80-#900-#8617
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GEOPHYSICAL REPORT

ON THE

KENNY CLAIM [18 UNITS]

QUEEN CHARLOTTE ISLANDS, B.C.

SKEENA M.D.

Long. 132°13'W. Lat. 53°32.5'W

103F/9E, 9W

for

A. MORROW
Vancouver, B. C.

by

A.F. ROBERTS, P. ENG.

December 10, 1980

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

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REFERENCES

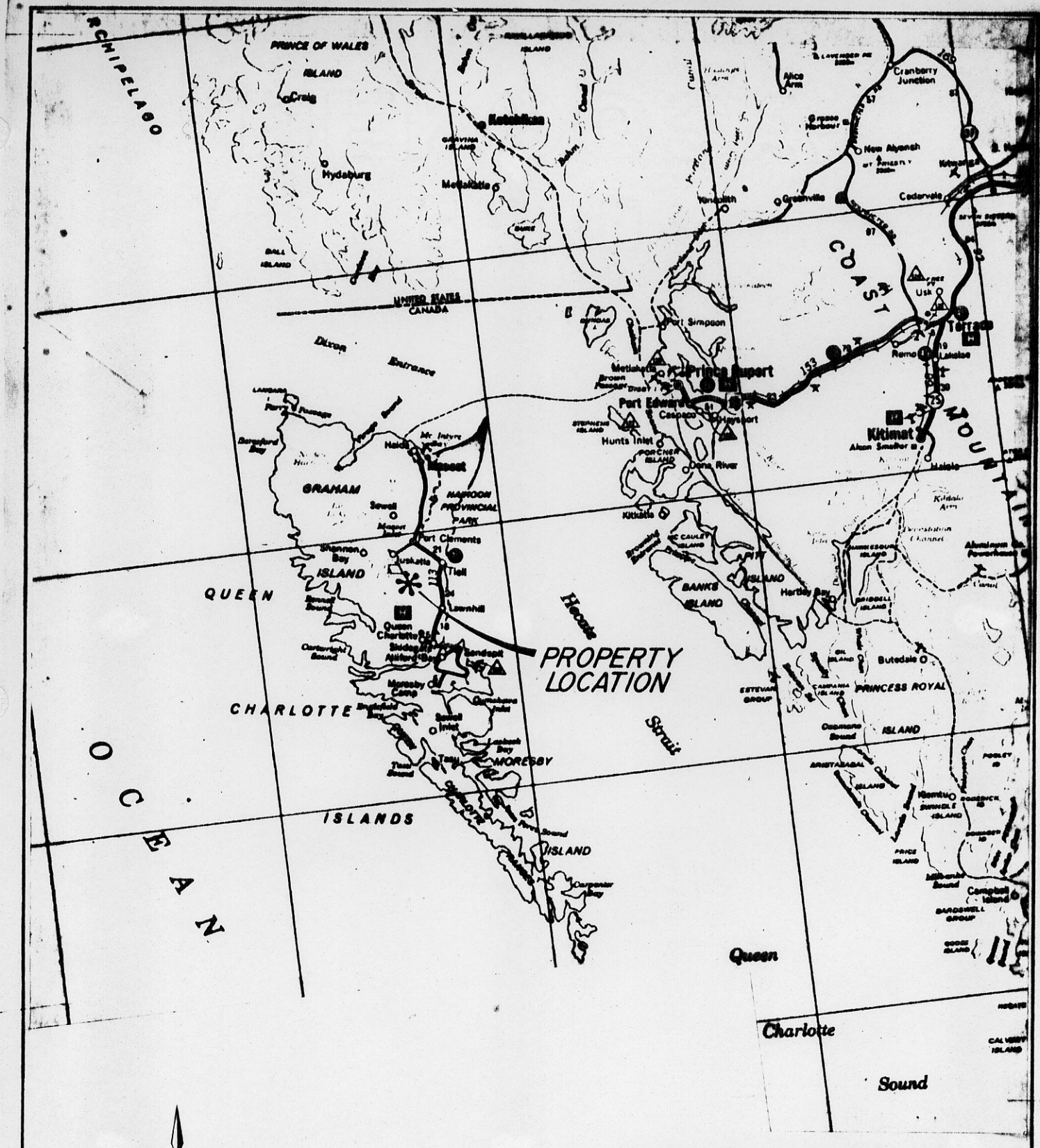
Ref. No.

6] B.C. Department of Mines & Petroleum Resources, Bulletin 54, Geology of the Queen Charlotte Islands, 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.C. 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



A MORROW
VANCOUVER, B.C.

KENNY CLAIM

QUEEN CHARLOTTE ISLANDS, B.C.
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, P.Eng. Dec. 10, 1980

SUMMARY

The recently completed VLF-EM survey has indicated a number of positive and negative conductors with a trend slightly west of north.

Total field strengths, 10% to 20% above background, occur with both positive and negative Fraser Filter anomalies on line 10+00S, to 7+00S with widths of an average 100 metres.

The banding of the contours suggests a variation of rock type or faulting in the underlying rocks. It is possible that a magnetic survey would help to distinguish the various rocks and structure.

There is no geochemistry available to assist in interpretation.

Therefore, it is recommended that a geochemical survey, combined with a magnetic survey, be made over this area. Assay the soil samples for gold, silver, arsenic, mercury.

Phase I:

It is estimated to cost $16,000.00.

Phase II:

Subject to the results of Phase I, and funds available, it is recommended that the balance of the property be covered by combined surveys at an estimated cost of $4,000.00 per unit.

Respectfully submitted,

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

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
A. F. ROBERTS

REPORT
ON THE
KENNY CLAIM [18 UNITS]
QUEEN CHARLOTTE ISLANDS, B.C.
SKEENA M.D.

Long. 132°13'W Lat. 53°32.5'W

for

A. MORROW
Vancouver, B. C.

by

A.F. Roberts, P.Eng.

December 10, 1980

INTRODUCTION

This report is authorized by Mr. A. Morrow, the owner of the claim.

Its purpose is to analyze the data obtained in a VLF-EM survey carried out by Strato Geological of Vancouver, B.C., in the period August 6-September 1, 1980.

The writer was on this property in 1977, and wrote a qualifying report that was never acted on, and has been in the vicinity when examining other claims in the area.

LOCATION, ACCESS, TOPOGRAPHY 1] 2] 3]

The property is located about 25 km southeasterly of Juskatla.

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]

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 — 62 - MAIN LINE
- Mileage, shown between dots — 6
- Park and reserve boundaries
- Campsite
- Picnic site
- Boat launch
- Points of interest and viewpoints — V

A MORROW
VANCOUVER, B.C.

KENNY CLAIM

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

ROAD MAP

SCALE IN MILES
0 1 2 3 4

TO ACCOMPANY REPORT BY A.F. ROBERTS, P.Eng. Dec 10, 1980

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

8617

NO.

A.R.P.C. Jan. 1977

There are no roads on the property, which lies in virgin timber. The best approach is to use Branch Road 42 through the Consolidated Cinola property and then walk. In virgin timber progress is comparatively easy.

Canoe Creek cuts through the southwest corner of the property and Florence Creek through the northwest corner; both are deeply incised.

There is plenty of water for drilling from the creeks and local ponds, which may go dry in the summer months.

In general, the area is one of low relief, with elevations ranging from 400 feet [120 metres] to a maximum of 900 feet [270 metres] in the northwest corner; most slopes being comparatively gentle.

CLAIM 4]

The claim is described as follows:

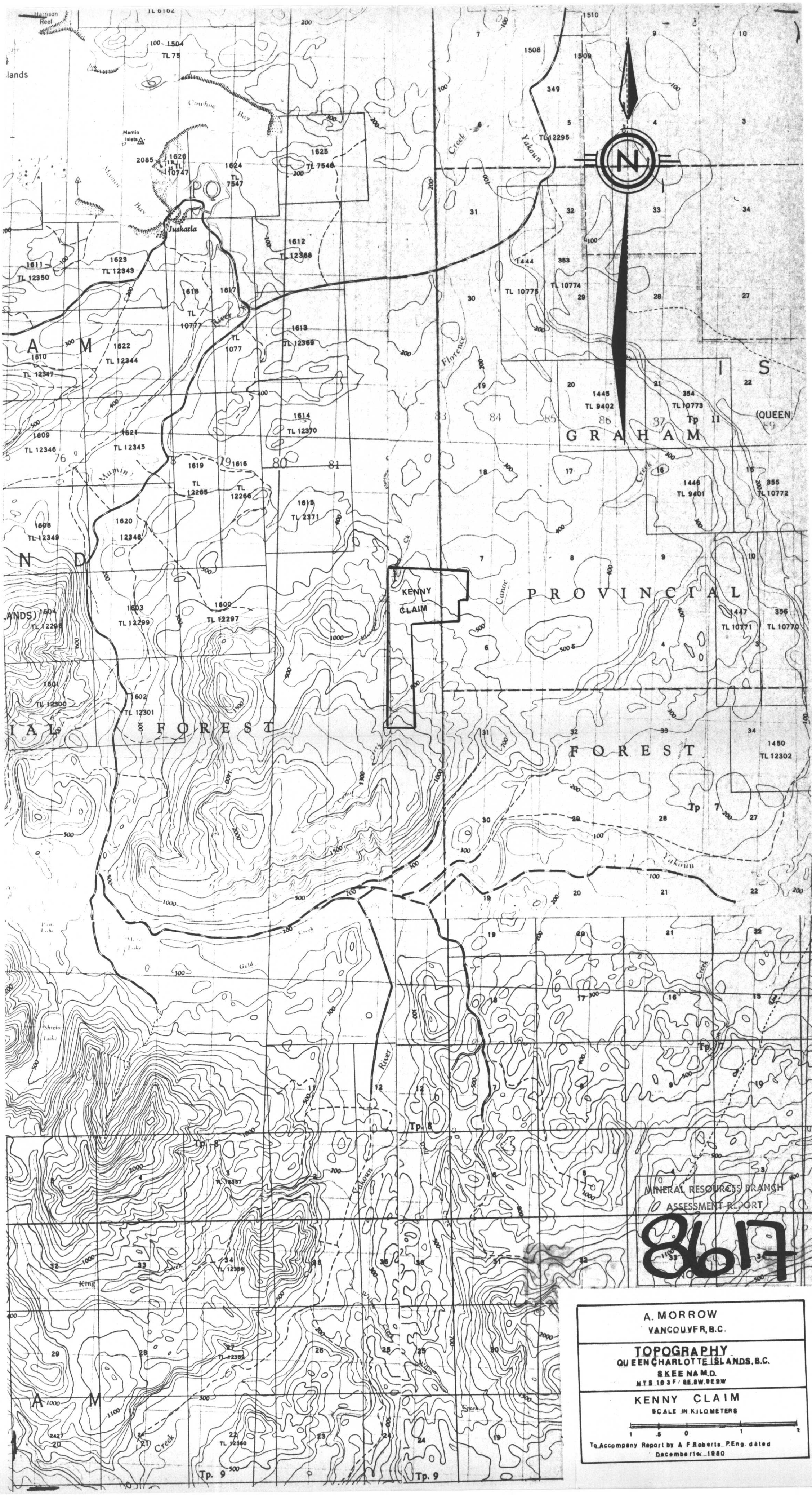
Name	Units	Record No.	Expiry Date
Kenny	10	1772	September 28, 1980

Assessment work has been filed, this report being part of the work to keep the claim in good standing until 1981.

Posts are in accordance with the Mining Act. The exact location and the amount of ground covered can only be determined by a legal survey.

4] Claim Map: B.C. Department of Mines & Petroleum Resources

[Follows page 2]


Harrison Reef
lands
Couchoe Bay
Mamin Islets
Mamin Bay
Juskatla
PO
Mamin River
Yakoun Creek
Florence Creek
Canoe Creek
KENNY CLAIM
GRAHAM ISLAND
PROVINCIAL FOREST
(QUEEN CHARLOTTE ISLANDS)
Pim Lake
Shiela Lake
Gold Creek
King Creek
Tp. 7
Tp. 8
Tp. 9
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8617
A. MORROW
VANCOUVER, B.C.
TOPOGRAPHY
QUEEN CHARLOTTE ISLANDS, B.C.
SKEENA M.D.
NTS 103F/8E,8W,9E,9W
KENNY CLAIM
SCALE IN KILOMETERS
1 .5 0 1 2
To Accompany Report by A.F. Roberts, P.Eng. dated December 1st, 1980

Q-M

TM

TM

MAMIN BAY

JUSKATLA

Q-S

Creek

Yakoun River

Florence Creek

Canoe Creek

River

Mamin River

KENNY CLAIM

TM

KHA

KHA

Q-S

TS

N

LEGEND

STRATIFIED ROCKS

QUATERNARY

Recent alluvium, Pleistocene till, marine drift, and outwash sands

Q-S Quaternary overlying Skonun Formation

Q-M Quaternary overlying Masset Formation

TERTIARY OR QUATERNARY

TOW HILL SILLS: olivine basalt

TERTIARY

MIO-PLIOCENE

SKONUN FORMATION: sands, mudstone, sandstone, conglomerate, and lignite

PALEOCENE-EOCENE?

MASSET FORMATION: subaerial basalt flows and breccias, rhyolite ash flows, lesser dacite

TM - Undivided Masset Formation

Divided Tartu Facies

TMc - Basalt member

TMb - Rhyolite member

TMa - Mixed member

Hypabyssal Equivalents

TMd - Feldspar porphyry

TMe - Gabbro-diabase

CRETACEOUS

QUEEN CHARLOTTE GROUP (KS, KHo, KHa)

KS SKIDEGATE FORMATION: shaly siltstone, feldspathic sandstone, calcareous siltstone

HONNA FORMATION: conglomerate with granitic cobbles, arkosic grits, minor shale

ALBIAN-TURONIAN

HAIDA FORMATION: green glauconitic and grey sandstone, grey silty shale and siltstone, buff calcareous siltstone

NEOCOMIAN

LONGARM FORMATION: dark grey calcareous siltstone and fine lithic greywacke, angular fine conglomerate, minor volcanic rocks

VANCOUVER GROUP (JKA, JKu, JKu, JM, JY)

JURASSIC

BAJOCIAN-CALLOVIAN

YAKOUN FORMATION: porphyritic andesite agglomerate and flows, calcareous scoraceous lapilli tuff, volcanic sandstone and conglomerate, minor tuffaceous shale, coal

PLIENSBACHIAN-TOARCIAN

MAUDE FORMATION: grey blocky argillite and shale, grey green lithic sandstone

JURASSIC AND TRIASSIC

KARNIAN-SINEMURIAN

JKu KUNGA FORMATION: massive grey limestone, flaggy black limestone, flaggy black argillite - undivided

JKu Flaggy black argillite member, minor limestone

JKu2 Flaggy black limestone member, minor argillite

JKu1 Massive grey limestone member

JKu Limestone members - undivided

TRIASSIC

KARNIAN AND OLDER

KARMUTSEN FORMATION: basalt massive flows, pillow lavas, pillow breccia and tuff, related sills, minor interlava limestone, volcanic sandstone and shale, amphibolitized equivalents

PLUTONIC ROCKS

CRETACEOUS AND TERTIARY

POST-TECTONIC PLUTONS: quartz monzonite, granite, granodiorite, quartz diorite

JURASSIC?

SYNTECTONIC PLUTONS: hornblende diorite, quartz diorite

JSm MIGMATITE: mixed hornblende diorite 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)

Fold axes (anticline, syncline, arrow indicates direction of plunge)

Overturned fold axes (anticline, syncline)

Dragfold with plunge symbol on anticline

Direction of flow in volcanic rocks

Fault (defined, approximate)

Lineaments

Geological contact (defined, approximate, assumed)

Grooves and drumlinoid features from photogeology

Striations and Roche Moutonee

Old sea cliffs and shore lines

Beach ridges

Terrace and channel margins

Low tide limit of rocky shore line

Beaches and foreshore flats

Community

Important mineral prospect (see Figure 34 for complete list and locations)

Adit

Well (abandoned)

Fossil locality

Road

any Bulletin 54, B.C. Department
ind Petroleum Resources, 1968

132°00

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

8017
NO.

A. MORROW

VANCOUVER, B.C.

GENERAL GEOLOGY

QUEEN CHARLOTTE ISLANDS, B.C.

SKEENA M.D.

NTS 103 F/ 8E, 8W, 9E, 9W.

Scale: 1: 62,500

KENNY CLAIM

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

Overburden may be quite deep on this property as indicated in Canoe Creek.

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

The survey was carried out using a Sabre Model 27 VLF-EM instrument, Serial No. 103. This instrument is made by Sabre Electronics of Burnaby, B.C.

The grid was 100 metres by 25 metres covering approximately 5 units.

Dip angles recorded were practically all negative.

Application of the Fraser Filter yielded some moderately high conductor zones.

These zones, both in dip angle and Fraser Filter indicate a northwesterly to southerly trend.

There are a few areas where the total field strength is 10% to 20% above the background of 50%. These, mostly along line 10+00S coincide with stronger Fraser Filter positive zones, and one negative zone, with widths in the order of 100 metres.

On line 7+00S, at 3+00E and 4+00E there is also a good conductor with a +10% to +20% field strength, which ties in with a conductor on line 10+00E.

9] Appendix A - Operating Instructions, Fraser Filter Calculations [End of Report]

10] Contouring of 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 [Back Pocket]

13] Plate C - Plan, Fraser Filter [Back Pocket]

14] Plate D - Plan, Total Field [Back Pocket]

MAMIN BAY
JUSKATLA
MB 8
MB 4
MB 2
PORT CLEMENT
MB 7
BRIDGE
MB 3
MB 1
FLORENCE CREEK
MB 16
YAKOUN RIVER
MAMIN RIVER
RESOURCES
VENTORA
RESOURCES
NORTH FLORENCE
MB 12
MB 11
CANOE CREEK
SOUTH FLORENCE
MB 15
MB 14
MB 13
LCP
KENNY
MUTUAL RESOURCES
KNOBBY LAKE
HOOK
CONSOLIDATED CINOLA
STAKED
HILL
GRAHAM ISLAND
YAKOUN RIVER
MUTUAL
IBEX
RIVER
ASHCROFT
KENNEDY RESOURCES
MARIE LAKE
GOLD CREEK
BURLINGTON
BRIDGE
STAKED
UN. GUNN
CHEVRON
UN. GUNN
GIGI OIL & GAS
UNITED GUNN
CANYON CREEK
SHELL UNION MINIERE
DRILL CREEK
ZEP ENERGY
STAKED
PRYME ENERGY
KING CREEK
WILSON CREEK
GHOST CREEK

N

LEGEND
Main Road:
Secondary Road:
Subject Claim:

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8617
NO.

A. MORROW
VANCOUVER, B.C.

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

CLAIM MAP
SCALE IN KILOMETERS

1 5 0 1 2

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

CONCLUSIONS

The survey has yielded a few areas of further interest which deserve follow-up work.

Any record of geochemistry that was done in the past, has not been located. Therefore, the geochemistry program should be repeated over this area, making sure that samples are from the "B" horizon only, using an auger where required.

A combined VLF-EM geochemistry program over the balance of the property should be completed.

A magnetic survey may help to differentiate between rock types and/or faulting; as the contouring suggests that underneath the heavy overburden this claim may have a series of rock types of different conductivity.

RECOMMENDATIONS

In the area covered by this survey, conduct a geochemical survey, along with a magnetic survey.

Conduct a VLF-EM survey, geochemistry and magnetic survey over the balance of the property.

ESTIMATED COSTS

A contractor has given an estimate of $702/km for a combined VLF-EM survey, inclusive of all costs and includes a cut baseline. Assaying is additional.

A separate geochemistry-magnetic survey over the current lines is estimated at $500.00/km.

Phase I:

Geochemistry and magnetic surveys	
13.5 km @ $500/km	$ 6,750.00
Assaying 480 samples @ $8.75 Gold, Silver, Arsenic, Mercury	4,200.00
	10,950.00
Engineering, consultant reports, maps, etc.	3,000.00
Sub-total	$13,950.00
15% contingencies	2,092.50
	$16,042.50

Say $16,000.00

Phase II:

Combined surveys over the balance of the property will be left dependant on the results of Phase I, and the funds available.

It can be expected to cost in the order of $ 4,000.00/unit

Respectfully submitted,

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

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
A. F. ROBERTS

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.

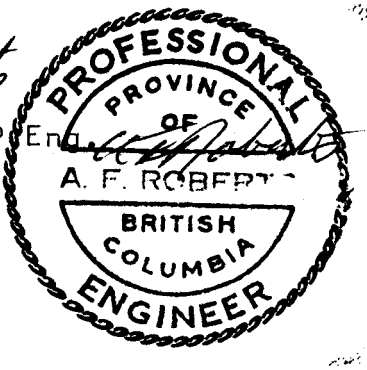
4] The accompanying report is based entirely on my personal examination of the property and on material referred to in the text.

5] I have no interest, direct or indirect, in the Kenny Claim, nor have I any interest, direct or indirect, in any companies with whom Mr. A. Morrow 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 which 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, P.Eng.



STATEMENT OF COSTS

KENNY CLAIM [18 UNITS]

RECORD NO. 1772

Direct Costs

Labour	$1,825.00	
E.M. Rental	30.00	
Transportation	90.00	
Total		$1,945.00

Personnel [August 6 - September 1, 1980]

G. Smith
T. Higginson
W. Davidson
B. Fisher
S. Brodie
A. House
K. Dorlund

The above data supplied by Strato Geological of Vancouver, B.C., the contractor.

Engineer's Report		739.40
Total		$2,684.40

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

A.F. Roberts, P.Eng.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
A. F. ROBERTS

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

APPENDIX A

OPERATING INSTRUCTIONS

SABRE MODEL 27, VLF-EM

FRASER FILTER CALCULATIONS

SABRE ELECTRONIC
INSTRUMENTS LTD.

4245 EAST HASTINGS STREET • BURNABY, B.C. V5C 2J5 • TELEPHONE: 291-1617

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° and an accuracy of $\pm$ ½°.
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. 9½" x 2½" x 8½"; 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:

PREFERRED METHOD >

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.

SAMPLE

OPERATING INSTRUCTIONS
SABRE VLF-EM RECEIVER

INTRODUCTION:

The VLF-EM method utilizes electromagnet 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 fain 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 damp push button switch and observe field strength meter reading for sufficient time to obtain an average F.S. meter reading. (depressed damp switch slows needle action and reduces meter reading by half. The reading will normally range around 50).
5. Record F.S. reading.

Filtering Techneque 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:-

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

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.

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

VLF-EM SURVEY

Grid = 0 2+

PROPERTY GLASS TRANS SEATTLE PAGE 1

OPERATOR _____ INSTR. SCINTREX DATE NOV 4/74

Line	Stn.	Null	Filter	F. S.	
8N	0E	+3		50	
	1E	+4	-3	50	
	2E	+4	-5	52	
	3E	+6	-6	52	
	4E	+7	-8	57	
	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	+2	-6	50	
	14E	+4	-1	52	
	15E	+4	+6	50	
	16E	+4	+15	55	X over
	17E	-2	+1	55	
	18E	0	-2	50	
	19E	+1			
	20E	-1			

Fig. 1 Example of Field Sheet

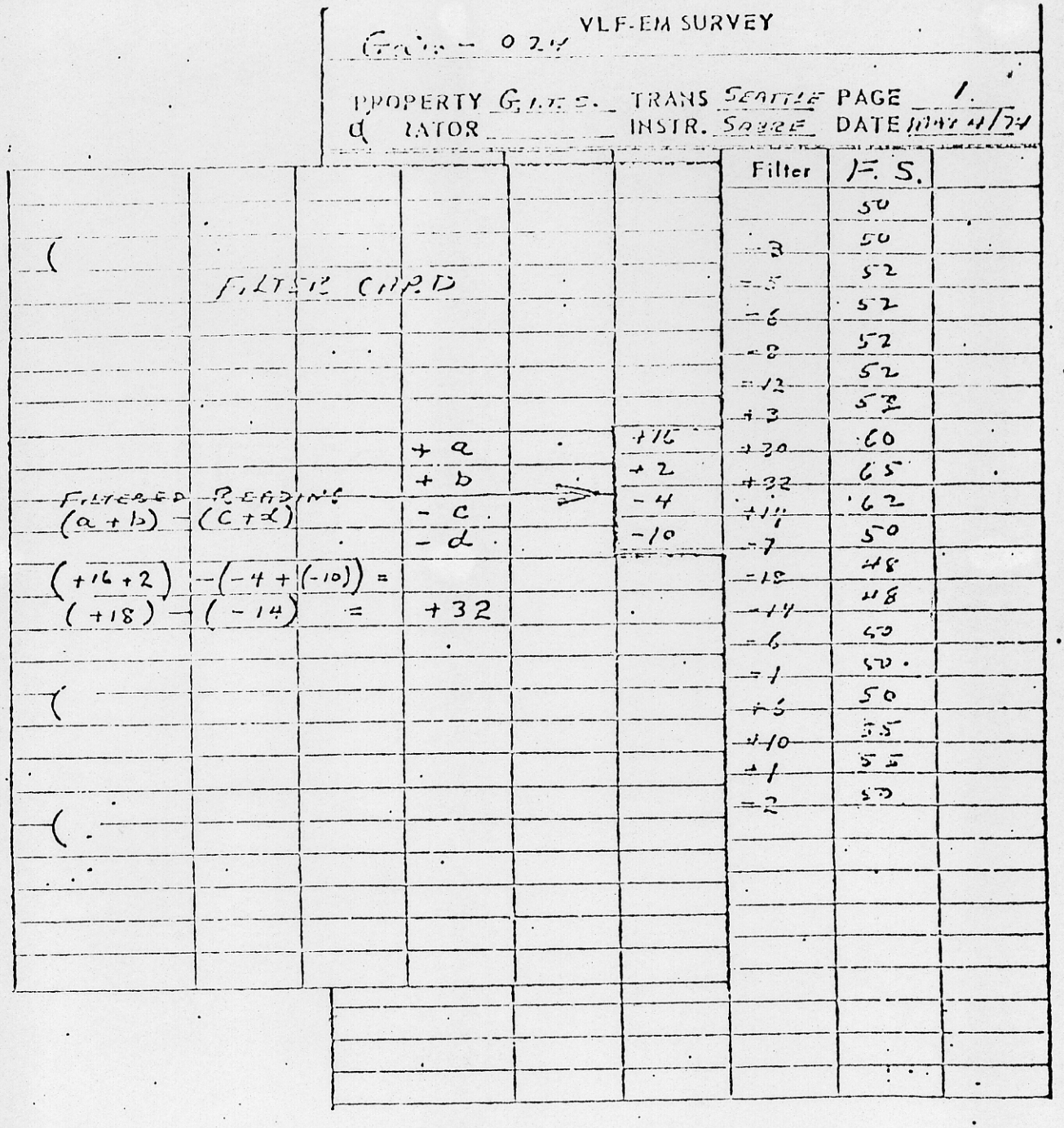


Fig. 2 Field Sheet with Filter Card Overlayed

GEOLOGY [5] [6] [7] [8]

There are no known outcrops on the Kenny Claim. Therefore geology is dependant entirely on Bulletin 54.

The area is underlain by the Paleocene Masset Formation consisting of sub-aerial basalt flows and breccias, rhyolite ash flows, and some dacite.

There are probably underlain by the Cretaceous Haida formation consisting of various sandstones and siltstones.

It is possible that a strand of the Sandspit fault, which is thought to be responsible for the mineralization of the Cinola property, may pass through the property.

The map indicates no known faulting.

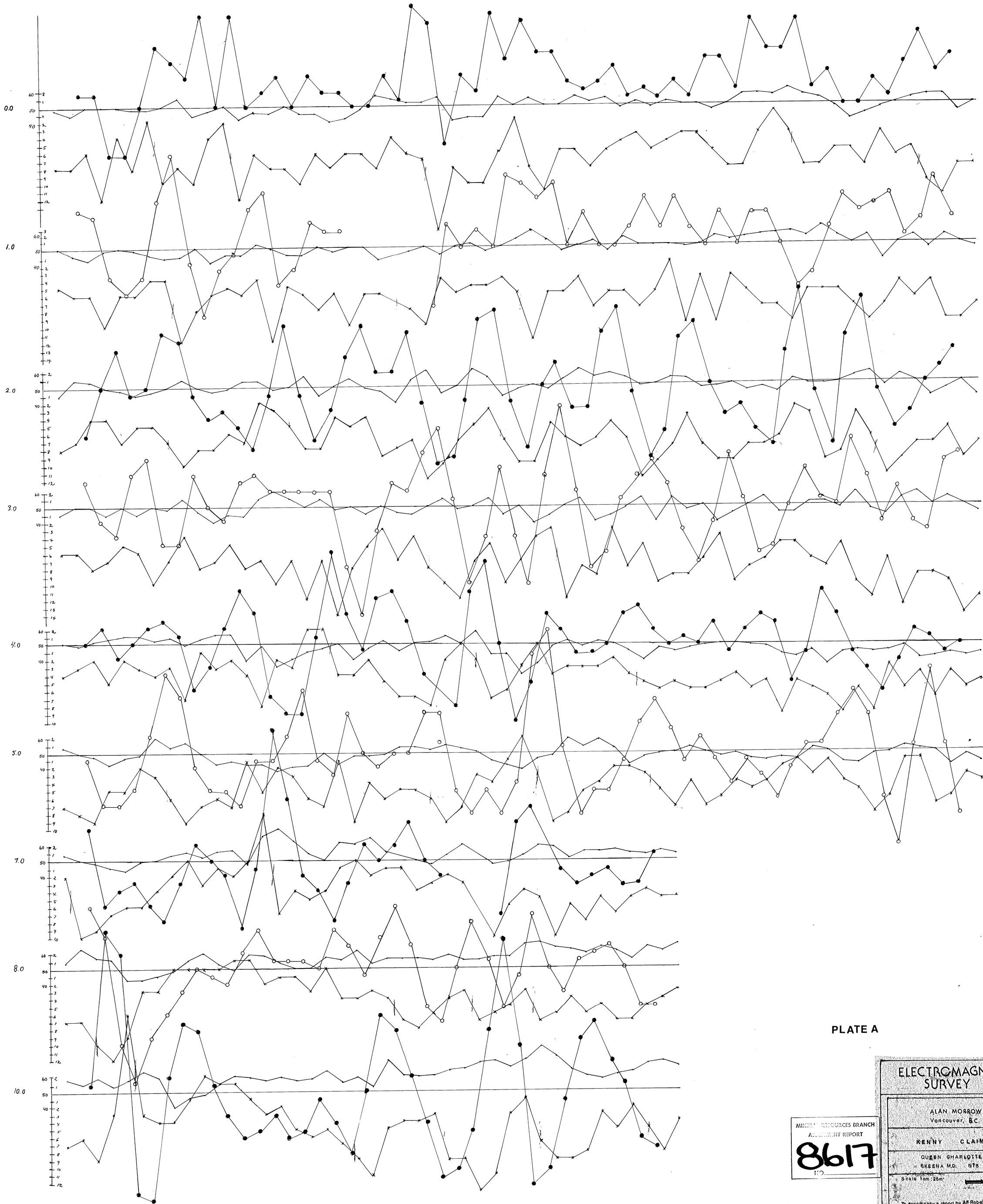
A scarp indicates a fault on the northwest side of the Cinola property. There is no indication of the movement on this fault.

5] General Geology: Bulletin 54, 1:62,500 [Follows page 3]

6] B.C. Department of Mines & Petroleum Resources, Bulletin 54, Geology of the Queen Charlotte Islands, B.C., A. Sutherland Brown, 1960

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

8] Reports by A.F. Roberts, P.Eng., for Consolidated Cinola Mines, and others, 1977 to date



CROSS SECTIONS

PLATE A

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
A. F. ROBERTS

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8617
NO.

ELECTROMAGNETIC SURVEY

ALAN MORROW
Vancouver, B.C.

KENNY CLAIM

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

Scale 1cm : 25m

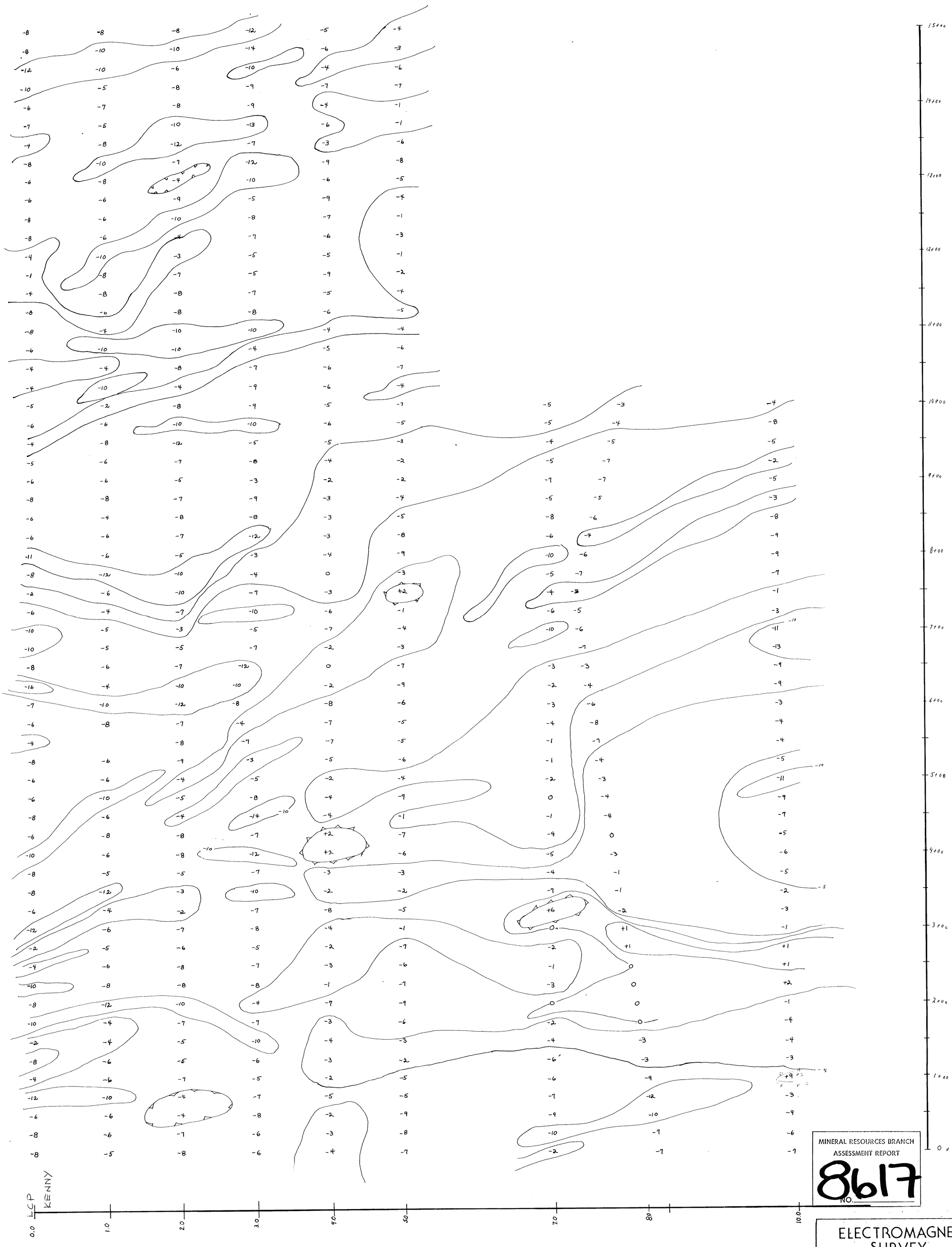
To accompany a report by A.F. Roberts P. Eng.
Dec. 10, 1980

LEGEND

Field Strength
Dip Angle
Filter

N

DIP ANGLE DEGREE °



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KENNY CLAIM

QUEEN CHARLOTTE ISLANDS
SKEEN'A M.D. NTS 103F/8E,9F

Scale 1cm : 25m

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

LEGEND

Contour Interval 5°

PLATE B

KENNY

FILTER

Z

1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
00

LCP KENNY

0.0 1.0 2.0 3.0 4.0 5.0 7.0 8.0 10.0

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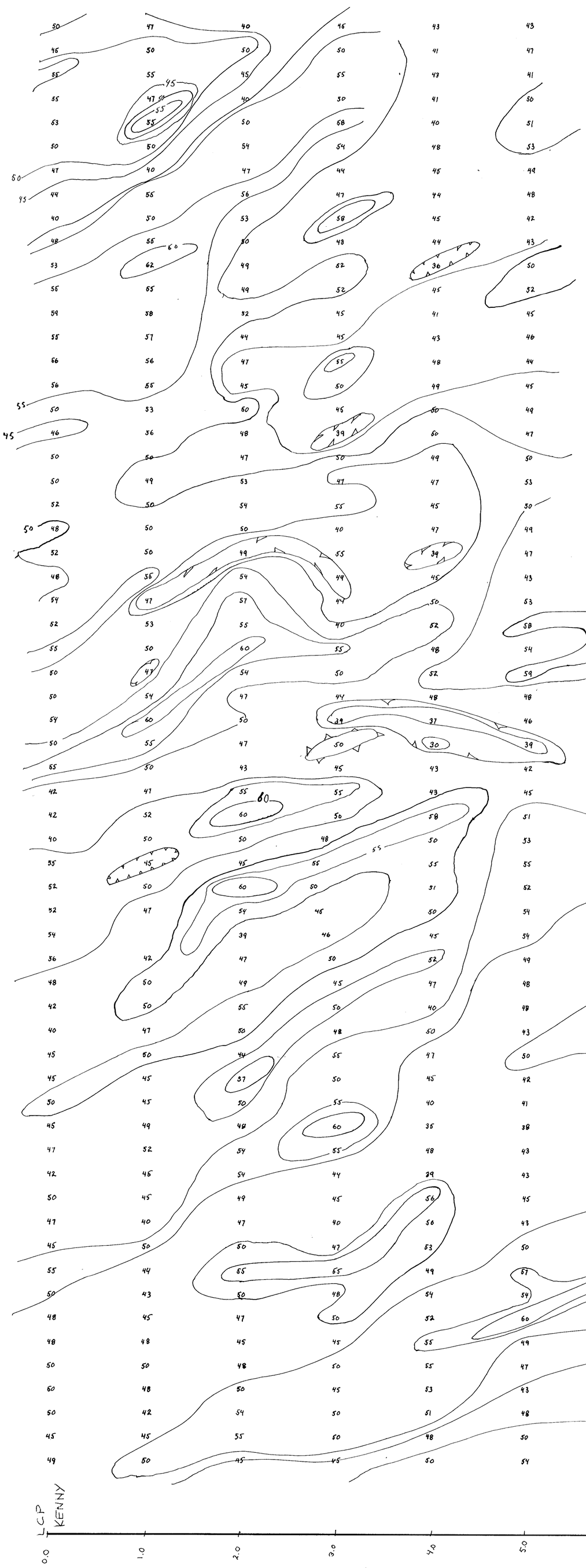
LEGEND

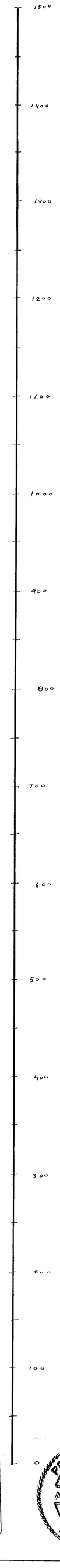
Positive areas
Negative areas
Elevation
Depression

PLATE C

KENNY

FIELD STRENGTH %





MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 8617

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
A. F. ROBERTS

PLATE D

ELECTROMAGNETIC SURVEY

ALAN MORROW
Vancouver, B.C.

KENNY CLAIM

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

Scale 1cm : 25m

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

LEGEND

Contour Interval 5°

KENNY