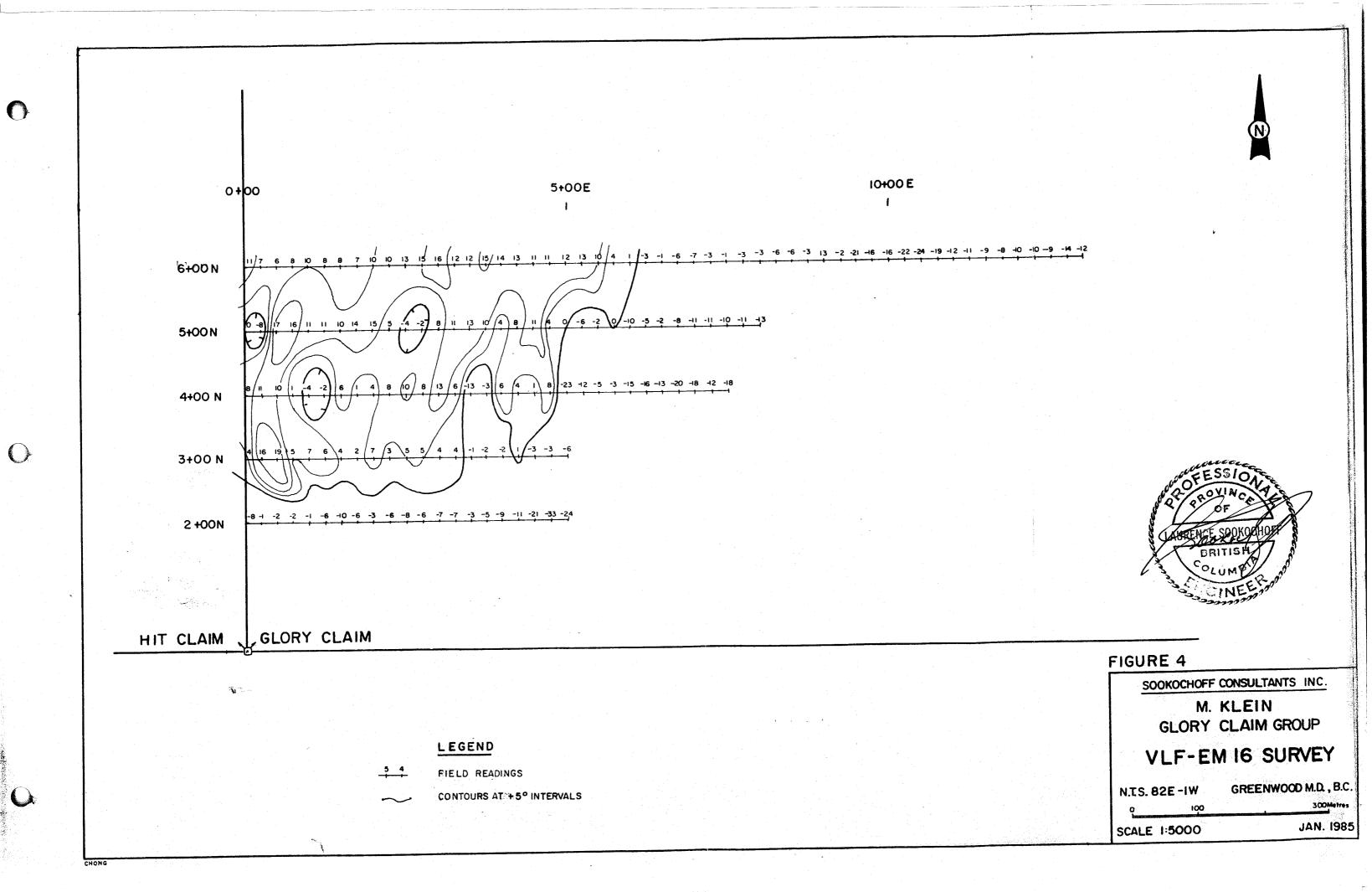


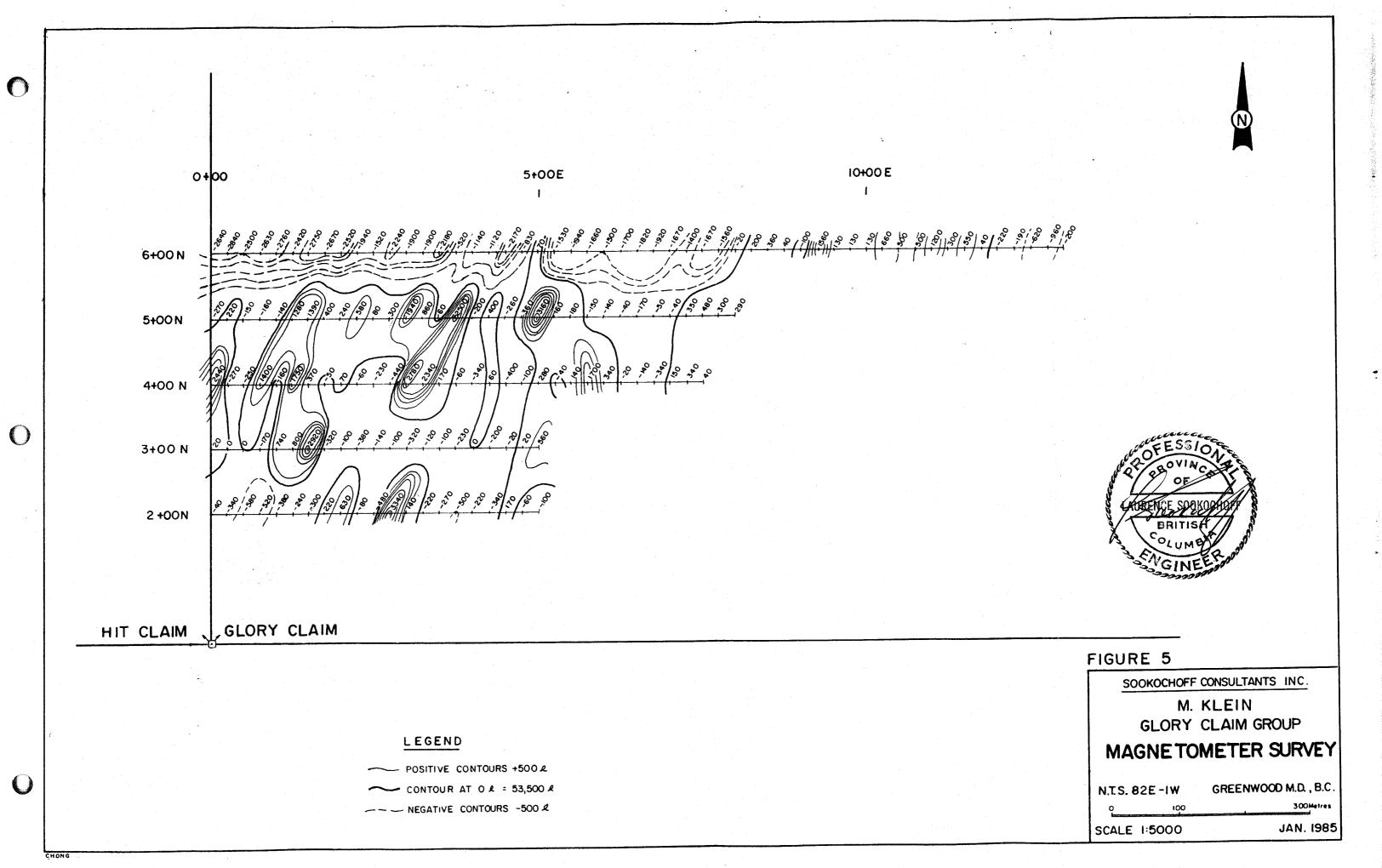
Greenstone, greywacke, limestone; paragneiss

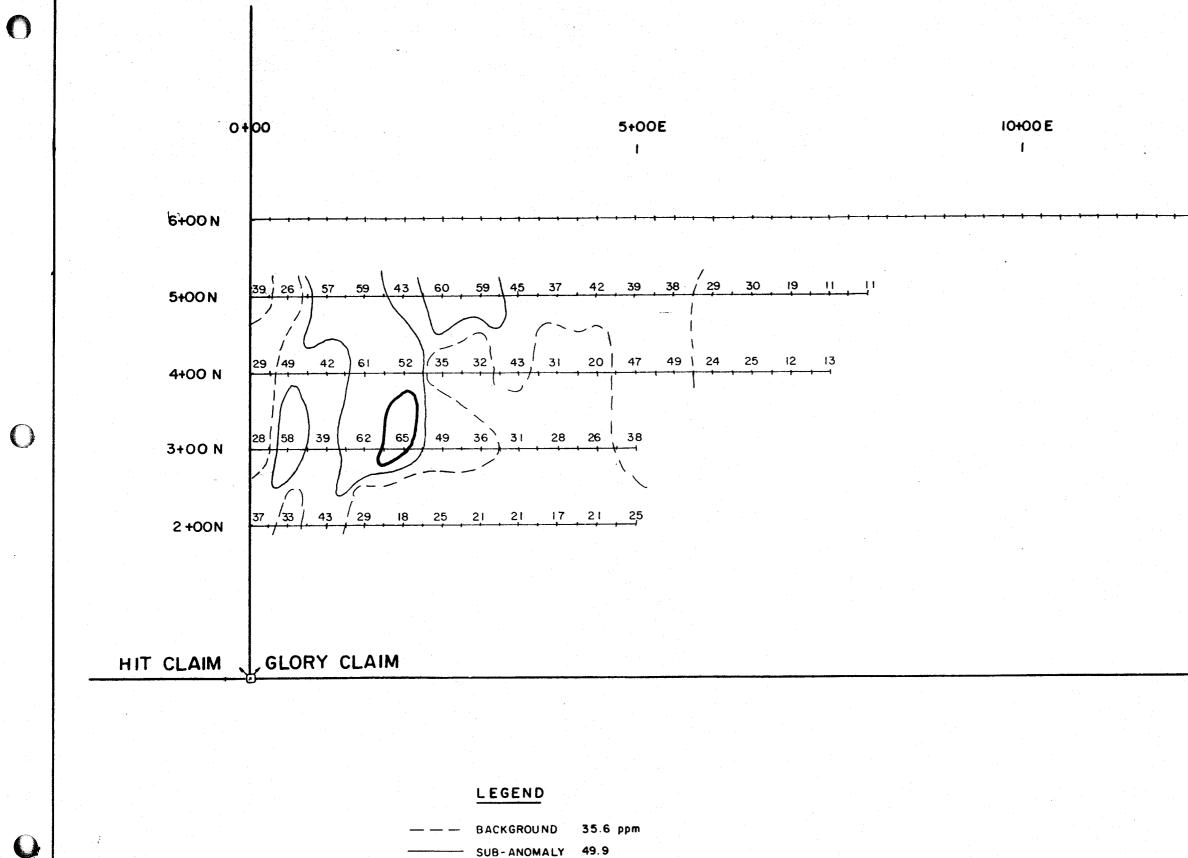
PENNSYLVANIAN AND/OR PERMIAN

2 MOUNT ROBERTS FORMATION: greywacke, greenstone, limestone; paragneiss

MONASHEE AND GRAND FORKS GROUPS 1 Paragneiss; minor crystalline limestone and pegmatite

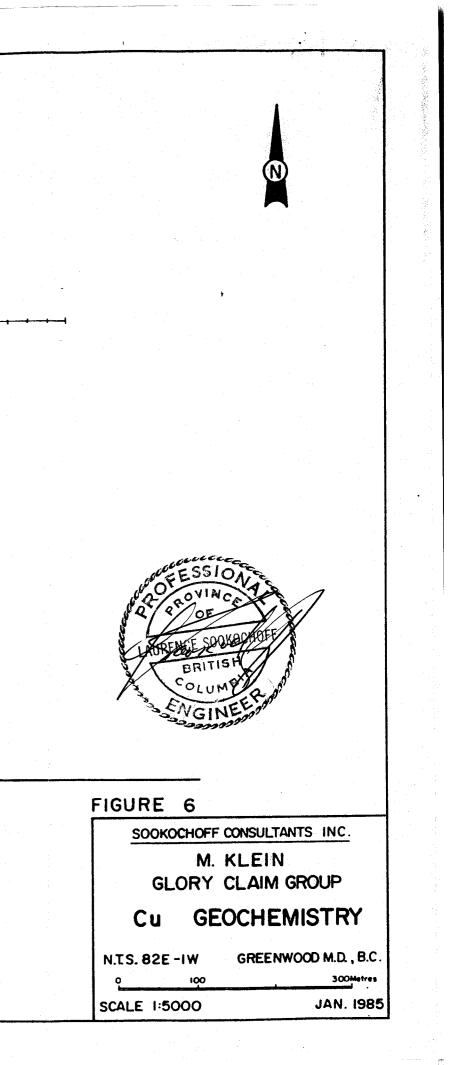


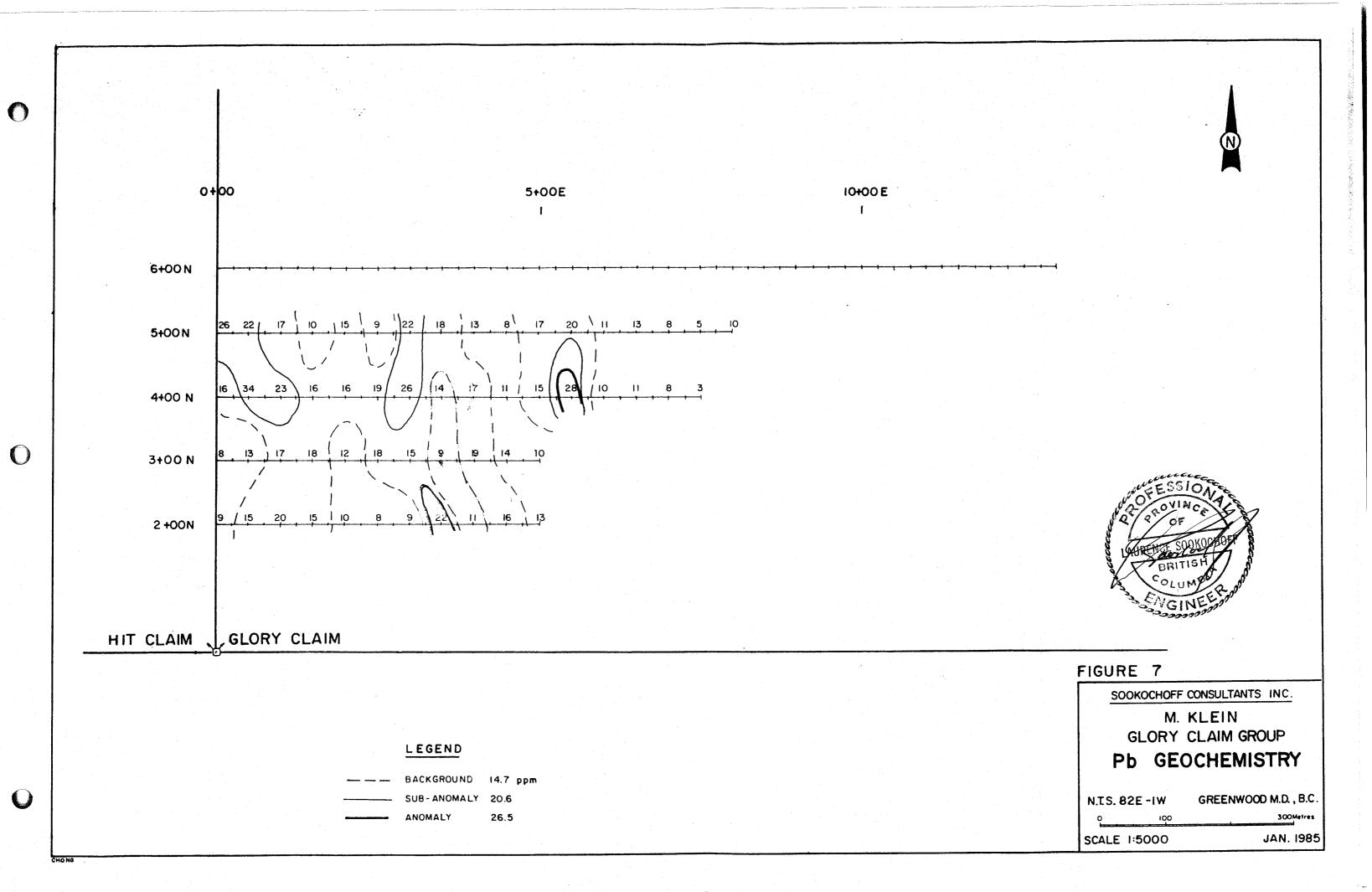


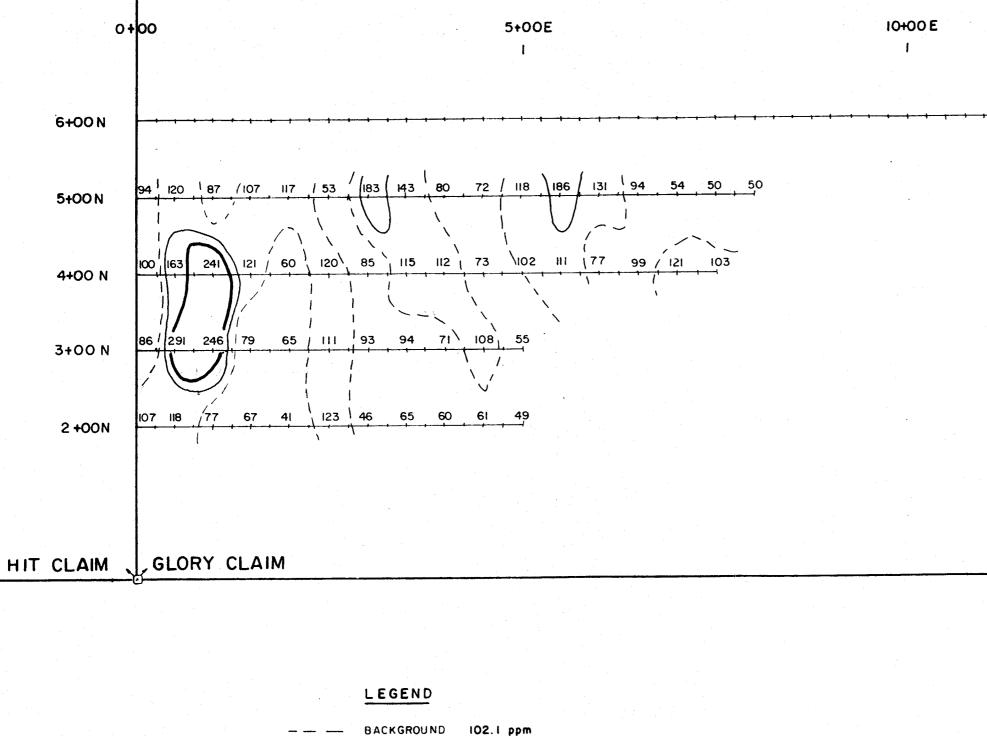


49.9 SUB-ANOMALY ANOMALY 64.2

CHONG







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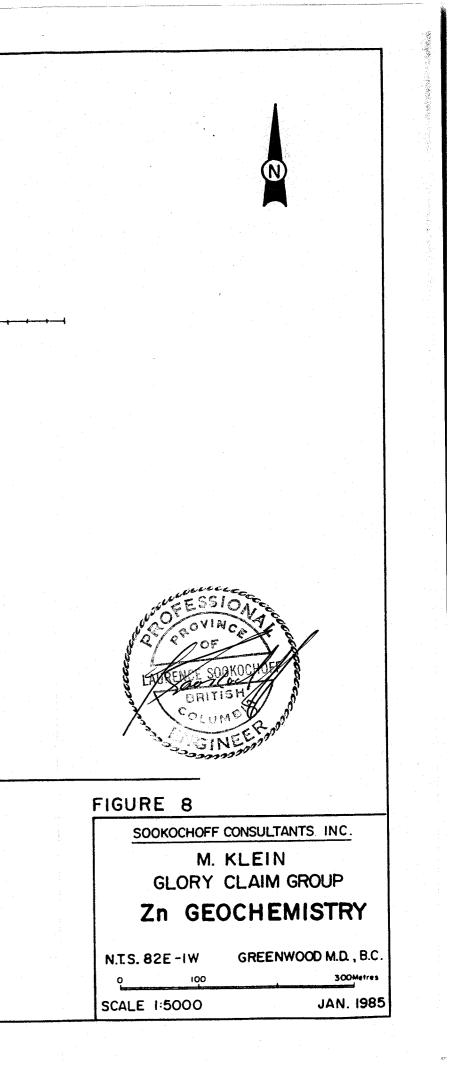
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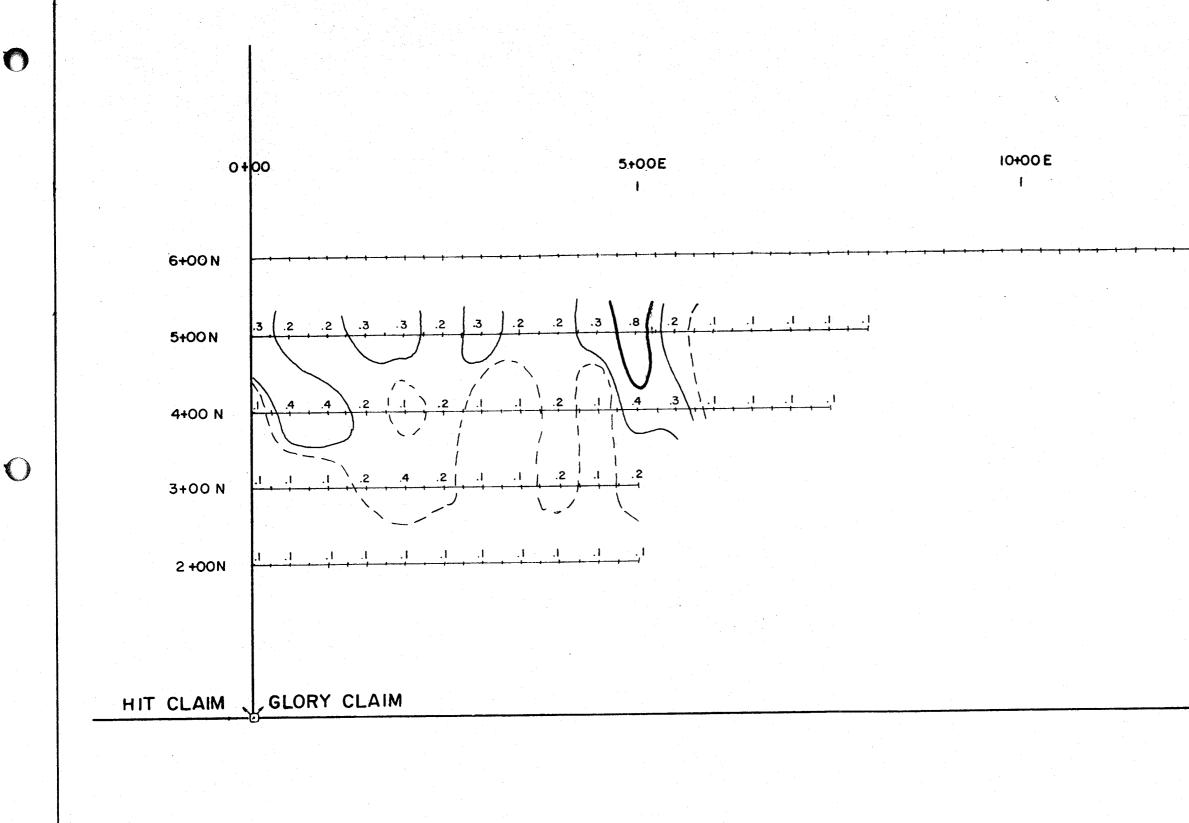
CHONG

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102.1 ppm SUB-ANOMALY 152.8 202.5

ANOMALY



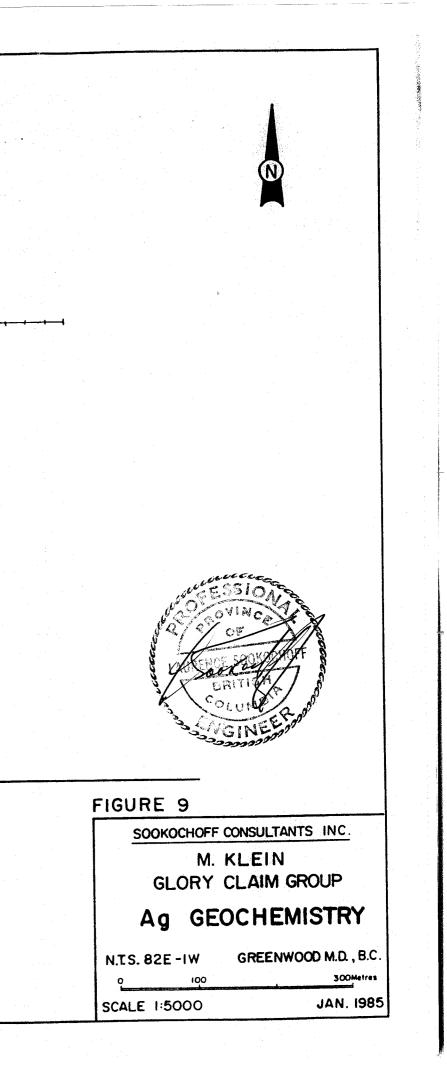


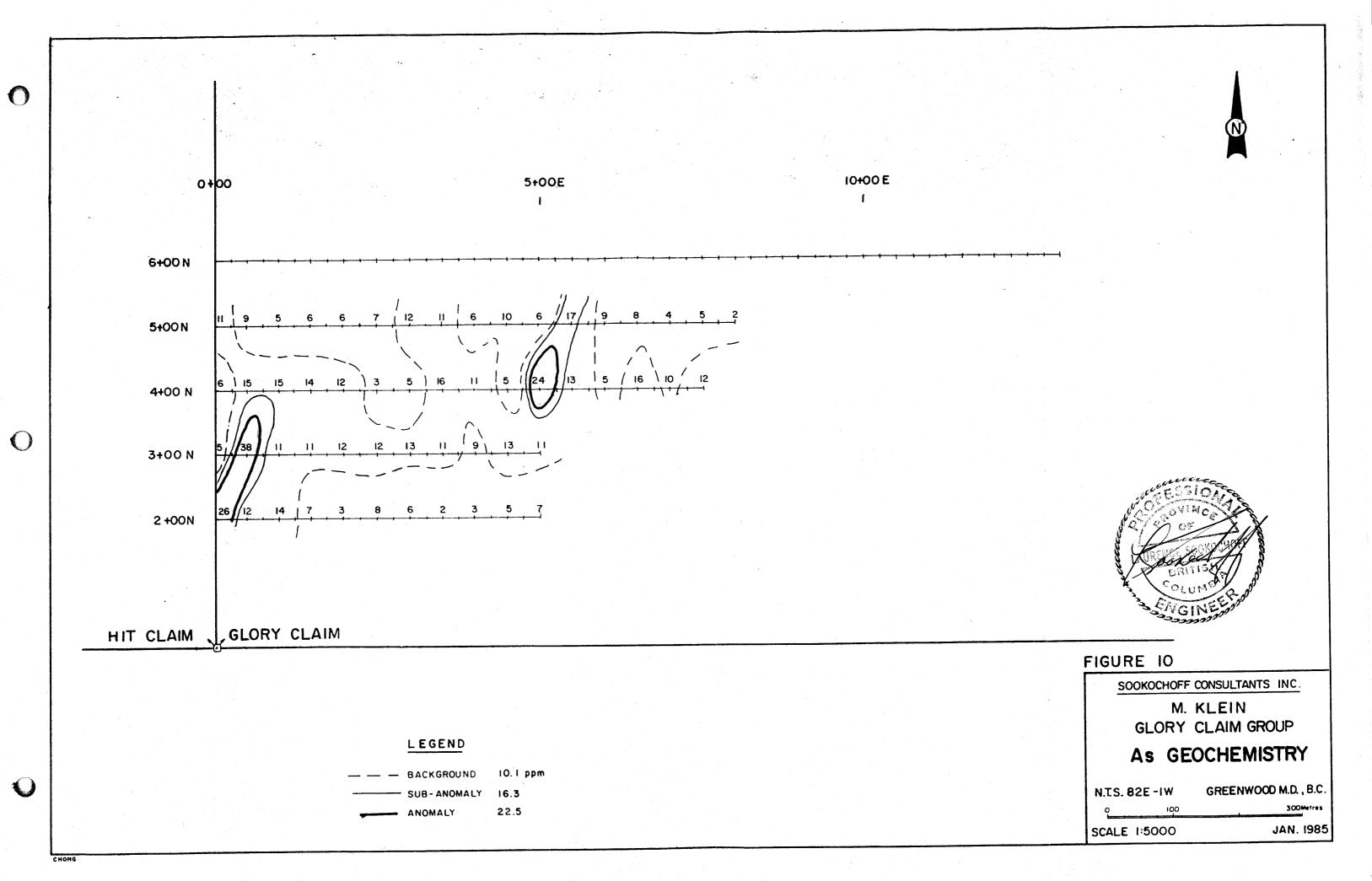
LEGEND

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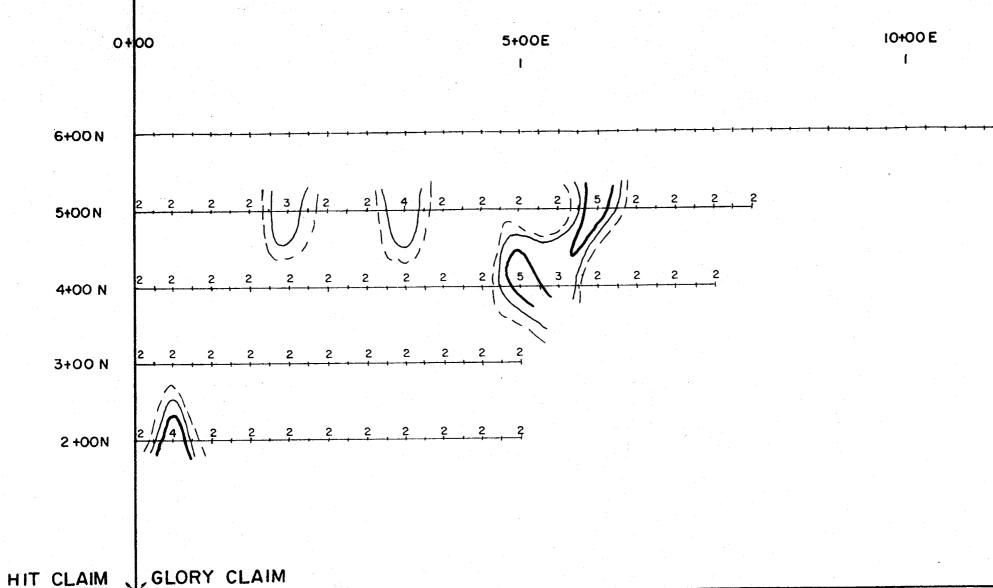
CHONG

 BACKGROUND	.18 ppm
 SU8-ANOMALY	.29
 ANOMALY	.41





LORY	CLAIM				-		:
			•		- -		
			LEGEND				
		<u> </u>	BACKGROUND	2.19 ppm			
		L	SUB-ANOMALY	2.82			
			ANOMALY	3.45			



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0

CHONG

