

87-461-15938

REPORT ON
COMBINED HELICOPTER BORNE
ELECTROMAGNETIC, MAGNETIC, AND VLF-EM
SURVEY
ANTLER CREEK PROPERTY,
BOWRON PROVINCIAL FOREST
BARKERVILLE AREA
CARIBOO MINING DIVISION, BRITISH COLUMBIA

8/90

for
RISE RESOURCES INCORPORATED
by

AERODAT LIMITED

GEOLOGICAL BRANCH
ASSESSMENT REPORT
August 3, 1987

CLAIMS SURVEYED

15,938

CLAIM	UNITS	RECORD NUMBER	ANNIVERSARY
LUKE	20	7831	AUGUST 5
C12	14	7890	AUGUST 26
MATT	1	7891	AUGUST 26
ORO	20	8205	JANUARY 2

FILMED

OWNER: RISE RESOURCES INC.
OPERATOR: RISE RESOURCES INC.

TABLE OF CONTENTS

	PAGE NO.
1. INTRODUCTION	1- 1 /
2. SURVEY AREA LOCATION	2- 1 /
3. AIRCRAFT AND EQUIPMENT	
3.1 Aircraft	3- 1 /
3.2 Equipment	3- 1 /
3.2.1 Electromagnetic System	3- 1 /
3.2.2 VLF-EM System	3- 1 /
3.2.3 Magnetometer	3- 2 /
3.2.4 Magnetic Base Station	3- 2 /
3.2.5 Radar Altimeter	3- 2 /
3.2.6 Tracking Camera	3- 3 /
3.2.7 Analog Recorder	3- 3 /
3.2.8 Digital Recorder	3- 4 /
4. DATA PRESENTATION	
4.1 Base Map	4- 1 /
4.2 Flight Path Map	4- 1 /
4.3 Airborne Survey Interpretation Map	4- 1 /
4.4 Total Field Magnetic Contours	4- 3 /
4.5 Vertical Magnetic Gradient Contours	4- 3 /
4.6 Apparent Resistivity Contours	4- 4 /
4.7 VLF-EM Total Field Contours	4- 4 /
5. INTERPRETATION AND RECOMMENDATIONS	
5.1 Geology	5- 1 /
5.2 Magnetics	5- 4 /
5.3 Vertical Gradient Magnetics	5- 5 /
5.4 Electromagnetics	5- 6 /
5.5 Apparent Resistivity	5-12 /
5.6 VLF-EM Total Field	5-13 /
5.7 Recommendations	5-13 /
APPENDIX I - General Interpretive Considerations /	
APPENDIX II - Anomaly List	
APPENDIX III - Certificate of Qualifications ✓	
APPENDIX IV - Cost Statement ✓	

LIST OF MAPS

(Scale 1:10,000)

MAPS: (As listed under Appendix "B" of the Agreement)

- I. PHOTOMOSAIC BASE MAP;
prepared from an uncontrolled photo laydown, showing registration crosses corresponding to NTS co-ordinates on survey maps. ✓
- II. FLIGHT LINE MAP;
showing all flight lines and fiducials. ✓
- III. AIRBORNE ELECTROMAGNETIC SURVEY INTERPRETATION MAP;
showing flight lines, fiducials conductor axes and anomaly peaks along with inphase amplitudes and conductivity thickness ranges for the 4600 Hz coaxial coil system. ✓
- IV. TOTAL FIELD MAGNETIC CONTOURS;
showing magnetic values contoured at 5 nanoTesla intervals, flight lines and fiducials. ✓
- V. VERTICAL MAGNETIC GRADIENT CONTOURS;
showing magnetic gradient values contoured at 0.5 nanoTeslas per metre.
- VI. APPARENT RESISTIVITY CONTOURS;
showing contoured resistivity values, flight lines and fiducials. ✓
- VII. VLF-EM TOTAL FIELD CONTOURS;
showing relative contours of the VLF Total Field response, flight lines and fiducials. ✓

LIST OF MAPS CONT'D

- VIII(a) ELECTROMAGNETIC PROFILES;
showing inphase and quadrature amplitudes of 4175 Hz
coplanar data (dashed lines) and 4600 Hz coaxial data
(solid lines) along the flight lines.
- VIII(b) ELECTROMAGNETIC PROFILES;
showing inphase and quadrature amplitudes of 935 Hz
coaxial data (solid lines) along the flight lines.

1. INTRODUCTION

This report describes an airborne geophysical survey carried out on behalf of Rise Resources Incorporated by Aerodat Limited.

Equipment operated included a three frequency electromagnetic system, a high sensitivity cesium vapour magnetometer, a two frequency VLF-EM system, a film tracking camera, and an altimeter. Electromagnetic, magnetic and altimeter data were recorded both in digital and analog form.

The survey area, comprising a block of ground in the Cariboo Mining District of British Columbia, is located along the southern boundary of Bowron Provincial Forest and approximately 13 kilometres south-southeast of Barkerville, B.C. Three flights, which were flown on February 20 and 21, 1987, were required to complete the survey with flight lines oriented at an Azimuth of 045-225 degrees and flown at a nominal spacing of 100 metres. Coverage and data quality were considered to be well within the specifications described in the contract.

The survey objective is the detection and location of mineralized zones which can be directly or indirectly related to precious metal exploration targets. Of importance, therefore, are poorly mineralized conductors which may represent structural features

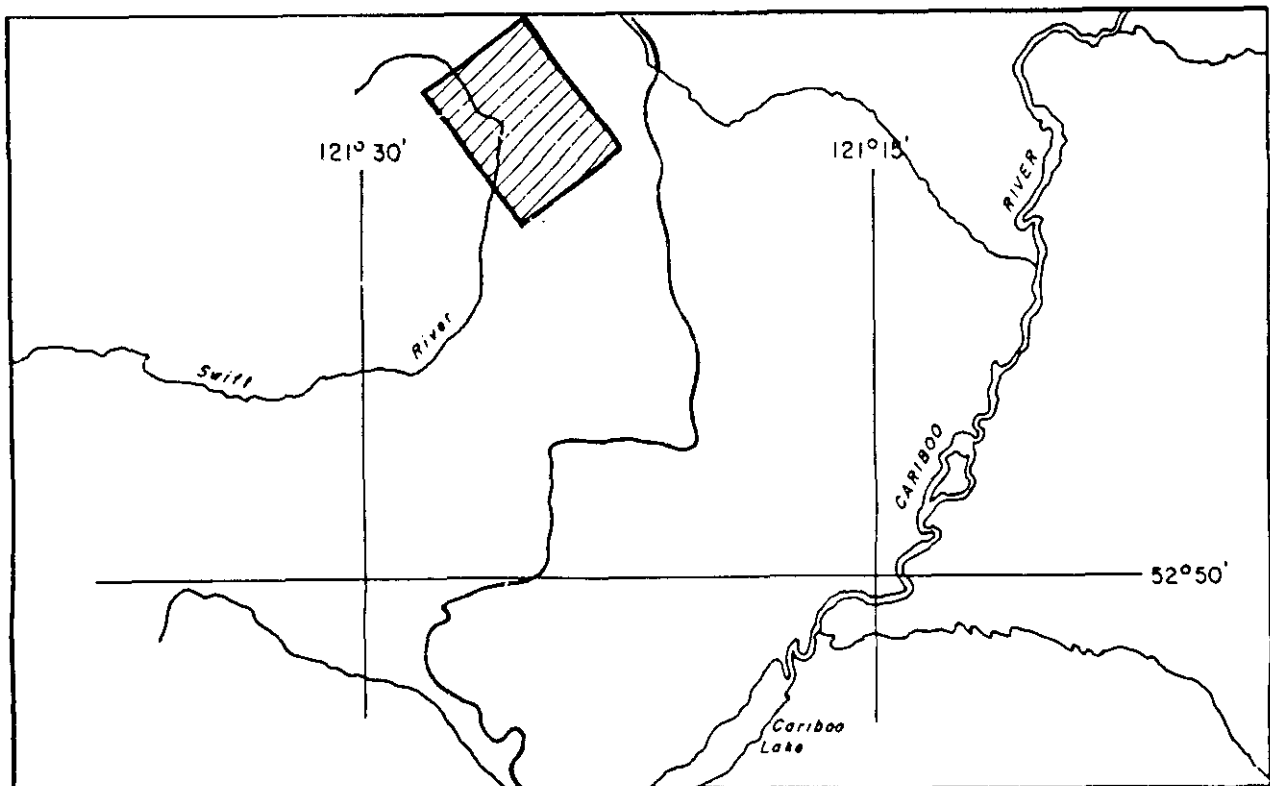
which can sometimes play an essential role in the eventual location of primary minerals.

A total of 173 kilometres of the recorded data were compiled in map form and are presented as part of this report according to specifications outlined by Rise Resources Incorporated.

2. SURVEY AREA LOCATION

The survey area is depicted on the index map shown below. It is centred at Latitude 52 degrees 58 minutes north, Longitude 121 degrees 26 minutes west, approximately 13 kilometres south-southeast of Barkerville, British Columbia in the Cariboo Mining District of northern British Columbia (NTS Reference Map No. 93 A/14). There are no highways, secondary roads or lumber roads leading into the survey area. Referring to the photomosaic base map, it will be seen that lumbering has not taken place within the survey area. It will, therefore, be difficult to access the area. Access by helicopter from the town of Quesnel may be the only way.

The terrain is rough and hilly with a terrain elevation of 4400 feet along Sawflat Creek and a peak of 6000 feet near Antler Mountain.



3. AIRCRAFT AND EQUIPMENT

3.1 Aircraft

An Aerospatiale A-Star 350D helicopter, (C-GNSM), owned and operated by Maple Leaf Helicopters Limited, was used for the survey. Installation of the geophysical and ancillary equipment was carried out by Aerodat. The survey aircraft was flown at a mean terrain clearance of 60 metres.

3.2 Equipment

3.2.1 Electromagnetic System

The electromagnetic system was an Aerodat 3-frequency system. Two vertical coaxial coil pairs were operated at 935 Hz and 4600 Hz and a horizontal coplanar coil pair at 4175 Hz. The transmitter-receiver separation was 7 metres. Inphase and quadrature signals were measured simultaneously for the 3 frequencies with a time constant of 0.1 seconds. The electromagnetic bird was towed 30 metres below the transmitter.

3.2.2 VLF-EM System

The VLF-EM System was a Herz Totem 2A. This instrument measures the total field and quadrature components of two selected transmitters, preferably oriented at right angles to one another. The sensor was

towed in a bird 12 metres below the helicopter. The transmitters monitored were Cutler, Maine broadcasting at 24.0 kHz for the Line station and Jim Creek, Washington broadcasting at 24.8 kHz for the Orthogonal station.

3.2.3 Magnetometer

The magnetometer employed a Scintrex Model VIW-2321 H8 cesium, optically pumped magnetometer sensor. The sensitivity of this instrument was 0.1 nanoTeslas at a 0.2 second sampling rate. The sensor was towed in a bird 12 metres below the helicopter.

3.2.4 Magnetic Base Station

An IFG-2 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.

3.2.5 Radar Altimeter

A Hoffman HRA-100 radar altimeter was used to record terrain clearance. The output from the instrument is a linear function of altitude for maximum accuracy.

3.2.6 Tracking Camera

A Panasonic video tracking camera was used to record flight path on VHS video tape. The camera was operated in continuous mode and the fiducial numbers and time marks for cross reference to the analog and digital data were encoded on the video tape.

3.2.7 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 were recorded:

Channel	Input	Scale
CXI1	Low Frequency Coaxial Inphase	2 ppm/mm
CXQ1	Low Frequency Coaxial Quadrature	2 ppm/mm
CXI2	High Frequency Coaxial Inphase	2 ppm/mm
CXQ2	High Frequency Coaxial Quadrature	2 ppm/mm
CPI1	Mid Frequency Coplanar Inphase	8 ppm/mm
CPQ1	Mid Frequency Coplanar Quadrature	8 ppm/mm
PWRL	Power Line	60 Hz
VLT	VLF-EM Total Field, Line	2.5%/mm

Channel	Input	Scale
VLQ	VLF-EM Quadrature, Line	2.5%/mm
VOT	VLF-EM Total Field, Ortho	2.5%/mm
VOQ	VLF-EM Quadrature, Ortho	2.5%/mm
ALT	Altimeter	10 ft./mm
MAGF	Magnetometer, Fine	2.5 nT/mm
MAGC	Magnetometer, Coarse	25 nT/mm

3.2.8 Digital Recorder

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

<u>Equipment</u>	<u>Recording Interval</u>
EM system	0.1 seconds
VLF-EM	0.4 seconds
Magnetometer	0.2 seconds
Altimeter	0.4 seconds

4. DATA PRESENTATION

4.1 Base Map

A photomosaic base at a scale of 1:10,000 was prepared from a photo lay down map, supplied by Aerodat, on a screened mylar base.

4.2 Flight Path Map

The flight path was manually recovered onto the photomosaic base using the VHS video tape. The recovered points were then digitized, transformed to a local metric grid and merged with the data base. The flight path map showing all flight lines, is presented on a Cronaflex copy of the base map, with camera frame and navigator's manual fiducials for cross reference to both the analog and digital data.

4.3 Airborne Electromagnetic Survey Interpretation Map

The electromagnetic data were recorded digitally at a sample rate of 10 per second with a time constant of 0.1 seconds. A two stage digital filtering process was carried out to reject major spheric events and to reduce system noise.

Local spheric activity can produce sharp, large amplitude events that cannot be removed by conventional filtering procedures. Smoothing or stacking will reduce their amplitude but leave a broader residual response that can be confused with geological phenomena. To avoid this possibility, a computer algorithm searches out and rejects the major spheric events.

The signal to noise ratio was further enhanced by the application of a low pass digital filter. It has zero phase shift which prevents any lag or peak displacement from occurring, and it suppresses only variations with a wavelength less than about 0.25 seconds. This low effective time constant permits maximum profile shape resolution.

Following the filtering process, a base level correction was made. The correction applied is a linear function of time that ensures the corrected amplitude of the various inphase and quadrature components is zero when no conductive or permeable source is present. The filtered and levelled data were used in the interpretation of the electromagnetics.

An interpretation map was prepared showing peak locations of anomalies and conductivity thickness ranges along with the

Inphase amplitudes (computed from the 4600 Hz coaxial response) and conductor axes. The anomalous responses of the three coil configurations along with the interpreted conductor axes were plotted on a Cronaflex copy of the photo base map.

4.4 Total Field Magnetic Contours

The aeromagnetic data were corrected for diurnal variations by adjustment with the digitally recorded base station magnetic values. No correction for regional variation was applied. The corrected profile data were interpolated onto a regular grid at a 20 metre true scale interval using an Akima spline technique. The grid provided the basis for threading the presented contours at a 5 nanoTesla interval.

The contoured aeromagnetic data have been presented on a Cronaflex copy of the photomosaic base map.

4.5 Vertical Magnetic Gradient Contours

The vertical magnetic gradient was calculated from the gridded total field magnetic data. Contoured at a 0.5 nT/m interval, the gradient data were presented on a Cronaflex copy of the photomosaic base map.

4.6 Apparent Resistivity Contours

The electromagnetic information was processed to yield a map of the apparent resistivity of the ground.

The approach taken in computing apparent resistivity was to assume a model of a 200 metre thick conductive layer (i.e., effectively a half space) over a resistive bedrock. The computer then generated, from nomograms for this model, the resistivity that would be consistent with the bird elevation and recorded amplitude for the coaxial frequency pair used. The apparent resistivity profile data were interpolated onto a regular grid at a 20 metres true scale interval using an Akima spline technique.

The contoured apparent resistivity data were presented on a Cronaflex copy of the photomosaic base map with the flight path and electromagnetic anomaly information.

4.7 VLF-EM Total Field Contours

The VLF-EM signals from NAA, Cutler, Maine and NLK, Jim Creek, Washington, broadcasting at 24.0 and 24.8 kHz respectively. The NAA data were compiled in contour map form and presented on a Cronaflex copy of the photomosaic base map.

5. INTERPRETATION

5.1 Geology

There were no geology maps for the survey area available to the writer so that a geological-geophysical interpretation was not possible. However, a limited amount of interesting background was obtained from a paper by D.A. Barr, of DuPont of Canada Exploration Limited, titled 'Gold in the Canadian Cordillera', and taken from the Adams Club 8th Annual Special Symposium, 1979.

Most of the lode and placer gold production in the Canadian Cordillera has been derived from mines and placers in the Intermontane and Omineca Belts. Gold has been produced from rocks of Precambrian to Eocene age, the preferred host environment containing Upper Paleozoic to Upper Jurassic eugeosynclinal or arc-type sedimentary and volcanic rocks adjacent to plutonic complexes of varying size and composition. Auriferous quartz lodes occur in fissures and shear zones which are commonly subsidiary to strong fault zones. In common with most vein-type deposits, structural complexities are an essential part of the mine environment.

Two past producers, for their gold content, were the Cariboo Gold Quartz Mine and the Island Mountain Mine. Both of these mines are situated near the town of Wells in the Barkerville area, about 80 kilometres east of Quesnel in east-central British Columbia.

The area first attracted prospecting activity during the Cariboo gold rush in 1860 when rich placer gold was discovered in the district. Gold bearing quartz veins were discovered in the 1870's but initial lode gold production did not commence until 1933 at Cariboo Gold Quartz and 1934 at Island Mountain.

This may not be true within the survey area but the principal rocks in the mine area are sedimentary formations of the Cariboo Group of probable Lower Cambrian age. There are two formations, one being the Snowshoe Formation, which consists of micaceous quartzite, phyllite and a thin limestone and phyllite bed (Baker limestone beds). It conformably overlies the Midas Formation which consists of phyllite, slate, argillite, metasiltstone and thinly bedded limestone. The nearest intrusive rocks are sills and dykes which intrude the Cariboo Group and younger rocks.

There are numerous faults in the mine area and they play an important role in the formation of ore deposits.

The mineralogy of the quartz veins and replacement bodies is similar. Metallic minerals consist of auriferous pyrite and associated free gold with minor galena, sphalerite, cosalite, bismuthinite, scheelite, pyrrhotite, arsenopyrite and chalcopyrite. Commercial veins normally contained 15 to 25 percent of pyrite which assayed 1 to 2 ounces gold per ton or more. Replacement ore normally consisted of massive fine grained pyrite, the finest grained pyrite being the most auriferous, assaying as much as 5 ounces gold per ton. Gangue minerals are quartz, ankerite and muscovite in the veins and ankerite with some quartz in the replacement bodies. Both the Cariboo Gold Quartz Mine and Island Mountain Mine contained replacement ore.

Because of the proximity of the survey area to the Barkerville mining camp, it is possible that some of the aforementioned geological deliberations can be related to the geological prospective within the survey area.

Off the northeast edge of the survey boundary, there would appear to have been some workings related to gold placer mining. This is the area in close proximity to Wolf Creek. Another area is off the northern edge of the survey area, just north of Antler Mountain. The writer does not have any background for either of these areas but it may not be presumptuous to conclude that the source for these placer emplacements could be from higher ground close to Antler Mountain.

5.2 Magnetics

The northern half of the survey area displays a generally higher level of magnetic intensity compared to the south half, possibly reflecting the density of intrusive rocks which intrude the Cariboo Group and younger rocks.

It is felt that the three elongated magnetic features located in the southern half of the survey area are related to intrusive rocks as well.

Areas of lower magnetic intensity could be related to Midas Formation phyllite, slate, argillite, metasilstone and thinly bedded limestone.

Structurally, the writer has indicated a few faults which seem to cross cut the geology as opposed to being stratigraphically related. There are definitely other areas of weakness within the survey area but an attempt to delineate them all is beyond the scope of this report. An interpreted fault along Antler Creek may be stratigraphic related.

5.3 Vertical Magnetic Gradient Contours

This presentation has clearly defined those areas mentioned previously, as well as delineating a somewhat northwest-southeast lithology. There is no doubt that folding does exist, in fact, some rather tight folding.

As mentioned previously in Section 5.2, Magnetics, there is no question of the number of faults within the survey area.

It is this type of data processing which enhances structural features such as faults, certainly much more so than the magnetic total field. As well, it is this structural effect which plays an important role in the formation of ore deposits.

It should also be noted that the zero contour interval coincides directly or very close to geological contacts. It is because of this phenomenon that the calculated vertical gradient map can be compared to a pseudo-geological map.

By using known or accurate geological information and combining this data with the vertical gradient data, one can use the presented map as a pseudo-geological map. Obviously, the more that is known about an area geologically, the closer this type of presentation is to what the rock types are.

5.4 Electromagnetics

The electromagnetic data was first checked by a line-by-line examination of the analog records. Record quality was good with minor noise levels on the low frequency coaxial trace. This was readily removed by an appropriate smoothing filter. Instrument noise was well within specifications. Geologic noise, in the form of surficial conductors, is present on the higher frequency responses and to a minor extent, on both the low frequency inphase and quadrature response.

Anomalies were picked off the analog traces of the low and high frequency coaxial responses and then validated on the coplanar profile data. These selections were then checked with a proprietary computerized selection program which can be adjusted for ambient and instrumental noise. The data were then edited and re-plotted on a copy of the profile map. This

procedure ensured that every anomalous response spotted on the analog data was plotted on the final map and allowed for the rejection - or inclusion if warranted - of obvious surficial conductors. Each conductor or group of conductors was evaluated on the bases of magnetic (and lithologic, where applicable) correlations apparent on the analog data and man made or surficial features not obvious on the analog charts.

RESULTS

As a result of this airborne survey being carried out, it is very clear that the entire area, with few exceptions, is overlain by a thin layer of conductive overburden. If one assumes a constant level of conductivity, throughout the survey area, then changes in amplitude, especially with the high frequency quadrature response, can be related to a thickening or thinning of the overburden cover.

There were a number of good electrical conductors, that are associated with bedrock sources, which have been interpreted within the survey block. Several have good magnetic correlation while others are associated with magnetic lows.

The comment has been made that commercial veins containing gold ore normally contained 15 to 25 percent of pyrite which assayed 1 to 2 ounces of gold per ton. It is also known that pyrrhotite exists within these horizons as well. However, it is probably not as prevalent as the pyrite.

As mentioned, the writer has outlined several bedrock conductors on the map and have been designated on the interpretation map with a number, as a reference only. Not having access to any detailed geological maps, it is impossible for the writer to give any geological - geophysical deliberations on these targets. There are also some weaker conductive trends on the EM map where the writer feels further work is definitely warranted. Again, not having access to any geology maps makes it difficult to render an informative correlation with the geophysical responses.

Each of the numbered conductors on the interpretation map should be investigated in any future ground exploration programme. These conductors, because of their strengths in conductance and amplitude, are interpreted to be massive to semi-massive sulphides.

Because of the number of conductors involved within the survey area, a few brief comments will be made on each of them.

ZONE 1 is an isolated conductor displaying low conductance and would appear to be correlating with a geological contact. The trend may extend to the south beyond the survey boundary.

ZONE 2 is a conductor having reasonably good conductivity and seems to be correlating with a magnetic low. Intercept 460A has a much sharper response compared to the rest of the anomalies along the trend, perhaps suggesting a narrower portion of the long trend. All other anomalies seem to present much broader EM responses indicating a wider conductor.

ZONES 3 to 6 display rather poor electromagnetic responses but are still considered to be related to bedrock conductors. They all seem to be associated with magnetic lows. ZONE 4 correlates very closely with a creek called Nugget Gulch, suggesting that silt may be the cause.

ZONE 7 displays good conductivity and is correlating with a magnetic high which has an intensity in the order of 60 gammas. It should also be noted that the better conductivity coincides with areas of higher magnetics. This would seem to be a reflection on the pyrrhotite content. The writer also suspects that ZONE 7 may be an offset of ZONE 29 as a result of a

fault zone. Both the electromagnetic responses and the magnetics are similar for both zones.

ZONES 8 to 11 display rather poor conductivity and do not appear to have magnetic association. The south end of ZONE 8 may have been affected by the interpreted major fault zone. A similar relationship can be applied for ZONES 9 and 10. As well, these last two zones correlate with Sawflat Creek. Any further work on ZONE 12 should be carried out in the vicinity of intercept 281C. It displays poor conductivity but has a reasonable amplitude. This would suggest a wide zone. There is a very subtle magnetic feature associated with ZONE 12. ZONE 13 displays very poor conductivity.

ZONES 14 and 15 display reasonable EM responses and certainly reflect bedrock sources. A fault zone may have had an effect on both conductors. Further work is recommended on both zones. ZONES 16 and 17 are both weak conductive trends.

Bedrock sources are thought to be the cause for both ZONES 18 and 19. Magnetics are not involved. ZONE 20 is a very poor conductor which doesn't warrant any further work. ZONES 21 and 22 both display poor conductivity with only ZONE 22 having any magnetic association. ZONES 23 to 27 all display

fair to poor conductivity. Intercepts 110A and 100D are two anomalies where further work in the field could be carried out.

ZONES 28 and 29 are thought to be the same conductor but have been offset by a fault zone. As well, as mentioned earlier, the southern end of ZONE 29 may be the offset portion of ZONE 7. This is something that should be kept in mind when following up on both conductors. ZONE 30 is a very weak conductor.

ZONES 31 to 33 are all considered to be related to bedrock conductors. There is no magnetic association with ZONE 31, however, there are subtle magnetic features with ZONES 32 and 33. Both ZONES 32 and 33 may have been affected by fault zones.

Note the relationship between some of the fault zones and the conductors. As mentioned previously in Section 5.1, these structural features may play an important role in the deposition of economic mineralization. It is also clear that auriferous quartz lodes occur in fissures and shear zones which are commonly subsidiary to stronger fault zones. This

should be kept in mind when investigating the electrical conductors, both the stronger trends as well as the weaker ones.

5.5 Apparent Resistivity

The apparent resistivity contour map gives a fair depiction of the surficial resistivities over the survey area and provides, in some areas, an additional method of assessing the various lithological units. Using all existing geological information, one can correlate some of this data with the apparent resistivity contour map to derive a pseudo-geological map of the area.

Besides outlining the known bedrock conductors, this presentation has also outlined what appears to be creek bottom silts.

The southwestern corner of the survey block is quite resistive, while all other areas maintain quite a uniform resistivity. It will be difficult to correlate the other areas of low resistivity with the basement because of the uniformity.

5.6 VLF-EM Total Field

The VLF data shows only faint correlation with the magnetics. The general strike direction of the bedrock units in this area tends to be northwest-southeast whereas the VLF-EM data tends to be oriented more in an east-west direction. It is obvious that the VLF-EM data, for the mostpart, is probably the result of conductive overburden. In fact, there appears to be no similarities between the VLF-EM data and the apparent resistivity contour map. This again suggests a non-relationship between the VLF-EM and the bedrock resistivity but actually one with the conductive overburden.

5.7 Recommendations

As mentioned previously, gold has been produced from rocks of Precambrian to Eocene age, the preferred host environment containing Upper Paleozoic to Upper Jurassic engeosynclinal or arc-type sedimentary and volcanic rocks adjacent to plutonic complexes of varying size and composition. Also, auriferous quartz lodes occur in fissures and shear zones which are commonly subsidiary to strong fault zones.

It is on the above premises that a detailed geological survey as well as a geochemical soil sampling programme be carried out in the vicinity of the stronger intensity magnetic features.

Particular attention should be paid to conductors that are in close proximity to these magnetic features. These include ZONES 7, 22, 28 and 29.

Other conductors which have reasonable conductivity and which may have been affected by fault zones are ZONES 1, 2, 12, 14, 18, 23, 26 and 31. Each one of these areas, depending on the geological make-up of the area, should be investigated in any future ground programme.

Robert J. de Carle

Robert J. de Carle

Consulting Geophysicist

for

AERODAT LIMITED

August 03, 1987

J8659

APPENDIX I

GENERAL INTERPRETIVE CONSIDERATIONS

Electromagnetic

The Aerodat three frequency system utilizes two different transmitter-receiver coil geometries. The traditional coaxial coil configuration is operated at two widely separated frequencies and the horizontal coplanar coil pair is operated at a frequency approximately aligned with one of the coaxial frequencies.

The electromagnetic response measured by the helicopter system is a function of the "electrical" and "geometrical" properties of the conductor. The "electrical" property of a conductor is determined largely by its electrical conductivity, magnetic susceptibility and its size and shape; the "geometrical" property of the response is largely a function of the conductor's shape and orientation with respect to the measuring transmitter and receiver.

Electrical Considerations

For a given conductive body the measure of its conductivity or conductance is closely related to the measured phase shift between the received and transmitted electromagnetic field. A small phase shift indicates a relatively high conductance, a large phase shift lower conductance. A small phase shift results

in a large inphase to quadrature ratio and a large phase shift a low ratio. This relationship is shown quantitatively for a non-magnetic vertical half-plane model on the accompanying phasor diagram. Other physical models will show the same trend but different quantitative relationships.

The phasor diagram for the vertical half-plane model, as presented, is for the coaxial coil configuration with the amplitudes in parts per million (ppm) of the primary field as measured at the response peak over the conductor. To assist the interpretation of the survey results the computer is used to identify the apparent conductance and depth at selected anomalies. The results of this calculation are presented in table form in Appendix II and the conductance and inphase amplitude are presented in symbolized form on the map presentation.

The conductance and depth values as presented are correct only as far as the model approximates the real geological situation. The actual geological source may be of limited length, have significant dip, may be strongly magnetic, its conductivity and thickness may vary with depth and/or strike and adjacent bodies and overburden may have modified the response. In general the conductance estimate is less affected by these limitations than is the

depth estimate, but both should be considered as relative rather than absolute guides to the anomaly's properties.

Conductance in mhos is the reciprocal of resistance in ohms and in the case of narrow slab-like bodies is the product of electrical conductivity and thickness.

Most overburden will have an indicated conductance of less than 2 mhos; however, more conductive clays may have an apparent conductance of say 2 to 4 mhos. Also in the low conductance range will be electrolytic conductors in faults and shears.

The higher ranges of conductance, greater than 4 mhos, indicate that a significant fraction of the electrical conduction is electronic rather than electrolytic in nature. Materials that conduct electronically are limited to certain metallic sulphides and to graphite. High conductance anomalies, roughly 10 mhos or greater, are generally limited to sulphide or graphite bearing rocks.

Sulphide minerals, with the exception of such ore minerals as sphalerite, cinnabar and stibnite, are good conductors; sulphides may occur in a disseminated manner that inhibits electrical

conduction through the rock mass. In this case the apparent conductance can seriously underrate the quality of the conductor in geological terms. In a similar sense the relatively non-conducting sulphide minerals noted above may be present in significant consideration in association with minor conductive sulphides, and the electromagnetic response only relate to the minor associated mineralization. Indicated conductance is also of little direct significance for the identification of gold mineralization. Although gold is highly conductive, it would not be expected to exist in sufficient quantity to create a recognizable anomaly, but minor accessory sulphide mineralization could provide a useful indirect indication.

In summary, the estimated conductance of a conductor can provide a relatively positive identification of significant sulphide or graphite mineralization; however, a moderate to low conductance value does not rule out the possibility of significant economic mineralization.

Geometrical Considerations

Geometrical information about the geologic conductor can often be interpreted from the profile shape of the anomaly. The change in shape is primarily related to the change in inductive coupling among the transmitter, the target, and the receiver.

In the case of a thin, steeply dipping, sheet-like conductor, the coaxial coil pair will yield a near symmetric peak over the conductor. On the other hand, the coplanar coil pair will pass through a null couple relationship and yield a minimum over the conductor, flanked by positive side lobes. As the dip of the conductor decreased from vertical, the coaxial anomaly shape changes only slightly, but in the case of the coplanar coil pair the side lobe on the down dip side strengthens relative to that on the up dip side.

As the thickness of the conductor increases, induced current flow across the thickness of the conductor becomes relatively significant and complete null coupling with the coplanar coils is no longer possible. As a result, the apparent minimum of the coplanar response over the conductor diminishes with increasing thickness, and in the limiting case of a fully 3 dimensional body or a horizontal layer or half-space, the minimum disappears completely.

A horizontal conducting layer such as overburden will produce a response in the coaxial and coplanar coils that is a function of altitude (and conductivity if not uniform). The profile shape will be similar in both coil configurations with an amplitude ratio (coplanar:coaxial) of about 4:1*.

In the case of a spherical conductor, the induced currents are confined to the volume of the sphere, but not relatively restricted to any arbitrary plane as in the case of a sheet-like form. The response of the coplanar coil pair directly over the sphere may be up to 8* times greater than that of the coaxial pair.

In summary, a steeply dipping, sheet-like conductor will display a decrease in the coplanar response coincident with the peak of the coaxial response. The relative strength of this coplanar null is related inversely to the thickness of the conductor; a pronounced null indicates a relatively thin conductor. The dip of such a conductor can be inferred from the relative amplitudes of the side-lobes.

Massive conductors that could be approximated by a conducting sphere will display a simple single peak profile form on both coaxial and coplanar coils, with a ratio between the coplanar to coaxial response amplitudes as high as 8*.

Overburden anomalies often produce broad poorly defined anomaly profiles. In most cases, the response of the coplanar coils closely follows that of the coaxial coils with a relative amplitude ratio of 4*.

Occasionally, if the edge of an overburden zone is sharply defined with some significant depth extent, an edge effect will occur in the coaxial coils. In the case of a horizontal conductive ring or ribbon, the coaxial response will consist of two peaks, one over each edge; whereas the coplanar coil will yield a single peak.

* It should be noted at this point that Aerodat's definition of the measured ppm unit is related to the primary field sensed in the receiving coil without normalization to the maximum coupled (coaxial configuration). If such normalization were applied to the Aerodat units, the amplitude of the coplanar coil pair would be halved.

Magnetics

The Total Field Magnetic Map shows contours of the total magnetic field, uncorrected for regional variation. Whether an EM anomaly with a magnetic correlation is more likely to be caused by a sulphide deposit than one without depends on the type of mineralization. An apparent coincidence between an EM and a magnetic anomaly may be caused by a conductor which is also magnetic, or by a conductor which lies in close proximity to a magnetic body. The majority of conductors which are also magnetic are sulphides containing pyrrhotite and/or magnetite. Conductive and magnetic

bodies in close association can be, and often are, graphite and magnetite. It is often very difficult to distinguish between these cases. If the conductor is also magnetic, it will usually produce an EM anomaly whose general pattern resembles that of the magnetics. Depending on the magnetic permeability of the conducting body, the amplitude of the inphase EM anomaly will be weakened, and if the conductivity is also weak, the inphase EM anomaly may even be reversed in sign.

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 measureable 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 the 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 this altered 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 crossover 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.

APPENDIX II

ANOMALY LIST

J8659 BARKERVILLE AREA, B.C.

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM)		CONDUCTOR		BIRD
				INPHASE	QUAD.	CTP DEPTH	HEIGHT	
-----	-----	-----	-----	-----	-----	MHOS	MTRS	MTRS
6	40	A	0	4.5	5.2	0.5	32	27
6	50	A	1	5.1	2.8	1.7	40	34
6	50	B	0	4.1	5.5	0.4	25	32
6	60	A	1	6.8	6.1	1.0	22	36
6	60	B	1	5.6	4.2	1.2	33	33
6	70	A	2	5.1	1.9	3.1	33	46
6	71	A	0	6.0	5.8	0.8	19	39
6	80	A	0	7.0	6.4	0.9	17	40
6	80	B	0	5.2	7.0	0.5	25	27
6	80	C	1	6.0	4.1	1.4	37	29
6	90	A	1	6.1	5.2	1.0	19	42
6	90	B	0	3.4	6.0	0.2	23	29
6	90	C	0	4.6	6.5	0.4	17	36
6	90	D	0	4.7	6.9	0.4	16	36
6	90	E	0	4.8	7.1	0.4	29	22
6	90	F	1	6.7	5.7	1.0	28	31
6	100	A	1	7.0	5.7	1.1	24	35
6	100	B	0	4.5	5.6	0.5	21	36
6	100	C	0	8.1	8.8	0.8	26	24
6	100	D	1	9.3	8.3	1.1	22	30
6	100	E	0	2.5	5.2	0.1	30	23
6	110	A	0	6.7	6.1	0.9	27	30
6	110	B	0	3.9	5.2	0.4	27	31
6	110	C	0	7.5	7.0	0.9	32	23
6	110	D	0	5.5	5.4	0.8	17	43
6	120	A	1	7.8	6.4	1.2	24	33
6	120	B	0	3.6	4.7	0.4	27	34
6	120	C	0	5.1	4.7	0.8	23	40
7 131		A	0	4.5	4.4	0.7	31	33
7 131		B	0	4.8	6.4	0.4	24	30
7 131		C	0	7.1	6.6	0.9	21	35
7 131		D	0	4.2	3.9	0.7	41	26
7	140	A	1	6.9	5.6	1.1	18	42

Estimated depth may be unreliable because the stronger part of the conductor may be deeper or to one side of the flight line, or because of a shallow dip or overburden effects.

J8659 BARKERVILLE AREA, B.C.

FLIGHT -----	LINE -----	ANOMALY -----	CATEGORY -----	AMPLITUDE (PPM)		CONDUCTOR CTP DEPTH MHOS	BIRD HEIGHT MTRS	
				INPHASE -----	QUAD. -----			
7	150	A	1	7.2	6.5	1.0	20	36
7	160	A	0	5.5	4.7	0.9	25	38
7	160	B	0	2.2	3.9	0.2	25	36
7	160	C	0	2.9	3.3	0.4	33	37
7	170	A	0	2.5	3.5	0.3	25	41
7	170	B	0	2.7	3.4	0.4	30	38
7	170	C	0	2.8	4.0	0.3	22	41
7	170	D	0	7.2	7.2	0.8	22	32
7	180	A	0	5.2	5.6	0.6	25	33
7	180	B	0	2.5	4.7	0.2	19	37
7	180	C	0	2.9	4.2	0.3	34	28
7	190	A	0	2.2	3.1	0.3	14	55
7	190	B	0	4.8	4.6	0.7	25	38
7	200	A	0	4.3	5.3	0.5	29	29
7	200	B	0	3.8	3.5	0.7	25	45
9	210	A	0	4.6	4.1	0.8	27	39
9	220	A	0	4.0	4.5	0.5	12	50
9	251	A	0	3.3	4.5	0.4	20	40
7	261	A	0	2.6	4.6	0.2	7	50
7	261	B	0	2.9	3.9	0.3	29	35
7	261	C	0	4.0	4.6	0.5	22	41
7	271	A	0	4.3	5.9	0.4	23	32
7	271	B	0	3.0	4.5	0.3	18	42
7	271	C	0	2.3	4.8	0.1	30	24
7	281	A	0	2.8	4.6	0.2	21	38
7	281	B	0	2.9	4.4	0.3	21	39
7	281	C	0	9.5	10.8	0.8	9	37
7	291	A	0	3.3	3.9	0.4	32	34
7	291	B	0	2.7	3.7	0.3	16	49
7	291	C	0	5.3	5.2	0.8	12	49
7	291	D	0	1.8	3.2	0.1	33	32
7	300	A	0	4.0	6.9	0.3	7	43

Estimated depth may be unreliable because the stronger part of the conductor may be deeper or to one side of the flight line, or because of a shallow dip or overburden effects.

J8659 BARKERVILLE AREA, B.C.

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM)		CONDUCTOR		BIRD
				INPHASE	QUAD.	CTP DEPTH	DEPTH	HEIGHT
-----	-----	-----	-----	-----	-----	MHOS	MTRS	MTRS
7	300	B	0	1.4	2.8	0.1	26	40
7	300	C	0	3.6	4.7	0.4	16	45
7	300	D	0	3.1	4.8	0.3	11	47
7	300	E	0	3.4	3.4	0.6	44	26
7	310	A	0	3.8	4.1	0.6	18	47
7	310	B	0	5.8	6.6	0.6	24	30
7	310	C	0	2.8	6.5	0.1	23	24
7	310	D	0	5.7	8.0	0.4	8	41
7	320	A	0	4.1	5.6	0.4	11	46
7	320	B	0	2.1	5.0	0.1	14	37
7	320	C	0	4.5	5.9	0.4	21	35
7	320	D	0	4.0	5.3	0.4	15	42
7	330	A	0	5.5	5.2	0.8	25	35
7	330	B	0	1.6	3.9	0.1	13	42
7	330	C	0	3.7	7.3	0.2	20	27
7	340	A	0	1.2	4.7	0.0	19	26
7	340	B	0	3.4	6.5	0.2	20	30
7	340	C	0	2.1	5.3	0.1	5	45
7	340	D	0	4.3	4.7	0.6	25	37
7	340	E	0	3.6	5.3	0.3	6	51
7	340	F	0	4.0	5.2	0.4	13	45
7	350	A	0	3.1	5.5	0.2	7	46
7	350	B	0	4.2	7.4	0.3	5	44
7	350	C	0	4.0	3.3	0.9	30	41
7	350	D	0	1.7	3.9	0.1	21	36
7	350	E	0	4.0	4.8	0.5	27	34
7	350	F	0	4.1	4.1	0.6	37	29
7	360	A	0	7.3	7.9	0.7	26	26
7	360	B	0	3.5	4.7	0.4	21	39
7	360	C	0	6.1	6.2	0.8	21	35
7	370	A	0	3.8	3.7	0.7	25	44
7	370	B	0	3.4	4.9	0.3	23	36
7	380	A	0	2.9	4.5	0.3	25	34
7	380	B	0	3.2	4.5	0.3	30	30
7	380	C	0	3.5	5.6	0.3	11	44
7	380	D	1	6.8	4.8	1.4	26	36
7	390	A	0	5.2	4.7	0.8	21	43

Estimated depth may be unreliable because the stronger part of the conductor may be deeper or to one side of the flight line, or because of a shallow dip or overburden effects.

J8659 BARKERVILLE AREA, B.C.

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM)		CONDUCTOR	BIRD
				INPHASE	QUAD.	CTP DEPTH	HEIGHT
-----	-----	-----	-----	-----	-----	MHOS	MTRS
7	390	B	0	4.1	4.7	0.5	28 34
7	400	A	0	4.0	4.3	0.6	27 37
7	400	B	1	9.4	5.7	1.9	26 32
7	410	A	2	9.9	5.8	2.0	24 34
7	410	B	0	4.0	4.7	0.5	25 37
7	420	A	0	3.9	5.4	0.4	17 40
7	420	B	1	13.4	9.3	1.8	11 39
7	430	A	0	5.3	4.6	0.9	22 41
7	430	B	0	3.9	4.6	0.5	24 38
7	440	A	0	3.2	3.0	0.6	32 42
7	440	B	0	4.1	4.3	0.6	28 36
7	440	C	0	2.8	3.8	0.3	16 49
7	440	D	0	3.8	3.9	0.6	22 45
7	450	A	0	4.1	5.7	0.4	19 36
7	450	B	1	6.6	5.0	1.2	25 37
7	460	A	2	12.4	7.2	2.2	22 32
7	460	B	0	3.6	3.9	0.5	15 51
7	470	A	0	3.6	4.5	0.4	13 48
7	470	B	0	3.1	5.6	0.2	13 40
7	470	C	1	8.8	5.5	1.8	31 28
7	480	A	1	7.7	6.7	1.1	19 37
7	480	B	0	3.0	6.0	0.2	0 51
7	480	C	0	5.0	5.2	0.7	23 37
7	490	A	0	4.5	6.2	0.4	20 34
7	490	B	0	3.7	7.0	0.2	13 36
7	490	C	0	3.0	5.1	0.2	8 48
7	490	D	1	9.0	6.9	1.3	23 32
7	500	A	0	4.7	5.5	0.5	25 33
7	500	B	0	5.4	6.7	0.5	19 35
7	510	A	0	3.1	4.2	0.3	12 51
7	540	A	1	6.8	5.8	1.0	20 38

Estimated depth may be unreliable because the stronger part of the conductor may be deeper or to one side of the flight line, or because of a shallow dip or overburden effects.

APPENDIX III

CERTIFICATE OF QUALIFICATIONS

I, ROBERT J. DE CARLE, certify that: -

1. I hold a B. A. Sc. in Applied Geophysics with a minor in geology from Michigan Technological University, having graduated in 1970.
2. I reside at 28 Westview Crescent in the town of Palgrave, Ontario.
3. I have been continuously engaged in both professional and managerial roles in the minerals industry in Canada and abroad for the past eighteen years.
4. I have been an active member of the Society of Exploration Geophysicists since 1967 and hold memberships on other professional societies involved in the minerals extraction and exploration industry.
5. The accompanying report was prepared from information published by government agencies, materials supplied by Rise Resources Incorporated and from a review of the proprietary airborne geophysical survey flown by Aerodat Limited for Rise Resources Incorporated. I have not personally visited the property.
6. I have no interest, direct or indirect, in the property described nor do I hold securities in Rise Resources Incorporated.
7. I hereby consent to the use of this report in a Statement of Material Facts of the Company and for the preparation of a prospectus for submission to the British Columbia Securities Commission and/or other regulatory authorities.

Signed,

Robert J. de Carle

Robert J. de Carle

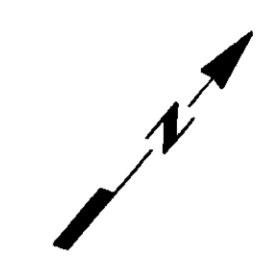
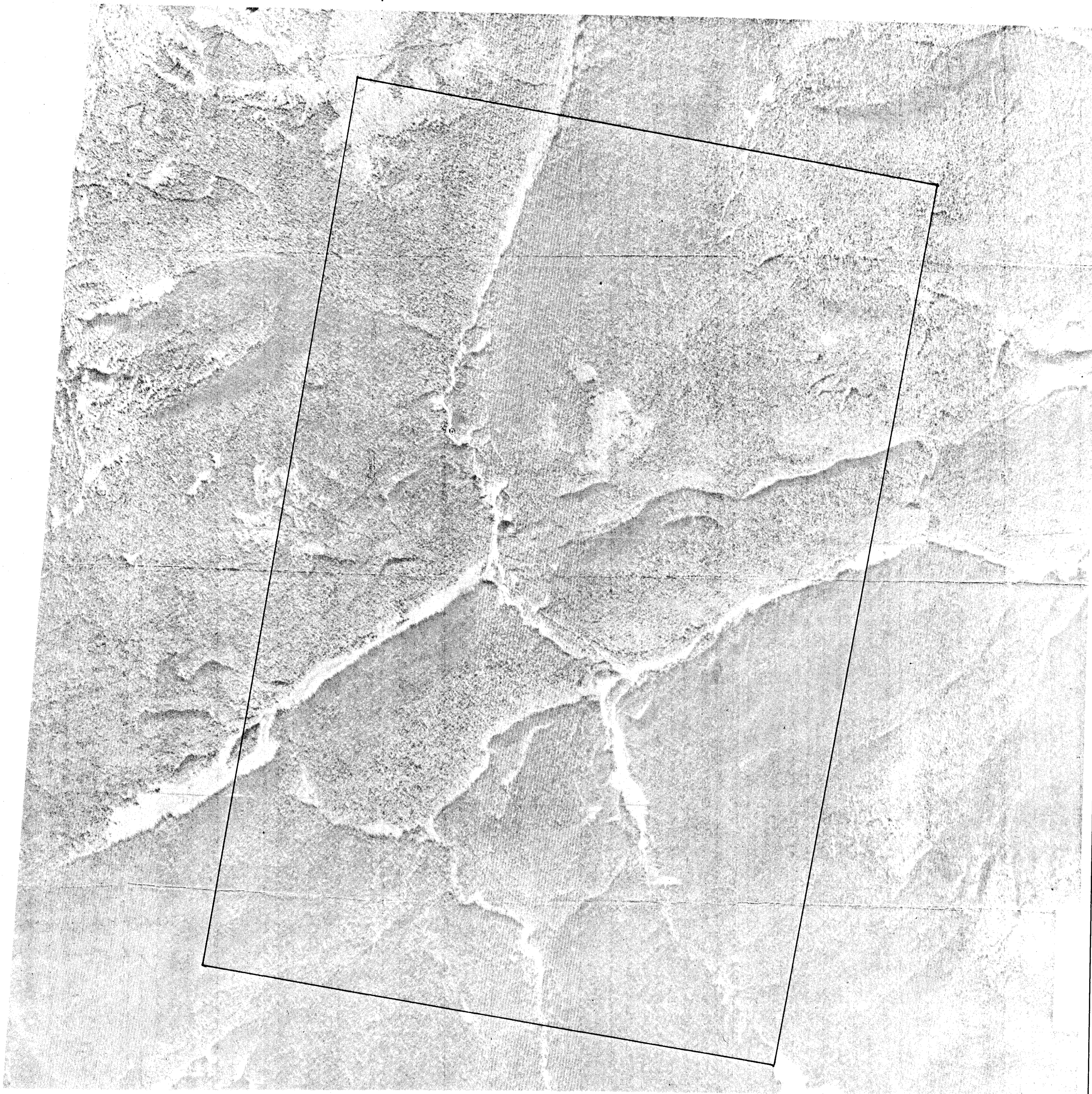
Consulting Geophysicist

Palgrave, Ontario

August 03, 1987

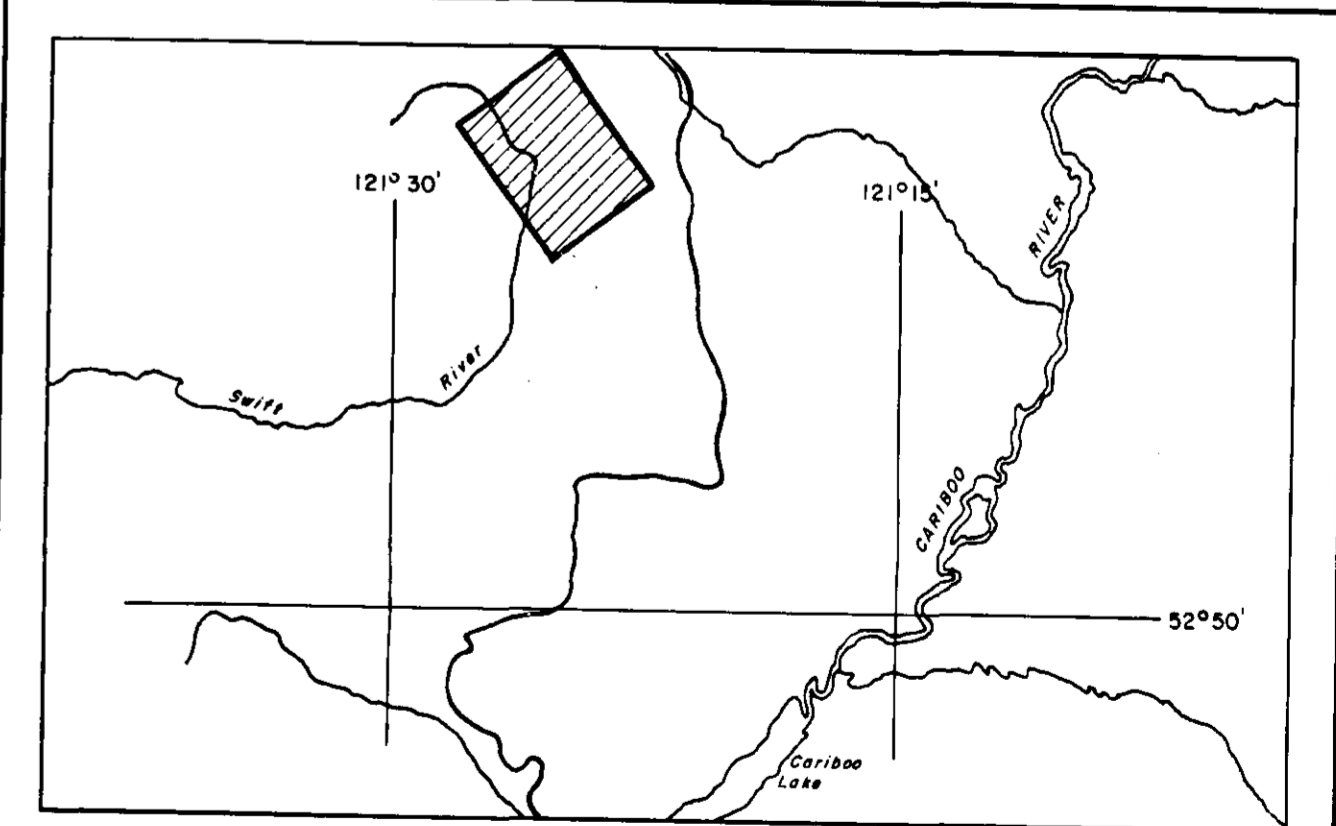
COST STATEMENT
BARKERVILLE AREA CLAIMS
AIRBORNE GEOPHYSICAL SURVEY

Aerodat Limited - 145 Line Km @ \$75.00	\$10,875.00
Mark Management - Planning, Supervision, Reporting	1,631.25
TOTAL COST	<u>\$12,506.25</u> =====



**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

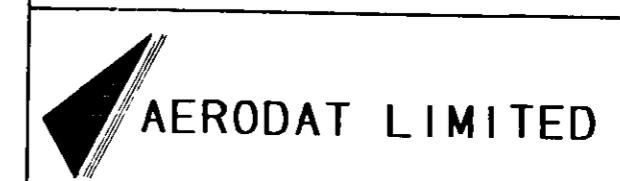
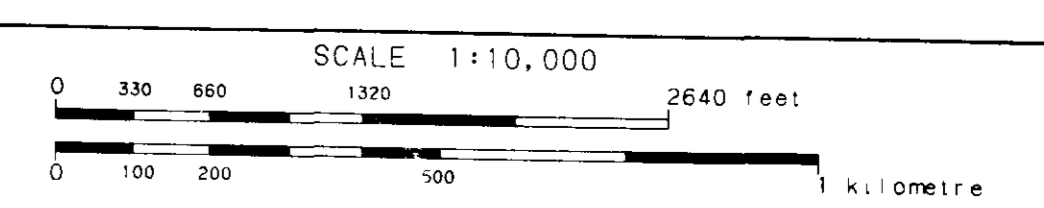
15,938



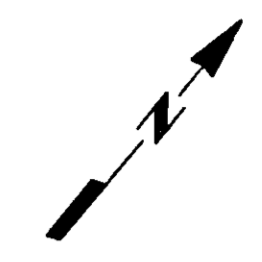
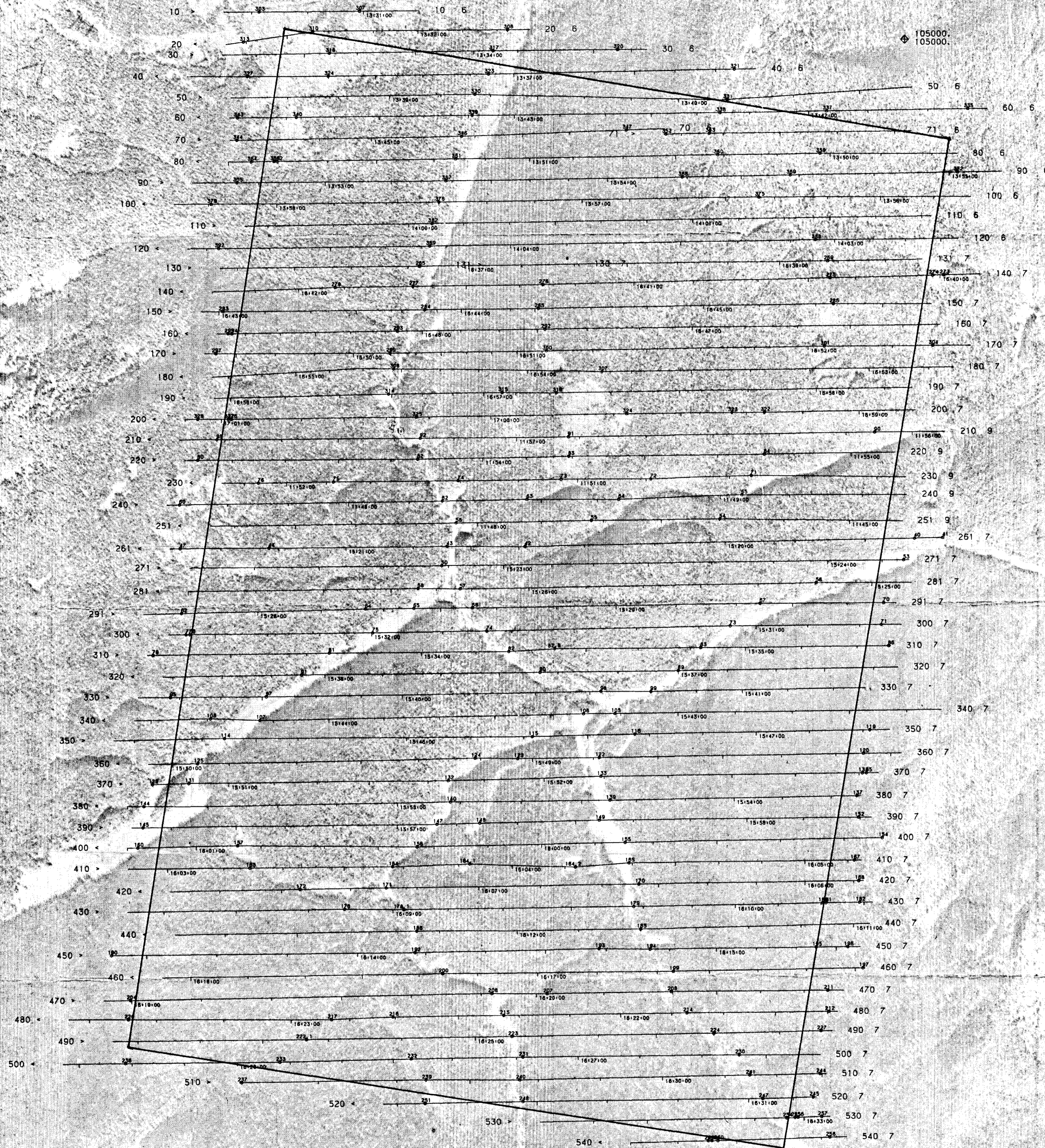
RISE RESOURCES INC.

BASE MAP

**BARKERVILLE AREA
BRITISH COLUMBIA**



DATE: FEBRUARY 1987
NTS No: 92A/14
MAP No: 1

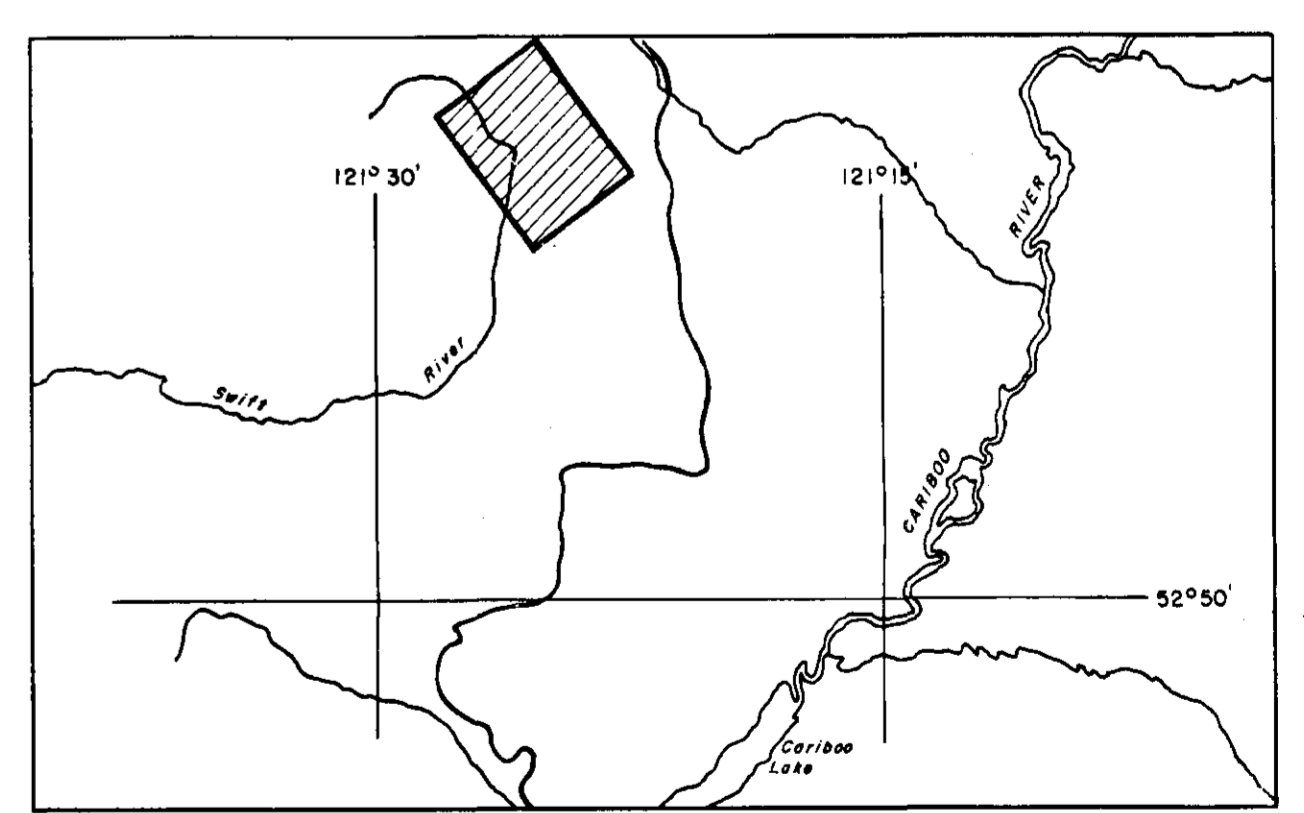


Flight Path

Flight path derived from VHS video tape.
Average terrain clearance 60m
Line spacing = 100m

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

15,938

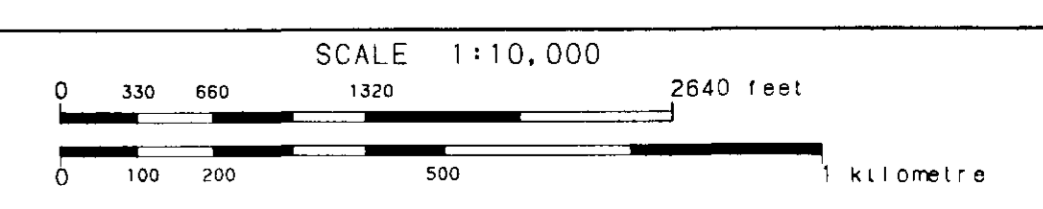


RISE RESOURCES INC.

FLIGHT PATH

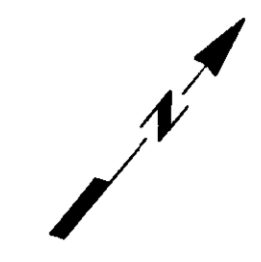
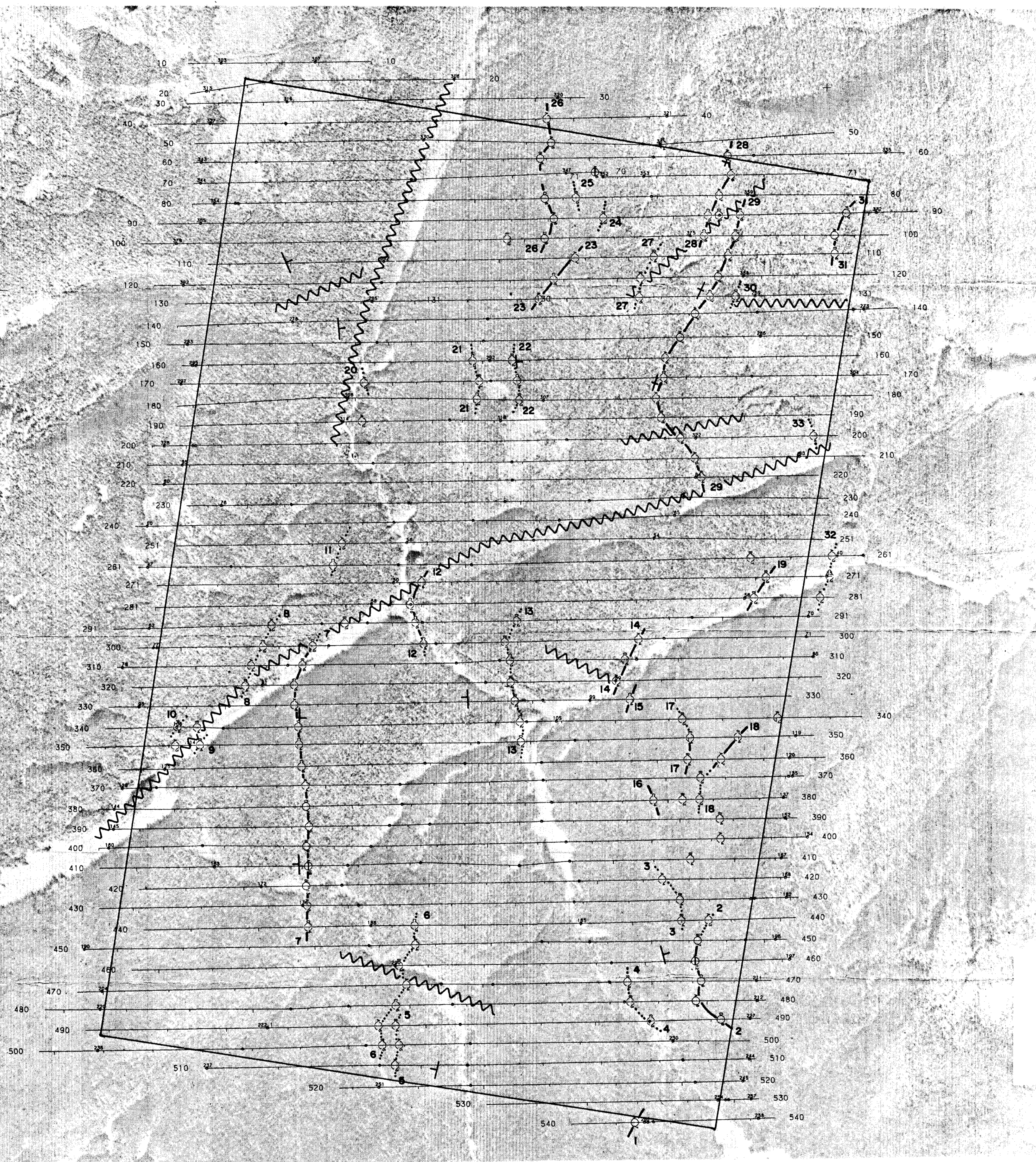
(2)

**BARKERVILLE AREA
BRITISH COLUMBIA**



DATE: FEBRUARY 1987
NTS No: 92A/14
MAP No: (2) J8659

100100.
100000.



Flight Path

Flight path derived from VHS video tape.
 Average terrain clearance 60m
 Line spacing = 100m

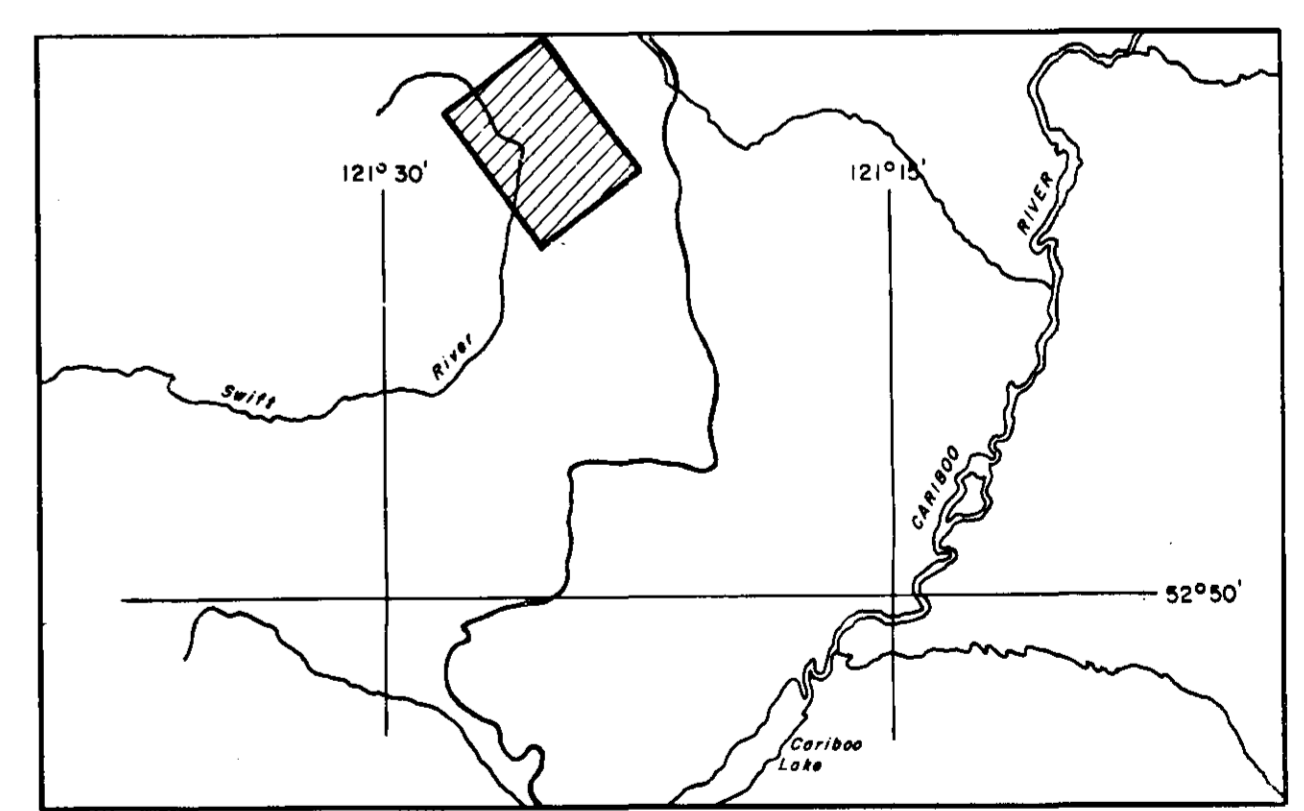
EM Anomalies

- Conductivity Thickness (mos)
- 0 - 1
 - 1 - 2
 - 2 - 4
 - 4 - 8
 - 8 - 15
 - 15 - 30
 - > 30
- EM Anomaly A, 4800 Hz in phase amplitude 7 ppm.
 Conductivity thickness 1-2 mos (see case).

- Interpreted bedrock conductor axis
- Possible bedrock conductor axis
- Area of interest
- ⊥ Vertical dip
- ⊥ Direction of dip
- ⊃ Inferred fault

**GEOLOGICAL BRANCH
 ASSESSMENT REPORT**

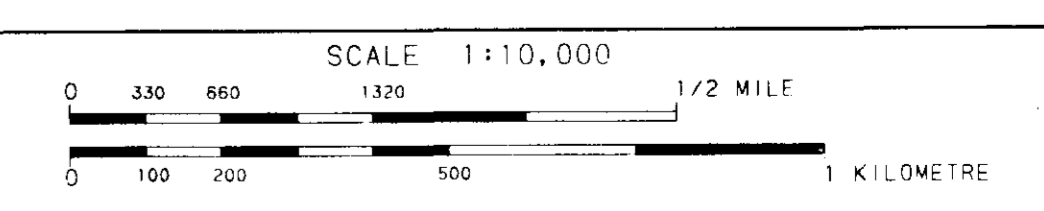
15,938



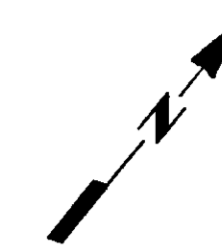
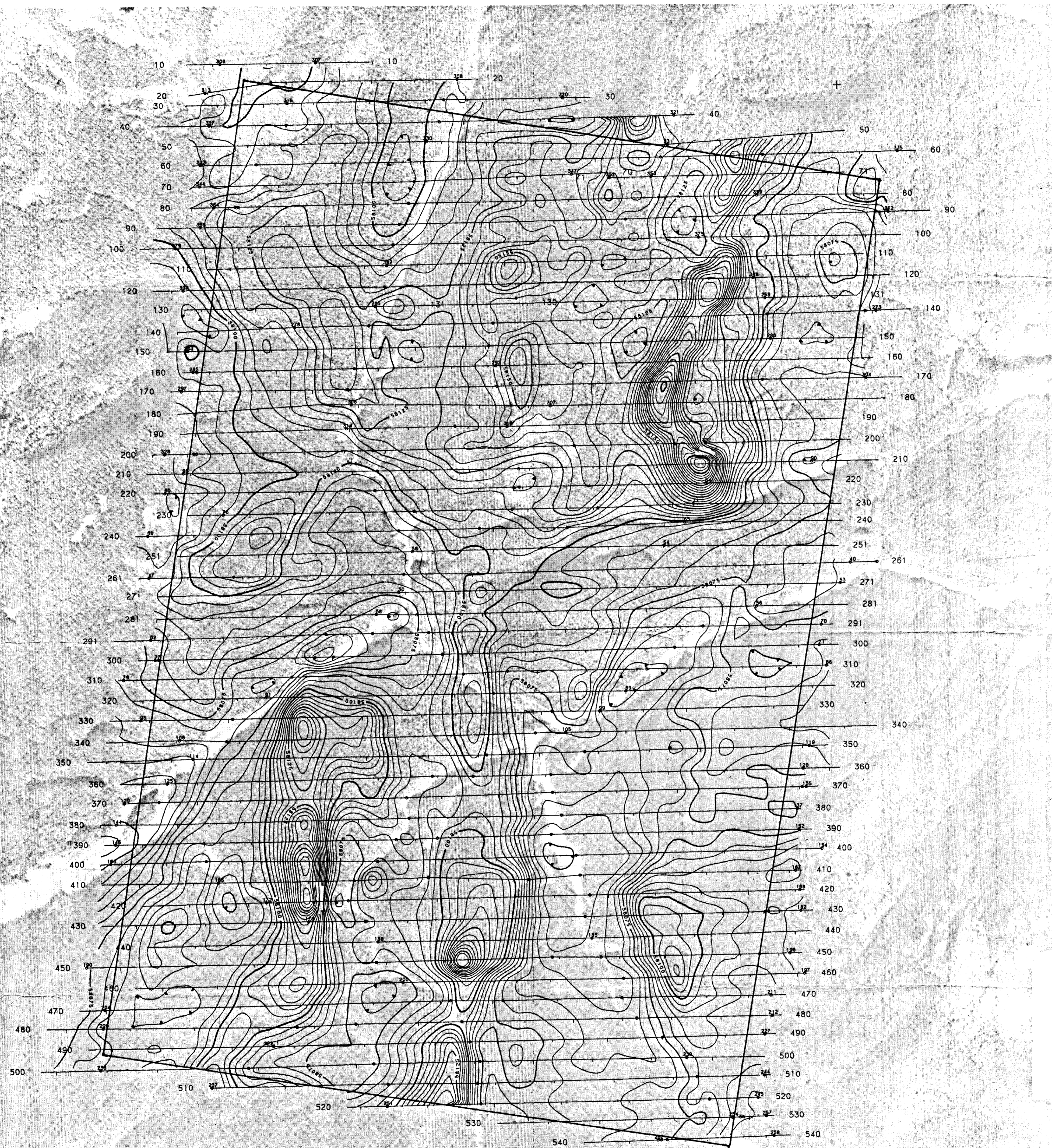
RISE RESOURCES INC.

INTERPRETATION (3)

**BARKERVILLE AREA
 BRITISH COLUMBIA**



AERODAT LIMITED DATE: FEBRUARY 1987
 NTS No: 92A/14
 MAP No: (3) J8659



Flight Path

Flight path derived from VHS video tape.

Average terrain clearance 60m
Line spacing = 100m

Magnetics

Cesium high sensitivity magnetometer
Sensor elevation 45m

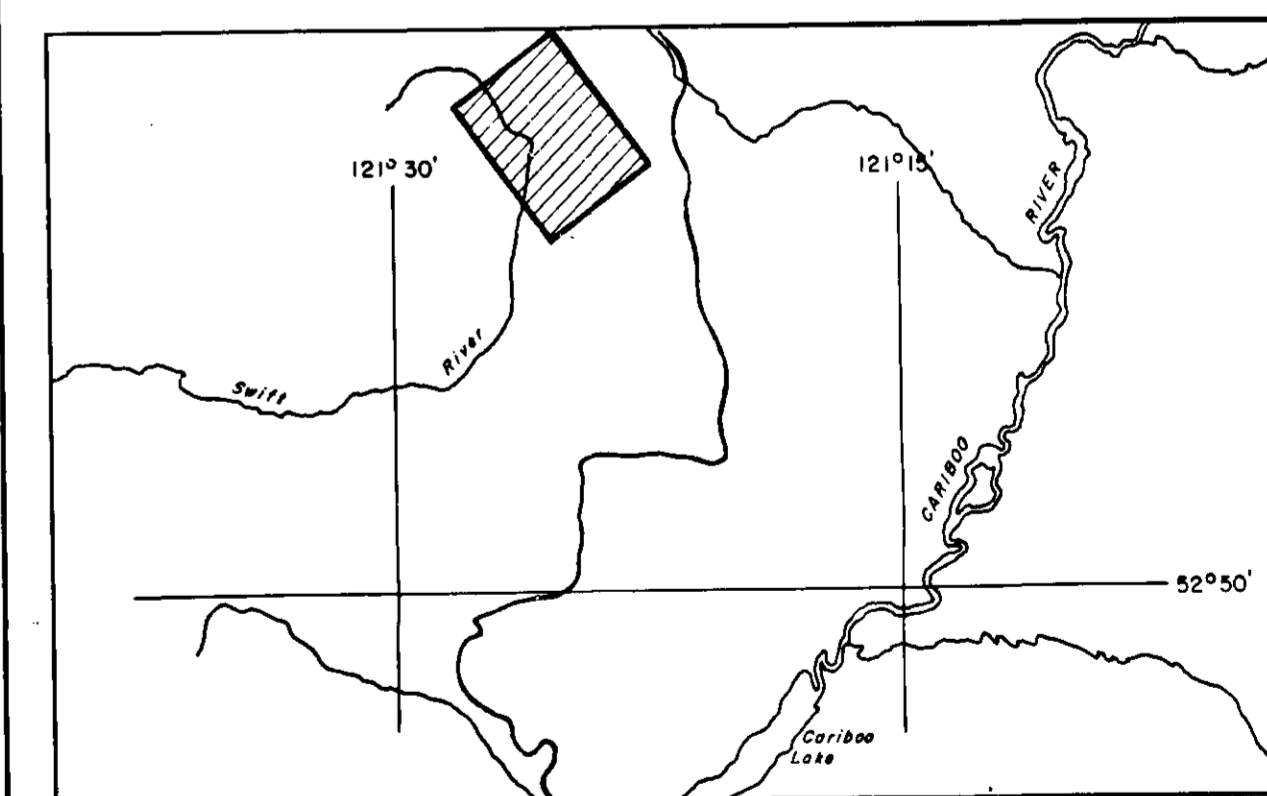
Total Field Magnetic Intensity
Contours in nT

LEGEND

- 100 nT.....
- 25 nT.....
- 5 nT.....

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

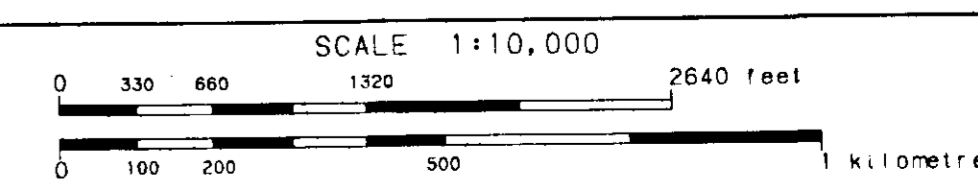
15,938



RISE RESOURCES INC.

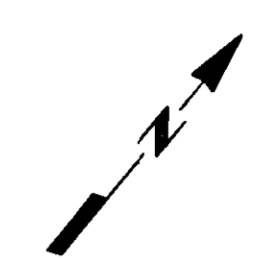
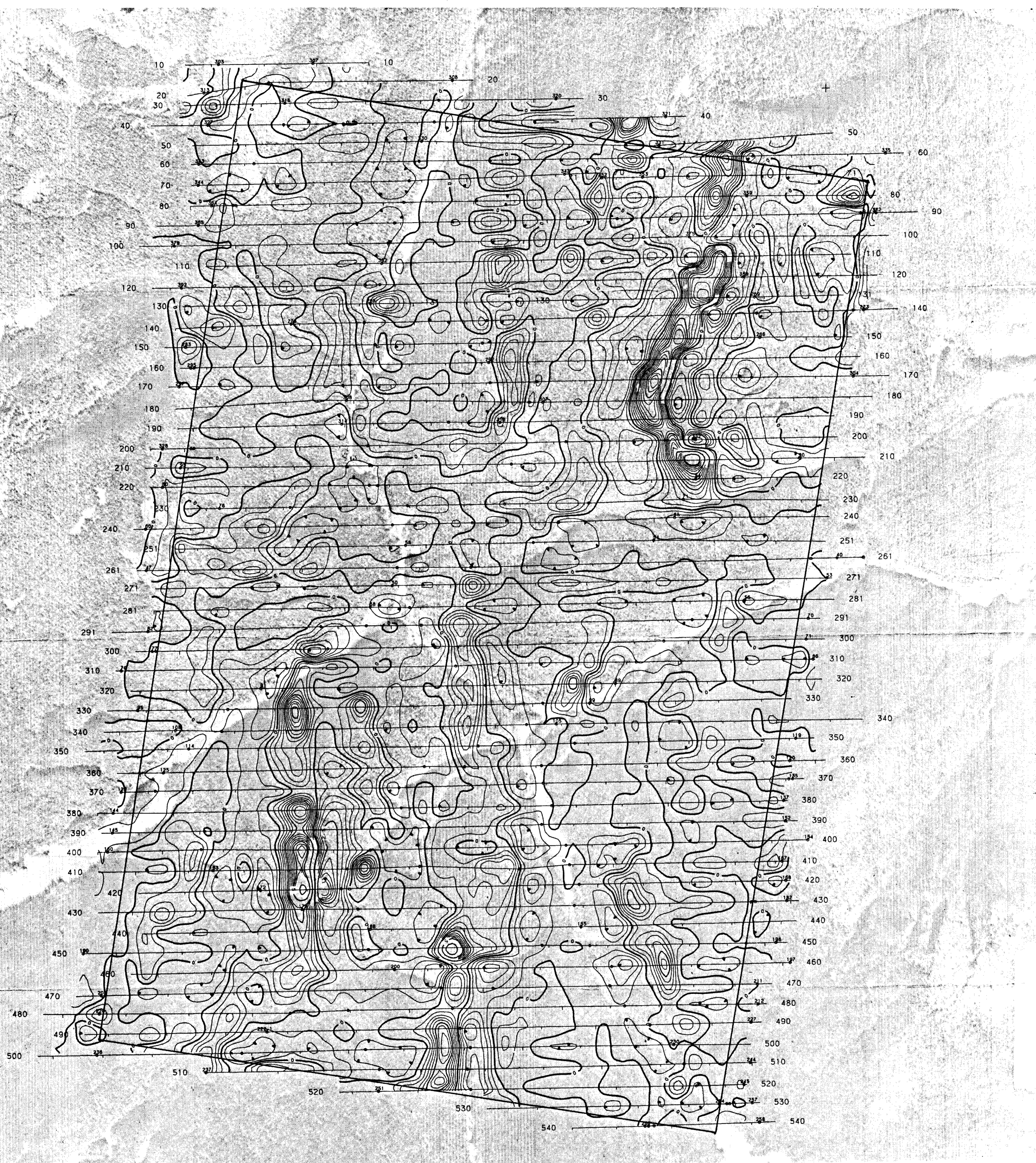
TOTAL FIELD MAGNETIC CONTOURS

**BARKERVILLE AREA
BRITISH COLUMBIA**



AERODAT LIMITED

DATE: FEBRUARY 1987
NTS No: 92A/14
MAP No: (4) J8659



Flight Path

Flight path derived from VHS video tape.
 Average terrain clearance 60m
 Line spacing = 100m

Vertical Gradient

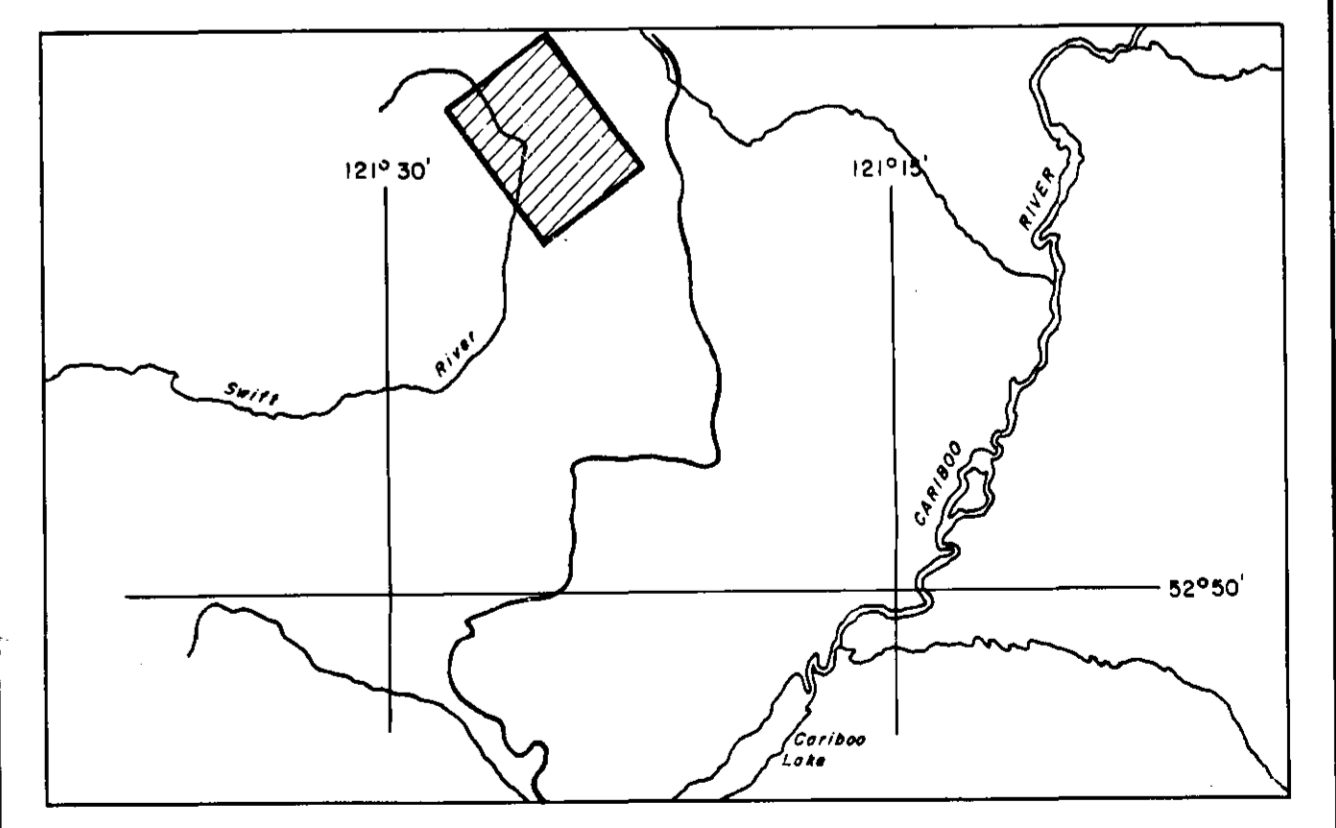
Vertical magnetic gradient calculated from the total field magnetic intensity
 Contours in nT/m
 Cesium high sensitivity magnetometer
 Sensor elevation 45m

CONTOUR INTERVAL:

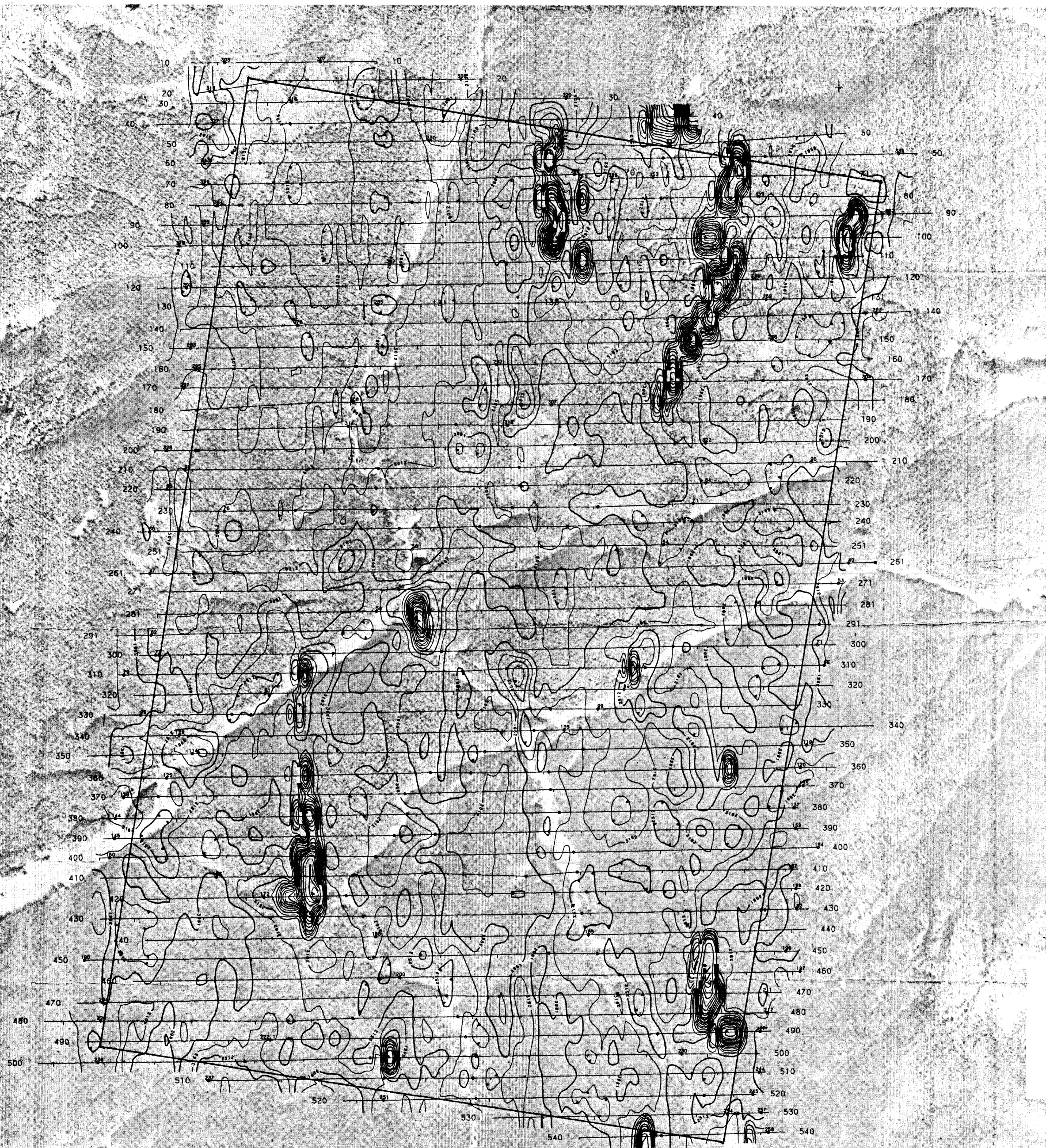
- 25 nT / metre
- 2.5 nT / metre
- 5 nT / metre

GEOLOGICAL BRANCH ASSESSMENT REPORT

15,938



RISE RESOURCES INC.	
CALCULATED VERTICAL MAGNETIC GRADIENT	
BARKERVILLE AREA	
BRITISH COLUMBIA	
SCALE 1:10,000	
	DATE: FEBRUARY 1987
	NTS No: 92A/14
	MAP No: (5) J8659



Flight Path

Flight path derived from VHS video tape.

Average terrain clearance 60m
Line spacing = 100m

Apparent Resistivity

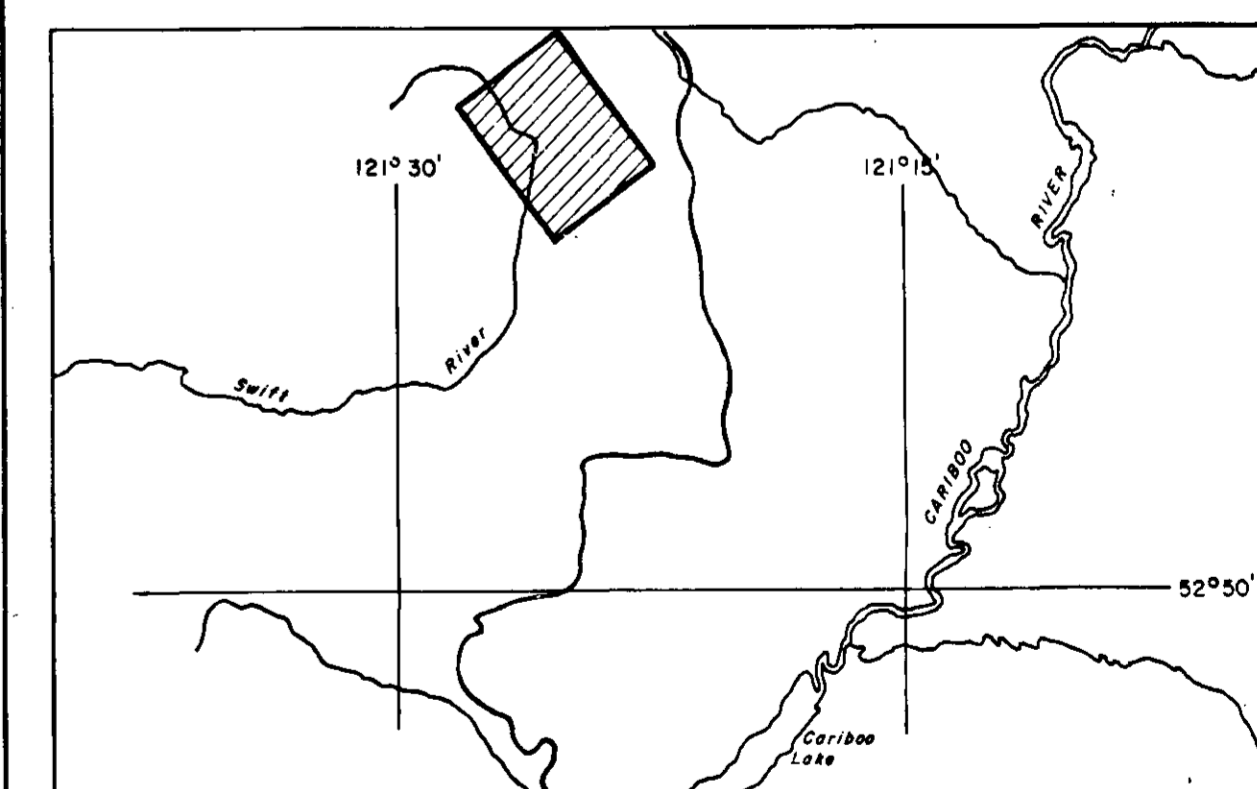
Contouring in logarithmic intervals

Calculated from 4600 Hz coaxial EM response using a 200 m model
Sensor elevation 30m

10⁰ OHM-M N=123...9
10¹ OHM-M M=123...9

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

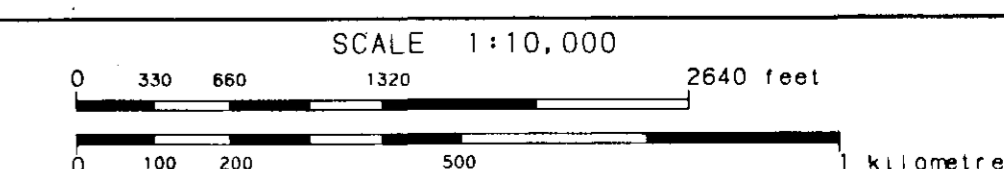
15,938



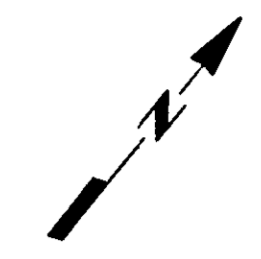
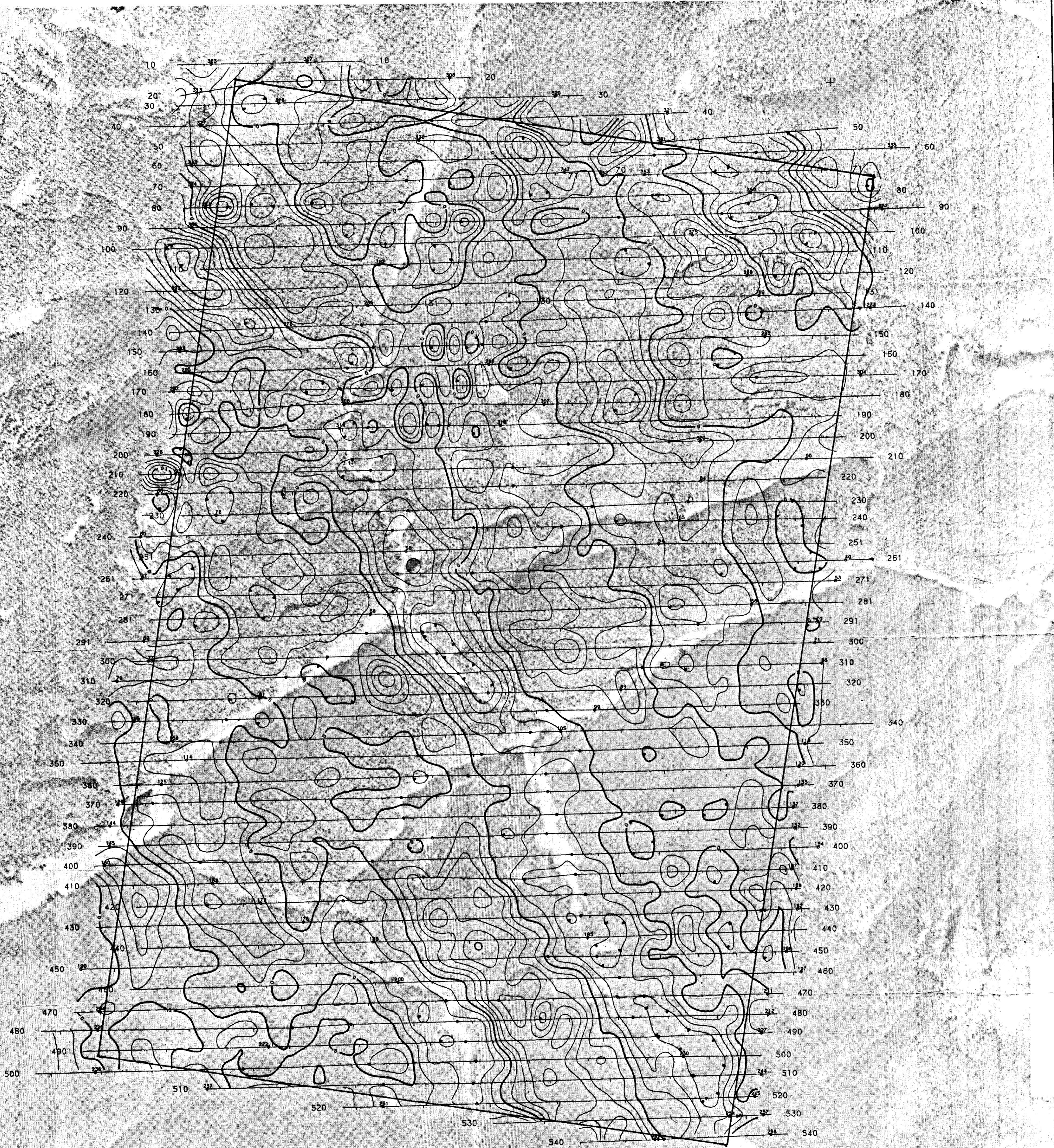
RISE RESOURCES INC.

APPARENT RESISTIVITY CONTOURS

**BARKERVILLE AREA
BRITISH COLUMBIA**



DATE: FEBRUARY 1987
NTS No: 92A/14
MAP No: 6 J8659



Flight Path

Flight path derived from VHS video tape.
Average terrain clearance 60m
Line spacing = 100m

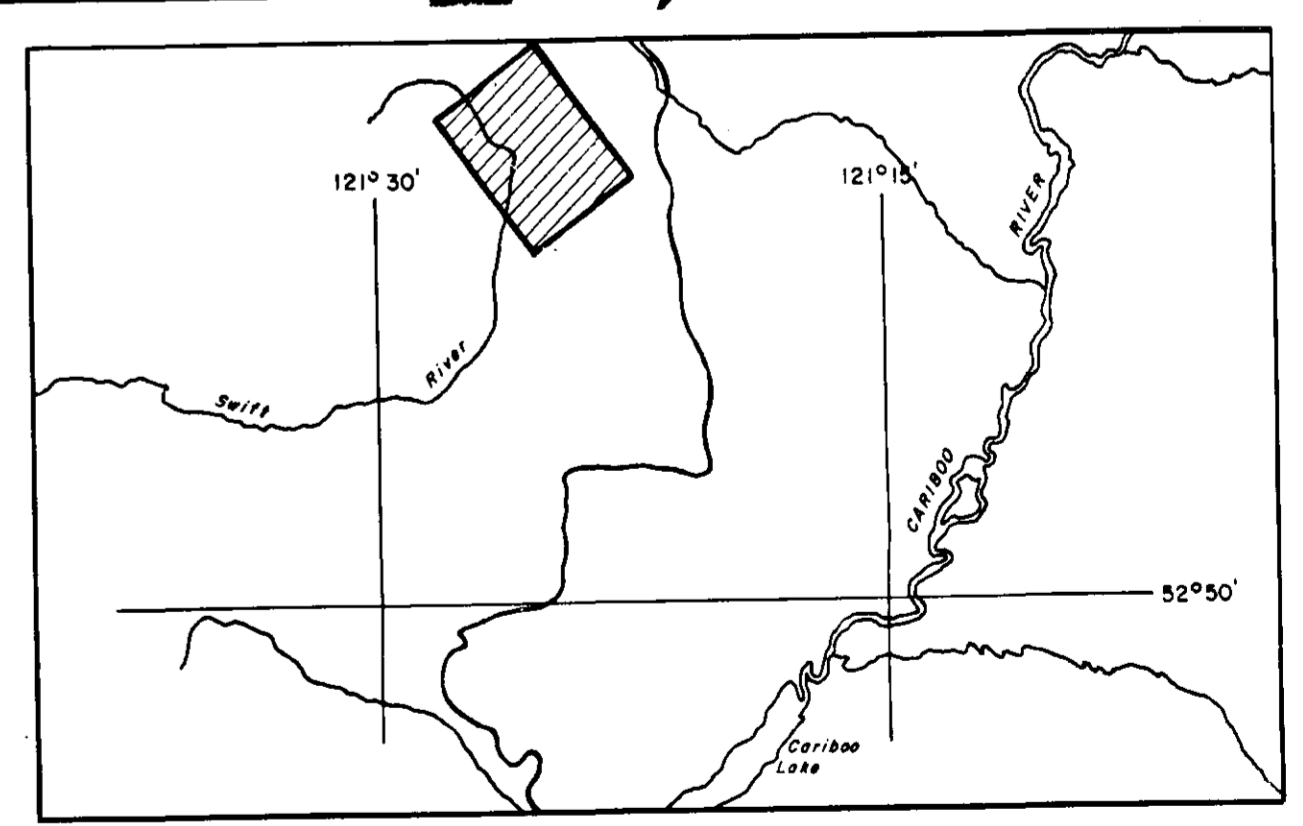
VLF-EM

VLF-EM Total Field Intensity in percent
Station: NAA (Cutler, Maine)
24.0 kHz
Sensor elevation 45m

CONTOUR INTERVAL:
50%
10%
2%

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

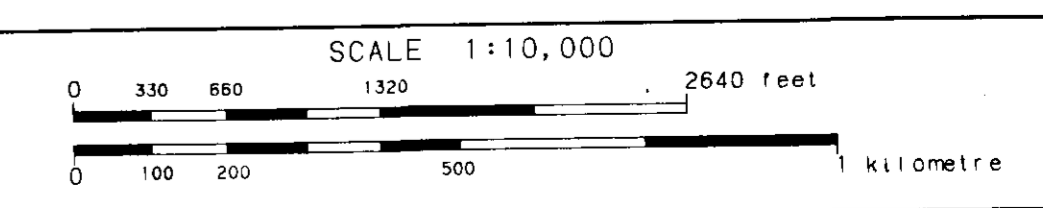
15,938



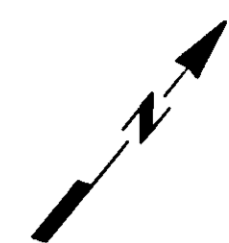
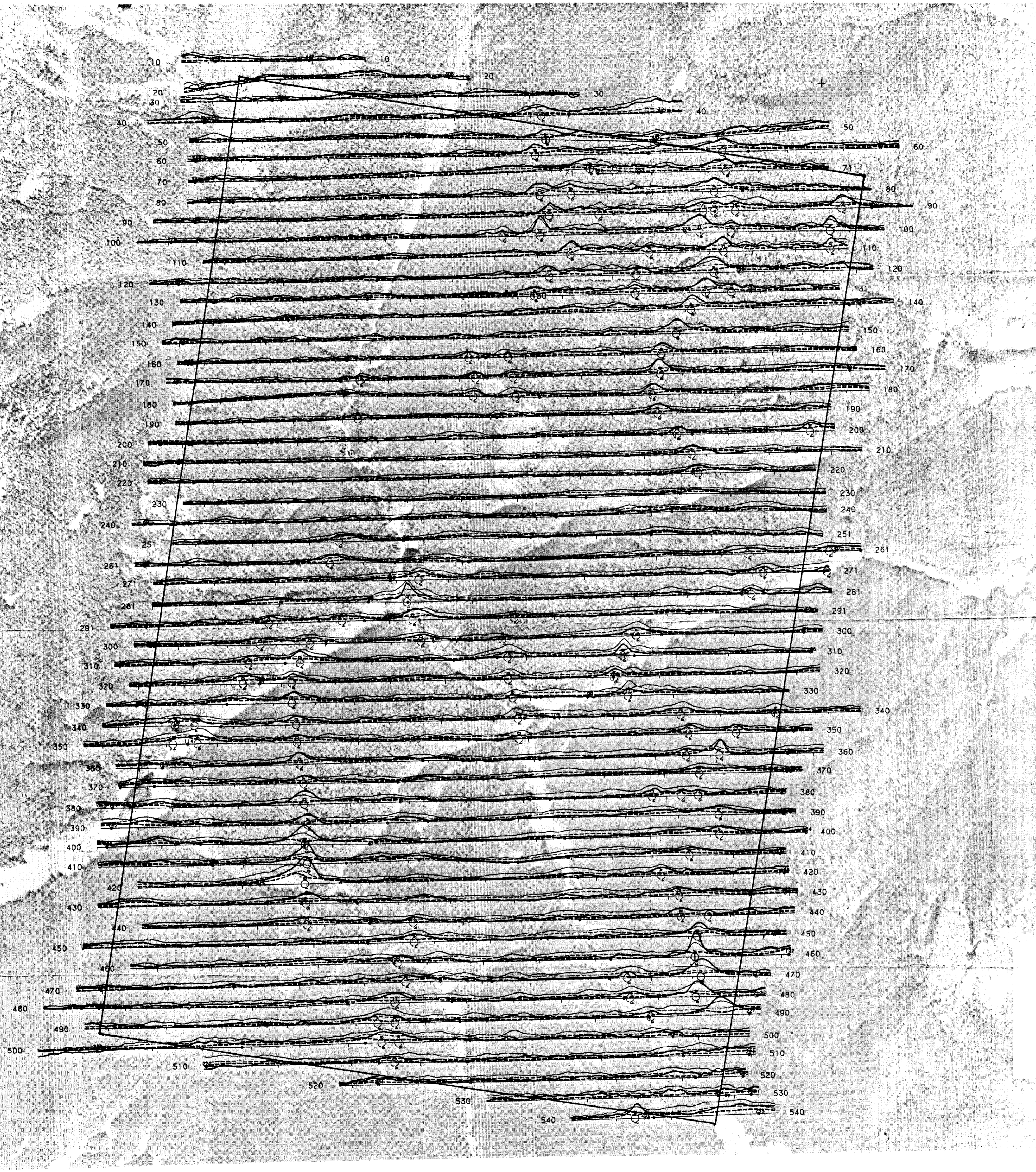
RISE RESOURCES INC.

VLF-EM TOTAL FIELD CONTOURS

**BARKERVILLE AREA
BRITISH COLUMBIA**



DATE: FEBRUARY 1987
NTS No: 92A/14
MAP No: 7 J8659



Flight Path

Flight path derived from VHS video tape.
Average terrain clearance 60m
Line spacing = 100m

EM Anomalies

- Conductivity Thickness (mos)
- 0 - 1
 - 1 - 2
 - 2 - 4
 - 4 - 8
 - 8 - 15
 - 15 - 30
 - > 30

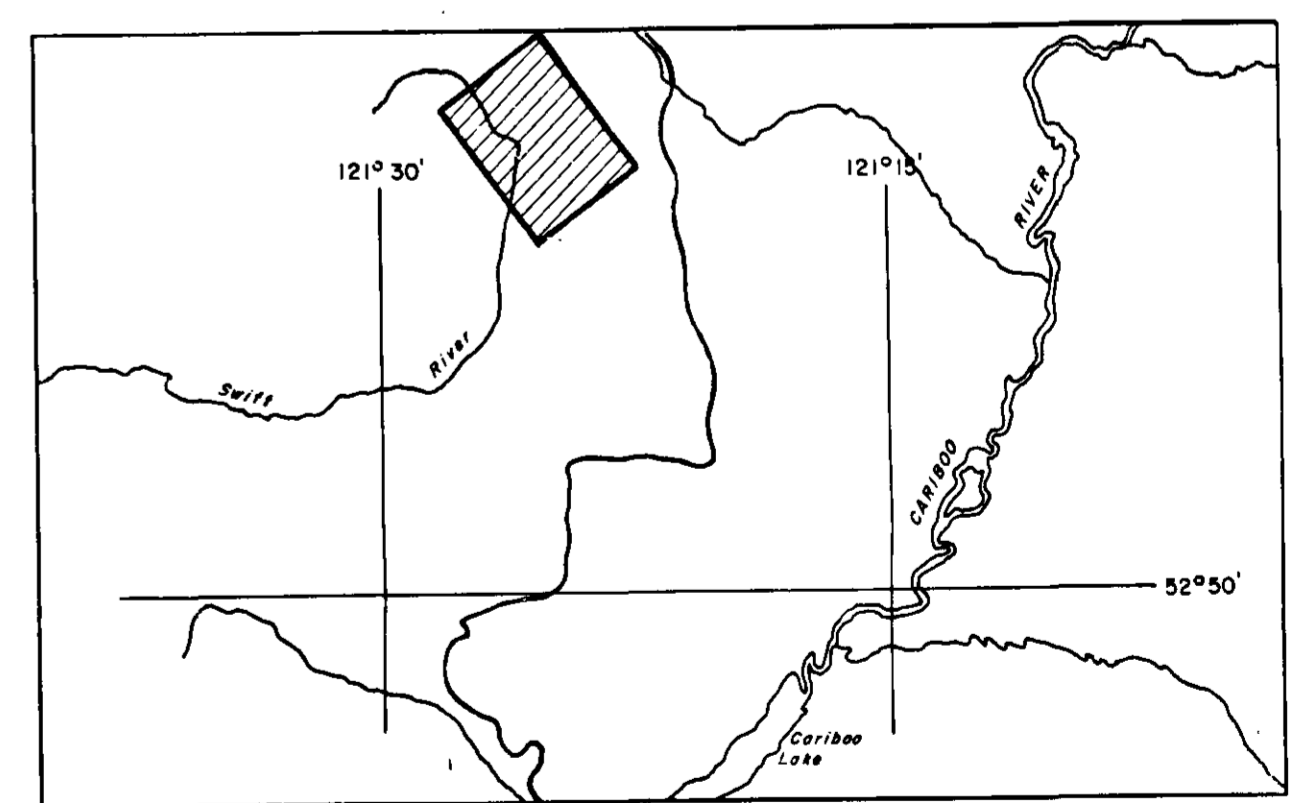
EM Anomaly A, 4600 Hz inphase amplitude 7 ppm.
Conductivity thickness 1-2 mos (see code).

EM Profiles

- Coaxial 1 ppm/mm
- 4600 Hz inphase
- 4600 Hz quadrature
- Coplanar 4 ppm/mm
- 4175 Hz inphase
- 4175 Hz quadrature
- Sensor elevation.....30m
- Coil separation.....7m

GEOLOGICAL BRANCH ASSESSMENT REPORT

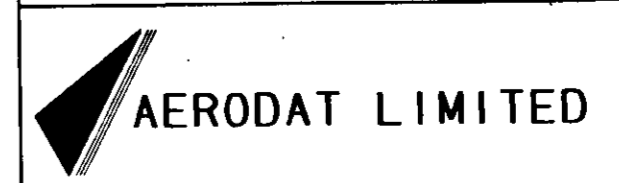
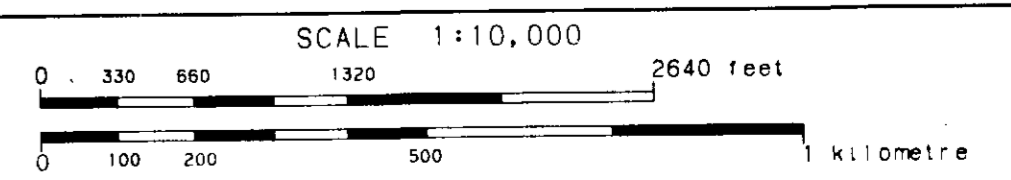
15,938



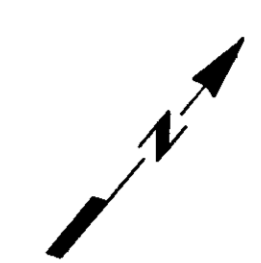
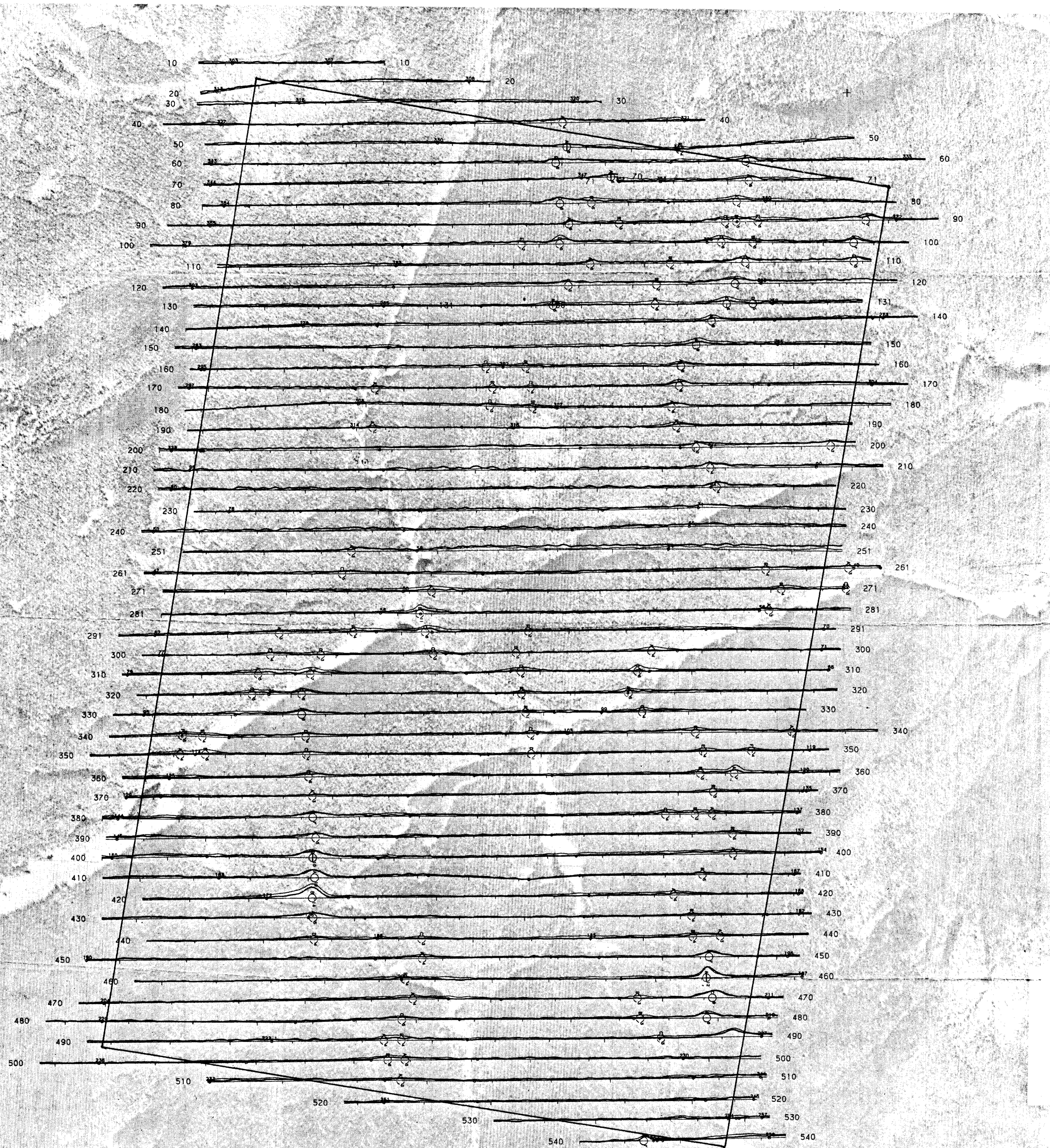
RISE RESOURCES INC.

ELECTROMAGNETIC PROFILES (8)

BARKERVILLE AREA
BRITISH COLUMBIA



DATE: FEBRUARY 1987
NTS No: 92A/14
MAP No: (8) J8659

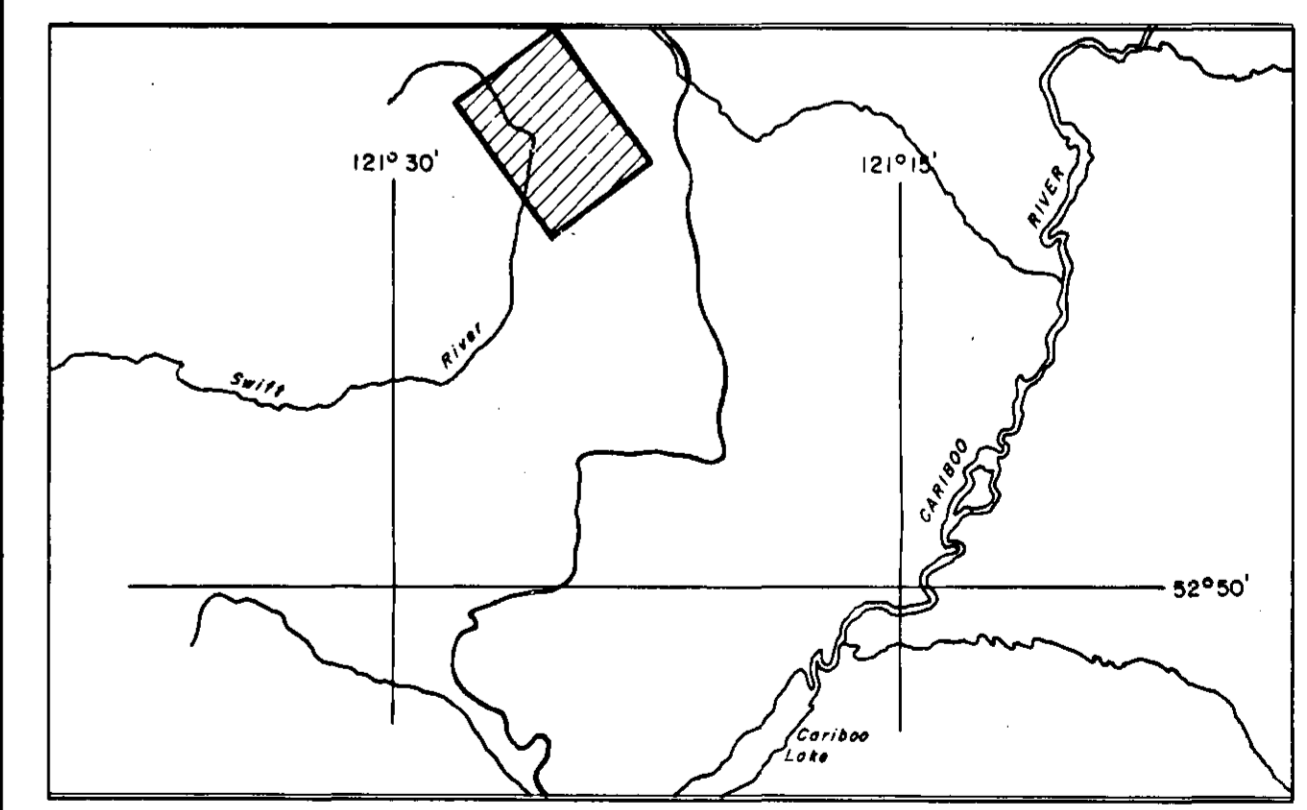


Flight Path
 Flight path derived from VHS video tape.
 Average terrain clearance 60m
 Line spacing = 100m

EM Anomalies
 Conductivity Thickness (mhos)
 ○ 0 - 1
 ○ 1 - 2
 ○ 2 - 4
 ○ 4 - 8
 ○ 8 - 15
 ○ 15 - 30
 ○ > 30
 ○ EM Anomaly A, 4600 Hz inphase amplitude 7 ppm - Conductivity thickness 1-2 mhos (see code).

EM Profiles
 935 Hz coaxial coils
 Sensor elevation 30m
 — inphase 1 ppm/mm
 — quadrature 1 ppm/mm

**GEOLOGICAL BRANCH
 ASSESSMENT REPORT**
15,938



RISE RESOURCES INC.
ELECTROMAGNETIC PROFILES
BARKERVILLE AREA
BRITISH COLUMBIA

SCALE 1:10,000
 0 330 660 1320 2640 feet
 0 100 200 500 1 kilometre

AERODAT LIMITED DATE: FEBRUARY 1987
 NTS No: 92A/14
 MAP No: (9) J8659