

82-613-10663.

EMERALD STAR MINING EXPLORATIONS LTD.

Geophysical Report

on an

Airborne VLF-EM & Magnetometer Survey  
ORB, ORB 1-5, ORB 7 Claims

Lat 49°15'N Long 120°34'W NTS 92H/7E & 2E  
Similkameen Mining Division

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Geophysicist

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

DATE OF WORK: March 1-11, 1982

DATE OF REPORT: March 26, 1982

Part A

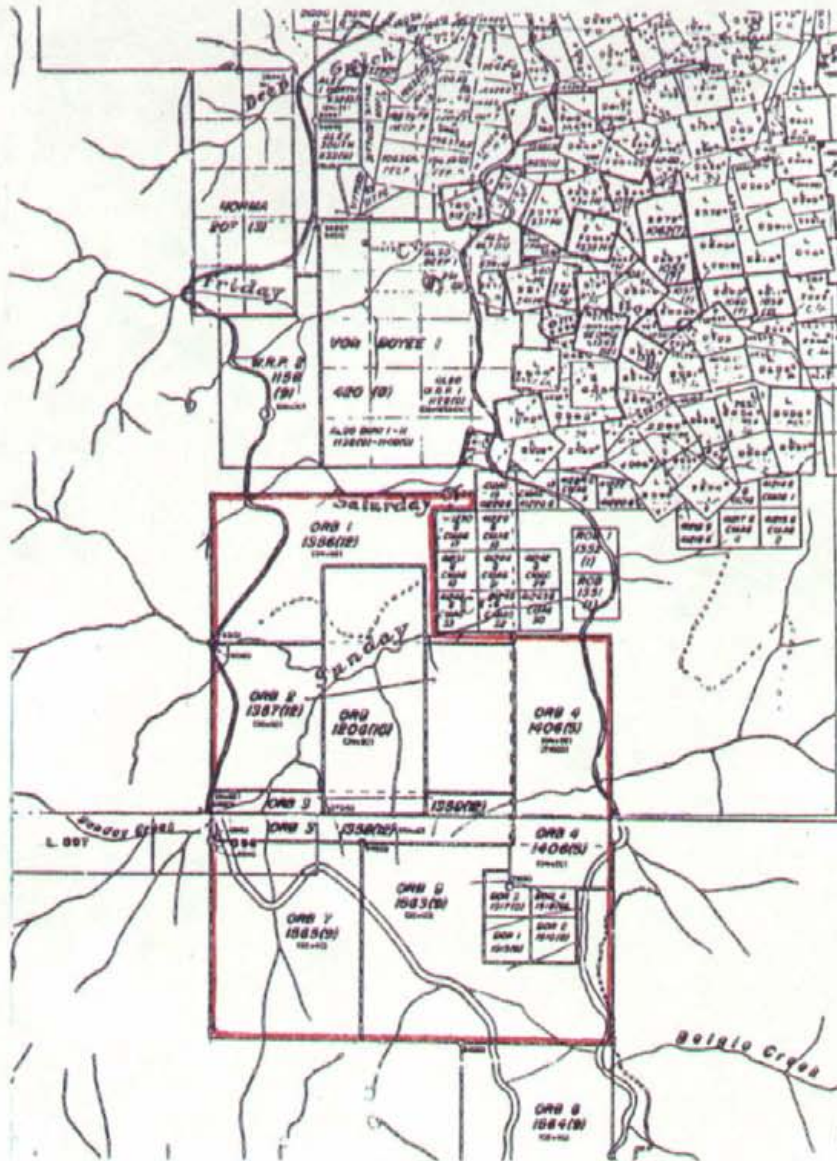
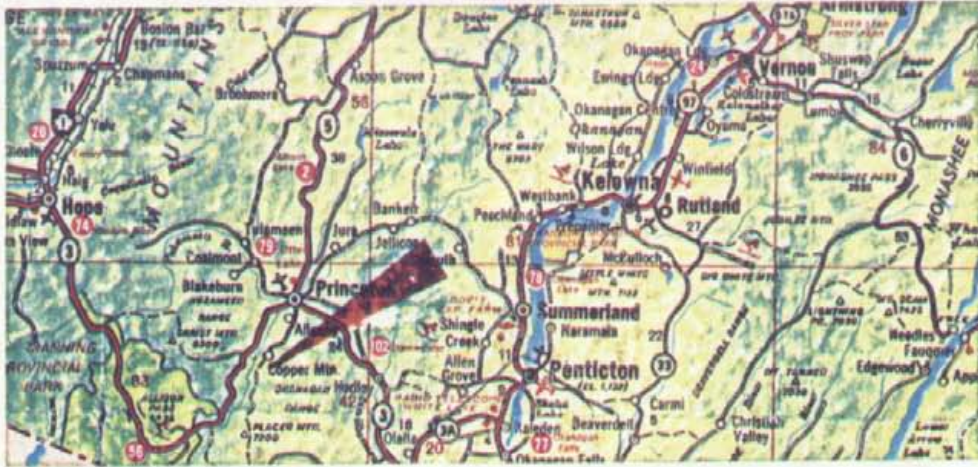
MINERAL RESOURCES BRANCH ASSESSMENT REPORT 10663 NO.
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LOCATION AND CLAIMS MAP

## INTRODUCTION

Western Geophysical Aero Data Ltd. flew some 295 kilometers of magnetometer and VLF-electromagnetometer survey on behalf of Emerald Star Mining Explorations Ltd. in the Princeton - Copper Mountain area of B.C. in early March, 1982. The survey was flown with the intention of assisting in the geological mapping of the area and locating any anomalous geophysical trends which would indicate an extension to the south of the geological environment producing the bornite-chalcopyrite orebodies located immediately north of the survey area.

## PROPERTY

The claims listed below are owned by Emerald Star Mining Explorations Ltd. and were covered by a portion of the airborne survey:

<u>CLAIM NAME</u>	<u>RECORD #</u>
ORB	1206
ORB 1-ORB 3	1356-1358
ORB 4	1406
ORB 5	1563
ORB 7	1565

The survey also covered numerous crown granted claims immediately north of the ORB claims as illustrated on Figure 1.

## LOCATION & ACCESS

The survey area is located approximately 20 kilometers south of Princeton, B.C. in NTS 92 H/7E and 92 H/2E and the Similkameen Mining Division as shown on Figure 1. Approximate geographical co-ordinates are latitude  $49^{\circ}15'N$  and longitude  $120^{\circ}34'W$ .

B.C. Highway #3 traverses the survey area and numerous logging and mining roads provide direct access to many loca-

tions within the survey grid boundaries.

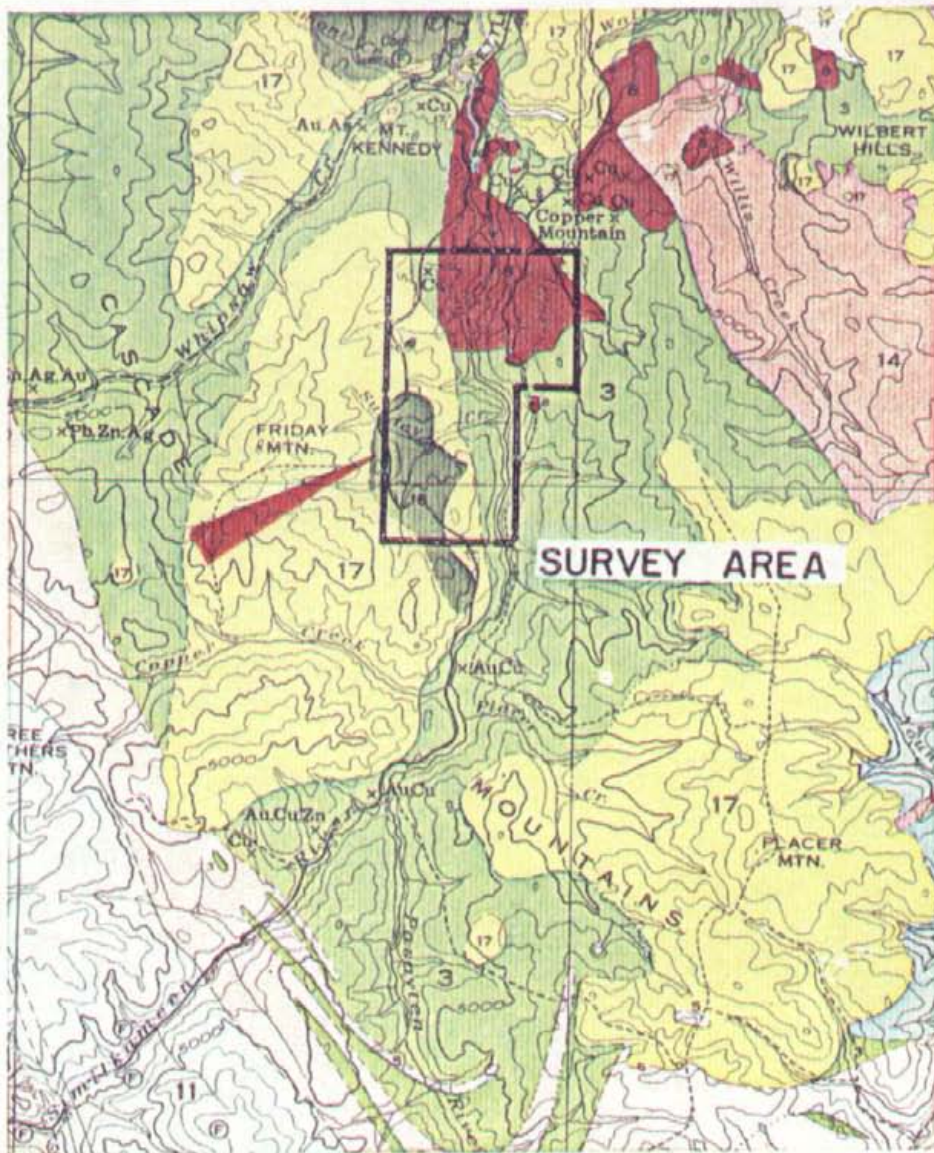
### LOCAL GEOLOGY

The survey area is outlined on a geological map of the region published by the Department of Mines and Resources as based on geological investigations by H.M.A. Rice in 1939, 1941, and 1944 and is presented in this report as Plate 1.

Four geological units have been mapped in the survey area. The western half of the area is underlain by rocks of the Princeton group. Two units comprise this group: Tertiary sedimentary rocks (16-shale, sandstone, conglomerate and coal) and lavas (17-varicolored andesite and basalt) which lie conformably against each other as illustrated on Plate 1. The Princeton group (16, 17) is in contact with the Nicola group (3) which is primarily a large and varied assemblage of multi-colored volcanic rocks, ranging from dacite to basalt. Interbedded with the lavas are lenses of sedimentary and pyroclastic rocks. The largest of these, near Hedley (22 miles east), is host to the most important gold mines in the area. In the northeast corner of the survey area, the Nicola group (3) rocks are cut by a large stock of Copper Mountain Intrusion (8). This unit ranges from gabbro to syenite and differs markedly from the surrounding Princeton and Nicola group rocks in its' almost entire absence of free quartz.

Approximately 1 mile north of the survey area are the Copper Mountain, bornite-chalcopyrite orebodies. The ore is believed to be related to the Copper Mountain stock but it is perhaps also significant that the orebodies lie near the point of convergence of a radiating group of faults.





## LOCAL GEOLOGY

AIRBORNE VLF-ELECTROMAGNETIC AND MAGNETIC SURVEY

This survey system 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 50 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 on-board 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 continuous input magnetic signal is processed at the maximum A/D converter rate, 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.

## SURVEY GRID

An idealized survey grid comprised of 49 east-west trending lines spaced at 200 meter intervals was drawn on a photo-mosaic map of the area and used as a guide to direct the helicopter surveying. The actual position of the survey lines, as recovered by the video flight path recovery tape, is illustrated on the interpretation map, Figure 2.

Forty-nine east-west trending lines, totalling some 295 line kilometers of survey, were required to cover the survey area as shown on Figure 2.

## DISCUSSION OF RESULTS

The survey grid covered three different geological groups as defined by the Geological Survey of Canada (G.S.C.); Copper Mountain Intrusions, Princeton Group and Nicola Group. The Copper Mountain Intrusion mapped by the G.S.C. in the north-east quarter of the survey area is reflected as an extremely strong magnetic high. The sharp magnetic gradient between this response and the response observed across the other geological environments closely traces the contact delineated by the G.S.C. (line 33 - Figure 3) except in the northwest corner of the map. In this area the G.S.C. defined contact is only inferred and is contradicted by the results of the magnetic survey. North of line 38 between the Similkameen River and B.C. Highway #3 a large, well defined magnetic low is observed (line 45 - Figure 4). This response is more indicative of the Princeton or Nicola Group responses observed elsewhere than of the strong Copper Mountain intrusion magnetic signature. A northerly trending nose of high magnetic values (line 45 - Figure 4) branches off the large magnetic anomaly to form the western edge of this magnetic low. This trend likely reflects a zone of Copper Mountain intrusives which was probably mapped as the western edge of the large intrusive stock illustrated



on Plate 1.

Although extremely high magnetic values characterize the Copper Mountain intrusion there are still localized severe magnetic variations within the group (line 35 - Figure 5). This suggests a heterogeneous composition to the intrusion and magnetics could be an important mapping tool if a definitive relationship between localized magnetite rich rocks and mineralization could be established.

The majority of the map area is underlain by Princeton Group and Nicola Group rocks which can be distinguished magnetically from the Copper Mountain intrusion on the basis of a much lower amplitude. There is however no obvious signature to distinguish the Nicola Group rocks from either phase of the Princeton Group. A weak correlation is observed between the mapped strike of the geological contacts and the apparent trend of the magnetic contours. This response would be enhanced on a ground survey and could be a useful tool for delineating these contacts.

Along the western ends of lines 27 through 44 a number of isolated magnetic anomalies are observed. No geological formations have been mapped by the G.S.C. which would explain these anomalies. The anomaly centered on the western end of line 37 (Figure 6) is exhibiting a magnetic field intensity which approaches the threshold value defining the Copper Mountain Intrusion to the east. This anomaly is presently considered open to the west. The other anomalies observed in this area are of less amplitude however they could be reflecting similar intrusions at a greater depth. Similarly weak magnetic highs are observed on the east ends of lines 27 through 32 (line 32 - Figure 7) and lines 42 through 48 (line 48 - Figure 8). These anomalies could also reflect buried stocks of Copper Mountain intrusions.



## II ORB CLAIMS

The Geological Survey of Canada map does not indicate the presence of any of the Copper Mountain Intrusion across these claims and the airborne magnetics support this observation. The overall magnetic trend on the claims can be described as relatively low in the southeast portion of the grid and gradually increasing to the northwest (Figure 2). The trend of the gentle magnetic gradient is roughly north-south and parallels the G.S.C. defined contacts in the area. However, no precise location of these contacts can be ascertained on the basis of the airborne magnetic field amplitudes.

A number of closed and isolated magnetic anomalies are observed on these claims. The most obvious is a magnetic low observed on lines 19 through 22 (line 21 - Figure 9). This feature occurs within what is mapped as a narrow band of Princeton Group andesites and basalts, sandwiched between Princeton Group shale, sandstone and conglomerates to the west and Nicola Group lavas to the east. This low is shouldered by relatively high magnetic values on each side. The anomaly is likely associated with the geological contact, possibly indicating an area of alteration or metamorphism. A second magnetic low occurs in this same band of rocks on lines 3 and 4. This response is not as pronounced as the anomaly on lines 19 through 22 but is possibly a result of the same geological environment.

A couple of closed magnetic highs are observed within the Nicola Group formations. A relatively weak, 150 gamma anomaly is located on line 20 (Figure 11) and a 250 gamma anomaly on line 25 (Figure 12). The latter anomaly occurs immediately south of the strong magnetic gradient which apparently delineates the Copper Mountain Intrusion. It is possible that this magnetic feature is the response from a similar intrusion at depth.

## SUMMARY AND RECOMMENDATIONS

In early March, 1982 Western Geophysical Aero Data Ltd. flew some 295 kilometers of airborne magnetometer and VLF-electromagnetometer survey in the Copper Mountain area of B.C. The survey was flown on a group participation basis in which Emerald Star Mining Explorations Ltd. was the chief participant.

The Copper Mountain Intrusion in the northeastern quarter of the survey area is readily distinguishable from the Princeton and Nicola Groups on the basis of its' extremely high magnetic field intensities. Severe magnetic variations within the Copper Mountain intrusion are also observed, reflecting a heterogeneous composition to this unit. A large magnetic low in the northeast corner of the grid contradicts the Geological Survey of Canada's inferred western boundary to the Copper Mountain Intrusion. A number of weak magnetic anomalies surround the large Copper Mountain Intrusion possibly indicating the presence similar units not exposed on the surface.

No definitive amplitude variations are noted which can differentiate between the Princeton Group and Nicola Group rocks. The general magnetic contour trends do however follow the inferred geological contacts and a surface magnetic survey may be capable of mapping them more accurately.

The VLF-EM receivers responded as expected with minor field intensity increases across the numerous small creeks and streams in the area. No anomalies were observed which could be interpreted as the response to a significant near surface high conductivity body.

A significant magnetic anomaly was located on the ORB claim (lines 19 through 22 on Figure 2) which likely reflects an alteration zone associated with a contact between Nicola and Princeton Group rocks. An induced polarization survey is recommended in this area to detect any high chargeability zones



associated with the magnetic anomaly. A similar anomaly, slightly weaker, is observed to the south in claim ORB 5 (lines 3 and 4) in the same geological environment. Based on the results of the induced polarization survey on the stronger anomaly to the north, this area could also be considered for further geophysical exploration.

Two relatively weak magnetic highs, observed on lines 20 and 25, could be reflecting buried bodies of Copper Mountain Intrusives. A deep penetrating time domain electromagnetic survey could confirm this interpretation.

Respectfully submitted,



E. Trent Pezzot, B.Sc.,  
Geophysicist



Glen B. Pezzot, B.Sc., P.Eng.,  
Consulting Geophysicist

INSTRUMENT SPECIFICATIONSBARRINGER AIRBORNE MAGNETOMETER

**MODEL:** Nimbin M-123  
**TYPE:** Proton Precession  
**RANGE:** 20,000 to 100,000 gammas  
**ACCURACY:** + 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 airfoil.

Instrument SpecificationsSABRE AIRBORNE VLF SYSTEM

- Source of Primary Field: VLF radio stations in the frequency range of 14  $\text{KH}_z$  to 30  $\text{KH}_z$ .
- Type of Measurement: - Horizontal field strength
- Number of Channels: - Two; Seattle, Washington at 18.6  $\text{KH}_z$   
- Annapolis, Maryland at 21.4  $\text{KH}_z$
- 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)  
- recorder output posts mounted on rear of instrument panel
- Power Supply: - Eight alkaline 'AA' cells in main instrument case (life 100 hours)  
- Two 9-volt alkaline transistor batteries in bird (life 300 hours)
- Instrument Console: - Dimensions - 30 cm x 10 cm x 25 cm  
- Weight - 3.5 Kg.

INSTRUMENT SPECIFICATIONSFLIGHT PATH RECOVERY SYSTEMi) 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 to housing  
- housing bolted to helicopter skid

ii) Video Recorder

Model: Sony SLO - 340  
Power Supply: 12 volt dc / 120 volt AC (60Hz)  
Tape: Betamax  $\frac{1}{2}$ " 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, 75 $\Omega$  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 413 B

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 2-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 VA)

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  
1, 0-25 volt dc signal

Microprocessor: Motorola MC-6800

CRT Controller: Motorola MC-6845

Character Generator: Motorola MCM-6670

Analogue/Digital Converter: Intersil 7109

Multiplexer: Intersil IH 6208

Digital Clock: National MM 5318 chip  
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



DATA RECORDING SYSTEM (CON'T)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.

<u>PERSONNEL</u>	<u>DATE</u>	<u>PRODUCTION</u>	<u>RATE/DAY</u>	<u>SUBTOTAL</u>
J Behenna	Feb 8-Feb 9	Mosaic Const.	\$275.00	\$ 550.
J Behenna/ T Pezzot	Mar 1-Mar 4	Pre-Survey Prep.	\$550.00	\$2,200.
J Behenna/ J Harrington	Mar 5-Mar 6	Survey	\$550.00	\$1,100.
T Pezzot/ J Behenna	Mar 8-Mar 11	Data Recovery	\$550.00	\$2,200.

Helicopter .....	\$ 3,025.
Helicopter Fuel & Trucking .....	\$ 355.
Vehicle Rental .....	\$ 285.
Meals and Accomodations .....	\$ 220.
Air Photography .....	\$ 20.
Photo Mosaic Reproduction .....	\$ 295.
Equipment Lease .....	\$ 1,800.
Materials .....	\$ 150.

Subtotal ..... \$12,200.

By agreement Emerald Star Mining to pay portion of basic survey cost applicable to ORB claims (50%) plus analysis, report, interpretation and reproduction costs.

Survey Cost 50% of \$12,200.00 .....	\$ 6,100.
Interpretation and Report .....	\$ 950.
Drafting .....	\$ 350.
Reproduction and Binding .....	\$ 100.

Total ..... \$ 7,500.

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 Geophysicists

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 - B.C., Alberta,  
Saskatchewan, N.W.T., Yukon, western  
U.S.A.

Two years geophysicist with Glen E.  
White Geophysical Consulting & Ser-  
vices Ltd.

STATEMENT OF QUALIFICATIONS

NAME: WHITE, Glen E., P.Eng.

PROFESSION: Geophysicist

EDUCATION: B.Sc. Geophysicist - Geology  
University of British Columbia.

PROFESSIONAL ASSOCIATIONS: Registered Professional Engineer,  
Province of British Columbia.

Associate member of Society of Exploration Geophysicists.

Past President of B.C. Society of Mining Geophysicists.

EXPERIENCE: Pre-Graduate experience in Geology -  
Geochemistry - Geophysics with Anaconda  
American Brass.

Two years Mining Geophysicist with  
Sulmac Exploration Ltd. and Airborne  
Geophysics with Spartan Air Services  
Ltd.

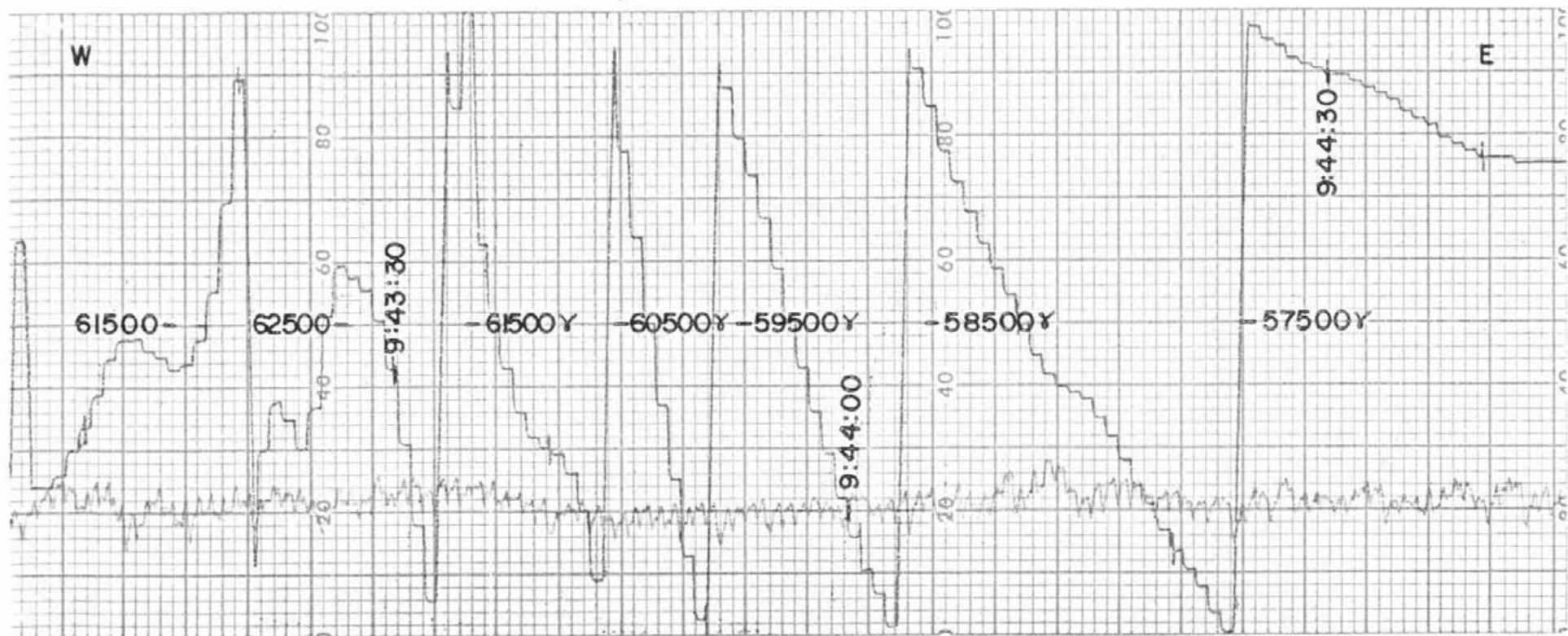
One year Mining Geophysicist and Technical  
Sales Manager in the Pacific  
north-west for W.P. McGill and Associates.

Two years Mining Geophysicist and  
supervisor Airborne and Ground Geophysical  
Divisions with Geo-X Surveys  
Ltd.

Two years Chief Geophysicist Tri-Con  
Exploration Surveys Ltd.

Eleven years Consulting Geophysicist.

Active experience in all Geologic provinces  
of Canada.



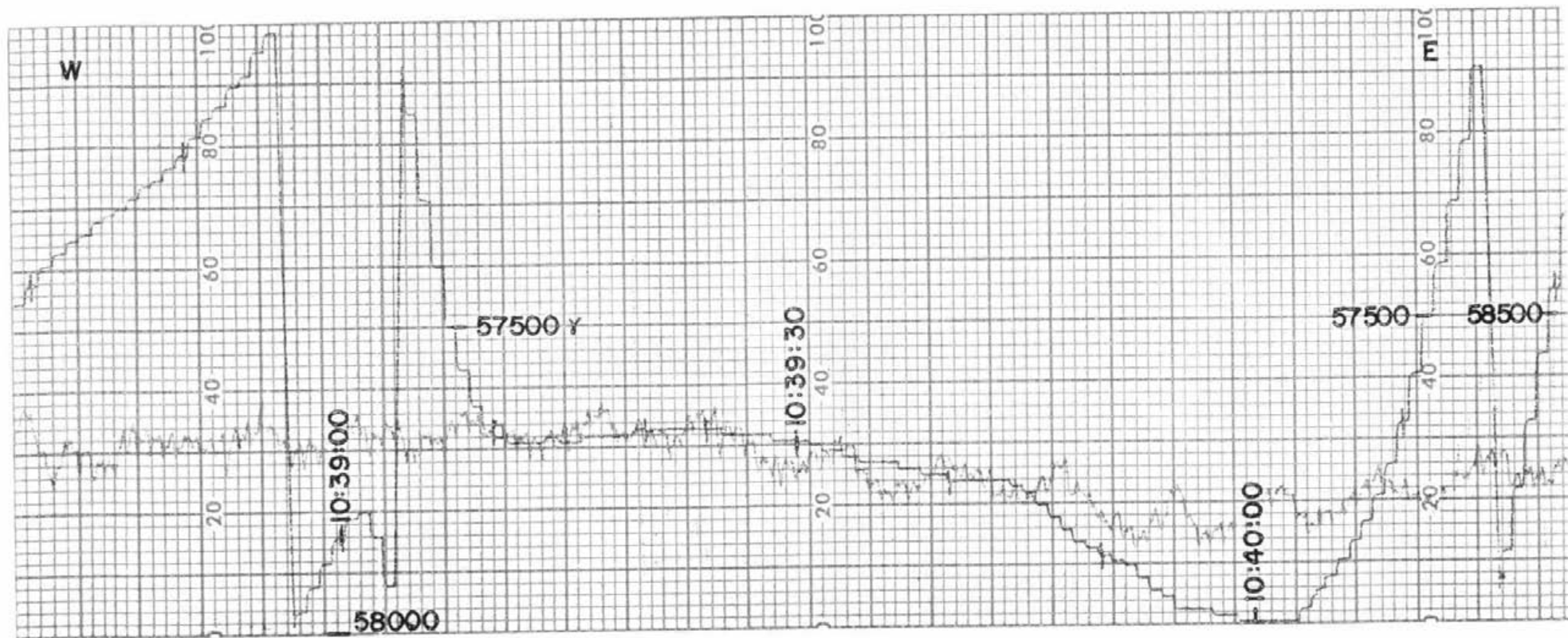
EMERALD STAR MINING EXPLORATIONS LTD.  
ORB CLAIMS

LINE 33



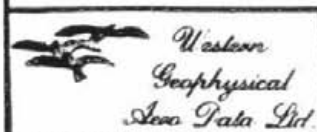
MAGNETOMETER: VERTICAL SCALE - 1cm. = 100 gammas  
VLF-EM: VERTICAL SCALE - 1cm. = 10 %

MAGNETOMETER: RED  
VLF-EM (SEATTLE): BLACK FIG. 3



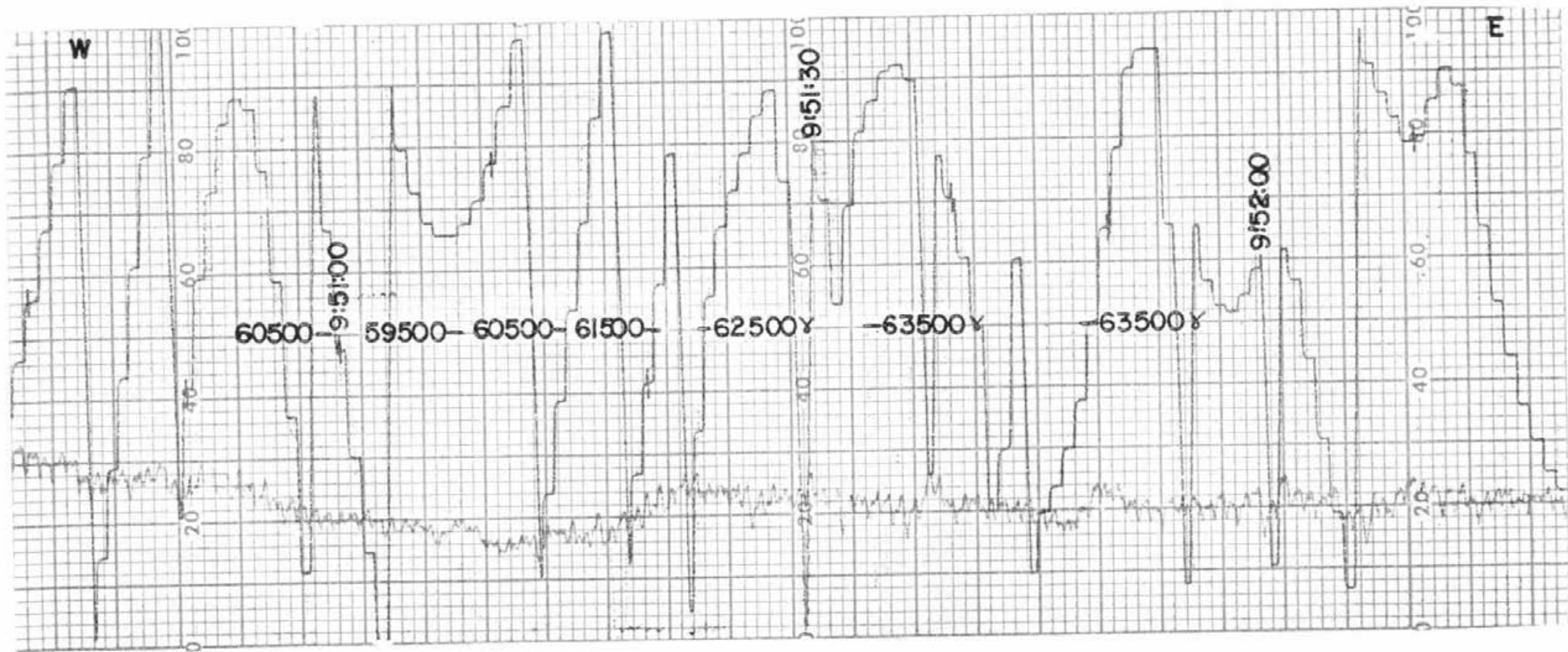
EMERALD STAR MINING EXPLORATIONS LTD.  
ORB CLAIMS

LINE 45



MAGNETOMETER: VERTICAL SCALE - 1cm. = 100 gammas  
VLF-EM: VERTICAL SCALE - 1cm. = 10 %

MAGNETOMETER: RED  
VLF-EM (SEATTLE): BLACK FIG. 4



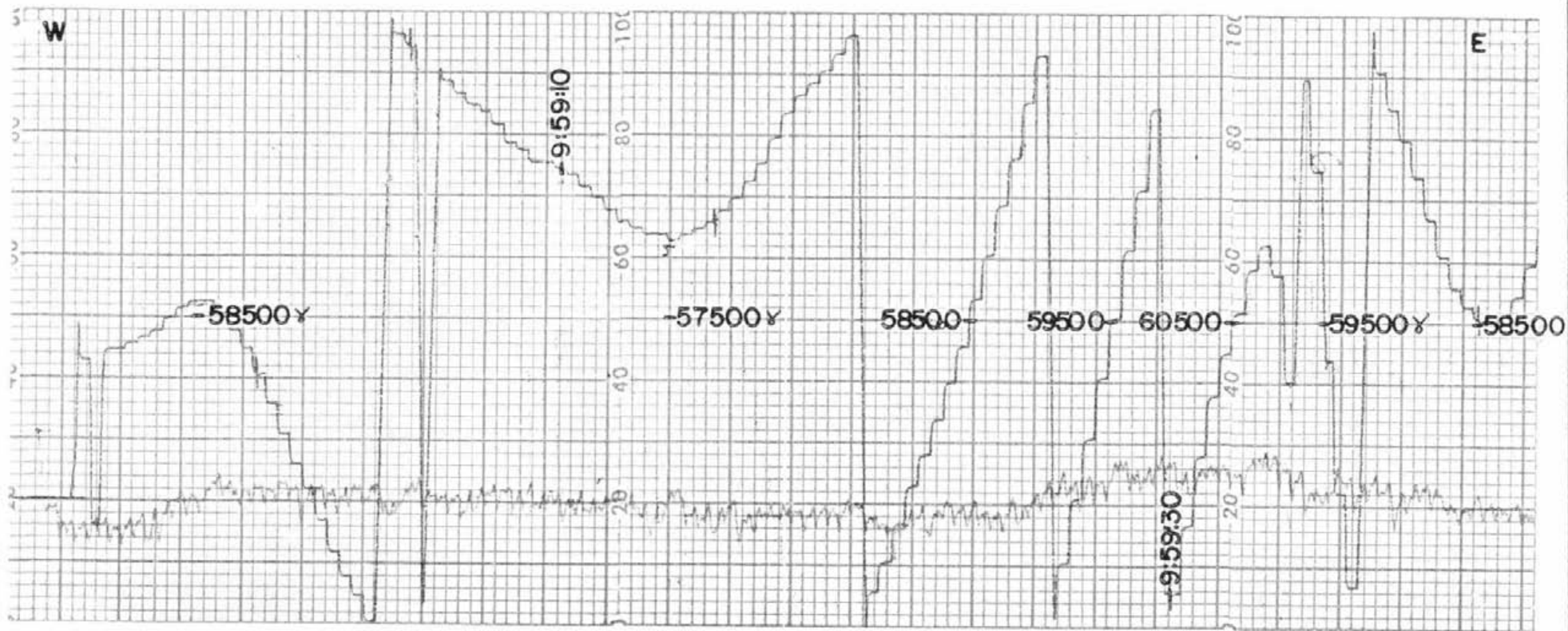
EMERALD STAR MINING EXPLORATIONS LTD.  
ORB CLAIMS

LINE 35



MAGNETOMETER: VERTICAL SCALE - 1cm. = 100 gammas  
VLF-EM: VERTICAL SCALE - 1cm. = 10 %

MAGNETOMETER: RED  
VLF-EM (SEATTLE): BLACK FIG. 5



EMERALD STAR MINING EXPLORATIONS LTD.  
ORB CLAIMS

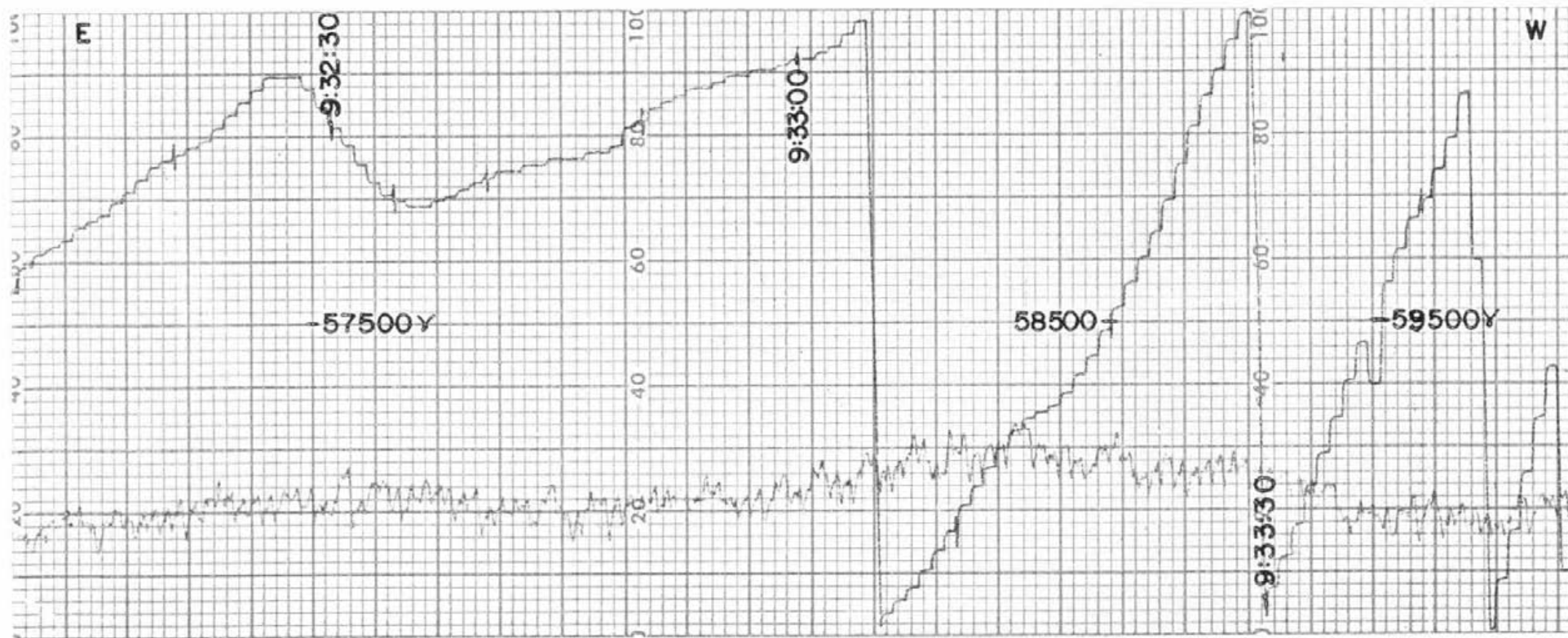
LINE 21



MAGNETOMETER: VERTICAL SCALE - 1cm. = 100 gammas  
VLF-EM: VERTICAL SCALE - 1cm. = 10%

MAGNETOMETER: RED  
VLF-EM (SEATTLE): BLACK FIG. 6





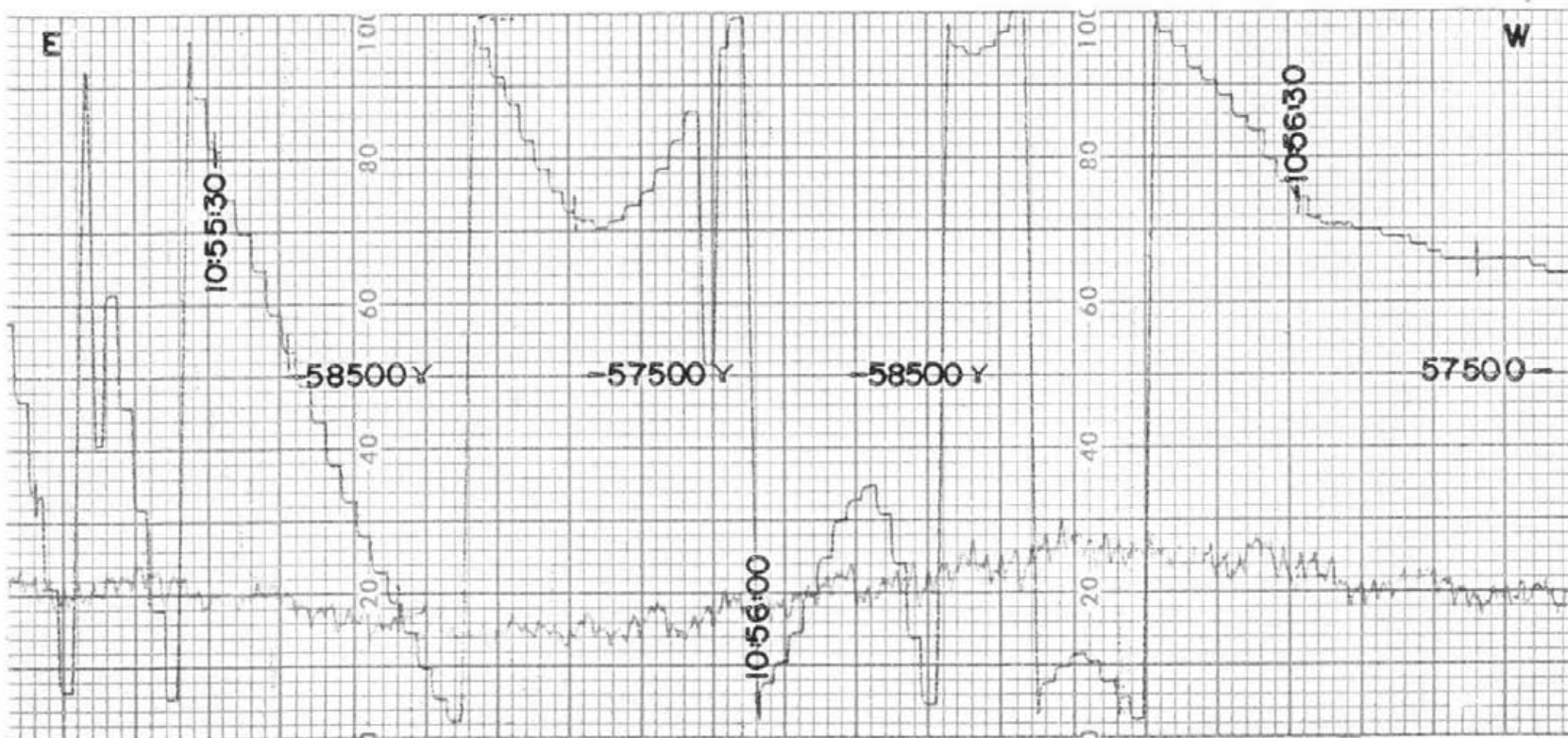
EMERALD STAR MINING EXPLORATIONS LTD.  
ORB CLAIMS

LINE 32



MAGNETOMETER : VERTICAL SCALE - 1cm. = 100 gammas  
VLF-EM : VERTICAL SCALE - 1cm. = 10 %

MAGNETOMETER : RED  
VLF-EM (SEATTLE) : BLACK FIG. 7



EMERALD STAR MINING EXPLORATIONS LTD.  
ORB CLAIMS

LINE 48



MAGNETOMETER: VERTICAL SCALE - 1cm. = 100 gammas  
VLF-EM: VERTICAL SCALE - 1cm. = 10 %

MAGNETOMETER: RED  
VLF-EM (SEATTLE): BLACK FIG. 8



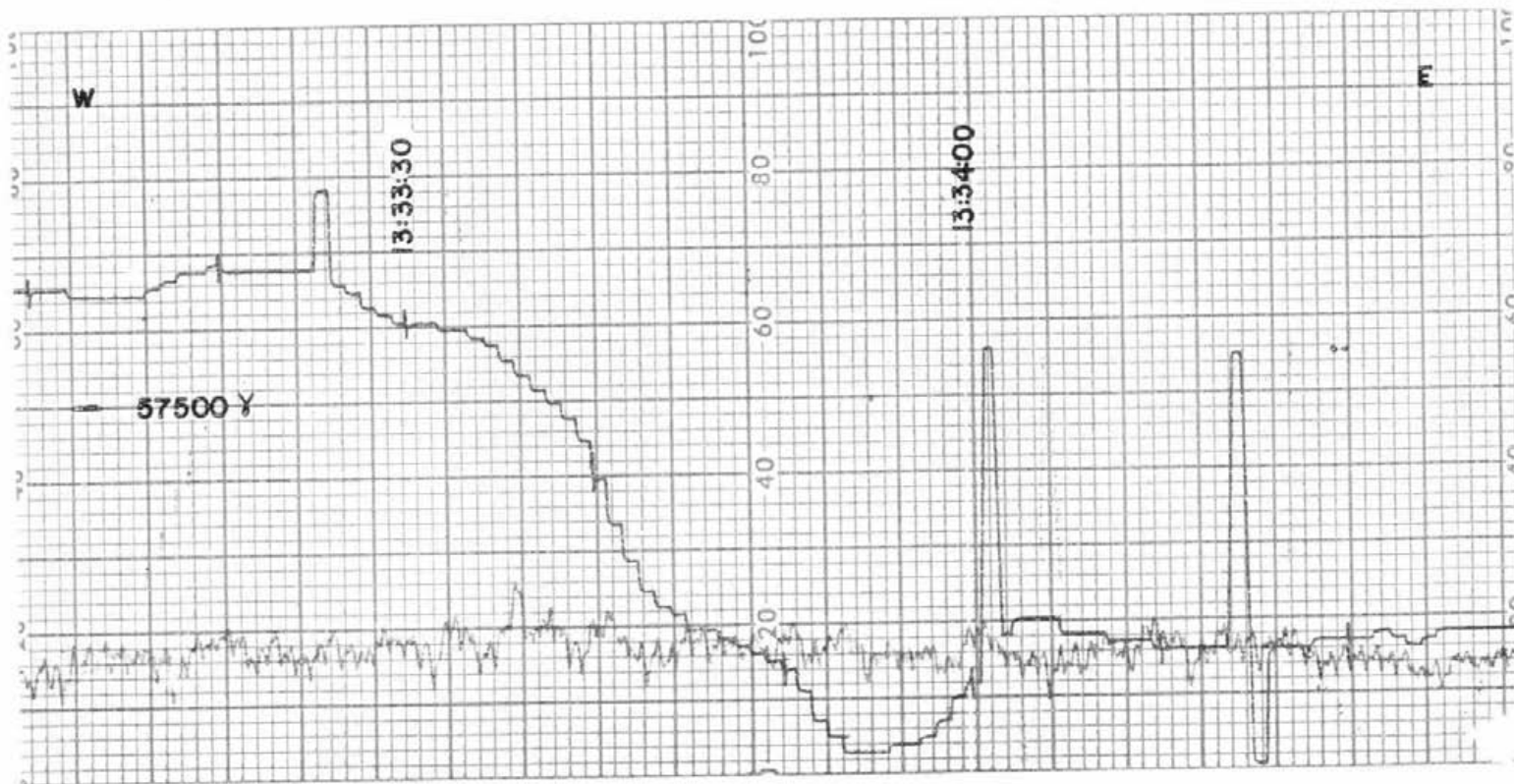
EMERALD STAR MINING EXPLORATIONS LTD.  
ORB CLAIMS

LINE 37



MAGNETOMETER: VERTICAL SCALE - 1 cm. = 100 gammas  
VLF-EM: VERTICAL SCALE - 1 cm. = 10 %

MAGNETOMETER: RED  
VLF-EM (SEATTLE): BLACK FIG. 9



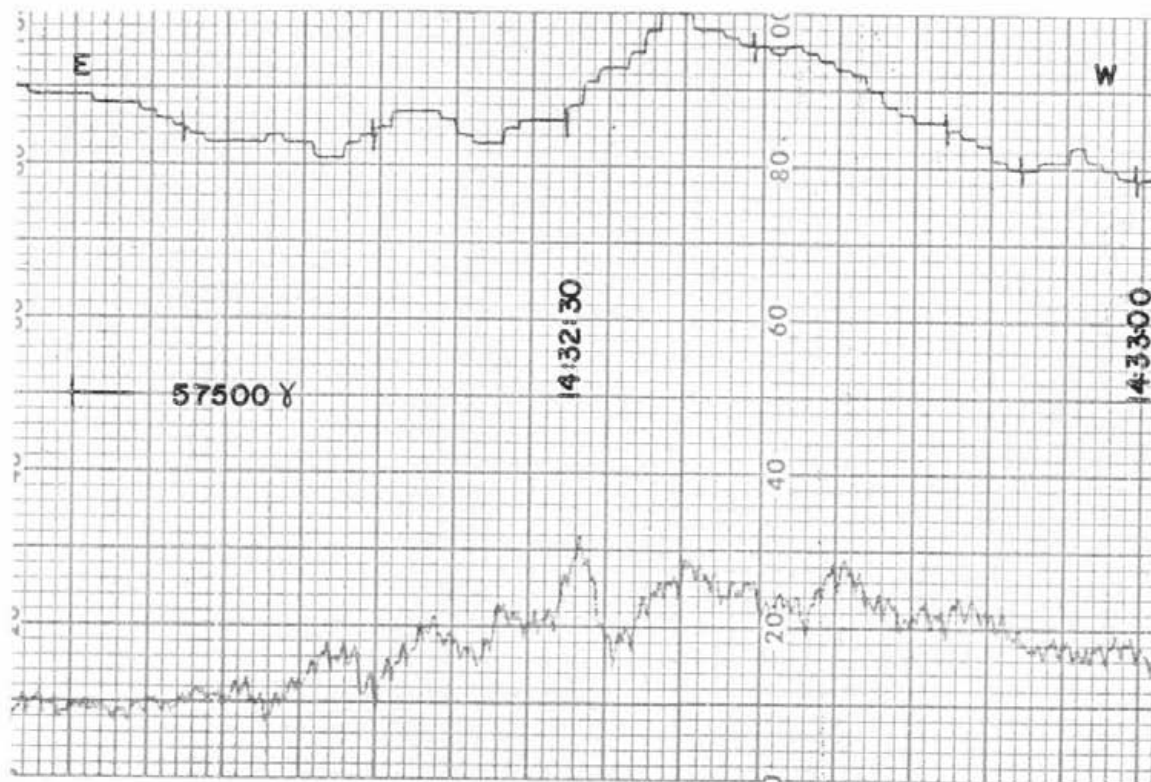
EMERALD STAR MINING EXPLORATIONS LTD.  
ORB CLAIMS

LINE 3



MAGNETOMETER: VERTICAL SCALE - 1cm. = 100 gammas  
VLF-EM: VERTICAL SCALE - 1cm. = 10 %

MAGNETOMETER: RED  
VLF-EM (SEATTLE): BLACK FIG.10



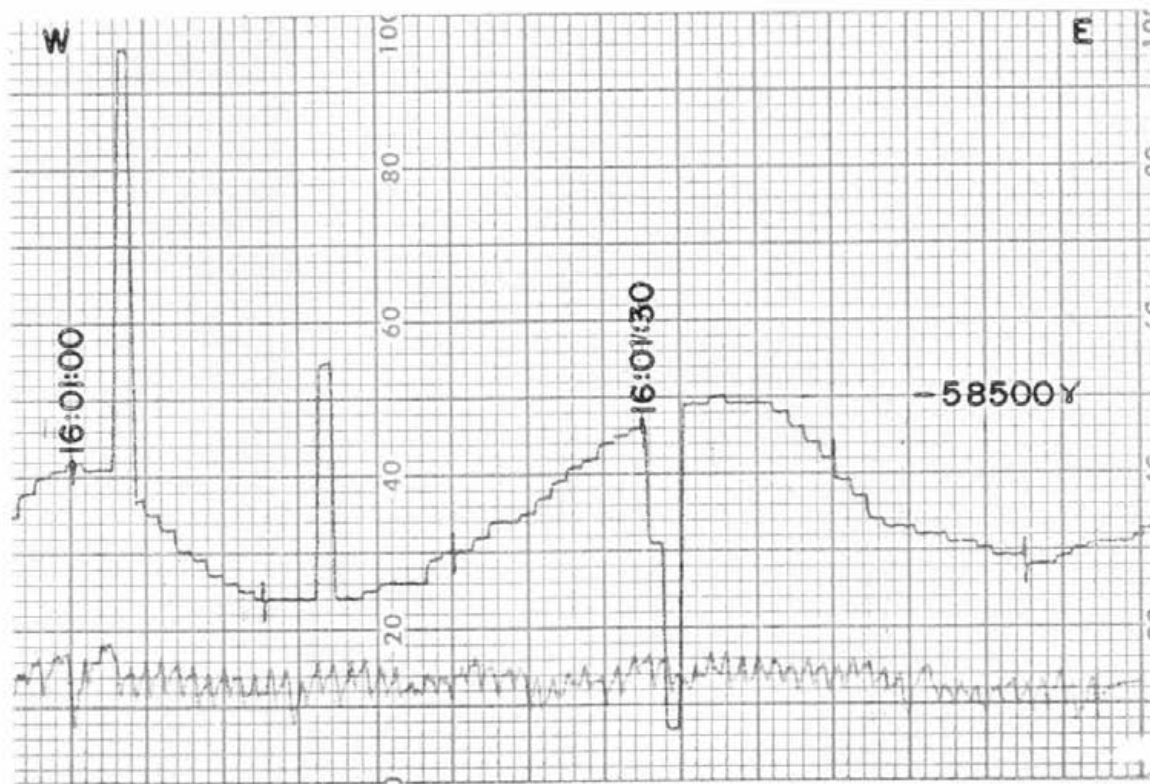
EMERALD STAR MINING EXPLORATIONS LTD.  
ORB CLAIMS

LINE 20



MAGNETOMETER: VERTICAL SCALE - 1cm. = 100 gammas  
VLF-EM: VERTICAL SCALE - 1cm = 10 %

MAGNETOMETER: RED  
VLF-EM (SEATTLE): BLACK FIG. 11



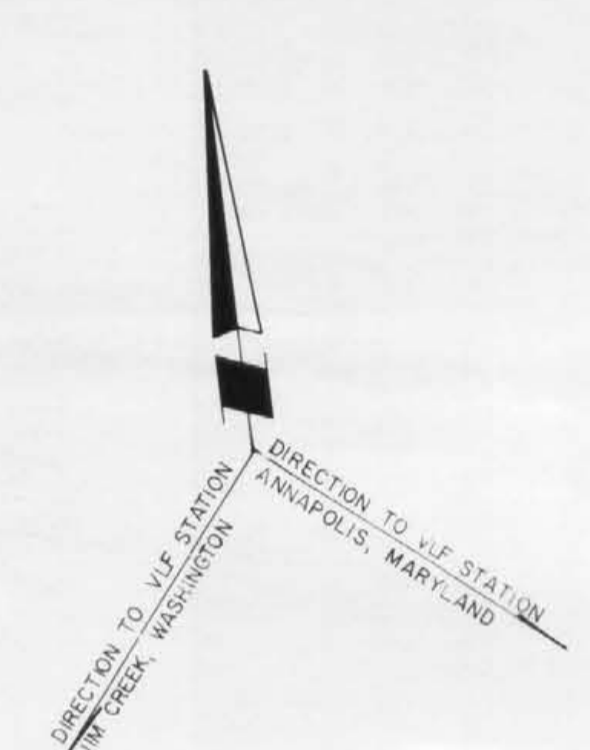
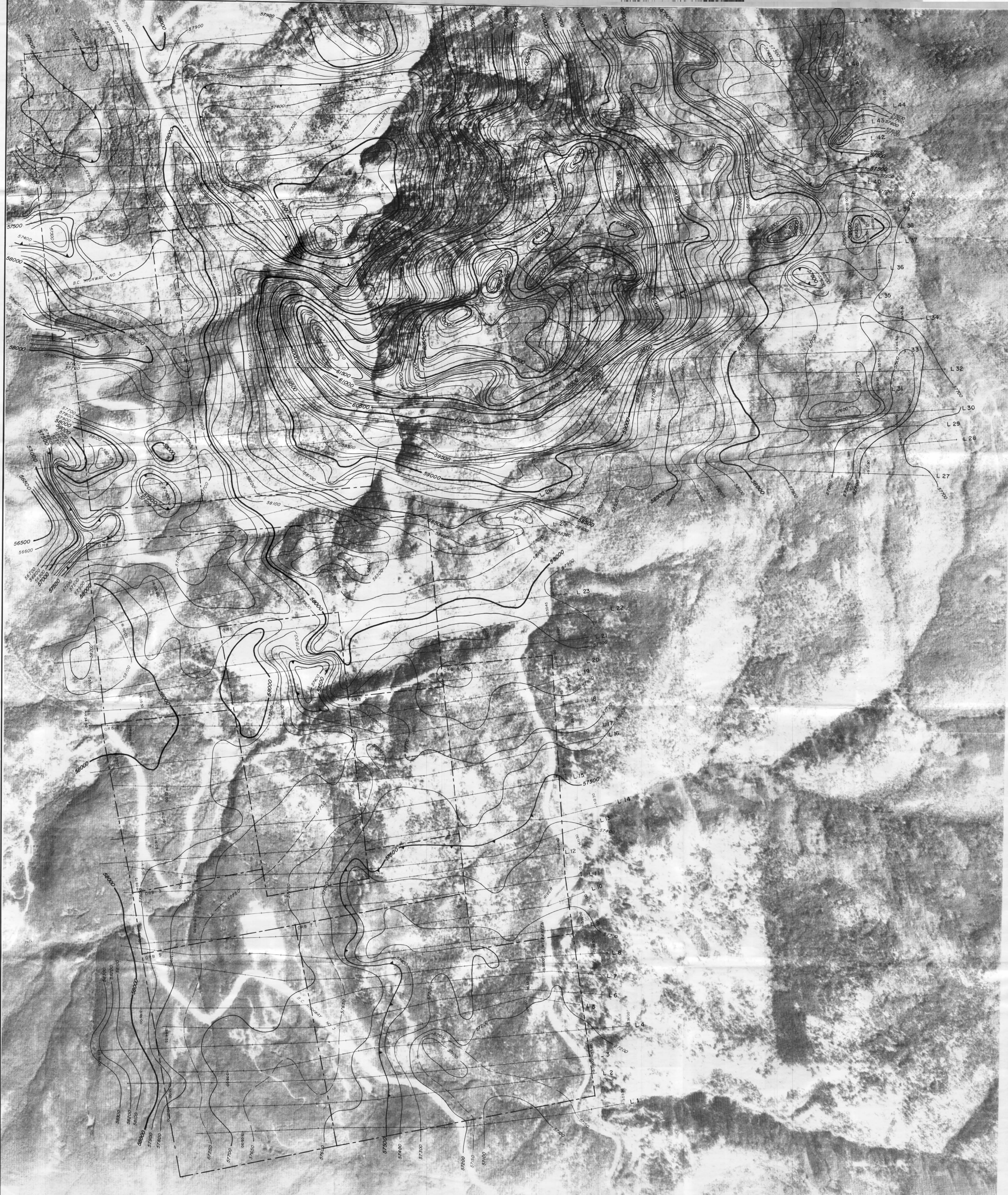
EMERALD STAR MINING EXPLORATIONS LTD.  
ORB CLAIMS

LINE 25



MAGNETOMETER : VERTICAL SCALE - 1cm. = 100 gammas  
VLF-EM : VERTICAL SCALE - 1cm. = 10 %

MAGNETOMETER: RED  
VLF-EM (SEATTLE): BLACK FIG.12

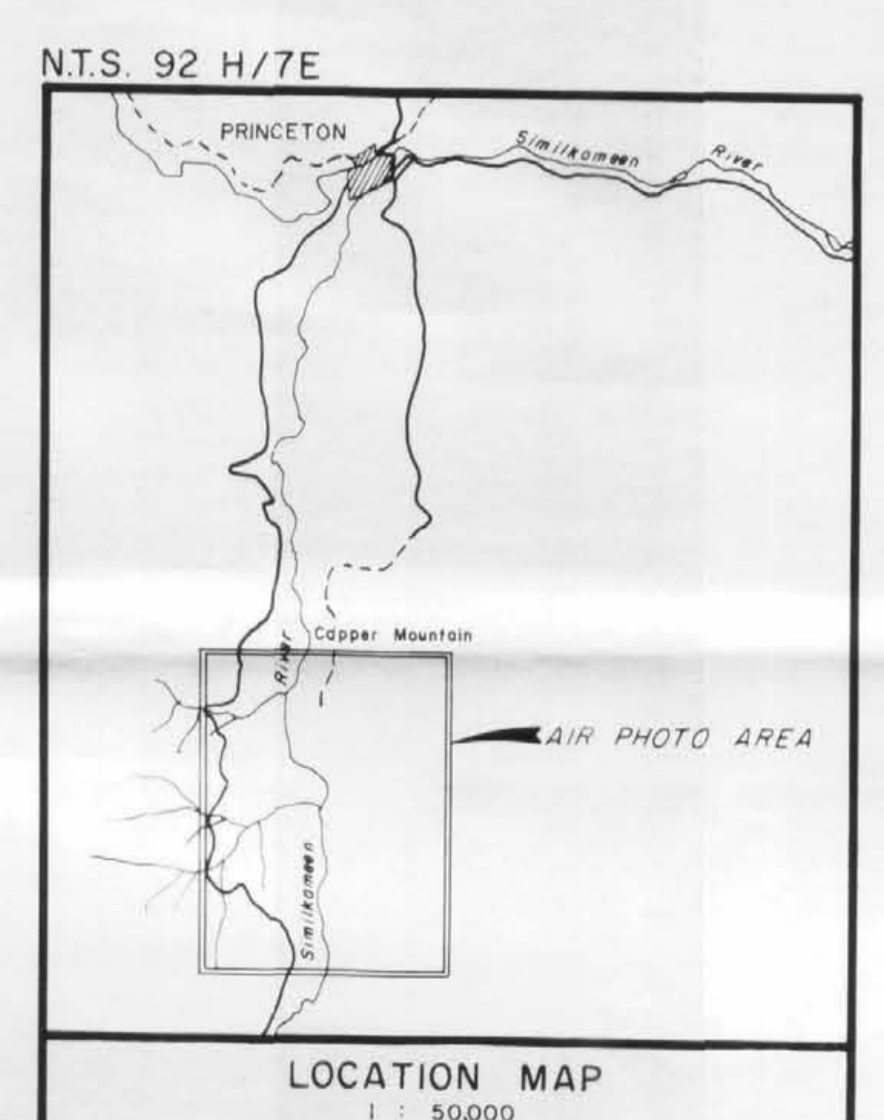


**LEGEND:**

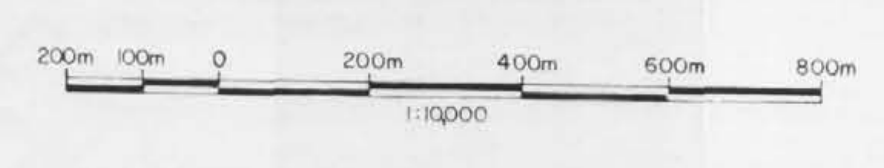
- FLIGHT LINES
- 5 SECOND INTERVAL
- CLAIM BOUNDARIES
- TOTAL FIELD MAGNETIC INTENSITY CONTOURS - 500 FT.

**INSTRUMENTS:**

- SARRINGER AIRBORNE MAGNETOMETER
- SABRY AIRBORNE VLF ELECTROMAGNETMETER
- SEATTLE, WASHINGTON - 248 kHz
- ANNAPOLIS, MARYLAND - 214 kHz



**part A** 10,663  
NO.



**EMERALD STAR MINING EXP. LTD.**  
— ORB CLAIMS —  
SILKMEEN MINING DIVISION — BRITISH COLUMBIA



**GEOPHYSICAL INTERPRETATION MAP**

Prepared by <i>Glen R. Smith</i>	Checked by <i>W. J. ...</i>	Date MAR/78
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