

586

REPORT OF GEOLOGICAL AND GEOPHYSICAL SURVEY  
CONDUCTED OVER THE K. S. GROUP OF MINERAL CLAIMS

KING SALMON LAKE, B. C.

Latitude 58° 46'      Longitude 132° 37'<sup>SS</sup>

ATLIN MINING DIVISION

104K/10W+15W

Work performed by - N. Tribe, B.A.Sc.

Direct Supervision by - G. Gutrath, B.Sc.

Overall supervision and report by - D. M. Cannon,  
Prof. Eng.

October 9, 1964.

## K. S. GROUP

### INTRODUCTION

During the month of July, 1964, detailed geological and geophysical surveys were conducted over the K. S. Nos. 1-26 group of mineral claims.

Camp was established at the top of the mountain, approximately one-half mile north of the known copper mineralization and was serviced by means of fixed wing aircraft from Atlin to King Salmon Lake. King Salmon Lake lies at the foot of the mountain approximately two and one-half miles to the south of and 2500 feet below the camp. A crew of six men including a graduate geologist, N. Tribe, were required to complete the work. Work was under the direct supervision of G. Gutrath and the overall supervision of D. M. Cannon.

### LOCATION

The property is located at  $132^{\circ}27'$ <sup>SS</sup> East Longitude and  $58^{\circ}46'$  North Latitude, about two and one-half miles north of King Salmon Lake. King Salmon Lake lies approximately 65 miles SSE of Atlin, B. C., or about 25 miles east of Tulsequah, B. C.

Access to the property was obtained by Beaver aircraft and Bell G-2 helicopter.

### WORK PERFORMED

Initially the area was surveyed with an airborne magnetometer flying on contour at approximately one-quarter mile intervals and at a height of 200 feet above the ground surface.

The airborne work was followed with a detailed ground magnetometer survey over the areas of indicated interest. East-west cross lines were established at 400 foot intervals from a north-south base line. Stations were spaced at 100 foot intervals on both the base line and the cross lines.

C O N T E N T S

	<u>Page</u>
Introduction . . . . .	1
Location . . . . .	1
work Performed . . . . .	1
Geological Survey . . . . .	2
General Geology . . . . .	2
Rock Types . . . . .	2
Structure . . . . .	3
Mineralization . . . . .	3
Magnetometer Survey . . . . .	4
Description of work . . . . .	4
Interpretation . . . . .	4
Fig. 1      Outcrop Geology - K. S. Group 1 inch = 200 feet	in folder
Fig. 2      Magnetometer Survey - K. S. Group 1 inch = 200 feet	in folder

**Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT**

NO. **586** MAP

Photo reconnaissance and geological mapping was first completed over the area as a whole and was followed with outcrop mapping using the established geophysical grid system as well as a plane table. Particular attention was paid to areas of observed copper mineralization as well as those areas of high magnetic intensity, as indicated from the magnetometer work.

Maps presenting the results of this work are contained in the pocket of the folder.

## GEOLOGICAL SURVEY

### General Geology

The area is generally underlain by a series of slightly schistose sediments overlain on the east by a thick massive limestone member. Intrusive into both of the above rock sequences are felsite and quartz porphyry dikes and possibly sills. Toward the south-east portion of the mapped area, a larger, more massive area of porphyry is exposed. A zone of brecciation, which includes parts of both the schist and the quartz porphyry dikes, is exposed a short distance west of the main intrusive block.

### Rock Types

The sedimentary series is comprised of basic tuffs, siltstones, argillite, and narrow bands of argillaceous limestone. For the most part, alteration is not severe, but in the area of brecciation, and to a less extent near the various intrusive contacts, there is evidence of minor contact metamorphism in the formation of small amounts of the typical skarn minerals, particularly garnet.

The overlying limestone is essentially massive with very little alteration near the contact with the other sedimentary rocks. Near areas of metallic mineralization, there is a slight marblization that does not extend more than a few feet in any direction.

The quartz porphyry, except in the brecciated areas, is generally massive with little evidence of alteration. Variations in texture, within the rock, range from a fine grained feldspathic groundmass with minute quartz eyes to a crystalline rock that approaches a granite in composition.

The Breccia zone is pear-shaped in surface expression and extends for a distance of 1000 feet in a north-south direction with a width of 500 feet at the north end which tapers down to 100 feet at a point 400 feet north of the south end. Within this area, all of the outcrops exhibit intense brecciation together with a high degree of siliceous alteration resulting in the formation of tiny quartz veinlets recementing the brecciated fragments as well as crystals of quartz extending from the walls of numerous small vugs. The original rock has been altered, bleached, and, in general, "soaked" with siliceous solutions so that it is presently difficult to distinguish between the original intrusive and the original sediments.

#### Structure

Apart from the breccia zone, there are no major structures of consequence. Strike of the sediments varies from N65°W to N40°E. Dips are for the most part to the east at 20° to 45°.

Minor faulting can be observed within and near the breccia zone. Displacement is minor and the faulting is not continuous.

#### Mineralization

Two types of metallic mineralization were mapped:

- A. Chalcopyrite, pyrite mineralization associated with the quartz stringers in the breccia zone.
- B. Magnetite mineralization at or near the contact of the sediments with massive limestone.

Weathered outcrops within the breccia zone all exhibit pale to dark rusty coloured oxidation. Freshly broken surfaces expose chalcopyrite and pyrite mineralization, segregated in small to large blebs, usually confined to the quartz stringers but occasionally filling, or partially filling, small vugs that are lined with crystal quartz. Sulphide mineralization is not uniform throughout the breccia, but there was no pattern established to indicate the reason for areas of higher concentrations.

Magnetite mineralization, first indicated by the airborne work, is localized for a distance of several thousand feet along the limestone contact by contact. A total of four small lenses (50 feet by 100 feet) were exposed over this distance. It is likely that other similar small pods are hidden by drift material. All lenses, except one, consist of massive magnetite with no other minerals of economic interest. One lens, toward the south end of the mapped area and immediately adjacent to the quartz porphyry, contains a significant amount of black sphalerite.

#### MAGNETOMETER SURVEY

##### Description of work

The airborne survey was completed with a miniaturized Varian type magnetometer designed and built by Newmont Exploration Company. Continuous readings are obtained and permanently recorded on tape. Fiducial points are recorded on the tape and referred to 1 = 250,000 scale Government issued topographic maps. Geographic orientation is maintained by the magnetometer operator.

The instrument is hung, by cable, below the G-2 helicopter with the recording apparatus installed in the bubble. Only a pilot and operator are required for the work.

An Askania Torsion balance was used for the ground survey.

##### Interpretation

The grid for the ground survey was laid out to cover areas of interest as indicated by the airborne work as well as to cover the known copper mineralization in the breccia zone. The anomalies outlined by the airborne work were quickly confirmed by ground work and the reason for them established as being the magnetite pods. No anomalous conditions were observed over the breccia zone from either airborne or ground work.

  
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D. M. Cannon

Magnetite mineralization, first indicated by the airborne work, is localized for a distance of several thousand feet along the limestone sedimentary contact. A total of four small lenses (30 feet by 100 feet) were exposed over this distance. It is likely that other similar small pods are hidden by drift material. All lenses, except one, consist of massive magnetite with no other minerals of economic interest. One lens, toward the south end of the mapped area and immediately adjacent to the quartz porphyry, contains a significant amount of black sphalerite.

### MAGNETOMETER SURVEY

#### Description of Work

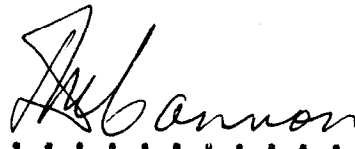
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D. M. Cannon

**Dominion of Canada**

Province of British Columbia

To Wit:

**In the Matter of**

costs and charges incurred in the geological and geophysical investigations covering the K.S. Nos. 1-26 Mineral Claims near King Salmon Lake in the Atlin Mining Division.

I, **Donald M. Cannon**, of #604, 744 West Hastings Street, Vancouver, in the Province of British Columbia.

**Do Solemnly Declare that**

the personnel costs and related expenses were as follows:

D. M. Cannon, Prof. Eng.	Supervising Geologist	3 days	\$ 300.00
C. Gutrath	Senior Field Assistant	3 days	150.00
N. Tribe	Junior Field Assistant	28 days	645.00
R. Mason	Magnetometer Operator	23 days	414.00
J. Tribe	Senior Field Assistant	21 days	357.00
J. Burwash	Senior Field Assistant	21 days	357.00
S. A. Robb	Junior Field Assistant	21 days	262.00
I. MacDougal	Junior Field Assistant	21 days	262.00
G. Templeton	Draughtsman	3 days	75.00
			Total labour
			\$ 2,822.00
Klondike Helicopters			\$ 1,824.25
Coast Range Airways			709.17
			TOTAL
			\$ 5,355.42

And I make this solemn Declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath, and by virtue of the Canada Evidence Act.

Declared before me at the City

of VANCOUVER

in the Province of British Columbia.

this 16<sup>th</sup> day of

October A.D. 1964

*Clarence McNeil*

A Notary Public in and for the Province of British Columbia.  
A Commissioner for taking affidavits within British Columbia.

Sub-mining Recorder

*D M Cannon*



K.S. No. 11

K.S. No. 12

K.S. No. 9

K.S. No. 26

K.S. No. 10

K.S. No. 7

K.S. No. 24

K.S. No. 8

K.S. No. 5

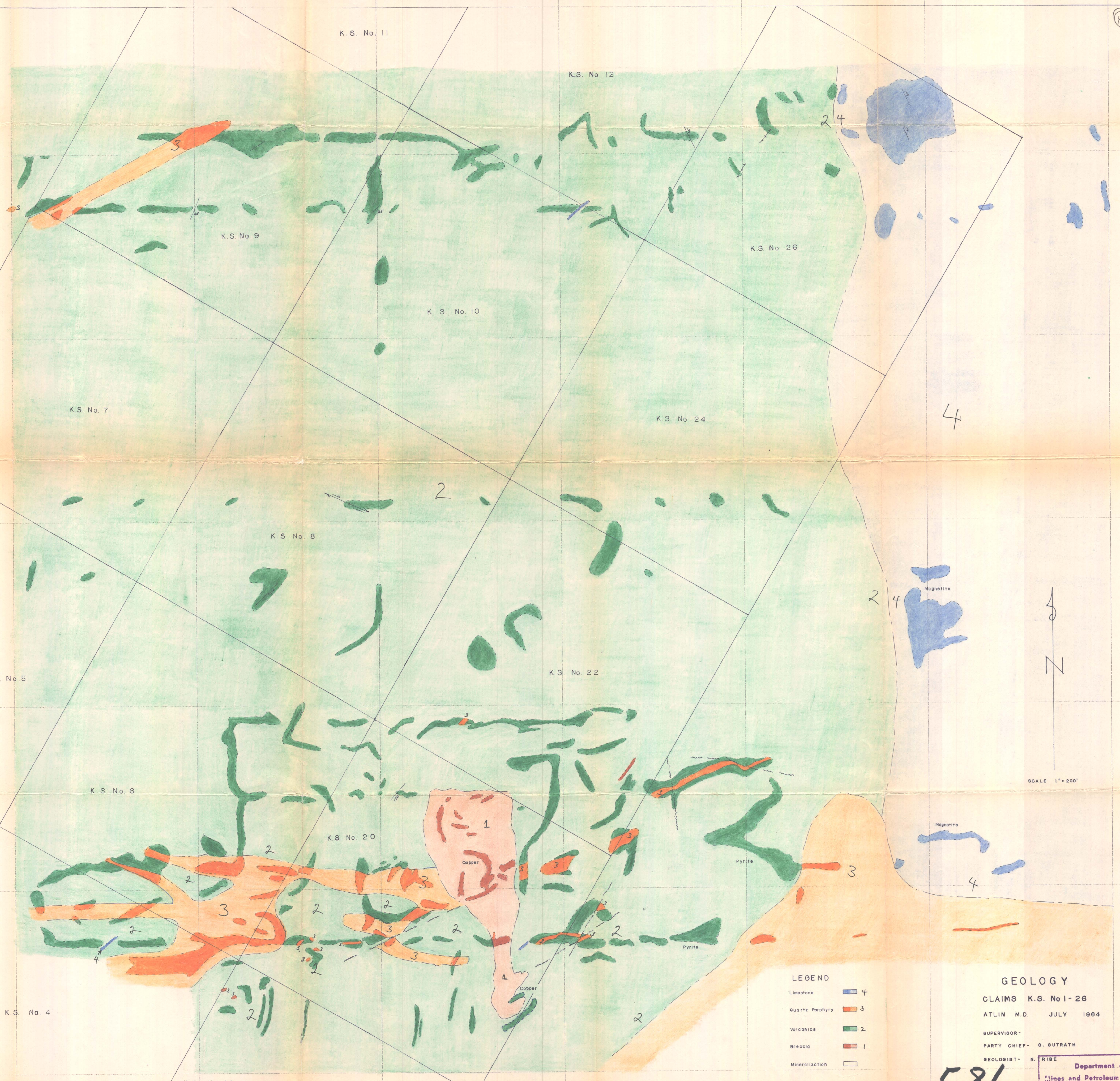
K.S. No. 22

K.S. No. 6

K.S. No. 20

K.S. No. 4

K.S. No. 18



LEGEND

- Limestone 4
- Quartz Porphyry 3
- Volcanics 2
- Breccia 1
- Mineralization

GEOLOGY

CLAIMS K.S. No 1-26

ATLIN M.D. JULY 1964

SUPERVISOR-

PARTY CHIEF- G. GUTRATH

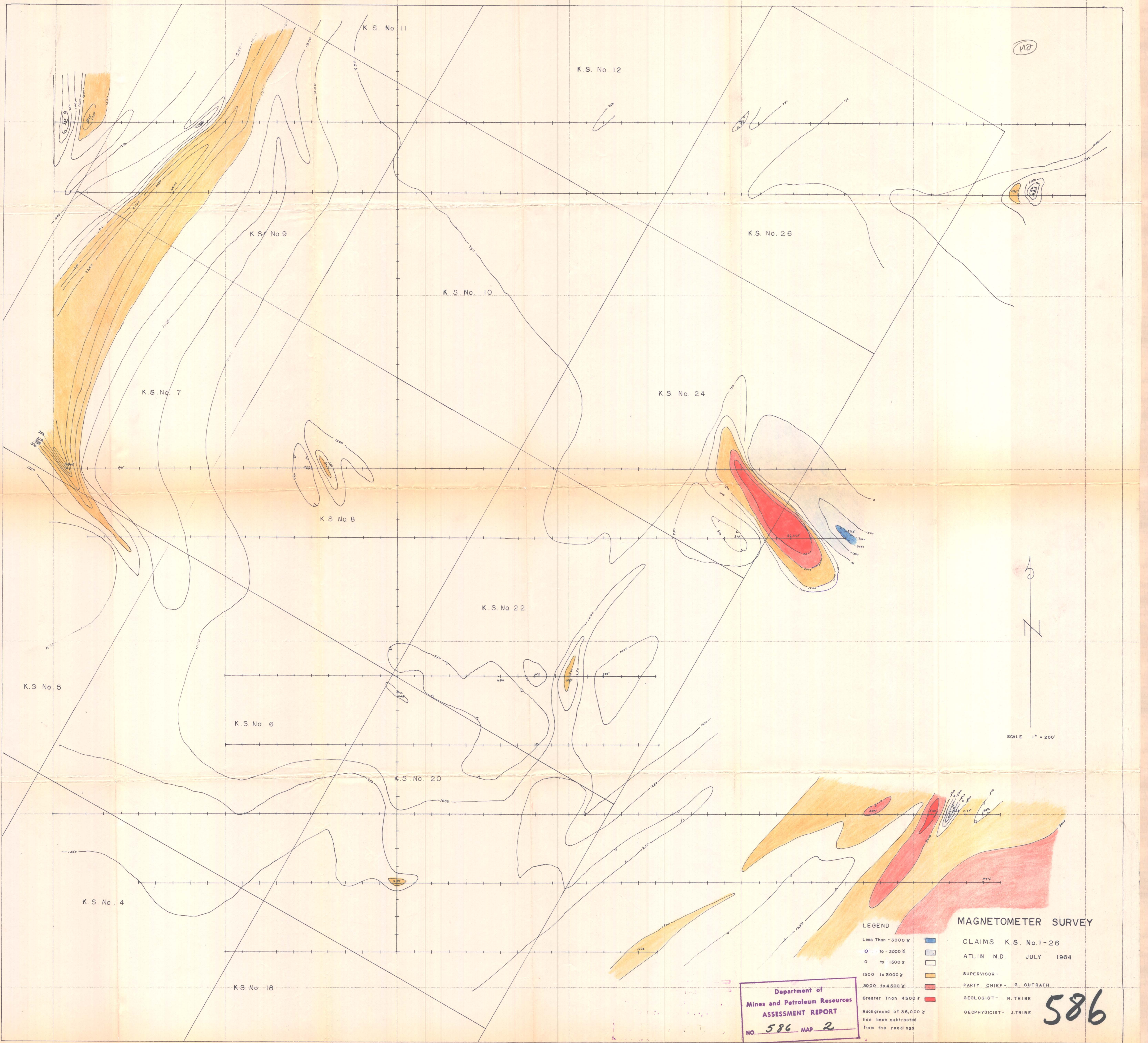
GEOLOGIST- N. RIBE

586

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NO. 586 MAP 1



118



SCALE 1" = 200'

LEGEND

- Less Than - 3000 γ
- 0 to - 3000 γ
- 0 to 1500 γ
- 1500 to 3000 γ
- 3000 to 4,500 γ
- Greater Than 4500 γ
- Background of 36,000 γ has been subtracted from the readings

MAGNETOMETER SURVEY

CLAIMS K.S. No. 1-26  
 ATLIN N.D. JULY 1964  
 SUPERVISOR -  
 PARTY CHIEF - G. OUTRATH  
 GEOLOGIST - N. TRIBE  
 GEOPHYSICIST - J. TRIBE

Department of  
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 ASSESSMENT REPORT  
 NO. 586 MAP 2

586