LOG NO:	APR 0 8 1992	RD.
ACTION:		
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AIRBORNE MAGNETIC-VLF SURVEY
ON THE
MINE 1-7 CLAIMS

MOUNT MILLIGAN AREA, CENTRAL BRITISH COLUMBIA

Omineca Mining Division
NTS 93N/1E
Latitude 55°12'N Longitude 124°11'W

SUB-RECORDER
RECEIVED
MAR 25 199?
M.R. # .... $............
VANCOUVER, B.C.

for

Sanfred Resources Ltd.
1020-736 Granville St.
Vancouver, B.C.
V6Z 1H8

GEOLOGICAL BRANCH
ASSESSMENT REPORT

22,250

by

C.F. Staargaard
Consulting Geologist
912-510 West Hastings St.
Vancouver, B.C. V6B 1L8

August 9, 1991

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List of Figures

Introduction

The MINE claims were originally staked by United Mineral Services Ltd. to cover several regional magnetic anomalies in a geological setting similar to that of the Mt. Milligan copper-gold deposits owned by Placer Dome Inc. Sanfred Resources optioned the claims in late 1990 and commissioned the writer to arrange for and evaluate the results of an airborne geophysical survey on the property.

Location and Access

The MINE claims are located approximately 80 kilometres due north of Fort St. James, B.C. at Latitude 55°12'N and Longitude 124°11'W (Fig. 1). The relevant NTS sheet is 93N/1E. The Omineca Mine Road is situated immediately west of the property and crosses the Nation River just off its northwest corner. Access to the more remote portions of the property may be more convenient by helicopter, either from temporary bases in the area or from the permanent base in Fort St. James.

Topography on the property is subdued, with elevations ranging from 850m to 1027 metres. Mature conifer forest including stands of pine, spruce and balsam is developed along with a various grassy swamps on a series of generally flatlying to moderately rolling fluvial and glacial deposits. The latter are cut by several gullies, particularly in the southeast corner.

Claim Status and Previous Work

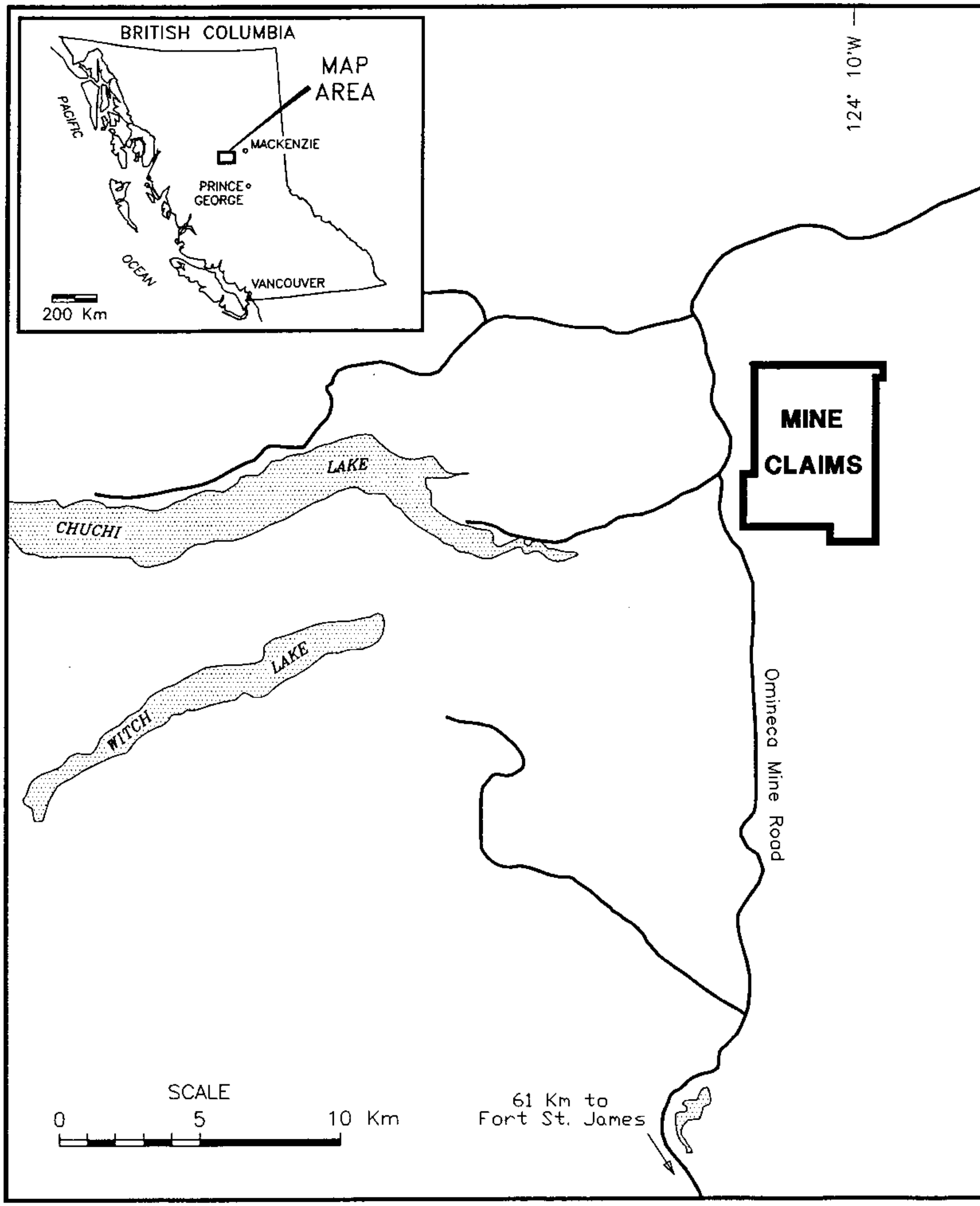
The MINE 1-7 claims are owned by Douglas Forster (50%) and United Mineral Services Ltd.(50%). Particulars are listed below:

Claim	Units	Rec. No.	New Tenure No.	Expiry
Mine 1	20	11417	241571	1/22/92
Mine 2	20	11418	241572	1/22/92
Mine 3	12	11419	241573	1/20/92
Mine 4	20	11420	241575	1/19/92
Mine 6	20	11422	241576	1/22/92
Mine 7	20	11423	241577	1/22/92

There are no records of previous work in the MINE claims area.

Regional Geology

The property is situated within the Omineca porphyry copper-gold district, a section of the belt of Upper Triassic to Lower Jurassic volcanic rocks and related sediments including



SANFRED RESOURCES LTD.

MINE CLAIMS

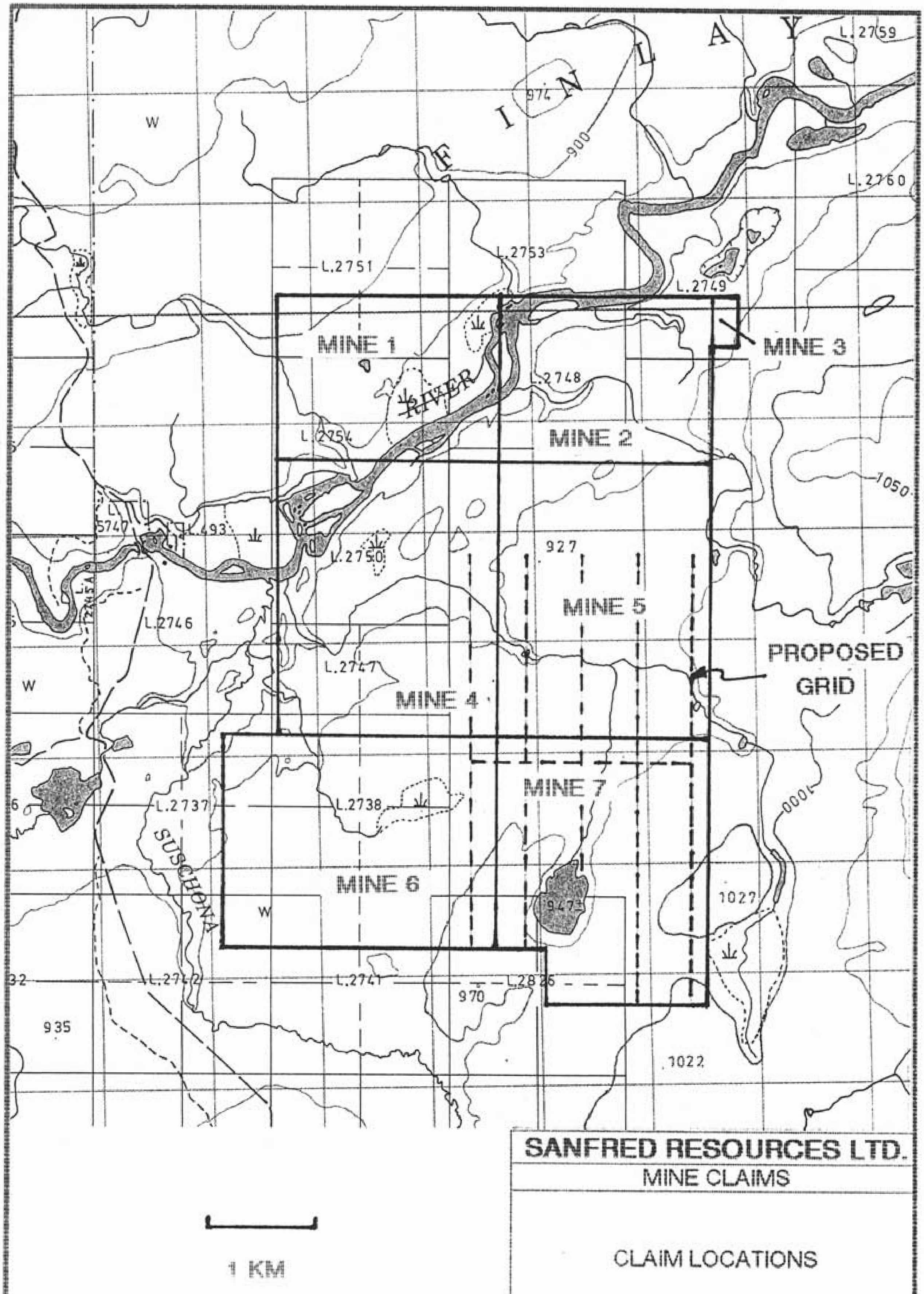
PROPERTY LOCATION PLAN

MOUNT MILLIGAN AREA
CENTRAL BRITISH COLUMBIA

8/91

FIGURE 1

STAARGAARD GEOLOGICAL



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MINE CLAIMS

CLAIM LOCATIONS

8/91

Fig. 2

STAARGAARD GEOLOGICAL

the Nicola, Takla and Stuhini Groups that stretches from the US border to northwestern British Columbia. In the Omineca area, Takla Group volcanic rocks are mainly marine and alkaline, including flows and fragmental rocks together with interbedded volcaniclastic and epiclastic greywacke, siltstone, minor limestone and conglomerate.

The layered rocks are intruded by comagmatic alkalic to calc-alkalic batholiths, stocks, plugs and dykes. Mainly diorite, the intrusives also include syenite, monzonite, monzodiorite and pyroxenite. They are often characterized by disseminated and fracture-controlled magnetite (generating distinct positive magnetic anomalies) and many occurrences of porphyry-style copper±gold mineralization are associated with them. The most significant of these to date is the Mt. Milligan deposit, situated 12 kilometres southeast of the MINE claims, for which Placer Dome Inc. is conducting a final feasibility study. Current reserves are stated at 300 million tonnes grading 0.23% Cu and 0.56 g Au/t (Northern Miner, 7/8/91).

Property Geology

A recent 1:50,000 scale regional bedrock mapping project carried out by the B.C. Geological Survey suggests that the property is underlain mainly by the Upper Triassic to Lower Jurassic Witch Lake Formation, part of the Takla Group. In the claims area, the dominant lithologies include augite-phyric andesite to andesitic basalt flows and fragmentals along with some epiclastic sediments. In addition to ubiquitous augite, the volcanics may also contain phenocrysts of plagioclase and hornblende.

Intrusive rocks are exposed in a series of outcrops along the shore of a small lake about 600m east of the southeastern property boundary. These include sparsely porphyritic latite belonging to the same monzonitic suite as the intrusions hosting the Mt. Milligan deposit. The airborne survey revealed a number of strong positive magnetic anomalies in the central and southeastern parts of the MINE claims. By analogy with other properties in the area, there is a high probability that at least some of these represent intrusions.

The surficial geology in the MINE claims area is well documented in BCGS Open File 1991-7. In its central to northwestern portions, the property is dominated by rolling moraine. Further to the northwest, present-day deposits from the Nation River are superimposed on variably terraced, ridged and hummocky fluvioglacial sands and gravels. In the southeastern portion of the claim group, terraced fluvioglacial sands and gravels and blanket moraine are predominant. Several gullies 15 to 25 metres deep have been cut in these relatively flatlying deposits. Nearby outcrops located by a government geological crew suggest that the overburden in this area may not be that thick. In general, however, overburden depth could be expected to increase to the north and west. Recent drilling west and southwest of the property encountered overburden thicknesses exceeding 200 metres.

Aerodat Survey

Survey Parameters

In April of 1991, Aerodat Ltd completed a helicopter supported airborne magnetic/VLF survey over the MINE claims using a line spacing of 100 metres for a total of 260 line-kilometres. The survey equipment was flown at a mean terrain clearance of 60 metres. A Global Positioning System was used for both navigation and flight path recovery, the latter being supported by a Panasonic VHS format video recorder. A King KRA radar altimeter was used to record terrain clearance. Copies of their report and maps are included in Appendices B and C.

Magnetics

The magnetometer employed a Scintrex model VIW 2321 H8 optically pumped cesium sensor with a sensitivity of 0.1 nT which was towed in a bird 30 metres below the helicopter. Data were collected at 0.2 second intervals and corrected using an IFG proton precession magnetometer base station.

The survey revealed a number of positive magnetic anomalies suggestive of the types of alkaline intrusive with which porphyry copper-gold mineralization is associated in the Mt. Milligan area. The strongest of these, with a magnetic relief of about 1100 nT, is situated along the central eastern property boundary and almost certainly represents a relatively magnetite-rich intrusive body related to but separate from the larger intrusive on Mt. Milligan itself. A similar but smaller body may be responsible for the discrete magnetic high in the northeastern portion of the property. Of particular interest are several weaker highs located around the periphery of the former. Analogies with other prospects in this belt suggest a larger dioritic intrusive with appreciable magnetite content together with several associated and peripheral stocks of more felsic affinity, such as monzonite.

Other intrusives may be responsible for the series of "highs" along the western edge of the claim group. A strong but narrow easterly trending feature in the southern third of the claims may be an intrusive dyke. Finally, higher magnetic values in the southwest corner are probably related to Eocene basalts of the type intersected in drilling on the Assunta claims to the south.

VLF

The system used was a Herz Totem 2A, which measures the total field and quadrature components of the selected frequencies, which for this survey included NKL (Seattle, WA) at 24.8 kHz and NPM (Lualualei, HA) at 23.4 kHz.

A number of linear features, generally at northeasterly or northwesterly trends, are evident in the data. These may or may not be related to bedrock features although in view of the significant depth to bedrock in the western half of the property, they may actually reflect features in the surficial deposits.

Summary and Conclusions

The MINE claims were staked to cover several positive regional magnetic anomalies in a geological setting similar to that of the Mt. Milligan copper-gold deposits some 12 kilometres to the southeast. At least some of these had the potential to reflect the types of alkalic intrusive rocks with which porphyry copper-gold mineralization is often associated, the proximity to the Mt. Milligan deposits further enhancing this possibility.

A strong magnetic anomaly with relief of about 1100 nT is situated along the central eastern property boundary and probably represents a relatively magnetite-rich intrusive body related to but separate from the larger intrusive on Mt. Milligan itself. Of particular interest are several weaker peripheral highs suggesting the presence of satellitic stocks, possibly of a more felsic affinity. By analogy with the Mt. Milligan deposits and other occurrences in the general area, these have the best potential to host porphyry-style copper±gold mineralization.

A number of other magnetic highs to the west and north may reflect intrusives under deeper overburden cover.

Several weak northwesterly and northeasterly trending VLF anomalies probably reflect features in thick surficial deposits rather than bedrock.

Recommendations

Priority for followup work should be assigned to the magnetic anomalies in the eastern and southeastern parts of the property. Although some of the anomalies in the western and northern areas are interesting, there was a greater chance that overburden there would be thick enough to make porphyrygrade copper and gold mineralization irrelevant. Other complications would include the Nation River itself.

An initial program of followup work would be aimed at determining the presence or absence of a significant sulphide system rather than outlining it in detail and should include the following:

a) establishment of a ±20 km chainsaw-cut grid consisting of lines spaced 500 metres apart located in the southeastern part of the property as shown in Figure 2

b) a pole-dipole IP survey along the cut lines to detect any haloes of sulphide minerals associated with the intrusives

c) reconnaissance geochemical soil sampling at 100m intervals along cut lines aimed at locating concentrations of gold, copper and other elements related to mineralized zones in bedrock

d) geological mapping and prospecting of entire grid and other portions of the property if warranted

The above program would cost on the order of $60,000 and would require on the order of three weeks to complete.

References

Barr, D.A., Fox, P.E., Northcote, K.E. and Preto, V.A. (1976): The Alkaline Suite Porphyry Deposits: A Summary: in Porphyry Deposits of the Canadian Cordillera, CIM Special Volume 15, pp. 359-367.

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Nelson, J., Bellefontaine, K., Green, K. and MacLean, M. (1991): Regional Geological Mapping Near the Mount Milligan Copper-Gold Deposit; B.C. Ministry of Energy, Mines and Petroleum Resources, *Geological Fieldwork* 1990, Paper 1991-1, pp. 89-110.

Nelson, J., Bellefontaine, K., Green, K. and MacLean, M. (1991): Geology and Mineral Potential of Wittsichica Creek and Tezzeron Creek Map Areas; B.C. Ministry of Energy, Mines and Petroleum Resources, Open File 1991-3.

The Northern Miner, July 8, 1991 "Placer Dome estimates $420 million for Milligan", p. 2

Statement of Qualifications

I, C.F. Staargaard, of 1470 Doran Road, North Vancouver, B.C., hereby certify that:

a) I am a consulting geologist with offices at 912-510 West Hastings St., Vancouver, B.C.

b) I have the following degrees:

1973	B.Sc.	Geology	The Pennsylvania State University
1981	M.Sc.	Geochemistry	Queen's University, Kingston, Ontario

c) I am a Fellow of the Geological Association of Canada (#5012)

d) I have been continuously employed in mineral exploration in Canada, the USA and South America since 1979 and seasonally since 1975.

e) This report is based on available information together with my personal observations on the MINE claims.

f) I do not have any interests in Sanfred Resources Ltd., either directly or indirectly, nor do I expect to receive any.

Vancouver, B.C.

GEOLOGICAL ASSOCIATION OF CANADA
C. F. STAARGAARD
FELLOW

Appendix A

Statement of Costs

Date		
4/1/92	AERODAT Helicopter-Borne Magnetic-VLF Survey 260 line-km @ $85.60/line-km	22,256.00
5/1/92- 8/9/92	Interpretation and Report Preparation	1,243.29
	Total	23,499.29

Appendix B

Aerodat Report

REPORT ON
COMBINED HELICOPTER-BORNE
MAGNETIC AND VLF SURVEY
MOUNT MILLIGAN AREA
BRITISH COLUMBIA

FOR
SANFRED RESOURCES
BY
AERODAT LIMITED
APRIL 22, 1991

J9117

Ed Hamilton

TABLE OF CONTENTS

List of Maps
(Scale 1:10,000)

Basic Maps: (As described under Appendix B of the Contract)

1. **PHOTOMOSAIC BASE MAP;**
   Prepared from available photographs from the National Photo Library (Ottawa).

2. **FLIGHT LINE MAP;**
   Showing all flight lines and fiducials with the base map.

3. **TOTAL FIELD MAGNETIC CONTOURS;**
   Showing magnetic values corrected of all diurnal variation with flight lines, fiducials, and base map.

4. **VERTICAL MAGNETIC GRADIENT CONTOURS;**
   Showing magnetic gradient values calculated from the total field magnetics with flight lines, fiducials and base map.

5. **VLF-EM TOTAL FIELD CONTOURS;**
   Showing VLF total field response from the line transmitter with flight lines, fiducials, and base map.

1. INTRODUCTION

This report describes an airborne geophysical survey carried out on behalf of Sanfred Resources. Equipment operated during the survey included a high sensitivity cesium vapour magnetometer, a two frequency VLF-EM system, a video tracking camera, radar altimeter, and an electronic positioning system. Magnetic and altimeter data were recorded both in digital and analog forms. Positioning data was stored in digital form, encoded on VHS format video tape and recorded at regular intervals in local UTM coordinates, as well as being marked on the flight path mosaic by the operator while in flight.

The survey area is located approximately 100 kilometres north of Fort St. James, British Columbia. Data from two (2) flights were used to compile the survey results. The flight lines were oriented at an angle of 0 degrees, with a nominal line spacing of 100 metres (according to Appendix "A" of the contract). Geophysical information is provided in the form of maps at 1:10,000. Coverage and data quality were considered to be well within the specifications described in the service contract.

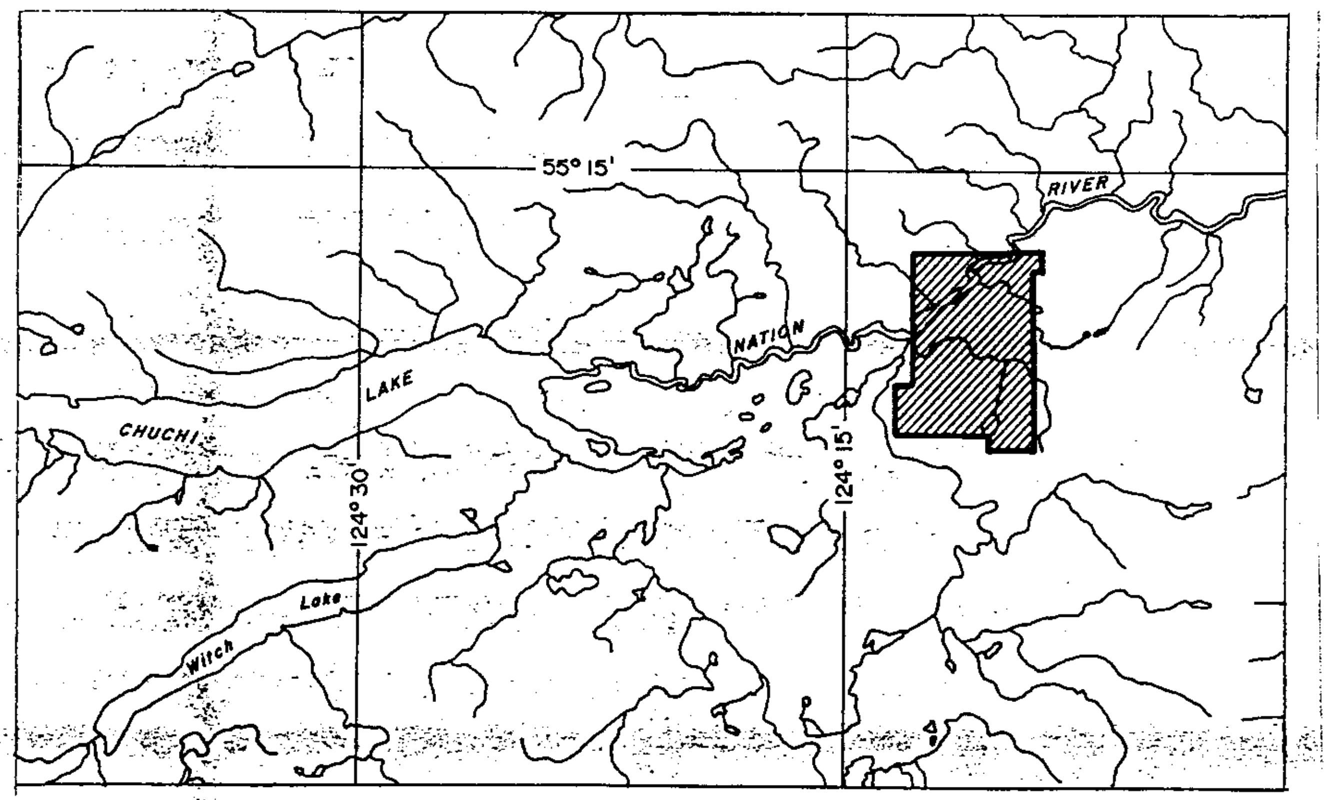
The purpose of the survey was to record airborne geophysical data over ground that is of interest to Sanfred Resources.

The survey encompasses approximately 260 line kilometres of the recorded data that were compiled in a map form at a scale of 1:10,000. The maps are presented as part of this report according to specifications laid out by Sanfred Resources.

2. SURVEY AREA LOCATION

The survey area is depicted on the following index map.

The area is centred at approximate geographic latitude 55 degrees 10 minutes North, longitude 124 degrees 12 minutes West.



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3. AIRCRAFT AND EQUIPMENT

3.1 Aircraft

An Aerospatiale A-Star 350 B helicopter, (C-GPHQ), piloted by Eddie Yong, owned and operated by Peace Helicopters Limited, was used for the survey. Steve Arstad of Aerodat acted as navigator and equipment operator. Installation of the geophysical and ancillary equipment was carried out by Aerodat. The survey equipment was flown at a mean terrain clearance of 60 metres.

3.2 Equipment

3.2.1 VLF-EM System

The VLF-EM System was a Herz Totem 2 A. This instrument measures the total field and quadrature component of the selected frequency. The sensor was towed in a bird 30 metres below the helicopter.

3.2.2 Magnetometer System

The magnetometer employed a Scintrex Model VIW 2321 H8 cesium, optically pumped magnetometer sensor. The sensitivity of this instrument was 0.1 nanoTeslas. The sensor was towed in a bird 30 metres below the helicopter.

3.2.3 Magnetic Base Station

An IFG proton precession magnetometer was operated at the base of operations to record diurnal variations of the earth's magnetic field. The clock of the base station was synchronized with that of the airborne system to facilitate later correlation.

3.2.4 Altimeter System

A King KRA 10 radar altimeter was used to record terrain clearance. The output from the instrument is a linear function of altitude for maximum accuracy.

3.2.5 Tracking Camera

A Panasonic video flight path recording system was used to record the flight path on standard VHS format video tapes. The system was operated in continuous mode and the flight number, real time and manual fiducials were registered on the picture frame for cross-reference to the analog and digital data.

3.2.6 Analog Recorder

An RMS dot-Matrix recorder was used to display the data during the survey. In addition to manual and time fiducials, the following data was recorded:

Channel	Input	Scale
VLT	VLF-EM Total Field, Line	25 %/cm
VLQ	VLF-EM Quadrature, Line	25 %/cm
VOT	VLF-EM Total Field, Ortho	25 %/cm
VOQ	VLF-EM Quadrature, Ortho	25 %/cm
RALT	Radar Altimeter	100 ft./cm
MAGF	Magnetometer, fine	25 nT/cm
MAGC	Magnetometer, coarse	250 nT/cm

3.2.7 Digital Recorder

A DGR 33:16 data system recorded the survey on magnetic tape. Information recorded was as follows:

Equipment	Recording Interval
VLF-EM	0.20 seconds
Magnetometer	0.20 seconds
Altimeter	0.20 seconds
Nav System	0.20 seconds

3.2.8 Global Positioning System

A Global Positioning System was used for both navigation and flight path recovery. Receivers sited at fixed locations were interrogated several times per second and the locations from these points were recorded to a high degree of accuracy, providing the pilot with navigation information. The positional data was recorded on magnetic tape for subsequent flight path determination.

4. DATA PRESENTATION

4.1 Base Map

A photomosaic base map at a scale of 1:10,000 was prepared from available photographs from the National Photo Library (Ottawa).

4.2 Flight Path Map

The flight path was derived from the Global Positioning System.

The flight lines have the time and the navigator's manual fiducials for cross reference to both analog and digital data.

4.3 Magnetics

4.3.1 Total Field Magnetic Contours Map

The magnetic data from the high sensitivity cesium magnetometer provided virtually a continuous magnetic reading when recording at 0.2 second intervals. The system is also noise free for all practical purposes.

A sensitivity of 0.1 nanoTesla (nT) allows for the mapping of very small inflections in the magnetic field, resulting in a contour map that is equal to or exceeds ground data in quality and accuracy.

The aeromagnetic data was corrected for diurnal variations by adjustment with the digitally recorded base station magnetic values. No correction for regional variation was applied. The corrected data was interpolated onto a regular grid at a 25 metre true scale interval using an Akima spline technique. This grid provided the basis for threading the presented contours at a 2 nT interval.

The contoured aeromagnetic data has been presented on a Cronaflex copy of the base map with flight lines.

4.3.2 Vertical Gradient Contour Map

The vertical magnetic gradient was calculated from the total field magnetic data. Contoured at a 0.2 Nt/m interval, the data was presented on a cronaflex copy of the base map with flight lines.

4.4 VLF-EM Total Field Contours

The VLF data was interpolated onto a regular grid at a 25 metre true scale interval using an Akima spline technique. This grid provided the basis for threading the contours at a 2% interval.

The VLF-EM signal from the line transmitting station was compiled as contours in map form on cronaflex copies of the base map with flight lines.

The VLF stations used for the survey area were NKL, Seattle Washington, U.S.A., broadcasting at 24.8 kHz, and NPM, Lualualei, Hawaii, broadcasting at 23.4 kHz.

NKL was used as the line transmitting station for flights 1 and 2.

NPM, was used for flights 1 and 2 as the orthogonal station.

Respectfully submitted,

April 22, 1991

Ed Hamilton

APPENDIX I

PERSONNEL

FIELD

Flown	April 1991
Pilot	Eddie Yong
Operator	Steve Arstad

OFFICE

Processing	E. Hamilton G. McDonald
Report	E. Hamilton

APPENDIX II

GENERAL INTERPRETIVE CONSIDERATIONS

Magnetics

A digital base station magnetometer was used to detect fluctuations in the magnetic field during flight times. The airborne magnetic data was levelled by removing these diurnal changes. The Total Field Magnetic map shows the levelled magnetic contours, uncorrected for regional variation.

The Calculated Vertical Gradient map shows contours of the magnetic gradient as calculated from the total field magnetic data. The zero contour shows changes in the magnetic lithologies and will coincide closely with geologic contacts assuming a steeply dipping interface. Thus this data may be used as a pseudo-geologic map.

VLF Electromagnetics

The VLF-EM method employs the radiation from powerful military radio transmitters as the primary signals. The magnetic field associated with the primary field is elliptically polarized in the vicinity of electrical conductors. The Herz Totem uses three coils in the X, Y, Z configuration to measure the total field and vertical quadrature component of the polarization ellipse.

The relatively high frequency of VLF (15-25) kHz provides high response factors for bodies of low conductance. Relatively "disconnected" sulphide ores have been found to produce measurable VLF signals. For the same reason, poor conductors such as sheared contacts, breccia zones, narrow faults, alteration zones and porous flow tops normally produce VLF anomalies. The method can therefore be used effectively for geological mapping. The only relative disadvantage of the method lies in its sensitivity to conductive overburden. In conductive ground to depth of exploration is severely limited.

The effect of strike direction is important in the sense of the relation of the conductor axis relative to the energizing electromagnetic field. A conductor aligned along a radius drawn from a transmitting station will be in a maximum coupled orientation and thereby produce a stronger response than a similar conductor at a different strike angle. Theoretically, it would be possible for a conductor, oriented tangentially to the transmitter to produce no signal. The most obvious effect of the strike angle consideration is that conductors favourably oriented with respect to the transmitter location and also near perpendicular to the flight direction are most clearly rendered and usually dominate the map presentation.

The total field response is an indicator of the existence and position of a conductivity anomaly. The response will be a maximum over the conductor, without any special filtering, and strongly favour the upper edge of the conductor even in the case of a relatively shallow dip.

The vertical quadrature component over steeply dipping sheet-like conductor will be a cross-over type response with the cross-over closely associated with the upper edge of the conductor.

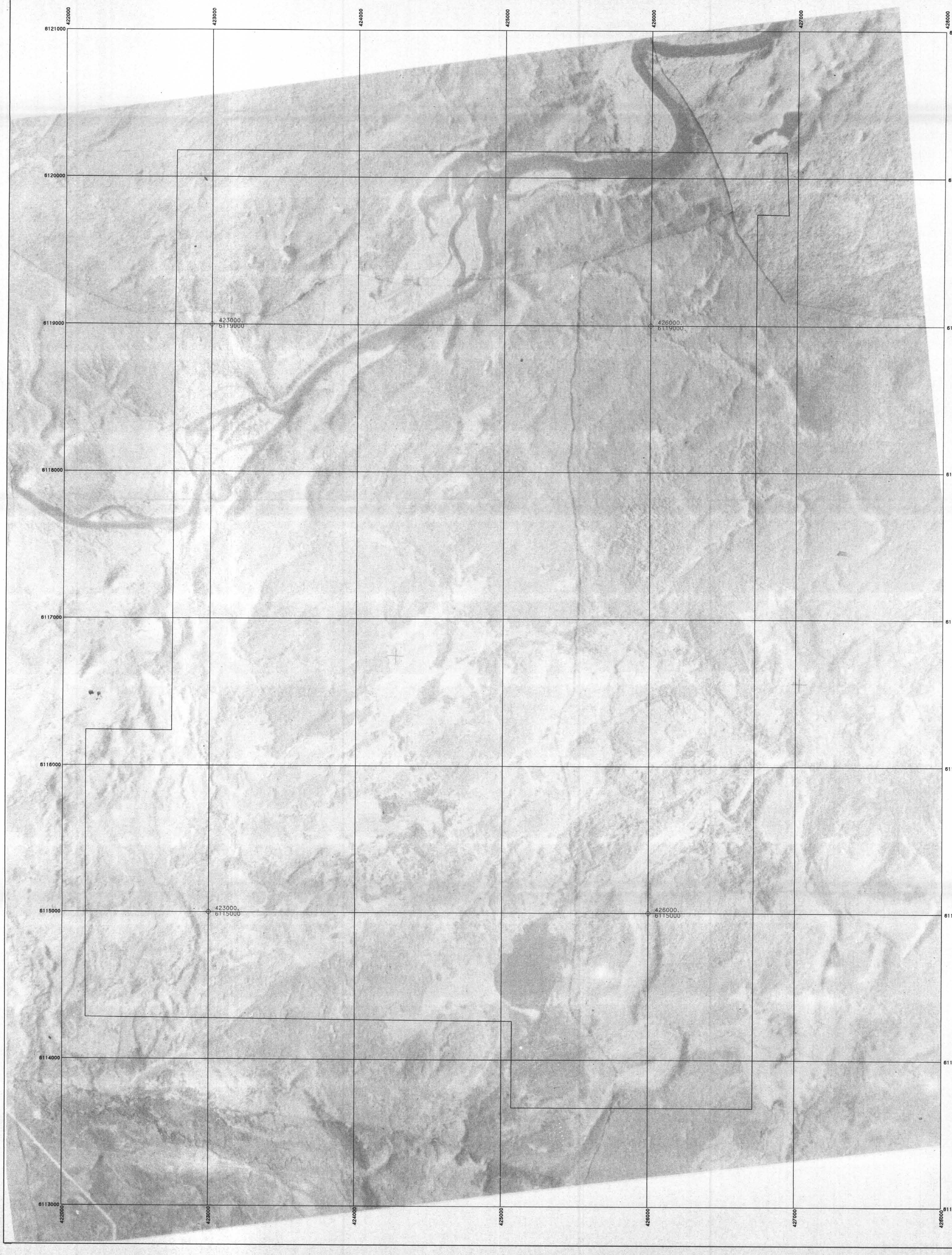
The response is a cross-over type due to the fact that it is the vertical rather than total field quadrature component that is measured. The response shape is due largely to geometrical rather than conductivity considerations and the distance between the maximum and minimum on either side of the cross-over is related to target depth. For a given target geometry, the larger this distance the greater the depth.

The amplitude of the quadrature response, as opposed to shape is function of target conductance and depth as well as the conductivity of the overburden and host rock. As the primary field travels down to the conductor through conductive material it is both attenuated and phase shifted in a negative sense. The secondary field produced by thisaltered field at the target also has an associated phase shift. This phase shift is positive and is larger for relatively poor conductors. This secondary field is attenuated and phase

shifted in a negative sense during return travel to the surface. The net effect of these 3 phase shifts determine the phase of the secondary field sensed at the receiver.

A relatively poor conductor in resistive ground will yield a net positive phase shift. A relatively good conductor in more conductive ground will yield a net negative phase shift. A combination is possible whereby the net phase shift is zero and the response is purely in-phase with no quadrature component.

A net positive phase shift combined with the geometrical cross-over shape will lead to a positive quadrature response on the side of approach and a negative on the side of departure. A net negative phase shift would produce the reverse. A further sign reversal occurs with a 180 degree change in instrument orientation as occurs on reciprocal line headings. During digital processing of the quadrature data for map presentation this is corrected for by normalizing the sign to one of the flight line headings.



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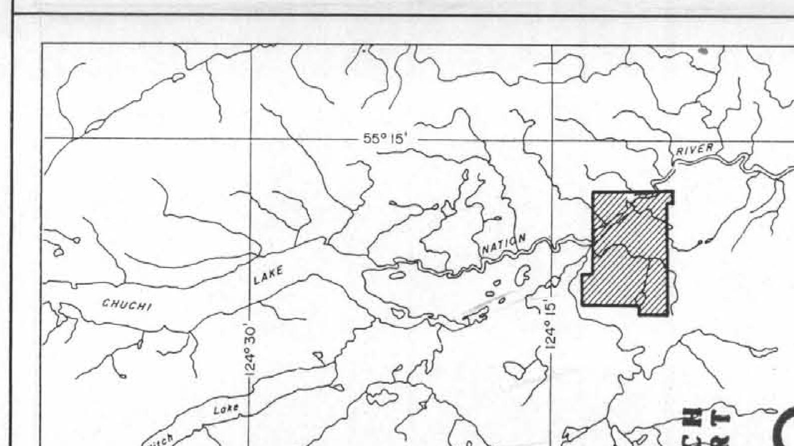

SANFRED RESOURCES LTD.

BASE MAP

MOUNT MILLIGAN AREA

BRITISH COLUMBIA

SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	APRIL 1991
NTS No:	93N/1
MAP No:	1 J9117 - 1

GEOLOGICAL BRANCH
ASSESSMENT REPORT

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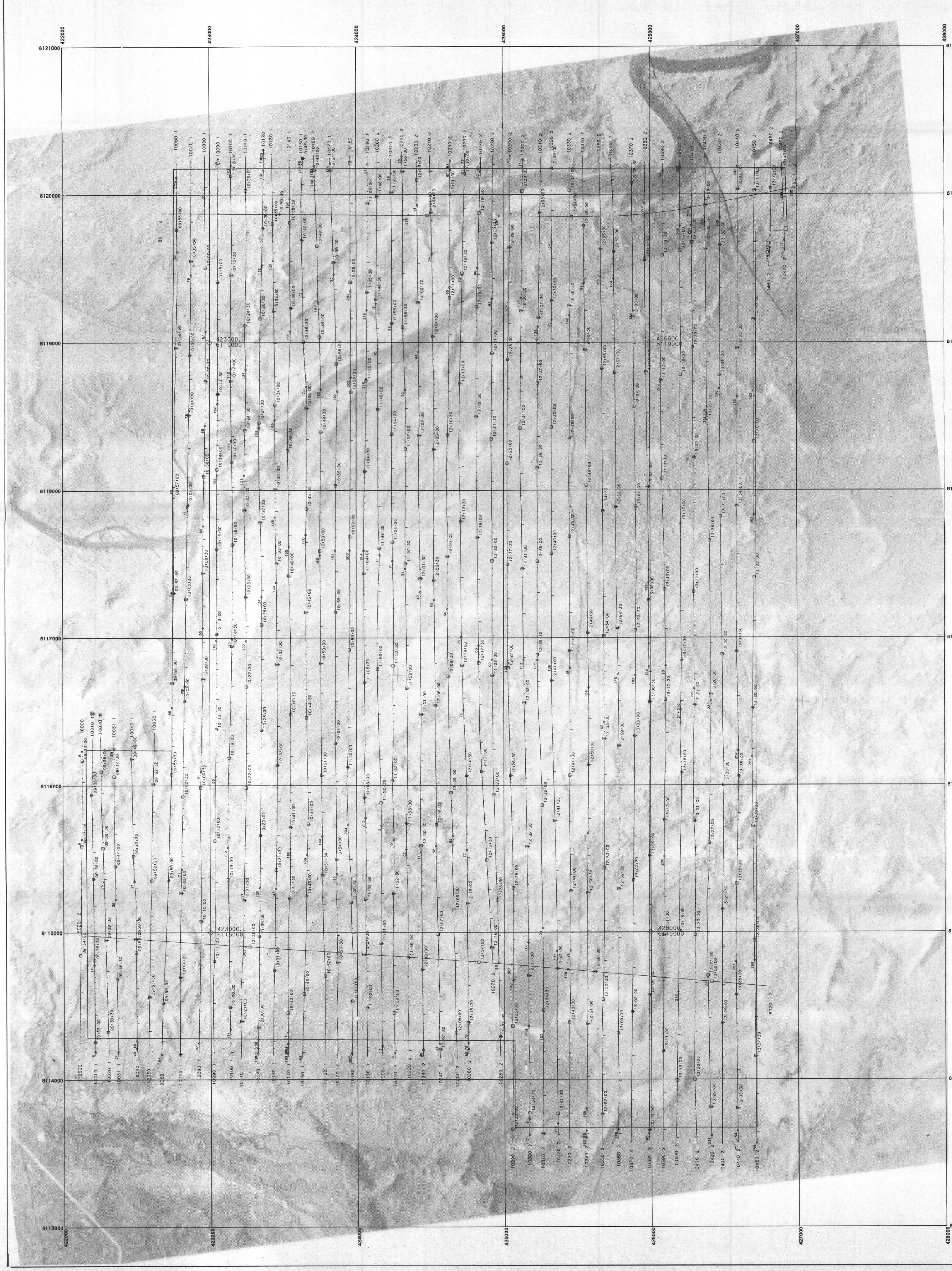
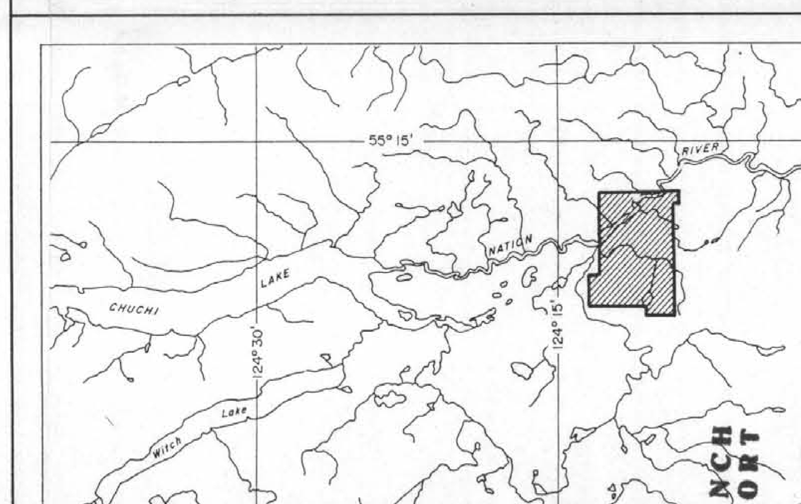


Flight Path

Navigation and recovery using a Global Positioning (GPS) navigation system.

Average terrain clearance 60m
Average line spacing 100m



GEOLOGICAL BRANCH
ASSESSMENT REPORT

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SANFRED RESOURCES LTD.

FLIGHT PATH

MOUNT MILLIGAN AREA

BRITISH COLUMBIA

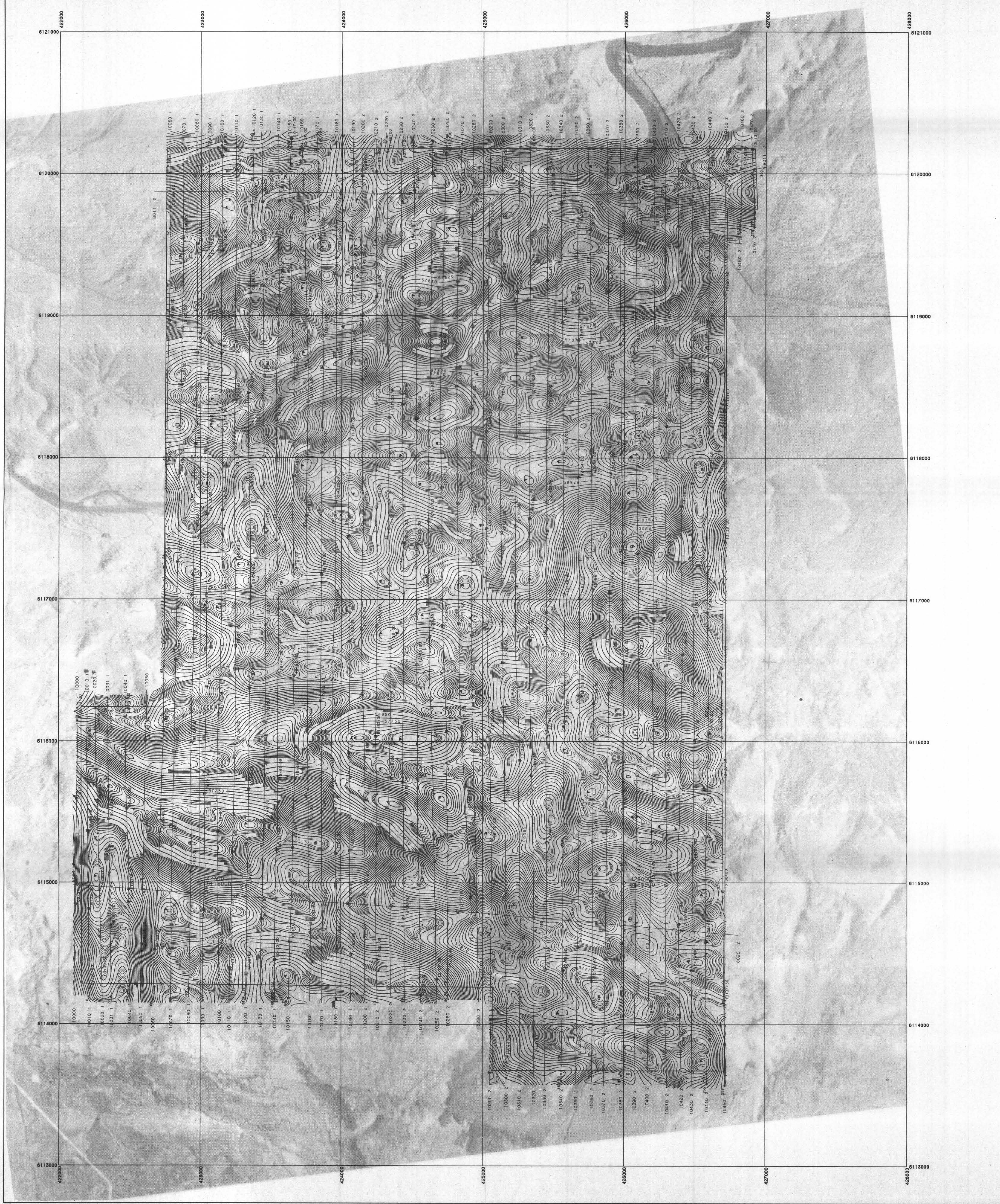
SCALE 1:10,000

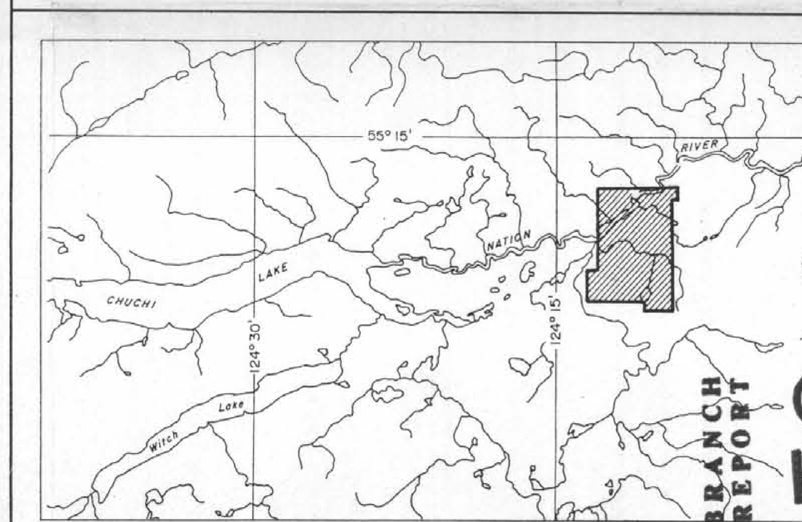
0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE: APRIL 1991
NTS No: 93N/1
MAP No: 2 J9117 - 1





Flight Path

Navigation and recovery using a Global Positioning (GPS) navigation system.

Average terrain clearance 60m
Average line spacing 100m

Magnetics

Total Field Magnetic Intensity Contours in nT.

Cesium high sensitivity magnetometer.

Sensor elevation 45m

Map contours are multiples of those listed below

- 2 nT
- 10 nT
- 50 nT
- 250 nT
- 1000 nT

SANFRED RESOURCES LTD.

TOTAL FIELD MAGNETIC CONTOURS

MOUNT MILLIGAN AREA

BRITISH COLUMBIA

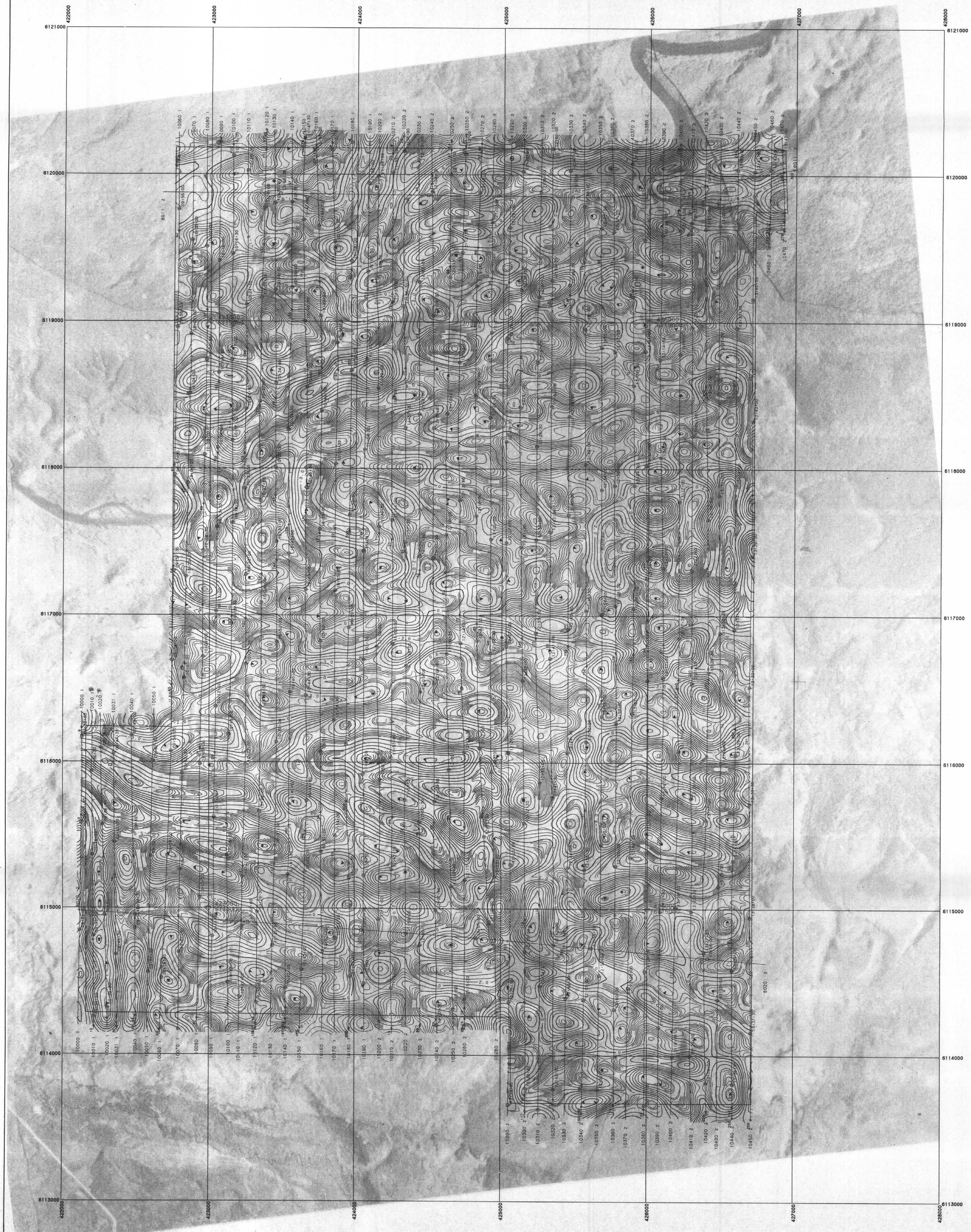
SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE: APRIL 1991
NTS No: 93N/1
MAP No: 4 J9117 - 1



Flight Path.

Navigation and recovery using a Global Positioning (GPS) navigation system.

Average terrain clearance 60m
Average line spacing 100m

Vertical Gradient

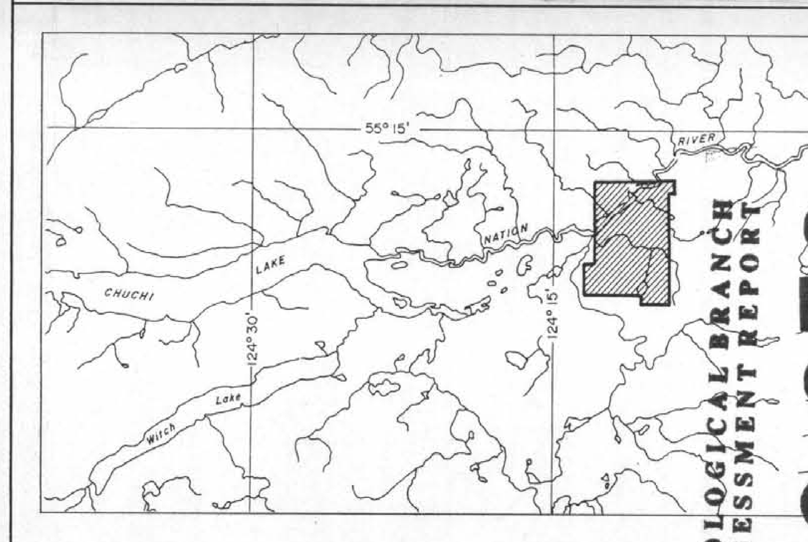
Vertical Magnetic Gradient calculated from the total field magnetic intensity in nT/m.

Cesium high sensitivity magnetometer.

Sensor elevation 45m

Map contours are multiples of those listed below

0.20 nT
1.00 nT
5.00 nT
25.0 nT
100.0 nT



SANFRED RESOURCES LTD.

CALCULATED VERTICAL MAGNETIC GRADIENT

MOUNT MILLIGAN AREA

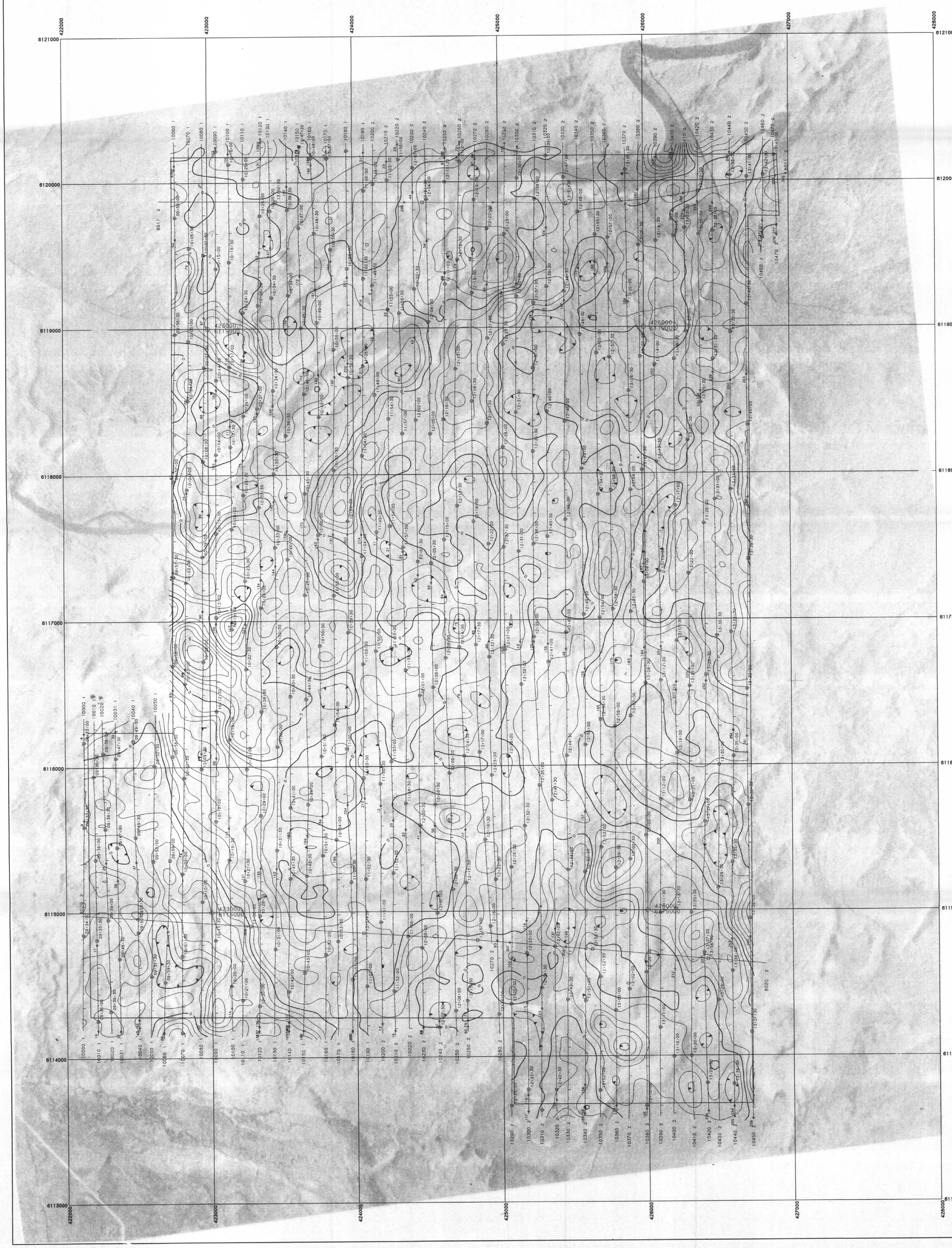
BRITISH COLUMBIA

SCALE 1:10,000

0 330 660 1320 2640 Feet
0 100 200 500 1000 Metres

AERODAT LIMITED

DATE: APRIL 1991
NTS No: 93N/1
MAP No: 5 J9117 - 1



Flight Path

Navigation and recovery using a Global Positioning (GPS) navigation system.

Average terrain clearance 60m
Average line spacing 100m

VLF-EM

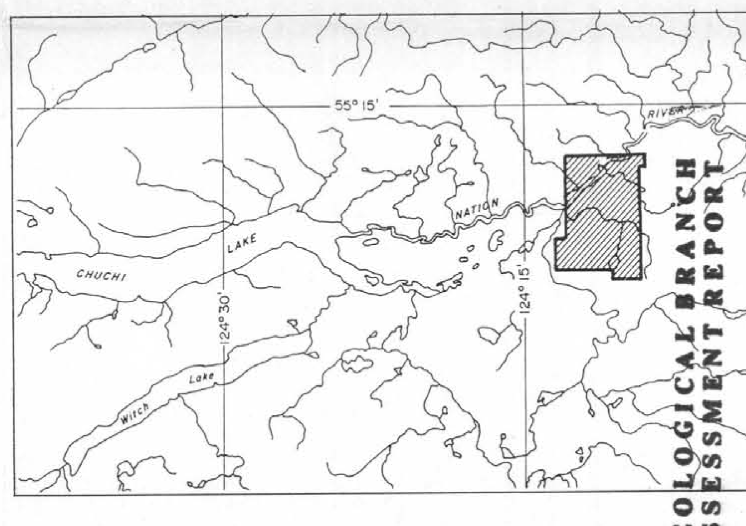
VLF-EM Total Field Intensity in percent.

Station: NLK
Jim Creek, Washingtom
24.8 kHz

Sensor elevation 45m

Map contours are multiples of those listed below

1 %
5 %
25 %
100 %



SANFRED RESOURCES LTD.

VLF-EM TOTAL FIELD CONTOURS (LINE CHANNEL)

MOUNT MILLIGAN AREA

BRITISH COLUMBIA

SCALE 1:10,000

0 330 660 1320 2640 Feet

0 100 200 500 1000 Metres

AERODAT LIMITED

DATE:	APRIL 1991
NTS No:	93N/1
MAP No:	6 J9117 - 1