87-47-15540

Owner/operator: **BARYTEX RESOURCE CORPORATION**

GEOPHYSICAL REPORT
ON AN
AIRBORNE VLF-ELECTROMAGNETOMETER AND MAGNETOMETER SURVEY

BOO #2 CLAIM

CARIBOO MINING DIVISION

LATITUDE 53°10'N LONGITUDE 122°~~17~~ 16.5'W

NTS 93G/1W

AUTHORS: E. Trent Pezzot, B.Sc.
Geophysicist

DATE OF WORK: August 25,1986

DATE OF REPORT: September 17,1986

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FILMED

WESTERN GEOPHYSICAL AERO DATA LTD.

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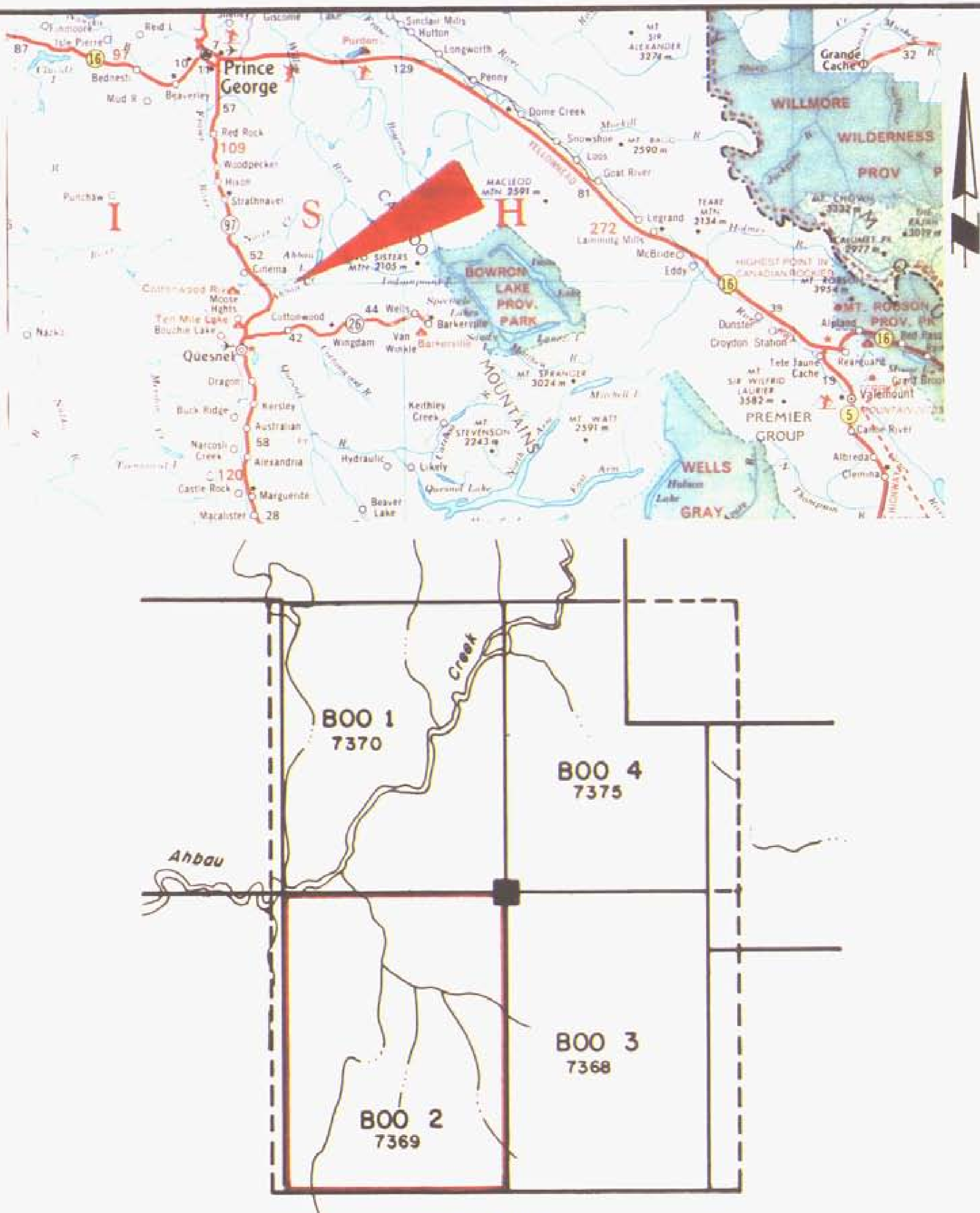
ILLUSTRATIONS



1 : 50,000

BARYTEX RESOURCE CORP.

— BOO 2 CLAIM —

LOCATION AND CLAIMS MAP

Western Geophysical Aero Data Ltd.

FIGURE 1

INTRODUCTION

Western Geophysical Aero Data Ltd. was commissioned by a group of four companies to conduct airborne magnetic and VLF-electromagnetic surveys across a number of claim groups in the Umiti Creek area some 27 kilometres northeast of Quesnel, B.C. The **Boo #2 claim** owned by **Barytex Resource Corp.** was included as part of this program. Approximately 72 kilometres of survey were flown on August 25, 1986 and have been analyzed to evaluate the area of the **Boo #2 claim.**

A large portion of the claim area is covered by glacial overburden and it was the intention of this survey to assist the geological mapping of the area and direct ground exploration of the claim.

PROPERTY

The **Boo #2 claim** is comprised of 20 units as described below and illustrated on Figure 1.

CLAIM NAME	RECORD NO.	UNITS	RECORD DATE
Boo #2	7369	20	Feb. 28,1986

LOCATION AND ACCESS

The **Boo #2 claim** is located approximately 26 kilometres northeast of Quesnel, B.C. in the Cariboo Mining Division and NTS 93G/1W. The approximate geographical coordinates of the claim are latitude 53°10'30"N and longitude 122°17'W (see Figure 1).

Logging activity in the area has produced an extensive road network which provides access to the area. These logging roads are most easily accessible from Quesnel by following highway 97 north for approximately 20 km to Hush Lake. From

LEGEND

MIOCENE AND PLIOCENE

MPvb	Olivine basalt flows, breccia, tuff

OLIGOCENE AND MIOCENE

OMe	Andesite, basalt, dacite

UPPER CRETACEOUS AND LOWER TERTIARY

KToL	Rhyolite, dacite, trachyte, sandstone, shale, conglomerate

CACHE CREEK TERRANE

UPPER PALEOZOIC

Cache Creek Group

uPc	Grey limestone, minor greenstone, chert and argillite, serpentinite, basalt, dark grey ribbon chert and greenish micritic (?) limestone

QUESNEL TERRANE

UPPER TRIASSIC AND/OR LOWER JURASSIC

Takla Group

TRd	Diorite
uTRJTb	Greywacke, siltstone, minor conglomerate
uTRJTa	Andesite, volcaniclastics, greywacke, slate
uTRc	Sandy limestone, limestone
uTRp	Siltite, pelite, limestone, minor bioclastic limestone
TRp	Phyllite, slate

Nicola Group

TRJNi	Syenite, monzodiorite, subvolc. intrusions
TRJNl	Limestone, quartzitic, sandy limestone & slate
TRJNd	Basalt, agglm., brx., congl., and lesser tuffs and argillite
TRJNc	Augite porph. basalt tuff, brx., minor flows, tuff, arg. and siltite, local andesite basalt
TRJNb	Basalt tuff and siltite, arg., greywacke, & slate, minor basalt, brx., aggl., polymictic cong.
TRJNa	Slate, arg., phyllite, f. gr. and minor cs. grywke. and lesser tuff, tuff siltite and arg.

UPPER PALEOZOIC ?

Pu	Crooked amphibolite *Serpentinite, amphibolite*

SLIDE MOUNTAIN TERRANE

UPPER TRIASSIC

uTR	Shale, sandstone

UPPER PALEOZOIC

uPSM	Slide Mtn. Group ; Antler Formation Phyllite, minor micritic lst., diorite, dacite tuff and aggl., grey and olive ribbon chert, slate and argillite, pillow basalt, brx., dior., and minor serpentinite.

BARKERVILLE TERRANE

HADRYNIAN AND PALEOZOIC

Snowshoe Group

HPs	Undifferentiated grit, pelite, marble
HPsq	Grit, quartzite
PIPs	Grey and olive grey schistose, quartzite, schist, phyllite, marble, amphibolite, siltite and minor white to dark grey quartzite.
PIPsa	Light grey orthoquartzite, grey schistose quartzite, schist, phyllite.

CARIBOO TERRANE

HADRYNIAN AND PALEOZOIC

HPc	Guyet Fm.; basalt flow, aggl., limestone, conglomerate Black Stuart Group; chert, black pelite, sandstone

Cariboo Group
Yanks Peak and Midas Fm.; quartzite, phyllite, siltite. Yankee Belle Fm.; quartzite, phyllite.
Cunningham Fm.; limey marble. Isaac Fm.; phyllite, calcareous phyllite, siltite, quartzite, marble

Kaza Group
Grit, quartzite, phyllite

INTRUSIVE ROCKS

LOWER CRETACEOUS

Naver Pluton

eKg	Porphyritic granite, quartz monzonite, granodiorite, aplite and pegmatite
Ki	Biotite granite, quartz monzonite, monzonite, granodiorite (satellites of Naver Pluton)

MIDDLE JURASSIC

mJi	Potassium feldspar mega crystalline hornblende quartz monzonite, granodiorite and granite

JURASSIC OR YOUNGER

um	Ultramafic intrusion

LOWER TRIASSIC

Takomkane Batholith

lTRg	Porphyritic granite, granodiorite, quartz diorite, quartzmonzonite
lTRy	Hornblende syenite and monzonite

UNKNOWN AGE

gn	Augen granite, gneissic biotite granite

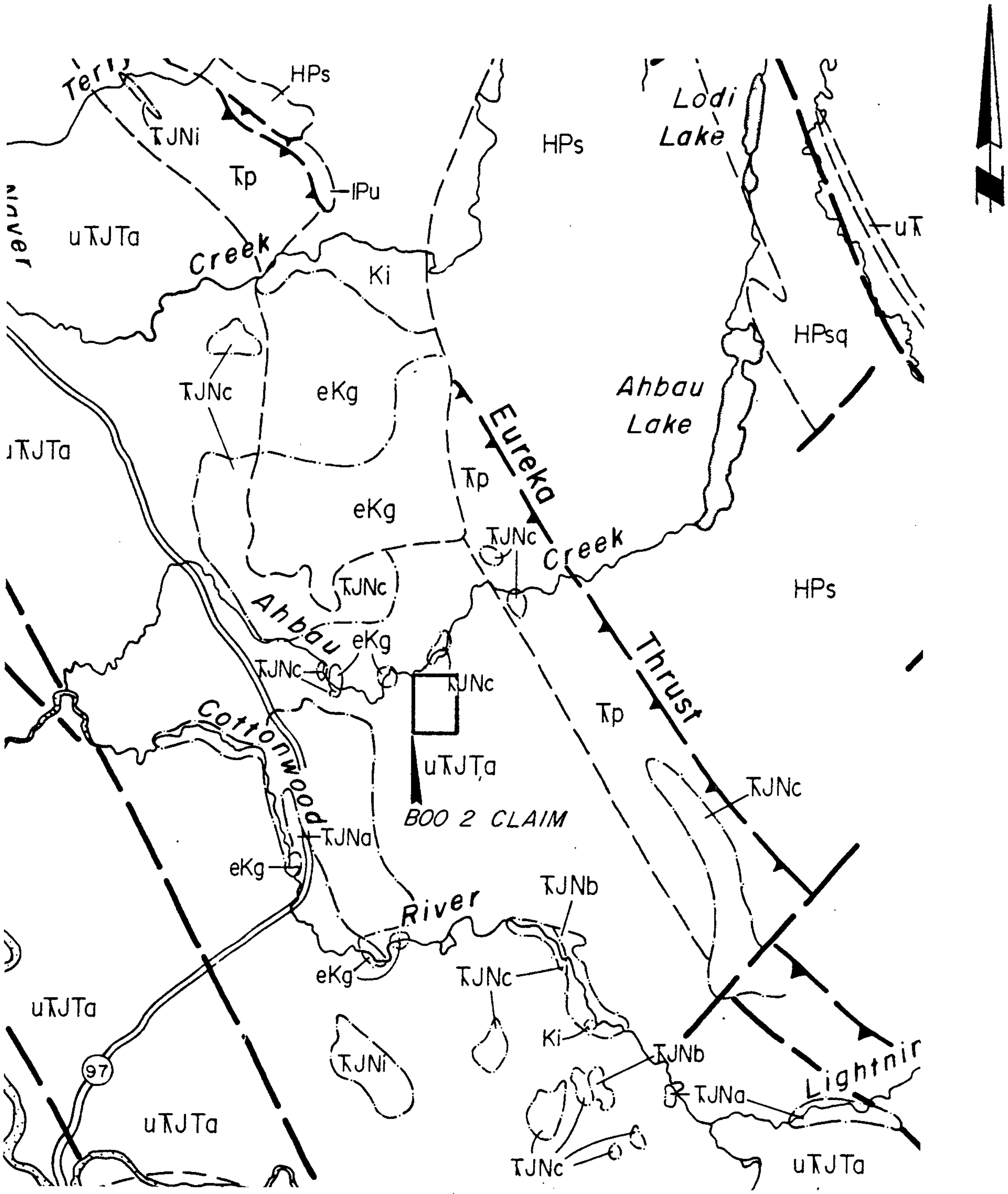
SYMBOLS

Thrust Fault (teeth on hanging wall)

Major Fault (approximate)

Geologic Contact (approximate)

Outcrop Boundary



GENERAL GEOLOGY

1 : 250,000

Western Geophysical Aero Data Ltd.

NOTE

Geological Compilation by B.P. Butterworth and J.C. Freeze after L.C. Struik (G.S.C. Paper 85-1A, 86-1A and Open File 781, 1101) and Map 1424 A (Parsnip River Map-Area, British Columbia.)
This map not to be reproduced without written permission from :- J.C. Freeze or B.P. Butterworth (Copyright)

PLATE 1

this point the logging roads branch eastward to the area of the **Boo #2 claim.**

GENERAL GEOLOGY

The general geology of the claim area is outlined on G.S.C. map 1424A, Geology of the Parsnip River area. The area was originally mapped by Amos Bowman of the Geological Survey of Canada in 1885-86 and subsequently by H.W. Tipper, also of the G.S.C., in 1961 and further updated in 1974. The applicable portion of this map is reproduced as Plate 1 of this report.

The **Boo #2 claim** lies within the northwesterly trending Quesnel Trough, which is predominantly underlain by the Upper Triassic - Lower Jurassic Takla Group. This unit consists of andesite flows, tuffs, agglomerate, basalt, breccia and argillite. Early Cretaceous intrusions have been mapped both to the north and south of the subject property.

PROPERTY GEOLOGY AND MINERALIZATION

No detailed geological mapping of the property is known of by the authors. Much of the claim area is overlain by glacial cover.

PREVIOUS WORK

No previous work on this property is known of by the authors.

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

The airborne survey covering the **Boo #2 claim** was flown on August 25, 1986. The survey lines were flown in an east-west direction and spaced at 200 metre intervals with data being recorded every second, providing an average station interval of 20 to 30 metres. The sensors maintained a terrain clearance of 60 metres during the course of the survey. Approximately 72 kilometres of survey was completed and analyzed to evaluate the **Boo #2 claim**.

The total field intensity magnetic data is presented in contour form as Figure 2 of this report. The VLF-EM data is presented in profile format on Figures 3 and 4 representing the Seattle and Annapolis frequency information respectively.

The magnetic contour map shows the **Boo #2 claim** lies within a very quiet magnetic area where the contours align in a north-south orientaion and exhibit a very gradual gradient of 62.5 nT/kilometre, decreasing to the east. This response is anomalous for the area where the regional trends are northwest-southeast. Strong magnetic highs are observed 1 kilometre to the west and 1 kilometre to the north of the **Boo #2 claim.** The anomalous magnetic contour orientation noted appears to be a residual effect of these features and is not interpreted as reflecting any anomalous structures in the claim area.

A number of small, one line magnetic lows are mapped on the property. They may be reflecting small lenses or very narrow zones which are geologically mappable but they appear to be too small to be reliably delineated in the airborne data.

The VLF-EM data is illustrated on Figures 3 and 4. No data is presented for lines 114 to 118 and 125 because of a temporary malfunction of the digital tape drive system. The information was recorded on analogue strip charts and has been reviewed and included in this interpretation. Any conductivity features observed in these records has been duly noted and flagged on the appropriate maps.

The strongest VLF-EM signals were observed in the Annapolis frequency data. The Seattle frequency information reflects some of the same conductivity features observed in the Annapolis data but not all. Two areas of increased VLF-EM amplitude are observed. One area is spotted on the eastern ends of lines 119 to 122, to the east of the **Boo #2 claim.** The second area is noted on the western portions of lines 115 to 121. Although distinct conductivity features appear to be evident within these areas, the large zone itself is the more interesting anomaly. Similar amplitude variations are observed to the east of the map area and the combined overall responses define a narrow conductivity lineation striking approximately 100°-280° which coincides with a discontinuity in a northwesterly trending regional magnetic anomaly. The VLF-EM defined conductivity zone is likely reflecting a major structural break in this area.

SUMMARY AND CONCLUSIONS

During August, 1986, Western Geophysical Aero Data Ltd. flew 72 kilometres of airborne magnetometer and VLF-electromagnetometer survey across the **Boo #2 claim** northeast of Quesnel, B.C.

No anomalous magnetic features were observed on the **Boo #2 claim.** Magnetic highs were observed both to the west and north of the claim and are interpreted as reflections of dioritic intrusions in the Takla Group rocks.

A narrow, north-northwesterly trending zone of increased surficial conductivity is mapped by the VLF-EM system as crossing the **Boo #2 claim.** This feature coincides with discontinuity of northwesterly trending magnetic lineations mapped to the east of the **Boo #2 claim** and is interpreted as reflecting a major structural break. Individual, high conductivity lenses observed within the regional feature are currently unexplained.

A popular theory concerning the origin of the gold deposits in the Quesnel trough is that the gold has been remobilized from the Snowshoe group which underlies the Takla group in the claim area. The mobilization is thought to be initiated by thermal activity generated by the intrusion of dioritic magma into the country rock. Gold eventually precipitated out of percolating solutions in any structural or lithologically permeable sites around the intrusive mass. The results of the airborne survey suggest that these conditions are present in the **Boo #2 claim** area and that further exploration is warranted.

RECOMMENDATIONS

Ground investigation of the west-northwesterly trending high conductivity zone is recommended as the next exploration phase. Special attention should be afforded to the flagged conductors within the larger zone. This geophysical anomaly is interpreted as reflecting a major fault and/or alteration zone which would have a high potential for gold accumulation, particularly in the proximity of diorite intrusions.

Ground exploration should consist of geological mapping, VLF-EM profiling and soil geochemical analysis for gold and the common sulphide mineralization elements. Based on encouraging results, trenching and diamond drilling may be warranted.

Respectfully submitted,

E. Trent Pezzot, B.Sc.
Geophysicist

INSTRUMENT SPECIFICATIONS

BARRINGER 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 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; Seattle, Washington at 24.8 KHz 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) -recorder output posts mounted on rear of instrument panel
Power Supply:	-Eight alkaline "AA" cells in main instrument case (life 300 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 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 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 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

PRESURVEY PREPARATION

Mosaic	450.00
Video, Digital, Analogue Tapes and Consumables	110.00
Subtotal	$560.00

SURVEY COSTS

Personnel	Position	Production	Rate	
M. Seyward	Operator	Mar.24-27/86	280/day	1120.00
J. Seyward	Navigator	Mar 24-27/86	180/day	720.00

Equipment Lease		1250.00
Helicopter Charter	8 hours @ 460/hr	3680.00
	9 hours @ 410/hr	3690.00
Fuel	4 drums @ 175/drum	700.00
Vehicle	4 days @ 100/day all inclusive	400.00
Meals & Accommodations	10 man days @ 50/day	500.00
	Subtotal	$12,060.00
	Total Logistical Costs	$12,620.00

This survey was completed as part of a larger participation survey which covered 268 mineral claim units. **Barytex Resources Corps.** portion of the Total Logistical cost is 8%.

12,620.00 x 8% = $1,010.00

The following costs are attributed directly to the **Boo #2 claim** project.

Flight Path Recovery	72 km @ 2.05/km	148.00
Computer Processing:	Magnetic Posting & Contouring	
	72 km @ 5.50/km	396.00
	VLF-EM profiling	
	i) Seattle 72km @ 3.50/km	252.00
	ii) Annapolis 72km @ 3.50/km	252.00
Interpretation and report		750.00
Drafting		152.00
Reproduction		240.00
	Subtotal	2,190.00

TOTAL ASSESSMENT VALUE $3,200.00

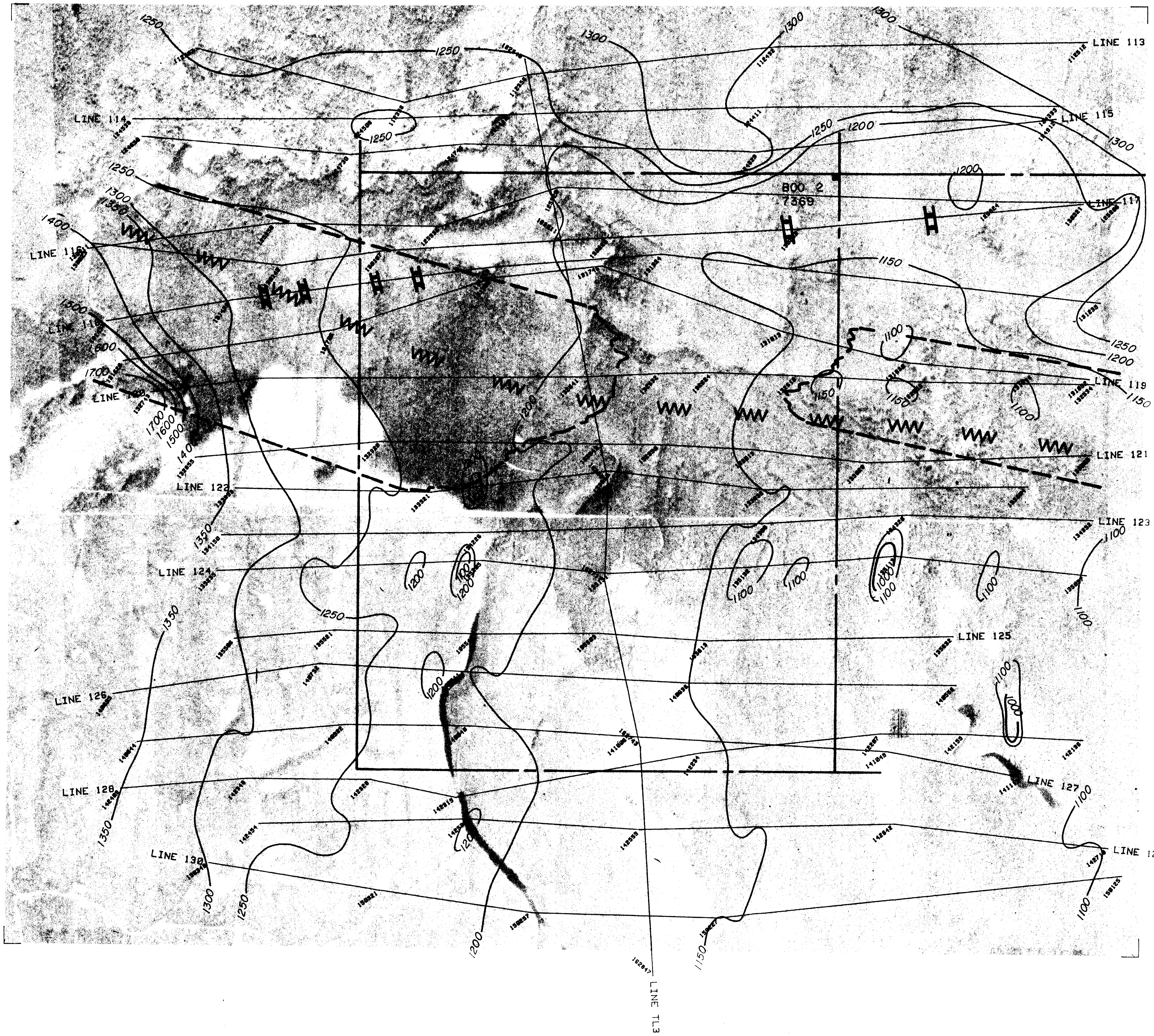
STATEMENT OF QUALIFICATIONS

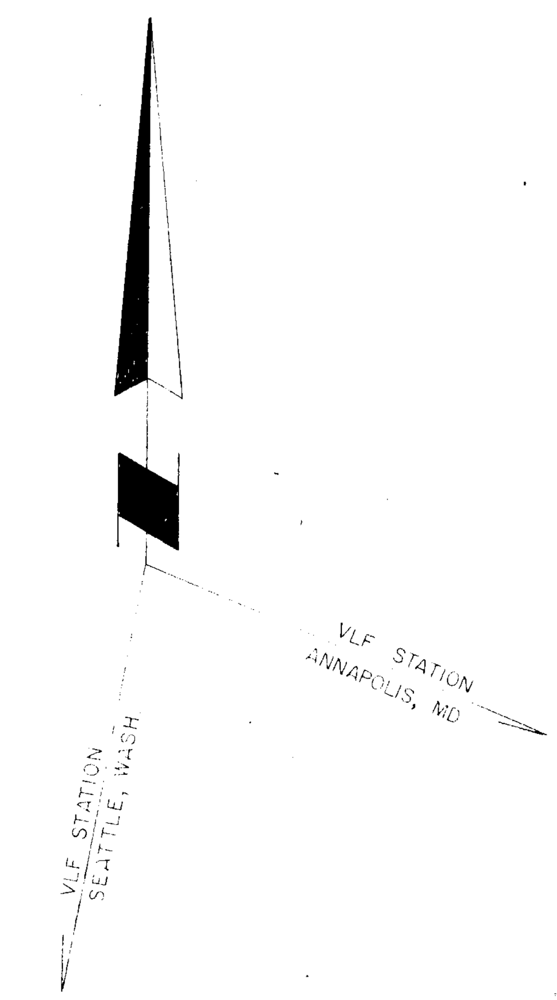
NAME:	PEZZOT, E. Trent
PROFESSION:	Geophysicist - Geologist
EDUCATION:	University of British Columbia - B.Sc. - Honors Geophysics and Geology
PROFESSIONAL ASSOCIATIONS:	Society of Exploration Geophysicist
EXPERIENCE:	Three years undergraduate work in geology - Geological Survey of Canada, consultants.
	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.
	Seven years geophysicist with White Geophysical Inc. and Western Geophysical Aero Data.

REFERENCES

FREEZE, J.C. Geological and Geochemical report on the Umiti Creek Property, Cariboo Mining Division for Kargen Development Corp.; Jan. 1986.

TIPPER, H.W. Geology of the Parsnip River Area: G.S.C. map 1424A; 1961, 1974.





KEY

INSTRUMENT: Barringer M-123 Magnetometer

Data corrected for diurnal variations

Base value= 57000 nT

Contour interval= 50 nT

Sensor Elevation = 60 metres

--- Claim boundary

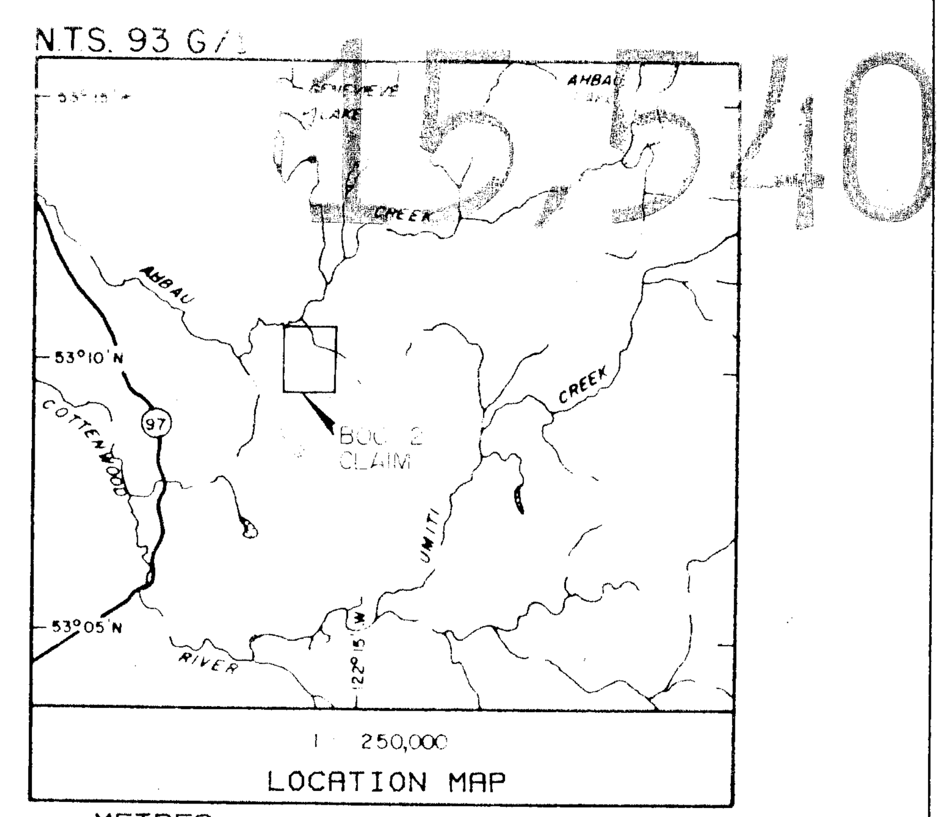
Claim post

Magnetic Low

Inferred Fault

VLF-EM Conductor

Area of increased VLF-EM signal amplitude



METRES

0 100 200 300 400 500 600 700 800

Western Geophysical Aero Data Ltd.

To accompany the Geophysical Report on the Boo #2 Claim

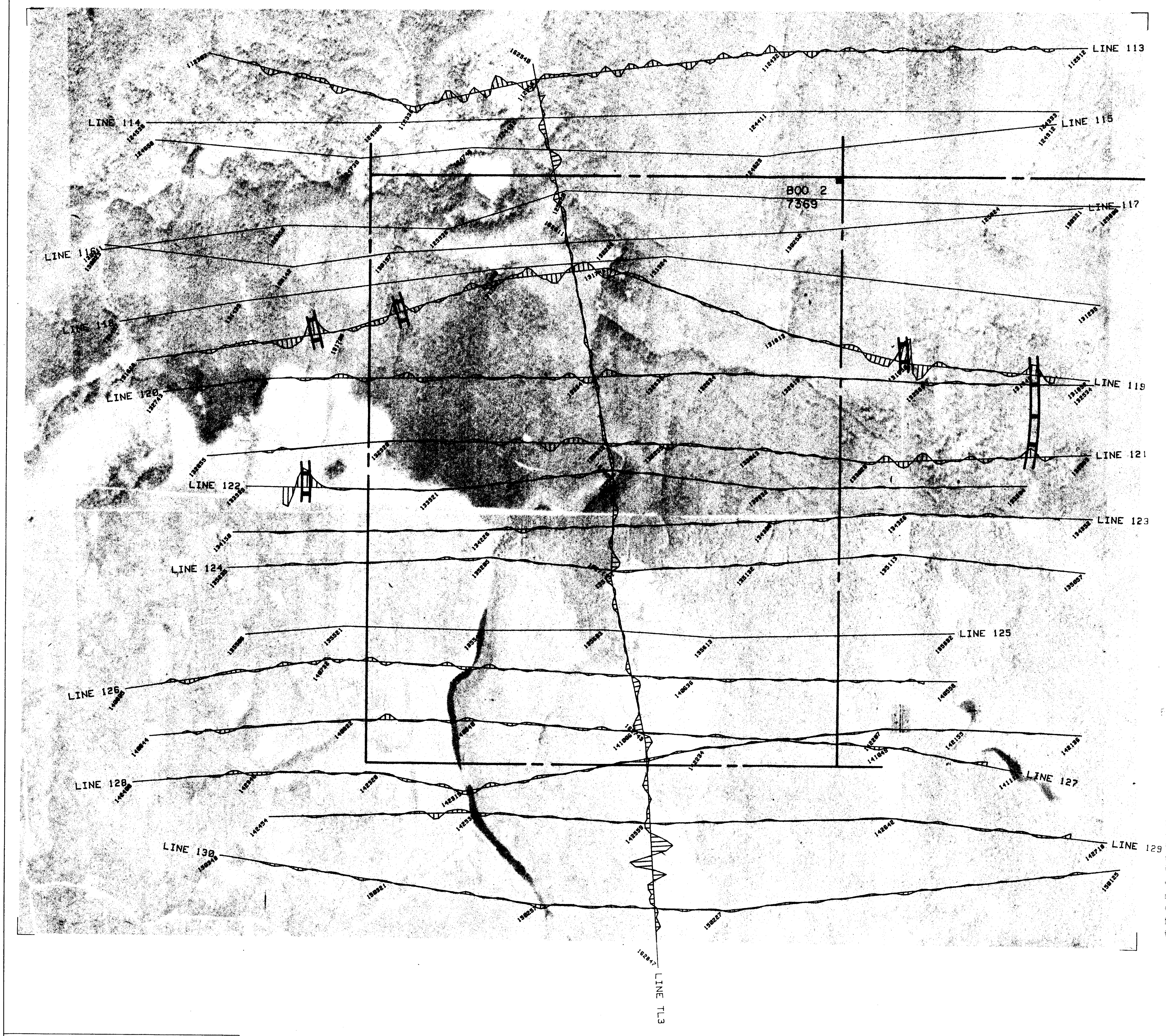
BARYTEX RESOURCE CORP.

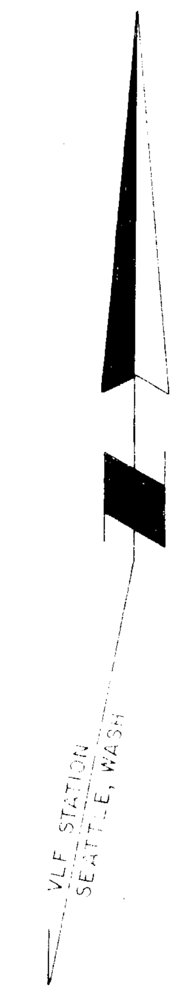
BOO #2 CLAIM

MAGNETIC CONTOUR MAP

TOTAL FIELD INTENSITY (nT)

DATE: AUG.25/86	FIG.: 2





KEY

INSTRUMENT: Sabre Total Field Intensity VLF-EM

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

Vertical Scale: 10%/cm.

Sensor Elevation: 60 metres

---- Claim boundary

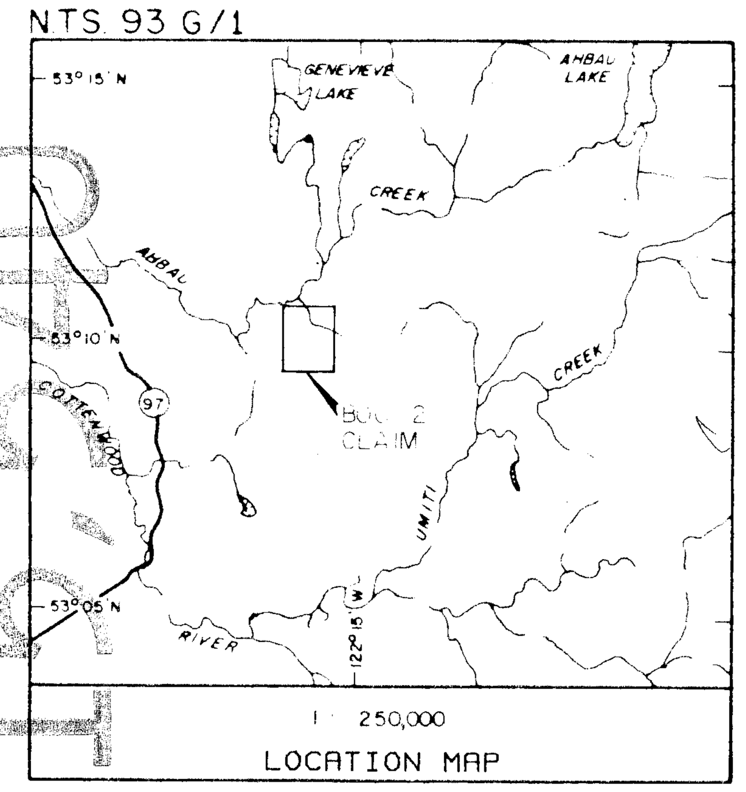
■ Claim post

WW Inferred Fault

VLF-EM Conductor Axis

GEOLOGICAL BRANCH
ASSESSMENT REPORT
15,540

NTS 93 G/1



METRES

0 100 200 300 400 500 600 700 800

Western Geophysical Aero Data Ltd.

To accompany the Geophysical Report on the Boo #2 Claim

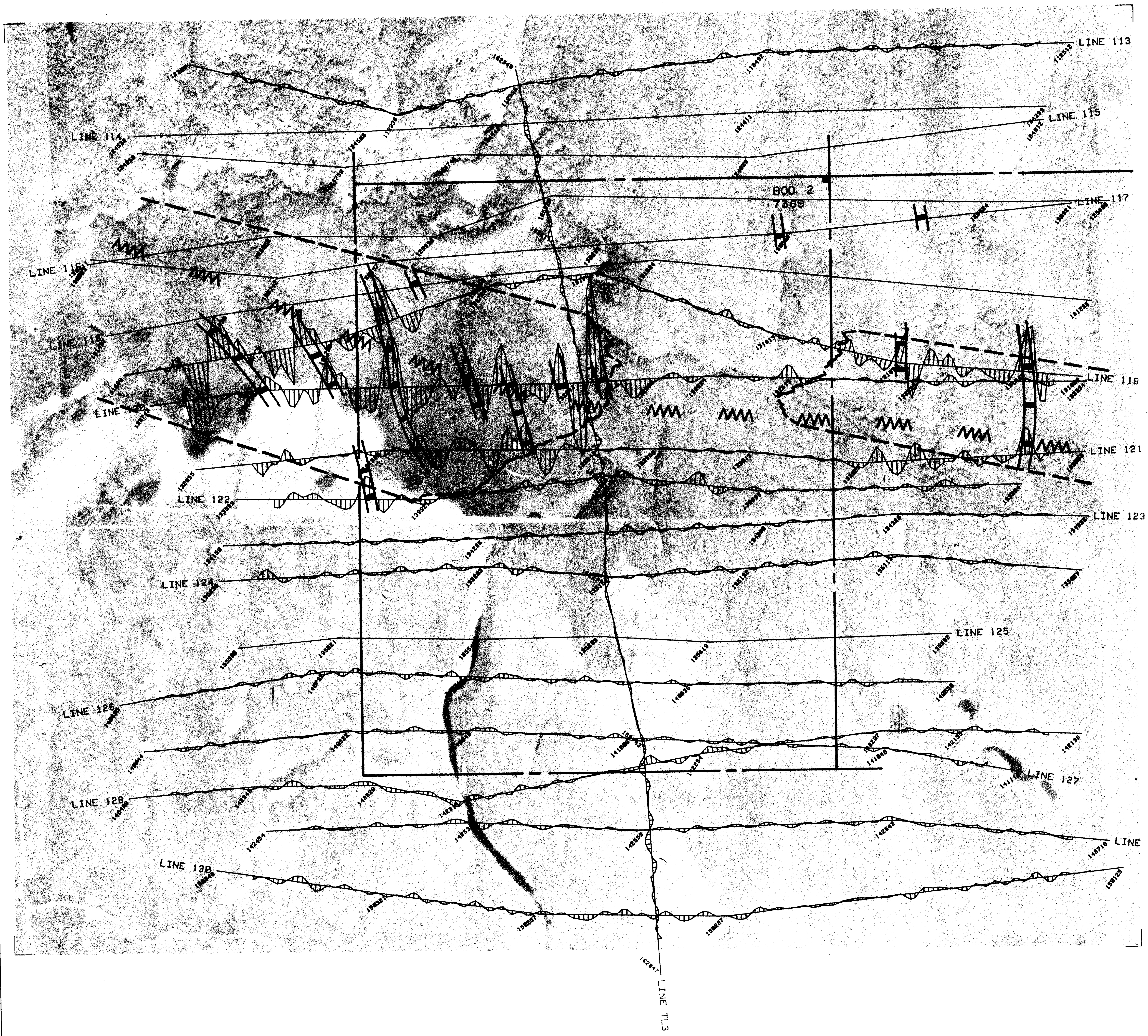
BARYTEX RESOURCE CORP.

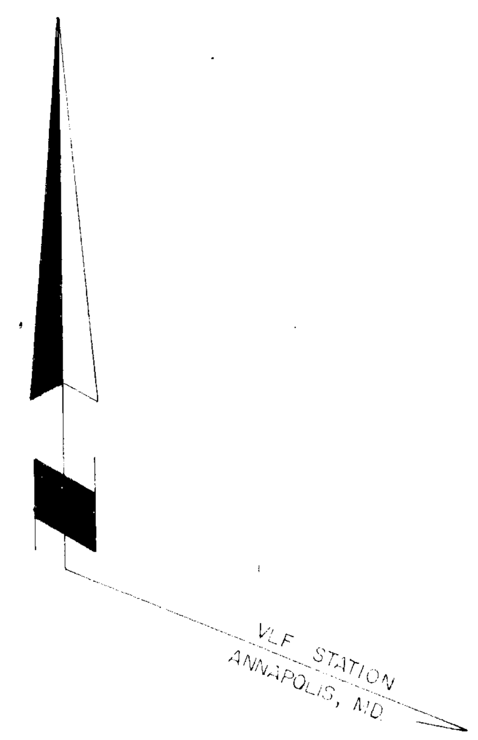
BOO #2 CLAIM

VLF-EM PROFILE MAP (SEATTLE)

TOTAL HORIZONTAL FIELD INTENSITY (%)

DATE: AUG.25/86	FIG.: 3





KEY

INSTRUMENT: Sabre Total Field Intensity VLF-EM

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

Vertical Scale: 10%/cm.

Sensor Elevation: 60 metres

- - - Claim boundary

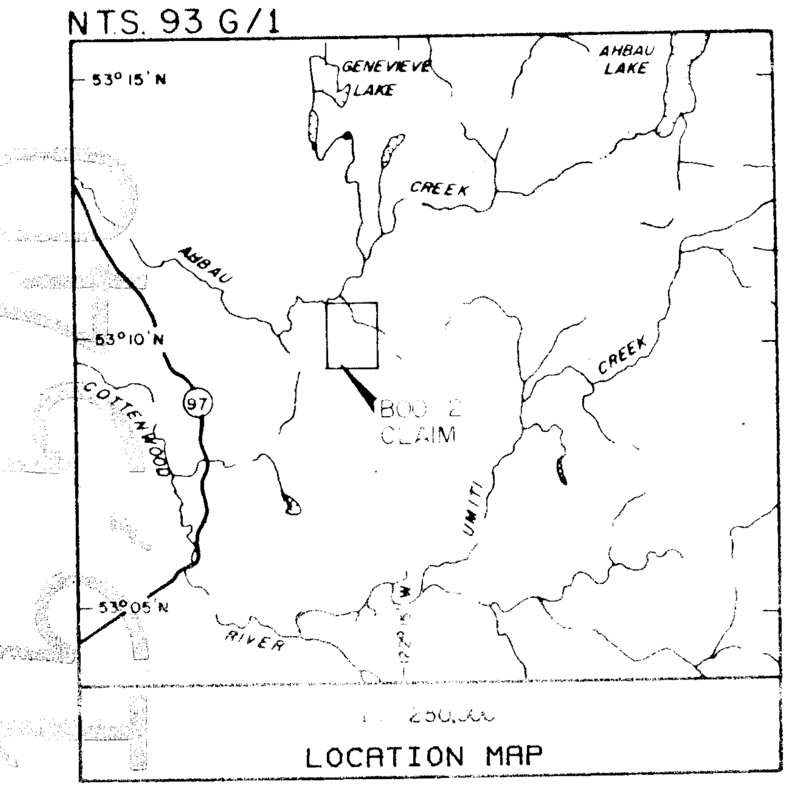
■ Claim post

WWW Inferred Fault

VLF-EM Conductor Axis

Area of increased VLF-EM signal amplitude

NTS 93 G/1



LOCATION MAP

METRES

0 100 200 300 400 500 600 700 800

BARYTEX RESOURCE CORP.

BOO #2 CLAIM

VLF-EM PROFILE MAP (ANNAPOLIS)
TOTAL HORIZONTAL FIELD INTENSITY (%)

DATE: AUG.25/86	FIG.: 4

Western Geophysical Aero Data Ltd.

To accompany the Geophysical Report on the Boo #2 Claim