

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**12,102**

**PART  
3 OF 3**

**REPORT ON A  
HELICOPTER MAGNETOMETER SURVEY  
PETE 1, PETE 2 and WHITE 1 CLAIMS  
NANAIMO MINING DIVISION  
SAYWARD AREA, VANCOUVER ISLAND  
BRITISH COLUMBIA**

**Longitude 125° 59'  
Latitude 50° 17'**

**for Operator and Owner  
DICKENSON MINES LIMITED  
Toronto, Ontario**

**Claims Pete 1 record no. 1293(1)  
Pete 2 record no. 1294(1)  
White 1 record no. 1295(1)**

**April 22, 1983  
Vancouver, B.C.**

**Apex Airborne Surveys Ltd.  
Ronald F. Sheldrake, B.Sc.**

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### BIBLIOGRAPHY

FIGURE 1 CLAIM AND SURVEY LOCATION MAP

### LIST OF PLATES - IN MAP POCKET

PLATE I MAGNETIC CONTOUR MAP - SCALE 1:10,000

PLATE II MAGNETIC PERSPECTIVE PLOT

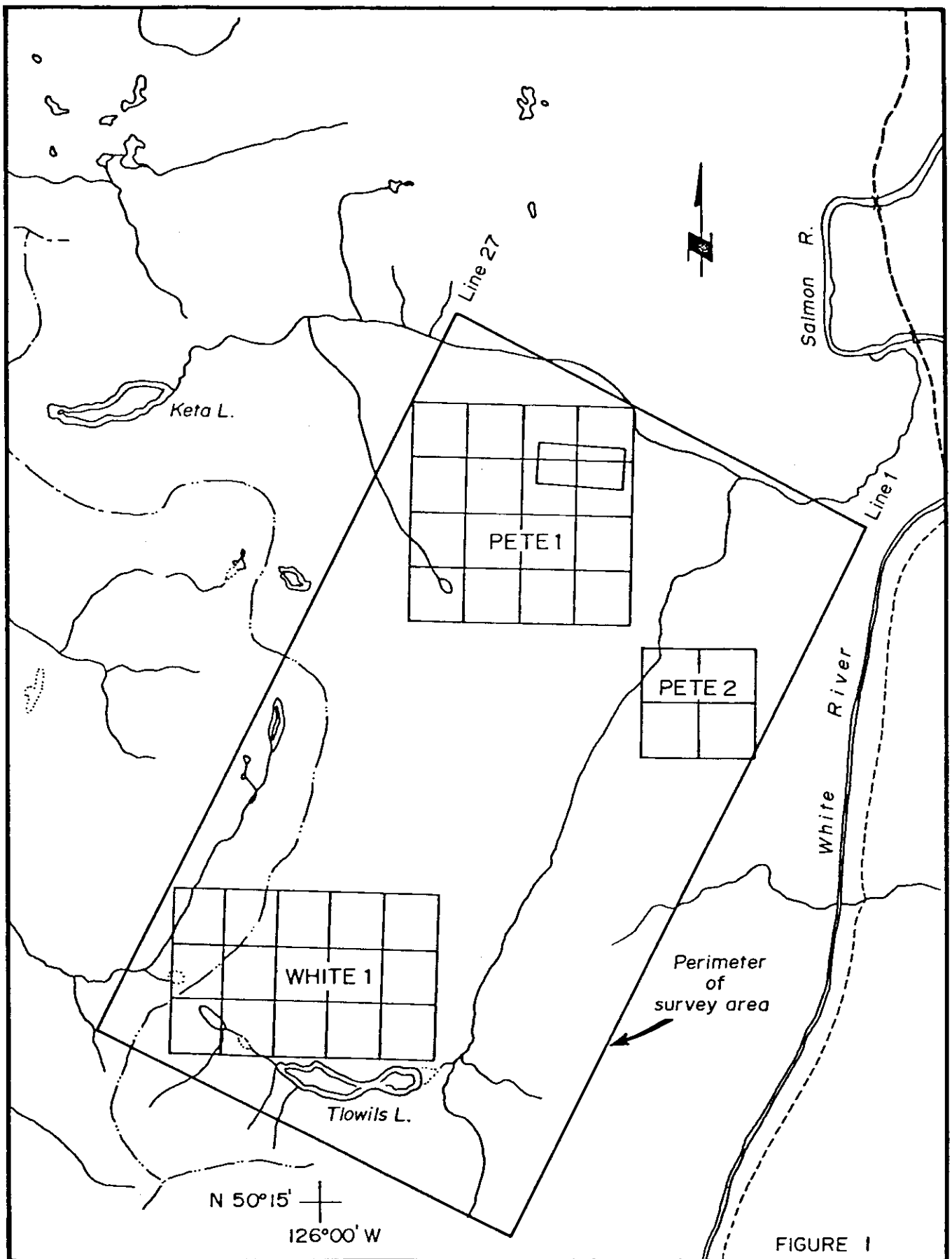
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CLAIM & SURVEY LOCATION MAP  
 PETE AND WHITE CLAIMS - SAYWARD, B.C.

APEX AIRBORNE SURVEYS LTD.

1. SUMMARY

Two hundred and twenty-two kilometers of magnetometer survey traverse were flown over a rectangular grid that encompassed the PETE 1, PETE 2 and WHITE 1 claims.

One magnetic response was recorded in the geophysical data that may be anomalous and warrants investigation using ground methods.

## 2. INTRODUCTION

This report describes a HELICOPTER MAGNETIC SURVEY that was flown April 4, 1983 on a rectangular grid of traverses located about 10 km south of SAYWARD, B.C. The survey encompassed the ORECAN Mine (previously IRON MIKE) in the PETE 1 claim, and the PETE 2 and WHITE 1 claims.

This survey was commissioned by H.E. Neal and Associates Ltd. on behalf of DICKENSON MINES LTD.

The survey block consisted of 27 traverses 8.0 kilometers in length and 2 tie lines 3 kilometers in length. The traverses were oriented N 27°E at an interline spacing of 200 meters. The total survey traverse flown was 222 kilometers.

The terrain was rolling to moderately rugged. Aircraft positioning was controlled from a 1:10,000 photomosaic map supplied by McElhanney Surveying & Engineering Ltd. of Vancouver, B.C. The terrain clearance for the sensor was kept as low to tree top level as possible. The helicopter terrain clearance was continuously recorded with the geophysical data.

The magnetometer used on this survey was a Geometrics G803 total field instrument which measures the field strength with a sensitivity of one gamma. The sensor is suspended below the helicopter 18 meters.

### CLAIMS

The claims covered in this report are:

- Pete 1 record number 1293(1)
- Pete 2 record number 1294(1)
- White 1 record number 1295(1)

### LOCATION AND ACCESS

The claims are located about 10 kilometers south of Sayward, B.C. Access to the claims can be made from Highway 16 on logging roads. Logging operations are presently underway on the Pete 1 claims.

### GEOLOGY

"The rocks are limestones, basalts and tuffs intruded by granitic rocks and gabbro. Magnetite occurs principally with the tuffs and is accompanied by skarn alteration".\*

Appendix 1 gives the details of the geophysical equipment used for this survey. Appendix II describes the in-flight record and the flight path recovery process.

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1. Mines and Petroleum Resources Report, 1960, pp. 106, 107.

### 3. DATA PRESENTATION

The aeromagnetic contour data (Plate 1) were compiled on a mylar photomosaic base map at a scale of 1:10,000.

The data were also presented as a perspective plot (Plate 2) looking from the N.W. corner.

#### 4. DISCUSSION OF RESULTS

The MAGNETIC CONTOUR MAP displays the contours of the TOTAL magnetic field at a contour interval of 20 gammas that are uncorrected for regional gradient.

The map indicates, in general, a relatively uneven distribution of magnetite in the underlying rocks of the survey area and is typical of intermediate to basic volcanic and intrusive rocks.

From the data displayed on the contour and perspective maps several features are evident. For example, note the lineament that extends from the north end of L 11 to the south end of L 8 (possibly a fault zone) and the magnetic ridges that cross the flight lines near the north and south ends of the grid (contact zones?).

Although there are many localized magnetic "highs" on the map sheet from an amplitude point of view, none of them are convincingly anomalous. The high magnetic values at the south end of L 1 are due to formational responses.<sup>1</sup>

The lack of high magnetic responses in the area of the old Orecan Mine (around fiducial 3182 L 20 and fiducial 42 L 22) may be because a good portion of the mineral was excavated (in 1964, 88,000 tons were shipped)<sup>2</sup> and/or because of the geometry of the occurrence. (The "low" recorded over the mine area may be the edge effect of a flat lying magnetic sheet. The "high" may be masked by the host rocks.)

The magnetic response recorded on L 11 fiducial 1919 appears to be anomalous and may be a marker to a small intrusive. It appears to be spatially unassociated to the other responses and further, lies on the interpreted fault lineament.

Geological and geochemical testing are warranted on this anomaly.

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<sup>1</sup> personal communication, Mr. H.E. Neal, P.Eng.

<sup>2</sup> personal communication, Mr. L.J. Manning, P.Eng.



5. CONCLUSIONS AND RECOMMENDATIONS

The magnetic survey did not disclose any anomalies that are convincingly due to concentrations of magnetite.

However, the magnetic response located on L 11 around fiducial 1919 appears to be anomalous.

It is recommended that geological mapping and a geochemistry survey be undertaken in the area of this response to test the presence of a skarn environment. A detailed ground magnetic survey ought to follow.

Respectfully submitted,

A handwritten signature in black ink, reading "Ronald F. Sheldrake". The signature is written in a cursive style with a large, looping initial "R".

Ronald F. Sheldrake, Geophysicist  
APEX AIRBORNE SURVEYS LTD.

## BIBLIOGRAPHY

- N.D. McKechnie - Iron Mike, Mines and Petroleum Resources Report, 1960. pp. 105, 106.
- Vacquier V., Steenland, N.C.- and Henderson, R.G. - Interpretation of Aeromagnetic Maps, Geological Society of America, Memoir No. 47.
- H.E. Neal, P.Eng. - Personal communication, May 1983
- L.J. Manning, P.Eng. - Personal communication, May 1983.

## APPENDIX I

### INSTRUMENTATION

#### Magnetometer

Type: Towed sensor type, proton precession model G803 manufactured by Geometrics Corporation, Toronto.

Cycling Time: 1.0 second.

Sensing Head Design: 5 inch diameter toroid.

Sensitivity: 1.0 gamma.

#### Ancillary Equipment:

UDAS Digital Acquisition System with recorder.

Geocam 35 mm Flight Path Camera

Bonzer Radio Altimeter

Geometrics G8Z6 Magnetic Base Station and recorder.

Helicopter: Bell 206 B Helicopter supplied by Vancouver Island Helicopters Ltd., Victoria, B.C.

APPENDIX II

FLIGHT LOGS

APEX FLIGHT LOG

ALIX FLIGHT LOG  
TM 01 11 29 ACFT C+GVIJ PN SAYWARD FLTN FERRY DTE 4/4/83 SURALT 100 F

LINE NO	TIME	START FID
LN MRG TEST	0111	FN00000
LN 9	0139	FN00055
LN 8	0146	FN00239
LN 7	0152	FN00400
LN 6	0158	FN00565
LN 5	0203	FN00714 <i>off line - scub.</i>
LN 5/2	0208	FN00868
LN 4	0213	FN01014
LN 3	0218	FN01163
LN 3	0224	FN01321 <i>scub.</i>
LN 2	0224	FN01323
LN 1	0230	FN01490
LN 10	0238	FN01646
LN 11	0244	FN01821
LN 12	0249	FN01972
LN 13	0255	FN02141
LN 14	0300	FN02285
LN 15	0305	FN02430
LN 16	0309	FN02567
LN 17	0315	FN02721
LN 18	0319	FN02858
LN 19	0325	FN03018
LN 20	0330	FN03163
LN 21	0335	FN03321
LN CAL	0341	FN03469

APPEX FLIGHT LOG  
T 00 01 52 ACFT C+GVIJ PN SAYWARD FLTN 2 DTE 4/4/83 SURALT 100 F

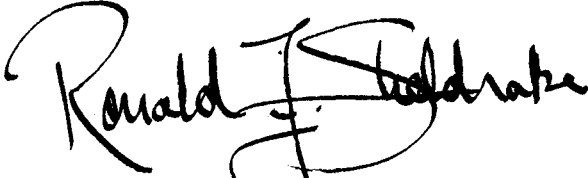
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LN 22	0005	FN00023
LN 23	0010	FN00168
LN 23/2	0015	FN00261
LN 24	0018	FN00338
LN 25	0023	FN00484
LN 26	0028	FN00622
LN 26/2	0031	FN00679
LN 27	0035	FN00797
LN 1111	0041	FN00938
LN 1/2	0047	FN01063
LN 2222	0053	FN01219
LN MAG TEST	0058	FN01323

## CERTIFICATION

I, RONALD F. SHELDRAKE, of the City of Vancouver, Province of British Columbia, hereby certify as follows:

1. I am President of **Apex Airborne Surveys Ltd.** a company incorporated under the laws of the Province of British Columbia.
2. The Vancouver Office of **Apex Airborne Surveys Ltd.** is located at Suite 514 - 625 Howe Street, Vancouver, British Columbia.
3. I received my B.Sc., in Geophysics from the University of British Columbia in May, 1974.
4. I have practised my profession since that date.
5. I did not examine the claims area, but I am not aware of any claim conflict and believe that the data presented herein is reliable.
6. I have no interest, direct or indirect, in **DICKENSON MINES LIMITED** or its affiliates, nor do I expect to receive any.
7. I consent to the use of this report in or in connection with a Prospectus or in a Statement of Material Facts.

Ronald F. Sheldrake



Apex Airborne Surveys Ltd.

April 22, 1983.

April 22, 1983

STATEMENT OF COSTS

Type of Survey: Magnetic Helicopter Platform

Date of Fieldwork: April 4, 1983

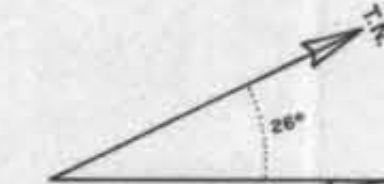
Survey Kilometers: 222 Kilometers

Cost per Linear  
Kilometer: \$72.07

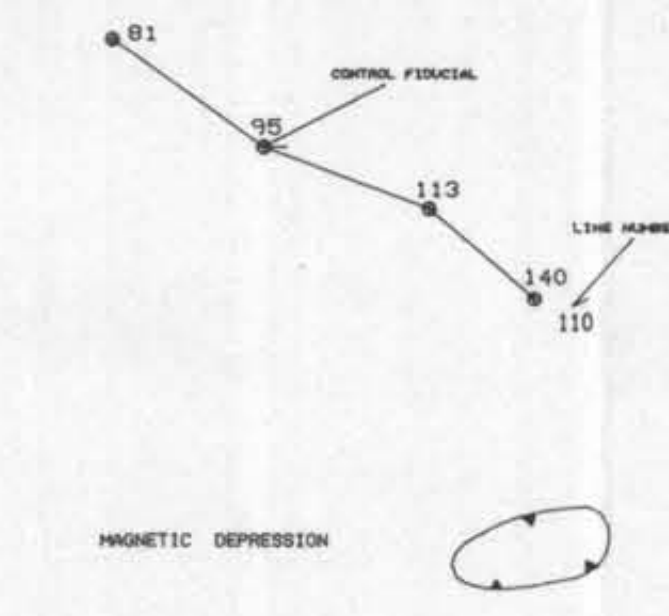
Additional Charges: None

Total Cost of Survey: \$16,000.00





LEGEND:



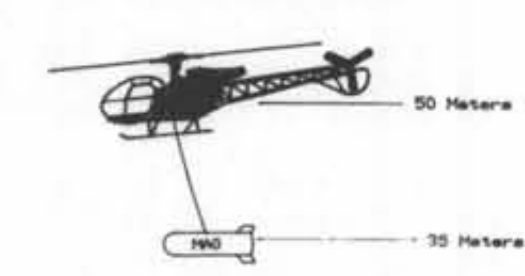
DESCRIPTIVE NOTES

THE BELL JETRANGER 206 B HELICOPTER IS EQUIPPED WITH A GEOMETRICAL 800V, 800 MAGNETOMETER SYSTEM AND AN LINTIC 1000 1000 DIGITAL ACQUISITION SYSTEM. A HOFFMAN INCH ALTIMETER AND GEOPAC-95 CAMERA ARE USED FOR POSITIONING.

INTERPRETATION REFERENCES

GRANT, F. S. AND WEST, G. F. 1965. INTERPRETATION THEORY IN APPLIED GEOPHYSICS-NEW YORK, McGRAW-HILL BOOKS, INC., P. 456, 501, 502, 505, AND 571.

SYSTEM CONFIGURATION

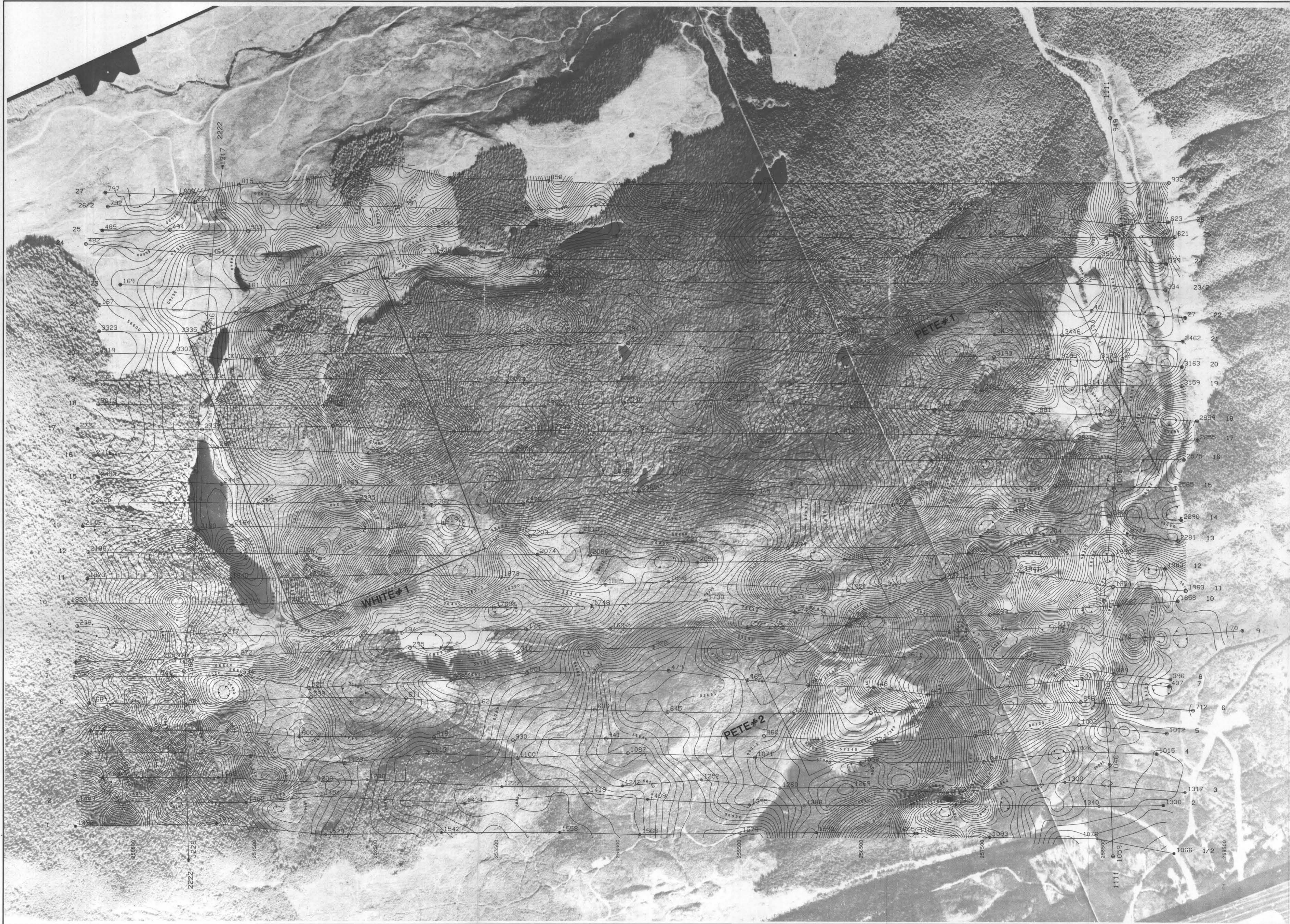


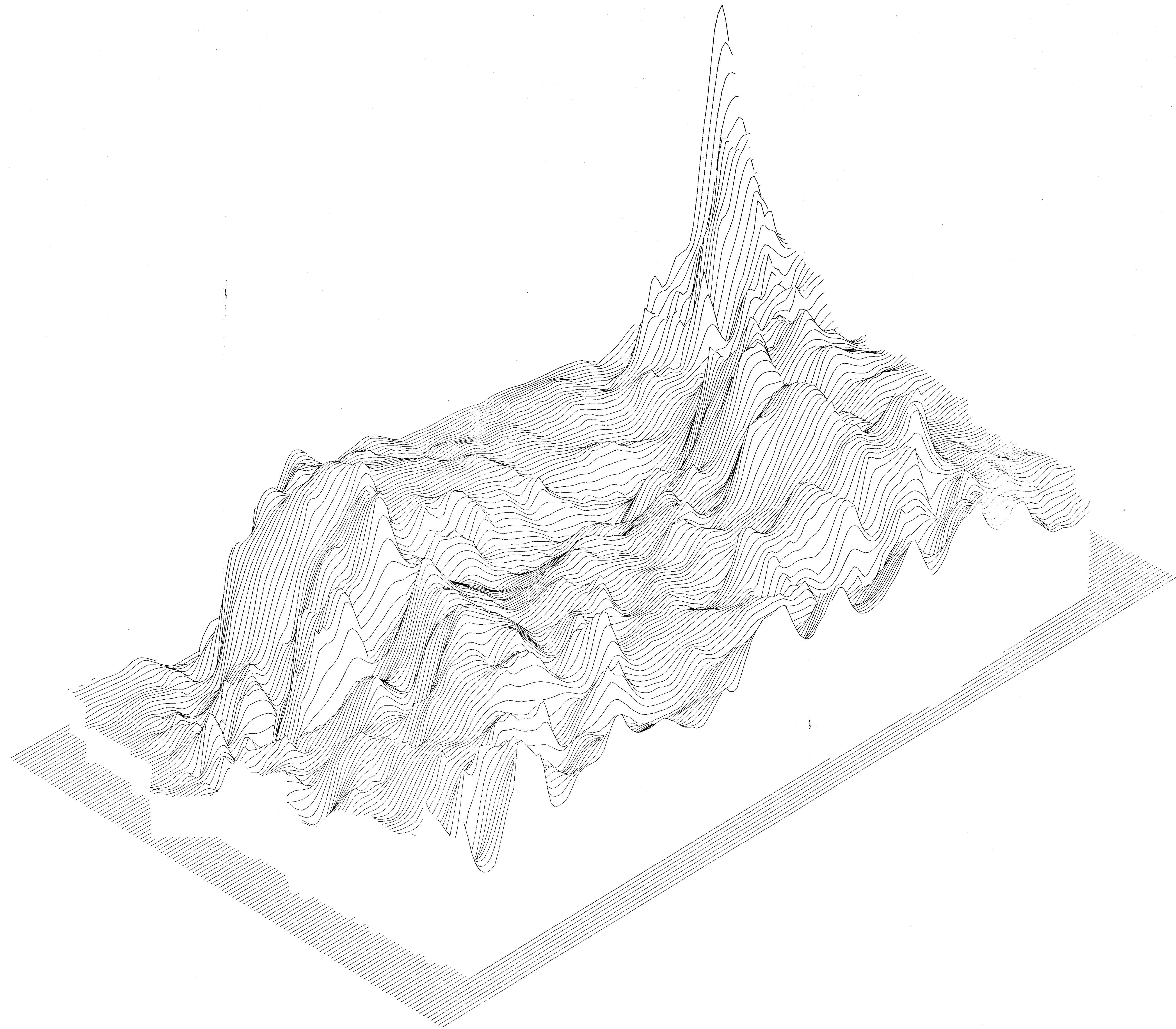
TO ACCOMPANY A REPORT BY R.F. SHELDRAKE DATED APRIL 23, 1983

Surveyed by APEX AIRBORNE SURVEYS LTD.

Compilation by H. A. SIMONS (INTERNATIONAL) LTD.

CAD INTERGRAPH  
Q53:L210, 51 JAB242001 .DGN





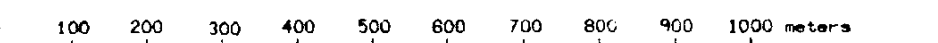
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INTERPRETATION REFERENCES

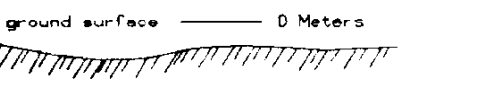
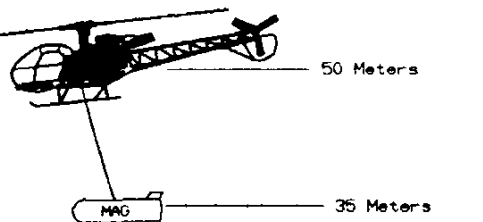
GRANT, F. S. AND WEST, G. F., 1965, INTERPRETATION THEORY IN APPLIED GEOPHYSICS NEW YORK, McGRAW-HILL BOOK CO. INC., P. 456, 501, 502, 526, AND 571.

Scale 1:10000



MAGNETIC DECLINATION: 20°E APPROX.  
MAGNETIC INCLINATION: 71° APPROX.

SYSTEM CONFIGURATION



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