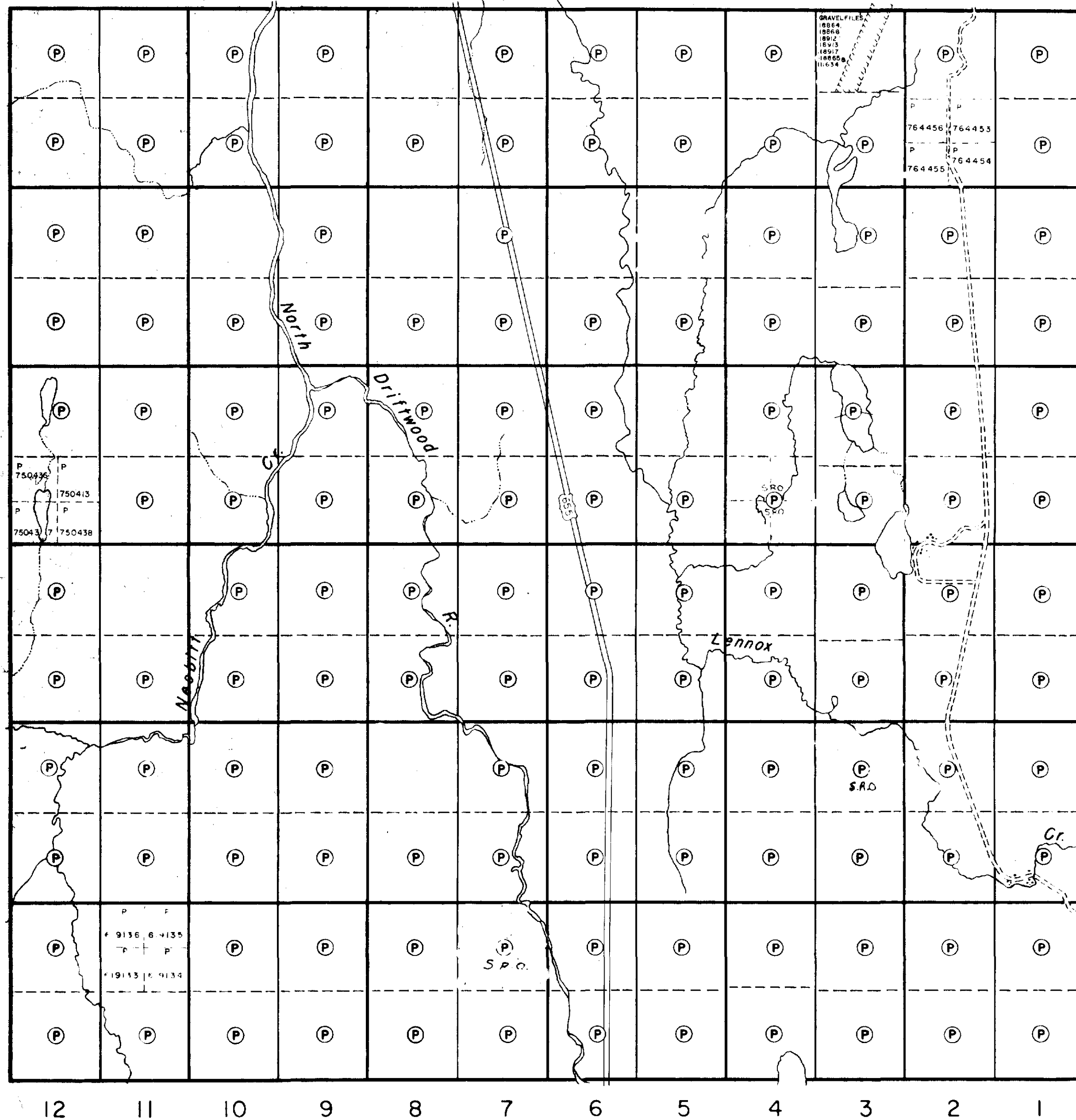


CALDER TWP.

DARGAVEL TWP.



VI

V

IV

III

II

I

OTTAWAY TWP.

THE TOWNSHIP OF  
OF

# LENNOX

DISTRICT OF  
COCHRANE

PORCUPINE  
MINING DIVISION

SCALE: 1-INCH=40 CHAINS

### LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	C.S.
LEASES	(L)
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
ROADS	—
IMPROVED ROADS	—
RAILWAYS	—
POWER LINES	—
MARSH OR MUSKEG	—
TRAIL	—

### NOTES

400' Surface Rights Reservation around  
all Lakes and Ponds

PLAN NO.— M.531

MINISTRY OF NATURAL RESOURCES  
SURVEY AND MAPPING BRANCH



42H035W0009 2.7870 LENNOX

200

LJK.

NESBITT TWP.

12 12 04 04



42H03SW0009 2.7970 LENNOX

010

**REPORT OF A VERTICAL GRADIENT MAGNETOMETER SURVEY**

**CARRIED OUT OVER**

**THE**

**CHEVRON MINERALS LTD PROPERTY**

**LENNOX TOWNSHIP**

**PORCUPINE MINING DIVISION**

**RECEIVED**

**APR 03 1985**

**MINING LANDS SECTION**

**BY**

**STEWART L. FUMERTON**

**CHEVRON CANADA RESOURCES LIMITED**

**167B WILSON AVENUE**

**TIMMINS, ONTARIO**

**APRIL 12, 1985**



42H03SW0009 2.7970 LENNOX

010C

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**BREAKDOWN OF GEOPHYSICAL COVERAGE**

**CERTIFICATION**

## INTRODUCTION

An Airborne Vertical Gradient Magnetic Survey was carried out over parts of nine townships in the fall of 1983 including part of Lennox Township in which 4 claims held by Chevron Minerals Ltd are situated. Flight lines were flown in a northeast direction nominally 200m apart with double control lines flown in a northwesterly direction 4km apart.

## LOCATION

The property is located some 50km north of Timmins, Ontario. Ground access is possible only in winter via disused winter roads extending from Camp 40 and hence highway 655. Summer access is only practical via helicopter.

## PROPERTY

The property consists of 4 unpatented mining claims in one block (fig 1) which are recorded in the name of Chevron Minerals Ltd. These are:

P750413  
750436  
750437  
750438

## SURVEY STATISTICS

This Vertical Gradient Magnetic survey in conjunction with a high resolution total field magnetic survey was flown by Kenting Earth Sciences Limited for Chevron Minerals between 27th of October 1983 and 7th November 1983.

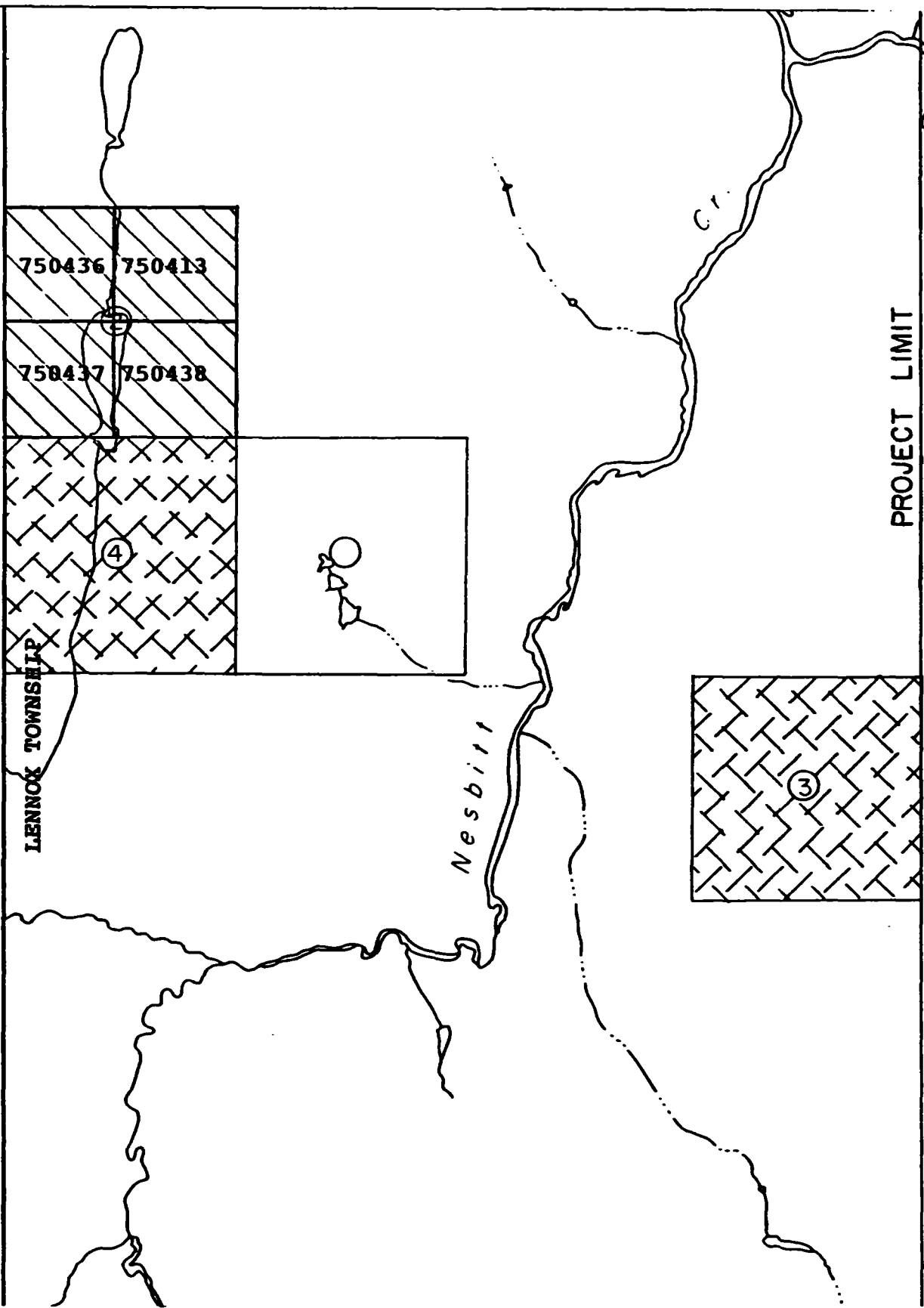
A total of 2418.1km of line were flown with two Varian Cesium Vapour Magnetometers both with a sensitivity of 0.005nT mounted on a Piper Navajo. These magnetometers are separated by 1.83m vertically and the difference in the recorded values on the magnetometers gives the vertical gradient or a very close approximation to it. This difference was recorded. During the course of the survey readings were made every  $\frac{1}{4}$  second which translates to about every 18m on the ground.

Flight line control was achieved using a 35mm strip camera with fiducial points plotted on a 1:20 000 uncontrolled photo mosaic. Mean terrain clearance was 150m.

## GEOLOGY

The underlying geology of these claims largely deduced from this survey and the limited lithological control available for this area consists of a sequence of metavolcanics trending 120°. These include tholeiitic mafic metavolcanics with some intercalated intermediate tuffs and water lain tuffs plus some metasedimentary units.

DARGAVEL TOWNSHIP



WEST CENTRAL PART OF LENNOX TOWNSHIP

FIG 1

1:20 000



## EXPLORATION WORK

Work to date on these claims has consisted of airborne work, firstly an Input Mk VI and aeromagnetic survey was flown by Questor for Chevron in November 1983 and this work has already been submitted for assessment. Secondly the same area was flown by Kenting using high resolution magnetometers to produce the Vertical Gradient survey reported here.

## VERTICAL GRADIENT SURVEY

The greater resolution of this survey shows that there is a main magnetic trend bearing  $120^{\circ}$  (fig 2) and a minor break in this trend and the break trends northeast.

## CONCLUSIONS

This survey has been of considerable importance in the re-interpretation of the bedrock geology in this north-western part of the Abitibi Greenstone Belt.

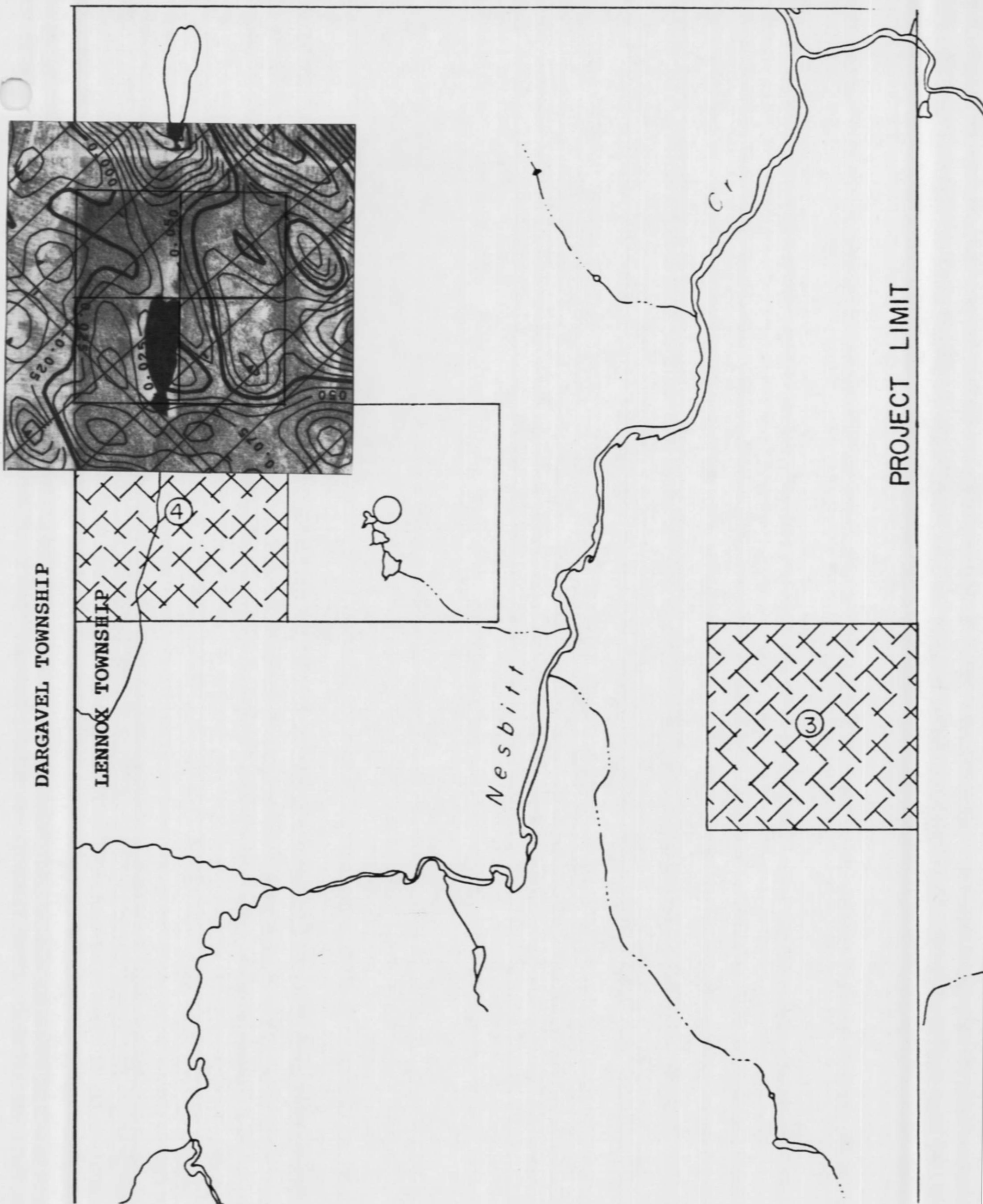


FIG 2 VERTICAL GRADIENT MAGNETOMETER SURVEY  
WEST CENTRAL PART OF LENNOX TOWNSHIP

1:20 000

0.5 gammas/metre .....  
 0.1 gammas/metre .....  
 0.025 gammas/metre .....  
 (1 gamma = 1 nanotesla in SI units)  
 Flight altitude : 150m above ground level  
 Traverse interval : 200 m  
 Control line interval : 4 Km

**BREAKDOWN OF GEOPHYSICAL COVERAGE**

**CLAIM**

**APPROX. Km of CONTINUOUS RECORDING**

750413

.74

750436

.78

750437

1.54

750438

.83

---

**3.89 days=96 days**



**CERTIFICATION**

I, Stewart Fumerton of Timmins, Ontario certify that:

- 1) I am a member in good standing of the Geological Association of Canada (FGAC).
- 2) I am a geology graduate of the University of Witwatersrand with a BSc (1972), BSc Hons (1973) and MSc (1975). I am also a geology graduate of the University of Saskatchewan with a PhD (1979).
- 3) I have been practising my profession in Canada and South Africa continuously since 1973.
- 4) The attached report is a product of:
  - a) Report prepared by John Irvine of Kenting Earth Sciences Ltd for the whole survey.
  - b) My work using the results of this survey plus other information sources.

Timmins, Ontario  
April 1985

Stewart Fumerton







SELF POTENTIAL

Instrument \_\_\_\_\_ Range \_\_\_\_\_

Survey Method \_\_\_\_\_

Corrections made \_\_\_\_\_

RADIOMETRIC

Instrument \_\_\_\_\_

Values measured \_\_\_\_\_

Energy windows (levels) \_\_\_\_\_

Height of instrument \_\_\_\_\_ Background Count \_\_\_\_\_

Size of detector \_\_\_\_\_

Overburden \_\_\_\_\_  
(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey \_\_\_\_\_

Instrument \_\_\_\_\_

Accuracy \_\_\_\_\_

Parameters measured \_\_\_\_\_

Additional information (for understanding results) \_\_\_\_\_

AIRBORNE SURVEYS

Type of survey(s) AIRBORNE MAGNETIC VERTICAL GRADIENT

Instrument(s) VARIAN CESIUM VAPOUR MAGNETOMETERS  
(specify for each type of survey)

Accuracy .005nT  
(specify for each type of survey)

Aircraft used PIPER NAVAJO

Sensor altitude 150m

Navigation and flight path recovery method Visual, 35mm strip camera

Aircraft altitude 150m Line Spacing 200m

Miles flown over total area 2418 km Over claims only 3.89 km



1985 04 16

File: 2.7970

**Mining Recorder  
Ministry of Natural Resources  
60 Wilson Avenue  
Timmins, Ontario  
P4N 2S7**

**Dear Sir:**

**We received reports and maps on April 9, 1985 for an Airborne Geophysical (Magnetometer) on Mining Claims P 750413, et al, in the Township of Lennox.**

**This material will be examined and assessed and a statement of assessment work credits will be issued.**

**We do not have a copy of the report of work which is normally filed with your office prior to the submission of this technical data. Please forward a copy as soon as possible.**

**Yours sincerely,**

**S.E. Yundt  
Director  
Land Management Branch**

**Whitney Block, Room 6643  
Queen's Park  
Toronto, Ontario  
M7A 1W3  
Phone:(416)965-4888**

**A. Barr:mc**

**cc: Chevron Canada Resources Limited  
167B Wilson Avenue  
Timmins, Ontario  
P4N 2T2  
Attention: Stewart Fumerton**



**Chevron Canada Resources Limited**

**Minerals Staff**

167B Wilson Ave., Timmins, Ontario P4N 2T2 Phone (705) 264-2291

**April 3, 1985**

**LAND MANAGEMENT BRANCH  
Ministry of Natural Resources  
Whitney Block, Room 6643  
Queen's Park  
Toronto, Ontario  
M7A 1W3**

**Dear Sir/Madam;**

Please find enclosed two copies of our Gradient Magnetometer survey over 4 claims held by Chevron in Lennox Township. Also enclosed are two copies of our Total Field Magnetometer survey over 4 claims held by Chevron in Aubin Township.

**Yours faithfully,**

A handwritten signature in black ink that reads "Stewart Fumerton". The signature is fluid and cursive, with the first name "Stewart" and last name "Fumerton" clearly legible.

**Stewart Fumerton  
Geologist**

**RECEIVED**  
APR 11 1985  
**MINING LANDS SECTION**