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NORTHGANE MINERALS LTD.

GEOPHYSICAL REPORT
ON AN
AIRBORNE VLF-EM AND MAGNETOMETER SURVEY
NOR 1, 2, 3 CLAIMS
NELSON MINING DIVISION
LAT. 49°00'N Long. 117°26'W NTS 82F/3W

82-486-10580

AUTHORS: E. Trent Pezzot, B.Sc.,
Geophysicist
J.S. Vincent, B.Sc., P.Eng.,
Consulting Geologist

DATE OF WORK: June 21, 1982

DATE OF REPORT: July 08, 1982

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ILLUSTRATIONS

INTRODUCTION

On June 21, 1982 Western Geophysical Aero Data Ltd. conducted some 130 line kilometers of airborne magnetometer and VLF-electromagnetometer survey on behalf of Northgane Minerals Ltd. across their NOR claims in southeastern B.C.

The project was undertaken for the purpose of delineating similar geological features to those which host the sulphide bodies mined by Reeves-MacDonald in the area immediately east of the survey grid.

PROPERTY

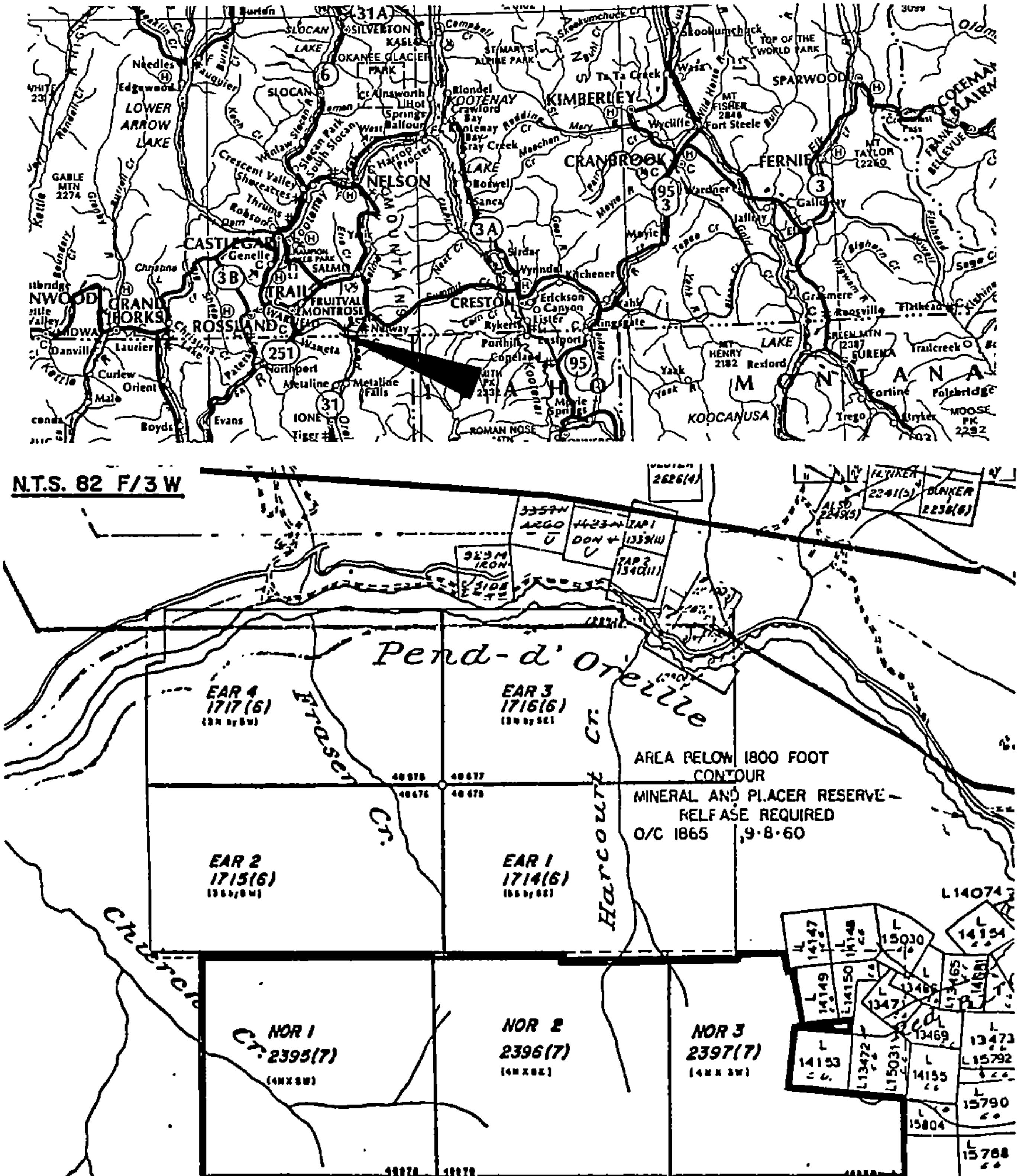
The property surveyed is comprised of 52 whole and fractional units as described below and illustrated on figures 1 through 4 of this report. It should be noted that the government map (Figure 1) has incorrectly drawn the claims as 4 units square and Figures 2, 3 and 4 provide a more accurate description.

Claim	Record #	Units	Date
NOR 1	2395	12	July 17/81
NOR 2	2396	20	July 17/81
NOR 3	2397	20	July 17/81

LOCATION AND ACCESS

The centre of the claims area is located approximately 22 kilometers east-southeast of Trail and 23 kilometers southwest of Salmo, B.C., in the Nelson Mining Division and N.T.S. 82F/3W. The approximate geographical co-ordinates are latitude 49°00'N and longitude 117°26'W with the southern claim boundary being the Canada - U.S.A. border.

An all weather gravel road provides direct access to within 1 kilometer of the claims area from both Trail and Salmo. Limited 4-wheel drive vehicle access onto the claims is provided by logging roads in the area.



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— NOR CLAIMS —

LOCATION AND CLAIMS MAP

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FIG 1

GEOLOGY

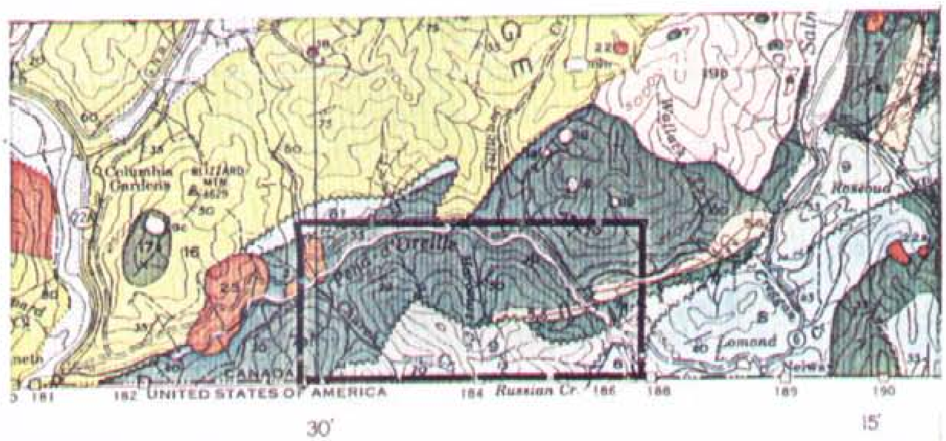
The survey described in this report was flown over an area in the southern part of the Kootenay Arc which is underlain predominantly by the Lower Cambian Laib formation. In general, this is a thick succession of argillaceous schist, phyllite, argillaceous quartzite, and limestone. In the western part of the belt thick limestone units occupy the base of the section. Towards the upper part of the sequence the rocks are more argillaceous and grade into micaceous schists.

Mapping in the mine areas has defined faulting and folding, and in some cases demonstrates that the rocks of the Laib formation occupy synclinal troughs.

The lower Laib formation hosts several significant zinc-lead deposits along the western side of the Kootenay Arc. In the immediate area of the survey, Reeves-MacDonald at Remac has mined approximately 6 million tons of ore. Sulphide bodies comprised of sphalerite, galena, pyrite, with minor amounts of pyrrhotite, are hosted by dolomitized limestone in the lower part of the formation. The stratigraphy has a westerly strike and dips at 55^{o}-60^{o} to the south. The ore zones vary in width to 100 feet, and are reported as being fairly continuous down-dip over a depth of 2000 feet. Individual sulphide zones have a westerly plunge.

The Annex Mine produced similar but higher-grade ore on the south side of the river, and helped extend the life of the operation.

The portion of the Geological Survey of Canada map, 1090A, which describes the surface geology in the area is presented in this report as Plate 1.



PENNSYLVANIAN (?)

11 — *MOUNT ROBERTS FORMATION:* slate, limestone, argillaceous quartzite, greenstone

ORDOVICIAN

LOWER AND (?) MIDDLE ORDOVICIAN

9 — *ACTIVE FORMATION:* slate, argillite, argillaceous quartzite; minor limestone

CAMBRIAN

MIDDLE CAMBRIAN

8 — *NELWAY FORMATION:* dolomite, limestone, phyllite, and slate

LOWER CAMBRIAN

7 — *LAIB FORMATION:* argillite, argillaceous quartzite, limestone, dolomite, phyllite, and schist; **7a**, includes some Reno formation

5,6 — **5.** *QUARTZITE RANGE FORMATION:* white, green, and pinkish quartzite; minor argillaceous quartzite and conglomerate
6. *RENO FORMATION:* argillaceous quartzite, schist, and argillite; minor limestone

EOCENE OR LATER

22-24 — **22.** *CORYELL PLUTONIC ROCKS:* syenite, minor granite, monzonite and shonkinite.
22a, porphyritic augite monzonite; **22b**, pulaskite
23. *SHEPPARD PLUTONIC ROCKS:* leucocratic granite
24. *McGREGOR INTRUSIONS:* shonkinite

LOCAL GEOLOGY

Western Geophysical Aero Data Ltd.

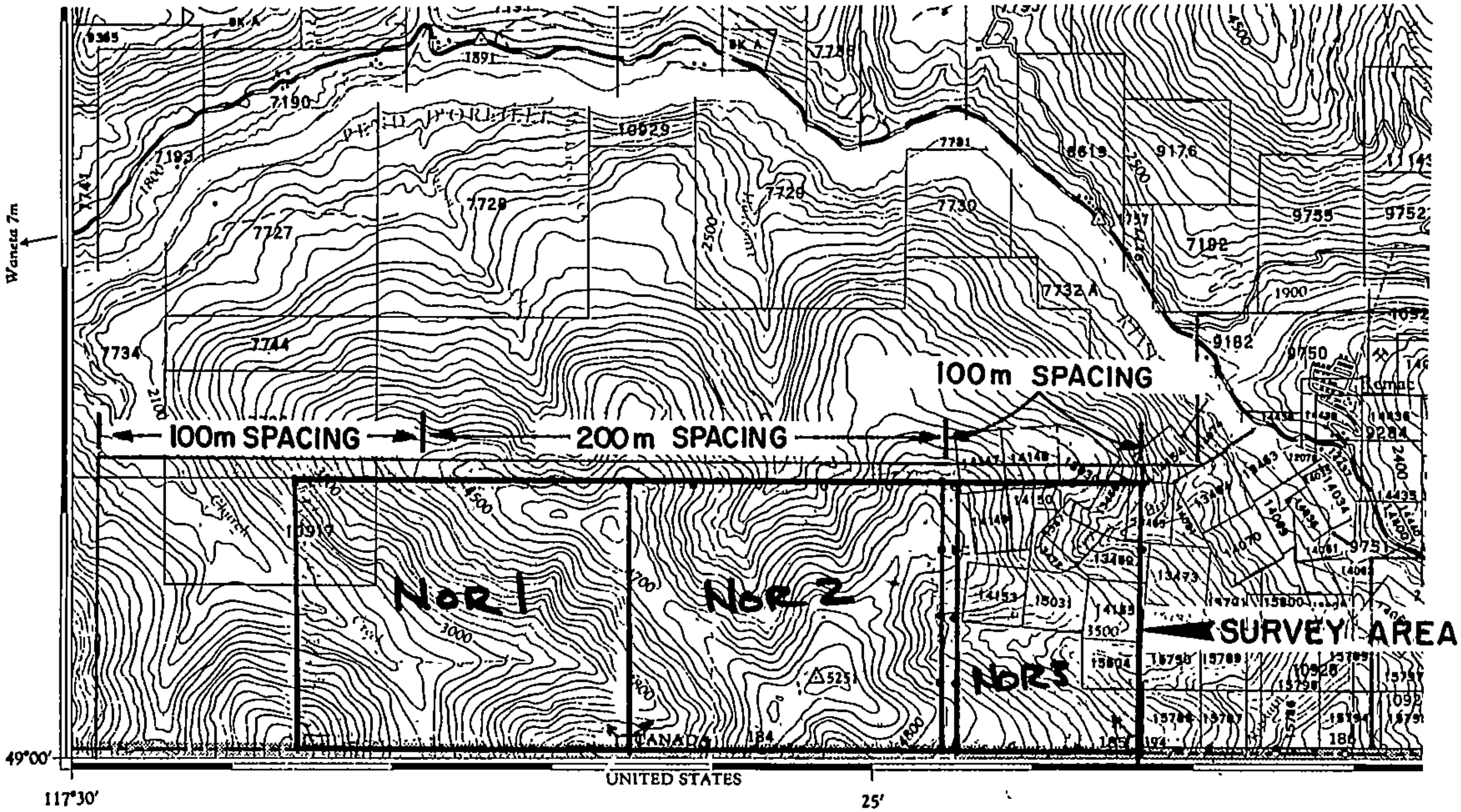
PLATE I

PREVIOUS WORK

No previous exploration activity is known by the authors to have been conducted across the NOR claims. Undoubtedly, significant geological investigations were conducted with regards to the exploration for and the development of the Reeves-MacDonald and Annex mines located in the area but it is not known to what degree, if any, these activities extended over the NOR claims area.

SURVEY GRID

A survey grid composed of north-south trending lines, regularly spaced at 100 meter and 200 meter intervals, was laid out across the claims area as illustrated on Figure 2. A photomosaic base of the area was used to direct the flight lines and subsequently again as control for the flight path recovery tapes recorded during the survey. Actual location of the survey lines is illustrated on the magnetic contour map (Figure 3) and the geophysical interpretation map (Figure 4).



NORTHGANE MINERALS LTD.

NOR CLAIMS

PROPOSED SURVEY GRID

Western Geophysical Aero Data Ltd.

FIG. 2.

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 Bonzer 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 two independent modes: an analogue strip chart recorder and a digital video recovery system. A three-pen analogue power recorder provides direct, unfiltered recordings of the three geophysical instrument output signals. Correlation between the strip chart and the video flight path recovery tape is controlled via fiducial marks common to both systems. The magnetic and electromagnetic data is also processed through the on-board micro-computer, incorporating an analogue to digital converter and a character generator, then superimposed along with 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. Line identification, flight direction and pertinent survey information are recorded on the audio track of the video recording tape.

DISCUSSION OF RESULTS

The survey flight lines, as determined by the video flight path recovery tapes, are delineated on the magnetic contour map Figure 3 and the geophysical interpretation map, Figure 4. The survey was initially planned to extend further to the west than the actual claim boundary, however a severe electrical storm arose in mid-afternoon and forced a premature termination of the survey near the western claim boundary.

I MAGNETOMETER SURVEY

The magnetic data is presented in contour form over a photomosaic base of the survey area as Figure 3. One major background trend was observed in the magnetic data; a gradual variation in the magnetic intensity which both increased and decreased at a rate of approximately 12 gammas per minute. The temporal variation can be caused by one of two conditions; either an electronic malfunction causing instrument drift or cyclic diurnal variations. The instrument was calibrated both before and after the survey and no drifting was observed. The electrical storm which caused a premature termination of the survey could be seen to be building in intensity throughout the day. These types of atmospheric conditions are often reflected as magnetic noise and are believed to be the cause of the gradients observed here.

A discontinuity of the magnetic contours is evident in the vicinity of line 13W on Figure 3. The survey was interupted for approximately 1 hour at this point for helicopter refueling and a difference of some 700 gammas is observed between lines 12W and 13W. This difference is attributed to the diurnal variations noted above.

The significant magnetic trends observed across the survey grid correlate on a line to line basis and reflect similar amplitude variations regardless of the local background values. The effects of the diurnal variations were removed and the remaining magnetic anomalies are delineated as excursions from the local background magnetic intensities on the geophysical interpretation map, Figure 4.

The anomalous trends observed are all magnetic lows. The feature labelled Trend A on Figure 4 correlates to a geologically mapped overturned anticline of Quartzite Range Formation, Reno Formation rocks in contact with the Laib Formation (see Plate 1). These rocks outcrop along an exposed ridge in the vicinity of line 8W (Figure 5). The anomaly also covers an area to the west near Harcourt Creek (line 22W - Figure 6). No anomalous responses were observed in the intermediate area even though the quartzite unit is shown on the geological map. An increase in overburden thickness along the valley slopes could explain the absence of the magnetic anomaly. To the west of Harcourt Creek the magnetic response gradually narrows and is last observed on line 26W (Figure 7) at a point approximately 1.5 kilometers west of the western most mapped position of the quartzite.

The magnetic trend labelled B on Figure 4 is also a low (line 8W - Figure 5) observed along a south facing slope. It terminates rather abruptly to the west near line 17W and is considered open to the east. The anomaly closely parallels a fault contact between the Laib and younger Active Formations. In the area of the Reeves-MacDonald Mine to the east, sulphide mineralization is hosted by dolomitized limestone in the lower Laib section. There is no indication that the orebodies are magnetic, and the target might well respond as a magnetic-low relative to adjacent argillaceous sediments. The magnetic intensity contrast would be dependent upon the relative amounts of argillite, slate, and quartzite in each unit and is virtually impossible to estimate accurately. No Quartzite Range Formation or Reno Formation units are mapped in the vicinity of Trend B, however the relative amplitude of Trends A and B are very similar. The assumption that Magnetic Trend B reflects either a quartzite unit or a dolomotized limestone unit should both be considered plausible interpretations at this time.

Magnetic Trend C (Figure 4) is in the same position relative to the mapped geology as Trend B. The anomaly is similar in amplitude and width to Trend B in the vicinity of line 22W (Figure 6), but gradually widens to the west (lines 24W and 30W - Figure 8). The response also becomes much more erratic and fluctuates wildly in this region. This character often reflects an area of narrow, interbedded rock types and a more accurately controlled, ground survey will be necessary to differentiate the various rock units present. An increase in the number of narrow, VLF-EM anomalies in this area supports this interpretation, and possibly indicates a graphitic component. It should be noted, however, that at the time of this portion of the survey, an electrical storm was approaching the area. Eventually the atmospheric disturbances became so severe that the survey was halted. Some of the erratic magnetic readings could have originated from this source.

There is evidence of a fourth magnetic low on the southern most ends of lines 10W through 13W (line 10W - Figure 9). This feature could be an extension of Trend C but is considered isolated at this time.

There is no direct evidence to support the hypothesis that magnetic trends B and C reflect the same geological unit. The abrupt western termination of Trend B could however be interpretted as being fault controlled. Such a feature would probably parallel the survey lines (ie. have a northerly strike) and could have been masked by the suspected diurnal variations at the time of the survey.

II VLF-EM SURVEY

Two VLF-EM transmitter stations were monitored and recorded during this survey: Jim Creek, Washington (24.8 Khz) and Annapolis, Maryland (21.4 Khz). The transmission signal from Jim Creek was occassionally interrupted at the source, however it was operating during most of the survey.

The most significant E.M. anomalies noted closely follow the northern edge of magnetic Trend B (Figure 5). This response is enhanced to some degree by local terrain, however it does appear to be mapping a valid conductive unit. It's very likely that the conductive response originates from the contact between the host rock and the unit causing the anomalous magnetic response. A similar but weaker trend is observed along magnetic Trend A in the vicinity of lines 0 through 6W (line 2W - Figure 10). A third E.M. feature follows the northern edge of magnetic Trend C (Figure 8) however this can be attributed solely to terrain clearance effects across a topographic ridge.

A number of very high frequency E.M. anomalies were observed on the western half of the survey grid. Many can be seen on the video flight path and data recovery tapes to correlate with small streams. Those which cannot be explained in this manner are delineated on the interpretation map, Figure 4. They are all similar in frequency to those illustrated on line 39W (Figure 11) however amplitudes vary dramatically. They are so numerous that the line to line correlation presented on Figure 4 is considered unreliable. These responses are reflecting very narrow, highly conductive, surface zones. Narrow graphitic stringers are often found to be the source of these types of anomalies.

A weak VLF-EM anomaly is superimposed over a terrain clearance response on lines 16W through 18W. This feature is wider than the responses interpretted as graphitic stringers and may be reflecting a different type of conductive horizon.

SUMMARY AND CONCLUSIONS

The NOR 1, NOR 2 and NOR 3 claims were surveyed on June 21, 1982 with an airborne magnetometer and VLF-electromagnetometer system. Some 130 line kilometers excluding turnaround, were required to cover the claims area.

Three prominent magnetic low trends are evident on the data. The northernmost trend (Trend A on Figure 4) is believed to be the reflection of a quartzite unit which is geologically defined to extend from Harcourt Creek, east past the Pend-d'Oreille River. The magnetic survey suggests the unit is also present up to 1.5 kilometers west of Harcourt Creek.

The other two magnetic anomalies (Trends B and C on Figure 4) occur near the geologically mapped base of the Laib Formation, where it lies in fault contact with the Active Formation. Trend B is a narrow, well defined feature which terminates abruptly to the west and is considered open to the east. Trend C is also narrow and well defined to the east but gradually widens and diffuses to the west. Although these trends are similar in character and amplitude to Trend A, there is no quartzite unit mapped in this area. A second possible interpretation is that the anomalies reflect zones of increased limestone content within an argillaceous host; a similar environment to the one observed in the Reeves-MacDonald and Annex mines. A well defined E.M. anomaly follows the northern flank of Trend B. This is likely the response due to the contact between the host rocks and the rock unit causing the magnetic anomalies.

The abrupt termination of Trend B suggests a possible fault, striking parallel to the survey lines in the vicinity of line 17W. No direct evidence of this feature is apparent in the data however it is possible, given the survey parameters used, that such a feature could exist.

A number of very high frequency E.M. responses were observed, particularly on the western end of the survey grid. These anomalies reflect near surface, highly conductive and narrow bodies, possibly graphitic stringers. The anomalies are so numerous that the line to line correlation presented on Figure 4 should be considered unreliable and a ground survey will be required to accurately delineate the causitive bodies.

RECOMMENDATIONS

Magnetic Trends B and C warrant further exploration. Initially a ground magnetometer survey could be used to accurately locate the anomalous trends and estimate a depth to the causitive body. The units are likely at or very near the surface and geological prespecting may be able to identify them. In the event that a favorable geological environment is encountered the presence of sulphide replacement zones may be detected by either induced polarization or time domain electromagnetic methods. It would be a great advantage if testing could be arranged over the known mineral deposits east of the river to determine which method proves most useful.

The initial magnetometer survey should also examine the termination of Trend B near line 17W to determine if a northerly striking lineament is present.

The high frequency E.M. anomalies located on the western end of the grid originate from surface or very near surface conductors and geological prospecting in the area will likely identify the units. Should the features prove useful as a mapping tool, a surface VLF-EM survey should be able to delineate them.

Respectfully submitted,
Western Geophysical Aero Data Ltd.

E. Trent Pezzot, B.Sc.,
Geophysicist

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. S. VINCENT

John S. Vincent, B.Sc., P.Eng.,
Geologist

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 airfoil.

Instrument Specifications

SABRE AIRBORNE VLF SYSTEM

Source of Primary Field:	VLF radio stations in the frequency range of 14 KH_z to 30 KH_z.
Type of Measurement:	- Horizontal field strength
Number of Channels:	- Two; Seattle, Washington at 18.6 KH_z
	- Annapolis, Maryland at 21.4 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 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 to housing - housing bolted to helicopter skid

ii) Video Recorder

Model: Sony SLO - 340
Power Supply: 12 volt dc / 120 volt AC (60Hz)
Tape: Betamex ½" 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 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 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

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.

COST BREAKDOWN

PERSONNEL	PROJECT	DATES	SUBTOTAL
T. Pezzot	Survey Prep.	May 14,17, June 9	$ 75.00
T. Pezzot/ J. Vincent	Survey	June 21	$ 500.00
T. Pezzot	Flight Path & Data Recovery	June 22-30	$1,900.00
T. Pezzot	Data Analysis, Processing, Interp. & Report	July 1-9	$1,300.00
J. Vincent	Interp./Report	July 5-6	$ 100.00
		Subtotal	$3,875.00

Helicopter	$3,116.00
Photographs	$ 21.00
Mosaic Reproduction	$ 152.00
Materials	$ 125.00
Equipment Lease	$ 500.00
Drafting/Binding 25 hours @ $20/hour	$ 500.00
Reproduction	$ 227.00
Shipping	$ 15.00
Vehicle Lease 1 day @ $85.00/day	$ 85.00
Total	$8,616.00

STATEMENT OF QUALIFICATIONS

NAME:	PEZZOT, E. Trent
PROFESSION:	Geophysicist - Geologist
EDUCATION:	University of Brisish 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 & Services Ltd.

CERTIFICATE

I, John S. Vincent, DO HEREBY CERTIFY:

1. That I am a consulting geologist resident at 4859 12A Ave., Delta, B.C., V4M 2B6.

2. That I am a graduate of Queen's University in Geological Sciences, B.Sc. - 1959; and of McGill University, M.Sc. - 1962.

3. That I am a Registered Professional Engineer (Geological) in the Association of Professional Engineers of the Province of British Columbia.

4. That I am a Fellow of the Geological Association of Canada, and a member of the Canadian Institute of Mining and Metallurgy.

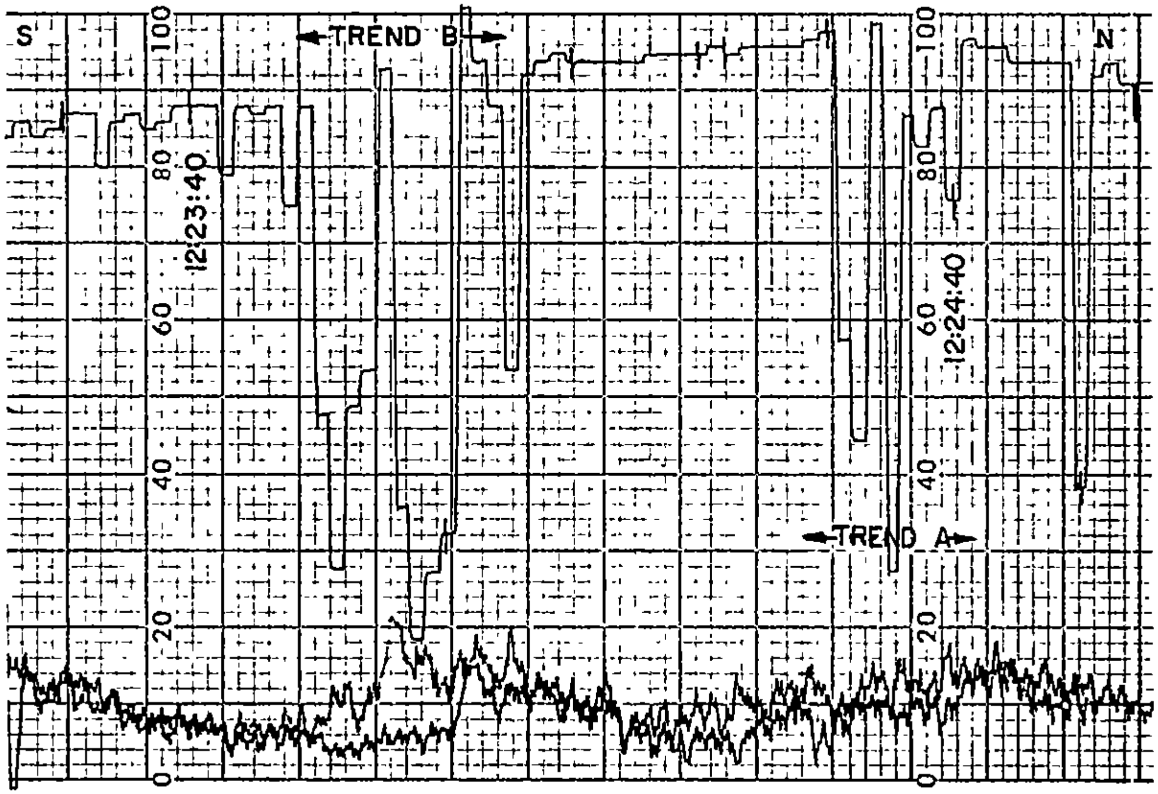
5. That I have practiced my profession as a geologist for the past twenty-two years.

John S. Vincent

John S. Vincent, P.Eng.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. S. VINCENT

Vancouver, B.C. July 12, 1982



NORTHGANE MINERALS LTD.

NOR CLAIMS

— LINE 8W —

Western Geophysical Aero Data Ltd

MAGNETOMETER BASE VALUE

MAGNETOMETER : VERTICAL SCALE - 1cm. = 100 gammas

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

MAGNETOMETER: RED

VLF-EM (SEATTLE): BLUE

VLF-EM (ANNAPOLIS): BLACK

FIG. 5

NORTHGANE MINERALS LTD.

NOR CLAIMS

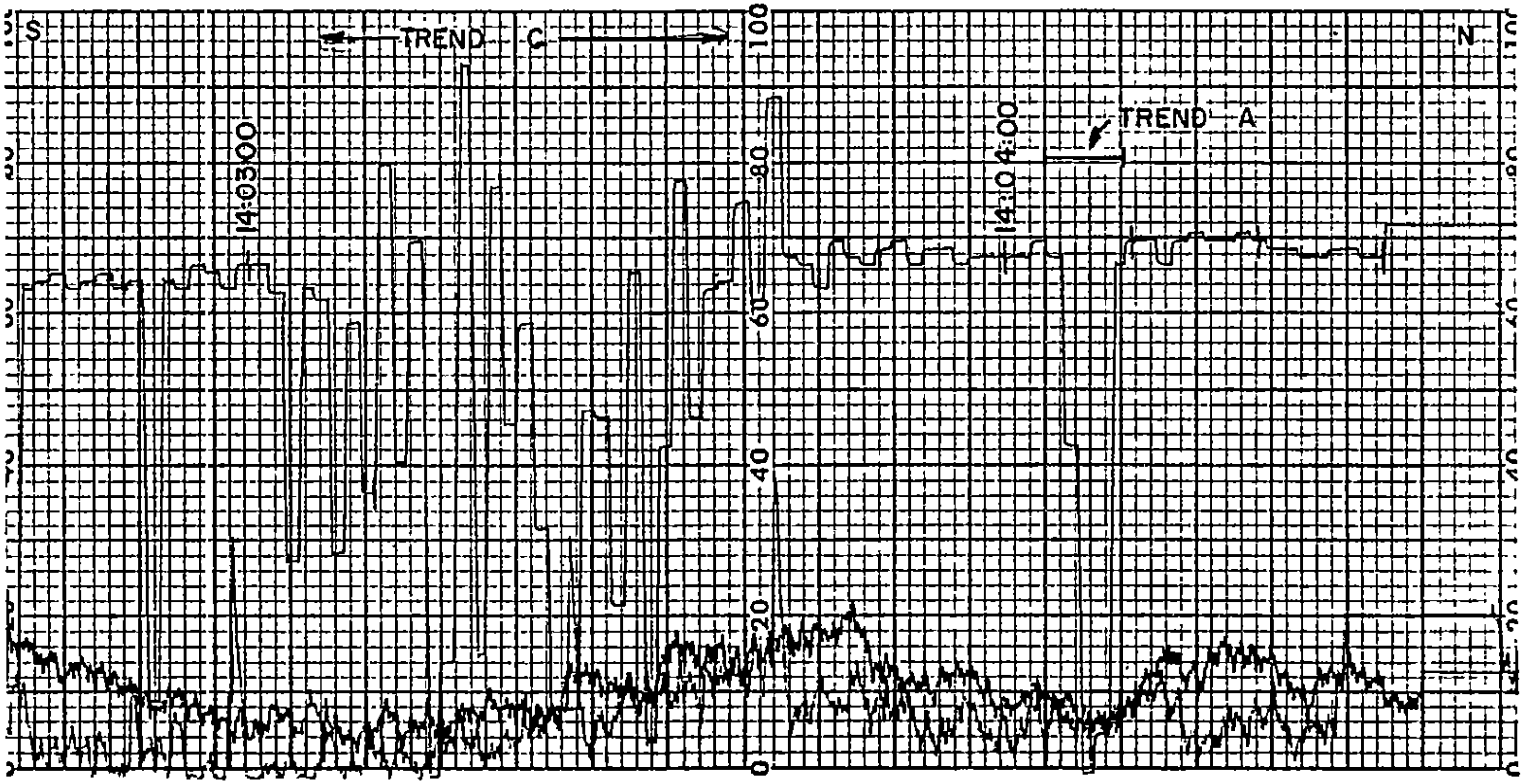
— LINE 22W —

Western Geophysical Aero Data Ltd

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

MAGNETOMETER: RED
VLF-EM (SEATTLE): BLUE
VLF-EM (ANNAPOLIS): BLACK

FIG. 6



NORTHGANE MINERALS LTD.

NOR CLAIMS

— LINE 26W —

Western Geophysical Aero Data Ltd

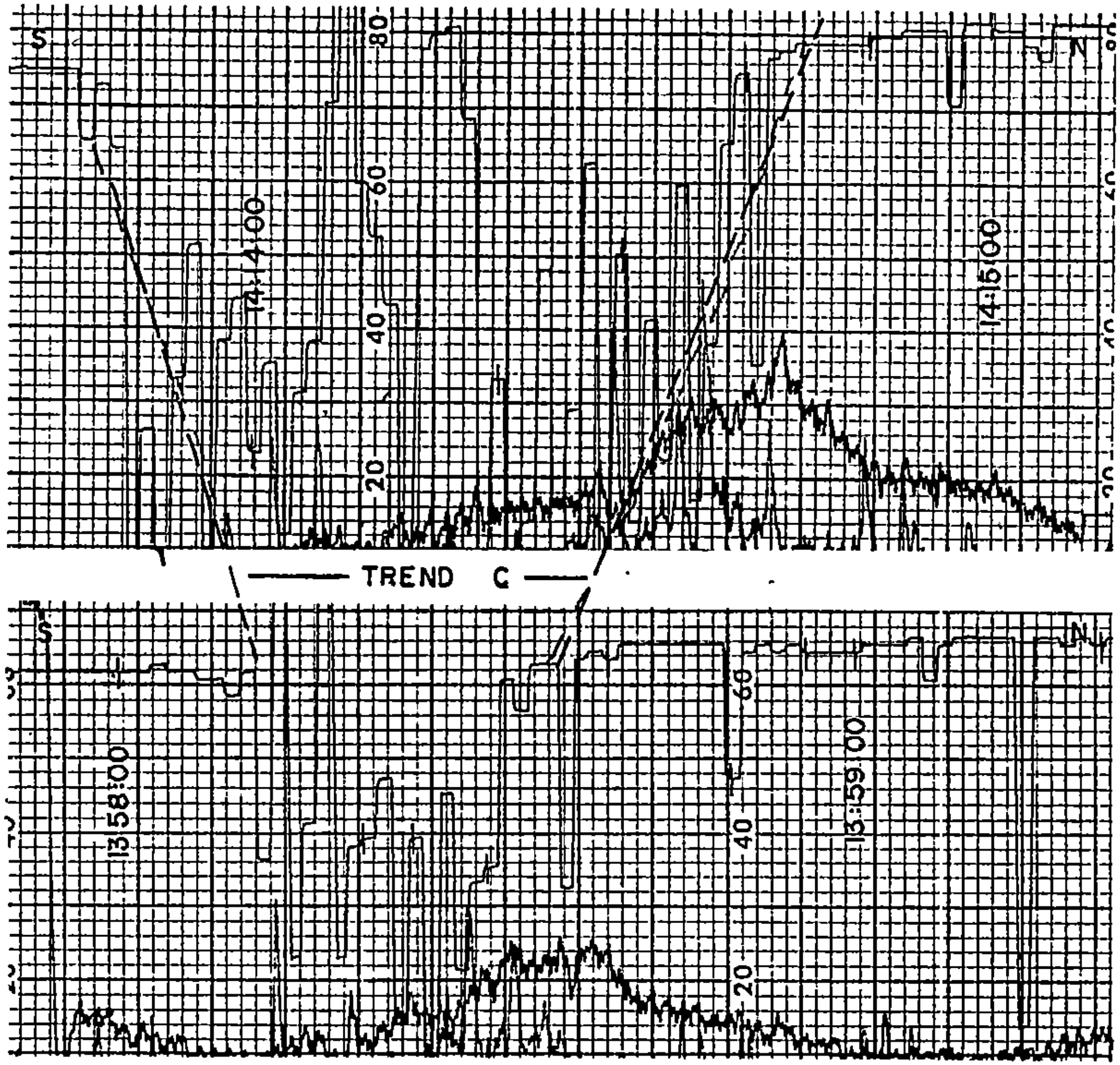
MAGNETOMETER BASE VALUE
MAGNETOMETER : VERTICAL SCALE - 1cm. = 100 gammas
VLF-EM · VERTICAL SCALE - 1 cm = 10 %

MAGNETOMETER: RED
VLF-EM (SEATTLE): BLUE
VLF-EM (ANNAPOLIS): BLACK

FIG. 7

L 30W

L 24W



NORTHGANE MINERALS LTD.

NOR CLAIMS

— LINES 24W & 30W —

Western Geophysical Aero Data Ltd.

MAGNETOMETER BASE VALUE

MAGNETOMETER : VERTICAL SCALE - 1cm. = 100 gammas

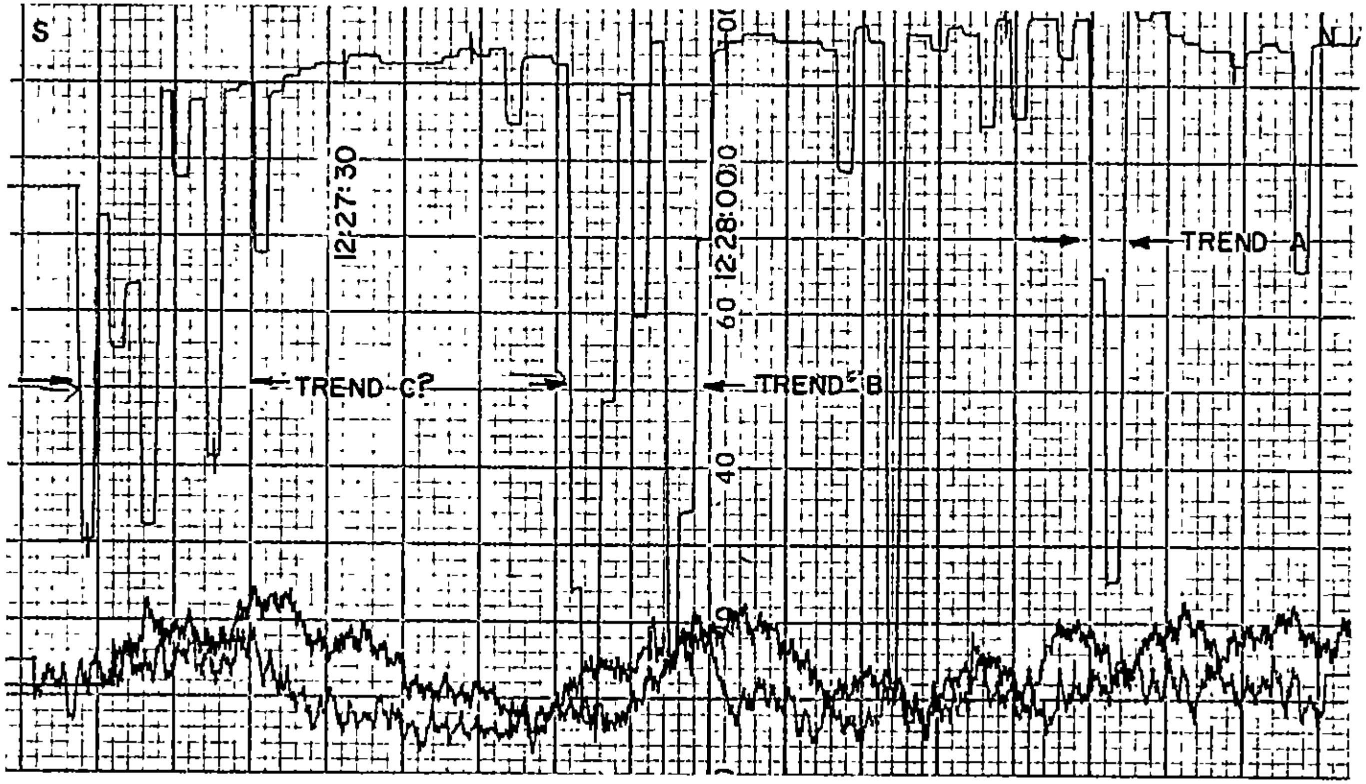
VLF-EM : VERTICAL SCALE - 1 cm. = 10 %

MAGNETOMETER: RED

VLF-EM (SEATTLE): BLUE

VLF-EM (ANNAPOLIS): BLACK

FIG. 8



NORTHGANE MINERALS LTD.

NOR CLAIMS

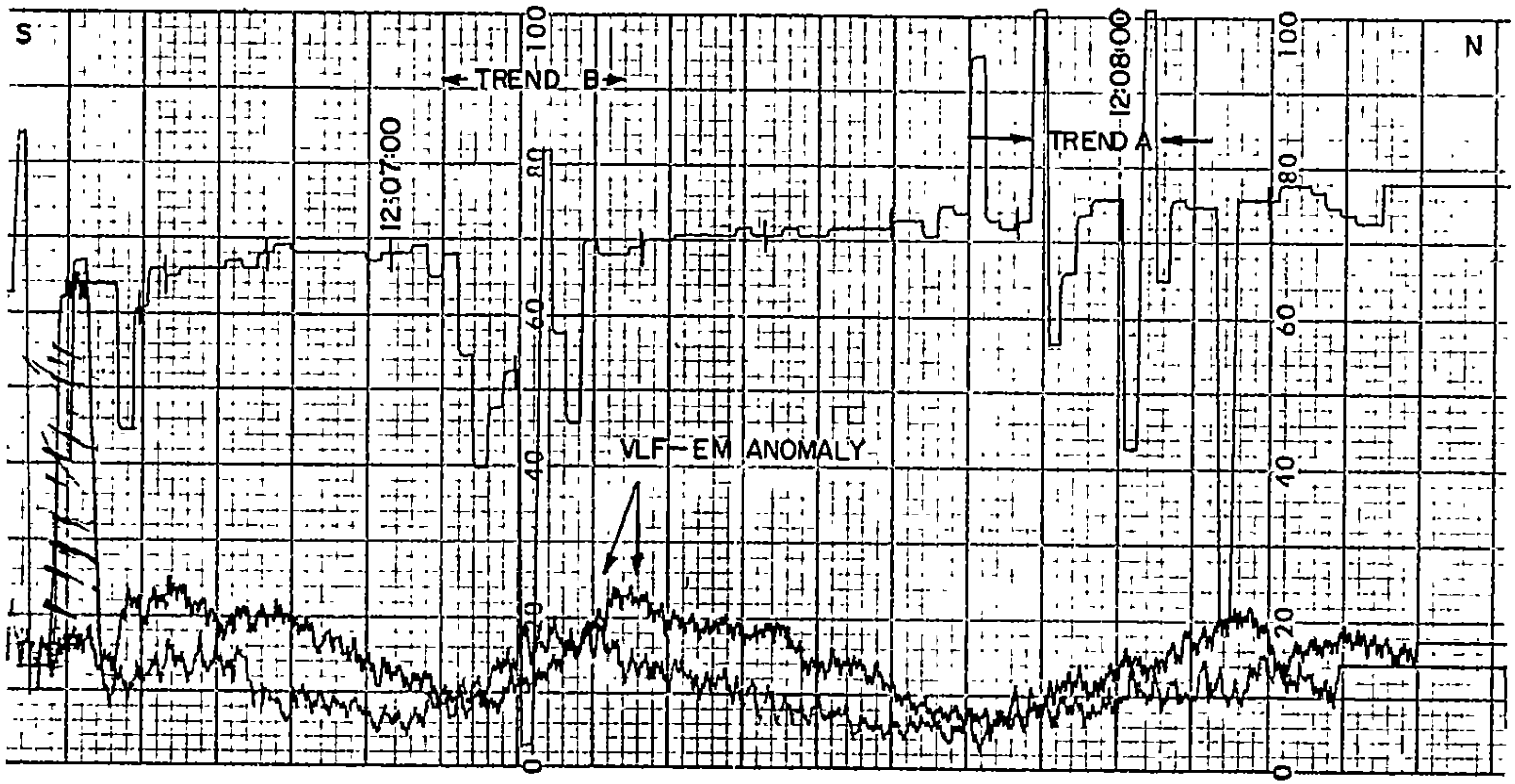
— LINE 10W —

Western Geophysical Aero Data Ltd.

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

MAGNETOMETER: RED
VLF-EM (SEATTLE): BLUE
VLF-EM (ANNAPOLIS): BLACK

FIG. 9



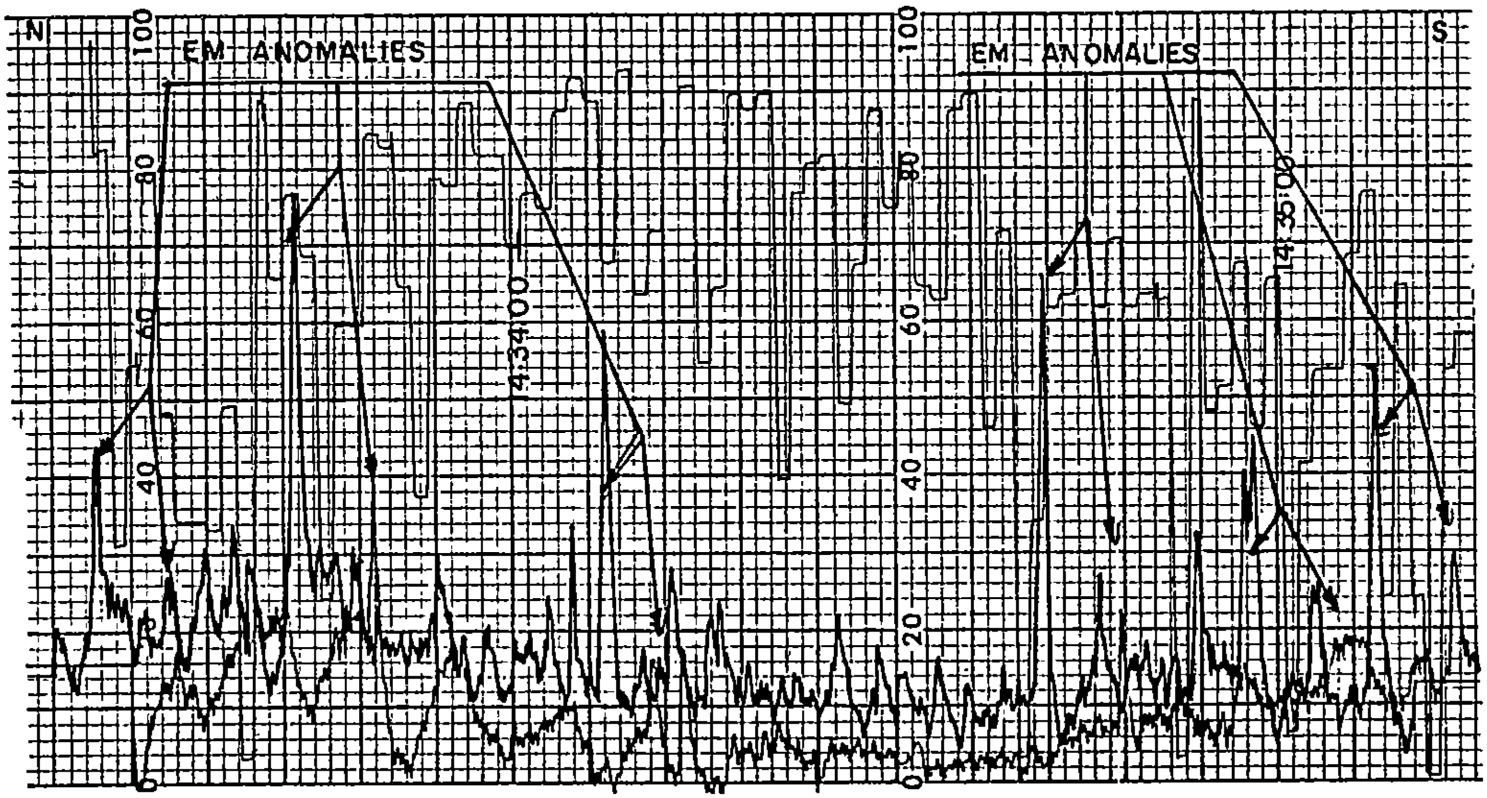
NORTHGANE MINERALS LTD.
NOR CLAIMS
— LINE 2W —

Western Geophysical Aero Data Ltd

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

MAGNETOMETER: RED
VLF-EM (SEATTLE): BLUE
VLF-EM (ANNAPOLIS): BLACK

FIG. 10



NORTHGANE MINERALS LTD.

NOR CLAIMS

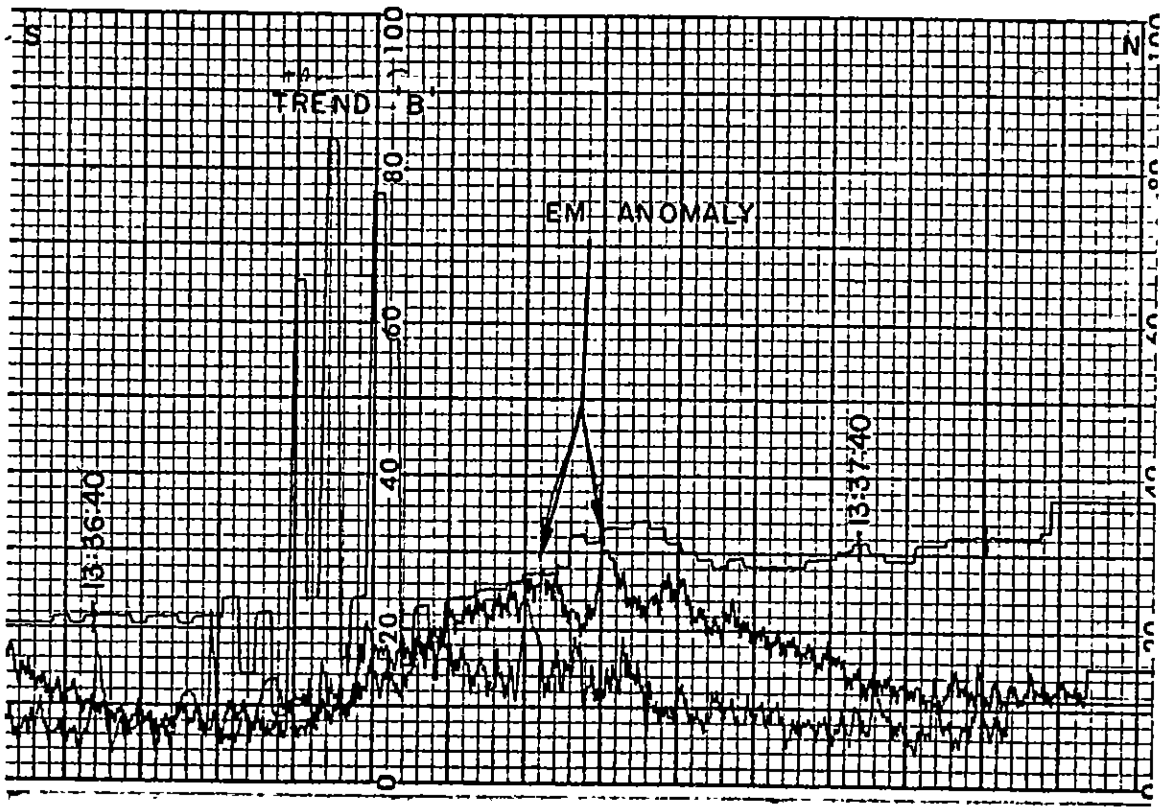
— LINE 39W —

Western Geophysical Aero Data Ltd.

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

MAGNETOMETER: RED
VLF-EM (SEATTLE): BLUE
VLF-EM (ANNAPOLIS): BLACK

FIG. 11



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NOR CLAIMS

— LINE 16W —

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MAGNETOMETER BASE VALUE

MAGNETOMETER : VERTICAL SCALE - 1cm. = 100 gammas

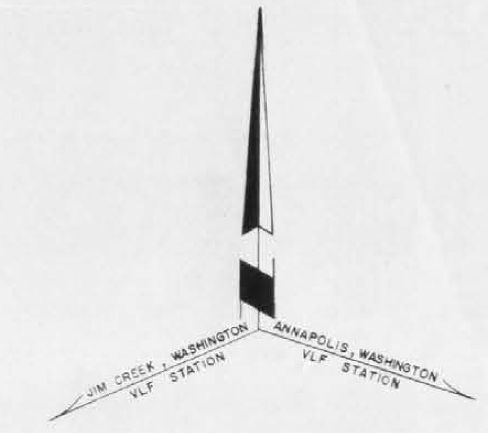
VLF-EM · VERTICAL SCALE - 1 cm. = 10 %

MAGNETOMETER: RED

VLF-EM (SEATTLE): BLUE

VLF-EM (ANNAPOLIS): BLACK

FIG. 12



LEGEND:

- FLIGHT LINE
- 5 SECOND INTERVAL
- CLAIM BOUNDARY, APPROXIMATE LOCATION
- CANADA – U.S.A. BORDER
- AREA OF DIURNAL DISCONTINUITY
- 59000 TOTAL FIELD MAGNETIC INTENSITY CONTOURS – GAMMAS
  - Noise rejection filter applied
  - 5 point weighted smoothing filter applied
  - Diurnal variations not corrected

INSTRUMENTS:

BARRINGER MAGNETOMETER: NIMBIN 123

SABRE AIRBORNE VLF-ELECTROMAGNETOMETER

i) JIM CREEK, WASHINGTON — 24.8 Khz.

ii) ANNAPOLIS, MARYLAND — 21.4 Khz.

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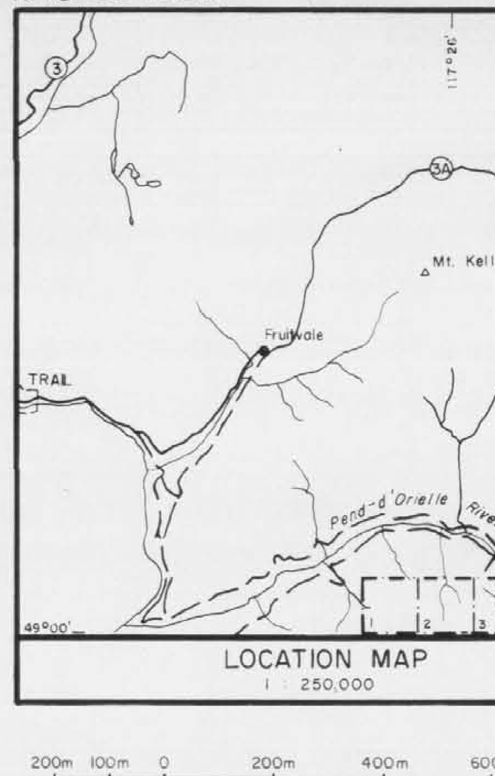

LOCATION MAP
1 : 250,000

200m 100m 0 200m 400m 600m 800m
1 : 10,000

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MAGNETIC INTENSITY CONTOUR MAP

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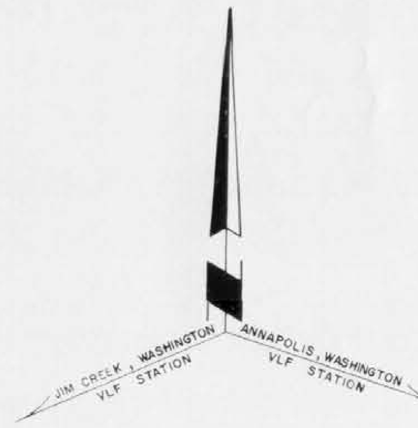
Interpreted By:	E.T.P.
Drawn By:	FINELINE DRAFTING, N.L.P.
Checked By:	E.T.P.
Date:	JULY /82
Fig. No.:	3



LEGEND:

- MAGNETIC TREND CONTOURS – EXCURSION FROM LOCAL BACKGROUND, DIURNAL VARIATION REMOVED (0, 1000, 3000)
- HIGH FREQUENCY VLF-EM RESPONSE: NEAR SURFACE, NARROW, HIGHLY CONDUCTIVE UNITS
- POSSIBLE LINE TO LINE CORRELATION OF HIGH FREQUENCY VLF-EM RESPONSE
- LOW FREQUENCY VLF-EM RESPONSE: NEAR SURFACE, CONDUCTIVE HORIZON

INSTRUMENTS:

BARRINGER MAGNETOMETER: NIMBIN 123

SABRE AIRBORNE VLF-ELECTROMAGNETOMETER

i) JIM CREEK, WASHINGTON – 24.8 Khz

ii) ANNAPOLIS, MARYLAND – 21.4 Khz

MINERAL RESOURCES BRANCH
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NO. 10,580

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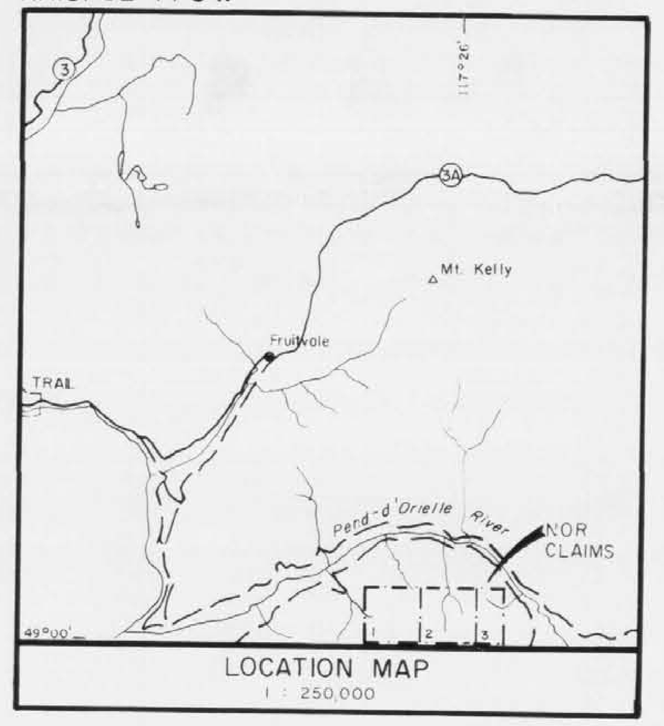
PROVINCE OF BRITISH COLUMBIA
J. S. VINCENT

N.T.S. 82 F/3W



LOCATION MAP
1 : 250,000

200m 100m 0 200m 400m 600m 800m
1 : 10,000

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NELSON MINING DIVISION – BRITISH COLUMBIA

GEOPHYSICAL INTERPRETATION MAP

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B. E.T.P.	
B. FINELINE DRAFTING, N.L.P.	
B. E.T.P.	
JULY/82	
4	