

ARIS SUMMARY SHEET

District Geologist, Smithers

Off Confidential: 90.01.05

ASSESSMENT REPORT 18584

MINING DIVISION: Liard

PROPERTY: Hector
LOCATION: LAT 56 33 00 LONG 130 42 00
UTM 09 6268376 395487
NTS 104B10E

CAMP: 050 Stewart Camp

CLAIM(S): Hector 1-4, Paris 1-4, Agamemnon

OPERATOR(S): Winslow Gold

AUTHOR(S): Dvorak, Z.

REPORT YEAR: 1989, 39 Pages

COMMODITIES

SEARCHED FOR: Gold

KEYWORDS: Triassic-Jurassic, Stewart Complex, Volcanics, Sediments, Plutons

WORK

DONE: Geophysical
EMAB 160.0 km; VLF
Map(s) - 5; Scale(s) - 1:20 000
MAGA 160.0 km
Map(s) - 3; Scale(s) - 1:20 000

LOG NO: 0330	RD.
ACTION:	
FILE NO:	

FILMED

REPORT ON
COMBINED HELICOPTER-BORNE
MAGNETIC, ELECTROMAGNETIC AND VLF
SURVEY
ISKUT-UNUK RIVER AREA
LIARD MINING DISTRICT
BRITISH COLUMBIA

GEOLOGICAL BRANCH
ASSESSMENT REPORT

18,584

FOR
WINSLOW GOLD CORPORATION
BY
AERODAT LIMITED
March 20, 1989

J8890B1

Z. Dvorak
Consulting Geophysicist



Province of
British Columbia

Ministry of
Energy, Mines and
Petroleum Resources

ASSESSMENT REPORT
TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S)	TOTAL COST
Combined helicopter-borne Magnetic, Electromagnetic & VLF-EM Survey	\$18,640.00

AUTHOR(S) Z. Dvorak SIGNATURE(S) X B. [Signature]

DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED January 5, 1989 YEAR OF WORK 1988/89

PROPERTY NAME(S) Hector 1-4, Paris 1-4, Agamemnon

COMMODITIES PRESENT Gold Mineralization

B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN

MINING DIVISION Liard Mining division NTS 104B/7E 10E

LATITUDE 56 degrees 35 minutes north LONGITUDE 130 degrees 42 minutes west

NAMES and NUMBERS of all mineral tenures in good standing (when work was done) that form the property [Examples: TAX 1-4, FIRE 2 (12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified Mining Lease ML 12 (claims involved)]:

- SEE SCHEDULE "ONE" ATTACHED

OWNER(S)

(1) Mr. Tony Erlank (2)

MAILING ADDRESS

707, 626 West Pender Street
Vancouver, B.C. V6B 1V9

OPERATOR(S) (that is, Company paying for the work)

(1) Winslow Gold Corp. (2)

MAILING ADDRESS

625, 101 - Sixth Avenue SW
Calgary, Alberta
T2P 3P4

SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, size, and attitude):

Airborne geophysical survey for which the equipment operated included
a 4 frequency electromagnetic system, a high sensitivity cesium vapour
magnetometer, a two frequency VLF-EM system, video tracking camera and
radar altimeter.

REFERENCES TO PREVIOUS WORK

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	COST APPORTIONED
GEOLOGICAL (scale, area)			
Ground
Photo
GEOPHYSICAL (line-kilometres)			
Ground
Magnetic
Electromagnetic
Induced Polarization
Radiometric
Seismic
Other
Airborne	Total of 160 line kilometers flown.....	(Refer to Schedule "One" Attached).....	\$18,640.00..
GEOCHEMICAL (number of samples analysed for)			
Soil
Silt
Rock
Other
DRILLING (total metres; number of holes, size)			
Core
Non-core
RELATED TECHNICAL			
Sampling/assaying
Petrographic
Mineralogic
Metallurgic
PROSPECTING (scale, area)			
REPARATORY/PHYSICAL			
Legal surveys (scale, area)
Topographic (scale, area)
Photogrammetric (scale, area)
Line/grid (kilometres)
Road, local access (kilometres)
Trench (metres)
Underground (metres)
			TOTAL COST .. \$18,640.00 ..

FOR MINISTRY USE ONLY	NAME OF PAC ACCOUNT	DEBIT	CREDIT	REMARKS:
value work done (from report)	
value of work approved	
value claimed (from statement)	
value credited to PAC account	
value debited to PAC account	
accepted	Rept. No.	Information Class

SCHEDULE "ONE"

<u>Property Name</u>	<u>Record Number</u>	<u>No. of Units</u>
Hector 1	3881	20
Hector 2	3882	20
Hector 3	3883	12
Hector 4	3884	12
Paris 1	3885	18
Paris 2	3886	20
Paris 3	3887	20
Paris 4	3888	18
Agamemnon	3876	20

104 B 10E

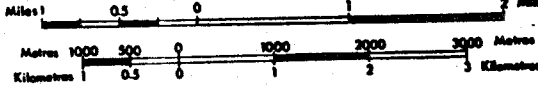
M104B/10E

Ministry of Energy, Mines and Petroleum Resources

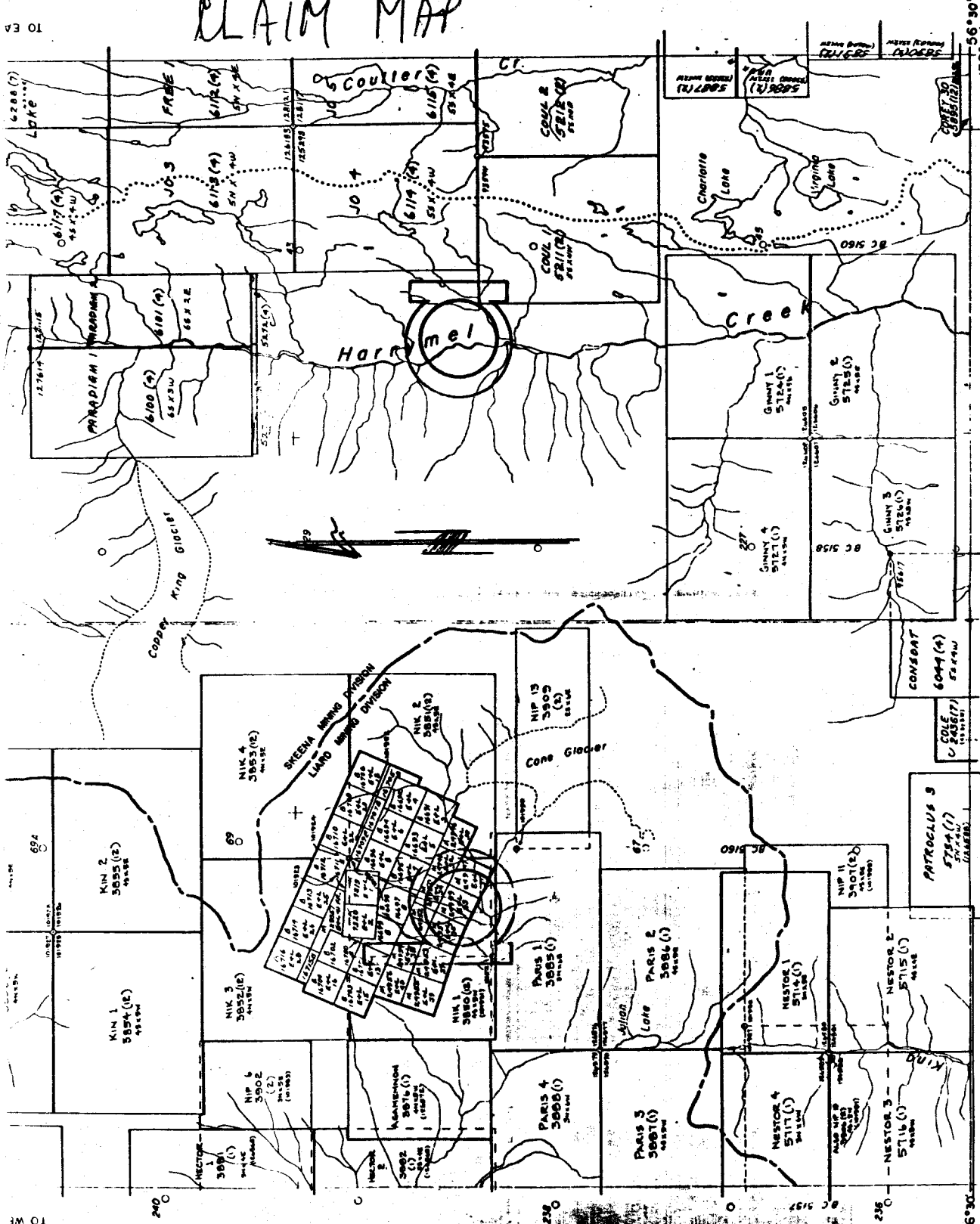
UNLESS VERIFIED OR SURVEYED, THE MAP POSITION OF A LEGAL CORNER POST IS BASED ON THE LOCATOR'S SKETCH. FOR FURTHER INFORMATION, APPLY TO THE OFFICE OF THE MINING DIVISION CONCERNED.

DATE OF MICROFILM: 88/05/05

MINERAL CLAIM C.B.
MINERAL CLAIM R.W. CA.
MINERAL CLAIM R.F.V.
OTHER POST
POST & TAG NUMBER 09346



CLAIM MAP



This map is prepared only as a guide to the location of mineral claims and placer mining leases as shown on the locator's sketches. For current or more specific information, application should be made to the Mining Division concerned.

DEPARTMENT OF MINES AND PETROLEUM RESOURCES

VICTORIA B.C.

SCALE 1/2 MILE = 1 INCH

TO SOUTH SEE MAP 104-B-7-E

- International Boundary
- Provincial Boundary
- Mining Division Boundary
- City or Municipal Boundary
- Water Reservation
- Unreserved Boundary
- Mineral and Placer Reserves
- Ecological Reserves
- Post B-1001
- Recreation Area Boundary
- Strip
- Tunnels
- Power Transmission Line
- Private
- Strain
- perpetual
- Dist. road/land
- Do
- Road/Felt
- Boundary means (not show)

TO WEST

56°30'

130°45'

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LIST OF MAPS

(Scale 1:20,000)

1. **TOPOGRAPHIC BASE MAP;**
prepared from 1:50,000 NTS maps, showing registration crosses corresponding to UTM co-ordinates on survey maps.
2. **FLIGHT LINE MAP;**
showing all flight lines, fiducials and EM anomalies with the topographic base map.
3. **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 with the topographic base map.
4. **TOTAL FIELD MAGNETIC CONTOURS;**
showing magnetic values contoured at .5 nanoTesla intervals, flight lines and fiducials with the topographic base map.
5. **VERTICAL MAGNETIC GRADIENT CONTOURS;**
showing magnetic gradient values contoured at 0.5 nanoTeslas per meter with the topographic base map.
6. **APPARENT RESISTIVITY CONTOURS;**
showing contoured apparent resistivity values, flight lines and fiducials with the topographic base map.
7. **VLF-EM TOTAL FIELD CONTOURS;**
showing VLF-EM values contoured at 1% intervals, flight lines and fiducials with the topographic base map.
8. **WEIGHT PERCENT MAGNETITE CONTENT;**
showing contours of the apparent weight percent magnetite per vertical foot calculated from the 4175 Hz coplanar inphase data.

1. INTRODUCTION

This report describes an airborne geophysical survey carried out on behalf of Winslow Gold Corporation by Aerodat Limited. Equipment operated included a four frequency electromagnetic system, a high sensitivity cesium vapour magnetometer, a two frequency VLF-EM system, a video tracking camera and a radar altimeter. Electromagnetic, magnetic and altimeter data were recorded both in digital and analog form. Recognizable topographic features were recorded on the flight path mosaic by the operator while in flight to facilitate later flight path recovery.

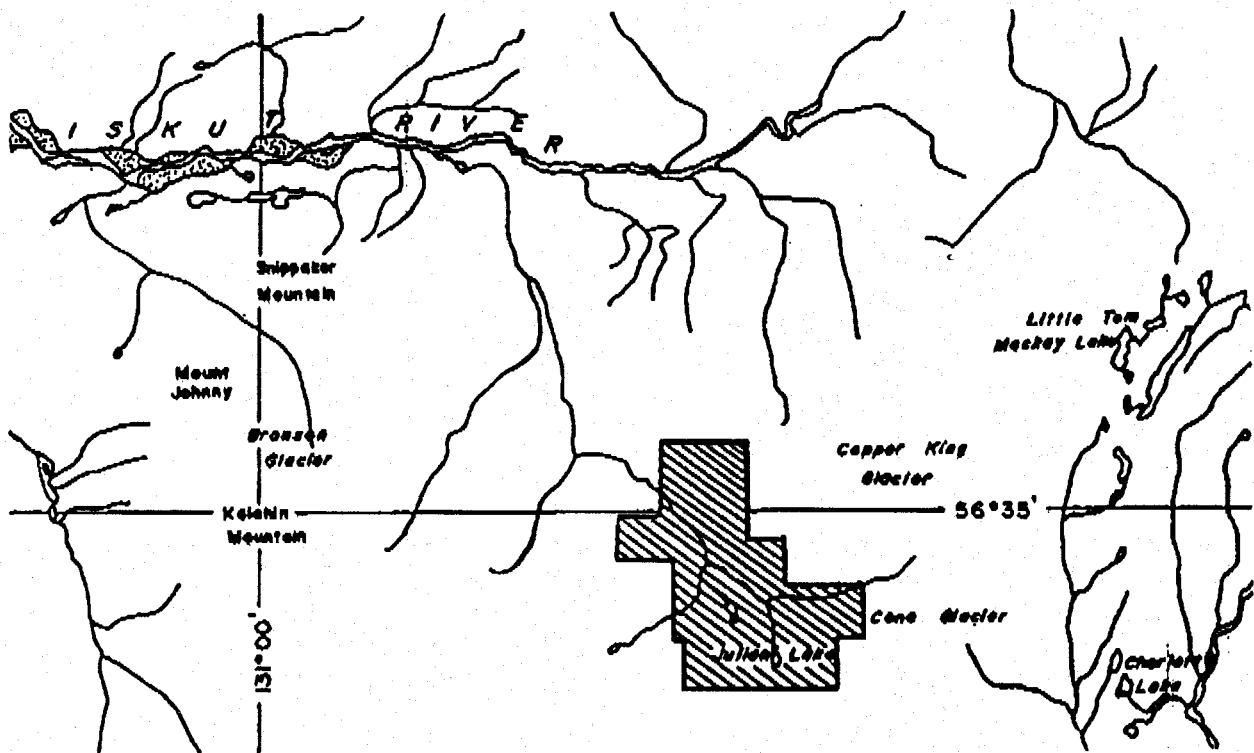
The survey area, comprising a single block of ground located approximately 50 kilometres northwest of Stewart, British Columbia, were flown during the period of January 4-8, 1989. Five flights were required to complete the survey flying with flight lines oriented in an east-west direction and flown at a nominal spacing of 250 metres. Coverage was considered to be well within the specifications described in the service contract. The data quality was good with only minor high frequency (32,000 Hz) noise which was partly removed during processing in the Aerodat's Mississauga office. For the interpretation purposes, the noise did not present any problems because it was easily recognized and differentiated from the electromagnetic responses.

The purpose of the survey was to record airborne geophysical data over and around the three claim blocks that are of interest to Winslow Gold Corporation.

A total of 160 line kilometres of the recorded data were compiled in map form. The maps are presented as part of this report according to specifications laid out by Winslow Gold Corporation.

2. SURVEY AREA LOCATION

The survey area is depicted on the index map shown below. It is centred at Latitude 56 degrees 35 minutes north, Longitude 130 degrees 42 minutes west, approximately 50 kilometres northwest of the town of Stewart, British Columbia (NTS Reference Map No. 104 B/10), in the Coast Mountains, near the B.C./Alaska border. The terrain is very rugged, varying from approximately 480 metres above sea level in the northwest part of the area to in excess of 1,770 metres above sea level in its eastern portion.



3. AIRCRAFT AND EQUIPMENT

3.1 Aircraft

An Aerospatiale SA 315B Lama helicopter, (C-GXYM), owned and operated by Peace 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 4-frequency system. Two vertical coaxial coil pairs were operated at 935 Hz and 4600 Hz and two horizontal coplanar coil pairs at 4175 Hz and 32000 Hz. The transmitter-receiver separation was 7 metres. Inphase and quadrature signals were measured simultaneously for the 4 frequencies with a time constant of 0.1 seconds. The electromagnetic bird was towed 30 metres below the helicopter.

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 NLK, Jim Creek, Washington broadcasting at 24.8 kHz for the Line Station and NPM, Lualualei, Hawaii broadcasting at 23.4 kHz for the Orthogonal Station.

3.2.3 Magnetometer

The magnetometer employed was 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 King 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. Fiducial numbers and time reference 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	935 Hz Coaxial Inphase	2.5 ppm/mm
CXQ1	935 Hz Coaxial Quadrature	2.5 ppm/mm
CXI2	4600 Hz Coaxial Inphase	2.5 ppm/mm
CXQ2	4600 Hz Coaxial Quadrature	2.5 ppm/mm
CPI1	4175 Hz Coplanar Inphase	10 ppm/mm
CPQ1	4175 Hz Coplanar Quadrature	10 ppm/mm
CPI2	32000 Hz Coplanar Inphase	20 ppm/mm
CPQ2	32000 Hz Coplanar Quadrature	20 ppm/mm
PWRL	Power Line	60 Hz
VLT	VLF-EM Total Field, Line	2.5% ppm/mm
VLQ	VLF-EM Quadrature, Line	2.5% ppm/mm
VOT	VLF-EM Total Field, Ortho	2.5% ppm/mm
VOQ	VLF-EM Quadrature, Ortho	2.5% ppm/mm

Channel	Input	Scale
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	0.2 seconds
Magnetometer	0.2 seconds
Altimeter	0.5 seconds

4. DATA PRESENTATION

4.1 Base Map

A topographic base map at a scale of 1:20,000 was prepared from a photo enlargement of an NTS 1:50,000 topography map and was presented on a screened mylar base.

4.2 Flight Path Map

The flight path for the survey area was recovered from the VHS Video Tracking Tapes by transferring the time at which the helicopter passed over a recognizable feature onto the photomosaic. These coordinates were then digitized into the database and formed the basis of the flight path data.

The flight path map showing all flight lines and electromagnetic anomalies is presented on a Cronaflex copy of the topographic base map, with time and navigator's manual fiducials for cross reference to both the analog and digital data.

4.3 Airborne Electromagnetic Anomaly 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

four coil configurations along with the interpreted conductor axes were plotted on a Cronaflex copy of the topographic 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. The corrected profile data were interpolated onto a regular grid at a 50 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 topographic 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 topographic 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 frequency pair used. The apparent resistivity profile data were interpolated onto a regular grid at a 50 metres true scale interval using an Akima spline technique.

The contoured apparent resistivity data were presented on a Cronaflex copy of the topographic base map.

4.7 VLF-EM Total Field Contours

The VLF-EM signals from NLK, Jim Creek, Washington broadcasting at 24.8 kHz. for the Line Station were compiled in contour map form and presented on a Cronaflex copy of the topographic base map.

4.8 Weight Percent Magnetite Content Contours

The electromagnetic information was processed to yield a map of the apparent magnetite content of the underlying rock expressed as a weight percent of magnetite per vertical foot.

The approach taken in computing apparent magnetite content was based on empirical relationships between the negative inphase response of the 4175 Hz

coplanar system and the equivalent magnetite content required to produce the desired permeability contrasts in the bedrock. The method does not apply in situations involving remanent magnetism and breaks down where responses from a conductive (positive) component as well as a magnetic (negative) component are measured.

The contoured apparent Weight Percent Magnetite Content values together with flight path and fiducials were presented on a Cronaflex copy of the topographic base map.

5. INTERPRETATION

5.1 Magnetics

The magnetic field varies from approximately 57,300 nT to over 59,100 nT. The south part of the area is characterized by generally low amplitude slowly varying field, with vague suggestions of NNE trends. In contrast, the north portion of the block displays higher amplitude anomalies and frequently varying field. Prominent dike-like linear features occur. The most apparent of these anomalies is a northwesterly oriented linear anomaly extending from the west end of lines 2050 and 2060 toward the time mark 13:33:00 on line 2231. The anomaly terminates abruptly at this location. It correlates closely with Snippaker Creek valley which may be significant but at the present time this correlation is unexplained. The Snippaker Creek valley continues further southwest, but no correlating magnetic anomaly is evident on the total field map past line 2231. Instead, a weak magnetic anomaly is seen to continue parallel to the Creek valley under a ridge bordering an icefield.

At the south extent of this prominent linear magnetic anomaly, the patterns become complex, displaying change of preferred direction from northwesterly to ESE-WNW. The latter trend may strike nearly parallel to the flight lines which would account for the difficulty in portraying the magnetic patterns. The two magnetic anomalies are believed to reflect two different intrusions(?) which may have occurred along zones of weakness.

The calculated vertical magnetic gradient map defines better the individual magnetic anomalies which, in turn, emphasizes the difference between the magnetically active north part and the quiet central part of the area. The geologic implications of these differences cannot be fully assessed from the present data. Further processing using enhancement techniques, such as apparent susceptibility mapping and shadow mapping should be considered.

At places, high concentrations of magnetite have caused the inphase EM channels to produce negative responses, the best example of which is seen on line 2140 near the time mark 10:51:20. Using the electromagnetic information, an estimate of the percent of magnetite can be arrived at and the information can be presented in the map form. Such a map is included with the report.

5.2 Total Field VLF-EM

The NLK, Jim Creek, Washington, transmitter which operates at a frequency of 24.8 kHz, and occurs at an azimuth of 144 degrees, was monitored during the survey. This transmitter will preferentially energize conductors striking within +/-30 degrees of its azimuth.

The VLF-EM responses in most of the area are very weak and display low amplitudes. Exceptions occur in the southern part of the area. Due to the poor

definition of the VLF-EM responses, the usefulness of the VLF-EM anomaly map is somewhat limited. For example, the correlation of VLF and magnetic data cannot be fully established.

5.3 Apparent Resistivity

The apparent resistivity values were calculated from the 4,175 Hz EM data. The lowest calculated values are close to 120 ohm-m, the high values are limited to 4,000 ohm-m which is the upper detection limit of the system at 4,175 Hz.

Main feature of the resistivity map is an irregularly shaped low resistivity zone which extends through the central part of the area in an approximately east-west direction. For most of its length, the zone approximates the east-west oriented magnetic high discussed earlier. Closer examination of the EM responses shows that this zone does not contain EM responses which may be attributable to typical thin sheet bedrock conductors. However, conductors parallel to the flight lines may occur which are not recognized on the EM channels. The west portion of the zone is associated with well defined bedrock conductors. Similarly, a narrow low resistivity zone situated between the time mark 13:42:35 on line 2251 and the time mark 10:08:47 on line 2290 is associated with EM responses due to thin sheet bedrock conductor.

5.4 Electromagnetics

The electromagnetic data was first checked by a line-to-line examination of the analog records. Record quality was generally good with only minor noise levels, primarily on the 32,000 Hz coplanar traces.

The electromagnetic anomalies were selected by the writer from the analog and digital profiles. The anomaly axes were assigned wherever possible, based on the similarity of the EM response on adjacent lines and taking into account the general magnetic trends.

The EM anomalies that have been selected within the survey block, fall into the low-to-intermediate conductance category. The group I conductors were located over a northeasterly striking ridge bordered from the west by the Snippaker Creek valley and from the east by an icefield. They show relatively good line-to-line correlation but little magnetic correlation. Their ground follow-up is recommended.

Group II is situated in the south central part of the area. The conductor has produced a narrow low resistivity zone and shows correlation with magnetics, particularly on lines 2261 and 2271. Ground follow-up is recommended.

6. CONCLUSIONS AND RECOMMENDATIONS

Results of the present airborne geophysical survey indicate that the area is underlain by complex geology. A narrow magnetic anomaly was located in the north part of the block which extends in a southeasterly direction toward the central part of the area. Second narrow magnetic anomaly was detected which extends east of the first one in an easterly direction, probably parallel to the flight lines. Both anomalies are believed to occur along a zone of weakness and may reflect dikes.

Not much structural information could be obtained from the present data. Further processing and the use of enhancement techniques is recommended. Good knowledge of the structural setting in the area is believed to be essential because in many instances mineralization occurs in association with structural features, such as faults and/or shears.

Conductors indicated on the interpretation maps are generally weak-to-intermediate but they appear to be of bedrock origin. Their follow-up is recommended but should depend on the

APPENDIX I

GENERAL INTERPRETIVE CONSIDERATIONS

Electromagnetic

The Aerodat four 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 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.

correlation of the results of the present survey with a workable geologic model. The survey results should be compiled on a common base containing all types of other information, including geology, geochemistry, and other geophysics. Target areas should be selected based on the mutual correlation of all the data.

Respectfully submitted,



Z. Dvorak
Consulting Geophysicist
For
AERODAT LIMITED
March 20, 1989

J8890

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 ration 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 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 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 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.

APPENDIX II

ANOMALY LIST

J8890B1 - WINSLOW GOLD CORP - LIARD MINING DISTRICT

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM)		CONDUCTOR		BIRD
				INPHASE	QUAD.	CTP DEPTH	HEIGHT	
-----	-----	-----	-----	-----	-----	MHOS	MTRS	MTRS
19	2241	A	0	5.4	6.4	0.6	7	53
19	2241	B	1	7.5	5.6	1.3	0	80
19	2251	A	1	7.9	6.5	1.2	0	72
19	2261	A	0	25.2	35.2	0.9	0	59
19	2261	B	0	7.9	9.6	0.7	0	73
19	2261	C	0	8.3	23.7	0.2	0	44
19	2271	A	0	5.0	12.2	0.2	0	62
19	2271	B	0	10.2	16.9	0.5	11	28
19	2271	C	1	8.9	6.0	1.6	0	86
19	2281	A	0	12.2	16.9	0.7	7	34
19	2281	B	0	21.6	38.3	0.6	0	33
19	2281	C	0	11.1	25.3	0.3	9	23
19	2281	D	0	0.5	11.8	0.0	0	24
19	2281	E	0	-0.5	8.8	0.0	0	30
19	2281	F	0	3.9	6.4	0.3	0	65
6	2290	A	0	3.7	21.8	0.0	3	22
6	2290	B	0	1.4	9.2	0.0	7	25
6	2290	C	0	1.5	1.5	0.4	68	33
6	2290	D	0	1.3	5.5	0.0	0	79
6	2300	A	0	2.2	8.2	0.0	0	75
6	2300	B	0	4.6	5.0	0.6	0	69
6	2300	C	0	4.4	10.0	0.2	25	19
6	2300	D	0	5.5	26.3	0.0	10	15
6	2300	E	0	9.6	33.1	0.1	10	15
7	2330	A	0	0.7	6.9	0.0	0	84
7	2370	A	0	12.4	15.3	0.8	0	63

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

1. I hold a PhD in Geophysics from Charles University, Czechoslovakia having graduated in 1967.
2. I reside at 146 Three Valleys Drive, in the town of Don Mills, Ontario.
3. I have been continuously engaged in both professional and managerial roles in the minerals industry in Canada and abroad for the past 19 years.
4. I have been an active member of the Society of Exploration Geophysicists since 1978 and a member of KEGS since 1978.
5. The accompanying report was prepared from information published by government agencies, materials supplied by Winslow Gold Corporation and from a review of the proprietary airborne geophysical survey flown by Aerodat Limited for Winslow Gold Corporation. 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 Winslow Gold Corporation.

Signed



Zbynek Dvorak
Consulting Geophysicist

APPENDIX IV

PERSONNEL

FIELD

Flown

December, 1988 - January, 1989

Pilot

C. Armstrong

Operator

J. Huisman

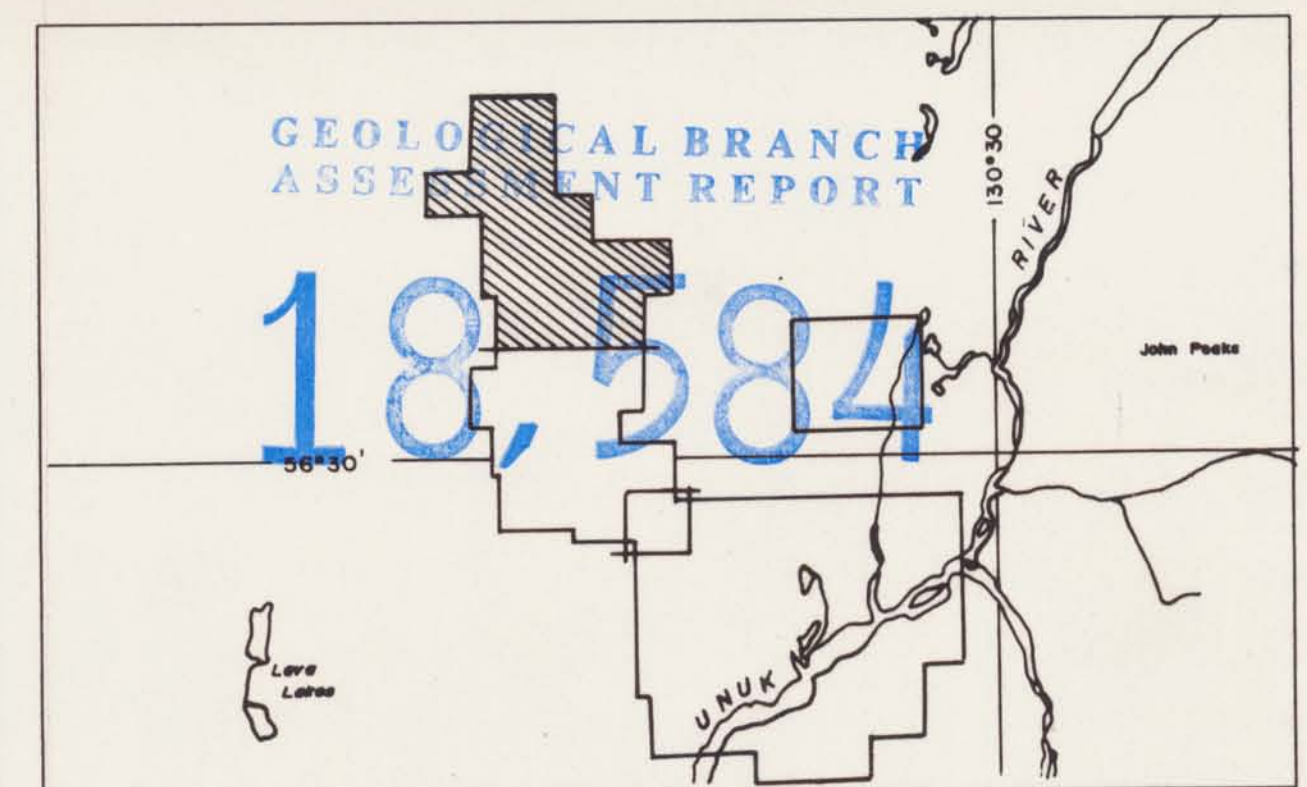
OFFICE

Processing

T. J. Gamey

Report

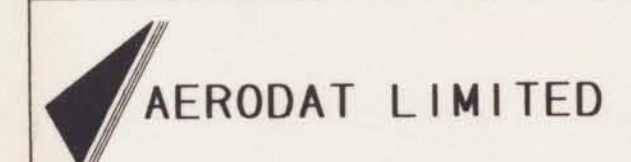
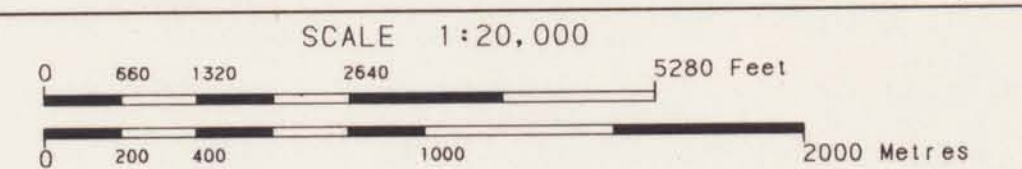
Z. Dvorak



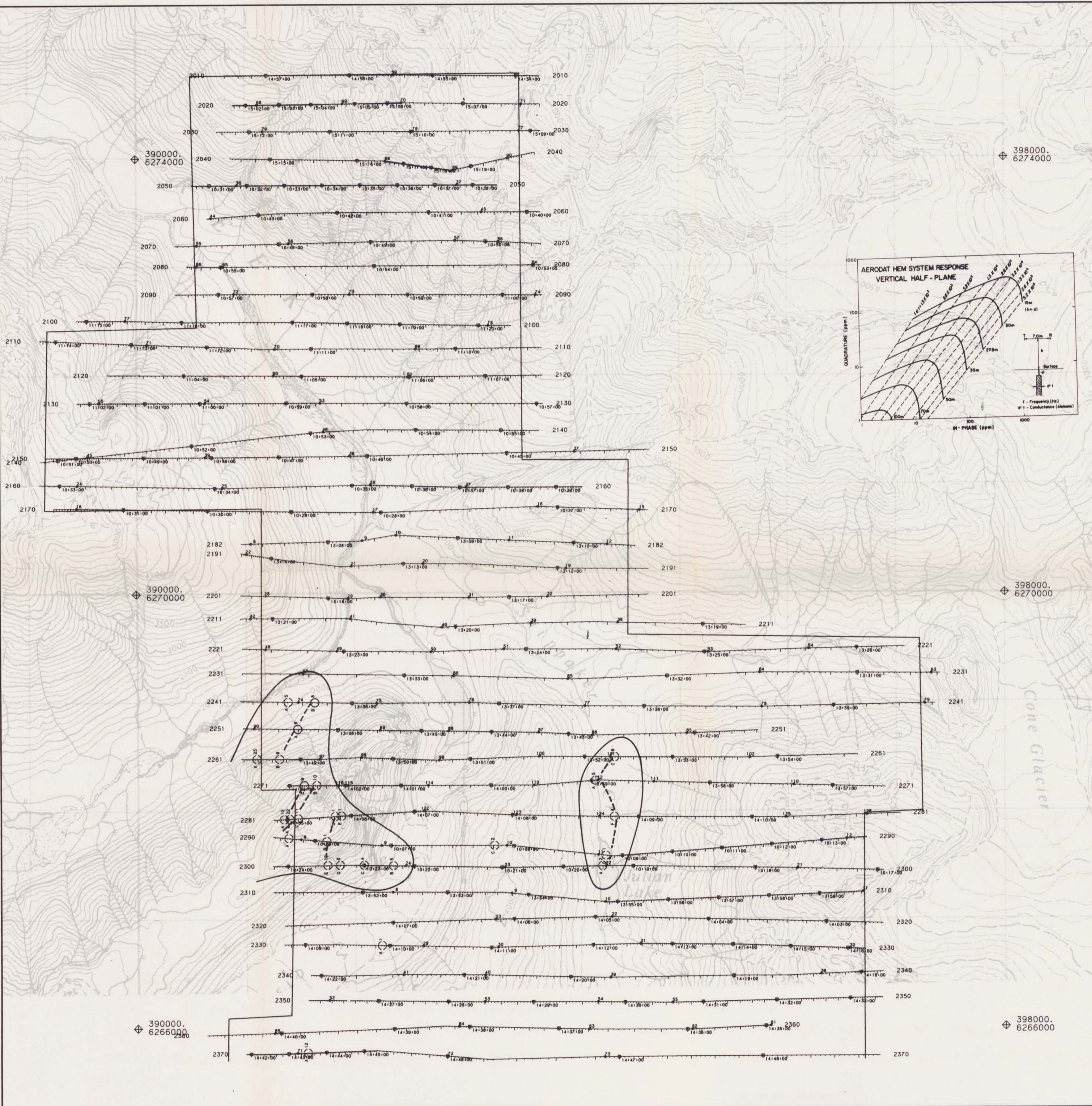
WINSLOW GOLD CORP.

BASE MAP

ISKUT-UNUK RIVER AREA
BRITISH COLUMBIA

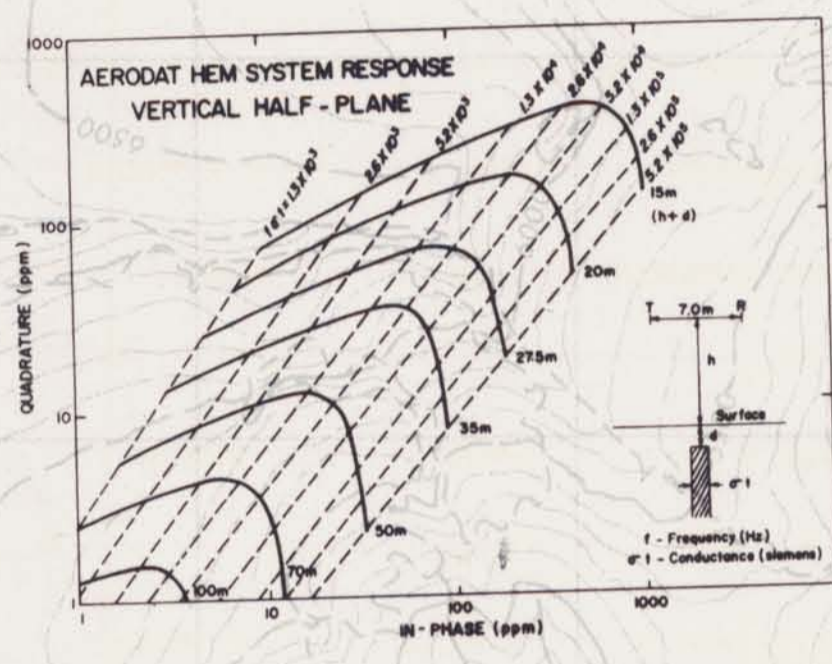


DATE: DEC/88 - JAN/89
NTS No: 104 B/10
MAP No: 1 J8890B-1



Flight Path

Flight path recovery from VHS video tape.
Average terrain clearance 60m
Average line spacing 250m

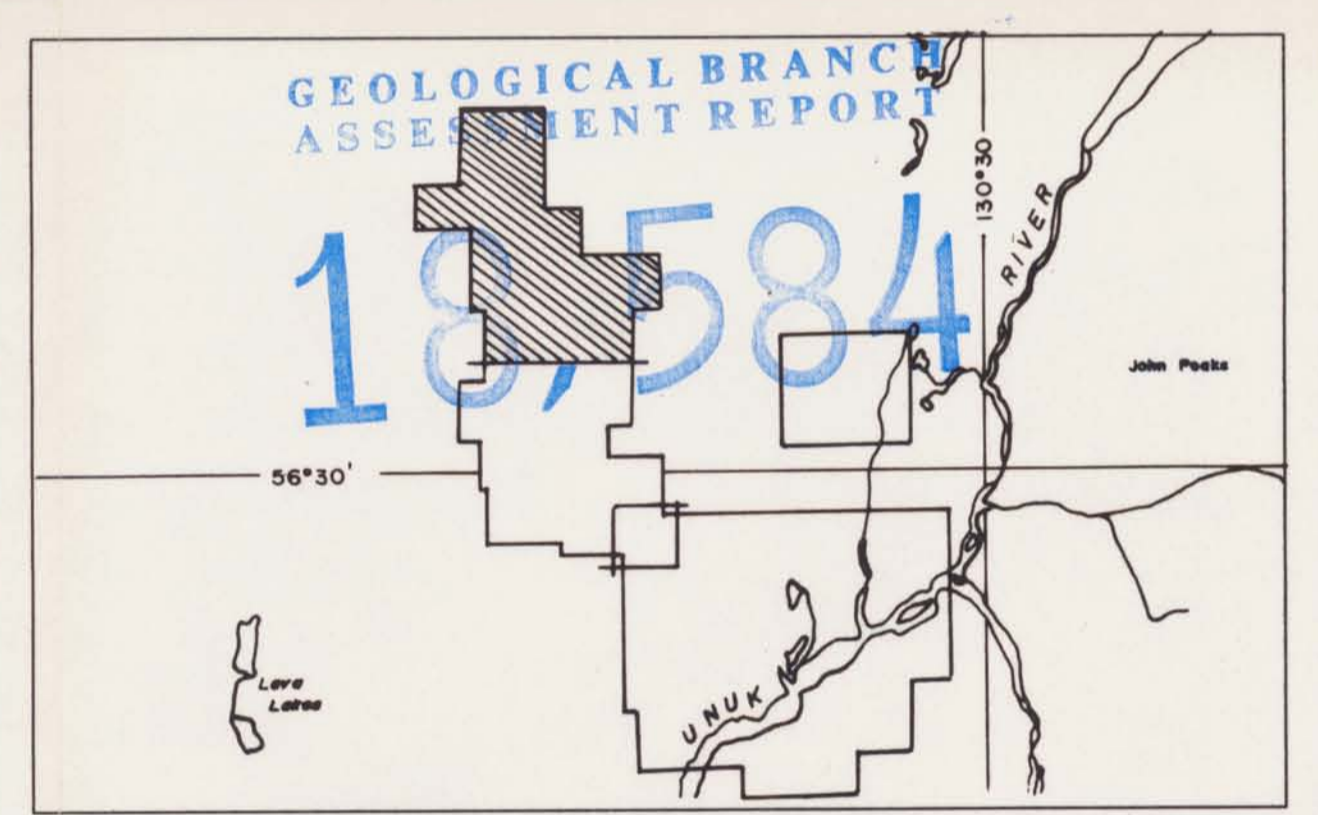


EM Anomalies

- 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).

INTERPRETATION LEGEND

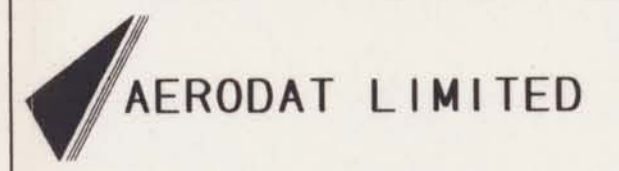
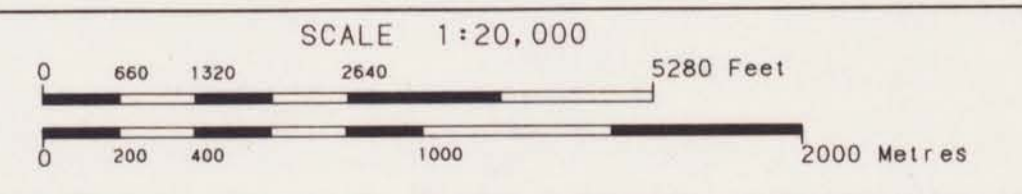
- Possible bedrock conductor axis
- Conductive Zone



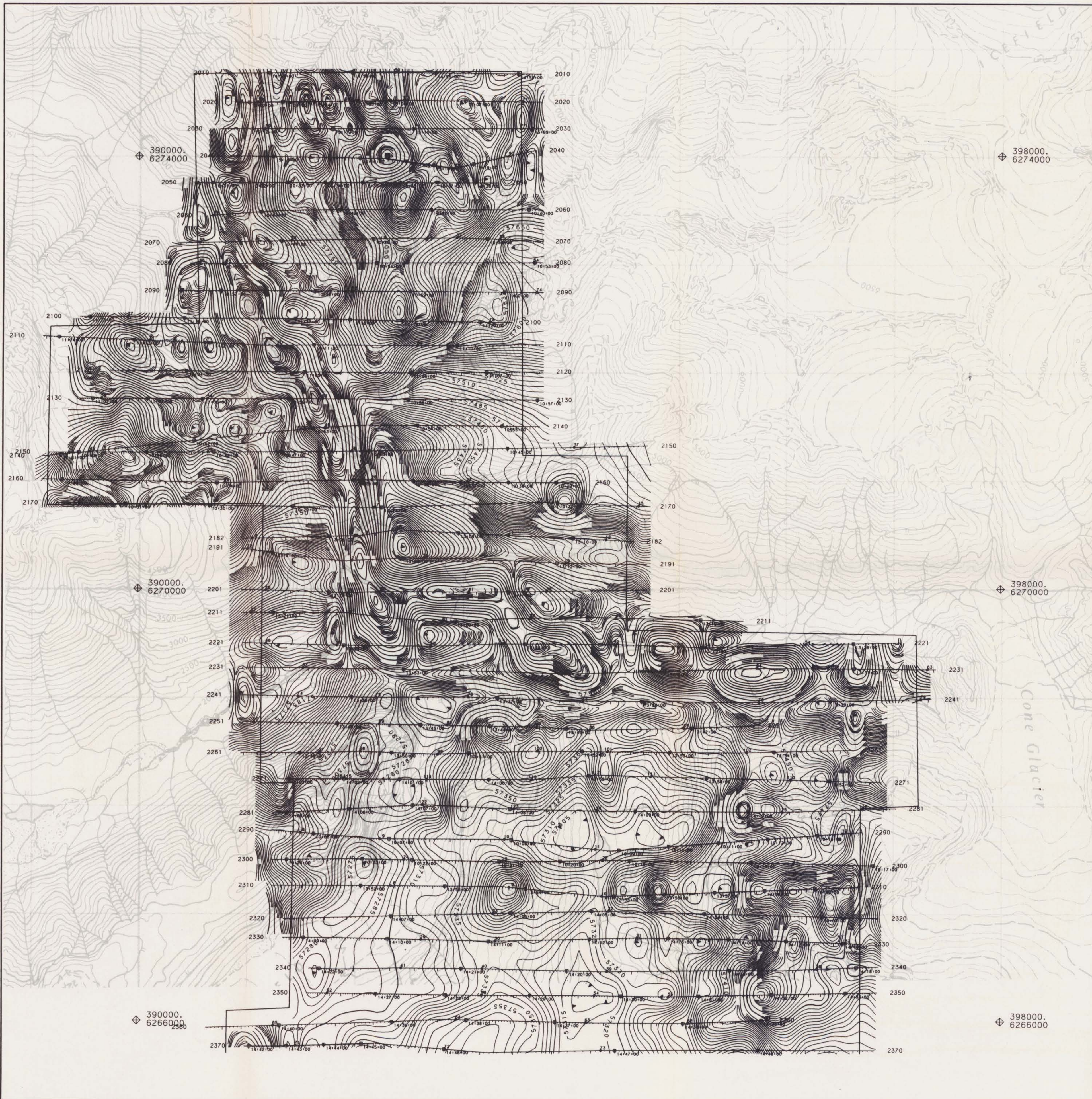
WINSLOW GOLD CORP.

INTERPRETATION

**ISKUT-UNUK RIVER AREA
BRITISH COLUMBIA**



DATE: DEC/88 - JAN/89
NTS No: 104 B/10
MAP No: 3 J8890B-1



Flight Path

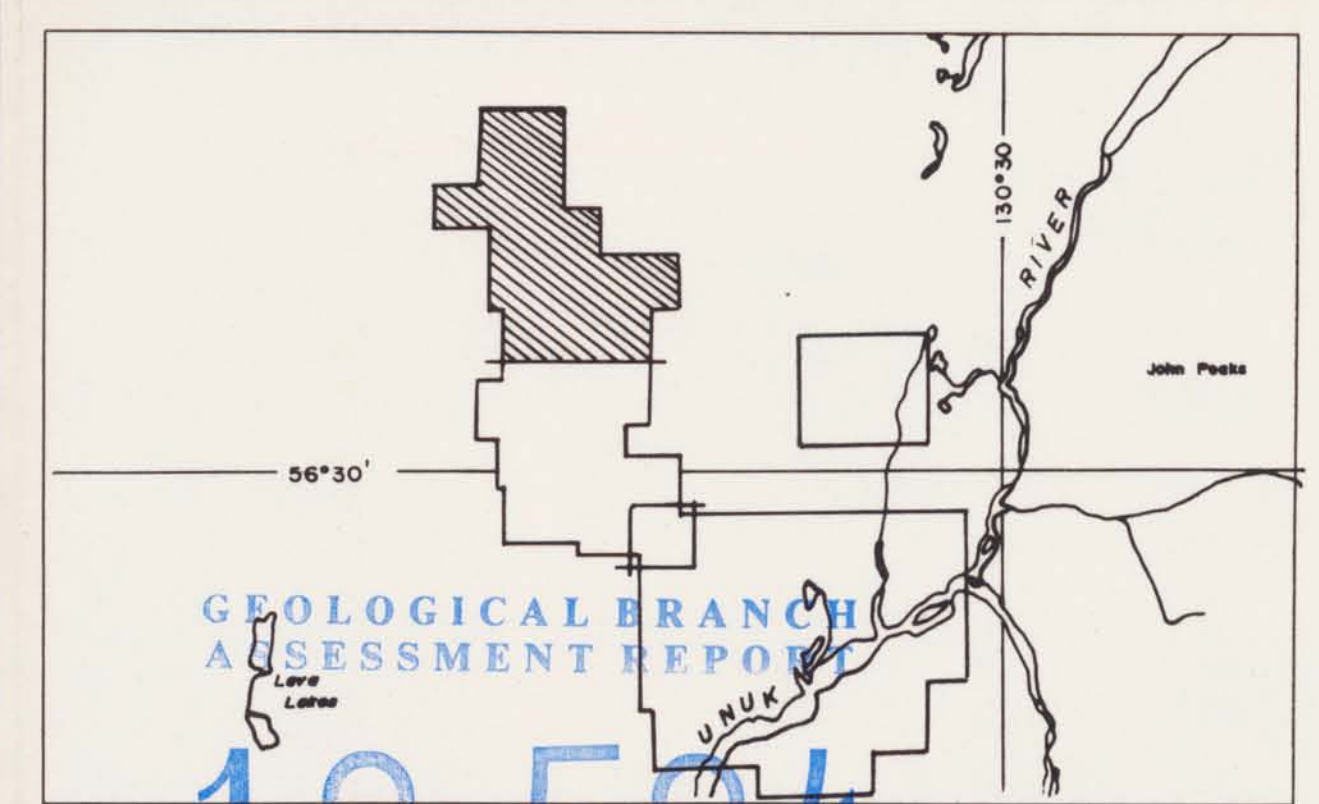
Flight path recovery from VHS video tape.
 Average terrain clearance 60m
 Average line spacing 250m

Magnetics

Total Field Magnetic Intensity
 Contours in nT.
 Cesium high sensitivity magnetometer.
 Sensor elevation 45m

Map contours are multiples of those listed below

—	5 nT
—	25 nT
—	100 nT
—	500 nT

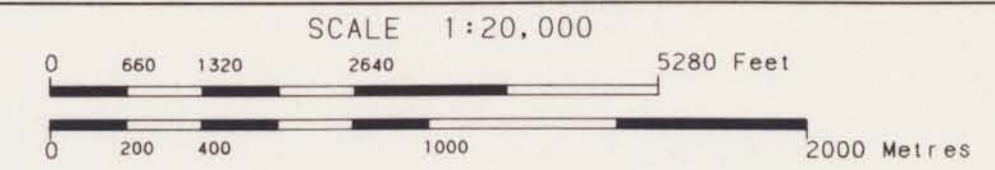


18,584

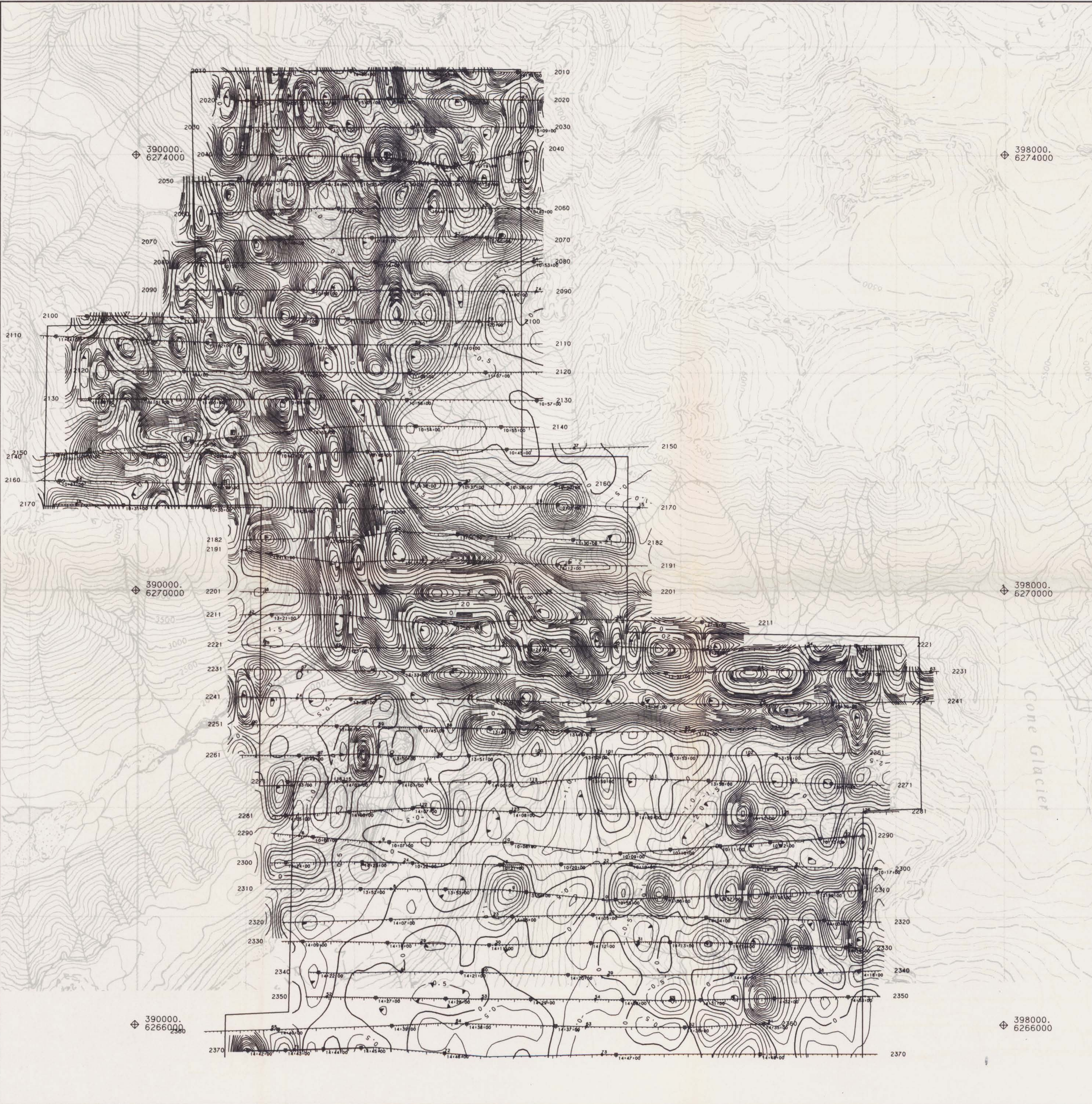
WINSLOW GOLD CORP.

TOTAL FIELD MAGNETIC CONTOURS

ISKUT-UNUK RIVER AREA
BRITISH COLUMBIA



DATE: DEC/88 - JAN/89
 NTS No: 104 B/10
 MAP No: 4 J8890B-1



Flight Path

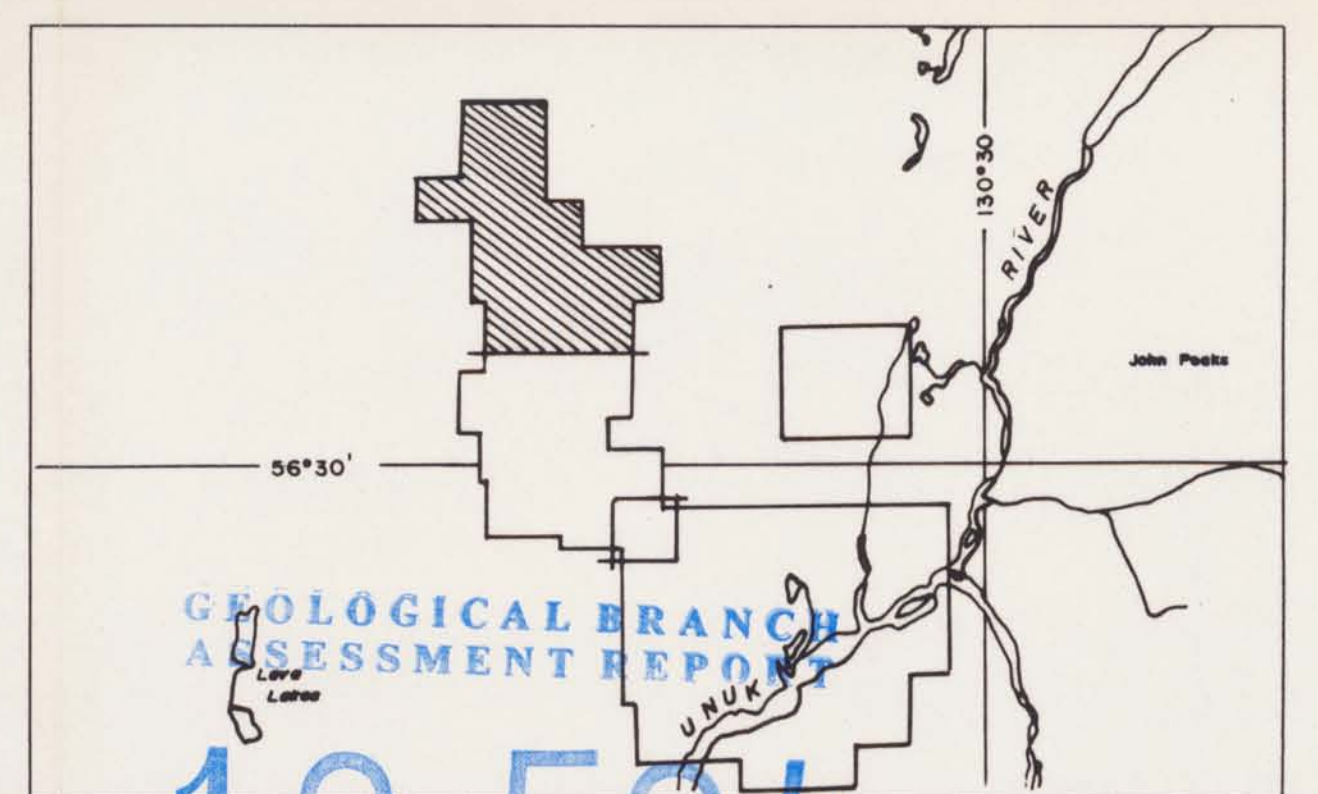
Flight path recovery from VHS video tape.
Average terrain clearance 60m
Average line spacing 250m

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

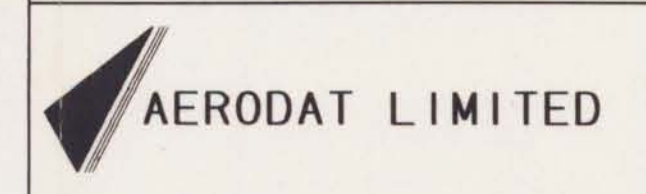
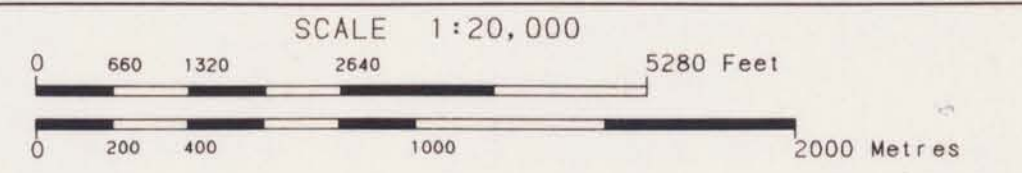
- 0.5 nT/m
- 2.5 nT/m
- 10 nT/m
- 50 nT/m



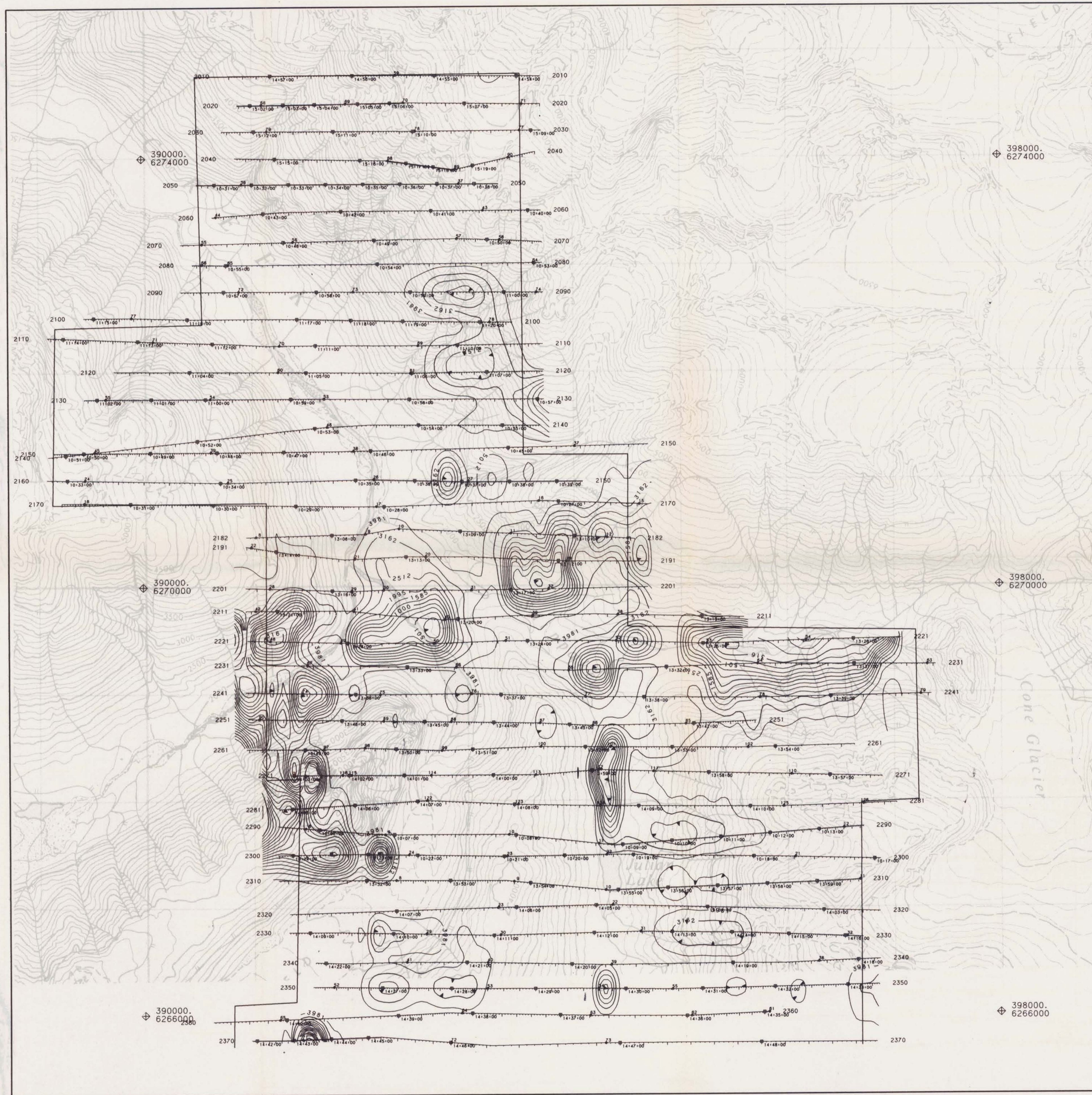
18,584
WINSLOW GOLD CORP.

CALCULATED VERTICAL MAGNETIC GRADIENT

ISKUT-UNUK RIVER AREA
BRITISH COLUMBIA



DATE: DEC/88 - JAN/89
NTS No: 104 B/10
MAP No: 5 J8890B-1



Flight Path

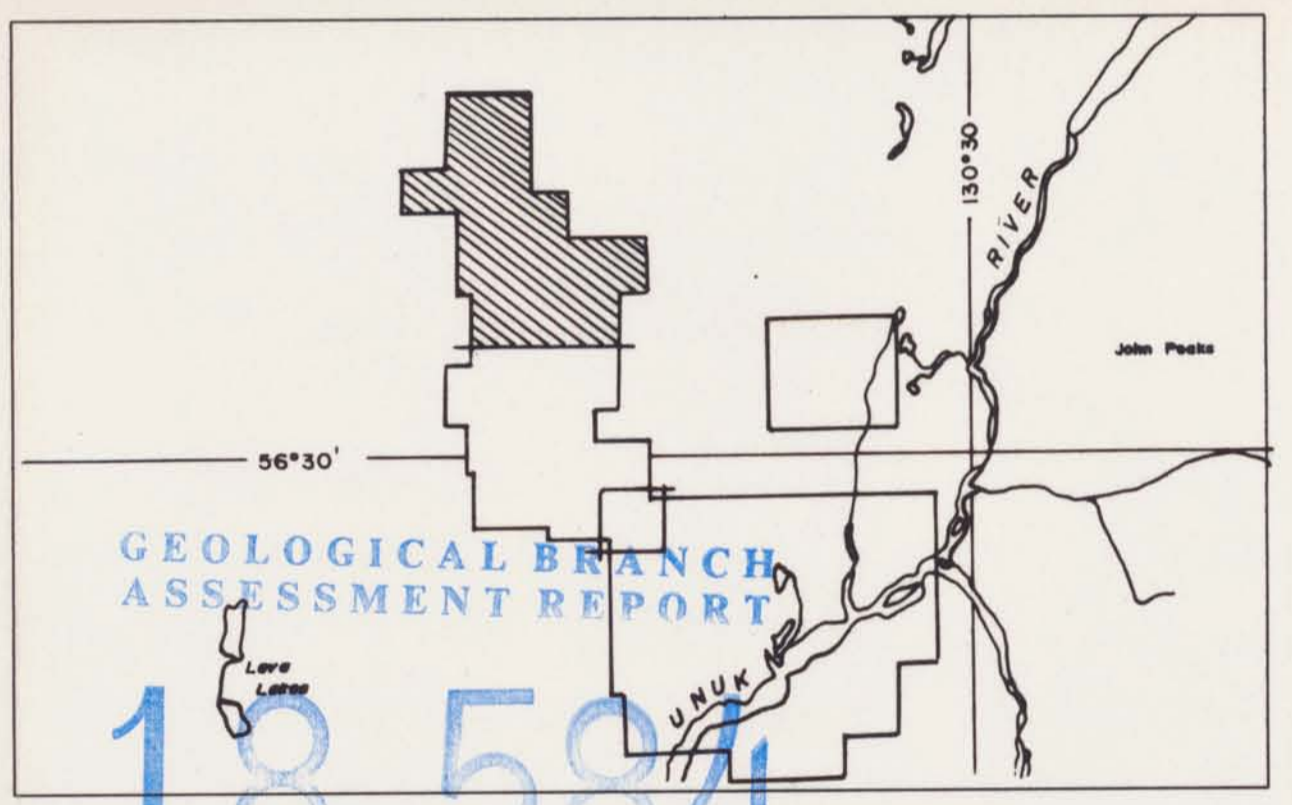
Flight path recovery from VHS video tape.
Average terrain clearance 60m
Average line spacing 250m

Apparent Resistivity

Calculated from 4175 Hz coplanar EM response assuming a 200 m conductive layer.
Contouring in ohm·m at logarithmic intervals.
Sensor elevation 30m

Map contours are multiples of those listed below

- 0.1 log(ohm·m)
- 0.5 log(ohm·m)
- 2.5 log(ohm·m)



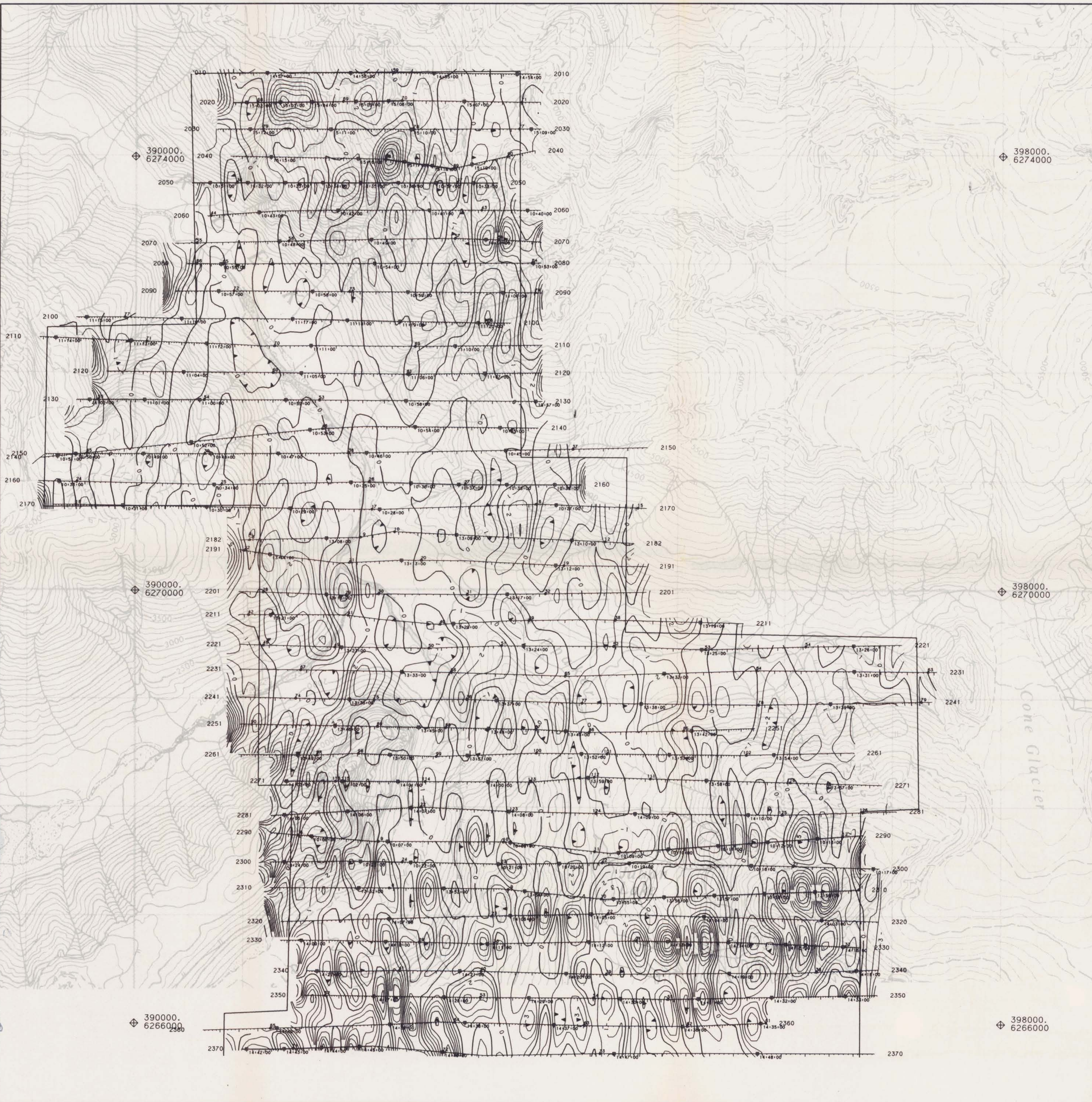
WINSLOW GOLD CORP.

APPARENT RESISTIVITY CONTOURS

ISKUT-UNUK RIVER AREA
BRITISH COLUMBIA

SCALE 1:20,000
0 660 1320 2640 5280 Feet
0 200 400 1000 2000 Metres

	DATE: DEC/88 - JAN/89
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	MAP No: 6 J8890B-1



Flight Path

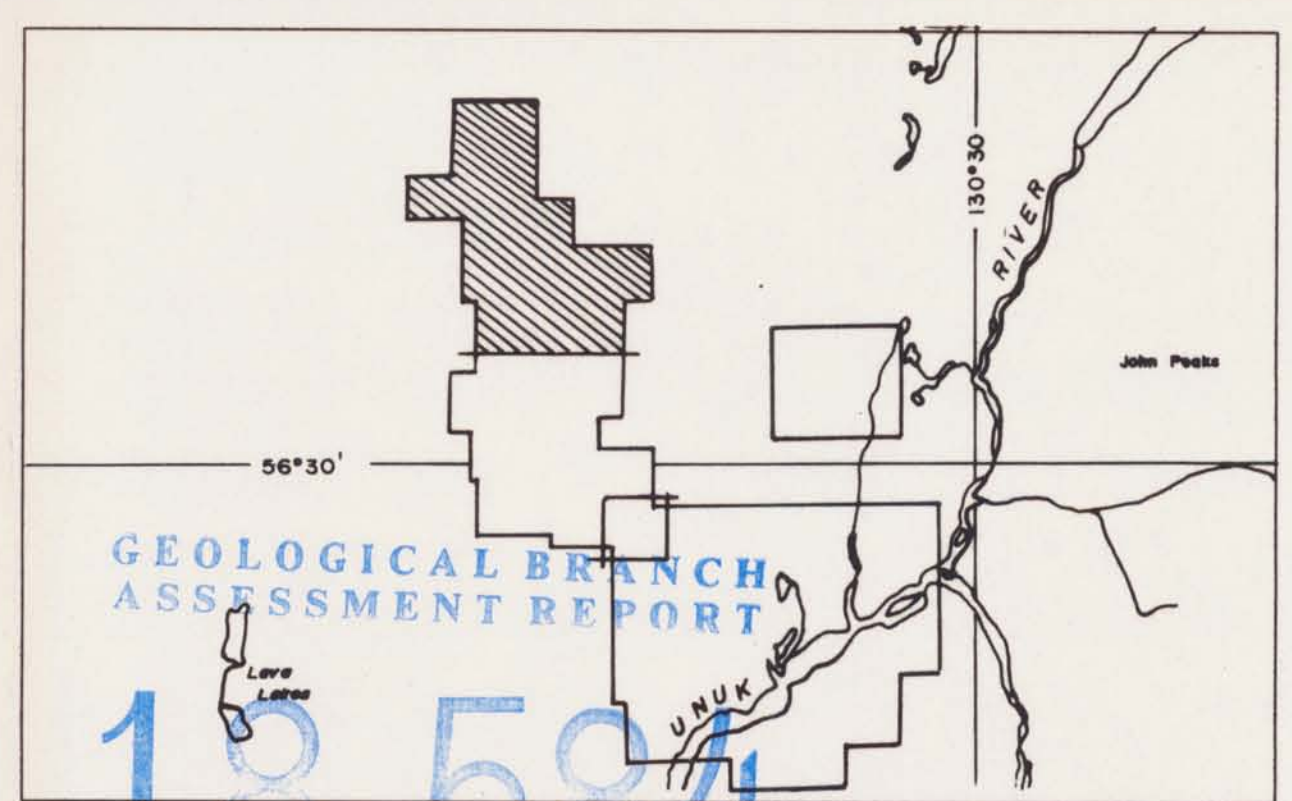
Flight path recovery from
VHS video tape.
Average terrain clearance 60m
Average line spacing 250m

VLF-EM

VLF-EM Total Field Intensity
in percent.
Station: NLK
Jim Creek, Washington
24.8 kHz
Sensor elevation 45m

Map contours are multiples of
those listed below

- 1 x
- 5 x
- 25 x



WINSLOW GOLD CORP.

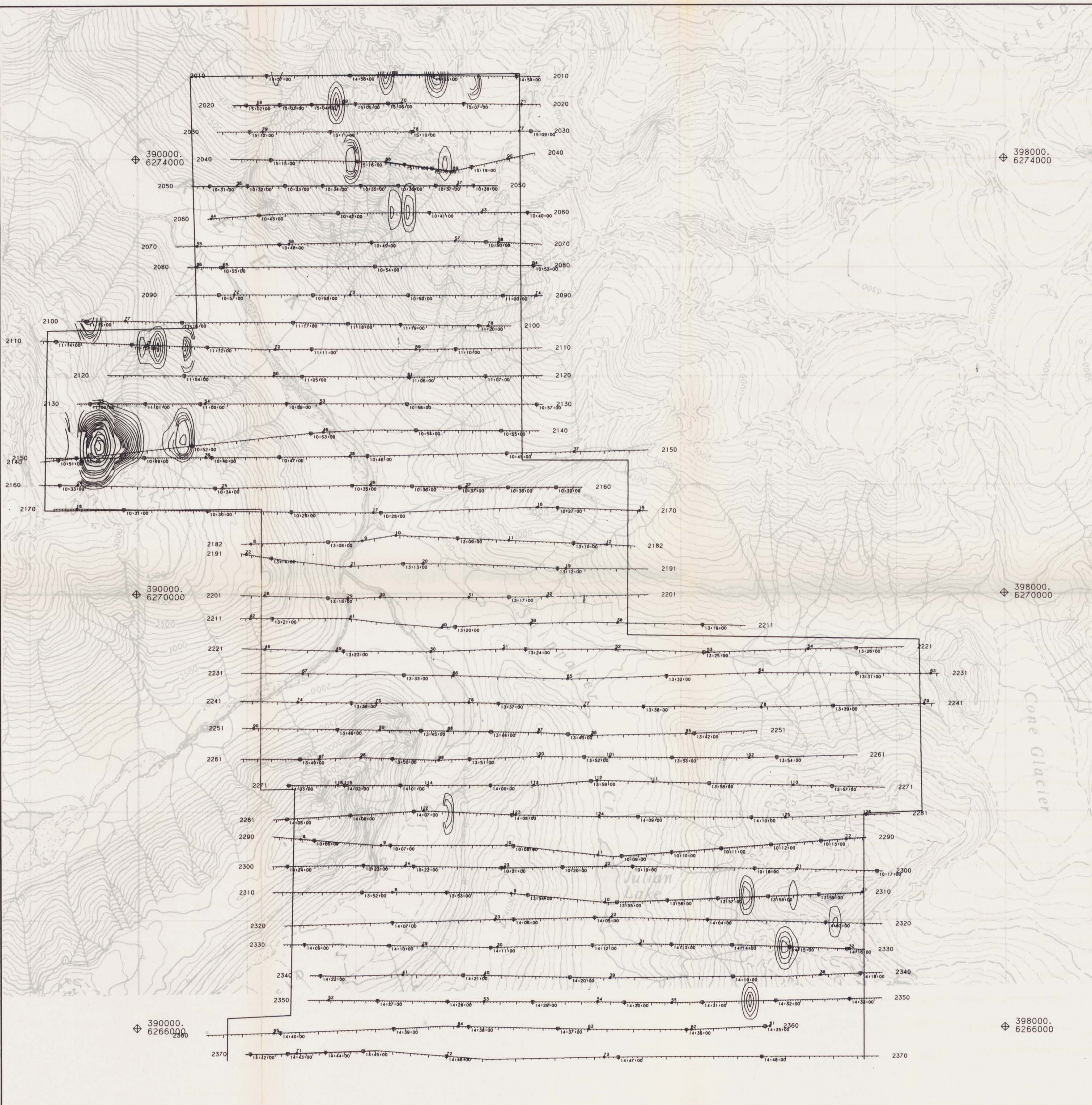
VLF-EM TOTAL FIELD CONTOURS

ISKUT-UNUK RIVER AREA
BRITISH COLUMBIA

SCALE 1:20,000

0 660 1320 2640 5280 Feet
0 200 400 1000 2000 Metres

AERODAT LIMITED	DATE: DEC/88 - JAN/89
	NTS No: 104 B/10
	MAP No: 7 J8890B-1



Flight Path

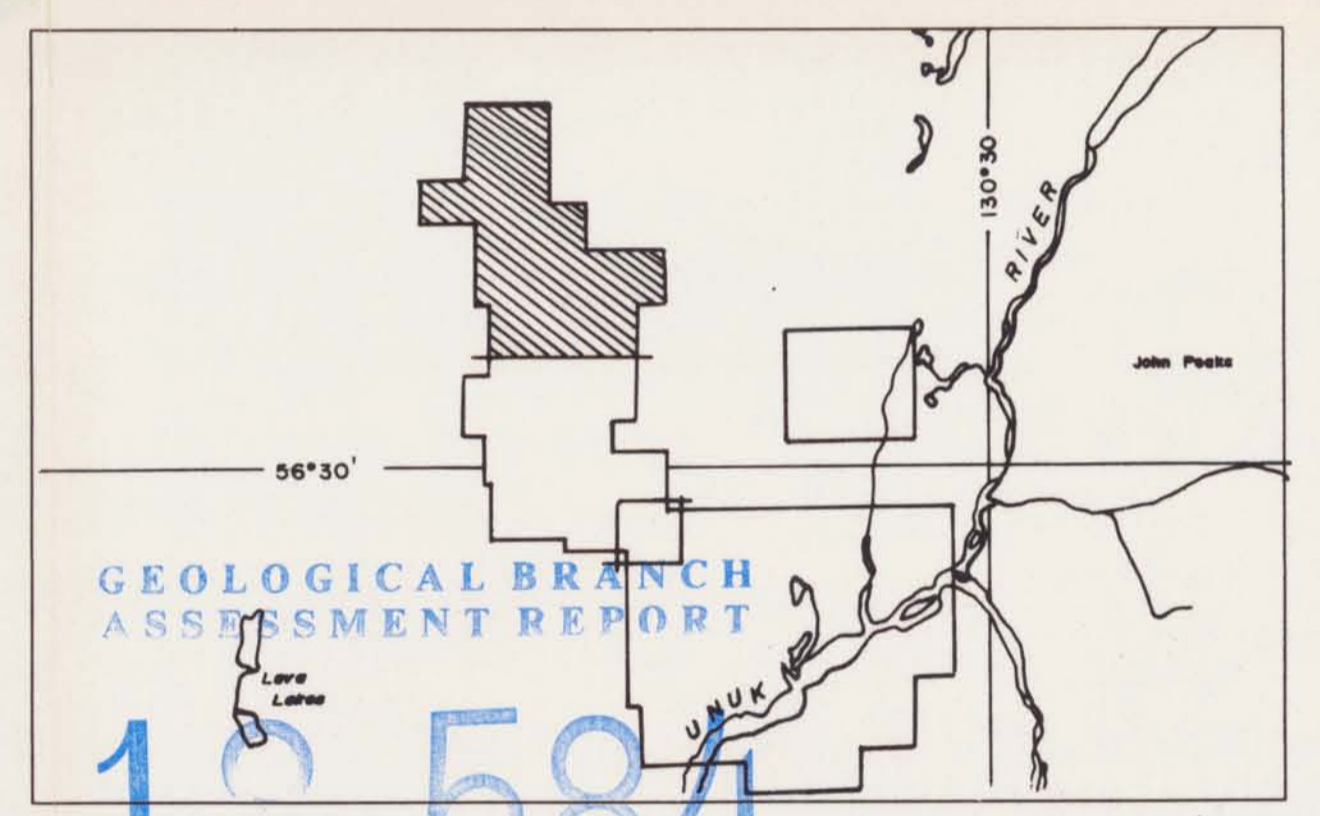
Flight path recovery from VHS video tape.
Average terrain clearance 60m
Average line spacing 250m

Weight Percent Magnetite

Calculated from the negative inphase component of the 4175 HZ coplanar EM response.
Contours in percent.
Sensor elevation 30m

Map contours are multiples of those listed below

- 0.5 z
- 2.5 z
- 10 z

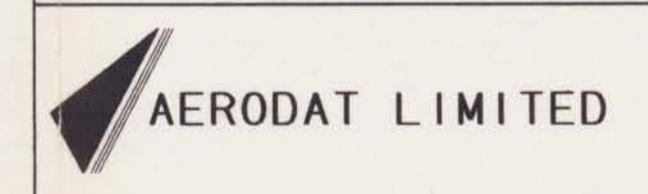
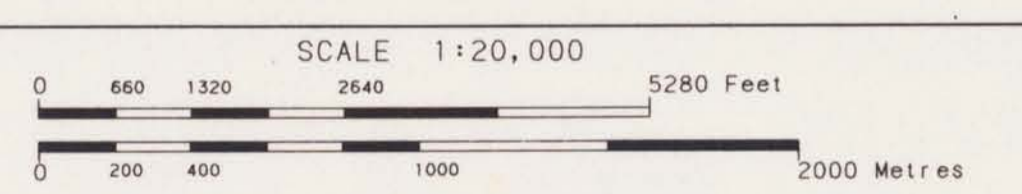


10,584

WINSLOW GOLD CORP.

WEIGHT PERCENT MAGNETITE CONTENT

ISKUT-UNUK RIVER AREA
BRITISH COLUMBIA



DATE: DEC/88 - JAN/89
NTS No: 104 B/10
MAP No: 8 J8890B-1