

2537

GEOPHYSICAL REPORT

ON A

MAGNETOMETER SURVEY

MAD AND NUT CLAIM GROUP

ATLIN MINING DIVISION, BRITISH COLUMBIA

L. G. WHITE, P. ENG.

CLAIMS: Nut #1 - 2
 Mad #1 - 16, 19, 20, 32
 34 - 50

LOCATION: 22 miles East of Tulsequah, B. C.
 Atlin Mining Division
 58°, 132° NW

DATES: June 27 to August 25, 1970

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Department of Mines and Petroleum Resources	
ASSESSMENT REPORT	
NO. <i>2537</i>	MAP

SUMMARY AND CONCLUSIONS:

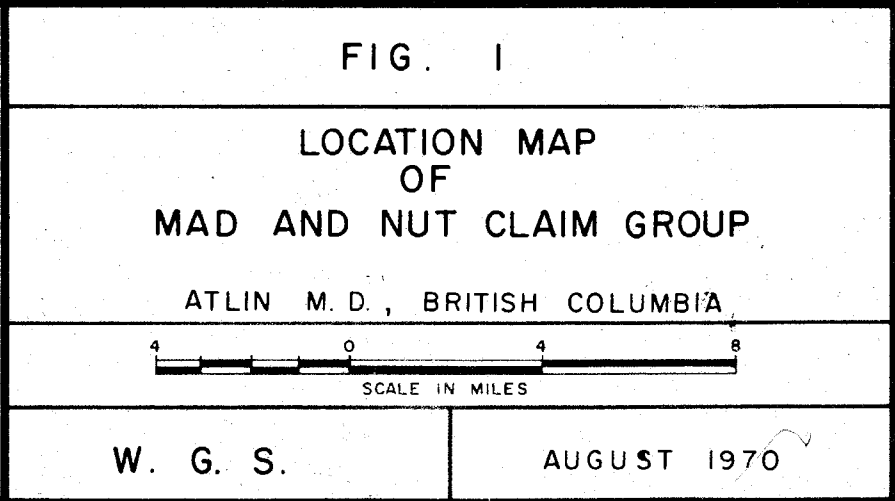
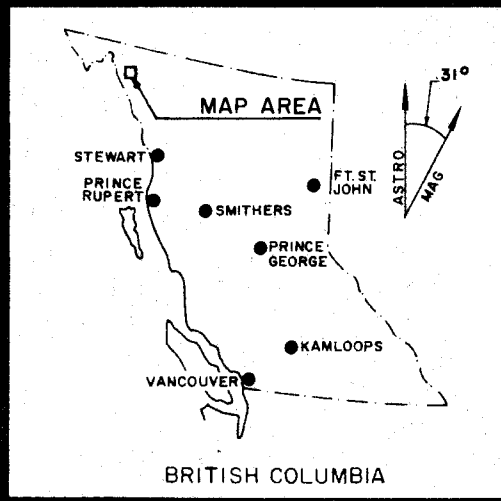
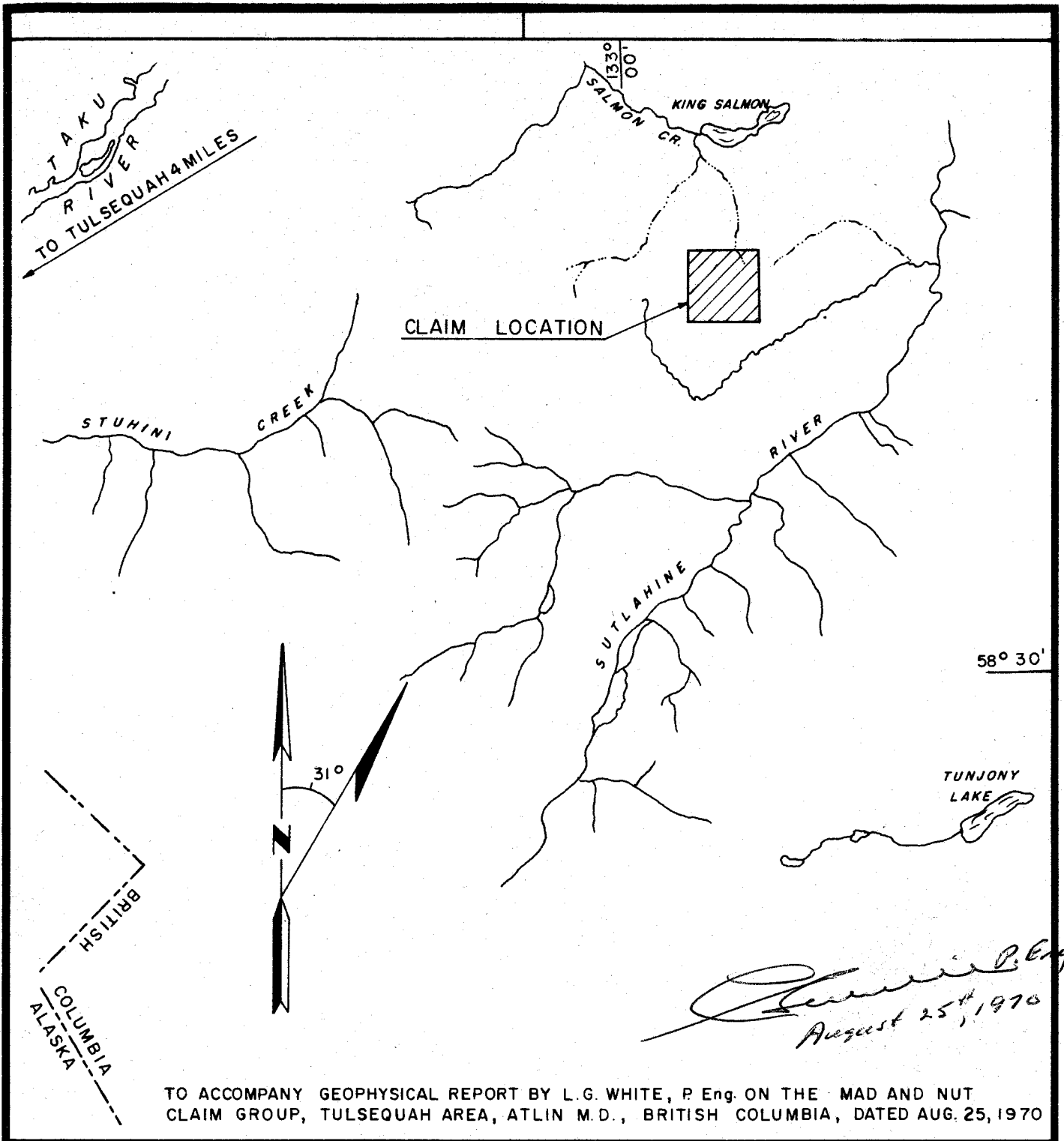
A total of 40 line miles of magnetometer surveying was completed on the Mad and Nut group of claims during the summer of 1970.

A considerable portion of the claim block is covered with talus, glacial till, and soil of moderate to shallow depth.

The magnetometer survey was undertaken to trace geological structures and determine the magnetic response of the various rock units for the purpose of relating structure and magnetic characteristics to sulphide mineralization occurring on the property.

The survey indicated both the major and secondary structural features occurring on the claim group. Various intrusive and sedimentary rock units were delineated and extended where surface geological information was not available. Magnetite was observed to be the primary magnetic mineral, with smaller concentrations of pyrrhotite causing smaller and less intense anomalies.

There exists a negative correlation between economic sulphide mineralization and magnetic characteristics; the structures and various rock units were readily delineated by the magnetic data obtained as a result of the survey work.



INTRODUCTION:

During the period June 27th to August 25th, 1970, a magnetometer survey was completed on a ground control grid established on the Mad and Nut claim group located about 4 miles South of King Salmon Lake which is situated in the Atlin Mining Division approximately 22 miles East of Tulsequah, B. C.

The claims were staked during August, 1969 by crews employed under the Taku Syndicate, a joint venture exploration group financed by United States Smelting Refining and Mining Company, Home Oil Company Limited, Minorex Limited, Transcontinental Resources Limited and New Taku Mines Limited. The writer acts as General Manager and Consultant for the Syndicate and the claims are recorded in my name.

Geochemical results of silt sampling done during the spring of 1969 indicated anomalous values in copper and molybdenum in creeks radiating from slopes of the cirque valley in which the claims are located. Purpose of the magnetometer survey was to determine possible structural characteristics of the sub-surface and extent of the various rock units to provide correlation and extension of the surface geological mapping. It was also intended to provide coincident geophysical data to tie in with follow-up soil sampling completed over the same grid.

Instrumentation and interpretation of the magnetometer work was conducted by D. J. Misener, B. Sc., a Geophysicist employed by Western Geological Services Ltd. His work was supervised in the field by Mr. John Buchholz, Geologist, and principal

of the above firm, with overall consulting and engineering provided by the writer.

CLAIMS:

The claim group consists of 38 full-size contiguous mineral claims acquired in the late summer of 1969 and recorded in Atlin on August 29, 1969. Claim names and record numbers are given below:

<u>Claim Name</u>	<u>Record Number</u>
Nut 1	13519K
Nut 2	13520K
Mad 1 - 16	13521K - 13536K
Mad 19, 20	13539K - 13540K
Mad 32	14970D
Mad 34 - 50	14972D - 14988D

The claims were staked as agent for L. G. White.

LOCATION AND ACCESS:

The property is located approximately 22 air miles east of Tulsequah, B. C. and approximately 4 miles South of King Salmon Lake in the Atlin Mining Division. Access is from Juneau, Alaska, via float-equipped aircraft to King Salmon Lake, thence by helicopter to the property. Alternatively, the property is accessible from points within British Columbia or the Yukon. There are no trails or roads leading to the property. The area is mountainous with relief of over 3,000 feet occurring across the claim group. Elevations range from 3,000 feet to 6,084 feet above sea level. Access on the property is generally good, and the group is readily traversed by foot.

GEOLOGY:

The claim group is underlain by Lower and Middle Jurassic sediments mapped by Souther (Open File material "Tulsequah Map Area, British Columbia" 104K) as part of the Takwahoni Formation. This formation consists of granite-boulder conglomerate, chert pebble conglomerate, greywacke, quartzose sandstone, siltstone and shale and is cut by numerous felsite and quartz feldspar porphyry dykes and sills of Cretaceous and Early Tertiary age. The Takwahoni Formation trends North-west to North-east, exhibits two stages of folding and is faulted in a number of places in a general East-west direction. A hydrothermal zone containing considerable pyrite mineralization mapped by Souther occupies the lower southwest portion of the claim block.

Minor copper mineralization occurs within narrow shears in or adjacent to intrusive rocks on the property. In addition to pyrite and minor chalcopyrite-malachite some of the rocks contain considerable magnetite and limonite staining within the hydrothermal zone.

PURPOSE OF MAGNETOMETER SURVEY:

The purpose of the magnetometer survey was to determine the sub-surface structure and the extent of the various rock units. From a study of the final contoured map, large structural features and smaller secondary features may be inferred. On the Mad and Nut claim group, sufficient differences in magnetic susceptibility were noted between rock types (see "Geology") to allow reliable interpretation.

METHOD:

A McPhar, model M-700, vertical field fluxgate magnetometer was used for the survey. The instrument was checked upon delivery and found to be in good working order. The earth's vertical magnetic field component was noted at the Tatsamenie Base Camp (about 20 miles South-east of the claim group) as being 49,200 gammas. The latitude adjustment was made at this location and all readings are relative to this station.

The magnetometer grid lines were oriented N 47° W (true) and run 4,000' on either side of the base line. Readings were taken at 200' intervals on lines spaced 400' apart. A control point (marked C. P. on Fig. 2) was established on the grid and was re-occupied at the same time daily in order to check the instrument and "tie-in" the daily diurnal corrections. The standard method of "looping" or re-occupying stations was employed to remove the diurnal variation. The maximum diurnal variation noted was 70 gammas and variations during closure periods (maximum of approximately 3 hours) did not exceed 30 gammas. All readings listed in the data and shown on Fig. 2 have been corrected for diurnal variation. Some small topographic errors were noted but the final readings are plotted at their correct locations. This is the cause of the slight adjustment in the base line direction (see Fig. 2). The plotted data may be assumed accurate to 120 gammas.

DISCUSSION OF RESULTS:

Fig. 2, at a scale of 1" = 500' shows the geophysical results in contoured form. As noted on the map, the prominent

magnetic contour interval is 200 gammas. In relatively "quiet" areas, the 100 gamma contour may be used to delineate the geological trends.

Three distinct magnetic features are indicated on the accompanying magnetic contour map (Fig. 2). These features are briefly described below and consist of the following:

- A) A relative lack of intense magnetic relief North-east of Line 56 E.
- B) Magnetic lineations trending approximately North-east - South-west; thin and vertically dipping, located mainly South-west of line 56 E.
- C) An overall approximate North-south strike observed in the centre of the area, easily seen in the north but obscured by feature (b) in the south.

Feature A:

All the major dykes of feature B end in a relatively "quiet" area around line 56 E. This may be due to either a broadening of the dykes or an increase in sedimentary cover (conglomerates and shales) along the ridge between line 40 E and line 56 E.

Feature B:

Three main intrusive dykes can be discerned magnetically. They all trend roughly North-east - South-west and are located as indicated below:

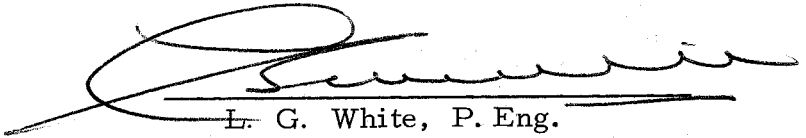
- i) L00E, 36N extending to L40E, 10N
- ii) L16E, 34N extending to L60E, 30N
- iii) L00E, 8S extending to L32E, 40S

Hand specimens have shown that these feldspar porphyry dykes have a relatively high magnetite content and thus a high magnetic response. Smaller and less intense anomalies occur in this area. These are

probably due to minor concentrations of magnetite or pyrrhotite within the sediments.

Feature C:

This feature may be due to secondary structural features, such as faulting (as noted in the dykes of the north-western edge) or major structural features (dykes and shearing on the north-eastern edge).



L. G. White, P. Eng.

Vancouver, B. C.
August 25, 1970

APPENDIX "A"

STATEMENT OF COSTS OF THE MAGNETOMETER SURVEY

Salaries (as per Appendix "B")	\$ 2300.00
Groceries	720.00
Camp Construction Supplies and Equipment	250.00
Helicopter - 22.3 hours @ \$125/hr.	2787.50
Drafting and Report Writing	375.00
Field Supervision - J. Buchholz - 5 days @ \$100/day	500.00
Consulting Engineering - L. G. White, P. Eng. - 2 days @ \$150/day	300.00
Topographic Base Map Preparation	665.00
Overhead @ 0.2 of \$2300 + \$720 (Salaries & Groceries)	604.00
	<hr/>
TOTAL	\$ 8501.50
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Apportionment of Costs

Grid preparation	\$ 5201.50	
Magnetometer Surveying	3000.00	
Consulting, Engineering	<u>300.00</u>	<u>\$ 8501.50</u>

I, L. G. White, hereby declare that the information contained in the above schedule is true to the best of my information, knowledge and belief 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 25th day)
of August, A. D. 1970.)

John K Campbell)

A Notary Public in and for
the Province of British Columbia

Leonard G. White

Leonard G. White

APPENDIX "B"

EVIDENCE OF EXPENDITURE INCURRED

<u>Name</u>	<u>Category</u>	<u>Rate</u>	<u>Days Worked</u>	<u>Period</u>	<u>Total</u>
D. J. Misener	Geophysicist Instrument Oper- ator	\$1000/mo.	30	6/27-7/27	\$1000.00
P. Folk	Jr. Geologist Assistant	750/mo.	30	6/27-7/27	750.00
D. Amor	Helper	550/mo.	30	6/27-7/27	550.00
					\$ 2300.00
J. Buchholz	Geologist Field Super- vision	\$ 100/day	5	7/19-7/28	\$ 500.00
L. G. White	P. Eng. Consultant	150/day	2	7/27-7/28	300.00

I, L. G. White, hereby declare that the information contained in the above schedule is true to the best of my information, knowledge and belief 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 25th day)
of August, A. D. 1970.)

John K. Campbell

A Notary Public in and for
the Province of British Columbia

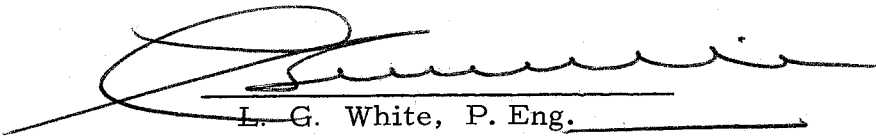
Leonard G. White

Leonard G. White

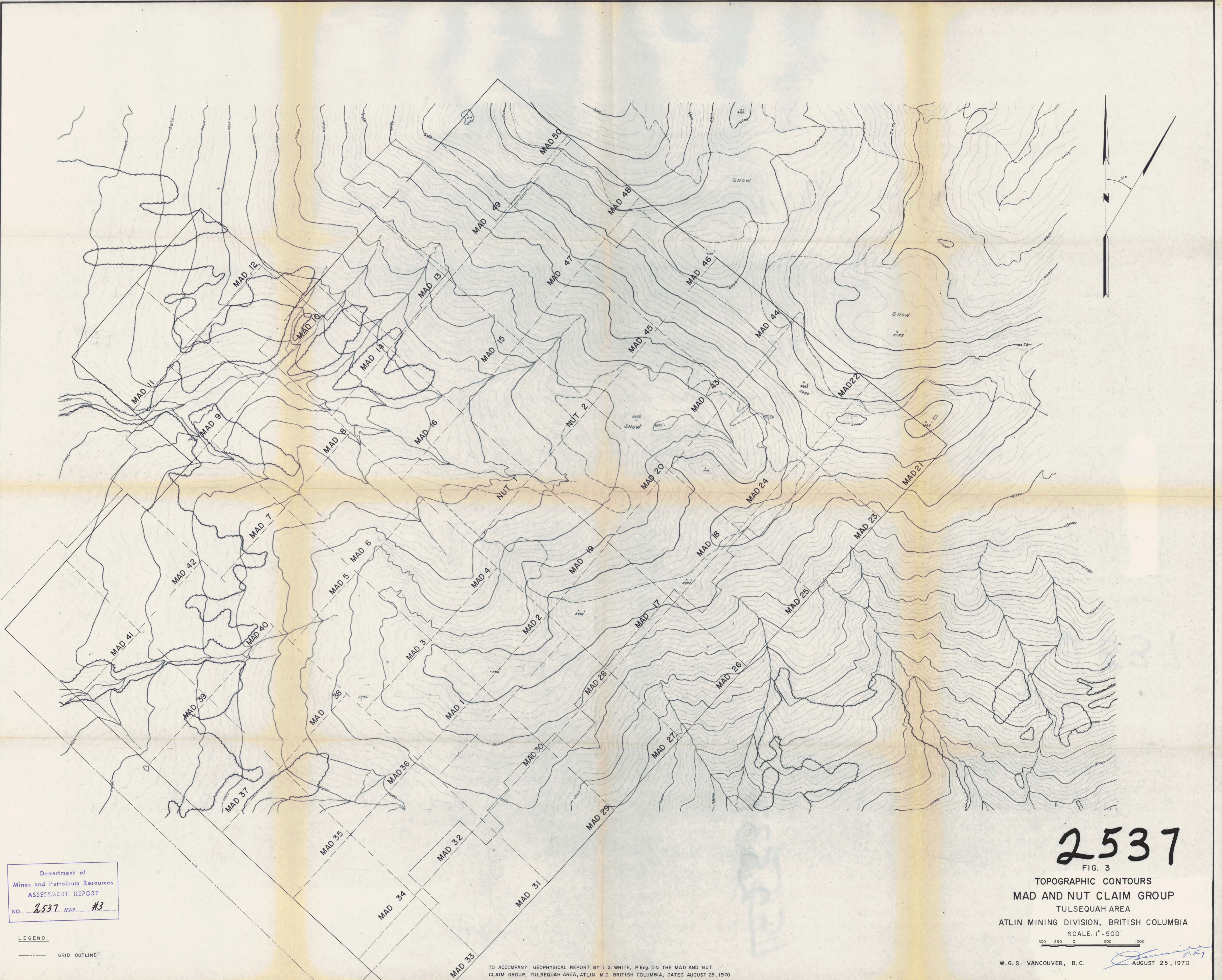
CERTIFICATION

I, Leonard George White, of the City of West Vancouver, in the Province of British Columbia, hereby certify as follows:

1. That I am a Registered Professional Engineer of the Provinces of British Columbia and Ontario and reside at 704 Parkside Road, West Vancouver, B. C.
2. That I am a graduate of Washington State University with a Bachelor of Science in Mining Engineering, having practised my profession for twenty-seven years.
3. That I have a 2% carried non-assessable interest in the Mad and Nut claim group as a result of my arrangement with the financing group comprising the Taku Syndicate.
4. That I did complete a field examination and study of the Mad and Nut claim group during the period July 27th and July 28th, 1970, to determine the reliability and interpretation of a magnetometer survey completed by D. James Misener, Geophysicist, employed by the Taku Syndicate, of which I am General Manager and Consultant.


L. G. White, P. Eng.

Vancouver, B. C.
August 25, 1970.



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LEGEND:
--- GRID OUTLINE

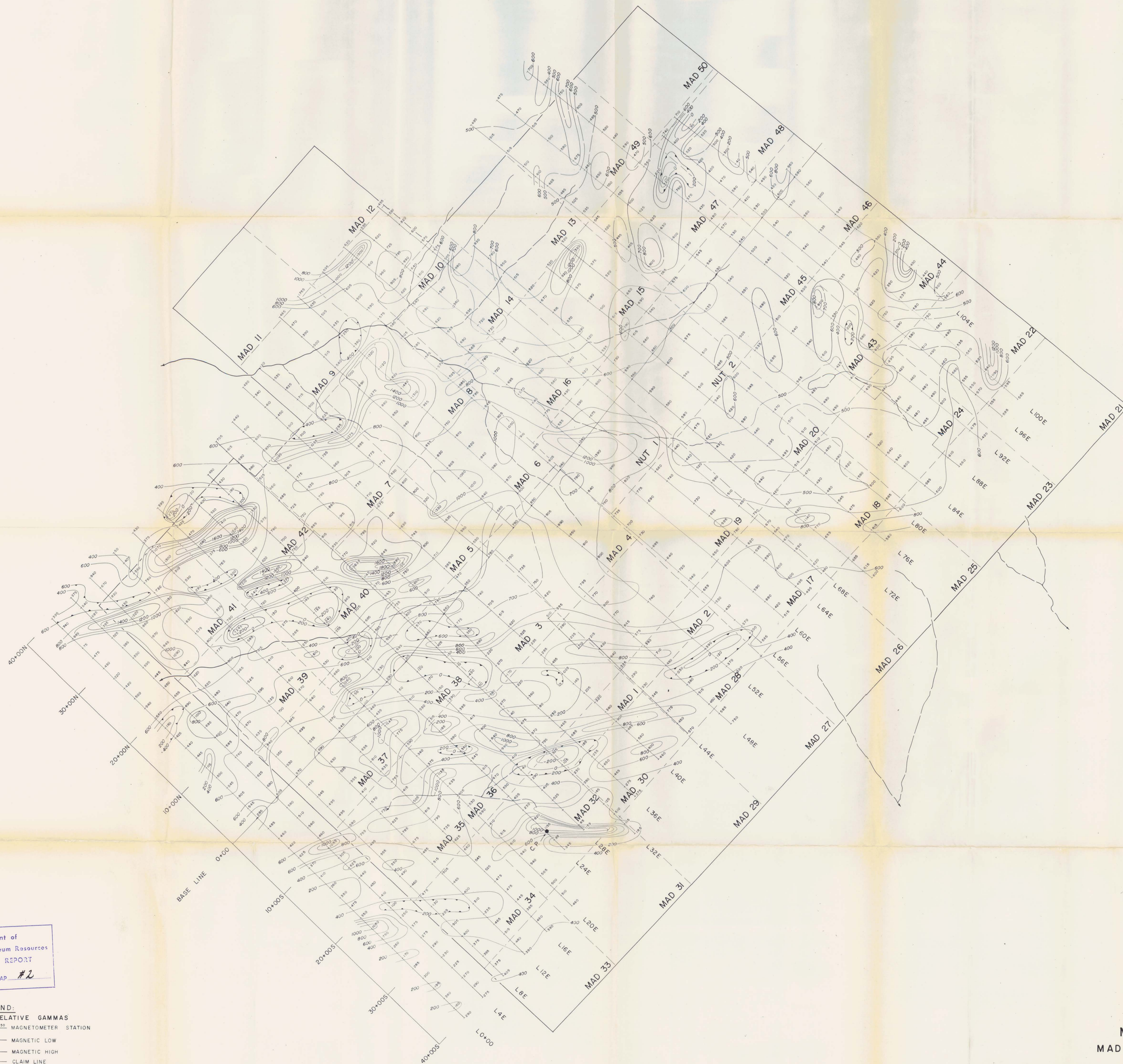
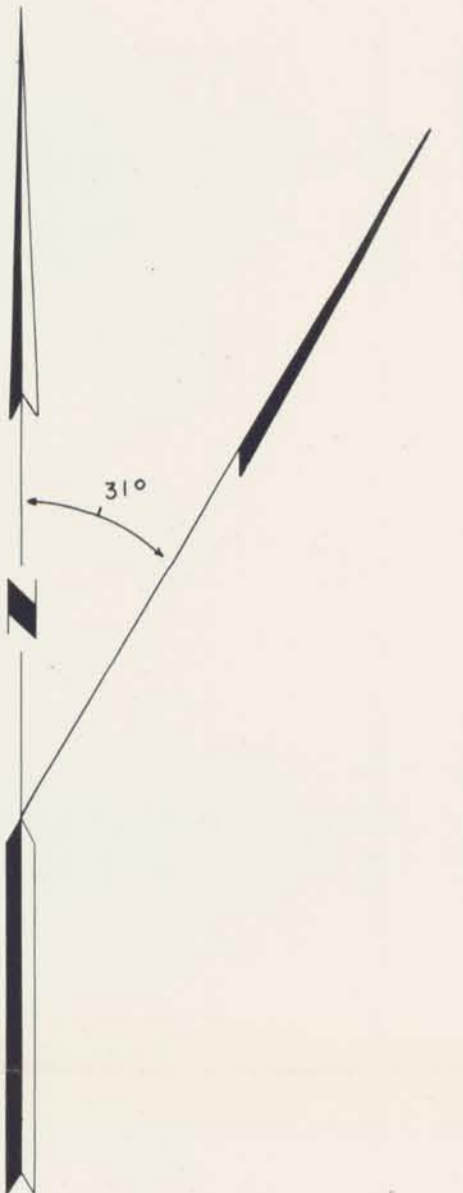
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FIG. 3

TOPOGRAPHIC CONTOURS
MAD AND NUT CLAIM GROUP
TULSEQUAH AREA
ATLIN MINING DIVISION, BRITISH COLUMBIA

SCALE: 1" = 500'
500 250 0 500 1000

W. G. S. VANCOUVER, B. C. AUGUST 25, 1970

TO ACCOMPANY GEOPHYSICAL REPORT BY L. G. WHITE, P. Eng ON THE MAD AND NUT CLAIM GROUP, TULSEQUAH AREA, ATLIN M.D. BRITISH COLUMBIA, DATED AUGUST 25, 1970

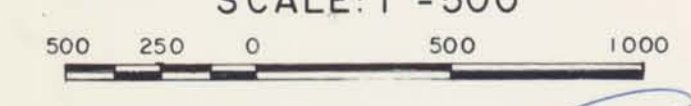


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- LEGEND:
- RELATIVE GAMMAS
 - 150 MAGNETOMETER STATION
 - MAGNETIC LOW
 - MAGNETIC HIGH
 - CLAIM LINE
 - DRAINAGE
 - 200 GAMMA CONTOUR
 - 100 GAMMA CONTOUR

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FIG. 2
MAGNETIC CONTOURS
MAD AND NUT CLAIM GROUP
TULSEQUAH AREA
ATLIN MINING DIVISION, BRITISH COLUMBIA
SCALE: 1"=500'



TO ACCOMPANY GEOPHYSICAL REPORT BY L.G. WHITE, P.Eng. ON THE MAD AND NUT
CLAIM GROUP, TULSEQUAH AREA, ATLIN M.D. BRITISH COLUMBIA, DATED AUGUST 25, 1970

W. G. S. VANCOUVER, B. C. AUGUST 25, 1970