REPORT ON A
MULTIFREQUENCY ELECTROMAGNETIC AND MAGNETIC SURVEY
ON THE TIDE AND BERENDON CLAIM GROUP
IN THE BOWSER RIVER AREA, B.C.

FOR OWNER AND OPERATOR

TENAJON SILVER CORPORATION

Latitude: 56° 16' 30" N Longitude: 130° 04' 00" W

N.T.S.: 104 B1 and 104 B8

Mining Division: Skeena

Survey Dates: September 5 and 7, 1983

October 11, 1983
Vancouver, British Columbia

Apex Airborne Surveys Ltd.
Ronald F. Sheldrake, B.Sc.

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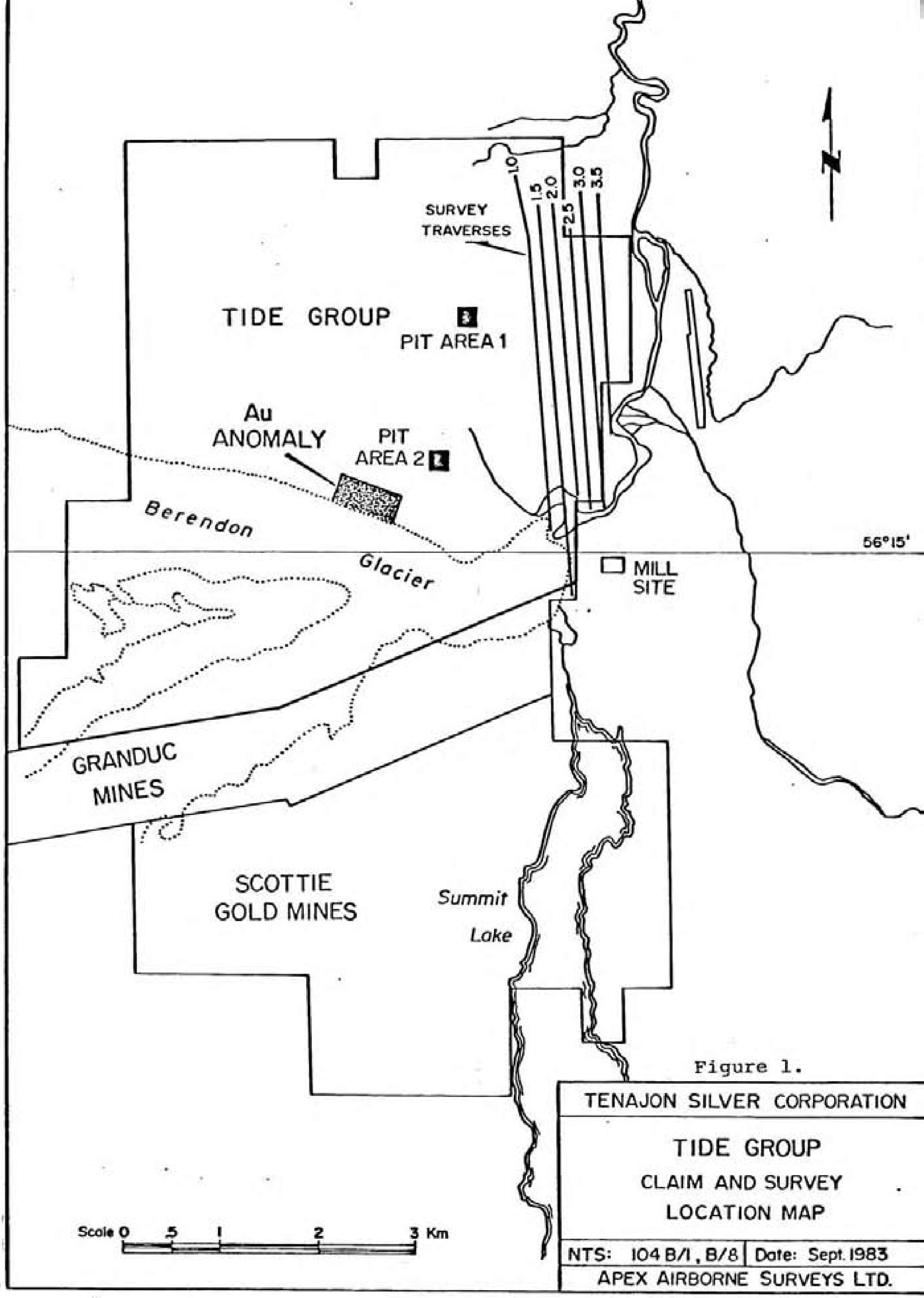

Figure 1.

TENAJON SILVER CORPORATION

TIDE GROUP
CLAIM AND SURVEY
LOCATION MAP

NTS: 104 B/1, B/8 | Date: Sept. 1983

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1. SUMMARY

Sixteen conductors were identified from the electromagnetic survey data. Three of them were given first priority as targets for massive sulphide veins and warrant immediate investigation. Recommendations in this regard have been made.

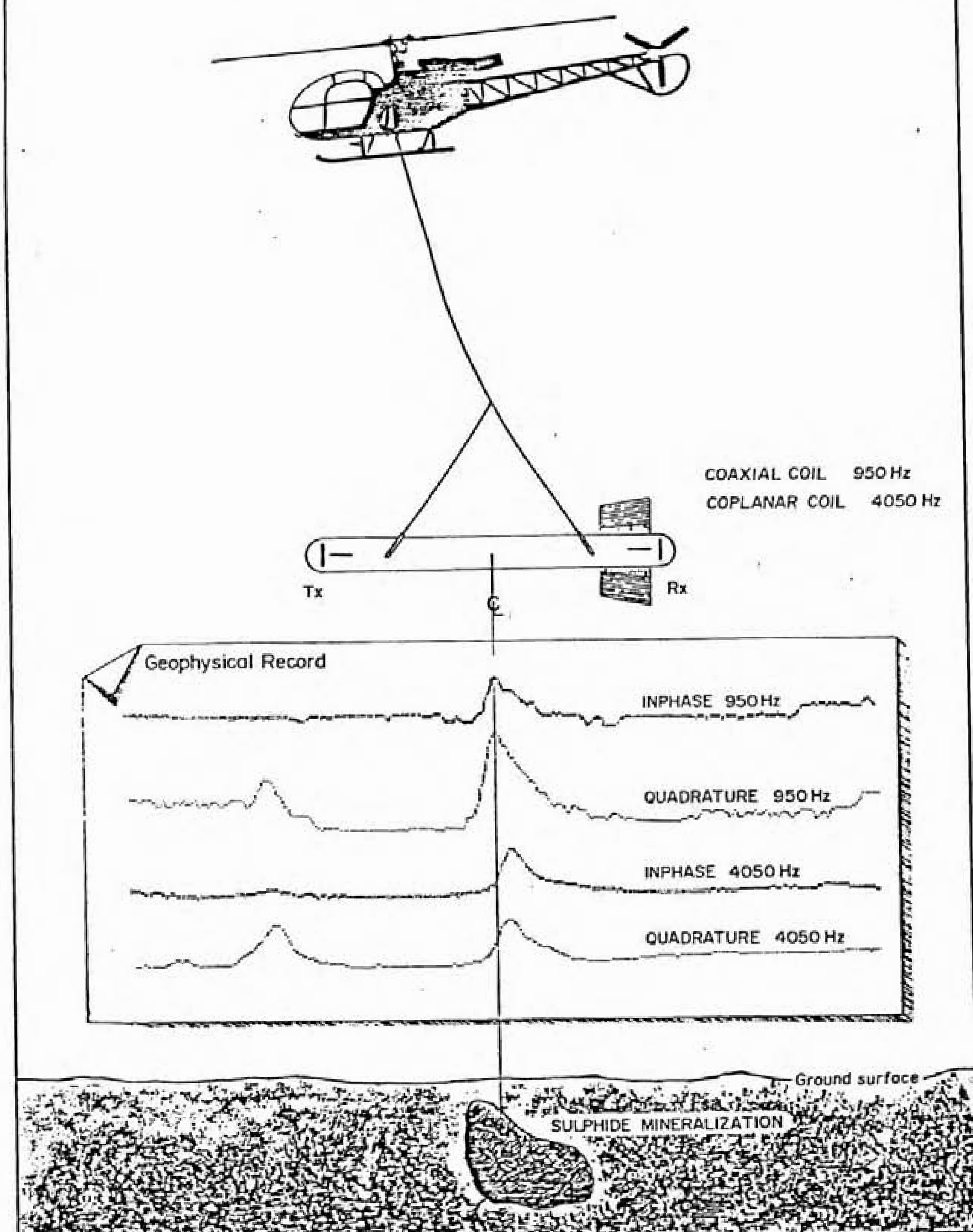

FIGURE 2

SCHEMATIC OF TWO FREQUENCY-CONFIGURATION H.E.M. SYSTEM

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2. INTRODUCTION

The present survey was flown to identify the location of massive sulphide veins that may be host to gold-silver mineralization similar to that being presently mined at Scottie Gold Mines. The Scottie Gold Mine is located about 5 kilometers south of the present survey area.

Six survey traverses were flown at approximately 100 meter intervals for a total of 17 kilometers.

A Bell 206 L Long Ranger supplied by Vancouver Island Helicopters was used as a platform for the survey equipment. The terrain is moderately rugged and ranges in elevation from 750 meters to 1100 meters.

The electromagnetic instrumentation used on this survey utilized both coplanar and coaxial coil configurations at two different frequencies.

The system comprises of two sets of receivers and transmitters as follows:

(1) COAXIAL PAIR - The coaxial transmitter-receiver pair are separated by 6 meters and utilize a "low frequency" signal of 950 Hz. This configuration couples best with vertical dike or vein-like targets.

(2) COPLANAR PAIR - The coplanar transmitter-receiver pair are separated by 5.5. meters and utilize a "high fgrequency" of 4050 Hz. This configuration couples best with flat lying and tabular targets.

The transmitter and receiver coils for the two frequencies are located at the ends of the six meter bird. The bird is towed 30 meters below the helicopter by means of a suitable cable which also carries the electric signals to and from the bird.

Changes in the alternating magnetic field at the receiver coil, caused by eddy currents in the subsurface rock are recorded. These changes are expressed in ratios of the normal undistorted primary field. They are so small as to be expressed in parts per millions (p.p.m.).

The magnetometer used on this survey was a Geometrics Corp. G803. It is a total field nuclear precision instrument which measures the magnetic field strength with a resolution of 1 gamma. The sensor is toroidal and is positioned half way between the helicopter and the E.M. bird.

The measuring technique of the proton magnetometer can be understood by making the proton analogous to a tiny bar magnet spinning about its longitudinal axis, which has the properties of both a magnetized needle and gyroscope. The spinning magnet tries to align itself along the lines of force but the gyroscopic properties oppose this and the spinning magnet gyrates. The essential characteristic of the system is that the rate of gyration is proportional to the ambient magnetic intensity. This rate is measured electronically, multiplied by a suitable factor then displayed on the chart.

Appendix I gives details of the geophysical equipment used for this survey. Appendix II described the flight record and flight patch recovery process.

CLAIMS:

The claims covered by the geophysical survey are:

TIDE 1600(8)
TIDE 2 2569(9)
BERENDON 2567(9)
BERENDON 2 2568(9)
BERENDON 3 3254(10)
BERENDON 4 3255(10)
BERENDON 5 3256(10)1

LOCATION AND ACCESS

The claim block is located about 2 km. north of the Granduc Mines mill site. Access can be made to the Granduc Mine Area by road from Stewart, B.C.

GEOLOGY

[1]The geology is similar to that of the Scottie Mines Area and is described by Groves[2] as a sequence of Hazelton assemblage volcanic fragmentals cut by Tertiary granodiorites.

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1 Personal communication - Mr. James McLoed

2 B.C. Dept. of Mines, Bulletin #58, 1971.

3. DATA PRESENTATION

A contour map of the total field magnetometer values (Plate 1) has been provided at a scale of 1:15,000. The data have been corrected for diurnal variation but are uncorrected for regional gradient. The contour interval is 10 gammas. The electromagnetic anomalies are also plotted on this map.

Computer plots of each of the 3 traverses that comprise this survey are bound with this report. The profiles are corrected for flight speed variations and are plotted at the scale of the base map. The profiles display the following:

magnetic profile	55 gammas/cm
e.m. 1 coaxial coil in-phase	5 ppm/cm
e.m. 2 coaxial coil quadrature	5 ppm/cm
e.m. 3 coplanar coil in-phase	5 ppm/cm
e.m. 4 coplanar coil quadrature	5 ppm/cm
radar altimeter (helicopter)	275 ft/cm
sferics and powerline monitor	

4. DISCUSSION OF RESULTS

Magnetic and Electromagnetic Maps can be interpreted to reveal areas underlain by different rock types and lineaments which could indicate fault zones. Magnetic maps can reveal the location of ore bodies which contain higher percentages of magnetite or pyrrhotite than the surrounding rocks. For the Tide Claim group, conductors that are "narrow" and are associated with increased magnetic susceptibility are assigned the highest priorities.

Conductivity-thickness (conductance) is the "parameter-pair" measured with the electromagnetometer. Materials which conduct electronically, metallic sulphides and graphite, have higher conductivity-thickness values than electrolytic conductors such as clays (in overburden) and ion rich rivers or lakes, however, there is considerable overlap.

The geological electromagnetic responses encountered by an electromagnetic survey are of four main types.

1. Bedrock Conductors: including formational graphitic responses and massive sulphide targets. The E.M. responses can be interpreted for depth, conductance, strike, dip and thickness.

2. Surficial Conductors: overburden and lake sedimentation responses. These are flat lying, "broad" responses.

3. A Combination of 1 and 2: When a conductive material overlays a bedrock conductor the response due to the bedrock layer is superimposed on the response of the overburden or lake response. Depending upon the conductivity contrasts, and the thickness of the overburden, some bedrock conductors can be recognized throught the surficial layer. No responses of this type were recorded on this survey.

4. "Negative" Magnetic Effects (permeability effect): When conductors are also magnetic the electromagnetic reponses can become distorted. The distortion tends to decrease the inphase response, often reversing the sign of the E.M.

anomaly. Apparent depths and conductivity-thickness products, in this case, are generally not representative. Eight negative magnetic effect anomalies were recorded on this survey. For example see L 1.5 at fiducial 57 and fiducial 76.

Other E.M. responses are evident from the data that are not due to geological sources and come under the general category of "Cultural". These include pipelines, powerlines, metal buildings, fence lines, etc. These are normally recorded by the powerline monitor or otherwise evident from their location. None of the responses that were recorded on this survey are thought to be due to "cultural" features.

Listed below are the conductors that warrant investigation as massive sulphide veins. Each response has been assigned a priority on a scale of 1 to 3.

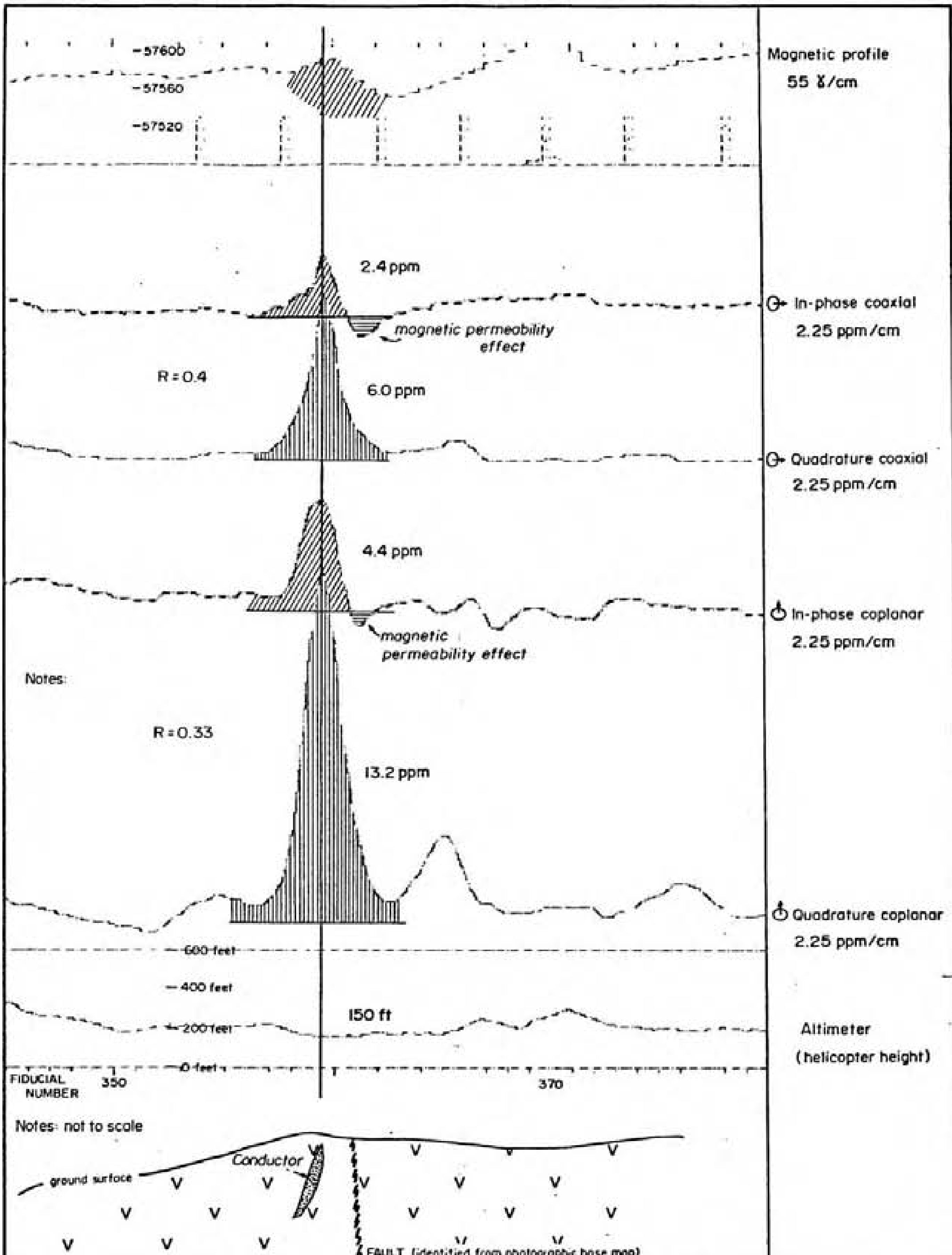
Line/ Fiducial	I.P. amp. Coaxial Coil	O.P. amp. Coil	I.P. amp. Coplanar Coil	O.P. amp. Coplanar Coil	Permeability Effect	Comments
1.5/57	negative	1.0	negative	4.0	yes	possible vein, very low conductance, priority 3, depth 1 meter to surface.
1.5/76	negative	0.25	negative	10.0	yes	a very strong "permeability anomaly", possible vein, very low conductance priority 1 at surface, depth 1 meter to surface.
1.5/87	0.5	6.0	5.0	16.0	no	possible 2 veins, low conductance, priority 3, depth 1 meter to surface.
1.5/89	0.5	4.5	3.0	6.5	no	possible 2 veins, low conductance, priority 3, depth 1 meter to surface.
2.0/286.5	negative	1.5	negative	4.5	yes	associate with small magnetic anomaly, possible vein, very low conductance, priority 3, depth 5 - 10 meters.
2.0/306	1.0	3.5	1.5	6.5	no	possible vein, very low conductance, priority 3, depth 3 - 7 meters.
2.0/308	1.0	2.0	1.5	5.0	no	possible vein, very low conductance, priority 3, depth 3 - 7 meters.
2.5/153.5	1.5	3.0	3.5	16.5	no	possible 1 or 2 veins, very low conductance, priority 3, depth 7 - 15 meters.
2.5/178	1.0	2.0	2.0	2.0	no	possible vein, very low conductance, priority 3 depth 1 - 3 meters.

Line/ Fiducial	I.P. amp. Coaxial Coil	O.P. amp. Coil	I.P. amp. Coplanar Coil	O.P. amp. Coplanar Coil	Permeability Effect	Comments
2.5/198.5	negative	0.25	negative	3.0	yes	very low conductance, priority 3, depth 3 - 5 meters.
2.5/200	negative	0.25	negative	2.5	yes	very low conductance, priority 3, depth 3 - 5 meters.
3.0/359.5	2.0	5.5	3.5	12.0	yes	permeability effect on north flank, possible vein, low conductance, priority 1 because of magnetic correlation (See Figure 3).
3.5/238	3.0	4.0	1.5	6.5	no	low conductance, no magnetic correlation but probably a narrow vein at surface.
3.5/251	0.25	3.5	1.0	4.5	no	low conductance, no magnetic correlation but probably a narrow vein at surface.
3.5/262	negative	1.5	negative	6.0	yes	possible vein, priority 3, depth 5 - 10 meters.
3.5/274.5	negative	12.0	negative	47.5	yes	possibly a formational response, priority 3.

All of the conductors identified on this survey have low or very low apparent conductances (conductivity x thickness). This does not necessarily diminish the priority of a conductor although it is an important consideration.

If a massive sulphide zone has been fractured or contains non-conductive sulphide minerals (sphalerite for example) so that it is not continuously conductive, then the apparent conductance may be lower than expected.

The geological environment, the amplitude and shape of the response are given weighted consideration in interpreting the priority of a conductor.



DIAGRAMMATIC SKETCH: ANOMALY-LINE 3.0, FID. 359.5 | Figure 3

APEX AIRBORNE SURVEYS LTD. | Sept. 1983

The response recorded on Line 3.0 at fiducial 359.5 has been replotted as Figure 3 with an interpretational sketch (diagrammatic only - not to scale).

This anomaly is the best geophysical target that was recorded on this survey and has been interpreted as a priority 1 response.

This response indicates a narrow conductor (defined as less than 3 meters, but probably even less thick) which is near vertical but may be dipping slightly southwards. The depth to the top of the conductor will range from 1 - 5 meters.

The conductor is contiguous with a magnetic zone which may indicate alteration but the conductor itself may not be magnetic.

This conductor appears to be on strike with the priority 2 anomaly that is located on Line 3.5 at fiducial 262.

5. CONCLUSION AND RECOMMENDATIONS

The geophysical data have identified 16 responses that may indicate the presence of massive sulphide veins.

It is recommended as a first stage that areas around the three "priority 1" anomalies be mapped geologically and geochemically.

The second stage should consist of acquiring detailed ground magnetic and electromagnetic data in these areas, which ought to provide information suitable for the selection of trenching or drill hole targets.

Respectfully Submitted

Ronald F. Sheldrake
Apex Airborne Surveys Ltd.

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M.K. Gosh and G.F. West - A.E.M. Analogue Model Studies, produced by Norman Paterson & Associates Limited, Toronto.

Vacquier V., Steenland, N.C.- and Henderson, R.G. - Interpretation of Aeromagnetic Maps, Geological Society of America, Memoir No. 47.

Douglas C. Fraser - The Multicoil II Airborne Electromagnetic System, Geophysics, Vol. 44, No. 8, August 1979, pp. 1367 - 1394.

R. Wares, P.Eng and W. Gewargis, B.Sc. - Geological Report; Surface Mapping Scottie Gold Mines Ltd., Summit Lake, B.C. (Internal Corporate Report).

Mr. James McLeod - Personal communication, September 26, 1983

APPENDIX I

INSTRUMENTATION

Electromagnetic Instrument

Type:	Helicopter mounted in-phase - quadrature instrument. Coplanar coils - 4050/hz. Coaxial coils 950 hz. Manufactured by Geonics Ltd., Toronto.
Coils:	Coplanar - 5.5 meter separation 4050 hz. Coaxial - 6.0 meter separation 950 hz.
Noise Level:	Less than 1.0 ppm peak to peak (0.6 sec. time constant)

Magnetometer

Type:	Towed sensor type, proton precession model G803 manufactured by Geometrics Corporation, Toronto.
Cycling Time:	1.0 second.
Sensing Head Design:	5 inch diameter toroid.

Ancillary Equipment:

UDAS Digital Acquisition System with recorder.
Geocam 35 mm Flight Path Camera
Geometics G806 Magnetic Base Station and recorder.

Helicopter: Bell 206 L supplied by Vancouver Island Helicopters, Stewart, B.C.

APPENDIX II

THE "ANALOGUE" CHART AND FLIGHT PATH RECOVERY

The in-flight tape is a roll of chart paper which moves through the digital printer at a speed of 5.48 cm per minute.

The digital printer chart facilitates the use of a full alpha-numeric system. All "header" sensitivity and fiducial information is printed automatically.

The chart is 520 dots wide as follows:

DOTS	
0 - 10	powerline and spherics monitor
0 - 60	Altimeter - 10 feet per dot (0-600 feet)
60 - 160	quadrature - high frequency - ¼ ppm/dot
160 - 260	in phase - high frequency - ¼ ppm/dot
260 - 360	quadrature - low frequency - ¼ ppm/dot
360 - 460	in phase - low frequency - ¼ ppm/dot
460 - 520	magnetometer 2 gammas/dot

The helicopter flight path is recovered from 35 mm film, which is exposed at 2.0 second intervals during the flight traverses. After processing and anotating, recognizable fiducials are pin-pointed on a photomosaic map.

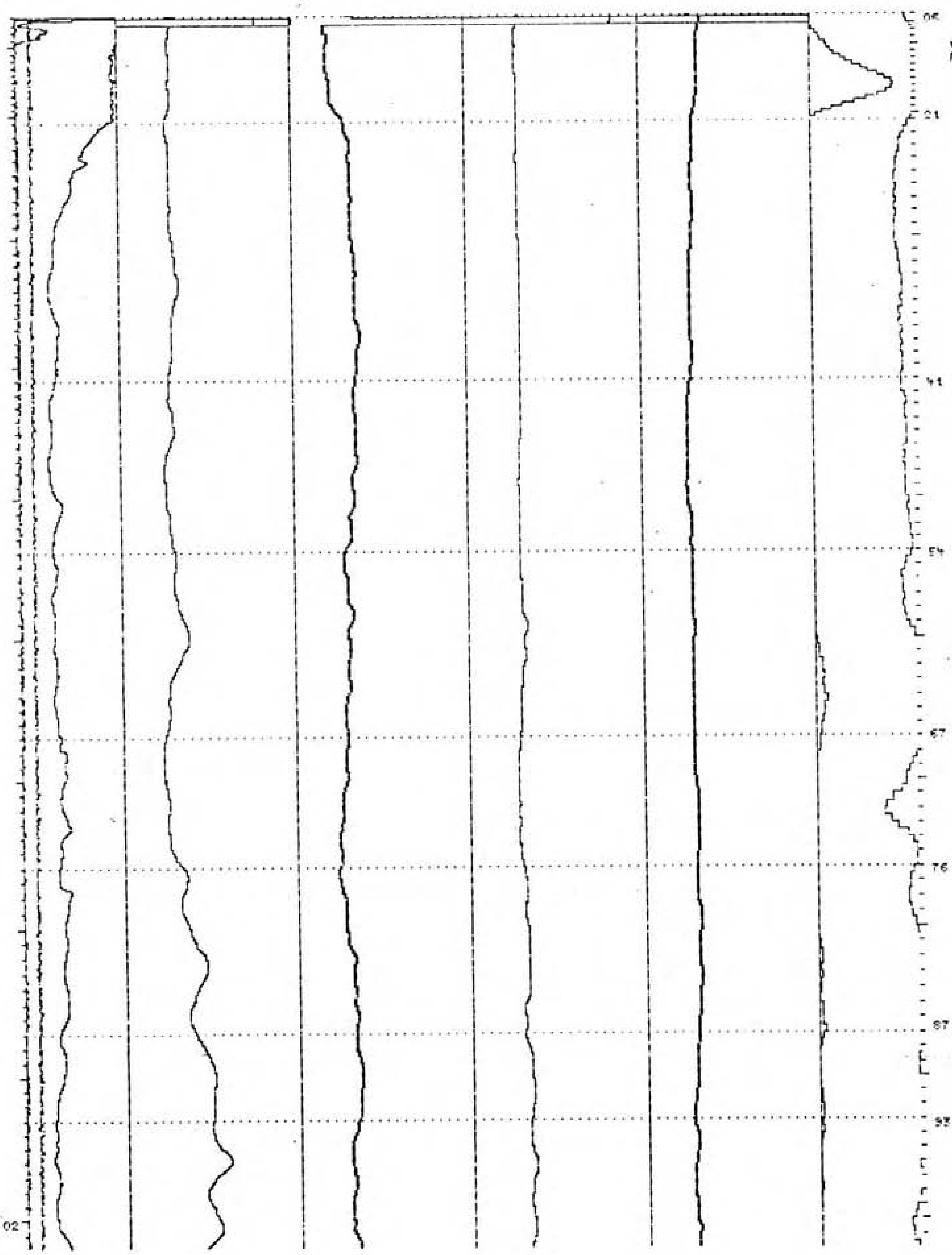
APPENDIX III

Survey Personnel:

Field Geophysicist:	-	Ronald F. Sheldrake 1271 W. 22nd Street North Vancouver, B.C.
Field Technician:	-	Michael Magee c/o Apex Airborne Surveys Ltd. Vancouver, B.C.
Helicopter Pilot	-	Kevin Dawson c/o Vancouver Island Helicopters Stewart, B.C.

APPENDIX IV

LN 001



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LN 01.5

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UDAS REPLOT PROGRAM VER.181282

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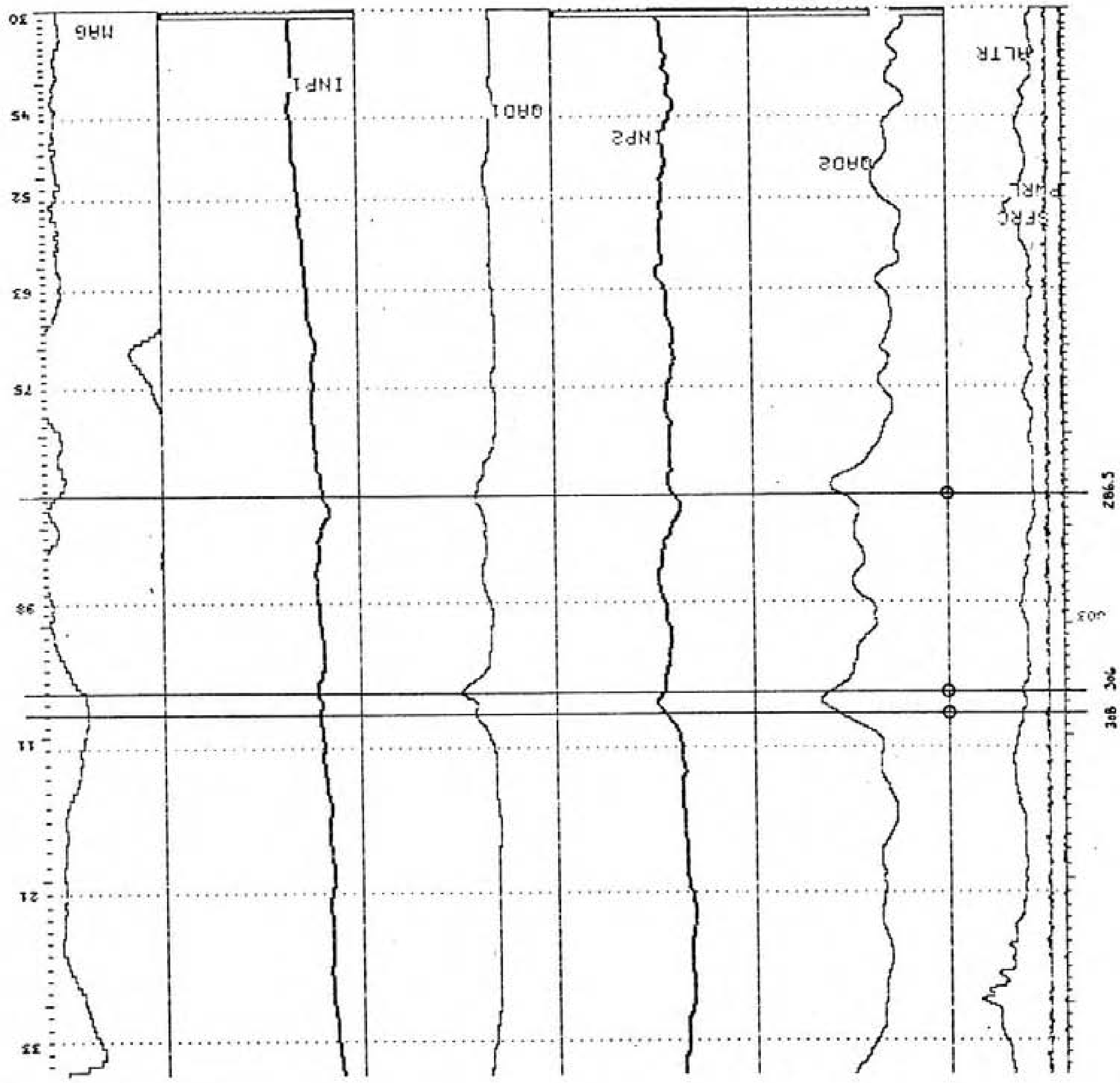

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UDAS REPLOT PROGRAM VER.181282

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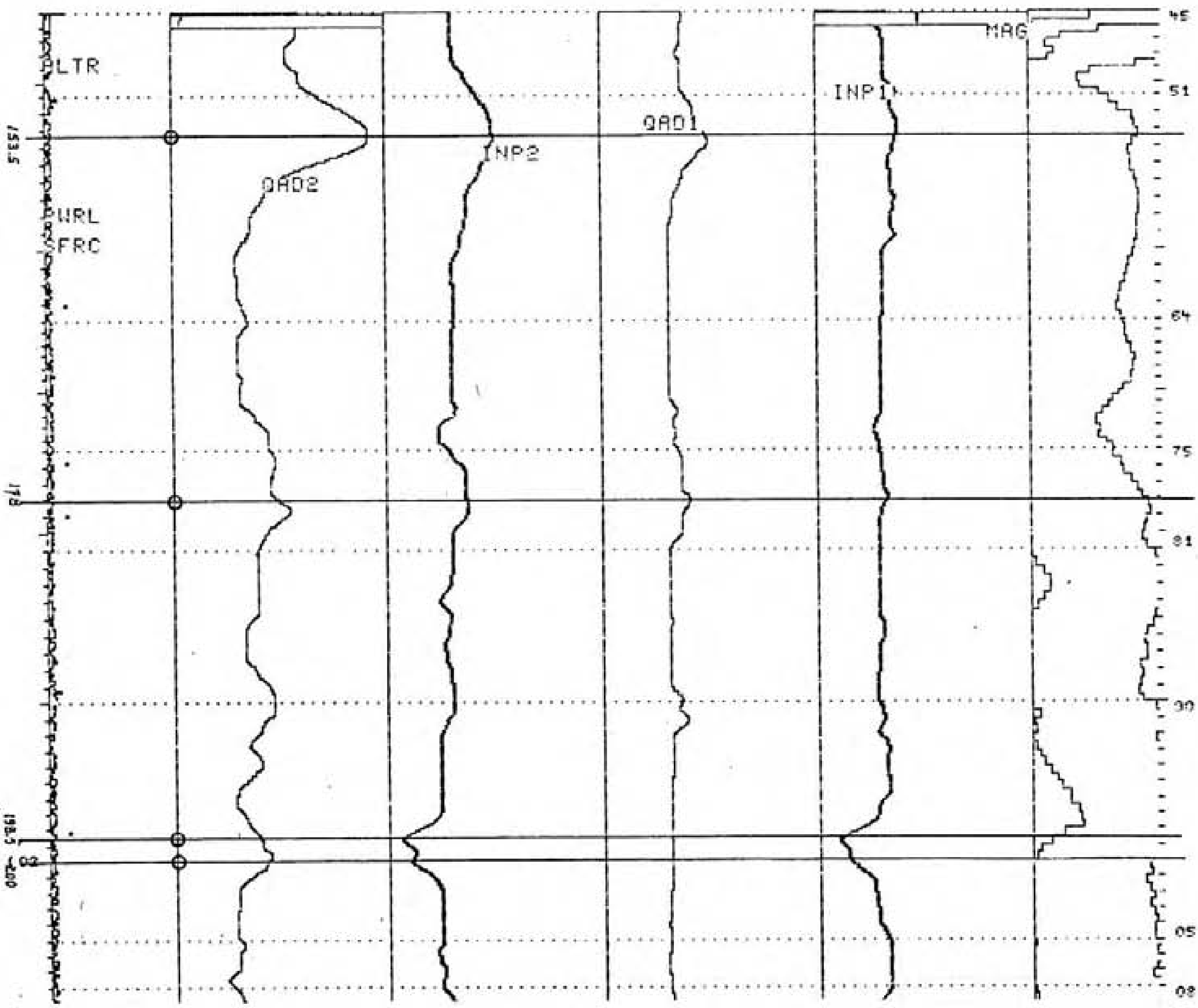
LN 02.5



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L 2.5

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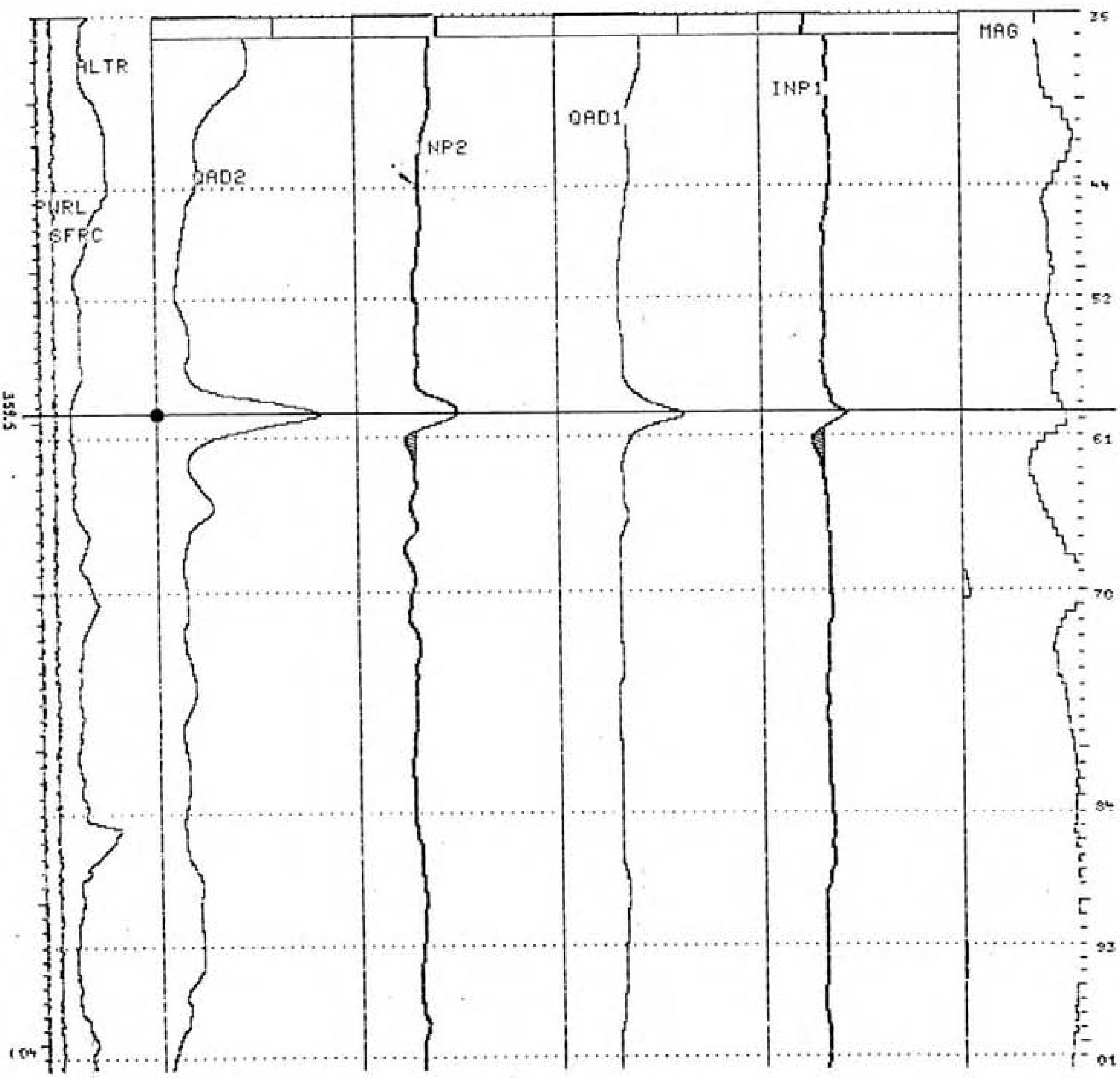

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L3.0

UDAS REPLOT PROGRAM VER.181282

UDAS REPLOT PROGRAM VER.181282

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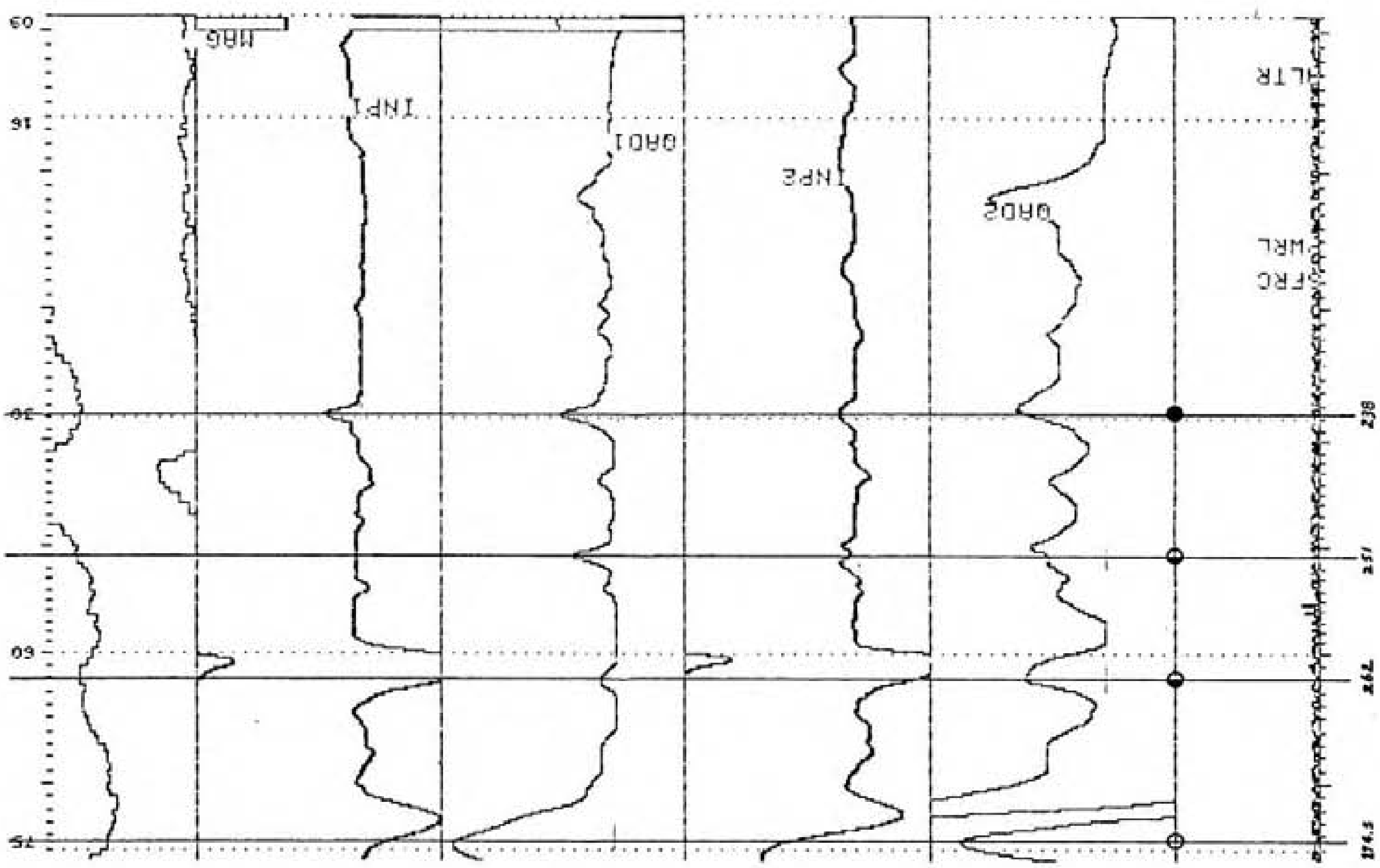
PROG.VER.111082.

L 3.5

LN 03.5



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CERTIFICATION

I, RONALD F. SHELDRAKE, of the City of Vancouver, Province of British Columbia, hereby certify as follows:

1. I am President of **Apex Airborne Surveys Ltd.** a company incorporated under the laws of the Province of British Columbia.
2. The Vancouver Office of **Apex Airborne Surveys Ltd.** is located at Suite 514 -625 Howe Street, Vancouver, British Columbia.
3. I received my B.Sc., in Geophysics from the University of British Columbia in May, 1974.
4. I have practised my profession since that date.
5. I have no interest, direct or indirect, in the properties or claims of **Tenajon Silver Corporation**, nor do I expect to receive any.
6. I consent to the use of this report in or in connection with engineering reports or in a Statement of Material Facts.

Ronald F. Sheldrake

Apex Airborne Surveys Ltd.

October 11, 1983

October 11, 1983

STATEMENT OF COSTS

Type of Survey:	Electromagnetic-Magnetic Helicopter Platform
Date(s) of Fieldwork:	September 7 and 9, 1983
Survey Kilometers:	17 Kilometers
Cost per Linear Kilometer:	$177.82
Additional Charges:	None
Total Cost of Survey:	$3,023.00


GEOLOGICAL BRANCH
ASSESSMENT REPORT
11,528
part 2 of 3
PLATE 1
TENAJON SILVER CORPORATION
E.M. ANOMALY AND MAGNETIC CONTOUR MAP
TIDE CLAIM GROUP
Scale 0 150 300 450 600 750 metres - 1:15 000
SKEENA MINING DIVISION
N.T.S. 104 B/1, 104 B/8
DATE: SEPTEMBER 1983
APEX AIRBORNE SURVEYS LTD. - VANCOUVER, B.C.
LEGEND
Fault lineament ?
Priority 1 Conductor
Priority 2 Conductor
Priority 3 Conductor
Magnetic low
Magnetic contour interval : 10 gammas