

GEOCHEMICAL AND GEOPHYSICAL REPORT

BEN GROUP OF MINERAL CLAIMS

ENDAKO MINES LTD. (N.P.L.)

OMINECA MINING DIVISION

ENDAKO, B. C.

(Latitude 54°, Longitude 125°)

93K / 3E

Field work undertaken during period

19 - 21 May 1970

G. D. Bysouth

15 February 1971

GOVERNMENT AGENT  
MINES AND GEOL  
SMITHERS, B. C.  
FEB 23 1971

SMITHERS, B. C.

TABLE OF CONTENTS

	Page
Introduction	1
Summary	1
Mineral Claim Group	1
Topography and Access	1
General Geology	1
Survey Control	2
<u>Soil Geochemical Survey</u>	
Introduction	2
Sampling	2
Assay Method	2
Results	2-3
<u>Magnetometer Survey</u>	
Introduction	3
Instrumentation	3
Results	3
Statement of Expenses	3-4
Conclusion	4

Appendices

<i>#1</i>	<i>Location Map</i>	
	I Certification	
	II Statement of Qualification	
<i>#2</i>	III Mineral Claim Map, 1" = 500'	
<i>#3</i>	IV Soil Geochemical Survey Map, 1" = 500'	
<i>#4</i>	V Magnetometer Survey Map, 1" = 500'	
	VI Declaration for statement of expenses	

## INTRODUCTION

Soil geochemical and ground magnetometer surveys were conducted over Ben Group of Mineral Claims during the period May 19 to May 21, 1970. The work was undertaken as part of commitments for assessment work on mineral claims which are owned by Endako Mines Ltd. (N.P.L.), and are located approximately four miles south of Endako Village.

## SUMMARY

Soil geochemical survey indicated no significant anomalous areas; only a few isolated samples were significantly higher than background. Ground magnetometer survey indicated a uniform moderate magnetic susceptibility for the underlying area.

## MINERAL CLAIM GROUP

The Ben Group of Mineral Claims are located about four miles south of Endako Village in the Omineca Mining Division. The property is geographically located in the southeast quadrant of quadrilateral, Latitude 54° and Longitude 125°.

The Mineral claims are grouped as the Ben Group.

<u>Mineral Claim</u>	<u>Record Number</u>	<u>Recording Date</u>
Ben 1-10 inclusive	66821-66830 inclusive	26 February 1969

An appended map (Appendix III) shows spatial location of mineral claims on 1" = 500' scale.

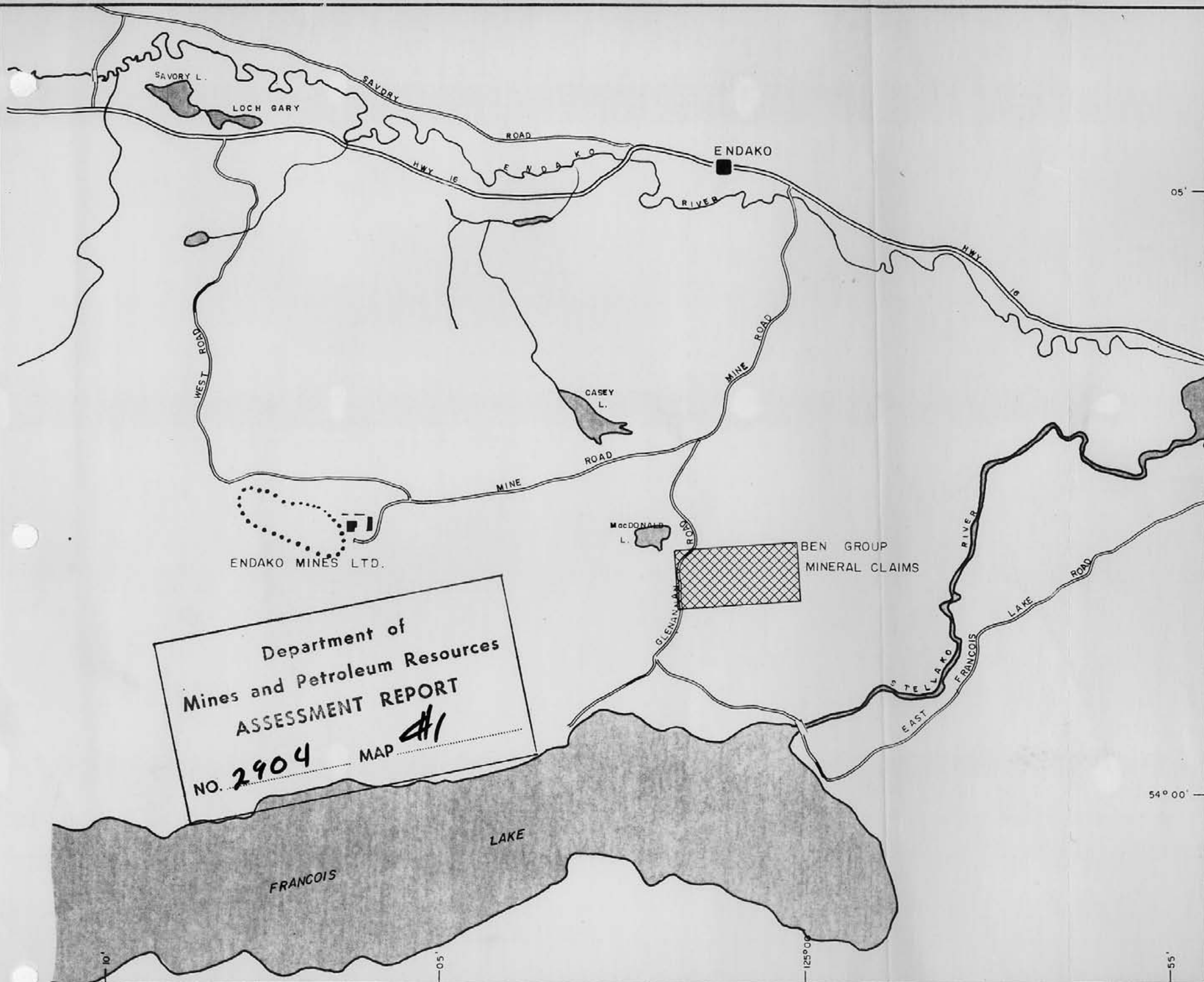
## TOPOGRAPHY AND ACCESS

The mineral claims are located on gently sloping south- and southeast-facing hillsides above the valley of Francois Lake. The continuity of the slopes is disrupted by a low swampy trough which extends in an easterly direction across the northern portion of the claim group.

Access to the claim group is facilitated by the Glenannan Road which turns off Highway 16 approximately one quarter mile east of the claim group. Secondary roads extending from the Glenannan Road provide fairly good access to most of the claims.

## GENERAL GEOLOGY

No rock outcrops have been found in the claim area. Exposures of Casey Alaskite occur to the north. Endako Quartz Monzonite crops out near Stellako River to the southeast. From this information the Casey Alaskite-Endako Quartz Monzonite contact can be inferred to lie near or within the claim area.



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 2904 MAP #1

DRAWN A J P  
TRACED  
APPROVED

SCALE 1" = 1 MI  
DATE JAN '71

ENDAKO MINES LIMITED  
ENDAKO EXPLORATION

LOCATION MAP — BEN MINERAL CLAIMS  
FILE No.

## SURVEY CONTROL

Aerial photographs on the scale one inch to 1,200 feet were used for ground location control. Grid lines were established by chain and compass traverses.

## SOIL GEOCHEMICAL SURVEY

### INTRODUCTION

A soil geochemical survey was conducted over the entire claim group. Samples were collected at 200-foot intervals along eight north-south lines which were spaced approximately 1,000 feet apart.

Soil development was considered poor although in most cases the B-horizon was well-defined. The soils appeared to be derived largely from sandy brownish-grey glacial till. Swampy ground predominates in the northwest corner of the claim group and extends eastward along a shallow trough which appears to be of glacial origin. Depth of overburden has been estimated to be less than 50 feet.

Vegetation over the claim area was found to be variable. The most common and widespread tree species are spruce and jack pine. Aspen, willow and alder predominate along lower south-facing slopes. Balsam fir was noted in many places but did not appear to have any special pattern of distribution.

### SAMPLING

Soil samples were collected from small holes which were dug to depths of at least four to six inches below the humus. In most cases samples averaging 150 grams were obtained from the B-horizon.

### ASSAY METHOD

All soil samples were assayed for molybdenum content by Canex Aerial Exploration Laboratory at Vancouver, B. C.

Samples were dried in a hot air dryer, then sifted in -80 mesh nylon sieves. Portions of -80 mesh fractions were weighed with a precision torsion balance. Samples were digested in a hot solution of perchloric acid, and then prepared for analysis by atomic absorption spectrophotometry. A Techtron AA4 instrument was used for analysis of molybdenum content.

### RESULTS

Soil sample analyses indicate no significant anomalous areas. Over 92% of the samples assayed -1 to 7 ppm Mo. Only a few isolated samples were considered significantly higher than background. These samples have an erratic distribution which prevents the outlining of any sizeable anomalous area.

A map on 1" = 500' scale showing soil geochemical results is appended (Appendix IV).

### MAGNETOMETER SURVEY

#### INTRODUCTION

A ground magnetometer survey was conducted over the southwestern part of the claim group. The soil geochemical survey lines and sample locations were utilized for magnetometer survey control.

#### INSTRUMENTATION

Field readings were taken with a Jalander Fluxgate Magnetometer Type 46-65 with sensitivity of five gammas. The light-weight oil-dampened fluxgate magnetometer is carried on a strap around the operator's neck; after instrument is roughly levelled with aid of a level bubble, a rapid convertible reading is obtainable by engaging current push button. The instrument was calibrated daily to correspond with magnetic susceptibility at several established stations.

#### RESULTS

Magnetic susceptibility across the claim group appears to be relatively uniform. Average background reading is about 2600 gammas. Over 95% of the readings lie within the 2400-2800 gamma range.

A map showing magnetometer results is appended (Appendix V). Results were not contoured as no significant anomalous variations were noted.

#### STATEMENT OF EXPENSES

The following expenses were incurred by Endako Mines Ltd. (N.P.L.) for conducting soil geochemical and ground magnetometer surveys over the Ben Group of Mineral Claims.

##### I GEOCHEMICAL SURVEY

<u>Personnel</u>	<u>Period Employed</u>	<u>Time and Rate</u>	<u>Cost</u>
P. E. Brisbin	20 - 21 May '70	16 hrs @ \$3.15	\$50.40
M. C. Brown	19 - 21 May '70	24 hrs @ \$3.15	\$75.60
G. D. Bysouth	19 May 70 - 15 Feb 71	16 hrs @ \$5.53	\$88.48
C. Y. Der	19 - 21 May '70	24 hrs @ \$3.15	\$75.60
H. N. McLeod	20 - 21 May '70	10 hrs @ \$3.15	\$31.50
A. J. Peters	19 - 21 May '70	18 hrs @ \$3.86	\$69.48
K. J. Taylor	19 May 70	8 hrs @ \$3.15	\$25.20
Vehicle costs:	3 days @ \$20/day		\$ 60.00
Geochemical assaying:	198 determinations @ \$2.00		\$ 396.00
Map compilations:	A. J. Peters 12 hrs @ \$3.86		\$ 46.32

Camp operation costs:

P. E. Brisbin	2 days @ \$7.90	\$15.80	
M. C. Brown	3 days @ \$7.90	\$23.70	
C. Y. Der	3 days @ \$7.90	\$23.70	
H. N. McLeod	2 days @ \$7.90	\$15.80	
A. J. Peters	3 days @ \$7.90	\$23.70	
K. J. Taylor	<u>1 day @ \$7.90</u>	<u>\$ 7.90</u>	\$ 110.60

Subtotal Geochemical Survey Expenses \$1,029.18

II MAGNETOMETER SURVEY

<u>Personnel</u>	<u>Period Employed</u>	<u>Time and Rate</u>	
G. D. Bysouth	21 May '70 - 15 Feb '71	4 hrs @ \$5.53	\$22.12
H. N. McLeod	21 May '70	4 hrs @ \$3.15	\$12.60
A. J. Peters	21 May '70	4 hrs @ \$3.86	\$15.44
			\$50.16

Map Compilations: A. J. Peters 4 hr. @ 3.86 \$15.44

Subtotal Magnetometer Survey Expenses \$65.60

TOTAL GEOCHEMICAL AND MAGNETOMETER SURVEY EXPENDITURES \$1,094.78

CONCLUSION

Soil geochemical and ground magnetometer surveys indicated no significant anomalous areas on the Ben Group of Mineral Claims.

Submitted by:

*G.D. Bysouth*

G. D. Bysouth  
Geologist

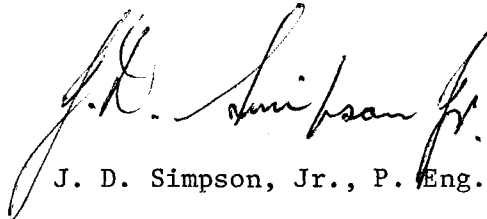
ENDAKO MINES LTD. (N.P.L.)

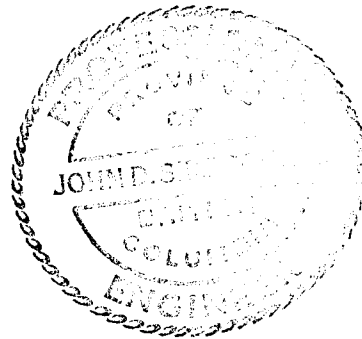
APPENDIX I

CERTIFICATION

I, J. D. Simpson, Jr. of Endako Mines Ltd. (N.P.L.), Endako, B. C., do hereby certify that:

1. I am a registered Professional Engineer in the Province of British Columbia.
2. I have carefully reviewed the data and examined the report of G. D. Bysouth on exploration work which was undertaken during May 1970 on Ben Group of Mineral Claims. The mineral claims belong to Endako Mines Ltd. (N.P.L.) and are located in the Omineca Mining Division near Endako, B. C. (Latitude 54<sup>o</sup>, Longitude 125<sup>o</sup>)
3. To the best of my knowledge the interpretation of data, conclusions and expenditures which are claimed for the performance of work are valid.

  
J. D. Simpson, Jr., P. Eng.





APPENDIX II

STATEMENT OF QUALIFICATION

I, G. D. Bysouth of Endako Mines Ltd. (N.P.L.),  
Endako, B. C. do hereby certify that:

1. I am a geologist.
2. I am a graduate of the University of British  
Columbia with a B.Sc. degree in Geology in 1966.
3. From 1966 until the present I have been engaged in  
mining geology and exploration geology in British  
Columbia.
4. I personally supervised and participated in the  
field work and have reviewed and assessed the data  
resulting from this work.

*G. D. Bysouth*

G. D. Bysouth

APPENDIX VI

DOMINION OF CANADA: }  
 PROVINCE OF BRITISH COLUMBIA. }  
 To Wit: }

**In the Matter of**

Expenditures for  
 Geochemical and Geophysical Survey  
 on Ben Group of Mineral Claims dur-  
 ing period 19 - 21 May 1970.

I, G. D. Bysouth

of ENDAKO MINES LTD. (N.P.L.), ENDAKO, B. C.

in the Province of British Columbia, do solemnly declare that the following expenditures have been incurred by Endako Mines Ltd. (N.P.L.) in carrying out a soil geochemical and ground magnetometer surveys for assessment work purposes on Ben 1-10 inclusive Mineral Claims.

GEOCHEMICAL SURVEY

<u>Personnel</u>	<u>Period Employed</u>	<u>Time and Rate</u>	<u>Cost</u>
P. E. Brisbin	20 - 21 May '70	16 Hrs. @ \$3.15	\$50.40
M. C. Brown	19 - 21 May '70	24 hrs. @ \$3.15	\$75.60
G. D. Bysouth	19 May '70 - 15 Feb. '71	16 hrs. @ \$5.53	\$88.48
C. Y. Der	19 - 21 May '70	24 hrs. @ \$3.15	\$75.60
H. N. McLeod	20 - 21 May '70	10 hrs. @ \$3.15	\$31.50
A. J. Peters	19 - 21 May '70	18 hrs. @ \$3.86	\$69.48
K. J. Taylor	19 May '70	8 hrs. @ \$3.15	\$25.20
			\$ 416.26
Vehicle costs: 3 days @ \$20/day			\$ 60.00
Geochemical assaying: 198 determinations @ \$2.00			\$ 396.00
Map compilations: A. J. Peters 12 hr. @ \$3.86			\$ 46.32
Camp Operation costs:			
P. E. Brisbin	2 days @ \$7.90	\$15.80	
M. C. Brown	3 days @ \$7.90	\$23.70	
C. Y. Der	3 days @ \$7.90	\$23.70	
H. N. McLeod	2 days @ \$7.90	\$15.80	
A. J. Peters	3 days @ \$7.90	\$23.70	
K. J. Taylor	1 day @ \$7.90	\$ 7.90	\$ 110.60
Subtotal Geochemical Survey Expenses:			<u>\$1,029.18</u>

MAGNETOMETER SURVEY

<u>Personnel</u>	<u>Period Employed</u>	<u>Time and Rate</u>	
G. D. Bysouth	21 May '70 - 15 Feb. '71	4 hrs. @ \$5.53	\$22.12
H. N. McLeod	21 May '70	4 hrs. @ \$3.15	\$12.60
A. J. Peters	21 May '70	4 hrs. @ \$3.86	\$15.44
			\$ 50.16
Map Compilations: A. J. Peters 4 hr. @ \$3.86			\$ 15.44
Subtotal Magnetometer Survey Expenses			<u>\$ 65.60</u>

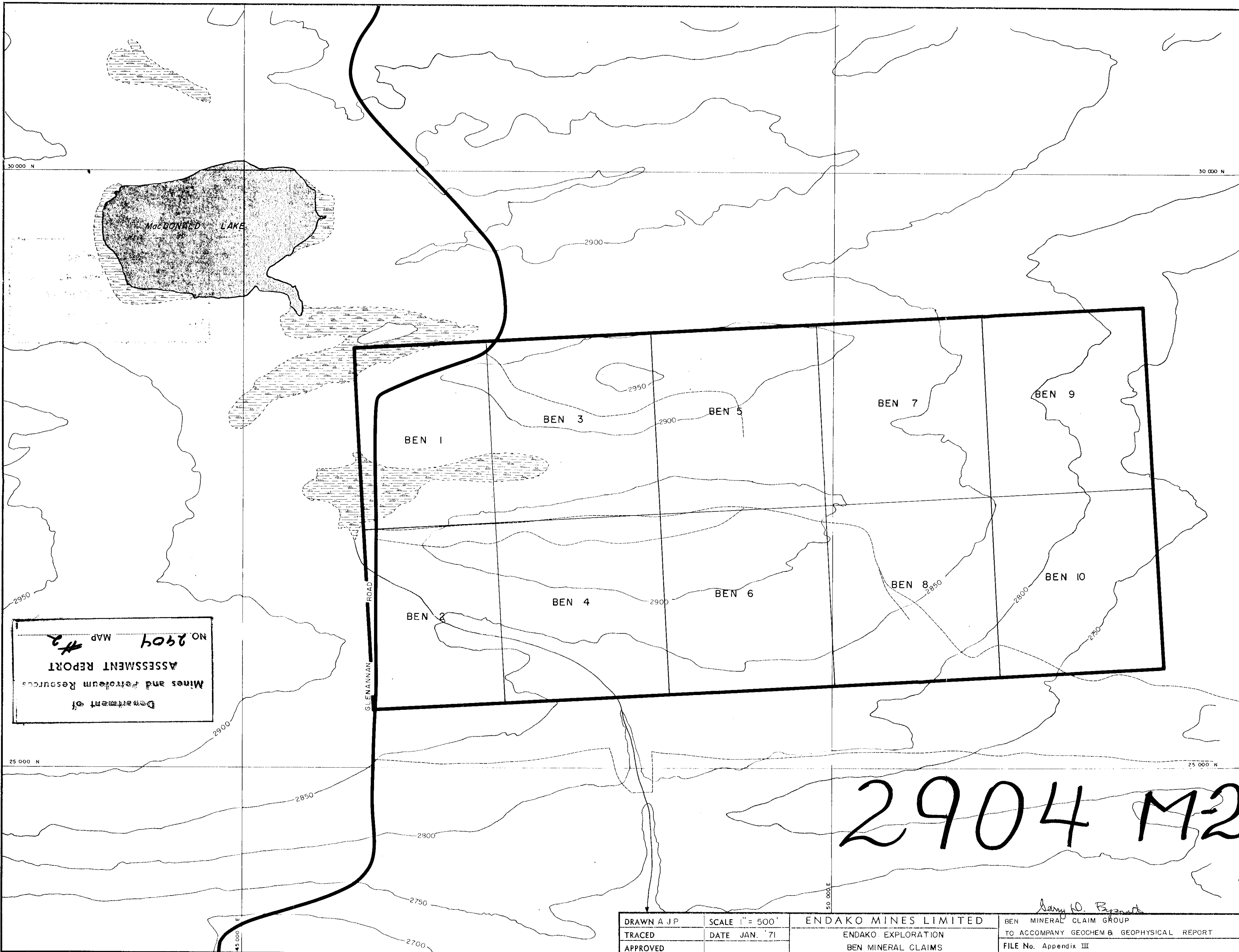
TOTAL GEOCHEMICAL AND MAGNETOMETER SURVEY EXPENDITURES: \$1,094.78

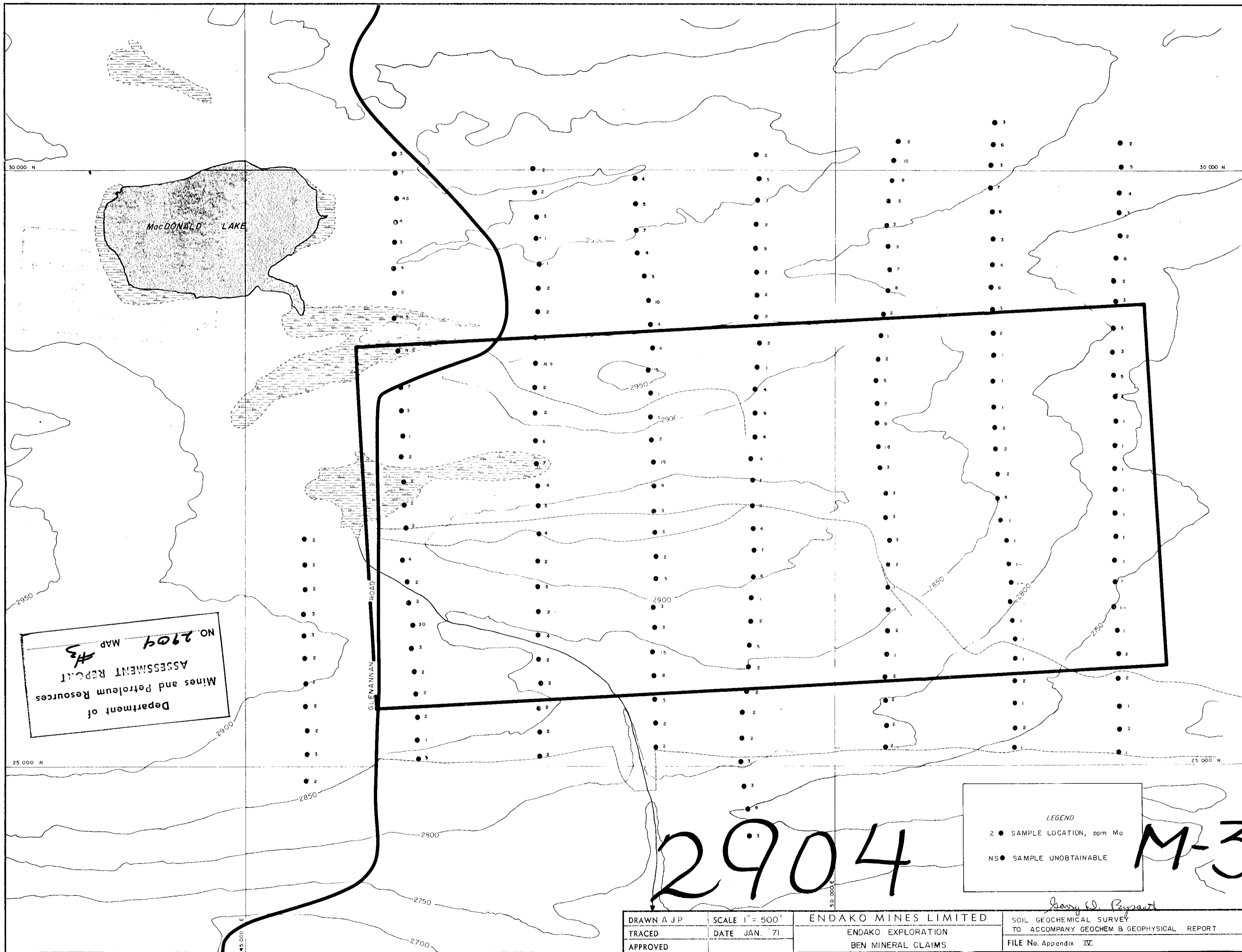
And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the VILLAGE  
 of BURNS LAKE, in the  
 Province of British Columbia, this 23  
 day of FEBRUARY 1971, A.D.

*G. D. Bysouth*

*J. E. Dunsmuir*  
 A Commissioner for taking Affidavits within British Columbia or  
 a Notary Public in and for the Province of British Columbia.





Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
#3  
MAP NO. 2904

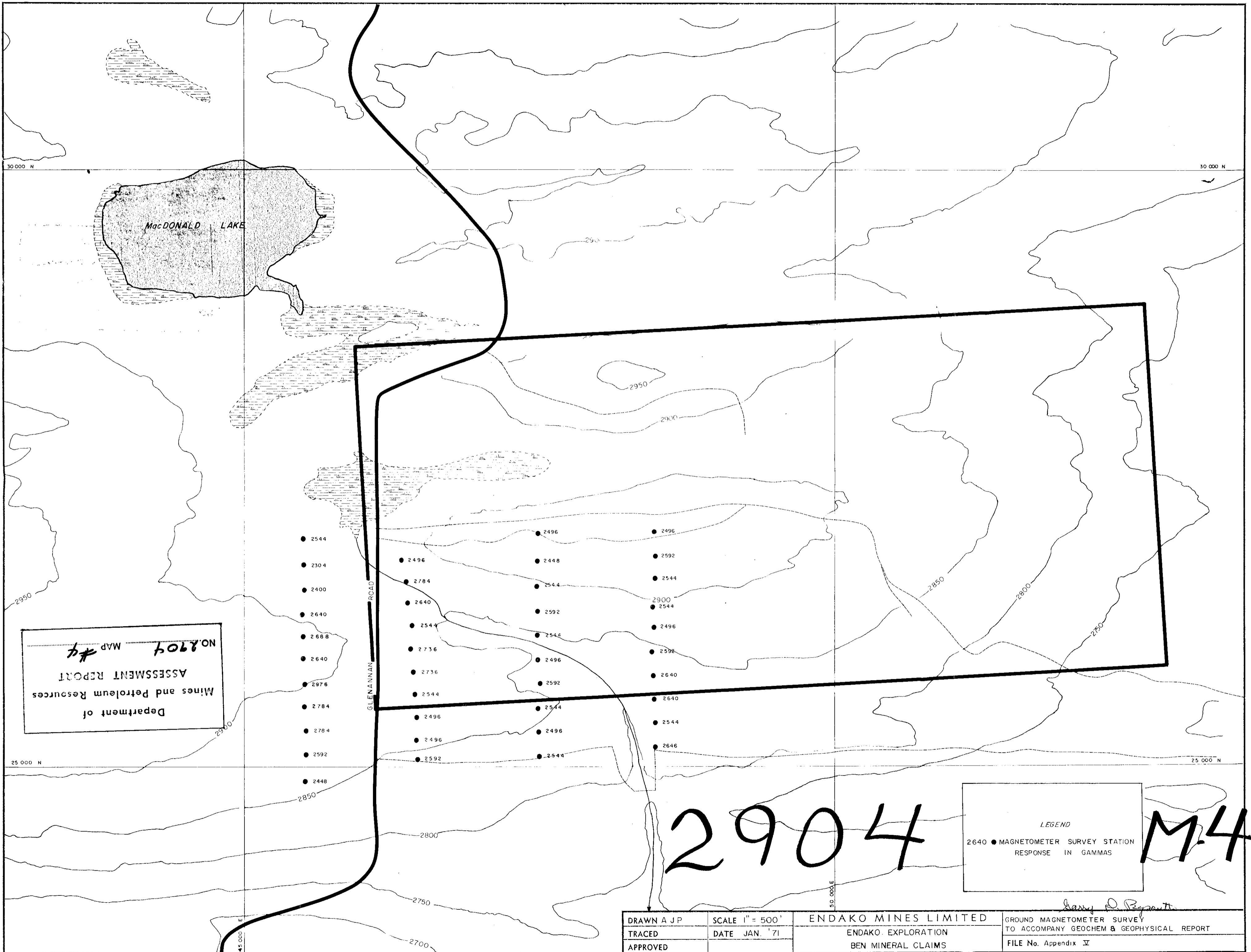
2904

LEGEND  
2 ● SAMPLE LOCATION, ppm Mo  
NS ● SAMPLE UNOBTAINABLE

M-3

*Garry D. Bryant*

DRAWN AJP	SCALE 1" = 500'	ENDAKO MINES LIMITED	SOIL GEOCHEMICAL SURVEY
TRACED	DATE JAN. '71	ENDAKO EXPLORATION	TO ACCOMPANY GEOCHEM & GEOPHYSICAL REPORT
APPROVED		BEN MINERAL CLAIMS	FILE No. Appendix IV



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
MAP #4  
NO. 2904

2904

LEGEND  
2640 ● MAGNETOMETER SURVEY STATION  
RESPONSE IN GAMMAS

M-4

DRAWN A J P	SCALE 1" = 500'	ENDAKO MINES LIMITED	GROUND MAGNETOMETER SURVEY TO ACCOMPANY GEOCHEM & GEOPHYSICAL REPORT FILE No. Appendix IV
TRACED	DATE JAN. '71	ENDAKO EXPLORATION	
APPROVED		BEN MINERAL CLAIMS	

*Larry D. Byrnes*