

5961

GEOPHYSICAL REPORT

on a

MAGNETIC SURVEY

JIM 1 CLAIM #5961

IRON MASK AREA, KAMLOOPS M.D., B.C.

JIM 1 CLAIM: 9½ miles S70W of the City of  
Kamloops

50° 120° NW

N.T.S.

92 I/10E

Written for: Mabee Minerals Incorporated  
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by : David G. Mark  
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Dated: August 26, 1976

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 5961 MAP

**Geotronics Surveys Ltd.**

Vancouver, Canada

## TABLE OF CONTENTS

SUMMARY	1
CONCLUSIONS	ii
RECOMMENDATIONS	iii

INTRODUCTION AND GENERAL REMARKS.....	1
PROPERTY AND OWNERSHIP.....	2
LOCATION AND ACCESS.....	2
PHYSIOGRAPHY.....	3
GEOLOGY.....	4
HISTORY OF PREVIOUS WORK.....	6
INSTRUMENTATION AND THEORY.....	6
SURVEY PROCEDURE.....	7
COMPILATION OF DATA.....	7
DISCUSSION OF RESULTS.....	8
SELECTED BIBLIOGRAPHY.....	10
GEOPHYSICIST'S CERTIFICATE.....	11
CERTIFICATE OF EXPENSES.....	12

GRAPHS AND MAPS - at end of report

LOCATION MAP 1: 50,000	FIGURE 1
CUMULATIVE FREQUENCY GRAPH	FIGURE 2

MAPS - in pocket

MAGNETIC SURVEY	
Data and Contours, 1" = 200 meters	FIGURE 3 # 1
MAGNETIC SURVEY	
Detail Map, 1" = 10 meters	FIGURE 4 # 2

### SUMMARY

A magnetometer survey was completed over the Jim 1 Claim during August, 1976. The property is located about 9½ miles S70W of the City of Kamloops and to the south of Highway No. 1. The purpose of the survey was to assist in the mapping of the geology, especially in the outlining of any intrusive similar to the Iron Mask Batholith.

The terrain varies from flat valley bottom, to moderate slopes. Cherry Creek is the main drainage of the area and flows northerly through the centre of the property. Tree cover is that of open forest with some thick second growth.

The property is underlain by Nicola volcanics. Tertiary volcanics are found a few thousand feet to the northeast and Coast Intrusive outcroppings are found throughout the Nicola volcanics. The G.S.C. map shows no faults or shear zones and no mineralization is known on or immediately near the property.

In the Iron Mask Batholith area, many copper occurrences are known, the main copper minerals being chalcopyrite and bornite. Major development is being carried out in this area by Afton Mines (native copper) and Nahatlatch Resources (chalcopyrite and bornite).

Readings were taken with a vertical-component fluxgate magnetometer every 50 meters on 150-meter separated lines. These were diurnally corrected, statistically analyzed, plotted, and contoured. In addition, an anomalous area was detailed with 5-meter readings on 10- and 20-meter lines.

#### CONCLUSIONS

1. With one possible exception, it is felt the magnetic survey has reflected only the Nicola volcanics. That is, no other rock types were picked up on the property.
2. The possible exception is the anomaly in the northwest corner of the survey area. This anomaly could be reflecting a small intrusive body like that of the Iron Mask Batholith. Alternately, the anomaly may only be caused by a highly magnetic member of the Nicola volcanics.
3. If any sulphide mineralization occurs on the property, it will unlikely be of the Iron Mask type. However, considering the many copper prospects in the Nicola volcanics, and the property's proximity to the Iron Mask Batholith, sulphide mineralization could still easily occur on the property.

RECOMMENDATIONS

1. The magnetic survey should be completed over the northern part of the property.
  
2. The property should be soil sampled and the samples tested for copper. Special attention and detailing should be paid to the anomalous area.

GEOPHYSICAL REPORT

on a

MAGNETIC SURVEY

JIM 1 CLAIM

IRON MASK AREA, KAMLOOPS M.D., B.C.

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INTRODUCTION AND GENERAL REMARKS

This report discusses the procedure, compilation and interpretation of a fluxgate magnetometer survey carried out on the Jim 1 Claim during the month of August, 1976.

The field work was carried out by R. Fassler under the writer's supervision. The number of kilometers completed was 28.0.

The object of the magnetic survey was to obtain information on the geology of the property, both structural and lithological, particularly the mapping of the Iron Mask intrusive. A secondary object is the possibility of the magnetic data reflecting a disseminated sulphide body by either an anomalous low or high.

PROPERTY AND OWNERSHIP

The property is comprised of one claim consisting of 20 units as shown on Figure 1 and described as follows:

<u>Name</u>	<u>Record No.</u>	<u>Expiry Date</u>
Jim 1	128	<del>October</del> <sup>NOVEMBER</sup> 7, 1976

The Jim 1 claim is fully owned by Mabee Minerals Incorporated of Vancouver, British Columbia.

LOCATION AND ACCESS

The property straddles Cherry Creek with the center of it being about two miles south of Hughes Lake and 9½ miles S70W of Kamloops, British Columbia.

The geographical coordinates are 50° 39' N latitude and 120° 32' W longitude.

Access to the property is easily gained by the two-wheel drivable Cherry Creek road. This leaves Highway No. 1 about eleven miles west of Kamloops. The property is six to seven miles south of the highway.

PHYSIOGRAPHY

The property is found within the physiographic unit known as the Thompson Plateau which forms part of the Interior Plateau. The terrain varies from flat northeast of Cherry Creek to moderate east of Cherry Creek. The general trend of the topographic features strike in a north-west direction which is also the strike of the geological structure and contacts of the area. The elevation varies from 2,600 feet to 3,500 feet giving a relief of 900 feet.

Cherry Creek is the main water drainage in the area and flows northerly through the center of the property.

Tree cover is generally that of open forest with grasses as well as some thick second growth.

Pleistocene ice occupied the Thompson Plateau and thus much of the claim area is probably covered by glacial drift which could become quite deep over the flatter areas.

The climate is semi arid with annual rainfall varying from ten to eleven inches. Temperatures vary from the high extreme



in winter of around  $-30^{\circ}\text{F}$ , though the usual temperature during the summer days would be  $60^{\circ}\text{F}$  to  $80^{\circ}\text{F}$  and that in winter  $20^{\circ}\text{F}$  to  $40^{\circ}\text{F}$ .

#### GEOLOGY

This section is taken from the G.S.C. Map of W.E. Cockfield, published in 1947.

The oldest rocks of the area are those on the property being of the Nicola group which is of Upper Triassic Age. The rock types composing this group are greenstone, andesite, basalt, agglomerate, breccia, tuff, minor argillite, limestone and conglomerate.

The next rock group in decreasing age sequence is the Jurassic Coast Intrusives that outcrop throughout the Nicola volcanics. The rock types are granite, granodiorite, and gabbro; or syenite, monzonite, diorite, and gabbro of the Iron Mask Batholith. None of this type are shown to be on the property.

The Tertiary volcanics, mainly basalt, of the Kamloops Group are the youngest rocks near the property. They occur a few thousand feet to the northeast surrounding the Iron Mask intrusive.

No faults or shear zones have been shown by the G.S.C. map to exist on the property. Nonetheless, some of the prominent ridges and gullies indicate possible faulting.

No economically interesting mineralization has been seen so far on or in the immediate area of the claims.

The many copper occurrences in the general area are found both within the Iron Mask Batholith and the older, intruded Nicola rocks close to the batholith. Generally, they are veins, impregnations, stockworks and mineralized shear zones in the country rock with the principle copper minerals being chalcopyrite and bornite as well as some chalcocite, cuprite, azurite and malachite. Additional minerals that often occur with the copper are magnetite and pyrite. There have been shipments of ore, though small, from many of the prospects. The largest producer was the Iron Mask Mine which shipped a total of 189,230 tons of ore.

The main developer in the area presently is Afton Mines Ltd which, as reported on February 21, 1972, has blocked out 36 million tons of 0.66% copper. The main mineral form is native copper found within an intrusive breccia at the contact of the Nicola volcanics.

Nahalatch Resources is also carrying out a drilling program on a very promising prospect. Its main copper mineral is

chalcopyrite with some bornite found within a porphyritic diorite.

#### HISTORY OF PREVIOUS WORK

The claims were staked in September, 1975. No known work has been done before or after this date within the claims area, though much work has been done within and around the Iron Mask Batholith since the turn of the century.

#### INSTRUMENTATION AND THEORY

The magnetic survey was carried out using a portable vertical component, Model G-110 fluxgate magnetometer manufactured by Sabre Electronic Instruments Ltd. of Burnaby, B.C. It is a visual-null type instrument using digital dial readout with a range of 100,000 gammas and a reading accuracy of 10 gammas. The G-110 has a temperature coefficient of 2 gammas per degree centigrade.

Only two commonly occurring minerals are strongly magnetic; magnetite and pyrrhotite. Hence, magnetic surveys are used to detect the presence of these minerals in varying concentrations. Magnetic data are also useful as a reconnaissance tool for mapping geologic lithology and structure since different rock types have different background amounts of magnetite and/or pyrrhotite.

### SURVEY PROCEDURE

The grid was established as the magnetometer survey was being carried out with topofil chain and compass. A north-south baseline was first established with blue flagging every 50 meters and pink flagging every 150 meters. On the east-west survey lines, pink flagging was placed every 50 meters on 150-meter separated lines.

For diurnal corrections, sub-base stations were established every 150 meters on the base line. The survey was then carried out by taking readings every 50 meters on the survey lines and checking for diurnal changes by the closed loop method, i.e., a sub-base station was read before and after each survey loop was completed. The time to survey one loop was about two hours.

Within the detailed area, readings were taken every 5 meters on 10-meter, and 20 meter separated lines.

### COMPILATION OF DATA

A cumulative frequency graph, Figure 2, was drawn from all the magnetic data. The mean background value was read off the graph to be 54,950 gammas. The values were then plotted on Figure 3, 1" = 200 meters, and contoured at an interval of 100 gammas. The background contour was not drawn in

since being the mean background value, it was felt it would only detract from the interpretation. Those contours above the background value were drawn in solid and those below, dashed.

The detail area was plotted on Figure 4 at a scale of 1" = 10 meters. The contour interval was increased to 1,000 meters.

#### DISCUSSION OF RESULTS

The magnetic values over most of the property varied from a low of 53,870 gammas to a high of 55,640 gammas to give a magnetic relief of 1770 gammas. The relief is rather small and therefore shows an even distribution of magnetite throughout the underlying bedrock.

The distribution of the magnetic values as well as the small relief indicate the property is underlain by only one rock type. This is undoubtedly a member of the Nicola volcanics. Samples from the property indicate it to be underlain mainly by andesite.

No magnetic lineations seem to occur with the survey area and therefore no faults or shears can be interpreted from the magnetic data.

Magnetic lows correlate with much of the length of Cherry Creek. This is a common occurrence where the underlying bedrock is somewhat magnetic. The writer found this to be the case, previously, with the Nicola volcanics in this area.

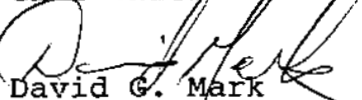
The magnetic high as detailed on Figure 4 reaches an intensity of 68,000 gammas, is about 120 meters long and about 50 meters wide. Considering the intensity, the causitive source could well be a small body of Coast Intrusive of the Iron Mask type. It may also be just a highly magnetic member of the Nicola volcanics.

From the map it can be seen the magnetic body strikes south southwest and appears to dip in this direction. However, considering the elevation of the topography increases in this direction, the dip is probably close to horizontal.

The depth to the top of the causitive source is probably quite shallow, probably within 10 to 15 meters.

An anomaly of similar intensity is found off the property to the southwest. This may indicate a changing rock type in this direction.

Respectfully submitted,  
GEOTRONICS SURVEYS LTD.

  
David G. Mark  
Geophysicist

August 26, 1976

## SELECTED BIBLIOGRAPHY

Aeromagnetic Map, Cherry Creek, British Columbia, Geol. Surv. of Can., Map 5217G, Sheet 92 I/10, 1968.

Aeromagnetic Map, Kamloops, British Columbia, Geol. Surv. of Can., Map 5216G, Sheet 92 I/9, 1968.

Chisholm, Edward O., Report on Mabee Minerals Incorporated Wallender Lake Property, Kamloops, M.D., B.C. April 12, 1976.

Cockfield, W.E. Geology and Mineral Deposits of Nicola Map-Area, British Columbia, Geol. Surv. of Can., Mem. 249, 1948.

Lepeltier, Claude, A Simplified Statistical Treatment of Geochemical Data by Graphical Representation, Economic Geology, Vol. 34, pp. 538-550, 1969.

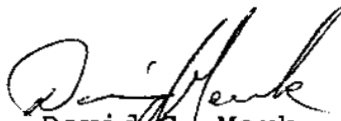
## GEOPHYSICIST'S CERTIFICATE

I, DAVID G. MARK, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geophysicist of Geotronics Surveys Ltd., with offices at 307-475 Howe Street, Vancouver, British Columbia.

I further certify:

1. I am a graduate of the University of British Columbia, (1968) and hold a B.Sc., degree in Geophysics.
2. I have been practising in my profession for the past eight years and have been active in the mining industry for the past eleven years.
3. I am an active member of the Society of Exploration Geophysicists and a member of the European Association of Exploration Geophysicists.
4. This report is compiled from data obtained from a magnetic survey carried out by R. Fassler under my supervision during August, 1976 on the Jim 1 Claim.
5. I have no direct or indirect interest in the properties or securities of Mabee Minerals Incorporated, Vancouver, B.C. nor do I expect to receive any interest therein.

  
David G. Mark  
Geophysicist

August 26, 1976



## CERTIFICATE OF EXPENSES

I, DAVID G. MARK, Manager of Geotronics Surveys Ltd., certify the following costs were incurred in carrying out a magnetometer survey on the Jim 1 claim straddling Cherry Creek, 9½ miles S70W of Kamloops, in the Kamloops Mining Division.

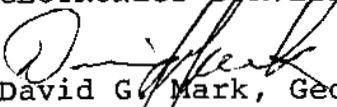
FIELD

2 men, geophysical technician and helper for 50 hours at \$25/hour	\$1,250.00
Room and Board, 5 days at \$50/day	250.00
Vehicle rental, 5 days at \$40/day	200.00
Instrument Rental 1 week at \$75/week	75.00
Miscellaneous supplies	25.00
	<hr/>
	\$ 1,800.00

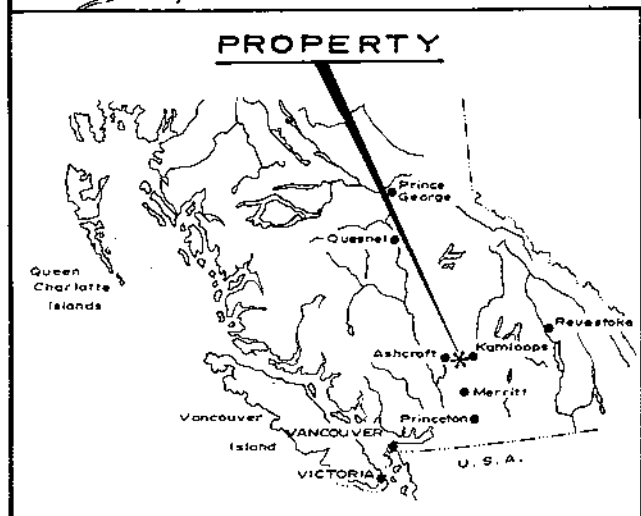
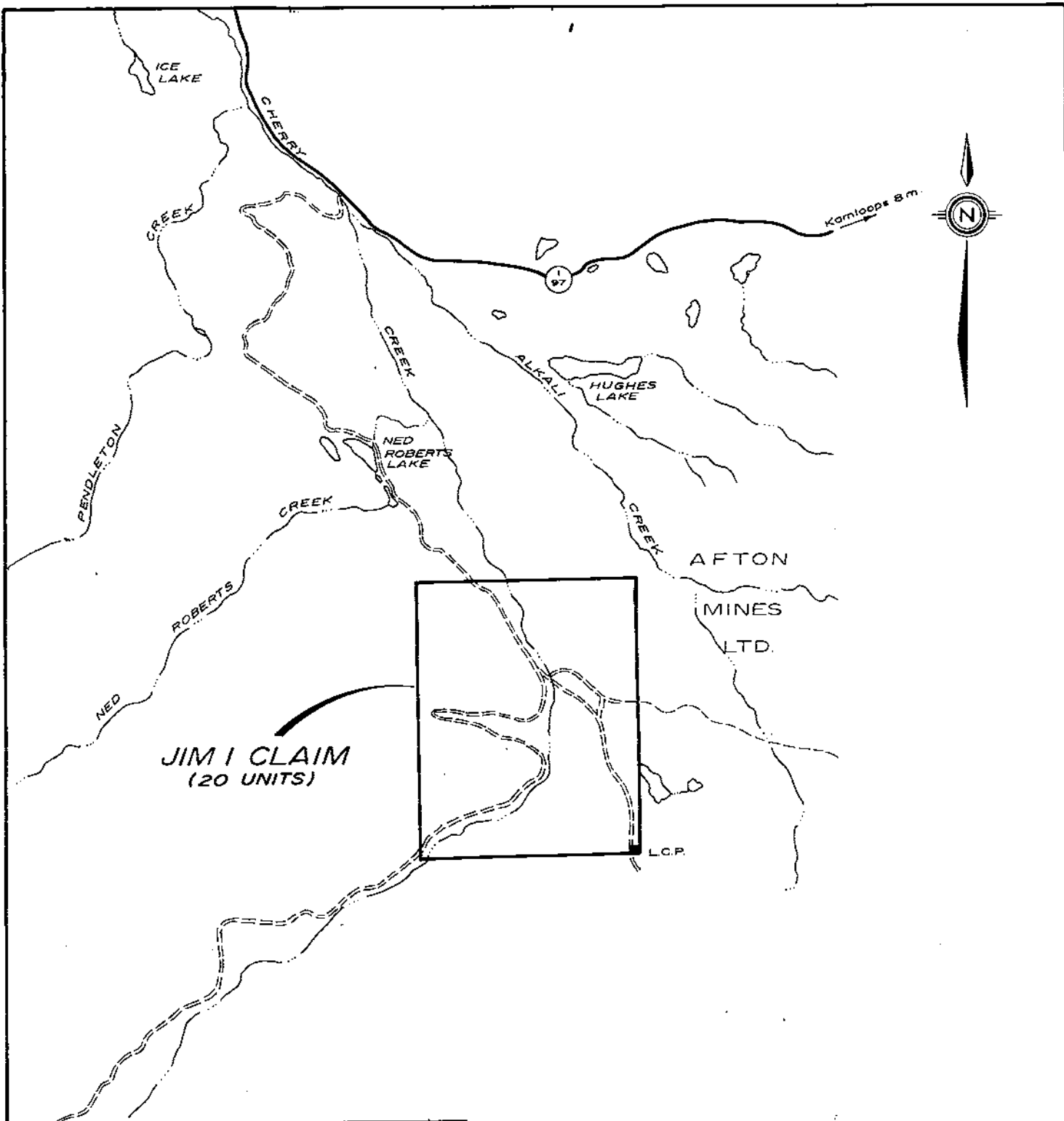
REPORT

Geophysicist, 8 hours at \$25/hour	200.00
Drafting and Printing	200.00
Typing, xeroxing and compilation	100.00
	<hr/>
	\$ 500.00
 <b>TOTAL</b>	 <b>\$ 2,300.00</b>

Respectfully submitted,  
GEOTRONICS SURVEYS LTD.

  
David G. Mark, Geophysicist

August 26, 1976

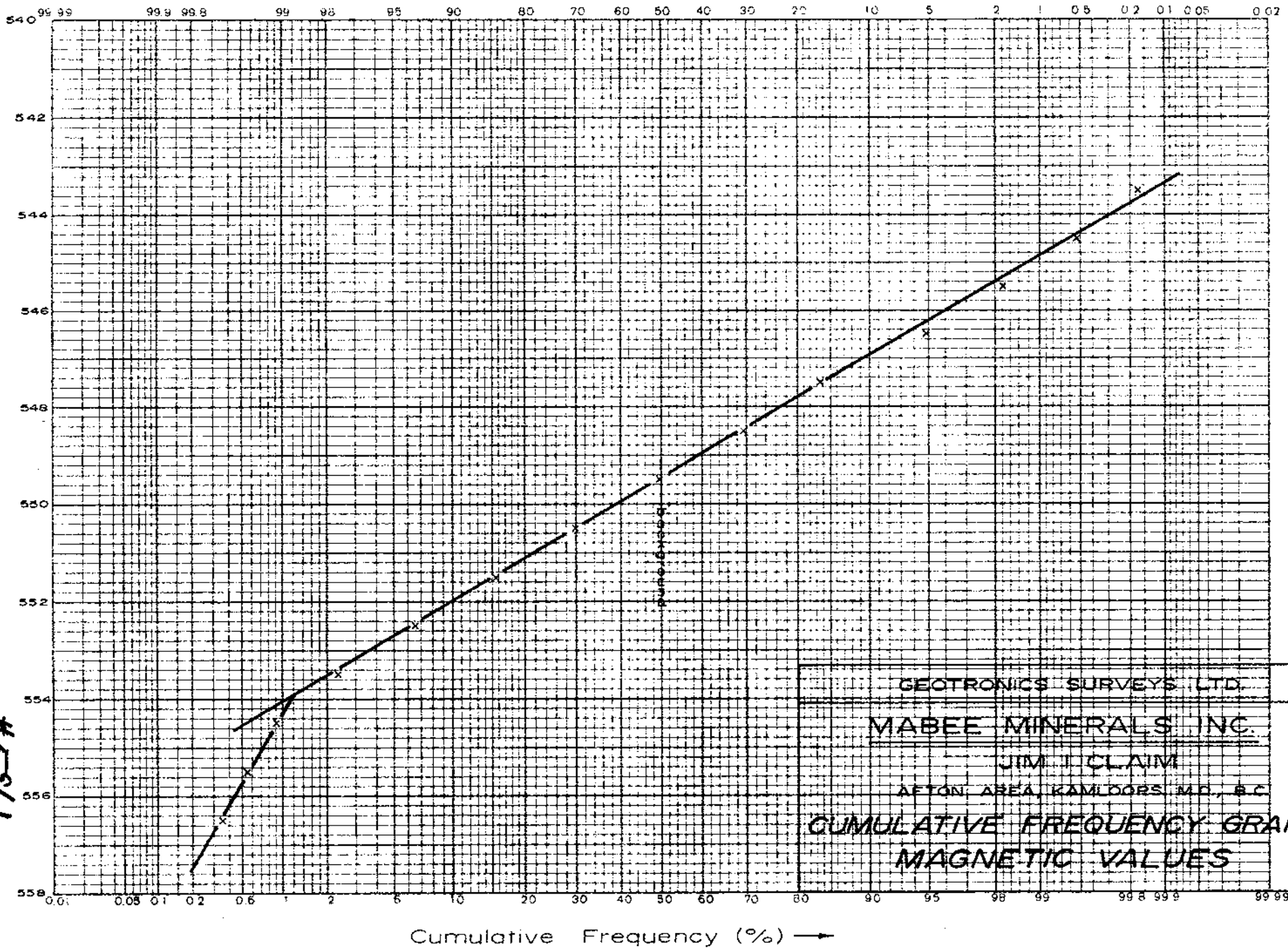


# 5961

GOTRONICS SURVEYS LTD.			
MABEE MINERALS INC.			
JIM I CLAIM			
AFTON AREA, KAMLOOPS M.D., B.C.			
<b>LOCATION MAP</b>			
DRAWN BY: Altair	DATE: Aug. 1976	SCALE: 1: 50,000	FIG. No. 1

Magnetic Values (in gammas x 100) →

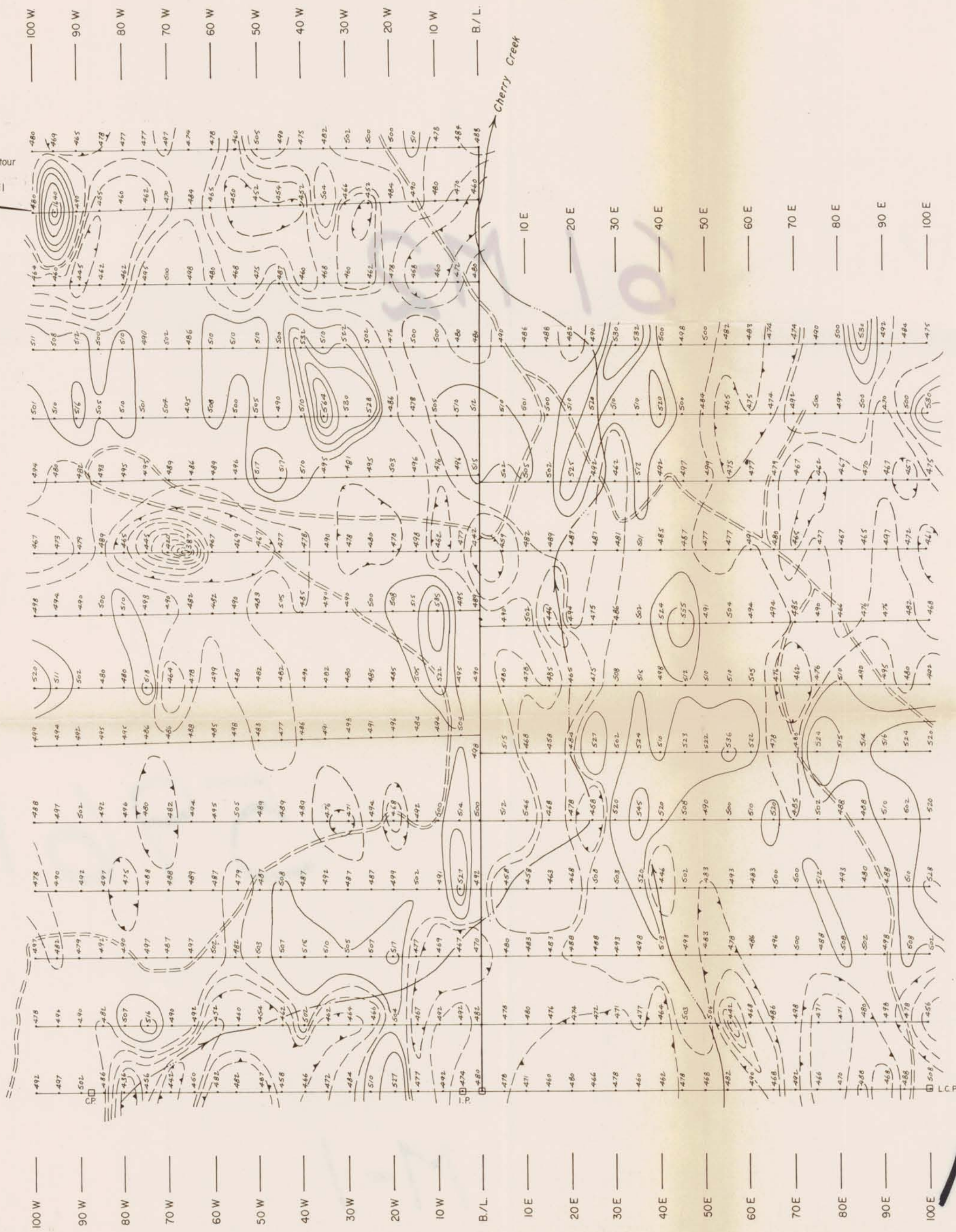
#5961



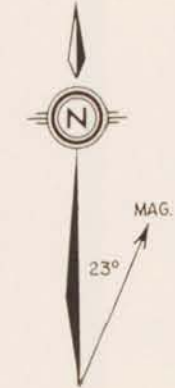
Cumulative Frequency (%) →



2000 gamma contour interval, see accompanying detail map, Fig. 4



- L - 210 N
- L - 195 N
- L - 180 N
- L - 165 N
- L - 150 N
- L - 135 N
- L - 120 N
- L - 105 N
- L - 90 N
- L - 75 N
- L - 60 N
- L - 45 N
- L - 30 N
- L - 15 N
- L - 0 N



**LEGEND**

- Contour Interval - 100 gammas
- - - Contour below background
- ~ ~ ~ Contour above background
- 54,950 gammas - mean background value

To obtain true reading, multiply each by 10 and add 50,000.  
i.e., 490 reads 54,900 gammas

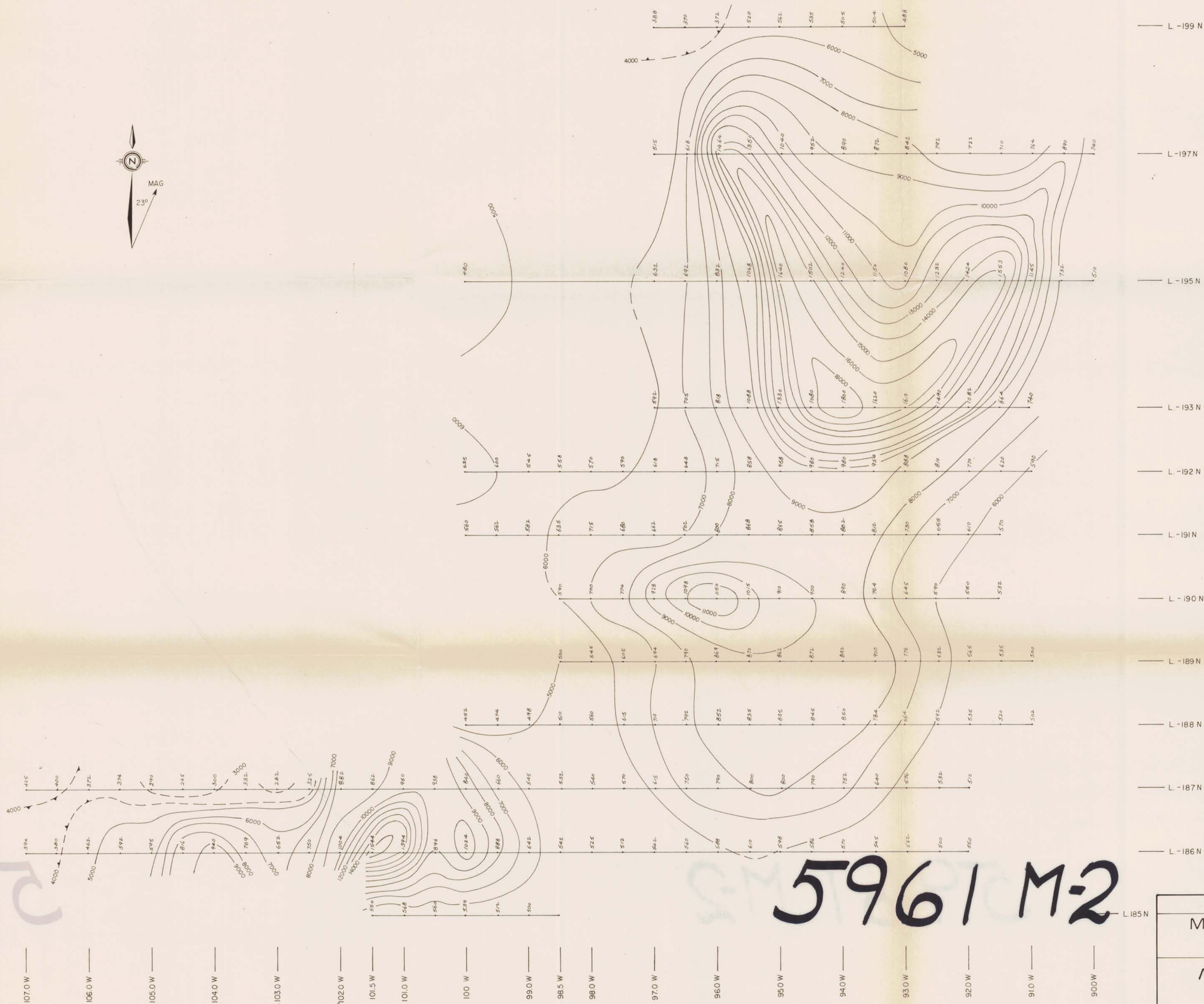
**5961**

Department of  
Mines and Petroleum Resources  
**ASSESSMENT REPORT**  
NO. 5961 MAP #1

GEOTRONICS SURVEYS LTD.				
MABEE MINERALS INC. JIM I CLAIM AFTON AREA, KAMLOOPS M.D., B.C.				
<b>MAGNETIC SURVEY DATA &amp; CONTOURS</b>				
DRAWN BY Altair	JOB No. 76 - 39	SCALE 1" = 200 mtrs.	DATE AUG. 1976	FIG. No. 3

**M-1**





**LEGEND**

Note:  
 Contour Interval - 1000 gammas  
 560 reads 55,600 gammas  
 1330 reads 61,330 gammas

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NO. 5961 MAP # 2

**5961 M2**

GEOTRONICS SURVEYS LTD.				
MABEE MINERALS INC.				
JIM I CLAIM				
AFTON AREA, KAMLOOPS M.D., B.C.				
<b>MAGNETIC SURVEY DETAIL MAP</b>				
DRAWN BY Altair	JOB No. 76-39	SCALE 1" = 10m.	DATE AUG 1976	FIG No. 4