

# 3592

## REPORT ON THE MAGNETOMETER SURVEY

FIR & PINE GROUP OF CLAIMS  
KAMLOOPS MINING DIVISION, BRITISH COLUMBIA

for

CANADIAN JOHNS-MANVILLE COMPANY, LIMITED  
EXPLORATION DEPARTMENT  
ASBESTOS, QUEBEC

COVERING: PINE CLAIMS #1 - #110  
FIR CLAIMS #1 - # 42  
HILL FRACTIONS #1 - 7

LOCATED: 1) 50° 28' - 34' N  
120° 25' - 31' W  
2) N.S.T. Map 921/NE and 921/SE  
3) PINE & FIR CLAIMS AREA  
15 MILES SOUTH OF KAMLOOPS  
KAMLOOPS MINING DIVISION, B.C.

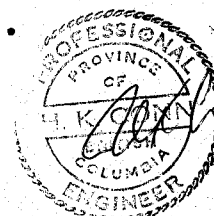
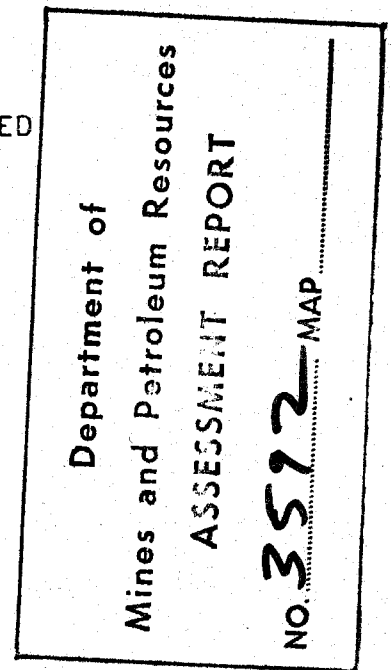
WORK PERIOD: MARCH 18 - MAY 29, 1971

SUBMITTED BY: C.I. CHOI (AUTHOR)

H.K. CONN, P. ENG.

C.J.M. : PROJECT No. 410

DATE : MARCH 1972



Expiry Date: Jan. 28, 1973

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APPENDIX 1 : COST OF MAGNETOMETER SURVEY

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H.K. Conn

LIST OF MAPS

*A* LOCATION MAP                      SCALE    1" : 250,000'

MAP OF RECONNAISSANCE MAGNETOMETER SURVEY    SCALE 1" : 500'

*#2* SHEET #1                      (Northern Part)  
*3* SHEET #2                      (Southern Part)

## SUMMARY

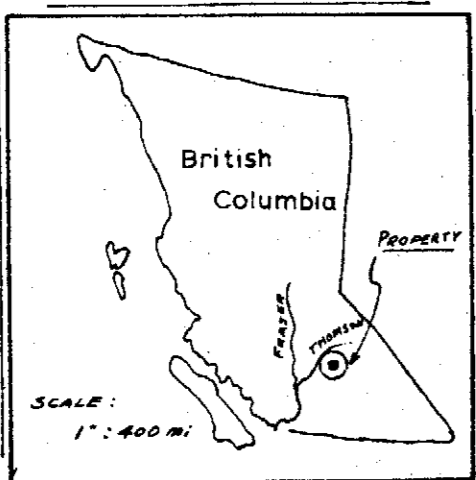
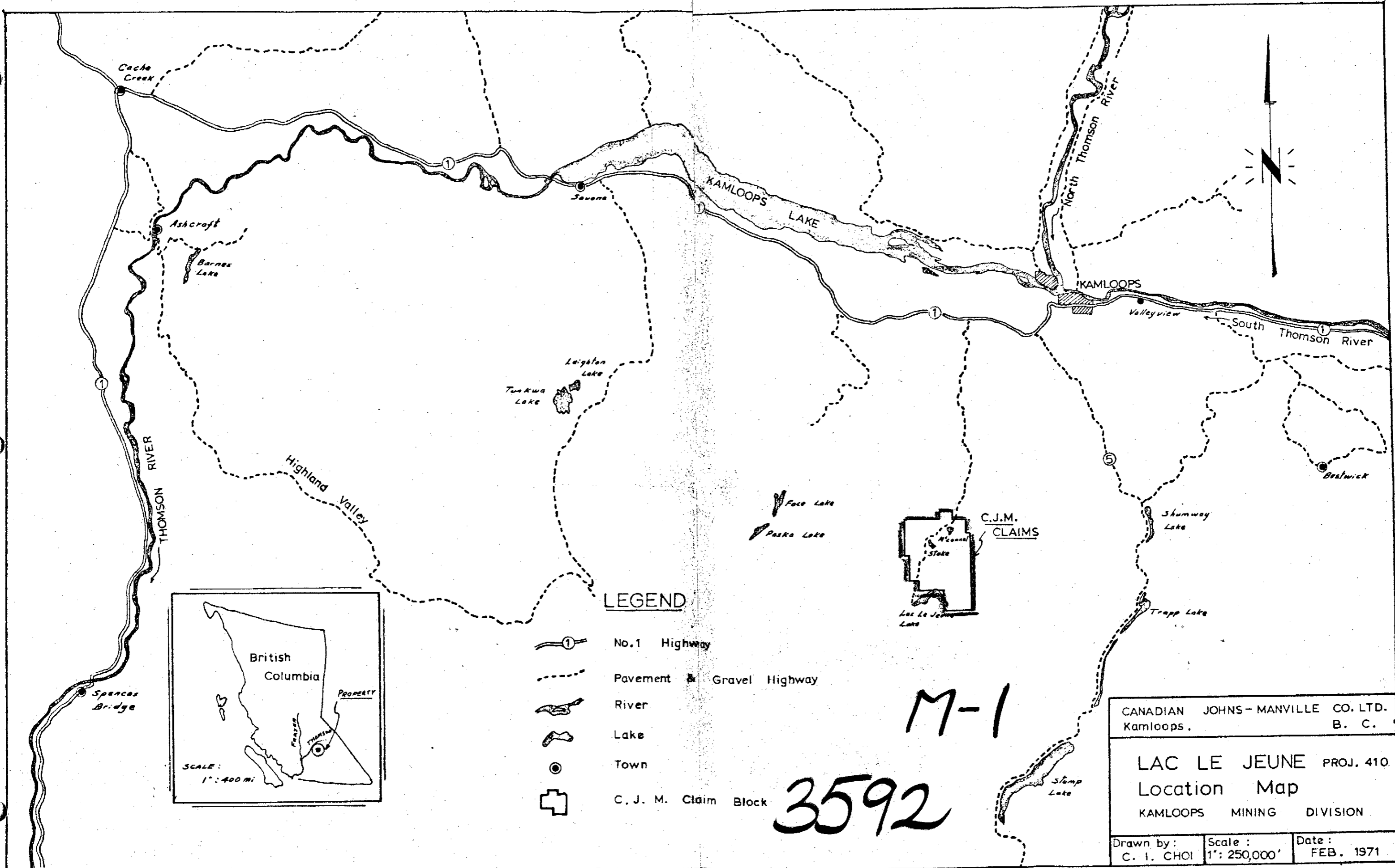
A reconnaissance magnetometer survey was carried out over the western portion of the pine claims during the period from March 18 to May 29, 1971. Approximately 28.5 miles of magnetic survey were covered in the area. The results showed magnetic anomalies which have been delineated by prior weak airborne magnetometer survey by Sparton Aero Limited in 1970.

## INTRODUCTION

The Fir & Pine groups of claims are located approximately 15 miles south of Kamloops in the Kamloops Mining Division, British Columbia, and immediately bounded by Lac Le Jeune Lake to the south. Access to the property is possible via a gravel road to the Lac Jeune lodge.

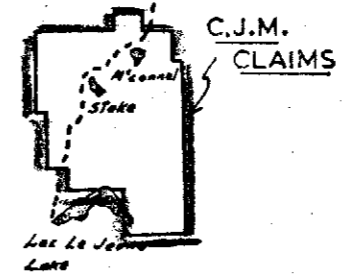
Relief within the claim area is slightly over 600 feet. Elevation varies from 4200 feet at Lac Le Jeune Lake to 4800 feet at McConnell Hill. The area is generally flat, except the basalt exposures. Pine and fir trees are the dominant species, but poplars and shrubs also occur.

The magnetometer survey was conducted by employees of Canadian Johns-Manville Company, Limited. Readings were recorded at 200-foot, 100-foot and 50-foot intervals along the grid lines using a McPHAR M-700 type



**LEGEND**

- No. 1 Highway
- Pavement
- Gravel Highway
- River
- Lake
- Town
- C. J. M. Claim Block



M-1  
3592

CANADIAN JOHNS-MANVILLE CO. LTD. Kamloops, B. C.		
LAC LE JEUNE PROJ. 410 Location Map KAMLOOPS MINING DIVISION		
Drawn by: C. I. CHOI	Scale: 1" = 250,000'	Date: FEB. 1971

of instrument. The results of this survey are shown on the map of reconnaissance magnetometer survey, sheets #1 and #2, at scale one inch to 500 feet.

#### GENERAL GEOLOGY

The property is mainly underlain by three types of rocks. They are the Nicola Batholith of Jurassic age, the Nicola Group Greenstone of Triassic age and Kamloops Group Volcanics of Tertiary age.

The Nicola Batholith, consisting mainly of granodiorite and quartz monzonite, intruded the Nicola Group Greenstone. The plutonic rock is grey and pink in colour, medium to coarse grained, and composed essentially of plagioclase, quartz and biotite, accompanied by gneissic or porphyritic texture in some places. The rocks are commonly characterized by conspicuous foliations and feldspar phenocrysts.

The Nicola Group is situated in the western portion of the area and is composed mainly of volcanic greenstone and schist. They are characterized by strong schistosity and high contents of medium to coarse grained pyroxene and feldspar crystals.

Volcanic rocks of the Kamloops Group overlie unconformably on the Nicola Batholith in the eastern

portion of the claim area. The volcanic layers appear to be horizontal. The exposures of Kamloops Group in the survey area are mainly composed of olivine basalt.

#### GRID LINES AND CHAINING

Grid lines over the claim area were established to control the locations for the magnetic readings. A N-S base line was started from the southwestern corner of Johns-Manville claim boundary, and E-W grid lines were cut at 750-foot intervals. The traverse lines were extended 2,000 to 11,000 feet east and 1,500 feet west between L15+00N to L67+50N.

Additional grid control to L139+50N on the northern portion of the claim area was established. The lines were cut at 400-foot intervals, and were extended 4,500 feet to the east.

Grid lines, mainly to cover the batholith/greenstone contact, were confined to the west of main road. A total of 28.5 miles of grid lines was cut. The complete grid coverage is shown on the attached maps.

#### MAGNETOMETER SURVEY

The magnetometer survey was performed over

the western portion of the pine claims, during the period of March 18 to May 29 inclusive, in 1971, by the following personnel of Canadian Johns-Manville Company, Limited:

- J. Binnie - field supervisor,  
experienced magnetometer  
operator
- A. Gussen - experienced magnetometer  
operator
- B. Binnie - field assistant

The magnetometer survey was carried out with a McPHAR M-700 type instrument, serial No. 6604, having a sensitivity or scale constant of 20 gammas per scale division on 1000 range. Its readability is  $\frac{1}{4}$  scale division.

Three base stations were established on the survey area. They are marked by the following readings:

- #1. Base station - An arbitrary value of  
2000 gammas
- #2. Base station - As above
- #3. Base station - An arbitrary value of  
2350 gammas

The base stations were read two times a day during the course of the survey to record the magnetic variation and to check the instrument.

A total of 1396 readings were recorded along

the traverse lines in the claim area. The time of the reading was noted in order to calculate the diurnal variation. All magnetic readings obtained from the field data sheets were corrected and plotted on the maps. Contour lines of equal magnetic intensity were drawn at 200 gamma intervals from 1600 to 4200 gammas. Auxiliary contours at 100 gamma intervals were interpreted as well.

#### INTERPRETATION OF MAGNETOMETER SURVEY

The magnetic intensity within the volcanic greenstone of Nicola Group in general is higher than the intensity in the plutonic rock of Nicola Batholith, chiefly due to the high content of magnetite and the paramagnetic minerals such as pyroxene. The interpretation was based upon the study of the magnetic contour, previous works of airborne magnetic survey and the reconnaissance geologic survey.

The magnetic readings on the property approximately range from 1600 to 4200 gammas. However, the majority vary only from 1900 to 2100 gammas. The exposure of feldspar porphyry on the knoll west of McConnell Lake occurs in the area of high magnetic intensities. Apart from the porphyry outcrop, the general weak readings do not suggest any significant anomalies.



Nevertheless, four relatively anomalous zones were outlined as follows:

- Anomaly I - on the north portion of the claim area, between L119+50N and L135+50N in N-S elongation
- Anomaly II - west of L60+00N
- Anomaly III - east of L30+00N (west anomaly)
- Anomaly IV - on the west knoll of McConnell Lake.

The general trend of magnetic intensities seem to reflect topography. As previously stated, the four anomalous zones coincide with the airborne magnetic anomalies by Spartan Aero Limited in 1970.

#### CONCLUSION AND RECOMMENDATION

The results of the magnetic survey are generally weak. Four magnetic anomalies have been outlined.

Further I.P. or E.M. detailed survey is recommended within the Anomaly I to delineate possible area of sulphide concentration in accordance with the weak soil geochemical anomalies.

APPENDIX I

COST OF MAGNETOMETER SURVEY

COST ANALYSIS

Lac Le Jeune Area, 1971 - Project 410 MAGNETOMETER  
SURVEY - West Pine Group of Claims and Fir Claims

1. Labour Costs (March 18 - May 29, 1971)

J. Binnie - Operator- 8 days @ \$28.53 per day =	\$ 228.24
A. Gussen - Operator-17 days @ \$22.00 per day =	\$ 374.00
D. Binnie - Assistant-13 days @ \$20.00 per day =	\$ 260.00
	<hr/>
	\$ 862.24

2. Camp Costs

38 man-days	@ \$ 7.00 per man =	\$ 266.00
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3. Report Preparation and Interpretation of Result

C.I. Choi - Geologist-12 days @ \$30.00 per day =	\$ 360.00
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4. Reproduction

\$ 50.00

TOTAL =	<hr/>	\$1,538.24
	<hr/>	

APPENDIX II

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, Herbert Keith Conn, of the town of Asbestos, do hereby declare that:

1. I am a mining geological engineer employed as Exploration Manager for Canadian Johns-Manville Company, Limited, P.O. Box 1500, Asbestos, Quebec.

2. I have practised in the geological profession for twenty-two years and specialized in economic geology and exploration procedures for the past twenty-one years.

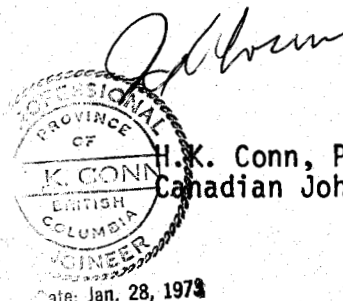
3. I am a graduate of the University of Toronto, Toronto, Ontario, with a degree of B.A.Sc. (Mining Geology), 1948.

4. I am a member of the following professional associations:

- (a) Corporation of Engineers of Quebec
- (b) Non-resident member of the Association of Professional Engineers of the Province of British Columbia
- (c) Fellow of the Geological Association of Canada
- (d) Fellow of the Society of Economic Geologists
- (e) Member of the Canadian Institute of Mining and Metallurgy
- (f) Member of the American Institute of Mining Engineers

5. This report is based on published and unpublished information.

February 1972



H.K. Conn, P.Eng., Exploration Manager  
Canadian Johns-Manville Co., Limited

STATEMENT OF QUALIFICATIONS

I, Choung Il Choi, of the town of Kamloops, British Columbia, do hereby certify that:

1. I am an exploration geologist residing at 639 Carson Crescent, Kamloops, B.C., and am employed by Canadian Johns-Manville Company, Limited.

2. I have practised as a geologist for 14 years, with the following.

1968-1972 : Canadian Johns-Manville Company, Limited.  
(Exploration Geologist)

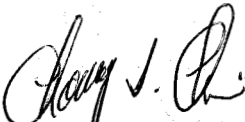
1958-1967 : Geological Survey of Korea  
(Mining Geologist & Hydro geologist)

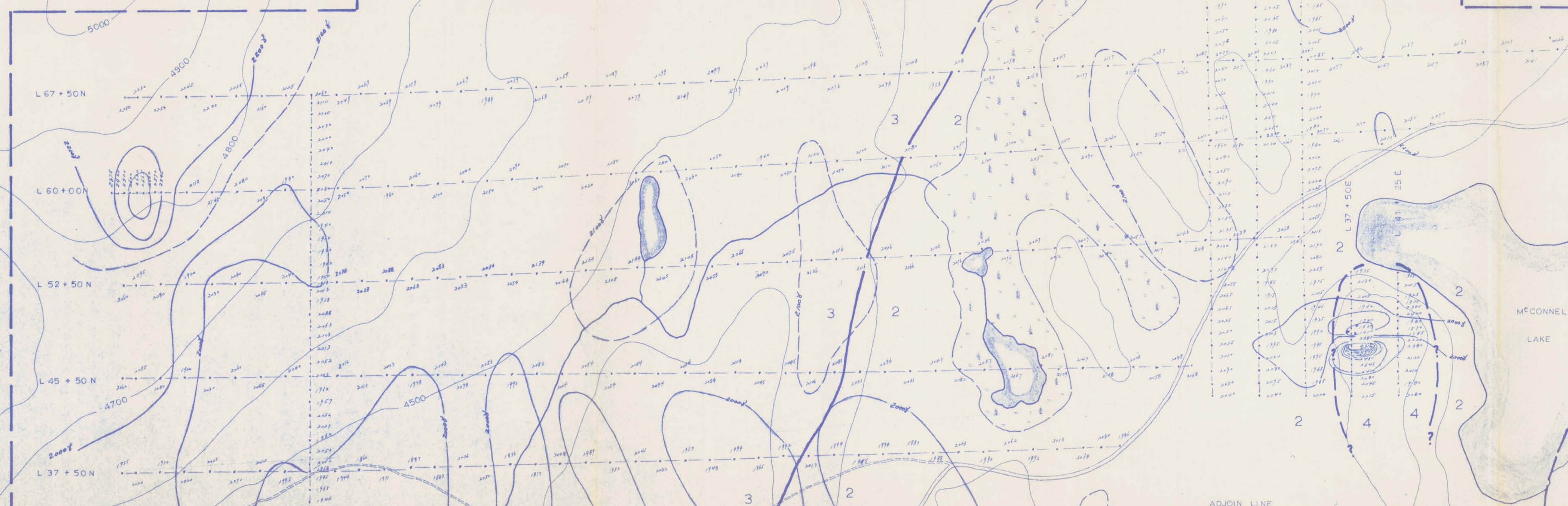
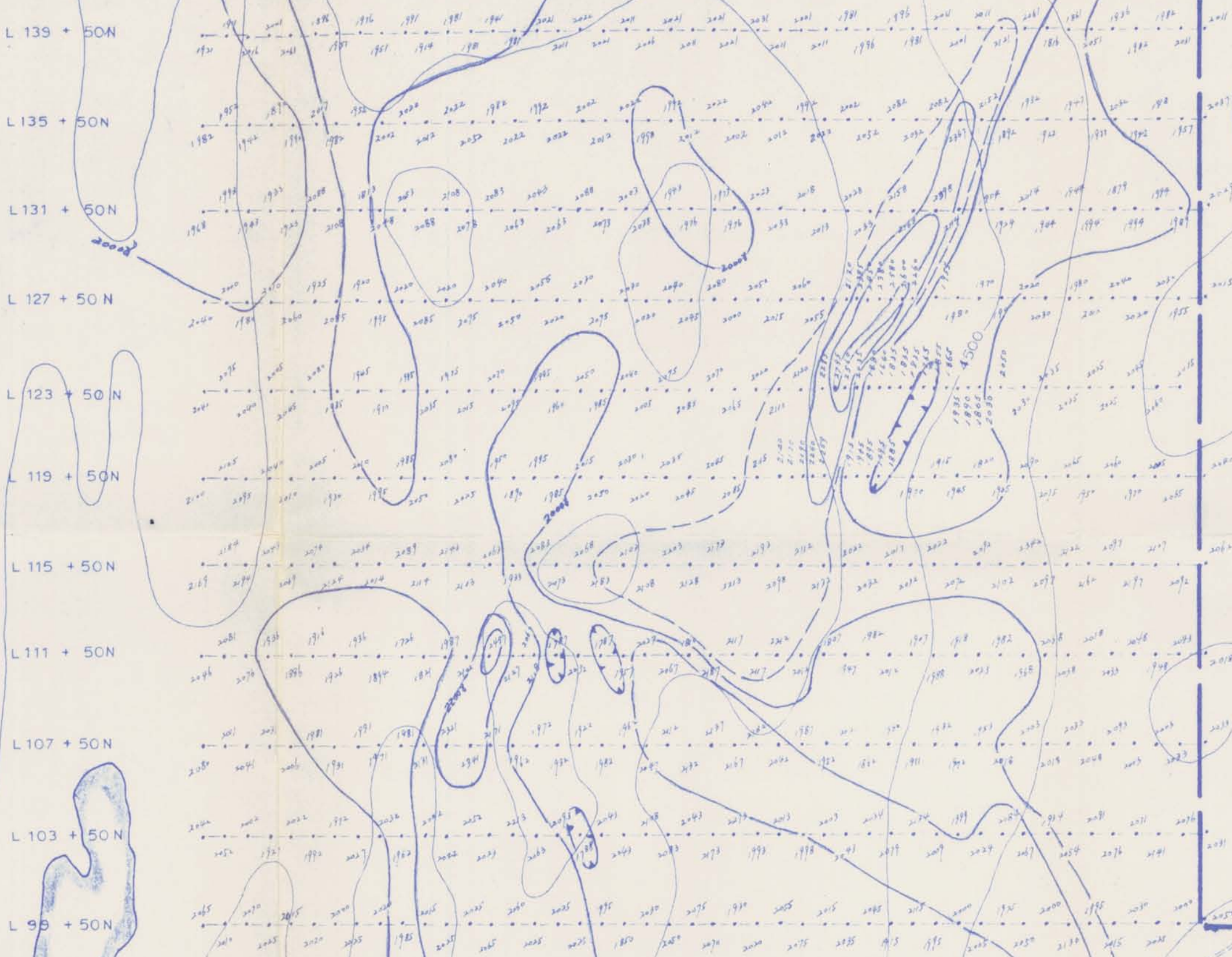
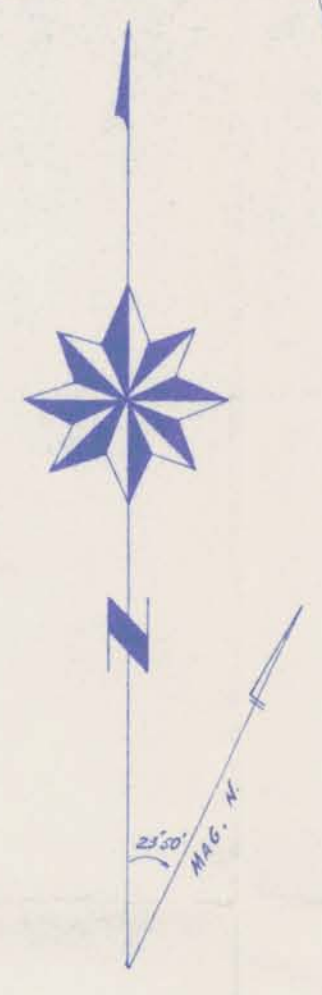
3. I am a graduate of the Seoul National University, Korea with a B.A. Sc. in geology, 1958.

4. The cost of the survey discussed in this report and analyzed in Appendix I are, to the best of my knowledge, correct.

5. This report is based on published and unpublished information.

March 1972

  
C. I. Choi



LEGEND		ROCK TYPE	
---	GRID LINE	1	MIocene or EARLIER KANLOOPS GROUP
*	MAG. READING STATION	2	JURASSIC & LATER NICOLA BATNOLIN (INTRUSION)
○	RELATIVE MAGNETIC INTENSITY (Gauss)	3	TRIASSIC NICOLA GROUP
- - -	CLAIM BOUNDARY	4	INTRUSION (?) PLAGIOCLASE PORPHYRY
—	GEOLOGIC CONTACT		
○	CONTOUR OF EQUAL MAGNETIC INTENSITY (INTERVAL - 200G)		
○	AUXILIARY CONTOUR OF MAGNETIC INTENSITY (200G)		

C.J.M. CLAIMS

BASE STATION : 2000 G

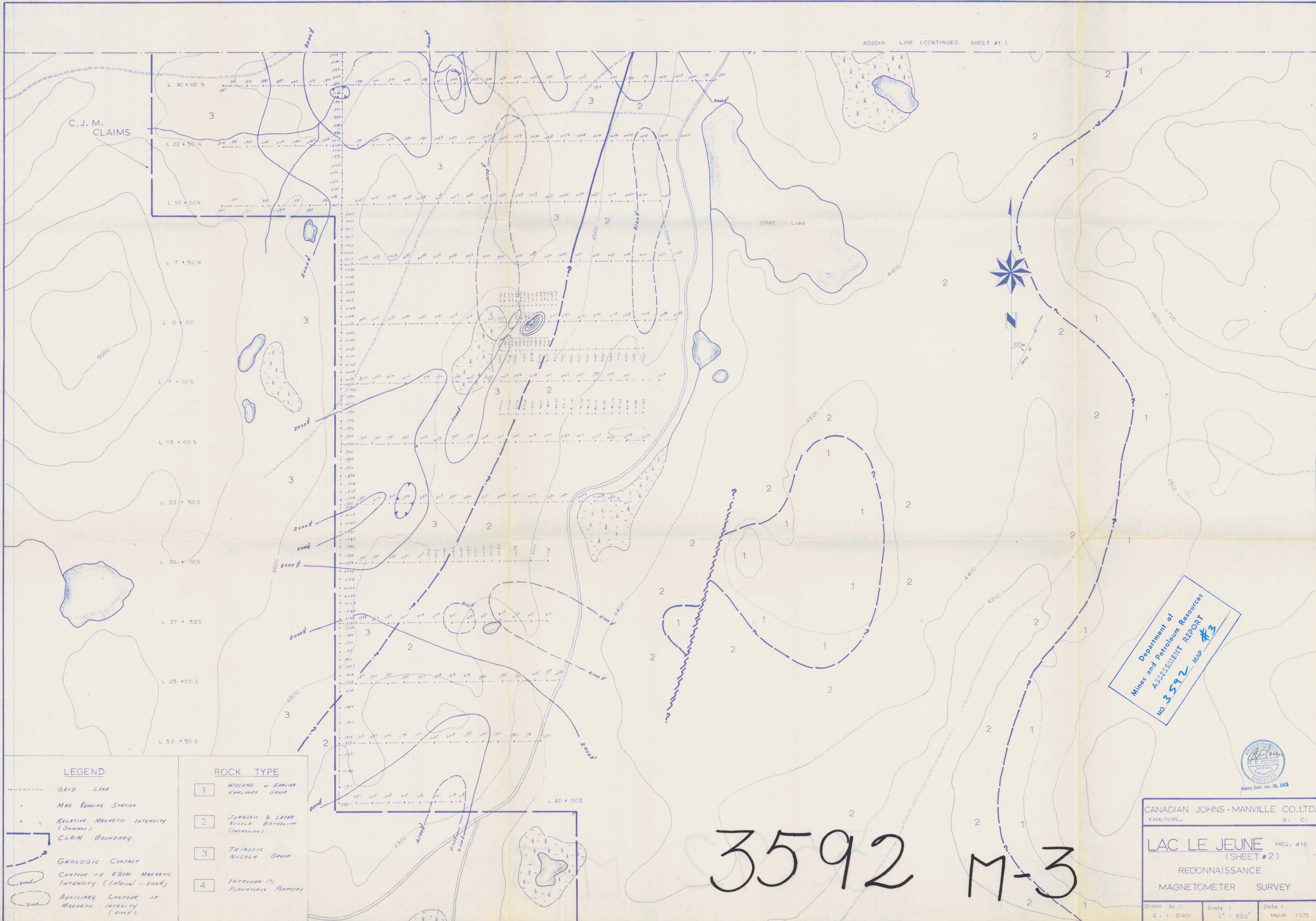


CANADIAN JOHNS-MANVILLE CO. LTD.  
KAMLOOPS, B. C.

**LAC LE JEUNE** PROJ. 410  
(SHEET # 1)  
RECONNAISSANCE MAGNETOMETER SURVEY

DRAWN BY: C. I. CHOI    SCALE: 1" = 500'    DATE: MARCH 1972

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 3592 MAP #2



**LEGEND**

- GRID LINE
- MAG. READING STATION
- RELATIVE MAGNETIC INTENSITY (Gauss)
- - - CLAIM BOUNDARY
- - - GEOLOGIC CONTACT
- 3000' CONTOUR OF EQUAL MAGNETIC INTENSITY (Interval - 200')
- 2000' AUXILIARY CONTOUR OF MAGNETIC INTENSITY (200')

**ROCK TYPE**

- 1 MIOCENE or EARLIER KAMLOOPS GROUP
- 2 JURASSIC & LATER NICOEA BATHOLITH (INTRUSION)
- 3 TRIASSIC NICOEA GROUP
- 4 INTRUSION (?) PLAGIOCLASE PORPHYRY

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 3592 Map #3



CANADIAN JOHNS-MANVILLE CO. LTD.  
KAMLOOPS, B. C.

LAC LE JEUNE PROJ. 410  
(SHEET #2)  
RECONNAISSANCE  
MAGNETOMETER SURVEY

Drawn by: C. I. CHOI    Scale: 1" = 500'    Date: March 1972

3592 M-3