

2408

GEOCHEMICAL AND GEOPHYSICAL REPORT

OVAL GROUP OF MINERAL CLAIMS

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

OMINECA MINING DEVISION

ENDAKO, B.C.

(Latitude 54°, Longitude 125°)

Field work undertaken during period

30 April 1970 - 7 May 1970

E. T. Kimura

7 May 1970

GOVERNMENT AGENT  
RECEIVED  
MAY 13 1970

SMITHERS, B. C.

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<p>Department of Mines and Petroleum Resources ASSESSMENT REPORT</p> <p>NO. <b>2408</b> MAP</p>
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### INTRODUCTION

Soil geochemical and ground magnetometer surveys were conducted over Oval Group of Mineral Claims during period 30 April to 7 May 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 five miles southwesterly of Endako Village.

### SUMMARY

Soil geochemical survey indicated no significant anomalous areas; a number of erratic isolated higher than background values did occur in swampy and low-lying areas.

Ground magnetometer survey indicated slightly higher magnetic susceptibility for easterly lines. The subtle differences may be indicative of rock type changes.

### MINERAL CLAIM GROUP

The Oval Group of Mineral Claims are located about five miles southwest 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 Oval Group.

<u>Mineral Claim</u>	<u>Record Number</u>	<u>Recording Date</u>
Oval 1-8 inclusive	71695-71702 inclusive	9 May 1969

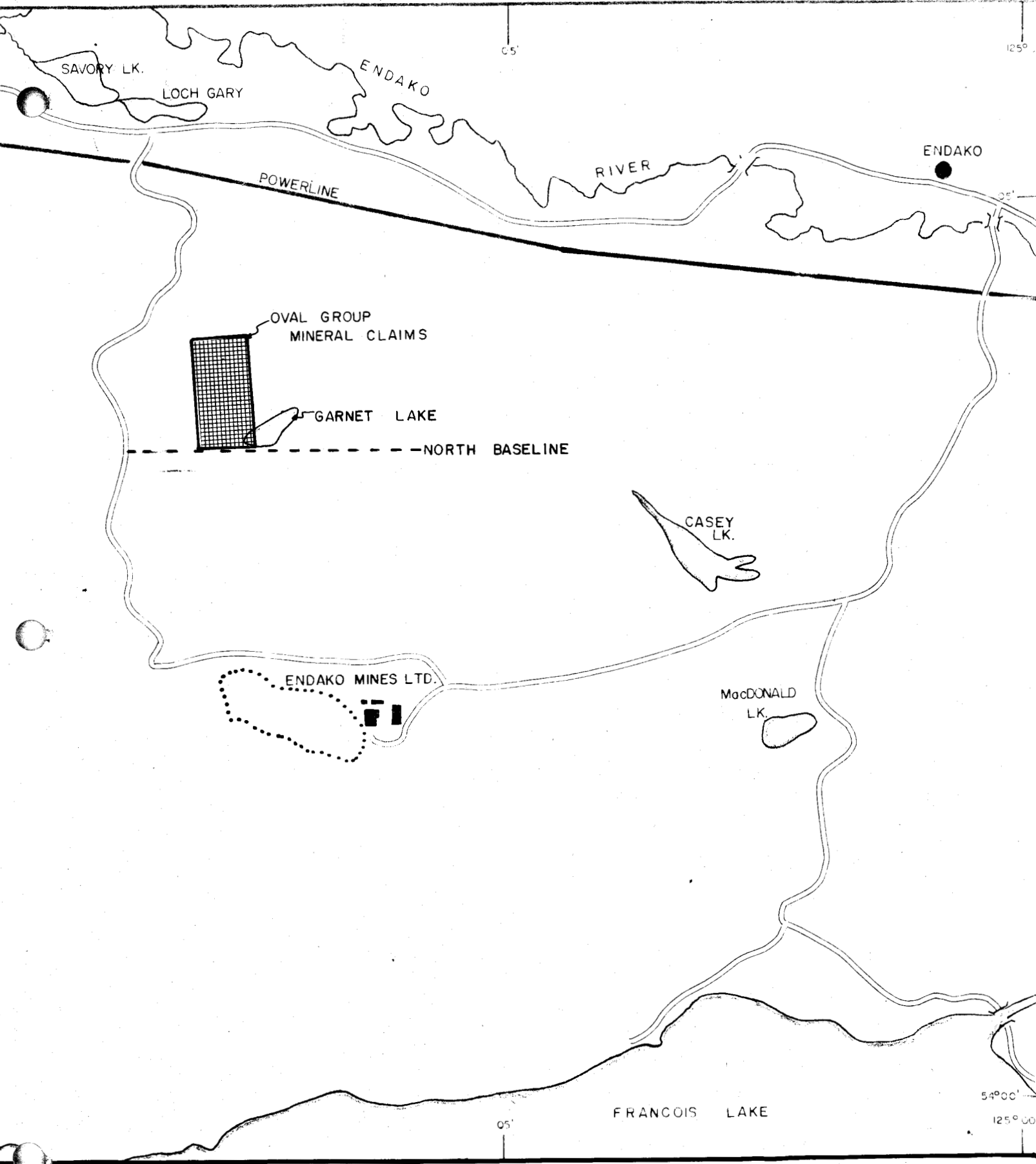
An appended map (Appendix III) shows spatial location of mineral claims on 1" = 500' scale.

### TOPOGRAPHY AND ACCESS

The mineral claims are located on relatively flat and rolling north-facing slopes which overlook Endako River valley. A small pond is situated at south end of mineral claim group.

Access to mineral claims is facilitated by existing West Road which turns south off Highway 16 at a point five miles west of Endako Village. Endako Mines east-west oriented "north baseline", which commences at West Road, also serves as access to south end of mineral claims.

1a



LOCATION MAP — OVAL GROUP MINERAL CLAIMS  
DATE — MAY/70  
DRAWN BY — AJP  
SCALE — 1" = 1.25 MILES

### GENERAL GEOLOGY

Overburden covers most of mineral claim area; some small rock exposures which occur along hill-tops and steep slopes were examined.

Fine to medium-grained leucocratic Casey alaskite underlies most of mineral claims. A few small exposures of Endako quartz monzonite occur along parts of West Road, and this is suggestive that a north-westerly-trending Casey alaskite-Endako quartz monzonite contact can be interpreted as occurring close to or over part of southwest corner of Oval Mineral Claims. No veins or mineralization were encountered in rock exposures.

### SURVEY CONTROL

The existing Endako Mines' east-west-oriented "north baseline" was utilized for locating soil geochemical and magnetometer survey lines. The north-south lines were established by chain and compass. Aerial photographs from a May 1969 flight were also utilized for ground location control.

### SOIL GEOCHEMICAL SURVEY INTRODUCTION

A soil geochemical survey was conducted over entire claim group. Three north-south sample lines were spaced about 1,000 feet apart, and samples were collected at 100-foot intervals.

Soil development of largely glacial-transported material is poor. A major portion of the area consisted of brownish-grey to reddish-brown silt and clayey sand with varying quantities of pebbles and cobbles immediately beneath humic layer. Locally, material was light to medium-brownish-grey clay and clayey silt. Depth of overburden in flat and swampy areas is probably in excess of 50 feet, but considerably shallower on hill-tops and steep slopes.

Vegetation over claim group is variable. Much of the area is covered by dense second growth jack pine, spruce and balsam with alder, willow and sparse poplar favouring swampy and poorly-drained areas. More mature spruce and Douglas fir are common on steeper north-facing slopes.

### 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 B-horizon. Sampling was hampered by local ground conditions where soil was either highly saturated with water from recent spring thaw or frequently still frozen.

### 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. Majority of assays are in 2 to 4 ppm. Mo range which is considered as background for this area. Several isolated and spotty anomalous values are noted over claim group, however, little consideration can be attached to these higher values as many of them are frequently associated with swampy and low-lying drainage systems and undoubtedly unrepresentative of underlying material. The anomalous values are too erratic in their occurrences to be effectively contoured.

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

### MAGNETOMETER SURVEY

#### INTRODUCTION

A ground magnetometer survey was conducted over 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

Interpretation of magnetometer results is difficult as readings are only available for a comparatively small area relative to a more widespread regional survey.

Magnetometer survey across Oval Mineral Claims show that magnetic susceptibility along center and east lines is slightly higher than west line. However, overall variations across entire claim group are relatively low. Average background reading is about 2400 gammas with local fluctuations ranging from 100 to 600 gammas.

One explanation which is suggested for lower readings along west line is possible changes in rock type. The Casey alaskite-Endako quartz monzonite contact could occur close to or between west and center lines, and differences in magnetic susceptibility between two rock types may be reflected in magnetometer survey.

A few isolated higher than average readings were recorded along east line. These readings are located in areas where Casey alaskite was surficially exposed.

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

STATEMENT OF EXPENSES

The following expenses were incurred by Endako Mines Ltd. (NP.L.) for conducting soil geochemical and ground magnetometer surveys over Oval Mineral Claims.

I GEOCHEMICAL SURVEY

<u>Personnel</u>	<u>Period Employed</u>	<u>Time and Rate</u>	<u>Cost</u>
M.C. Brown	30 Apr. - 5 May '70	12 hrs. @\$3.00	36.00
C.Y. Der	" "	12 hrs. @\$3.00	36.00
E.T. Kimura	30 Apr. - 7 May '70	18 hrs. @\$9.00	162.00
A.J. Peters	30 Apr. - 7 May '70	21 hrs. @\$3.25	68.25
K.J. Taylor	30 Apr. - 7 May '70	12 hrs. @\$3.25	<u>39.00</u>
			\$341.25
Head Office overhead @ 50% of \$341.25			170.62
Vehicle Costs: 3 days @ \$20.00/day		60.00	
Geochemical assaying: 165 Determinations @\$2.00		330.00	390.00
Head Office Overhead @ 15% of \$390.00			<u>58.50</u>
Subtotal Geochemical Survey Expenses			960.37

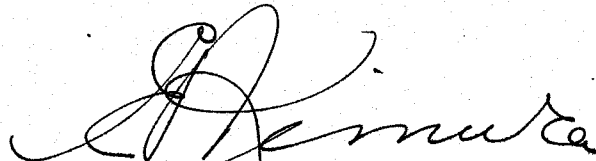
II MAGNETOMETER SURVEY

<u>Personnel</u>	<u>Period Employed</u>	<u>Time &amp; Rate</u>	<u>Cost</u>
M.C. Brown	4 & 5 May '70	6 hrs @ \$3.00	18.00
C.Y. Der	5 May '70	3 hrs @ \$3.00	9.00
E.T. Kimura	6 & 7 May '70	2 hrs @ \$9.00	18.00
A.J. Peters	4 - 7 May '70	11 hrs @ \$3.25	35.75
K.J. Taylor	7 May '70	2 hrs @ \$3.25	<u>6.50</u>
Head Office overhead @ 50% of \$87.25			43.62
Vehicle costs: 1 day @ \$20.00/day			<u>20.00</u>
Subtotal Magnetometer Survey Expenses			<u>150.87</u>
<u>TOTAL GEOCHEMICAL AND MAGNETOMETER SURVEY EXPENDITURES</u>			<u>\$1,111.24</u>

CONCLUSION

Soil geochemical and ground magnetometer surveys indicated no significant anomalous areas on Oval Mineral Claims.

Submitted by:



E.T. Kimura  
Senior Geologist  
ENDAKO MINES LTD. (N.P.L.)



APPENDICES

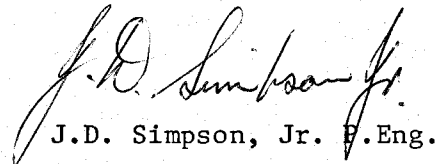
- I Certification
- II Statement of Qualification
- III Mineral claim map of Oval Group of Mineral Claims on 1" = 500' scale (in pocket).
- IV Map showing soil geochemical survey results on 1" = 500' scale (in pocket).
- V Map showing magnetometer survey results on 1" = 500' scale (in pocket).
- VI Declaration for statment of expenses.

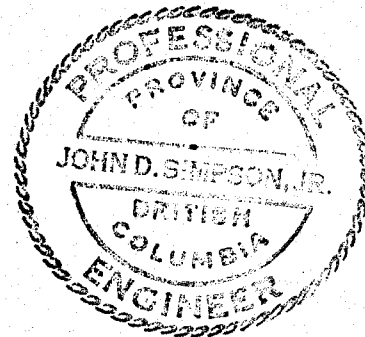
APPENDIX I

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 by E.T. Kimura on exploration work which was undertaken during April-May 1970 on Oval 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.

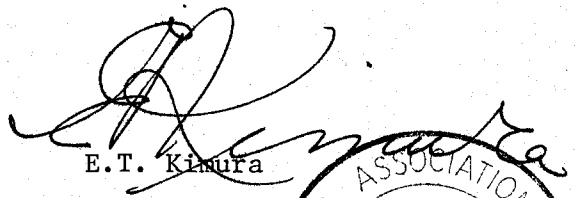


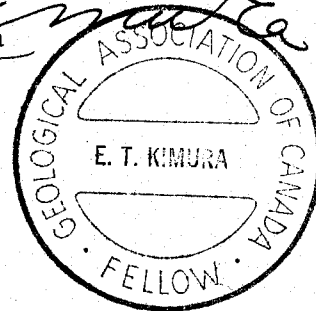
APPENDIX II

STATEMENT OF QUALIFICATION

I, E.T. Kimura 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 University of British Columbia with a BA degree in Geology and Physics in 1955.
3. From 1954 until the present I have been engaged in mining geology, both in underground and open pit operations, and in exploration geology in British Columbia, Saskatchewan and Yukon Territory.
4. I personally supervised and participated in the field work and have reviewed and assessed the data resulting from this work.

  
E.T. Kimura



APPENDIX VI

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

**In the Matter of**

Expenditures for  
 Geochemical and Geophysical Survey  
 on Oval Group of Mineral Claims during  
 period 30 April - 7 May 1970.

I, E.T. Kimura

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 soil geochemical and ground magnetometer surveys for assessment work purposes on Oval 1-8 inclusive Mineral Claims.

**I GEOCHEMICAL SURVEY**

<u>Personnel</u>	<u>Dates Employed</u>	<u>Time and Rate</u>	<u>Cost</u>
M.C. Brown	30April - 5 May '70	12 hrs. @ \$3.00	\$36.00
C.Y. Der	30April - 5 May '70	12 hrs. @ \$3.00	36.00
E.T. Kimura	30April - 7 May '70	18 hrs. @ \$9.00	162.00
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Vehicle Costs: 3 days @\$20.00/day			60.00
Geochemical assaying: 165 determinations @\$2.00			<u>330.00</u>
Head Office overhead @ 15% of \$390.00			58.50
Subtotal Geochemical Survey Expenses			<u>\$960.37</u>

**II MAGNETOMETER SURVEY**

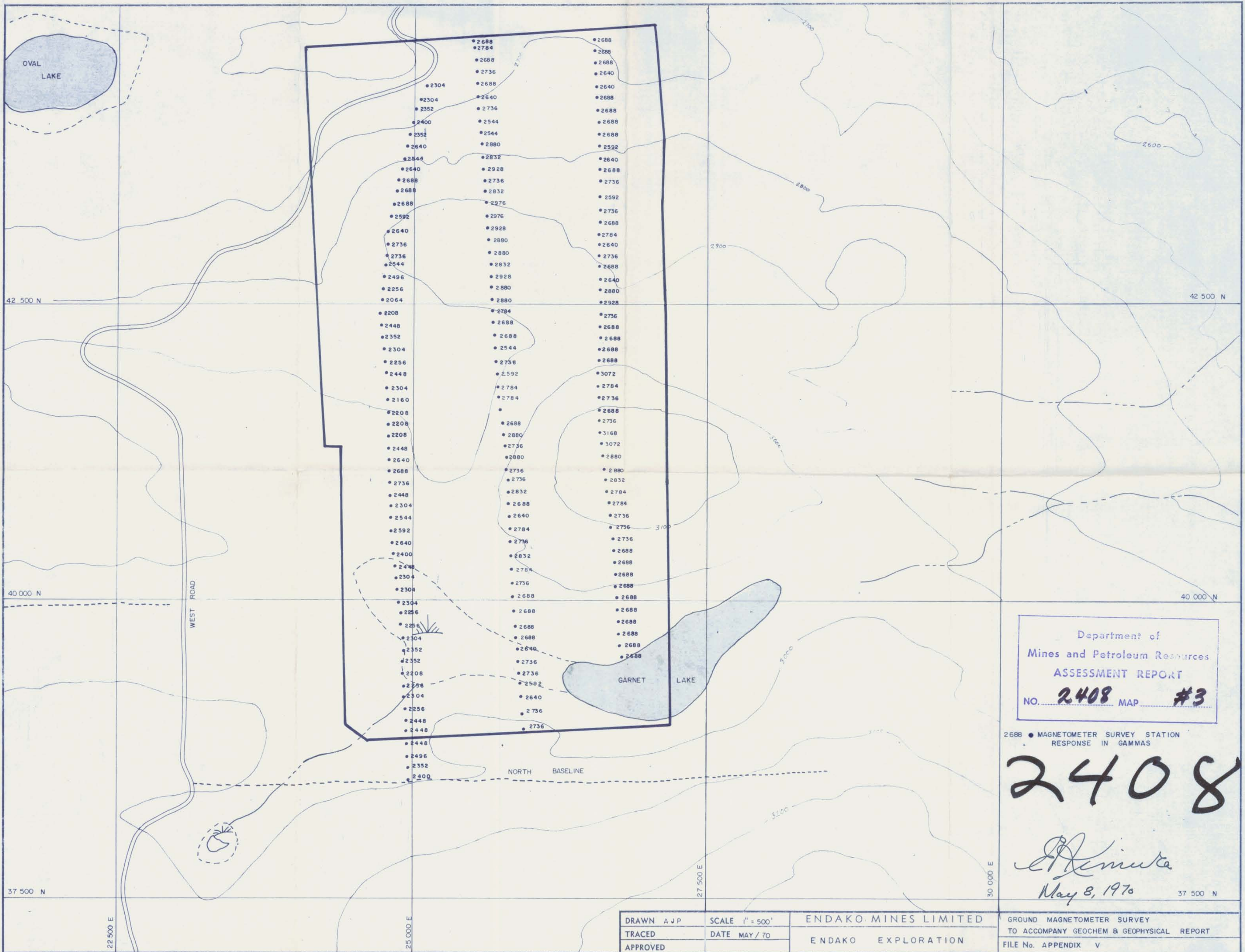
<u>Personnel</u>	<u>Dates Employed</u>	<u>Time and Rate</u>	<u>Cost</u>
M.C. Brown	4 & 5 May '70	6 hrs. @ \$3.00	18.00
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			\$87.25
Head Office overhead @ 50% of \$87.25			43.62
Vehicle Costs: 1 day @\$20.00/day			20.00
Subtotal Magnetometer Survey Expenses			<u>150.87</u>

TOTAL GEOCHEMICAL AND MAGNETOMETER SURVEY EXPENDITURES \$1,111.24

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 8th  
 day of MAY, 1970, A.D.

*[Signature]*  
*[Signature]*  
 Commissioner for taking Affidavits within British Columbia or  
 Notary Public in and for the Province of British Columbia.  
 Commissioner for Taking Affidavits  
 in British Columbia.



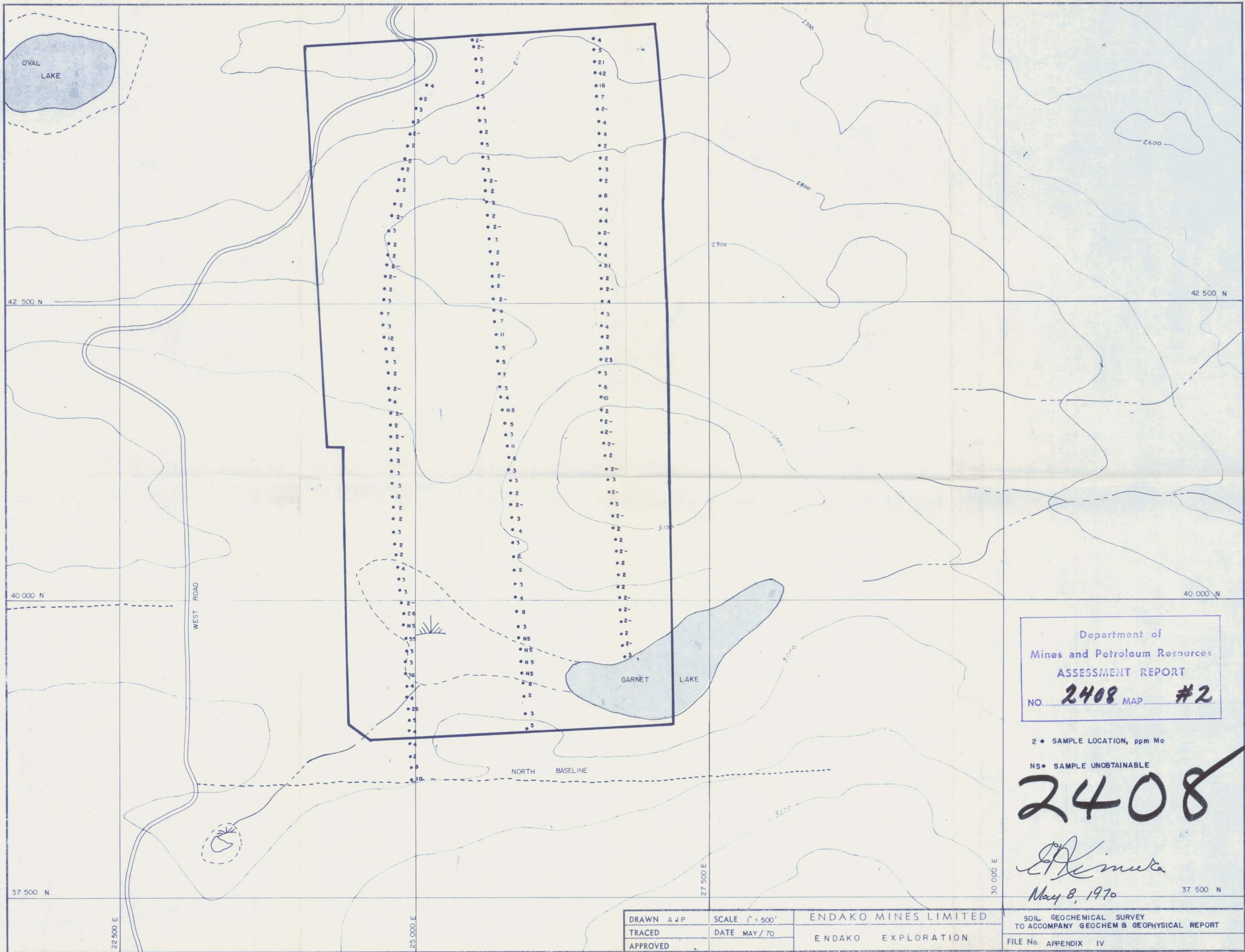
Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. **2408** MAP **#3**

2688 • MAGNETOMETER SURVEY STATION  
RESPONSE IN GAMMAS

**2408**

*A. Minuta*  
May 8, 1970

DRAWN AJP	SCALE 1" = 500'	ENDAKO MINES LIMITED	GROUND MAGNETOMETER SURVEY
TRACED	DATE MAY / 70	ENDAKO EXPLORATION	TO ACCOMPANY GEOCHEM & GEOPHYSICAL REPORT
APPROVED			FILE No. APPENDIX V



Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. **2408** MAP **#2**

2 • SAMPLE LOCATION, ppm Mo

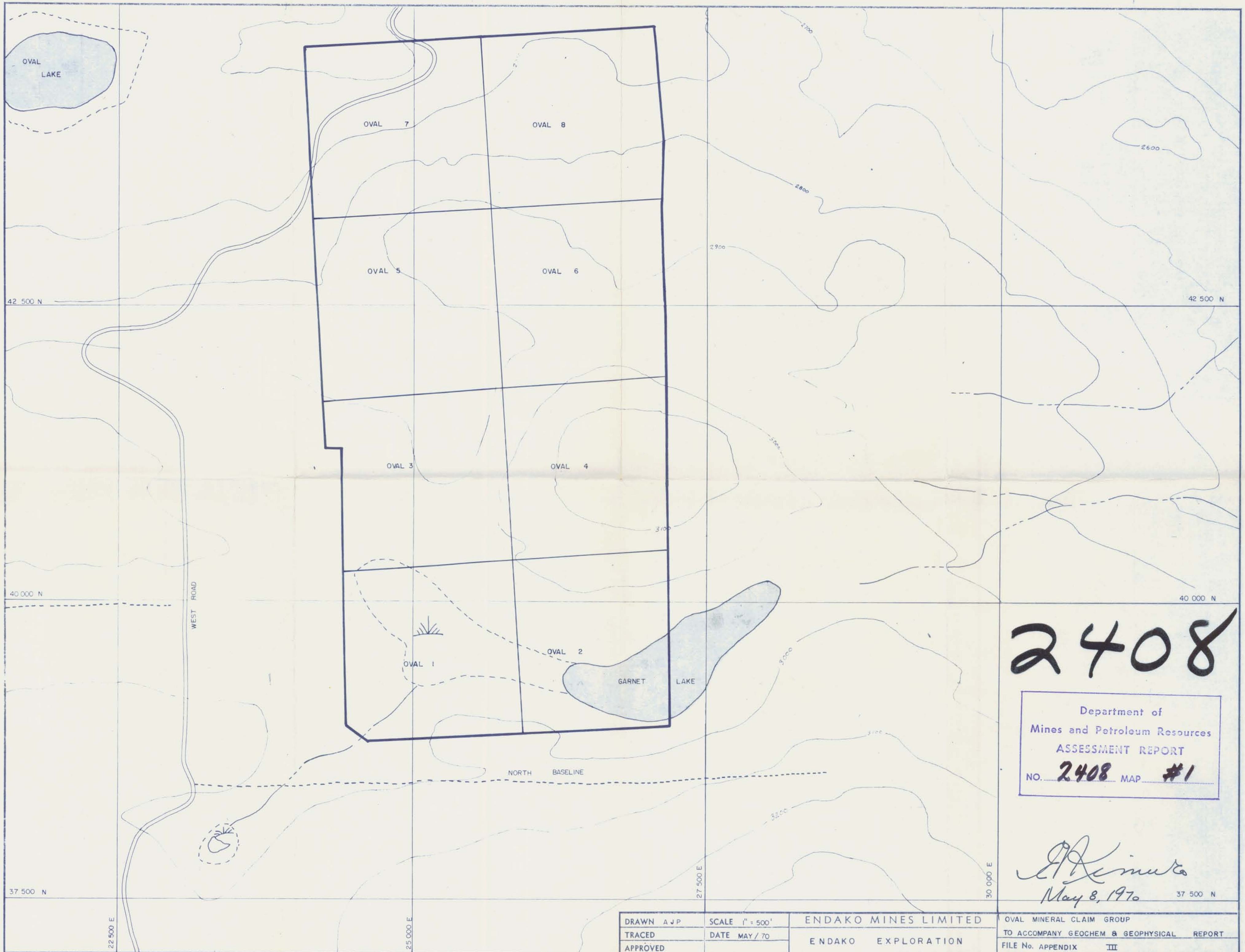
NS • SAMPLE UNOBTAINABLE

**2408**

*E. Kimura*

May 8, 1970

DRAWN AJP	SCALE 1" = 500'	ENDAKO MINES LIMITED	SOIL GEOCHEMICAL SURVEY TO ACCOMPANY GEOCHEM & GEOPHYSICAL REPORT
TRACED	DATE MAY / 70	ENDAKO EXPLORATION	FILE No. APPENDIX IV
APPROVED			



2408

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 2408 MAP #1

*A. Kimuta*  
May 8, 1970

DRAWN AJP	SCALE 1" = 500'	ENDAKO MINES LIMITED	OVAL MINERAL CLAIM GROUP
TRACED	DATE MAY / 70	ENDAKO EXPLORATION	TO ACCOMPANY GEOCHEM & GEOPHYSICAL REPORT
APPROVED			FILE No. APPENDIX III