86-69-14454

Owner: **INTERNATIONAL SHASTA RESOURCES LTD.**

GEOPHYSICAL REPORT

ON AN

AIRBORNE VLF-ELECTROMAGNETOMETER AND

MAGNETOMETER SURVEY

**YUMA** CLAIM **PLACER LEASE #4124**

CARIBOO MINING DIVISION

LAT. 53° 07' LONG. 121° 34' NTS 93H/4E


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CONSULTING GEOPHYSICIST


DATE OF WORK: SEPT. 9 - SEPT. 17, 1985

DATE OF REPORT: FEBRUARY 7, 1986

Operator: Winston Management Ltd.



WESTERN GEOPHYSICAL AERO DATA LTD.

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**ILLUSTRATIONS**

## INTRODUCTION

Western Geophysical Aero Data Ltd. conducted an airborne magnetometer and VLF-electromagnetometer survey in the Wells-Barkerville area of B.C. from September 9 to September 17, 1985 inclusive. The survey was undertaken on a participation basis to assess the regional magnetic and electromagnetic trends of the area. The survey covered the area of the **Yuma** claim and **Placer Lease** number 4124. Approximately 123 line kilometres of data was recovered to analyze in detail this area on behalf of International Shasta Resources Ltd.

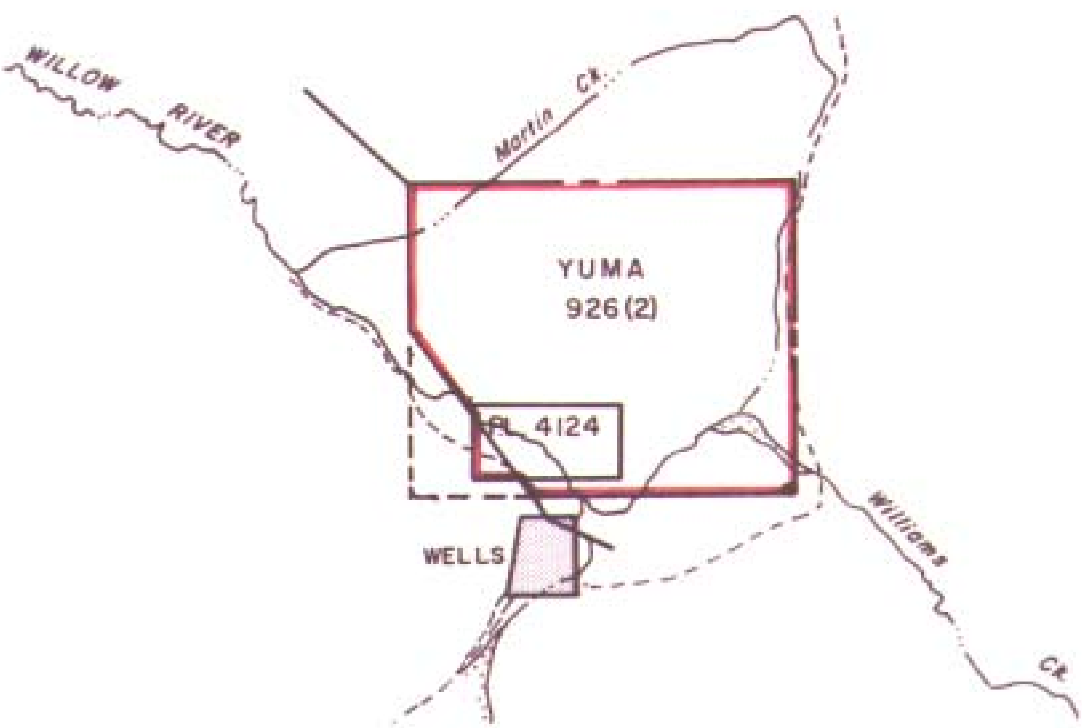
## PROPERTY

The properties owned by International Shasta Resources Ltd. are listed in the table below:

| Claim | Record No. | Units | Expiry Date |
|---|---|---|---|
| **Yuma** | 926 | 20 | February 5, 1986 |
| **Placer Lease** | 4124 | 1 | February 6, 1986 |

## LOCATION AND ACCESS

The northern border of the **Yuma** claim abuts against the townsite of Wells, B.C. The property lies within the Cariboo Mining Division and NTS 93H/4E. The approximate geographical coordinates of the **Yuma L.C.P.** are latitude 53°06'30"N and longitude 121°33'W (see Figure 1).


INTERNATIONAL SHASTA RESOURCES LTD.

— YUMA CLAIM AND PLACER LEASE 4124 —

**LOCATION AND CLAIMS MAP**

Western Geophysical Aero Data Ltd.

FIGURE 1

The town of Wells is located approximately 85 kilometres east of Quesnel and directly accessible via B.C. highway #26. All weather roads heading north and northwest from Wells along Downey Creek and Willow River respectively cross directly over the **Yuma** claim.

## PREVIOUS WORK

Initial geological examination of parts of the Cariboo district were carried out in 1876 and 1894 by G.M. Dawson. Amos Bowman conducted the first systematic investigation of the rocks, veins and placers of the area in 1885-86.

A history of the mining in the Barkerville area prior to 1878 is given in considerable detail by H.H. Bancroft in "History of British Columbia" (1887). The California gold rush of 1849 left that country swarming with a population of gold seekers and when, in 1858, gold was discovered and authenticated in the north an extraordinary migration followed. Initially placers were worked on the Thompson and Fraser Rivers. In 1861, placer gold was discovered in Williams and Lightning Creeks near Barkerville and a second important migration of miners to B.C. was prompted.

An accurate account of how much gold was produced from the Barkerville district is unknown but is estimated at $35,000,000.00 from 1861 to 1923. From 1924 to the present a combination of dredging, placer mining and hard rock mining has continued in the area.

Geological examination of the area have been undertaken by both the B.C. Department of Mines (Holland, S.S., 1954; Sutherland Brown, A., 1957, 1963) and the Geological Survey of Canada (Campbell, R.R., Mountjoy, E.W. and Young, F.G., 1973; Struik, L.C., 1981, 1982). The most recent mapping by L.C. Struik is published by the G.S.C. as open file maps 858 and 1109.

## GEOLOGY

The following descriptions of the general, structural and economic geology are reproduced from the Canadian Department of Mines and Resources Map #336A. This data was issued in 1938 and based upon geology by G. Hanson, 1933 and 1934.

### i) General Geology

"Bedrock is largely concealed by glacial drift and vegetation. Few mountains, rise above timber-line, which is about 6,200 feet above sea-level. Glacial drift, though present on the summits of the higher mountains, occurs mainly below 5,500 feet elevation and is commonly only a few feet thick except on lower valley slopes where it is locally more than 100 feet thick. A continental ice sheet formerly covered the area though the latest glaciers occupied the valleys only.

The oldest rocks are a series of sediments known as the CARIBOO SERIES. They are assumed to be of Precambrian age because they strongly resemble rocks of the Beltian series. The strata, which are more than 10,000 feet thick, lie in a broad, northwesterly plunging anticline. In the northeastern limb of this fold they are divisible into a number of distinct formations, but in the southwestern limb these formations are not recognizable and the series consists mainly of quartzites and their schistose equivalents. The schistosity planes conform closely to, and only rarely obscure the bedding.

The SLIDE MOUNTAIN SERIES lies unconformably above the Cariboo series. Basal conglomerate and grits are 900 feet thick and overlying crinoidal limestone, 400 feet. The top formation, several thousand feet thick, consist mainly of chert in beds 1 to 2 inches thick. A few poorly preserved fossils in the limestone formation indicate a Carboniferous age, probably Mississippian.

IGNEOUS ROCKS. Basic Breccias and flows overlied sediments of the Slide Mountain series and some are perhaps intercalated with upper beds of the Antler formation.

The PROSPERINE INTRUSIVES, which cut the Cariboo series as quartz porphyry dykes and sills, are considerably altered. They are not sheared, however, and for that reason are considered to be younger than the stage of shearing of the Cariboo series. On the other hand they are assumed to be older than the Slide Mountain series for they are not known to cut the latter. Some of these intrusives contain many irregular gash-veins of quartz and this has led to the view that the quartz porphyry or a parent body from which it came was the source of all the quartz veins within the area. No body of quartz porphyry has been traced on the surface for more than 200 feet. This apparent lack of continuity suggests the porphyry sills are mainly lenticular.

The MOUNT MURRAY INTRUSIVES comprise numerous basic dykes and perhaps other small intrusive bodies that cut the Slide Mountain series in the eastern and northeastern part of the area. They are so similar in mineral composition to the basic flows that overlie the Slide Mountain series that they are believed to be related in origin and of the same age."

## ii) Structural Geology

"The major structure in the area is a broad northwesterly plunging anticline in the Cariboo series. Its crest is approximately horizontal near Barkerville but to the northwest it plunges about 10 degrees. Whilst this anticline is broadly a simple arch local minor folds striking northwest are present on the limbs. Dips of beds of the Cariboo series in the limbs range from 15 to 60 degrees, though the mean dip is about 35 degrees. The Slide Mountain series appears to be part of the major structure although folding probably affected the Cariboo series prior to deposition of the Slide Mountain sediments.

The rocks of the area are cut by a great many fractures, which are of two, if not three, ages. The oldest set cuts the Cariboo series only and includes numerous fractures filled with quartz veins, most of which strike northeast though some strike east and others northwest. A second set of fractures, later than the quartz veins, are normal faults that strike north and dip east. Only a few have been located and all these are confined to the Cariboo series. In each instance the strata on the east side of a fault are offset 400 to 1,200 feet south of their position on the west side. A third set of fractures, perhaps younger than the second set, are normal faults that cut both the Slide Mountain and Cariboo series. They strike northeast and offset the strata a few hundred feet to 4 miles."

### iii) Economic Geology

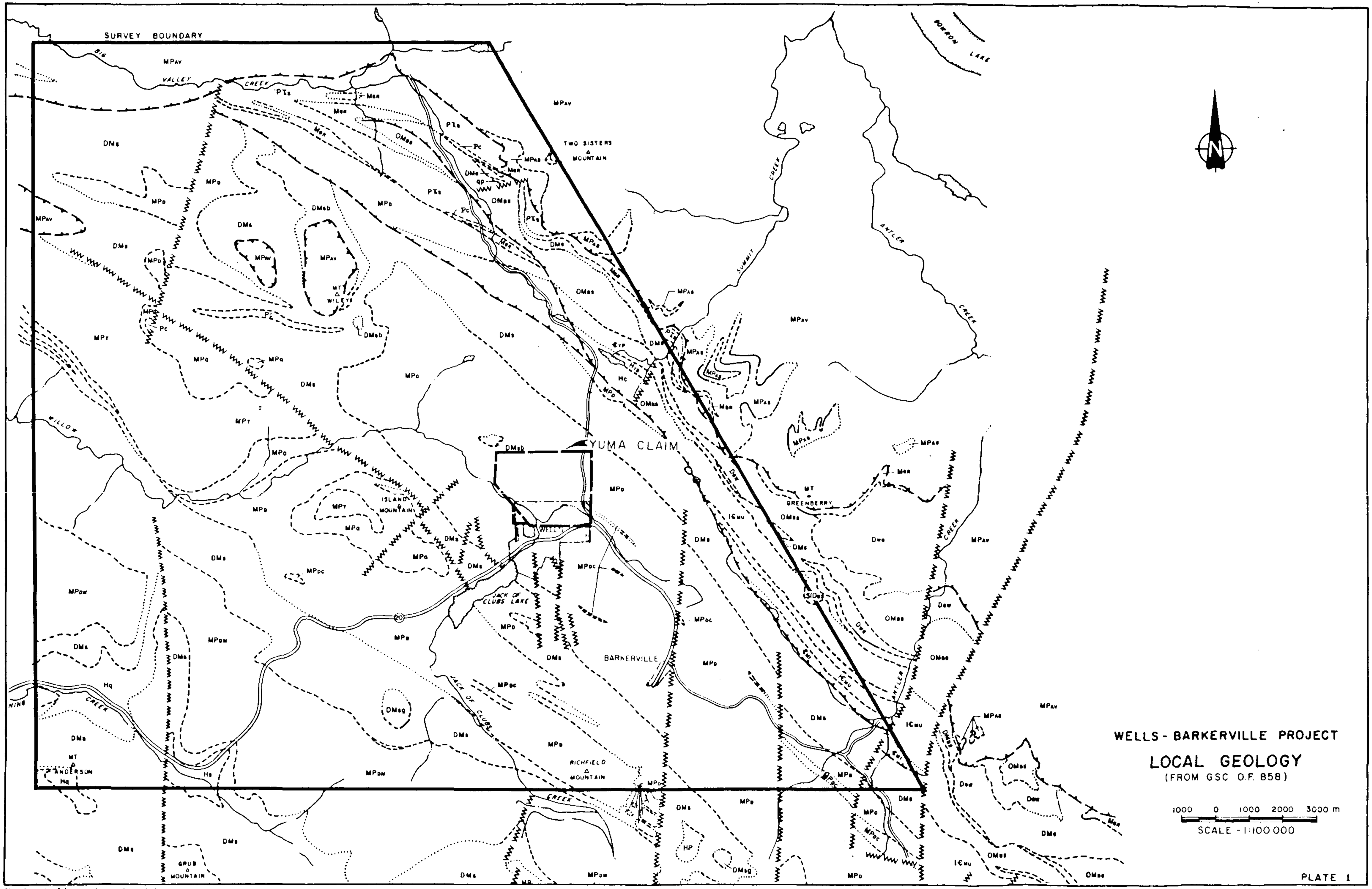
"The Cariboo district has produced $45,000,000 in placer gold and probably two-thirds of this amount has come from this area. Ground sluicing and hydraulicking is still carried on from year to year on many of the streams. Lode mining began in the 60's but met with very little success. Lode gold production began again in 1933 at the Cariboo Gold Quartz Mine at Wells on a 50-ton scale. In 1934 the Island Mountain Mine at Wells began producing on a 50-ton basis, and the Cariboo Gold Quartz Mine increased its capacity to 100 tons per day.

The lode deposits are gold-bearing quartz veins and gold-bearing pyritic replacements in limestone. Deposits with an encouraging gold content have been found only in the Cariboo series. Where the series is divided into formations, the best of the known veins lie in the upper part of the Richfield formation.

Most of the known gold-bearing veins strike northeast, dip steeply, and cut the strata roughly at right angles. These veins, known locally as transverse veins, rarely exceed 300 feet in length and vary in width from a fraction of an inch to 6 feet. The gold occurs free in pyrite which in some veins occurs in as high a proportion as 50 per cent of the vein matter. Another series of veins strikes north 60 degrees east to east. These veins are a little longer than the transverse veins and also appear to be somewhat wider but the largest veins do not average more than 3 or 3 1/2 feet wide. They are similar in mineralization to the transverse veins. Other veins are large lenticular masses of quartz lying parallel to the strata and containing only a little pyrite. None of these is known to be of commercial value. Other veins occupy fractures approximately parallel with the strata. Some of these are as much as 20 feet wide, are well mineralized with pyrite, and have yielded very encouraging assays. There are many veins in the map-area that do not belong to the classes mentioned, but none is yet known to be of commercial value. The best veins commonly assay an ounce of gold per ton but those mined so far have averaged half an ounce per ton.

Replacement deposits in limestone were discovered in the Island Mountain and the Cariboo Gold Quartz Mines in 1933 and so far have been found only in limestone beds in the upper part of the Richfield formation. The ore is typically a solid mass of fine-grained pyrite, the richer parts of which commonly assay 2 ounces of gold per ton. In mining the ore yields about an ounce of gold per ton."

The most recent mapping of the area was conducted by L.C. Struik and is published by the G.S.C. as open file maps 858 and 1109. Dr. Struik made little attempt to redefine the structural aspects of the area and concentrated on a more detailed lithological classification. The portions of his maps which cover the geophysical survey area and the related classification scheme are presented as Plate 1 of this report.



fineline drafting and graphics ltd

## AIRBORNE VLF-ELECTROMAGNETIC AND MAGNETIC SURVEY

This survey simultaneously monitors and records the output signal from a proton precession magnetometer and two VLF-EM receivers installed in a bird designed to be towed 100 feet below a helicopter. A gimbal and shock mounted TV camera, fixed to the helicopter skid, provides input signal to a video cassette recorder allowing for accurate flight path recovery by correlation between the flight path cassette and air photographs of the survey area. A KING KRA-10A radar altimeter allows the pilot to continually monitor and control terrain clearance along any flight path.

Continuous measurements of the earth's total magnetic field intensity and of the total horizontal VLF-EM field strength of two transmission frequencies are stored in three independent modes: an analogue strip chart recorder, digital magnetic tapes and a digital video recovery system. A three-pen analogue power recorder provides direct, unfiltered recordings of the three geophysical instrument output signals. A Hewlett-Packard 9875 tape drive system digitally records all information as it is processed through an onboard micro-computer. The magnetic and electromagnetic data is also processed through the onboard micro-computer, incorporating an analogue to digital converter and a character generator, then superimposed along with the date, real time and terrain clearance upon the actual flight path video recording to allow exact correlation between geophysical data and ground location. The input signals are averaged and updated on the video display every second. Correlation between the strip chart, digital tape and the video flight path recovery tape is controlled via fiducial marks common to all systems. Line identification, flight direction and pertinent survey information are recorded on the audio track of the video recording tape.

## DATA PROCESSING

Field data is digitally recorded, with the time of day fiducial, on magnetic cassettes in a format compatible with the Hewlett-Packard 9845 computer. The recovered flight path locations are digitized and the field data is processed to produce plan maps of each of the parameters. A variety of formats are available in which to display this data.

Total field intensity magnetic information is routinely edited for noise spikes and corrected for any diurnal variations recorded on a base magnetometer located in the survey area.

Total field intensity VLF-EM signals are sensitive to topographic changes and sensor oscillation. Oscillation effects can be reduced by filters tuned to the dominant period. Long period effects attributable to topography can be removed by high pass filtering the planimetric data.

## DISCUSSION OF RESULTS

Survey lines were oriented in an east-west direction, spaced at 200 metre intervals and flown with an average sensor terrain clearance of 60 metres. Two thousand line kilometres were flown from September 9 to September 17, 1985 covering an area of approximately 400 square kilometres. From this data base, approximately 123 kilometres were recovered to analyze in detail the area of the **Yuma** claim and **Placer Lease #4124**.

The magnetic data is presented in contour form at a scale of 1:10,000 as Figure 2 of this report. The VLF-EM data is illustrated in profile format as Figures 3 and 4 representing the Seattle and Annapolis frequencies respectively. Significant conductivity lineations have been flagged and their locations transferred to the magnetic contour map for easy correlation.

A photomosaic of the survey area, outlining the International Shasta Resource Ltd. property is used as a base for all geophysical maps.

### I Magnetic Survey

The magnetic intensities observed across the property range from 58,075 gammas to 58,352 gammas. The general trend of the magnetic contours on Figure 2 is northwest-southeast and follows the strike of a regional anticline, the dominant geological structure of the area.

The most recent and comprehensive geological mapping of the area was conducted by L.C. Struik (G.S.C. open file map 858, 1109). Struik maps two major lithological units in the area, the Downey Creek succession (MPd), a Missippian and Permian age assemblage which hosts the major gold occurrences of the area, and the DMs unit. On the regional interpretation of the airborne survey, these two units were clearly distinguishable by magnetic intensities. The DMs unit is reflected by magnetic intensities between 58,175 and 58,210 gammas whereas the MPd unit produced slightly higher magnetic intensities, ranging from 58,220 to 58,300 gammas. A contact between these two units is delineated along the western edge of Figure 2.

Struik maps the **Yuma** claim as being underlain entirely by the gold producing MPd unit. The magnetic intensity map however, clearly delineates significant magnetic variations across this claim which reflect an inhomogenous lithology. A magnetic low, similar in amplitude to the response observed across the DMs unit, blankets the northeastern half of the claim. This response suggests two possibilities. One, that the MPd unit is narrower than initially interpreted from geological mapping or two, that the magnetic data is delineating a facies change within the MPd unit. Struik favours this latter interpretation, citing field observations of an increased limestone content along the eastern portion of the MPd belt; specifically in outcrops mapped along Downey Creek. Regardless of the nature of the lithology change, the magnetic data clearly delineates an abrupt and distinct contact.

The narrower magnetic high which strikes northwesterly across the **Yuma** claim is currently unexplained. Similar anomalies are observed, apparently randomly disbursed, along the entire length of the MPd zone as mapped by this survey. The magnetic highs are probably reflecting either a minor increase in sulphide (pyrrhotite) or magnetite content in the MPd rocks or secondary folds along the southwestern limb of the regional anticline. It is interesting to note that the Mosquito Creek Mine, Island Mountain Mine and Cariboo Gold Quartz Mine are all located along the edge of similar magnetic features. In addition, the Cariboo Coronada adit, located along the southern slope of the mountain immediately north of Wells, is positioned very near the central core of this magnetic lineation. This adit was driven in 1934, N15°W into the mountain a distance of 1,150 feet. The objective was to reach projected extensions of veins exposed on the surface 500 to 800 feet higher but the objectives were never reached.

Two northeasterly trending faults are interpreted as crossing the northwestern corner of the **Yuma** claim. The northernmost of these is confirmed by geological mapping and considered to be regional feature. Two northerly trending faults are geologically mapped immediately south of the map sheets included in this report. The narrow magnetic lows located to the east and southeast of the town of Wells (lines 36 - 40A) are likely reflections of these faults.

A number of other small magnetic lows are observed to the north and east of the Yuma claim. These anomalies likely reflect alteration zones around minor faults.

## II VLF-EM Survey

The horizontal field intensity for two VLF-EM stations (Seattle, WA. and Annapolis, MD.) were monitored and recorded during the course of this survey. The data, corrected for terrain variations, is presented in profile form as Figures 3 and 4 of this report.

Both data sets reflect the same general conductivity trends, however, the Seattle frequency is significantly higher in amplitude, a direct function of the relative distances from the survey site to the transmitting stations. The higher amplitude of the Seattle signal results in a much noisier appearance to the data. A clear example of this is the response associated with Downey Creek. The Seattle frequency reflects a band of strong, high spatial frequency responses approximately 400 metres wide centred over Downey Creek. The Annapolis frequency however, is much quieter, showing a weaker but better defined conductivity lineation which parallels Downey Creek, approximately 200 metres to the west. Similar comparisons are evident along Mosquito Creek, Martins Creek, Williams Creek and the Willow River. These VLF responses suggest these drainage systems are associated with structural weaknesses, either faulting or contacts.

All three mines visible on the geophysical maps are associated with VLF-EM defined conductors. In addition, the Cariboo Coronada adit on the **Yuma** claim coincides with a conductivity lineation. A similar anomaly parallels this response 200 metres to the west.

Three other conductivity anomalies, all oriented northwesterly, are flagged on the **Yuma** claim as illustrated on Figures 2, 3 and 4. No geological input is available to explain these phenomena.

## SUMMARY AND CONCLUSIONS

During the month of September, 1985, a regional airborne magnetometer and VLF-electromagnetometer survey was conducted in the Wells-Barkerville area. Approximately 123 line kilometres of this survey was recovered to analyze in detail the area of the **Yuma** claim and **Placer Lease #4124** on behalf of International Shasta Resources Ltd.

The magnetic data show the Downey Creek Succession rocks, which underlie the property, are divided into two distinct facies with the contact striking diagonally across the **Yuma** claim from the southeast to northwest corner. A relatively strong magnetic high crosses the southwestern half of the **Yuma** claim. Similar magnetic highs are observed in the immediate vicinity of the Mosquito Creek Mine, Island Mountain Mine and Cariboo Gold Quartz Mine. Furthermore, weak VLF-EM anomalies are associated with both the **Yuma** claim magnetic high and the above mentioned mines.

The geophysical surveys cannot delineate specific gold bearing zones however, they do confirm that the geological environment which hosts the local mines is also present on the **Yuma** claim.

## RECOMMENDATIONS

The **Yuma** claim and **Placer Lease #4124** warrant continued exploration. If possible, the Cariboo Coronada adit should be closely examined to determine what specific geological horizon or structure is causing the anomalous magnetic and conductivity responses in the area.

The area is largely covered by overburden thereby limiting geological prospecting. Ground based magnetic and VLF-electromagnetic surveys are recommended to precisely locate the anomalous responses observed in the airborne data. Because the VLF-EM anomalies are reflecting near surface targets, normal trenching techniques should be adequate to expose the bedrock in these areas.

Respectfully submitted,

E. Trent Pezzot, B.Sc.
Geophysicist

Glen E. White, B.Sc., P.Eng.
Consulting Geophysicist

## INSTRUMENT SPECIFICATIONS

### Barringer Airborne Magnetometer

| | | |
|---|---|---|
| MODEL: | | Nimbin M-123 |
| TYPE: | | Proton Precession |
| RANGE: | | 20,000 to 100,000 gammas |
| ACCURACY: | | $\pm$ 1 gamma at 24 V d.c. |
| SENSITIVITY: | | 1 gamma throughout range |
| CYCLE RATES: | | |
| Continuous | - | 0.6, 0.8, 1.2 and 1.9 seconds |
| Automatic | - | 2 seconds to 99 minutes in 1 second steps |
| Manual | - | Pushbutton single cycling at 1.9 seconds |
| External | - | Actuated by a 2.5 to 12 volt pulse longer than 1 millisecond. |
| OUTPUTS: | | |
| Analogue | - | 0 to 99 gammas or 0 to 990 gammas - automatic stepping |
| Visual | - | 5 digit numeric display directly in gammas |
| EXTERNAL OUTPUTS: | | |
| Analogue | - | 2 channels, 0 to 99 gammas or 0 TO 990 gammas at 1 m.a. or 1 volt full scale deflection. |
| Digital | - | BCD 1, 2, 4, 8 code, TTL compatible |
| SIZE: | | Instrument set in console 30 cm X 10 cm X 25 cm |
| WEIGHT: | | 3.5 Kg. |
| POWER REQUIREMENTS: | | 12 to 30 volts dc, 60 to 200 milliamps maximum. |
| DETECTOR: | | Noise cancelling torroidal coil installed in air foil. |

## INSTRUMENT SPECIFICATIONS

### Sabre Airborne VLF System

| | |
|---|---|
| Source of Primary Field: | -VLF radio stations in the frequency range of 14 KHz to 30 KHz |
| Type of Measurement: | -Horizontal field strength |
| Number of Channels: | Two;<br>Seattle, Washington at 24.8 KHz<br>Annapolis, Maryland at 21.4 KHz |
| Type of Sensor: | -Two ferrite antennae arrays, one for each channel, mounted in magnetometer bird |
| Output: | -0 - 100 mV displayed on two analogue meters (one for each channel)<br>-recorder output posts mounted on rear of instrument panel |
| Power Supply: | -Eight alkaline "AA" cells in main instrument case (life 300 hours)<br>-Two 9-volt alkaline transistor batteries in bird (life 300 hours) |
| Instrument Console: | -Dimensions - 30 cm X 10 cm X 25 cm<br>-Weight - 3.5 Kg |

# INSTRUMENT SPECIFICATIONS

## Flight Path Recovery System

i) **T.V. Camera:**

| | |
|---|---|
| Model: | RCA TC2055 Vidicon |
| Power Supply: | 12 volt DC |
| Lens: | variable, selected on basis of expected terrain clearance. |
| Mounting: | Gimbal and shock mounted in housing, mounted on helicopter skid. |

ii) **Video Recorder:**

| | |
|---|---|
| Model: | Sony SLO-340 |
| Power Supply: | 12 volt DC / 120 volt AC (60Hz) |
| Tape: | Betamax 1/2" video cassette - optional length. |
| Dimensions: | 30 cm X 13 cm X 35 cm |
| Weight: | 8.8 Kg |
| Audio Input: | Microphone in - 60 db low impedance microphone |
| Video Input: | 1.0 volt P-P, 75Ω unbalanced, sync negative from camera. |

iii) **Altimeter:**

| | |
|---|---|
| Model: | KING KRA-10A Radar Altimeter |
| Power Supply: | 27.5 volts DC |
| Output: | 0-25 volt ( 1 volt /1000 feet) DC signal to analogue meter, 0-10 v (4mv/ft) analogue signal to microprocessor. |
| Mounting: | fixed to T.V. camera housing, attached to helicopter skid. |

## INSTRUMENT SPECIFICATIONS

### Data Recording System

i) **Chart Recorder**

| | |
|---|---|
| Type: | Esterline Angus Miniservo III Bench AC Ammeter - Voltmeter Power Recorder. |
| Model: | MS 413B |
| Specification: | S-22719, 3-pen servo recorder |
| Amplifiers: | Three independent isolated DC amplifiers (1 per channel) providing range of acceptable input signals. |
| Chart: | 10 cm calibrated width z-fold chart. |
| Chart Drive: | Multispeed stepper motor chart drive, Type D850, with speeds of 2,5,10,15,30 and 60 cm/hr. and cm/min. |
| Controls: | Separate front mounted slide switches for power on-off, chart drive on-off, chart speed cm/hr. - cm/min. Six position chart speed selector individual front zero controls for each channel. |
| Power Requirements: | 115/230 volts AC at 50/60 Hz (Approximately 30 W). |
| Writing System: | Disposable fibre tipped ink cartridge (variable colors) |
| Dimensions: | 38.6 cm X 16.5 cm X 43.2 cm |
| Weight: | 9.3 kg. |

## ii) Digital Video Recording System

| | |
|---|---|
| Type: | L.M. Microcontrols Ltd. Microprocessor Control Data Acquisition System. |
| Model: | DADG - 68 |
| Power Requirements: | 10 - 14 volts DC, Maximum 2 amps. |
| Input Signal: | 3,0 - 100 mvolt DC signals<br>1,0 - 25 DC signals |
| Microprocessor: | Motorola MC-6800 |
| CRT Controller: | Motorola MC-6845 |
| Character Generator: | Motorola MCM-6670 |
| Analogue/Digital Convertor: | Intersil 7109 |
| Multiplexer: | Intersil IH 6208 |
| Digital Clock: | National MM 5318 chip<br>9 volt internal rechargeable nickle-cadmium battery. |
| Fiducial Generator: | internally variable time set controls relay contact and audio output. |
| Dimensions: | 30 cm X 30 cm X 13 cm |
| Weight: | 3 kg. |

## iii) Digital Magnetic Tape

| | |
|---|---|
| Type: | Hewlett Packard cartridge tape unit. |
| Model: | 9875A |
| Power Requirements: | 24 volt d.c. |
| Data Format: | HP'S Standard Interchange Format (SIF) |
| Tape Cartridge: | HP 98200A 225K byte cartridge compatible with HP Series 9800 desktop computers. |

| | |
|---|---|
| Tape Drive: | Dual tape drives providing up to 8 hours continual recording time. |
| Controller: | Internal micro-computer provides 23 built in commands External computer generated commands. |

## COST BREAKDOWN

The data analyzed for this report was gathered as part of a 2,000 kilometre regional participation survey. Although 123 line kilometres was received to evaluate these claims, the cost is based upon the 30 kilometres directly covering the property.

| | |
|---|---|
| Net survey costs including all field and office related expenses $48/km x 30 km ................ | $ 1,440.00 |
| Computer processing - magnetic, VLF-EM $21.70/km x 30 km .............................. | 651.00 |
| Drafting 6.5 hrs @ $40/hr ...................... | 260.00 |
| Reproduction and binding 6 copies @ $16.50/copy. | 99.00 |
| Interpretation and report ...................... | 800.00 |
| Western Geophysical Aero Data Assessment Total .. | $3,250.00 |

| | |
|---|---|
| A. Dyakowski, Mining Consulting Fees | $1,000.00 |
| Total | $4,250.00 |

## STATEMENT OF QUALIFICATIONS

NAME: PEZZOT, E. Trent

PROFESSION: Geophysicist - Geologist

EDUCATION: University of British Columbia -
B.Sc. - Honors Geophysics and Geology

PROFESSIONAL
ASSOCIATIONS: Society of Exploration Geophysicist

EXPERIENCE: Three years undergraduate work in geology -
Geological Survey of Canada, consultants.

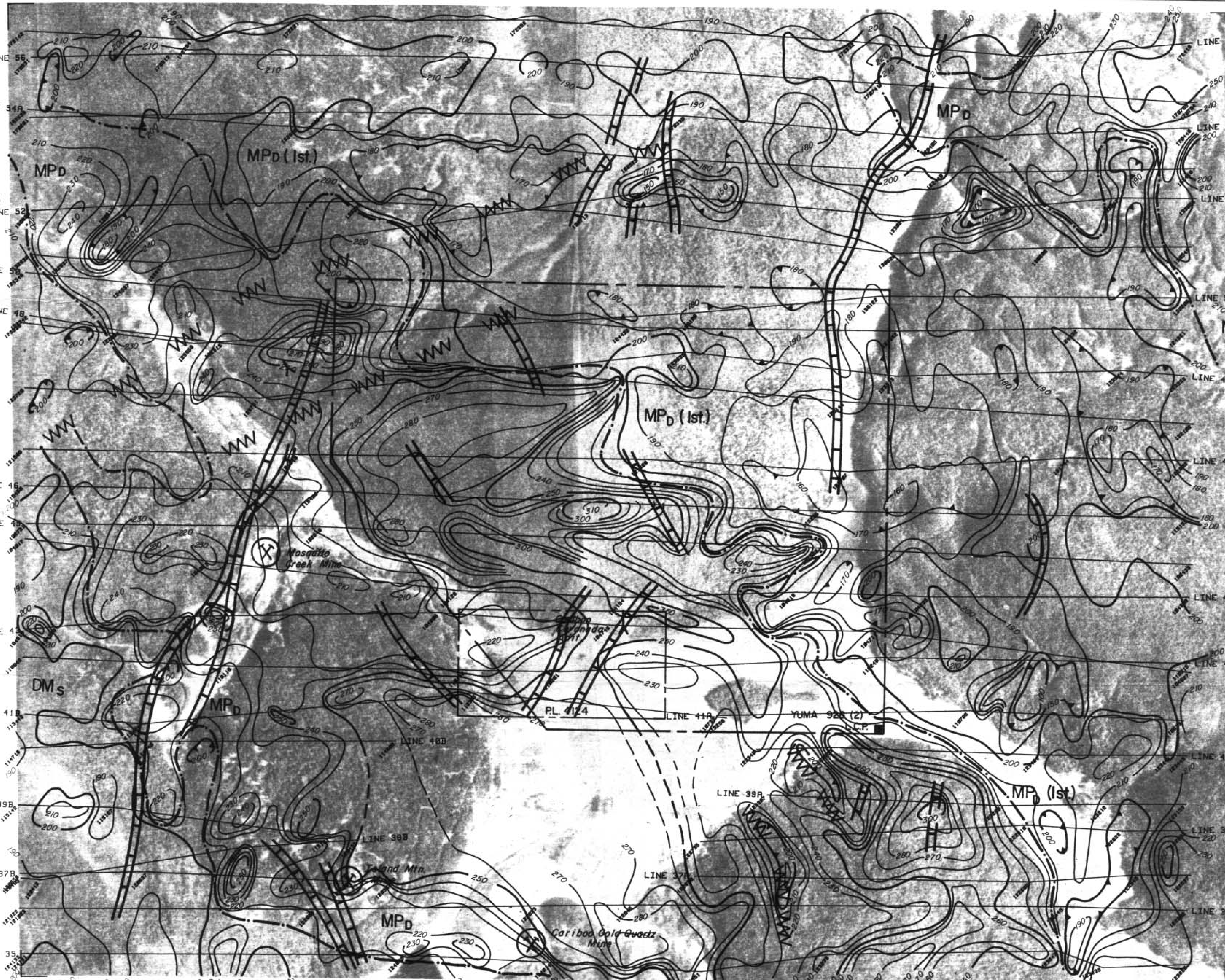
Three years Petroleum Geophysicist,
Senior Grade, Amoco Canada Petroleum Co. Ltd.

Two years consulting geophysicist,
Consulting Geologist - British Columbia,
Alberta, Saskatchewan, N.W.T., Yukon,
Western U.S.A.

Six years geophysicist with
White Geophysical Inc.

## STATEMENT OF QUALIFICATIONS

| | |
|---|---|
| NAME: | WHITE, Glen E., P.Eng. |
| PROFESSION: | Geophysicist |
| EDUCATION: | B.Sc. Geophysicist - Geology<br>University of British Columbia |
| PROFESSIONAL ASSOCIATIONS: | Registered Professional Engineer, Province of British Columbia.<br><br>Associate Member of Society of Exploration Geophysicists.<br><br>Past President of B.C. Society of Mining Geophysicists. |
| EXPERIENCE: | -Pre-Graduate experience in Geology - Geochemistry - Geophysics with Anaconda American Brass.<br>-Two years Mining Geophysicist with Sulmac Exploration Ltd. and Airborne Geophysics with Spartan Air Services Ltd.<br>-One year Mining Geophysicist and Technical Sales Manager in the Pacific north-west for W.P. McGill and Associates.<br>-Two years Mining Geophysicist and supervisor airborne and ground geophysical divisions with Geo-X Surveys Ltd.<br>-Two years Chief Geophysicist Tri-Con Exploration Surveys Ltd.<br>-Fourteen years Consulting Geophysicist.<br>-Active experience in all Geologic provinces of Canada. |




KEY

INSTRUMENT: Barringer M-123 Magnetometer

Data corrected for diurnal variations

Base value= 58000 gammas

Contour interval= 10 gammas

Sensor Elevation = 75 metres

Claim boundary

Claim post

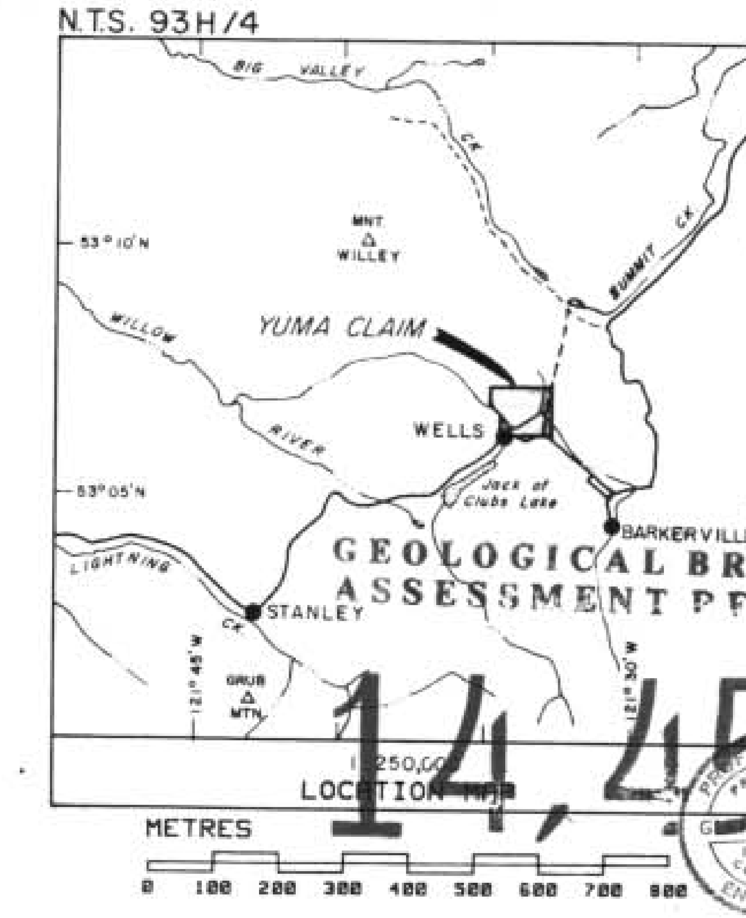
Magnetic Low

Inferred Fault

VLF-EM Conductor

Interpreted Geological Contact

N.T.S. 93H/4




LOCATION MAP

1:250,000

METRES

0 100 200 300 400 500 600 700 800

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,454



To accompany the Geophysical Report on the Yuma Claims

INTERNATIONAL SHASTA RESOURCES LTD.

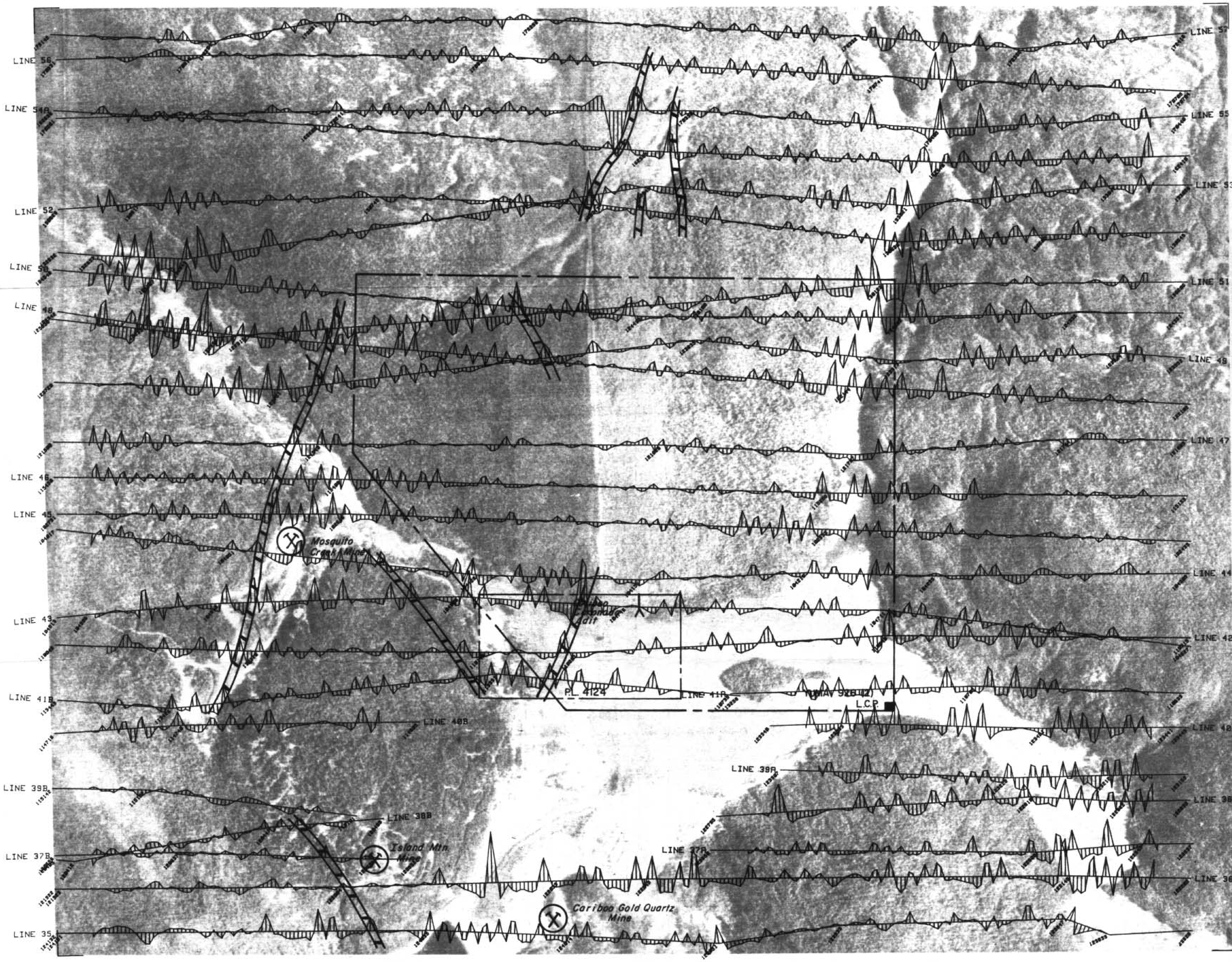
YUMA CLAIM PROJECT

MAGNETIC CONTOUR MAP

TOTAL FIELD INTENSITY (gammas)

DATE: SEPT/85

FIG.: 2




KEY

INSTRUMENT: Sabre Total Field Intensity VLF-EM

Transmitter Station: Seattle, Wa. (24.8 Khz.)

Data corrected for long period terrain effects

Vertical Scale = 10% / cm.

Sensor Elevation = 75 metres

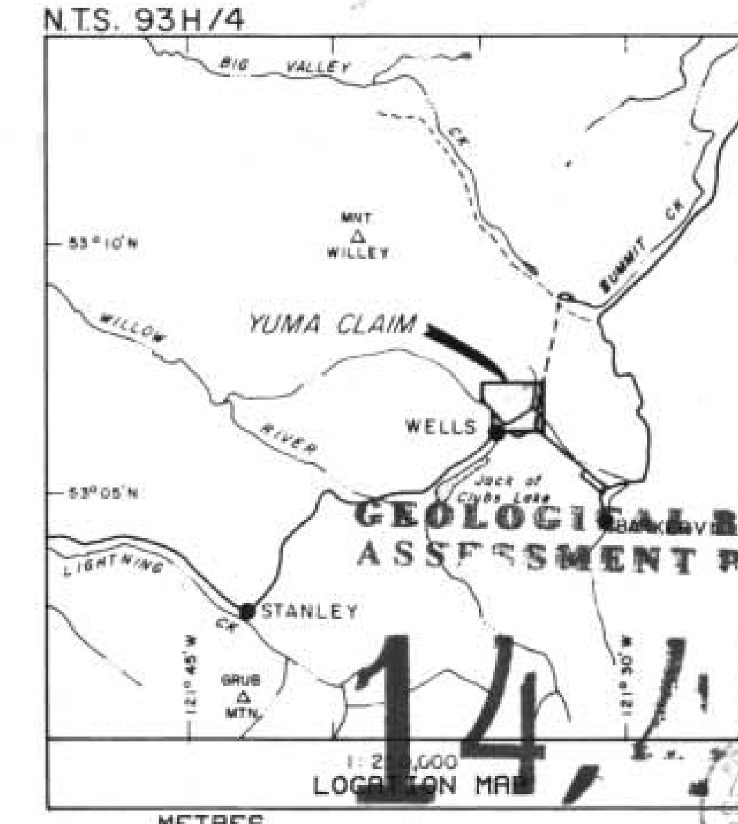
- - - Claim boundary

■ Claim post

WVV Inferred Fault

VLF-EM Conductor

N.T.S. 93H/4




LOCATION MAP

METRES

0 100 200 300 400 500 600 700 800



INTERNATIONAL SHASTA RESOURCES LTD.

YUMA CLAIM PROJECT

VLF-EM PROFILES (SEATTLE)

TOTAL HORIZONTAL FIELD INTENSITY (%)

DATE: SEPT.'85

FIG.: 3

Western Geophysical Aero Data Ltd.

To accompany the Geophysical Report on the Yuma Claim

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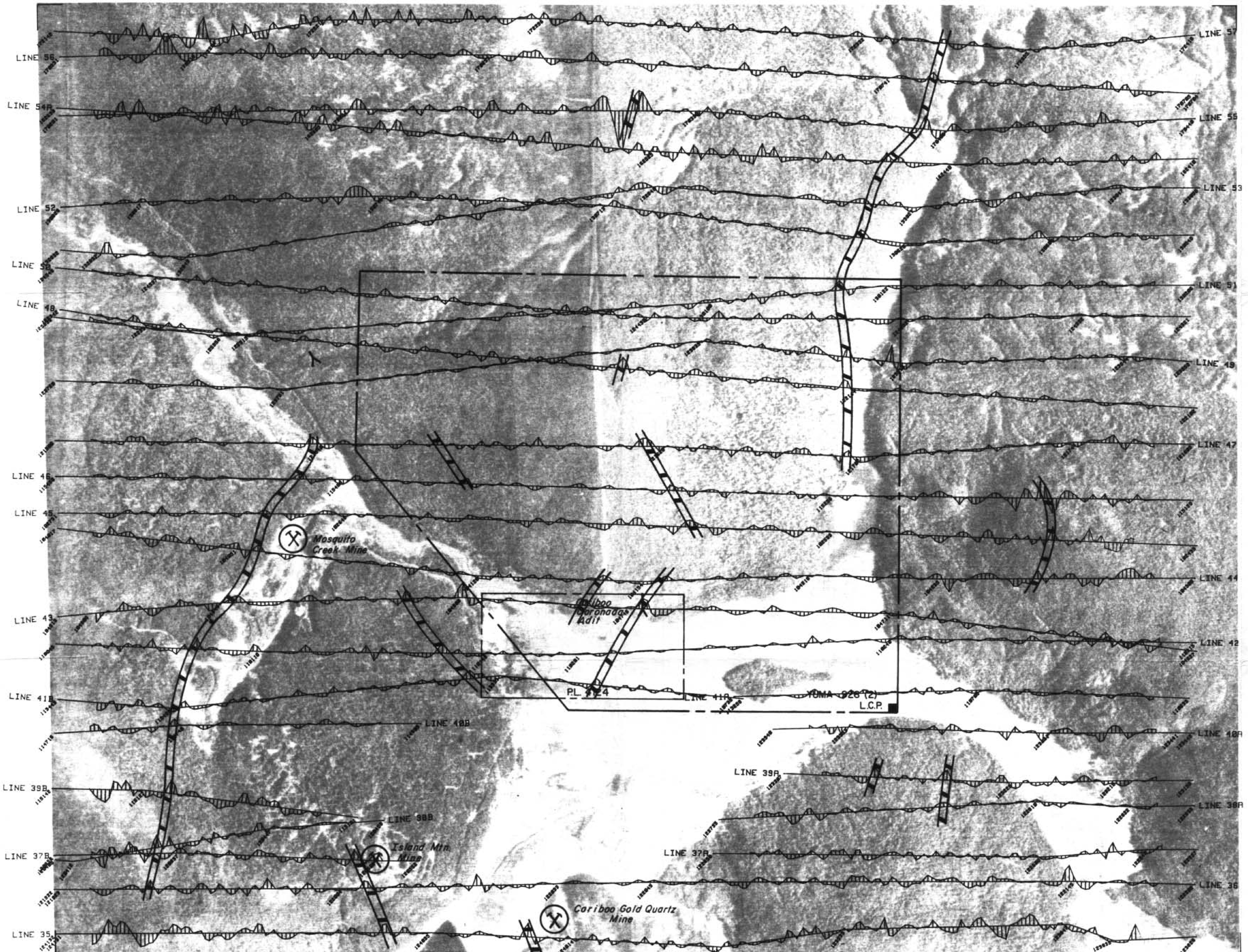



KEY

INSTRUMENT: Sabre Total Field Intensity VLF-EM

Transmitter Station: Annapolis, Md. (21.4 Khz.)

Data corrected for long period terrain effects

Vertical Scale = 10% / cm.

Sensor Elevation = 75 metres

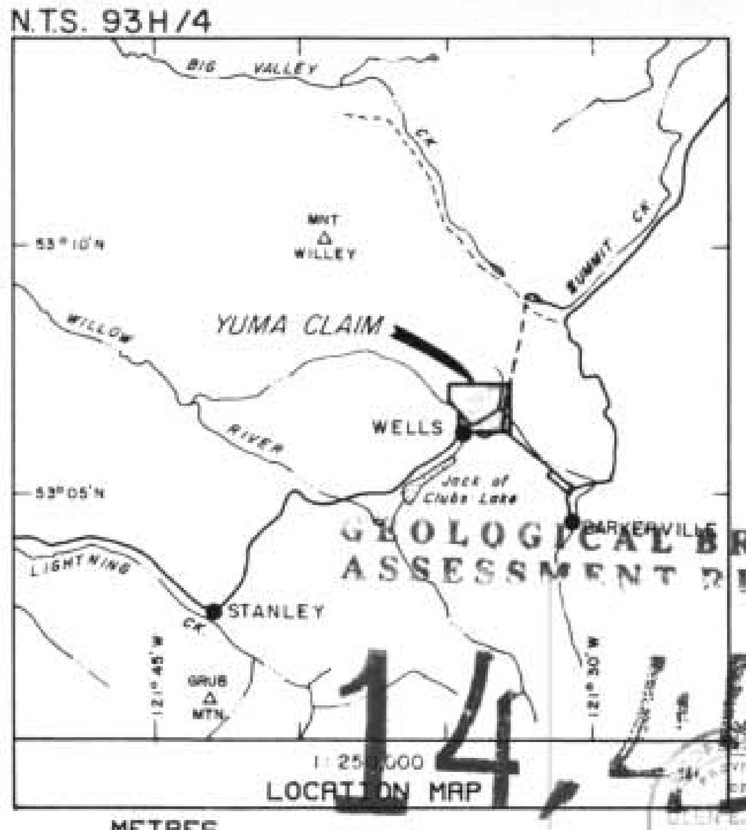
Claim boundary

Claim post

Inferred Fault

VLF-EM Conductor

N.T.S. 93H/4




LOCATION MAP

METRES

0 100 200 300 400 500 600 700 800

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,454

**INTERNATIONAL SHASTA RESOURCES LTD.**

YUMA CLAIM PROJECT

VLF-EM PROFILES (ANNAPOLIS)

TOTAL HORIZONTAL FIELD INTENSITY (%)

| DATE: SEPT/85 | FIG.: 4 |
|---|---|

Western Geophysical Aero Data Ltd.

To accompany the Geophysical Report on the Yuma Claim

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