

80 # 1054 # 8817

GEOPHYSICAL REPORT
ON THE
HOOK CLAIM [20 UNITS]
SKEENA M. D.
QUEEN CHARLOTTE ISLANDS, B. C.
NTS 103F/QE, QW

Long. 132°17'W

Lat. 53°32.5'N

for

R. CALABRIGO & ASSOCIATES
Vancouver, B. C.

by

A.F. ROBERTS, P. ENG.

Part 1
of 3

December 10, 1980

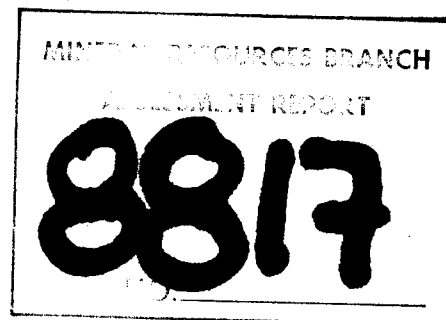


TABLE OF CONTENTS

	<u>Page</u>
SUMMARY	
INTRODUCTION.....	1
LOCATION, ACCESS, TOPOGRAPHY.....	2
CLAIM.....	2
GENERAL GEOLOGY.....	3
GEOCHEMISTRY.....	4
GEOPHYSICS.....	5
CONCLUSION.....	6
RECOMMENDATIONS.....	6
ESTIMATED COSTS.....	7
CERTIFICATE.....	8
STATEMENT OF COSTS.....	9

APPENDIX

Ref.No.

- 9] Appendix A - Operating Instructions,
Sabre Model 27, VLF-EM,
Fraser Filter Calcula-
tions.....[End of Report]

MAPS

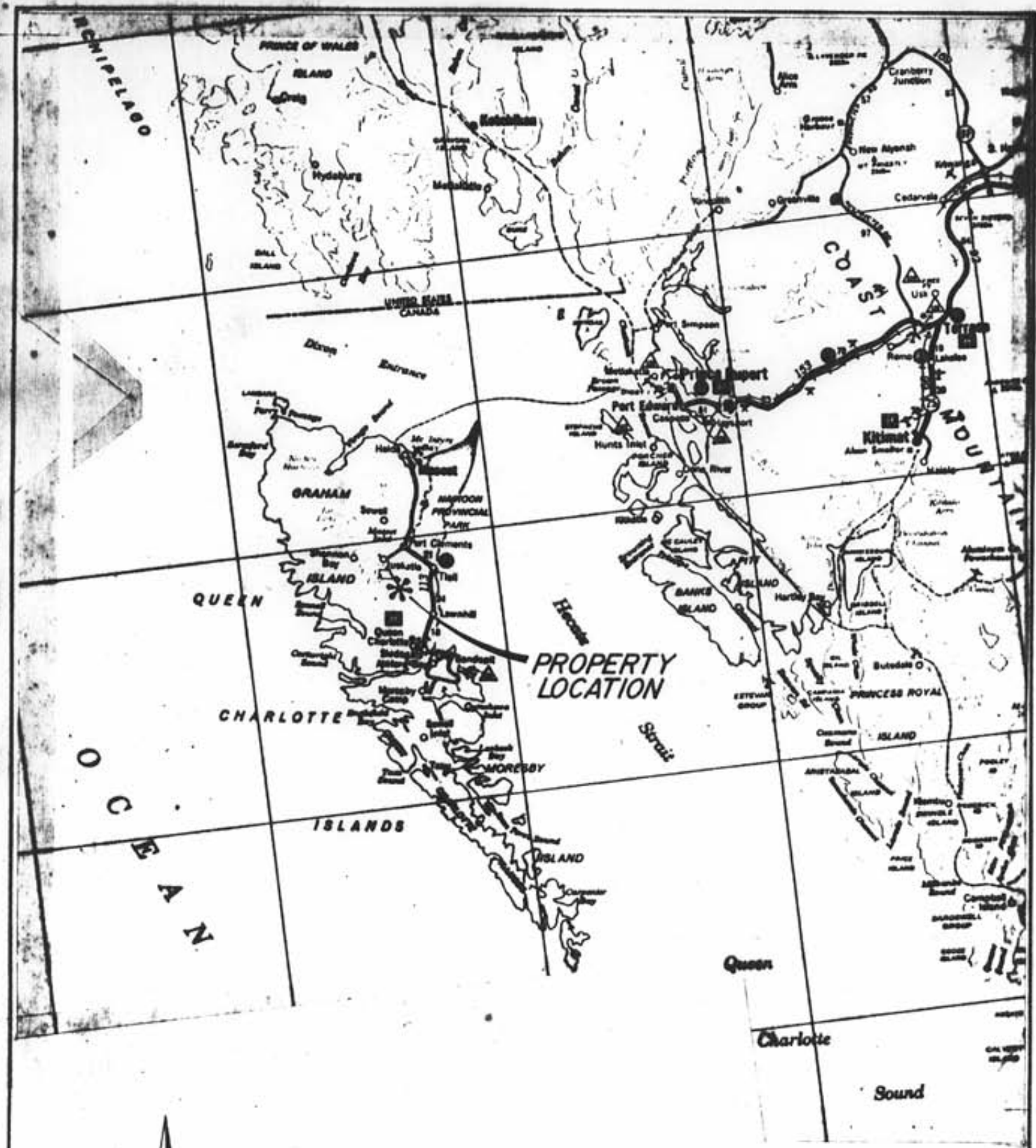
- 1] Location Map: B.C. Road Map,
1 cm = 20 km.....[Frontispiece]
- 2] Road Map: MacMillan-Bloedel,
1 cm = 1.6 km.....[Follows page 1]
- 3] Topographic Map:
NTS 103F/8E, 8W.....[Follows page 2]
- 4] Claim Map: B.C. Department of Mines
& Petroleum Resources, 1:50,000.....[Follows page 3]
- 5] Geology Map: Bull. 54, 1:62,500.....[Follows page 4]
- 11] Plate A - Cross Sections, Dip Angle,
Fraser Filter, Total Field.....[Back Pocket]
- 12] Plate B - Plan, Dip Angle, with Contours...[Back Pocket]
- 13] Plate C - Plan, Fraser Filter, with
Contours.....[Back Pocket]
- 14] Plate D - Plan, Total Field, with
Contours.....[Back Pocket]

TABLE OF CONTENTS [Cont'd]

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- 6] B.C. Department of Mines & Petroleum Resources
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- 7] B.C. Department of Mines & Petroleum Resources,
Report on the Specogna Gold Prospect, A. Suther-
land Brown, T.G. Schroeter, 1975
- 8] Reports by A.F. Roberts, P.Eng., for Consolidated
Cinola Mines; Qualifying, Geochemical, Geophysical
Reports for other companies, 1977 to date.
- 10] Contouring VLF-EM Data, D.C. Fraser, Geophysics,
Vol. 34, No. 6, 1969



RENO CALABRIGO
 VANCOUVER, B.C.
HOOK CLAIM
 QUEEN CHARLOTTE ISLANDS, BC.
 SKEENA M.D.
 NTS 103 F / 9E, 8E
LOCATION MAP
 SCALE IN KILOMETRES
 0 24 48 72 96
 TO ACCOMPANY REPORT BY A.F. ROBERTS, PERG Dec. 10, 1980

S U M M A R Y

The reconnaissance VLF-EM program is inconclusive, as contouring over the widely spaced lines could easily be in error, missing large conductive units.

It is recommended that a closer spaced grid be used, maximum 100 metres by 25 metres, in further work, with geochemistry and geophysics.

The negative anomaly at 9+00S, 6+00E may be the locus of two gold threshold values, reported in a previous reconnaissance geochemistry program, and served as a starting location for further work.

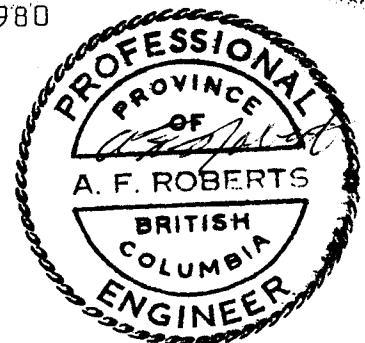
This small program covering one unit is estimated to cost \$7,200.00.

Further work will depend on the funds available to management to expand the program to cover the balance of the claim, at the same per unit cost.

Respectfully submitted,



A.F. Roberts, P. Eng.,
December 10, 1980



GEOPHYSICAL REPORT
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HOOK CLAIM [20 UNITS]
SKEENA M. D.
QUEEN CHARLOTTE ISLANDS, B. C.
NTS 103F/8E, 8W
Long. $132^{\circ}17'W$ Lat. $53^{\circ}32.5'N$
for
R. CALABRIGO & ASSOCIATES
Vancouver, B. C.
by
A.F. ROBERTS, P.ENG.
December 10, 1980

INTRODUCTION

This report is authorized by Mr. R. Calabrigo, the registered owner of the property.

Its purpose is to analyze the data obtained on a VLF-EM survey carried out in the period July 31 - September 15, 1980. This survey was done by Strato Geological of Vancouver, B.C.

A small geochemistry program was carried out on this property a year ago, and will be commented on where appropriate.

The writer has been on this property during other work in the area.

LOCATION, ACCESS, TOPOGRAPHY 1] 2] 3]

The property lies south and east of Juskatla, about 20 km by logging roads. The Branch Road No. 4, reaches into the northern edge of the property.

These logging roads should not be used without obtaining clearance from the MacMillan-Bloedel office in Juskatla, as they are active logging roads.

The property is covered by virgin timber except in the extreme northern part.

Florence Creek cuts through the northern half of the claim, and is quite deeply incised.

Elevations range from 800 feet [250 metres] to 1,000 feet [300 metres] ASL and is not too hard to get through except in the logged over areas.

CLAIM 4]

The claim is described as follows:

<u>Name</u>	<u>Units</u>	<u>Record No.</u>	<u>Expiry Date</u>
Hook	10	799	October 16, 1980

-
- 1] Location Map: B.C. Road Map,
1 cm = 20 km [Frontispiece]
- 2] Road Map: MacMillan-Bloedel,
1 cm = 1.6 km [Follows page 1]
- 3] Topographic Map:
NTS 103F/8E, 8W [Follows page 2]
- 4] Claim Map: B.C. Department of
Mines & Petroleum Resources,
103F/8E, 8N, 1:50,000 [Follows page 3]

Work has been filed, of which this report is part, for this year, and when accepted, will make the standing good until October, 1981.

Claim posts are reported to fulfill the requirements of the Mining Act.

The exact location and the amount of ground covered can only be determined by a legal survey.

GENERAL GEOLOGY 5] 6] 7] 8]

There are no known outcrops on the claim, nor have any been reported.

Therefore, total reliance, at this point, is made on the map from Bulletin 54, which has been enlarged from 1:125,000 to 1:62,500 for this report, and from knowledge of other claims some distance to north, south and west.

The area is mapped as being underlain by the Palaeocene Masset Formation consisting of sub-aerial basalt

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- 5] Geology Map: Bulletin 54, [Follows page 4]
1:62,500
- 6] B.C. Department of Mines & Petroleum Resources, Bulletin 54, Geology of the Queen Charlotte Islands, B.C., A. Sutherland Brown, 1968
- 7] B.C. Department of Mines & Petroleum Resources, Report on the Specogna Gold Prospect, Queen Charlotte Islands, B.C., A. Sutherland Brown, T.G. Schroeter, 1975
- 8] Reports by A.F. Roberts, P.Eng., for Consolidated Cinola Mines Ltd., Qualifying, Geochemical, Geophysical Reports for other companies, 1977 to date

flows and breccias, rhyolite ash flows and some dacite.

This in turn is probably underlain by Cretaceous Haida Formation consisting of various sandstones and siltstones.

Drilling to the southeast a considerable distance shows ash, agglomerates, conglomerates and possible basic dykes with ash-edge contacts. Basalt and basaltic ash is known to the north. All holes cut considerable fault gouge in several sections. All rocks were well silicified.

GEOCHEMISTRY

A reconnaissance type geochemistry program, done by Team Mineral Services Inc., of Delta, B.C., in 1979 gave the following results:

Grid	250 by 50 metres
Total samples:	62

Two samples threshold for gold at 10 ppb, 100 metres apart on one line.

Ten samples above threshold value for mercury at 10 ppb, three of which are anomalous above 400 ppb.

There are several "nearly anomalous" values for mercury, the whole suggesting a northeasterly trend.

The low density of this program leaves results as inconclusive, but suggesting that an increased density may give a more interesting result.

The samples should also be assayed for arsenic and silver.

GEOPHYSICS 9] 10] 11] 12] 13] 14]

This program was done with a Sabre Model 27, VLF-EM instrument, serial no. 103, made by Sabre Electronics Ltd., of Burnaby, B.C.

The grid is a reconnaissance grid 250 metres by 25 metres.

The mapping was done by Strato Geological, who did the field work, and the contouring was done by the writer.

Overall there is a picture of north to slightly northwest conductors, narrow and of no great strength in either Fraser Filter or Total Field values.

The highest total fields, 10% above background of 50% coincide with negative Fraser Filter anomalies, which are quite strong.

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- 9] Appendix A - Operating Instructions, Sabre Model 27, VLF-EM receiver. Fraser Filter Calculations
- 10] Contouring VLF-EM Data, D.C. Fraser; Geophysics Vol. 34, No. 6, December 1969
- 11] Plate A - Cross Sections, Dip Angle, Fraser Filter, Total Field [Back Pocket]
- 12] Plate B - Plan, Dip Angle, with contours [Back Pocket]
- 13] Plate C - Plan, Fraser Filter, with contours [Back Pocket]
- 14] Plate D - Plan, Total Field with contours [Back Pocket]

As closely as can be guessed, the two thresholds for gold values [10 ppb], occur in the negative anomaly on line 9+00S in the vicinity of 6+00E.

The mercury anomalous values are guessed at as being in the negative area 2+50E, 10+00S, and 2+50E, 15+00S to 20+00S.

CONCLUSIONS

The wide spacing of the grid lines leaves the contouring open to question.

Their appearance suggests narrow fault-like zones, or dykes.

The distance between lines is great enough to miss a possible mine.

The few geochemistry values suggest that there may be something in the area.

To evaluate the property it will be necessary to combine geochemistry and geophysics in the same program, so that there is no doubt that the same stations are referred to for both types of work.

The grid should be tightened up to a maximum of 100 metres by 25 metres, although 100 metres by 15 metres would be preferable using the Fraser Filter method.

RECOMMENDATIONS

Commence survey of the property on a grid no larger than 100 metres by 25 metres, using both geochemistry and geophysics.

Assay samples for gold, silver, arsenic and mercury.

This work should start at the negative anomaly on Line 9+00 South, 6+00 East, and expand from it as funds permit.

ESTIMATE OF COSTS

A contractor has given an estimate for summer work as follows. If the work is done in the winter, the costs will be 10% to 15% higher.

Geochemistry, GLF-EM survey, cut base line, crew of three men, all found. Maps	\$ 702.00/km
To this must be added assaying @ 40 [\$8.75]	<u>350.00/km</u>
Sub-total	\$1,052.00/km
15% contingencies	<u>157.80</u>
Total	<u><u>\$1,209.80/km</u></u>

Say \$1,200.00 per kilometre

To this must be added consultant's fees, and reports.

1 unit requires 6 lines or \$7,200.00/unit

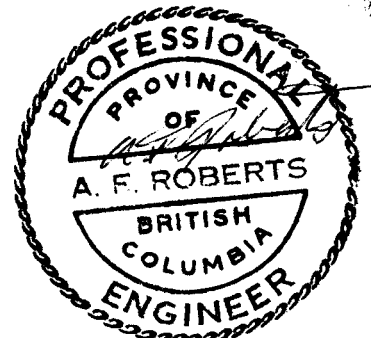
The amount of work to cover the anomaly at 9+00S, 6+00E, will be about 1 unit.

Further work, on expansion of the area will be dependant on funds available, and the results of the above work.

Respectfully submitted,

A. F. Roberts

A.F. Roberts, P. Eng.,
December 10, 1980



CERTIFICATE

I, A.F. Roberts, of 812 Fairbrook Crescent, Richmond, British Columbia, do hereby certify that:

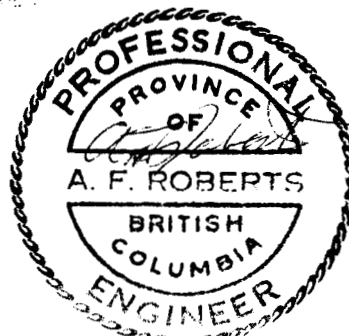
- 1] I am a graduate of the University of British Columbia, B.Ap.Sc., in Mining Engineering, 1951.
- 2] I am a Registered Professional Engineer of the Province of British Columbia; and am a Member of the Canadian Institute of Mining and Metallurgy.
- 3] I have practiced my profession since 1951, with Quatsino Copper-Gold Mines Ltd., Giant Mascot Mines Ltd., Cochenour-Willans Gold Mines Ltd., Mogul Mines Ltd., Kerr-Addison Gold Mines Ltd., Atlantic Coast Copper Corporation Ltd., Wasamac Mines Ltd., Brenda Mines Ltd., and T.C. Explorations Ltd.

Since January 1970, I have been an independent Consulting Engineer.

Previous to, and during University, I worked underground as a miner, and on several exploration-development projects.

- 4] The accompanying report is based entirely on my personal examination of the property and on material referred to in the text.
- 5] I have no interest, direct or indirect, in the Hook Claim, nor have I any interest, direct or indirect, in any companies with whom Mr. Reno Calabrigo may be associated. I have not, nor do I expect to receive any interest in the shares of any company, in its securities, or any company with whom he may become associated.
- 6] I consent to the use of this report in, or in conjunction with, a prospectus, or a statement of material facts, relating to the raising of funds for this project.

DATED at Vancouver, British Columbia this tenth day of December, 1980.



A.F. Roberts
A.F. Roberts, P.Eng.

A. F. ROBERTS, P.ENG.
CONSULTING MINING ENGINEER

STATEMENT OF COSTS
HOOK CLAIM [10 UNITS]
RECORD NO. 799

Direct Costs

Labour	\$1,000.00	
E.M. Rental	60.00	
Transportation	<u>180.00</u>	\$1,240.00

Personnel [July 31-September 15, 1980]

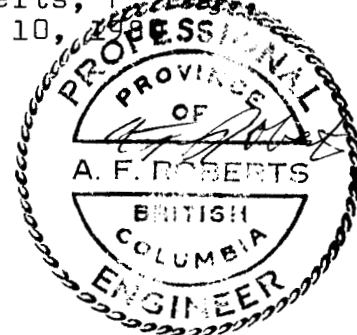
G. Smith
T. Higginson
B. Parker
B. Mann
S. Brodie

The above figures supplied by
Strato Geological of Vancouver,
the contractor.

Engineer's Report	<u>734.41</u>
Total	<u>\$1,974.41</u>

The above is a true statement of the
cost of this project.

A.F. Roberts
A.F. Roberts, P. Eng.
December 10, 1980



APPENDIX A

OPERATING INSTRUCTIONS
SABRE MODEL 27, VLF-EM
FRASER FILTER CALCULATIONS

SABRE MODEL 27 VLF-EM RECEIVER

The model 27 EM unit was designed originally for a large Canadian mining company to overcome the deficiencies inherent in existing units.

The instrument is so stable and selective that completely reliable measurements can be made on distant stations without interference from nearby powerful transmitters. Stability and selectivity are especially important when making field-strength measurements, which are now being emphasized as a means of locating conductors.

This EM receiver is very compact, requires no earphones or loudspeakers and is housed in a heavy scotch saddle leather case. All of these features add up to make an ideal one-man EM unit of unexcelled electrical performance and mechanical ruggedness.

SPECIFICATIONS

Source of Primary Field - VLF radio stations (12 to 24 KHz.)

Number of Stations - 4, selected by switch; Cutler, Main on 17.8 KHz. and Seattle, Washington on 18.6 KBz. are standard, leaving 2 other stations that can be selected by the user.

Types of Measurement

1. Dip angle in degrees, read on a meter-type inclinometer with a range of $\pm 60^{\circ}$ and an accuracy of $\pm \frac{1}{2}^{\circ}$.
2. Field strength, read on a meter and a precision digital dial with an accuracy exceeding 1%.
3. Out of phase component, read on the field strength meter as a residual reading when measuring the dip angle.

SABRE MODEL 27 VLF-EM RECEIVER - (Continued)

Dimensions and Weight

Approx. $9\frac{1}{2}$ " x $2\frac{1}{2}$ " x $8\frac{1}{2}$ "; Weighs 5 lbs.

Batteries

8 alkaline penlite cells. The instrument will run continuously on 1 set of batteries for over 200 hours; So that in normal on-off use, the batteries will last all season. The battery condition under load is shown by pushing a button and reading voltage on the field strength meter.

SELECTION OF STATIONS:

The stations are selected by the switch on the control panel, with the following abbreviations being used;

C = Cutler, Maine.	Frequency = 17.8 Khz.
S = Seattle, Wash.	Frequency = 18.6 Khz.
A = Annapolis, Md.	Frequency = 21.4 Khz.
H = Hawaii.	Frequency = 23.4 Khz.

The two most useful stations are Cutler and Seattle and these will be used almost exclusively. Note that Seattle is off the air for several hours on Thursdays for maintenance (between 10 A.M. and 2 P.M. usually). Cutler is off the air for the same length of time every Friday.

If Equipment fails to operate:

- (a) Check that station is transmitting (see above). If one station appears to be dead, check another one to see if it is operating normally.
- (b) Check batteries. If they read low or the reading begins to drop after the test button is held down for a few seconds, replace them. Note also that there are 8 batteries in the instrument and they cannot be individually checked by the test button. If the batteries have been in the unit for a long time it is possible that one is dead or very weak but that the total voltage indicated by the test button is near normal. It is cheap insurance to instal new batteries before starting a big survey.
- (c) If unit still fails to operate check that battery connectors are tight, then check wiring of battery connectors for breaks or damage.

VLF-EM OPERATING INSTRUCTIONS

The equipment is operated in the usual way as follows:

1. With the instrument held horizontal in front of you, turn around until a null appears on the field strength meter. You should now be facing the station.
2. With the receiver still facing the station, lift it to the vertical position and rotate it slightly in the vertical plane to your right or left until the best null appears on the field strength meter. Record the angle on the inclinometer at which the null appears. This is the DIP ANGLE (Positive or negative).
3. Return the instrument to the horizontal plane and turn around until the field strength meter is at its maximum reading. Set this maximum reading at 100 on the meter and record the reading on the gain control dial. This is the Field Strength Reading.
4. Repeat steps 1, 2 and 3 at each station.
5. To test the batteries turn the power switch on and push the test button. The field strength meter should read above the red mark. Battery life is approximately 200 hours and if the instrument is turned off between readings, the batteries should last for an entire season.

NOTE: An alternative way of measuring field strength is as follows:

Proceed as in step 3, setting the meter to 100. Now push the field strength button (marked FS) and the meter will read 50. (If it doesn't, adjust the gain control slightly). Leave the Gain Control setting where it is and take comparative Field Strength readings at each station by pressing the Field Strength button and recording the meter reading, which will vary from its Base Station Reading as you pass over conductive zones.

PREFERRED
METHOD

REVISED
OPERATING INSTRUCTIONS
SABRE VLF-EM RECEIVER

INTRODUCTION:

The VLF-EM method utilizes electromagnetic field transmitted from radio stations in the 15-25 K Hz range. The signals are propagated with the magnetic component of the field being horizontal in undisturbed areas.

Conductivity contrasts in the earth create secondary fields, producing a vertical component and changes in the field strength or amplitude. These conductive areas may be located, and to a degree, evaluated by measuring the various parameters of this electromagnetic field.

The Sabre VLF-EM receiver is tuned to receive any 4 transmitter stations: usually C-Cutler Maine, S-Seattle, H-Hawaii and P-Panama.

The station used in the survey should be selected so that the direction of the signal is roughly perpendicular to the direction of the grid lines which, in turn, should be laid out perpendicular to the regional strike.

MEASUREMENTS:

The Sabre VLF-EM receiver can be used to measure the following characteristics of the VLF field.

- (a) Tilt angle of resultant field;
- (b) Field strength of (a) horizontal component of field
(b) vertical component of field

Field Procedure

The following procedure should be followed to measure the dip angle of null and the field strength of the horizontal component of the VLF field.

Initial Field Strength Adjustment

Adjust the gain control to provide a suitable relative field strength measurement, as follows:-

(a) hold receiver in horizontal position (meter faces horizontal) and rotate in a horizontal plane until a null is indicated on the F.S. meter; rotate 90° in this horizontal plane (F.S. meter reads maximum)

(b) adjust gain control so that the F.S. meter reads 100

(c) record gain control setting (000 to 999). Close guard-over gain control and do not readjust unless a major field strength occurs.

The above procedure should be carried out at the beginning of each day's survey and checked during the day.

Dip Angle Measurement Procedure

1. Hold receiver in horizontal position and rotate in the horizontal plane until a null is observed. This aligns receiver in the field and the operator should be facing southerly or easterly depending on transmitter location.

2. Bring receiver up to the vertical position (meter faces vertical) and rotate the receiver in the vertical plane perpendicular to the transmitter direction until a null or minimum reading is observed on the field strength meter.

3. Hold the receiver in this field strength null position and read the inclinometer in degrees. Record this dip angle of null along with sign (+ or -).

Horizontal Field Strength Measurement Procedure

1. Return receiver to the horizontal position.
2. Reestablish null bearing in horizontal plane.
3. Rotate receiver 90° in the horizontal plane.

4. Depress ^{F.S.} damp push button switch and observe field strength meter reading for sufficient time to obtain an average F.S. meter reading. (depressed ^{F.S.} damp switch slows needle action and reduces meter reading by half. The reading will normally range around 50).

5. Record F.S. reading.

Filtering Technique For VLF-EM Dip Angle Data

The standard profile method of presenting dip angle data may be difficult to interpret. A filtering technique, described by D.C. Fraser 1969 (Geophysics, V.34 No. 6, P. 958-967) enables the data to be presented on a plan map with conductive areas defined by contours.

The following explains the calculation:-

<u>Line</u>	<u>Station</u>	<u>Null</u>	<u>Filter</u>
8N	0 E	+ 3	
	1 E	+ 4	
	2 E	+ 4	
	3 E	+ 6	
	4 E	+ 7	
	5 E	+ 9	
	6 E	+ 12	
	7 E	+ 16	
	8 E	+ 2	
	9 E	- 4	
	11 E	- 6	
	12 E	- 1	
		+3+4= +7	
		+4+4= +8	+7-(+10)= -3
		+4+6= +10	+8-(+13)= -5
		+13	+10-(+16)= -6
		+16	-8
		+21	-12
		+28	+3
		+18	+30
		-2	+32
		-14	+14
		-6-1= -7	-14-(-7)= -7

Fig. 1 is an example of a field sheet showing null angle reading, filtered reading and relative field strength. Fig. 2 shows the field sheet with filter card overlaid. The small window in the side of the card shows the four readings used to calculate the filtered reading, and an arrow showing that the filter reading is to be plotted between station 8E and 9E as indicated in fig. 1. The card is moved down the field sheet, one reading at a time as a guide while carrying out the filtering procedure. Throughout the survey care must be taken to ensure that the filtered data has the correct sign. The positive values only are plotted and contoured while for negative values, only the negative sign is plotted.

Crone suggests in instructions for the Radem VLF-EM, the use of N-S or E-W notation instead of (+ or -) signs, however for filtering a sign must be substituted.

4-

The following convention may be used to ensure the correct sign of filtered data and provide a consistent crossover pattern when studying the profiled null angle data.

1. When taking a reading, always face southerly, on east-west lines, and always face easterly on north-south lines.

2. Record data on field sheets (top to bottom) as follows: on N-S lines record from south to north

: on E-W lines record from west to east

3. Plot and profile dip angle data on plan maps facing map north or map west.

The above convention will provide correct data regardless of the property location relative to the transmitter being used.

J.T. WALKER

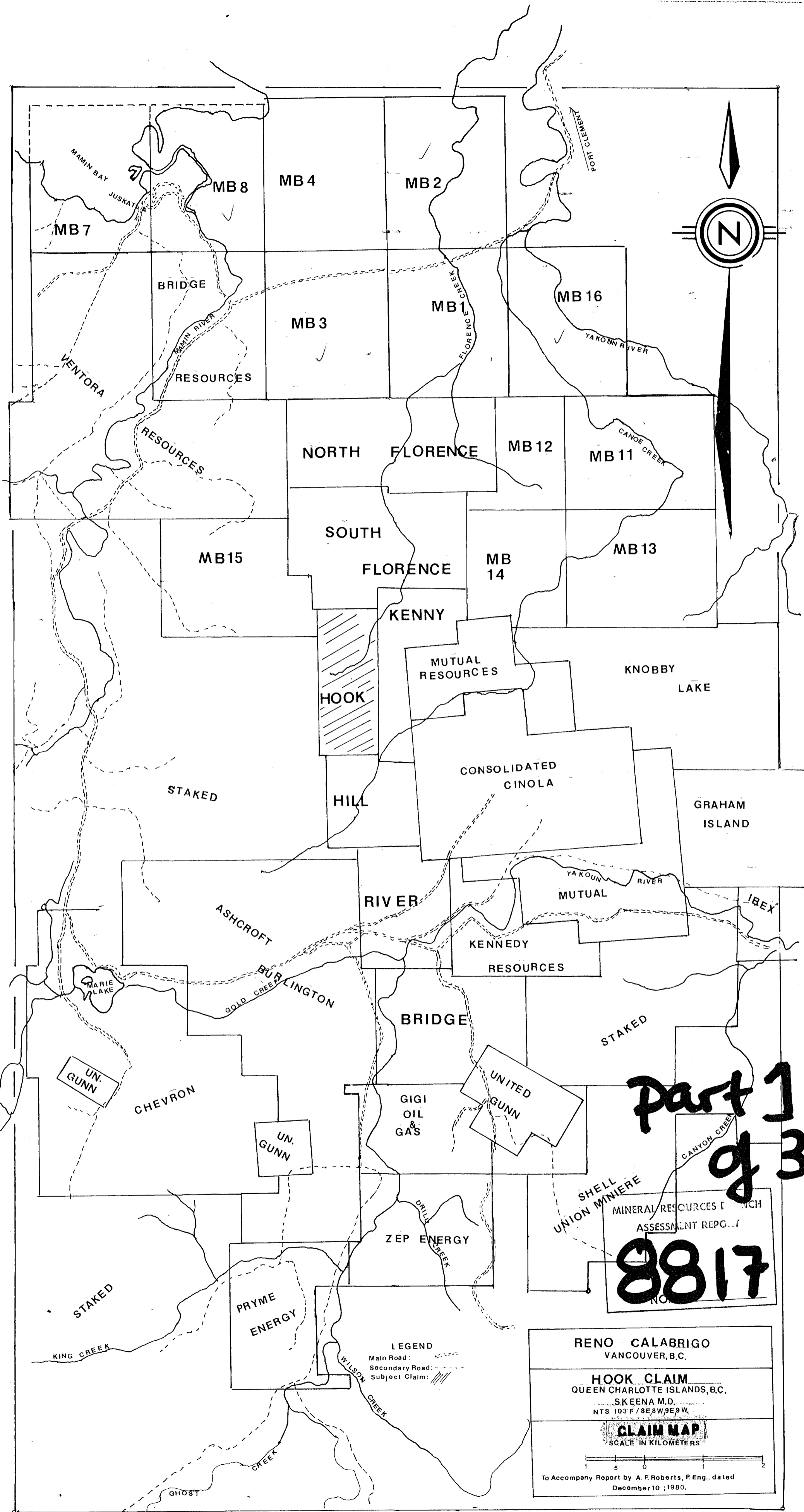
MAY 17, 1974

Station 024 VLF-EM SURVEY

PROPERTY G. L. S. TRANS SCOTTIE PAGE 1
 OPERATOR INSTR. S. 2025 DATE 10/1/74

Line	Sta.	Null	Filter	F. S.	
(8N	0E	+3		50	
	1E	+4	-3	50	
	2E	+4	-5	52	
	3E	+6	-6	52	
	4E	+7	-8	52	
(	5E	+9	-12	52	
	6E	+12	+3	52	
	7E	+16	+30	60	
	8E	+2	+32	65	X OVER
	9E	-4	+11	62	
	10E	-10	-7	50	
	11E	-6	-10	48	
	12E	-1	-14	48	
	13E	+3	-6	50	
	14E	+4	-1	52	
(	15E	+4	+6	50	
	16E	-4	+10	55	X OVER
	17E	-2	+1	55	
(	18E	0	-2	50	
	19E	+1			
	20E	-1			
(

Fig. 1 Example of Field Sheet



*Part 1
of 3*

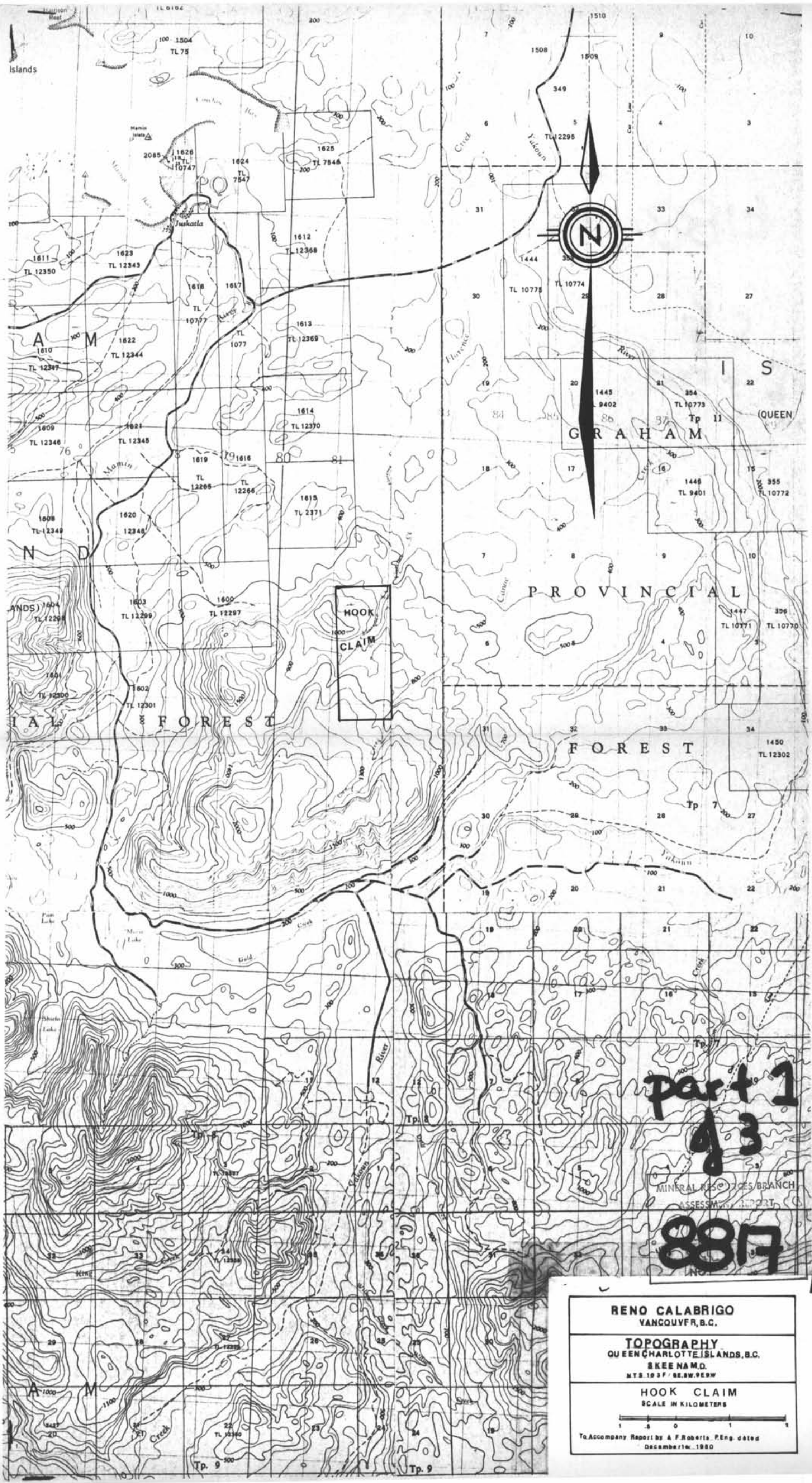
MINERAL RESOURCES DIVISION
ASSESSMENT REPORT
8817

RENO CALABRIGO
VANCOUVER, B.C.

HOOK CLAIM
QUEEN CHARLOTTE ISLANDS, B.C.
SKEENA M.D.
NTS 103 F / 8E, 8W, 9E, 9 W

CLAIM MAP
SCALE IN KILOMETERS

To Accompany Report by A. F. Roberts, P. Eng., dated
December 10, 1980.



part 1
of 3
 MINERAL RESOURCES BRANCH
 ASSESSMENT REPORT
8817
 L.N.O.

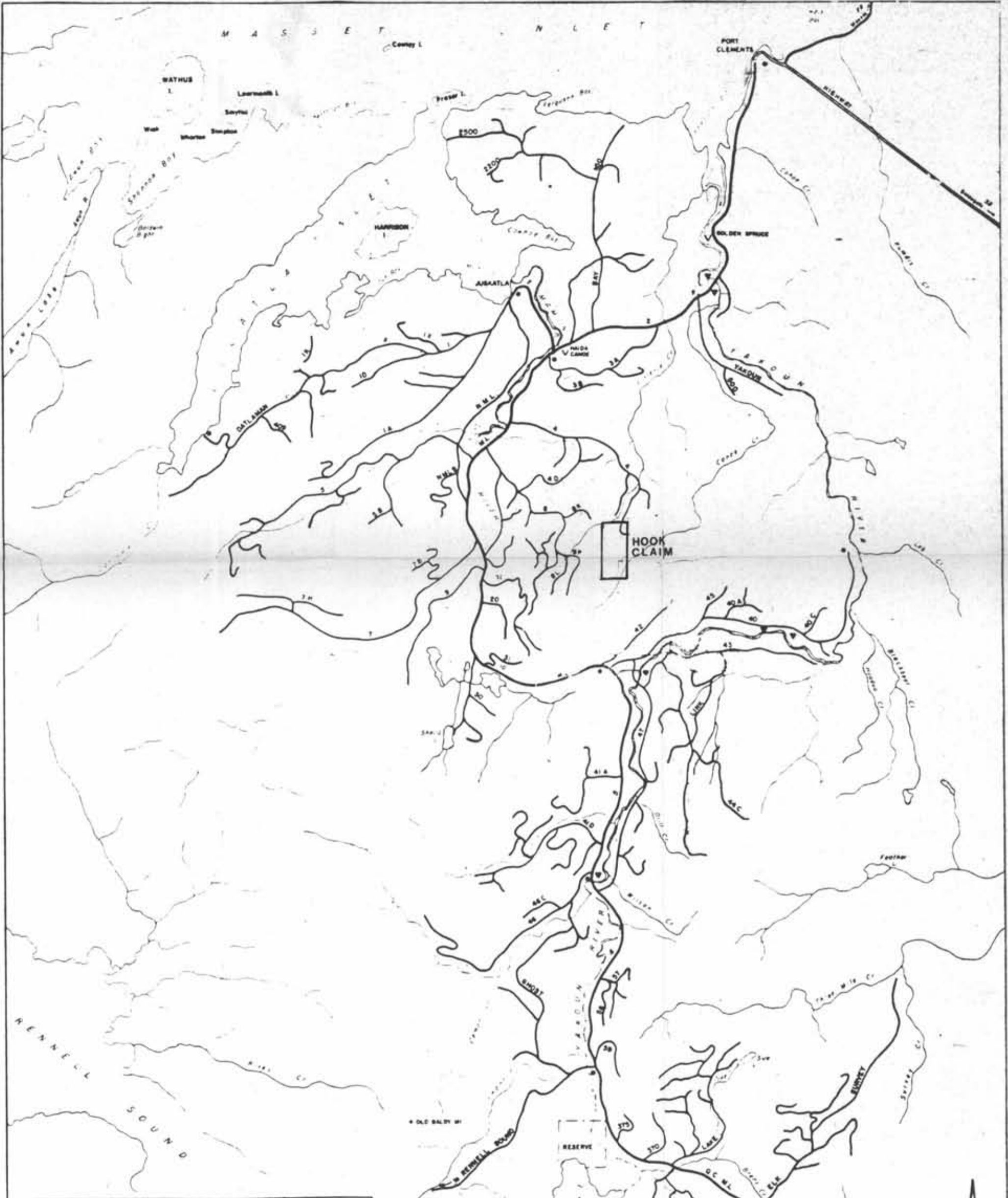
RENO CALABRIGO
 VANCOUVER, B.C.

TOPOGRAPHY
 QUEEN CHARLOTTE ISLANDS, B.C.
 SKEEN M.D.
 N.T.S. 1937 / 82.8W.9E9W

HOOK CLAIM
 SCALE IN KILOMETERS

1 0 1 1

To Accompany Report by A.F. Roberts, P.Eng. dated
 December 14, 1980



AFTER MACMILLAN BLOEDEL MAP
Queen Charlotte Division
LEGEND

- M B industrial main roads, active logging, restricted access
- M B industrial secondary roads, active logging, restricted access
- M B industrial main roads open to traffic 24 hours a day
- M B industrial secondary roads open to traffic 24 hours a day
- Public roads
- Other industrial main roads
- Other industrial secondary roads
- Trails
- Roads names and/or numbers
- Mileage shown between dots
- Park and reserve boundaries
- Campsite
- Picnic site
- Boat launch
- Points of interest and viewpoints

RENO CALABRIGO
 VANCOUVER, B.C.

HOOK CLAIM
 QUEEN CHARLOTTE ISLANDS, BC
 SKEENA M.D.
 NTS 103 F / 9 E, 8 E

ROAD MAP
 SCALE IN MILES

0 1 2 3 4

MAP REPORT BY A.F. ROBERTS, PE 10 Dec 10, 1980

**Part 1
 of 3**

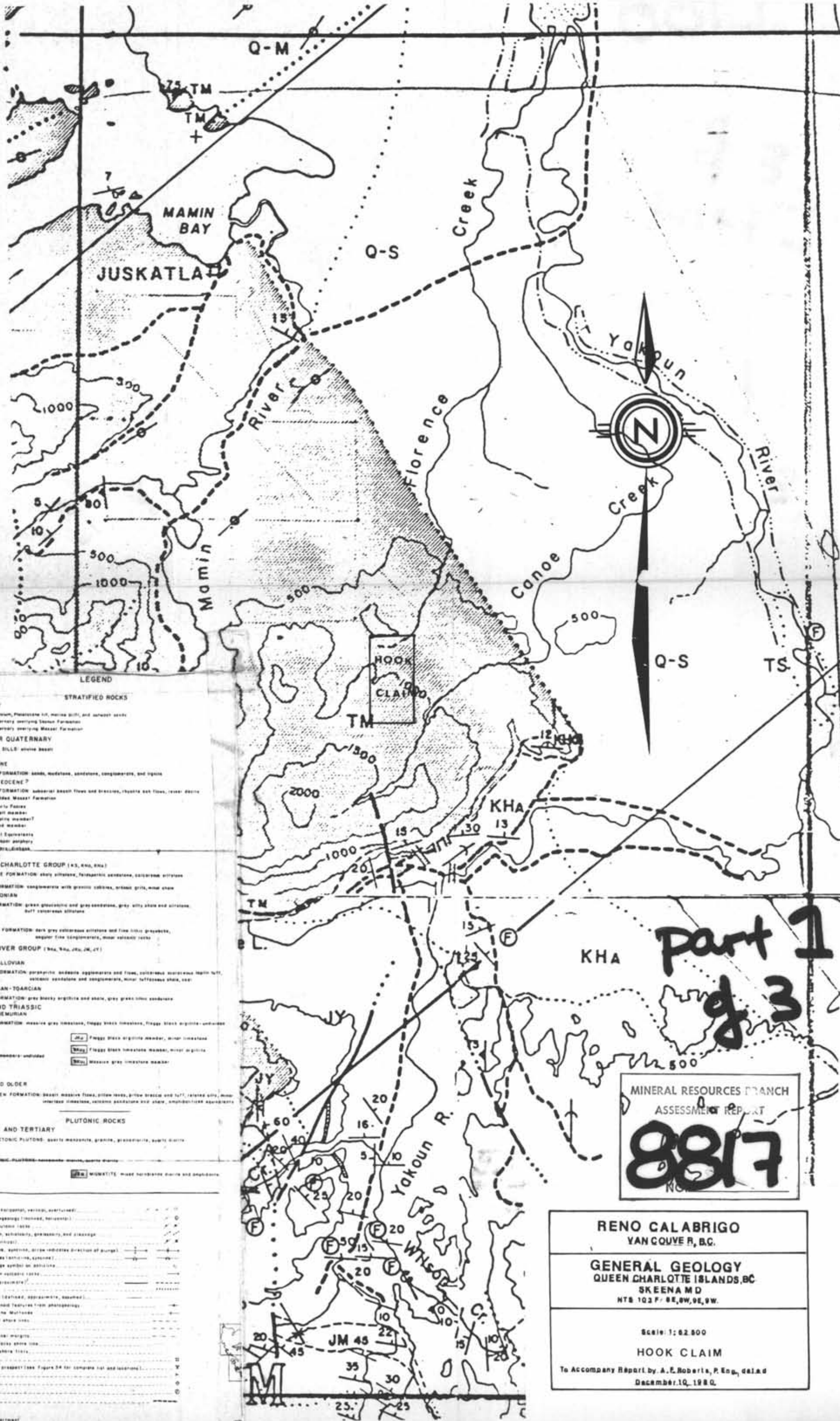
MINERAL RESOURCES BRANCH
 ASSESSMENT REPORT

8817

NO.

REVISED 1977





Part 1
of 3

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8817
NO.

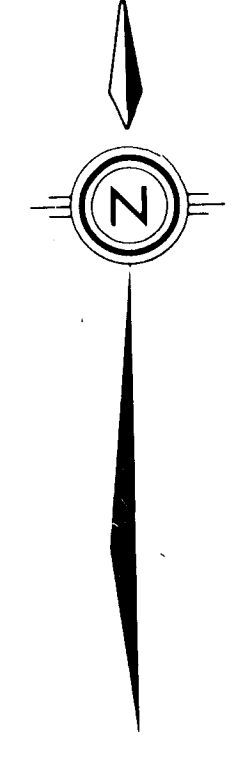
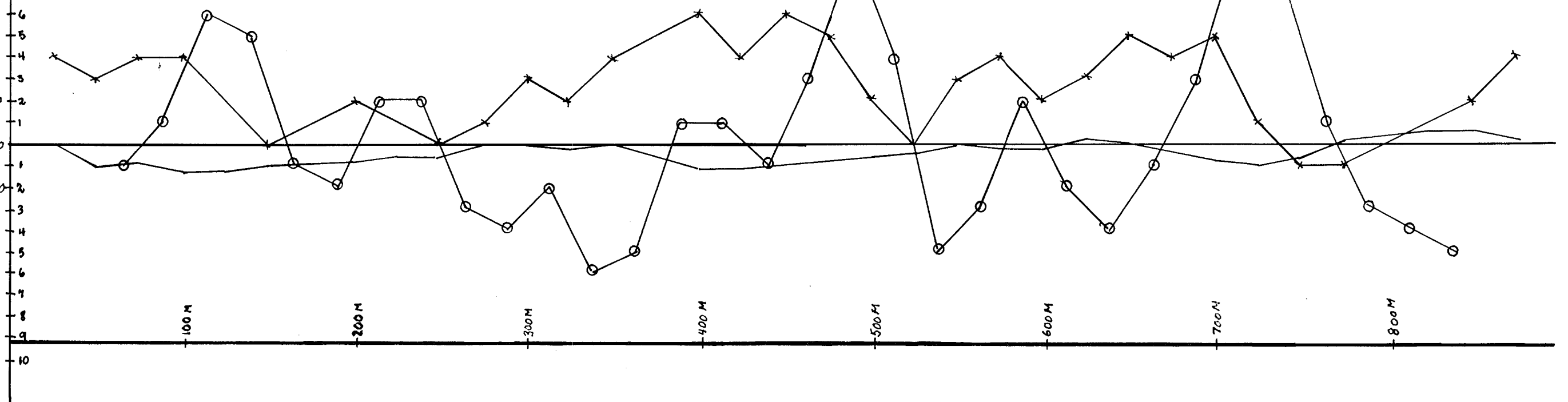
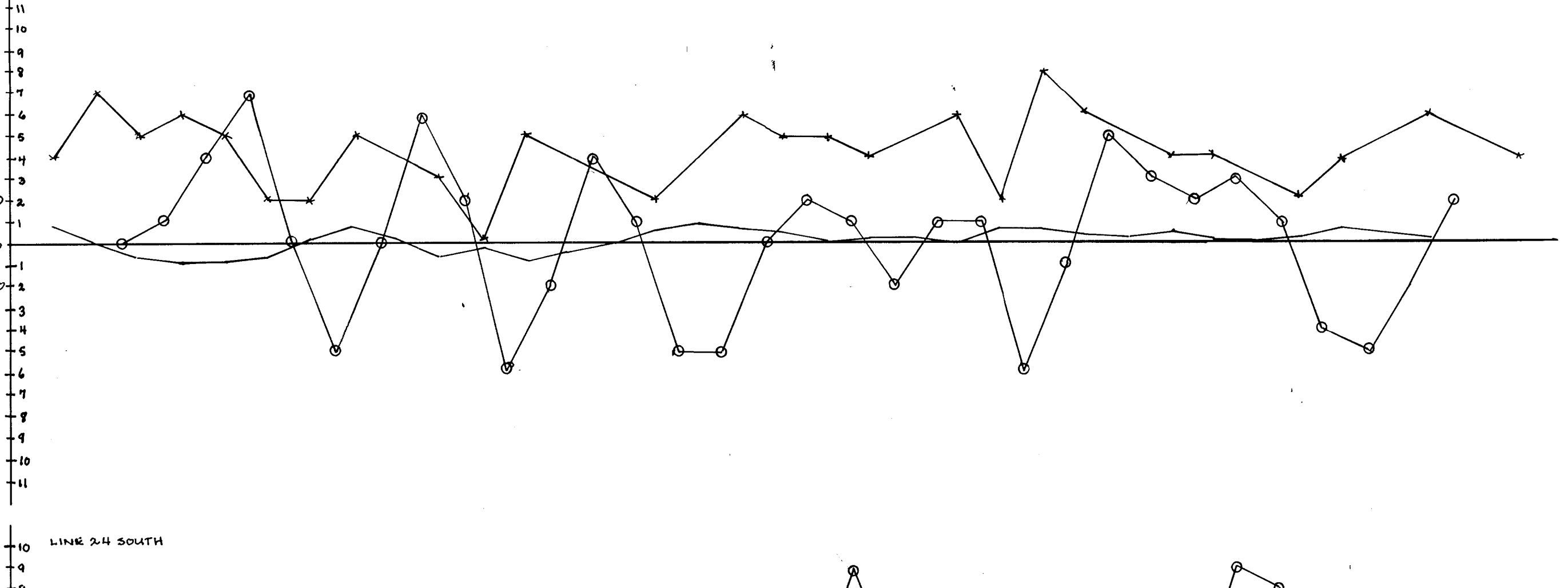
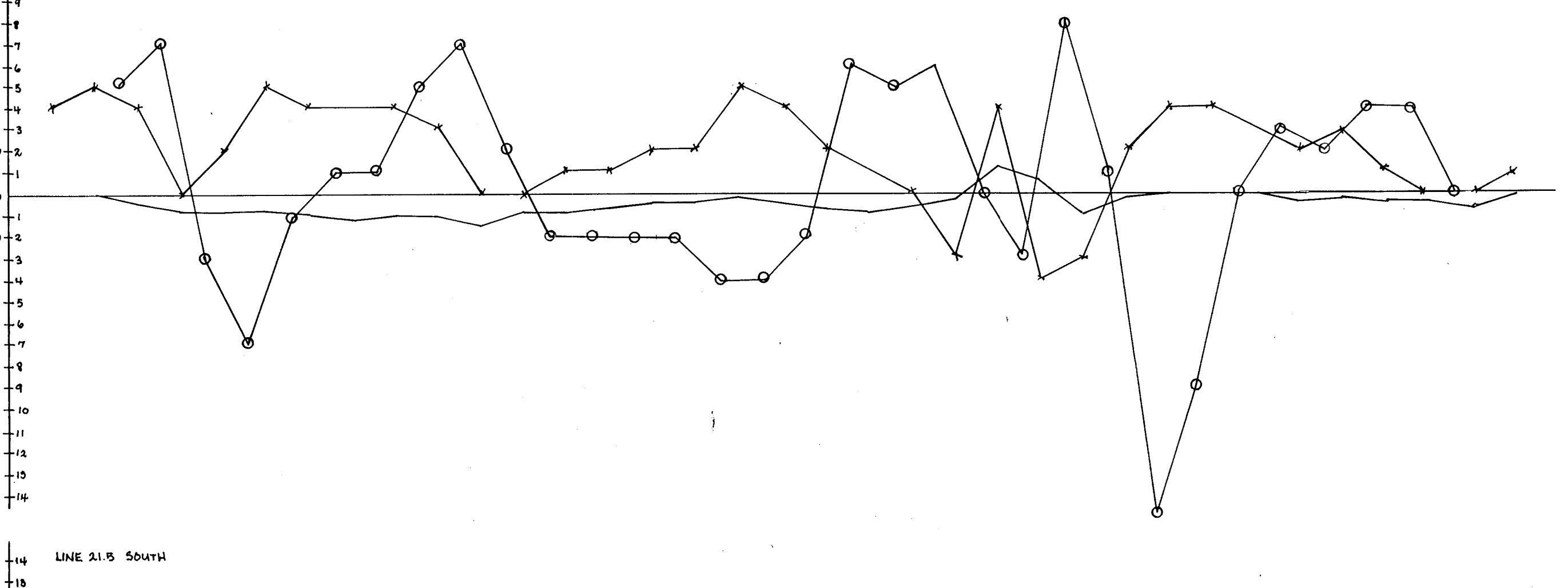
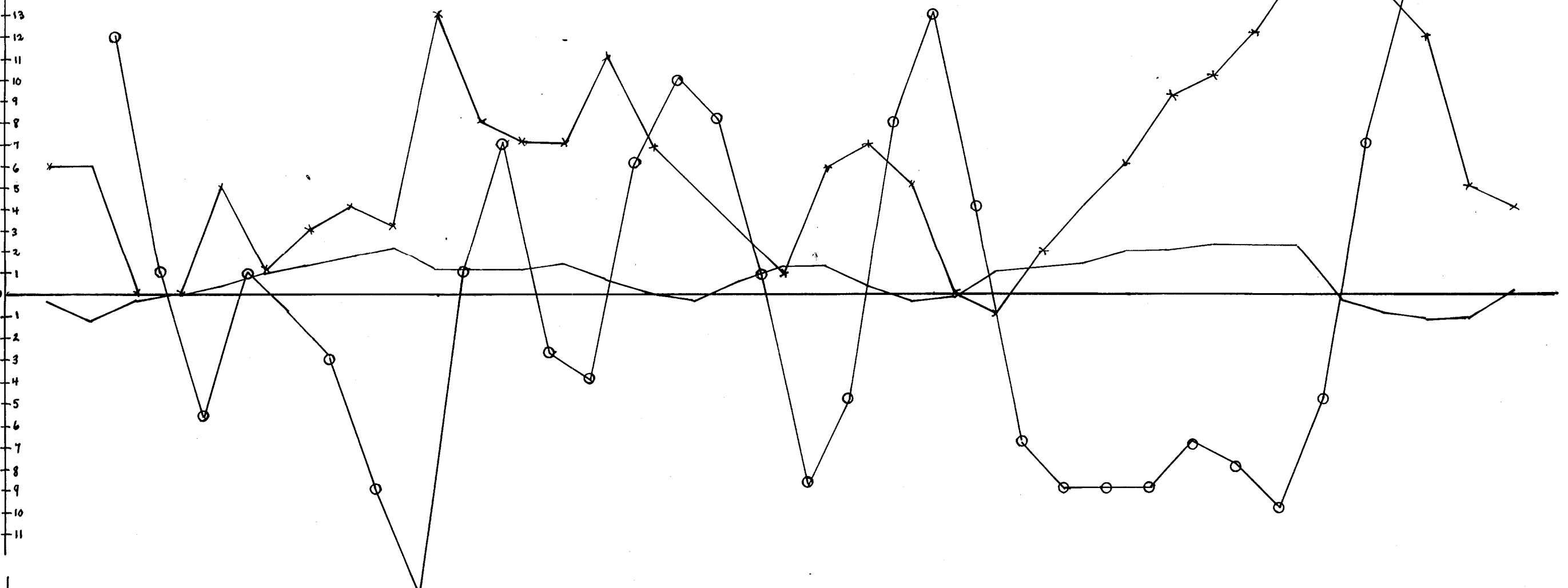
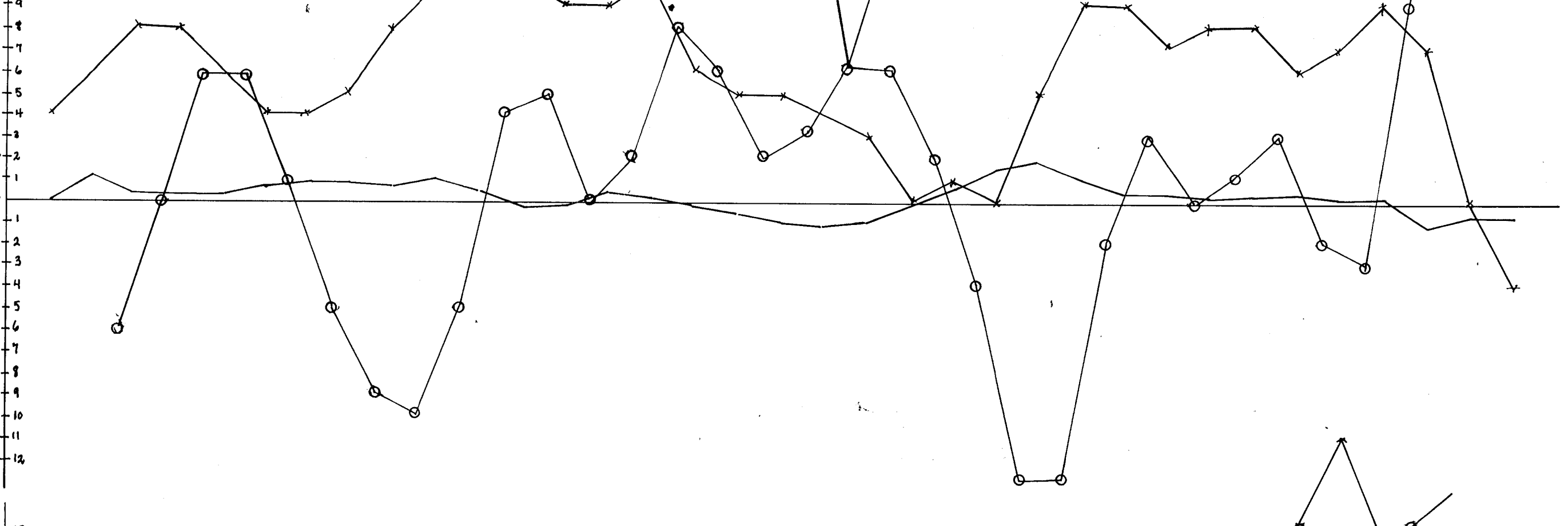
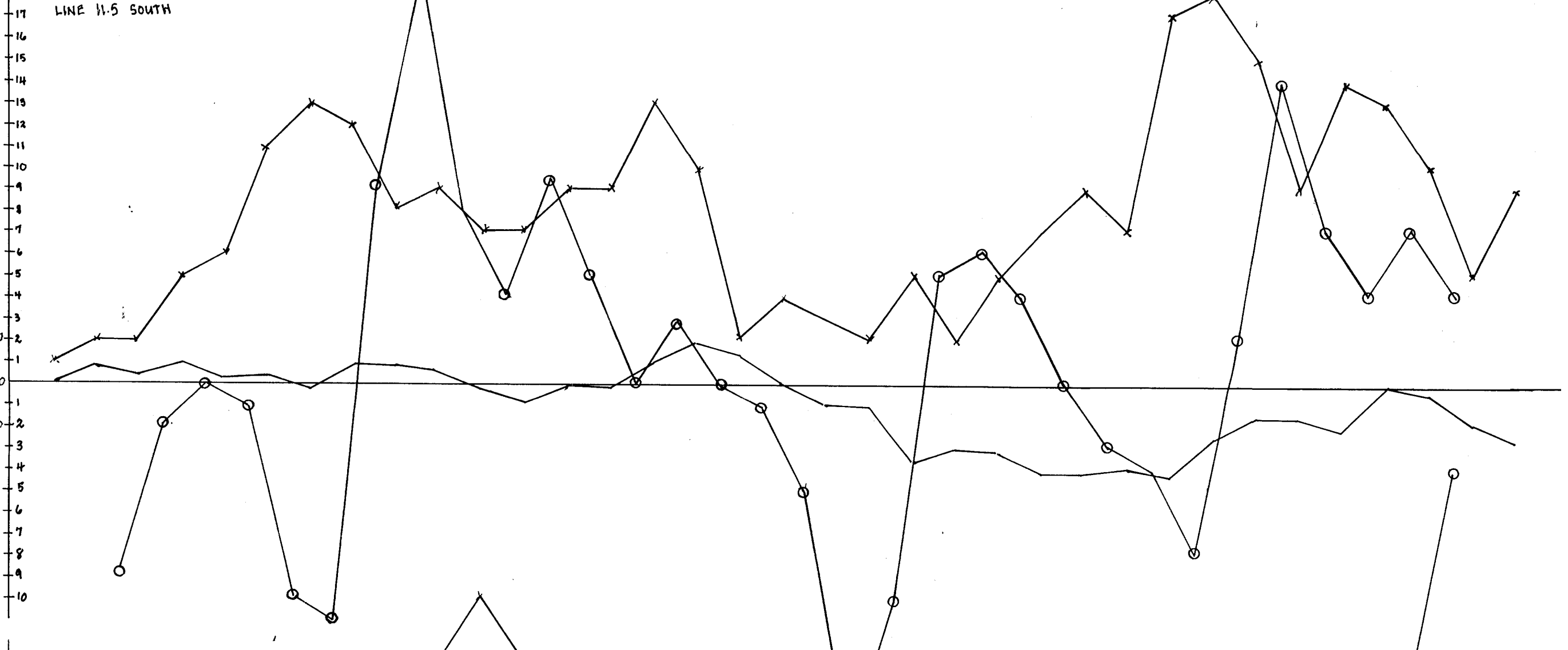
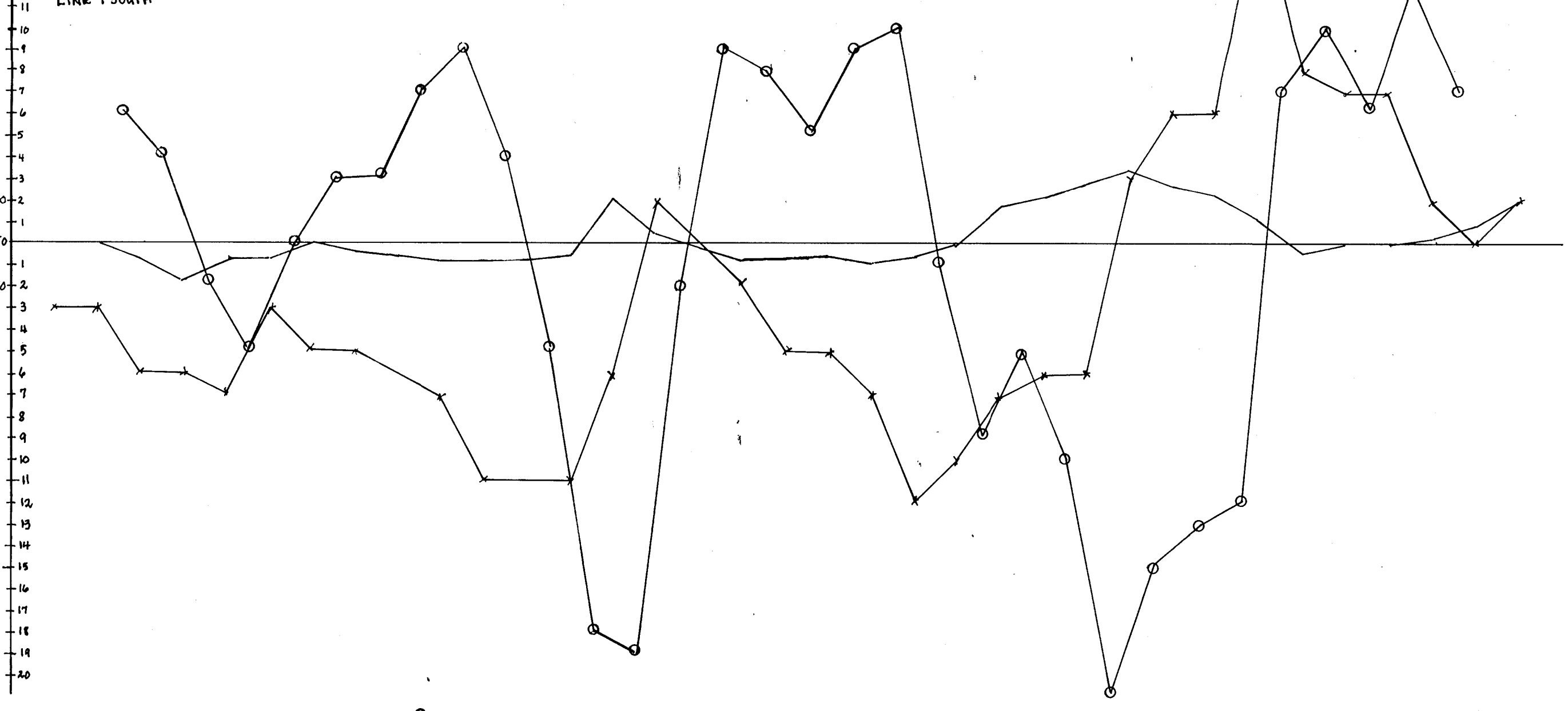
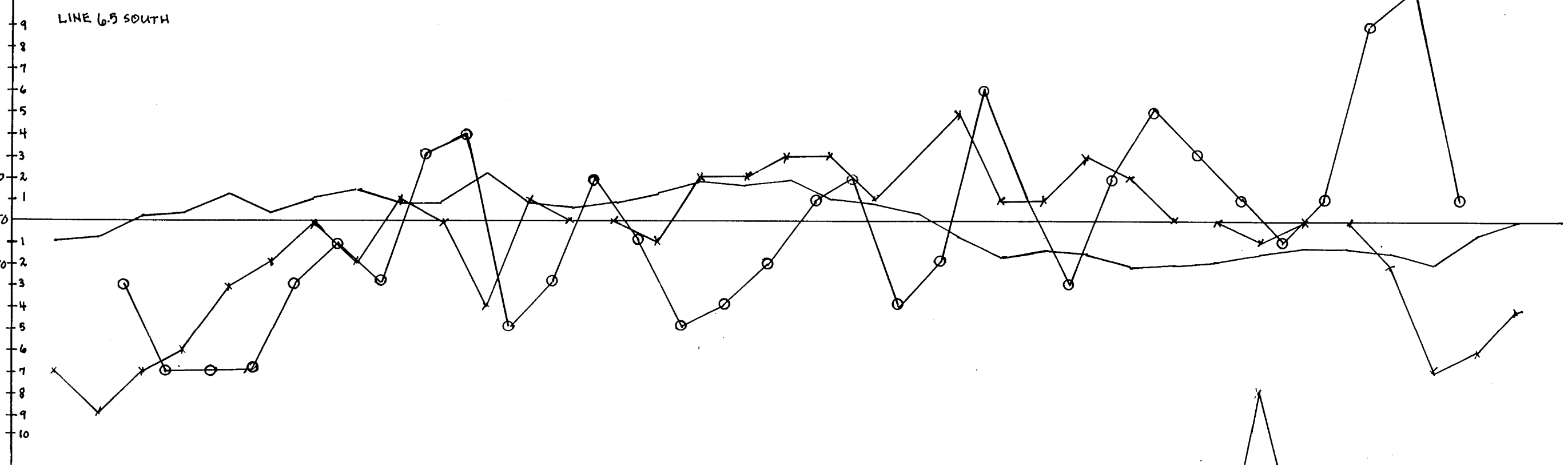
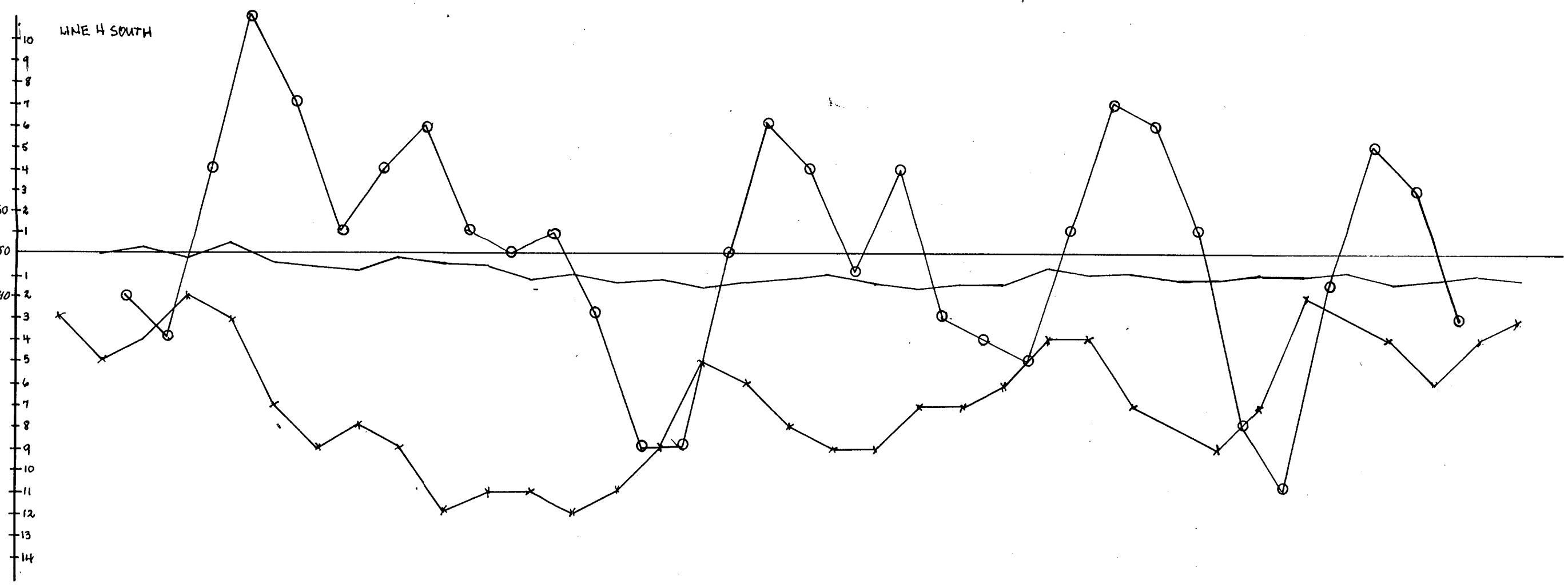
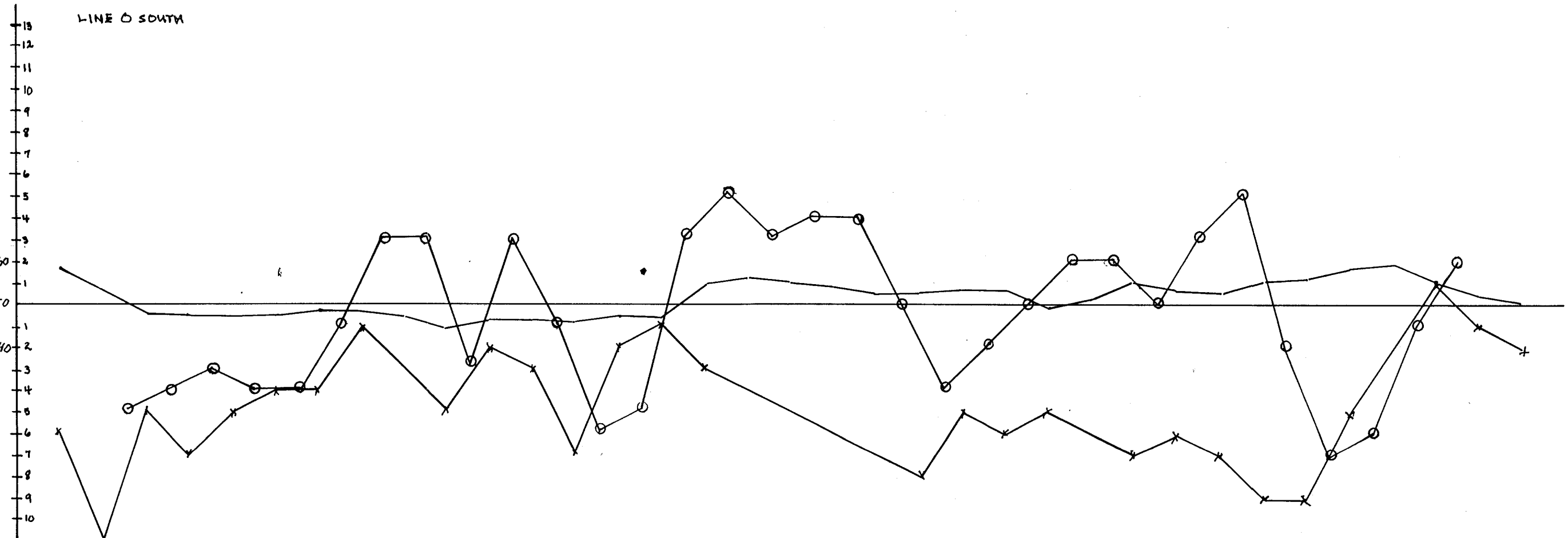
RENO CALABRIGO
VAN COUVE R., B.C.

GENERAL GEOLOGY
QUEEN CHARLOTTE ISLANDS, B.C.
SKEENA M.D.
NTB 102 F. 6E, 6W, 6E, 6W.

Scale: 1:62,500
HOOK CLAIM
To Accompany Report by A. E. Roberts, P. Eng., dated
December 10, 1980.

- LEGEND**
- QUATERNARY**
Recent alluvium, Pleistocene till, marine drift, and alluvial sands
Q-S Quaternary overlying Skeena Formation
Q-M Quaternary overlying Maseel Formation
- TERTIARY OR QUATERNARY**
T.M. HILL SILL: alkali basalt
- TERTIARY**
MID-PLIOCENE
SKOMUN FORMATION: sand, mudstone, sandstone, conglomerate, and lignite
PALEOCENE-EOCENE?
MASEEL FORMATION: subvolcanic basalt flows and breccias, rhyolite ash flows, rhyolite dykes
T.M. (includes Maseel Formation)
Clivedale Tuff
T.M. - Basalt member
T.M. - Rhyolite member
T.M. - Sand member
Hypabyssal Extrusives
T.M. - Tephritic porphyry
T.M. - Andesite
T.M. - Basalt
- CRETACEOUS**
QUEEN CHARLOTTE GROUP (K3, K4a, K4b)
BRIDGATE FORMATION: shaly siltstone, fossiliferous sandstone, calcareous siltstone
KONA FORMATION: conglomerate with granitic cobbles, arkosid grits, minor chert
ALBIAI-TURONIAN
KADA FORMATION: green glauconitic and gray sandstone, gray silt, shales and siltstone, buff calcareous siltstone
NEOCOMIAN
LONSARK FORMATION: dark gray calcareous siltstone and fine silty sandstone, siltstone, shaly sandstone, minor calcareous siltstone
VANCOUVER GROUP (K5a, K5b, J6, J7)
JURASSIC
BAJOCIAN-CALLOVIAN
YAKOUN FORMATION: porphyritic sandstone, conglomerate and flow, calcareous siltstone, shaly siltstone, calcareous sandstone and conglomerate, minor tuffaceous shales, etc.
PLIENSCHACHIAN-TOARCIAN
WADE FORMATION: gray shaly argillite and shale, gray green silty sandstone
JURASSIC AND TRIASSIC
KARNIAN-SINEMURIAN
YUKON FORMATION: massive gray limestone, flaggy black limestone, flaggy black argillite-undulose
TRIASSIC
KARNIAN AND OLDER
KARNITSEN FORMATION: basalt massive flows, pillow lavas, pillow breccias and tuff, rhyolite silt, minor interbedded limestone, calcareous sandstone and shale, amphibolitic sandstone
- PLUTONIC ROCKS**
CRETACEOUS AND TERTIARY
POST-TECTONIC PLUTONS: quartz monzonite, granite, granodiorite, quartz diorite
JURASSIC?
SYENITIC-PLUTONIC: monzonite, quartz diorite
Migmatite: mixed gneissoid, quartz and amphibolite

- Bedding (inclined, horizontal, vertical, overturned)
Bedding from photogeology (inclined, horizontal)
Primary foliation, plutonic rocks
Secondary foliation, schistosity, gneissosity, and cleavage
Joints (inclined, vertical)
Kink axes (inclined, vertical, arrow indicates direction of plunge)
Overturned fold axes (inclined, vertical)
Strike-slip fault (arrow indicates direction of movement)
Direction of flow in volcanic rocks
Fault (defined, approximate)
Lineaments
Geological contact (conformable, unconformable, assumed)
Grooves and structural features from photogeology
Structures and Roche Moutonnée
Dike and sills and other lines
Beach ridges
Terrace and channel margins
Low tide limit of rocky shore line
Beaches and foreshore flats
Contour lines
Imposter mineral prospect (see Figure 24 for complete list and location)
AD
Well (approximate)
Power locality
Road



part 2 of 3

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. **8817**



ElectroMagnetic Survey

RENO CALABRIGO
W. Vancouver, B.C.

HOOK CLAIM

QUEEN CHARLOTTE ISLANDS
Skeena M.D.

N.T.S. 103F/BE 9F

Scale 1cm:25m

To accompany a report by A.F. Roberts P.Eng. Dec.10, 1980

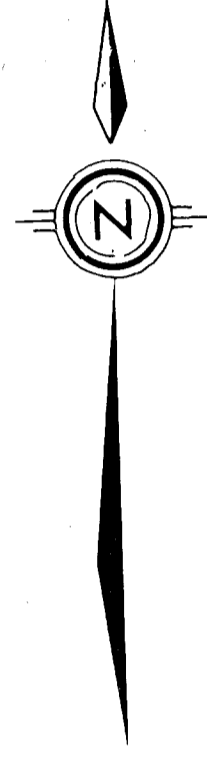
LEGEND

Field Strength ———

Dip Angle x—x

filter ○—○

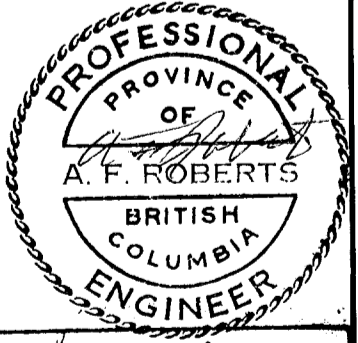
DIP ANGLE



part 2
of 3

PLATE B

MINERAL RESOURCES BRANCH
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8817



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HOOK CLAIM

QUEEN CHARLOTTE ISLANDS
BC
Skeena M.D.
NTS 103 F/8E,9F

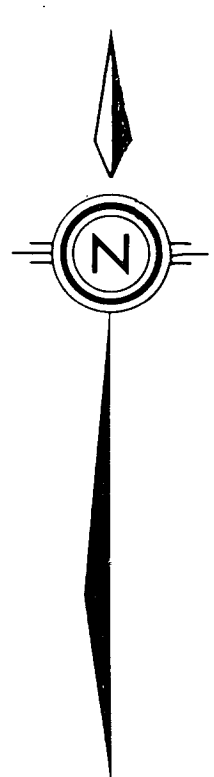
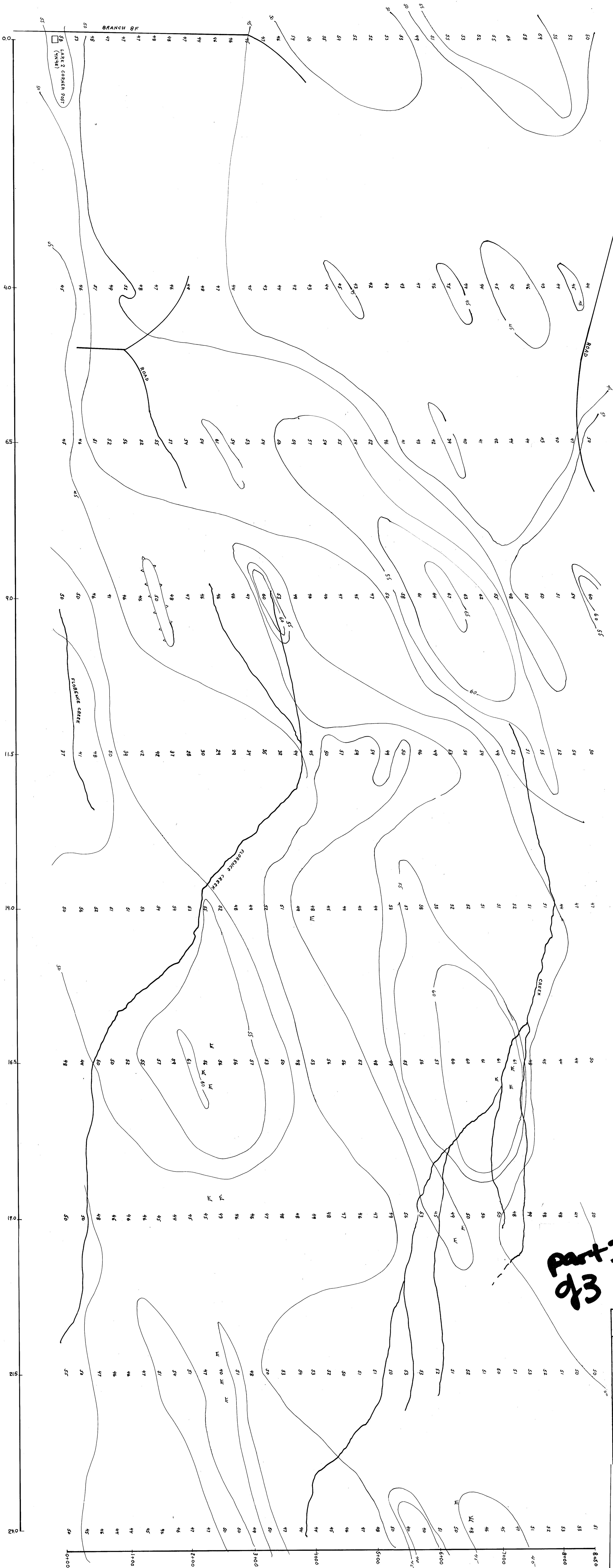
Scale 1cm:25m

To accompany report by A.F. Roberts P. Eng. Dec 10, 1980

LEGEND

- POSITIVE AREAS
- NEGATIVE AREAS
- ELEVATION
- DEPRESSION
- CONTOUR INTERVAL 5
- + 50%
- 50%

FIELD STRENGTH



Part 1
93

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8817
NO.

PROFESSIONAL ENGINEER
A. F. ROBERT
BRITISH COLUMBIA

ElectroMagnetic Survey

RENO CALABRIGO
W. Vancouver, B.C.

HOOK CLAIM

QUEEN CHARLOTTE ISLANDS
B.C.
Skeena M.D.

NT 8108 P/BEP

Scale 1cm: 25m

To accompany a report by A.F. Roberts P. Eng. Dec 10, 1980

LEGEND

POSITIVE AREAS (solid line)

NEGATIVE AREAS (dashed line)

ELEVATION (solid line)

DEPRESSION (dashed line)

CONTOUR INTERVAL 5

+ 50% (solid line)

- 50% (dashed line)