6160

TABLE OF CONTENTS

REPORT ON THE

MAGNETOMETER SURVEY

VANANDA AREA, TEXADA ISLAND

NANAIMO MINING DIVISION, B. C.

FOR

BACON AND CROWHURST, LTD.

1. INTRODUCTION

A magnetometer survey has been carried out near Vananda on Texada Island. This work was initiated by Dr. W. R. Bacon, Consultant with Bacon and Crowhurst Ltd.

The survey grid is located about 1 Km south of the town of Vananda. The Gillies Bay paved highway bounds the grid to the west. The centre of the survey grid is positioned at about 49°44' N latitude and 124°35' W longitude.

The purpose of this ground magnetometer survey was to investigate and evaluate previously located aeromagnetic anomaly # 2220. This aeromagnetic anomaly was located in 1975 by Aerial Surveys Ltd.

The ground magnetometer survey was carried out by Mr. J. Paul Stevenson assisted by M. Douglas. Phoenix Geophysics Ltd. has provided field supervision, map preparation and reporting.

A McPhar M700 vertical force fluxgate magnetometer was used for the survey. The maximum sensitivity of this instrument is 20 gammas per scale division.

Field work was carried out in November, 1976.

2. DESCRIPTION OF GEOLOGY

A description of the regional geology is contained in Bulletin #23, B. C. Department of Mines, 1947. Further information is included in Bulletin #40, B. C. Department of Mines, 1957.

The Texada Formation consisting of lava flows, breccia and tuff outcrops in the vicinity of the magnetometer grid according to the geological map contained in Bulletin #23. Basic intrusives are shown near the west side of this grid. Limestones of the Marble Bay Formation cover the north portion of the survey grid.

3. DISCUSSION OF SURVEY RESULTS

A detailed study of the magnetometer survey results using computor analysis or curve matching techniques has not been carried out due to time limitations. The following discussion is based primarily on the experience of the interpreter with similar magnetic environments.

The local magnetic relief recorded on the property is about 4500 gammas. An east-west trending band of low magnitude relatively uniform magnetic values covers the north 20% of the grid area. This area is believed to outline the flat-lying limestones of the Marble Bay Formation. An embayment of uniform low magnitude readings extends west from 59E to 57E along the base line. This area is probably underlain by similar limestones.

The remainder of the property displays generally higher and quite variable magnetic values. A profile of the magnetometer readings on line 54E (Figure # 2) shows the typical variable nature of the magnetic readings over the south 80% of the property with the uniform low readings to the north.

Within the higher magnetic environment, local position changes of 1 - 3 feet can result in magnitude changes of up to 1000 gammas. These changes are believed to be due to local variations in magnetite content of the bedrock and possibly to the magnetic dipole effect in some cases. In either case, changes of this magnitude are indicative of shallow overburden and a relatively shallow origin of the magnetic material.

General trends can be seen in the magnetic contour pattern. An east-west trend is evident north of the baseline. It probably relates to the limestone contact. A NW trend occurs within the higher magnitude environment to the south. A NW trending linear magnetic low extends from about 425 M south of the baseline on 59E to 125M north of the baseline on 52E. It could reflect a fault, or a contact zone.

A large area of higher magnetic levels in the SW quadrant of the grid probably reflects basic intrusives similar to those mapped in this vicinity.

An east-west striking band of moderate magnetic values extends west from 75M, line 59E to 250M north on line 52E. It could reflect either Texada volcanics or a skarn zone.

4. SUMMARY AND CONCLUSIONS

The magnetometer survey has outlined uniform low magnitude magnetic levels along the north portion of the grid. This probably reflects limestone. South of this area higher magnitude locally variable magnetic values are believed to outline basic intrusives, volcanics and possibly altered limestone skarn zones.

Copper-gold deposits have been mined in the general vicinity of the survey grid. These deposits characteristically display a short strike length but persist down dip. They usually are associated with skarn zones close to basic intrusives. An attempt was made to investigate the grid with an electromagnetic survey. However the multiplicity of power lines with a resulting high electrical noise background prevented any useful application of the EM method.

It is understood that a soil geochemical survey has been completed over the survey grid. The soils will be analyzed for copper. If the

source of any soil anomalies is not obvious, an induced polarization and resistivity survey should be considered. The IP system should be equipped with 60 cycle filters to remove the electrical power-line noise.

APPENDIX "A"

DESCRIPTION OF THE CLAIM

The Natalie Claim is held by Mr. R. Margetts under an option agreement with Mr. Christopher R. Beale. Details are as follows:

- NATALIE CLAIM
- Units 1 - 12 inclusive
- Registered Owner: - Christopher R. Beale
- Record No. 47, Nanaimo Mining Division
- Record Date: - December 23, 1975
- Claim Maps 92 F/10 E and 92 F/15 E
- Optionnee - R. Margetts
  3229 West 49th Street,
  Vancouver, B. C.

SPECIFICATIONS OF GEOPHYSICAL INSTRUMENTS

(a) McPhar M-700 vertical field fluxgate magnetometer
- Maximum sensitivity 20 gammas per scale division on 1000 gamma range

(b) McPhar VHEM - Dual frequency vertical and horizontal electromagnetic system
- Frequencies - 600 & 2400 Hz
- Horizontal configuration measures in phase and quadrature components
- Vertical configuration measures dip angles

ASSESSMENT DETAILS

PROPERTY: Natalie Group

MINING DIVISION: Nanaimo

SPONSOR: R. Margetts

PROVINCE: British Columbia

LOCATION: Texada Island

TYPE OF WORK: Linecutting

OPERATING MAN DAYS:	12	DATE STARTED:	November 19, 1977
EQUIVALENT 8 HR. MAN DAYS:	18	DATE FINISHED:	November 22, 1977
CONSULTING MAN DAYS:	1	NUMBER OF READINGS:	
DRAFTING MAN DAYS:		KM OF LINE SURVEYED:	7.77*
TOTAL MAN DAYS:	19		

CONSULTANTS:

Dr. W. R. Bacon, R.R. #1, Ganges, B. C.

FIELD SUPERVISOR:

Stanley L. Beale, 2325 Dyke Rd., Richmond, B. C.

FIELD TECHNICIANS AND LINECUTTERS:

J. Paul Stevenson, 906 - 675 W. Hastings St., Vancouver, B. C.
Mark Douglas, 11251 Lansdowne St., Surrey, B. C.

* 3.6 Km of linecutting total of 7.77 Km located on the Natalie claim.

PHOENIX GEOPHYSICS LIMITED

Ashton W. Mullan

A. W. MULLAN
BRITISH COLUMBIA
ENGINEER

Dated: January 21, 1977

ASSESSMENT DETAILS

PROPERTY: Natalie Group

MINING DIVISION: Nanaimo

SPONSOR: R. Margetts

PROVINCE: British Columbia

LOCATION: Texada Island

TYPE OF WORK: Magnetometer Survey

OPERATIVE MAN DAYS:	6	DATE STARTED:	November 24, 1977
EQUIVALENT 8 HR. MAN DAYS:	9	DATE FINISHED:	November 26, 1977
CONSULTING MAN DAYS:	3	NUMBER OF READINGS:	265
DRAFTING MAN DAYS:		KM OF LINE SURVEYED:	6.9*
TOTAL MAN DAYS:	12		

CONSULTANTS:

Dr. W. R. Bacon, R.R.#1, Ganges, B. C.
A. W. Mullan, 1440 Sandhurst Pl., West Vancouver, B. C.

FIELD SUPERVISOR:

Stanley L. Beale, 2325 Dyke Rd., Richmond, B. C.

FIELD TECHNICIANS AND LINECUTTERS:

J. Paul Stevenson, 906 - 675 W. Hastings St., Vancouver, B. C.
Mark Douglas, 11251 Lansdowne St., Surrey, B. C.

* 3.15 Km of total survey mileage located on the Natalie claim.

PHOENIX GEOPHYSICS LIMITED

Ashton W. Mullan

Ashton W. Mullan
A. W. MULLAN
BRITISH COLUMBIA
ENGINEER

Dated: January 21, 1977

ASSESSMENT DETAILS

PROPERTY: Natalie Group

MINING DIVISION: Nanaimo

SPONSOR: R. Margetts

PROVINCE: British Columbia

LOCATION: Texada Island

TYPE OF WORK: Electromagnetic

OPERATING MAN DAYS: 3

DATE STARTED: November 23, 1977

EQUIVALENT 8 HR. MAN DAYS: 4.5

DATE FINISHED: November 23, 1977

CONSULTING MAN DAYS: 1

NUMBER OF READINGS: High Noise Prevented Reliable Readings

DRAFTING MAN DAYS:

KM OF LINE SURVEYED:

TOTAL MAN DAYS: 5.5

CONSULTANTS:

A. W. Mullan, 1440 Sandhurst Pl., West Vancouver, B. C.

FIELD SUPERVISOR:

Stanley L. Beale, 2325 Dyke Rd., Richmond, B. C.

FIELD TECHNICIANS AND LINECUTTERS:

J. Paul Stevenson, 906 - 675 W. Hastings St., Vancouver, B. C.
Mark Douglas, 11251 Lansdowne St., Surrey, B. C.

PHOENIX GEOPHYSICS

Ashton W. Mullan

PROVINCE OF BRITISH COLUMBIA
A. W. MULLAN
ENGINEER

Dated: January 21, 1977

ASSESSMENT DETAILS

PROPERTY: Natalie Group

MINING DIVISION: Nanaimo

SPONSOR: R. Margetts

PROVINCE: British Columbia

LOCATION: Texada Island

TYPE OF WORK: Soil Sampling

OPERATING MAN DAYS:	3	DATE STARTED:	November 24, 1977
EQUIVALENT 8 HR. MAN DAYS:	4.5	DATE FINISHED:	November 25, 1977
CONSULTING MAN DAYS:	1	NUMBER OF SAMPLES:	138*
DRAFTING MAN DAYS:		KM OF LINE SURVEYED:	6.9*
TOTAL MAN DAYS:	5.5		

CONSULTANTS:

Dr. W. R. Bacon, R.R. #1, Ganges, B. C.

FIELD SUPERVISOR:

Stanley L. Beale, 2325 Dyke Rd., Richmond, B. C.

FIELD TECHNICIANS AND LINECUTTERS:

Mark Douglas, 11251 Lansdowne St., Surrey, B. C.

* 66 Soil samples and 3.15 Km of total survey mileage of 6.9 Km located on the Natalie claim.

PHOENIX GEOPHYSICS LIMITED

Ashton W. Mullan

A. W. MULLAN
BRITISH COLUMBIA
ENGINEER

Dated: January 21, 1977

STATEMENT OF COST

R. Margetts, Natalie Group,
Nanaimo Mining Division,
Texada Island, B. C.

From invoice provided by Bacon & Crowhurst Ltd.,

Consulting Engineers November 30, 1976.

Professional services with regard to project at the east end of Priest Lake, as follows:

(1)	Preliminary work as invoiced October 19, 1976	$ 566.00
(2)	Primary stage involving linecutting, geophysical work and geochemical work during the period November 18 to November 30th.	
	(a) General organization and planning of work, and procurement and instruction of personnel by W. R. Bacon - equivalent of 3 days	750.00
	(b) Field work undertaken by Far Out Enterprises, as per attached invoice	2,147.20
	(c) Geophysical instruction and supervision by Phoenix Geophysics, rental of equipment and travelling expenses, etc.	1,008.65
	(d) Services of Stanley Beale with regard to direction of personnel on the property as well as providing assistance to the technical personnel	800.00
	(e) Geochemistry (analysis of 137 samples for copper)	198.72
	TOTAL	$5,470.57

CERTIFICATE

I, Ashton W. Mullan, of the City of North Vancouver, in the Province of British Columbia, hereby certify:

1. That I am a geologist/geophysicist and a fellow of the Geological Association of Canada, Geophysics Division, with a business address at 1521 Pemberton Avenue, North Vancouver, B. C.

2. That I am registered as a member of the Association of Professional Engineers of the Provinces of Ontario and British Columbia.

3. That I hold a B.Sc. degree from McGill University.

4. That I have been practising my profession as a geologist/geophysicist for over twenty years.

5. I have no direct or indirect interest, nor do I expect to receive any interest directly or indirectly, in the property controlled by Mr. R. Margetts or any surrounding properties.

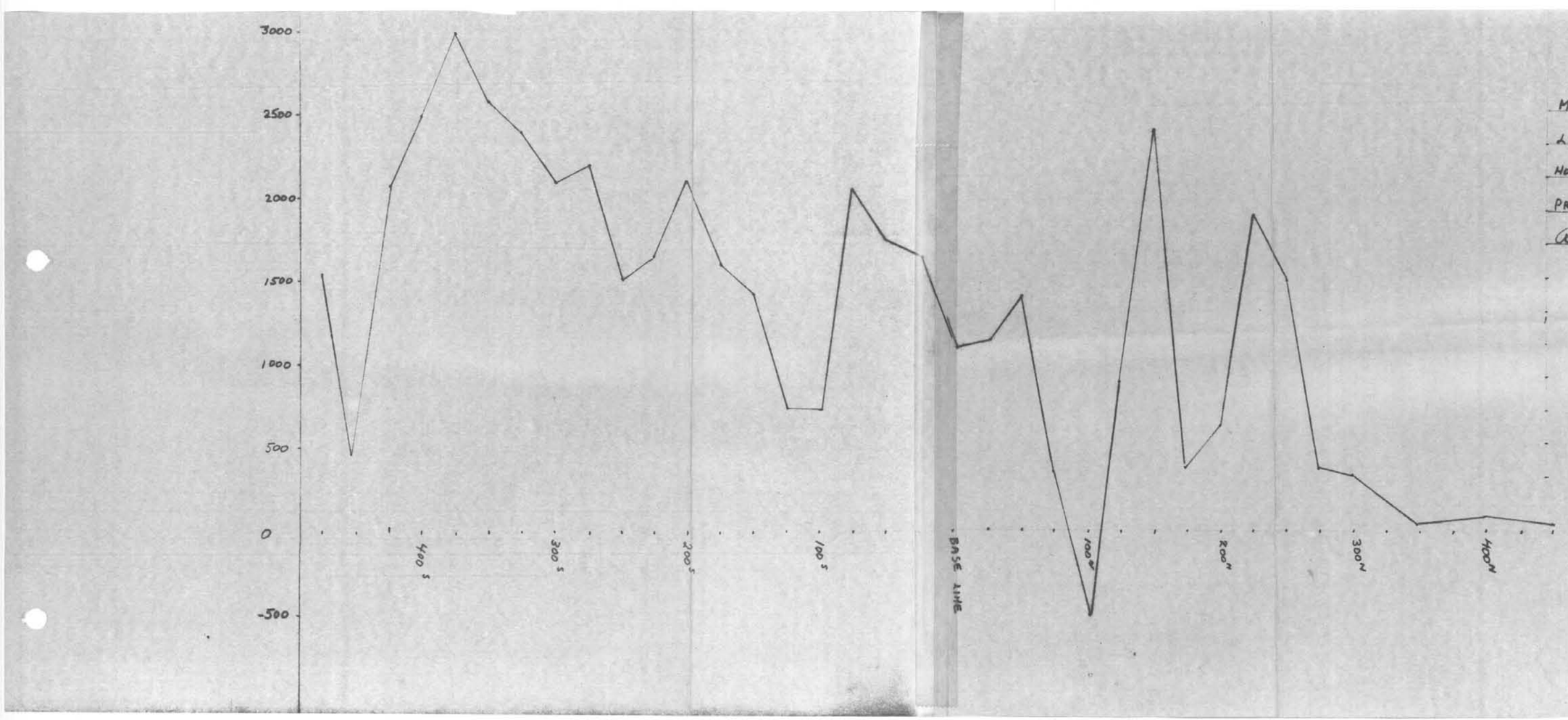
6. The statements made in this report are based on a study of published geological literature and unpublished private reports.

7. Permission is granted to use in whole or in part for assessment and qualification requirements but not for advertising purposes.

Dated at North Vancouver

21st day of January, 1977

A. W. Mullan, B.Sc., P. Eng.



MAGNETIC PROFILE

LINE 54 EAST

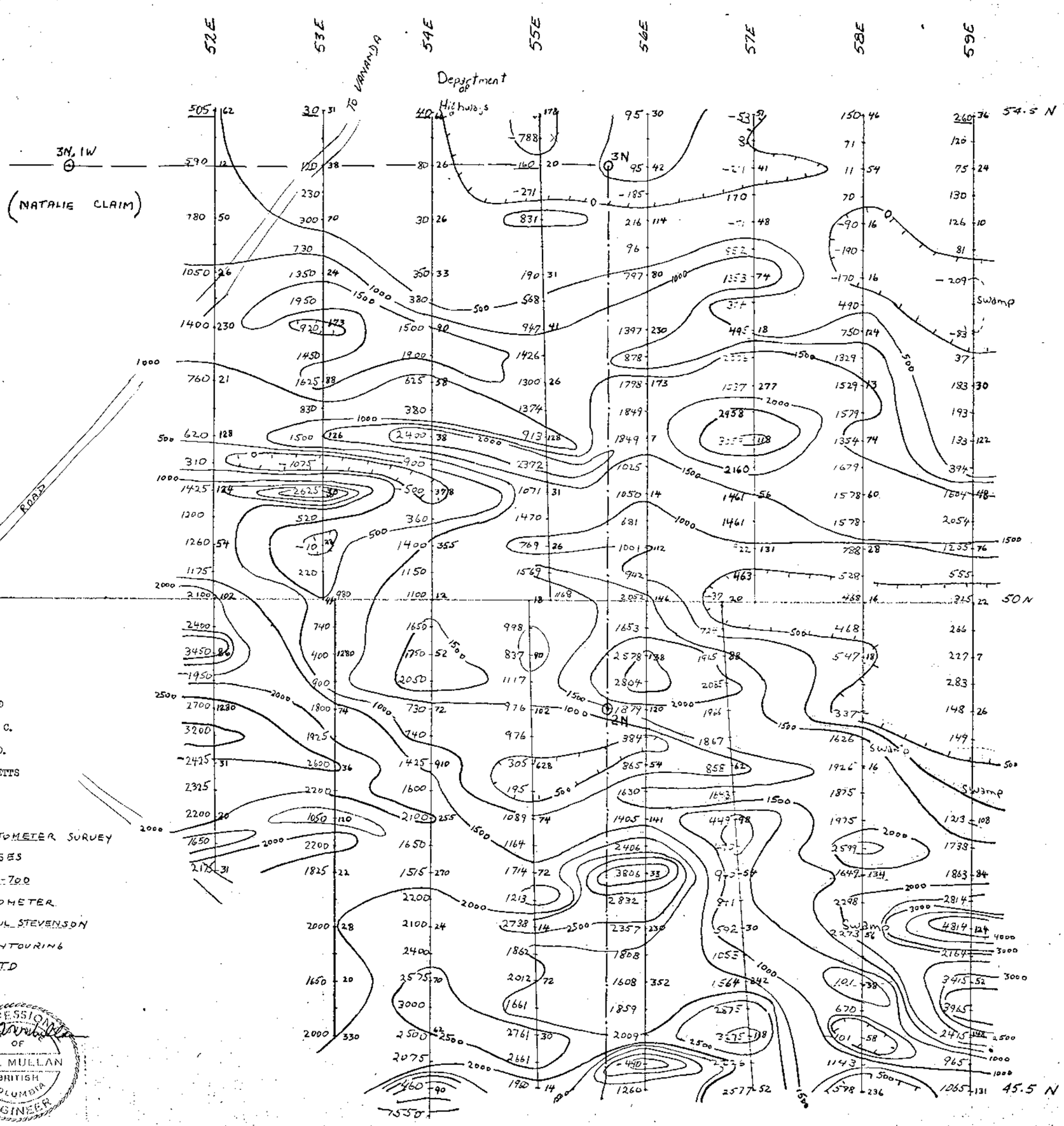
HORIZONTAL SCALE 1:2500 METRIC

PROFILE SCALE = 200 GAMMAS = 1 CM

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 6160

FIGURE #2



MAGNETOMETER SURVEY

NATALIE CLAIMS

VANANDA AREA, TEXADA ISLAND

NANAIMO MINING DIVISION, B. C.

FOR BACON AND CROWHURST LTD.

CONSULTANTS TO: R. W. MARGETTS

1-LINE CUTTING & MAGNETOMETER SURVEY
BY: FAR OUT ENTERPRISES
-INSTRUMENT: McPHAR M-700
VERTICAL FIELD MAGNETOMETER
-INSTRUMENT OPERATOR: J. PAUL STEVENSON
-FIELD SUPERVISION AND CONTOURING
BY: PHOENIX GEOPHYSICS LTD

SCALE - 1:2500 (METRIC)

NOV. 30, 1976

PROFESSIONAL ENGINEER OF A. W. MULLAN BRITISH COLUMBIA

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 6160
MAP NO. #1

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 6160
MAP NO. #1

LEGEND

GAMMAS | Cu - PPM

2804 | 60

CONTOUR INTERVAL - 500 GAMMAS.

6160