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GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,379

MUTUAL RESOURCES LTD.

GEOPHYSICAL REPORT
on the
BRE 1 - 32 MINERAL CLAIMS
YAKOUN RIVER - GRAHAM ISLAND
QUEEN CHARLOTTE ISLANDS

SKEENA MINING DIVISION
PORT CLEMENTS, BRITISH COLUMBIA

N. Lat. 53° 30.5' W. Long. 132° 12'

NTS 103-F-9E

by

R. J. ENGLUND, B.Sc. / AL E. HUNTER

STRATO GEOLOGICAL ENGINEERING LTD.
3566 King George Highway
Surrey, British Columbia V4A 5B6

JANUARY 31, 1986

Owner:
Operator: Mutual Resources Ltd.

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INTRODUCTION

During the middle portion of November, Strato Geological Engineering Ltd. completed eight Wenner array surveys and one Double-dipole survey over the BRE 1 to 32 claims for Mutual Resources Ltd. The survey was conducted by A. E. Hunter, Geophysicist, under the supervision of R. J. Englund.

The BRE 1 to 32 claims lie to the southeast of the BABE, RIC, and MARINO claims now held by Consolidated Cinola. They are down strike from the Specogna fault which is part of the Cinola gold deposit.

The purpose of the Wenner array and Double-dipole surveys was to determine the depth to bedrock and, if possible, to locate the southern extension of the Specogna fault system.

CONCLUSIONS, SUMMARY AND RECOMMENDATIONS

Nine geophysical survey lines were carried out on the BRE 1 to BRE 32 claim group, located south and east of the Cinola gold deposit. Survey results suggest that the Specogna fault, found in the Cinola deposit, continues through these claims and

is splayed. It also indicates that the depth to bedrock increases from around 30 metres in the western claims area to around 130 metres in the eastern part of the claim group.

Data suggests bedrock in the northwest corner of the BRE 32 claim is possibly the rhyolite ash flows of the Masset Formation while under the central BRE 24 claim area results suggest bedrock is the argillite unit of the Queen Charlotte Group. Underlying the northeast corner of the BRE 22 claim the bedrock suggested by the data is possibly argillites of the Queen Charlotte Group. However, further to the east, in the BRE 16 claim area results suggest the bedrock is probably a conglomerate or sandstone of the Skonun Formation. The whole area is overlain by sands and gravels from 10 to 35 metres thickness and to the east of the strike line of the Specogna fault survey results suggest a layer of clay rich material of a thickness greater or equal to 85 metres.

Further geophysical work should be completed to establish the location of the Specogna Fault across the claim group. Evidence for the existence of this fault trace is weakest south of the Yakoun River and work should be concentrated in this area.

LOCATION AND ACCESS

The centre of the BRE 1 - 32 claim group is located at approximately 53 degrees 30' 48" North Latitude and 132 degrees 11' 30" West Longitude (Figure 2) on Graham Island of the Queen Charlotte Islands (Figure 1). The claims are approximately 1 kilometer south of the Cinola gold deposit (Figure 3).

Access to the property is via gravel road approximately 32 kilometers south of Port Clements (Figure 4). Maps of the logging road network are available at the MacMillan Bloedel headquarters at Juskatla, east of Port Clements about 8 kilometers by road.

The claim area lacks topography and flanks the Yakoun River. Thick second growth forest covers much of the area.

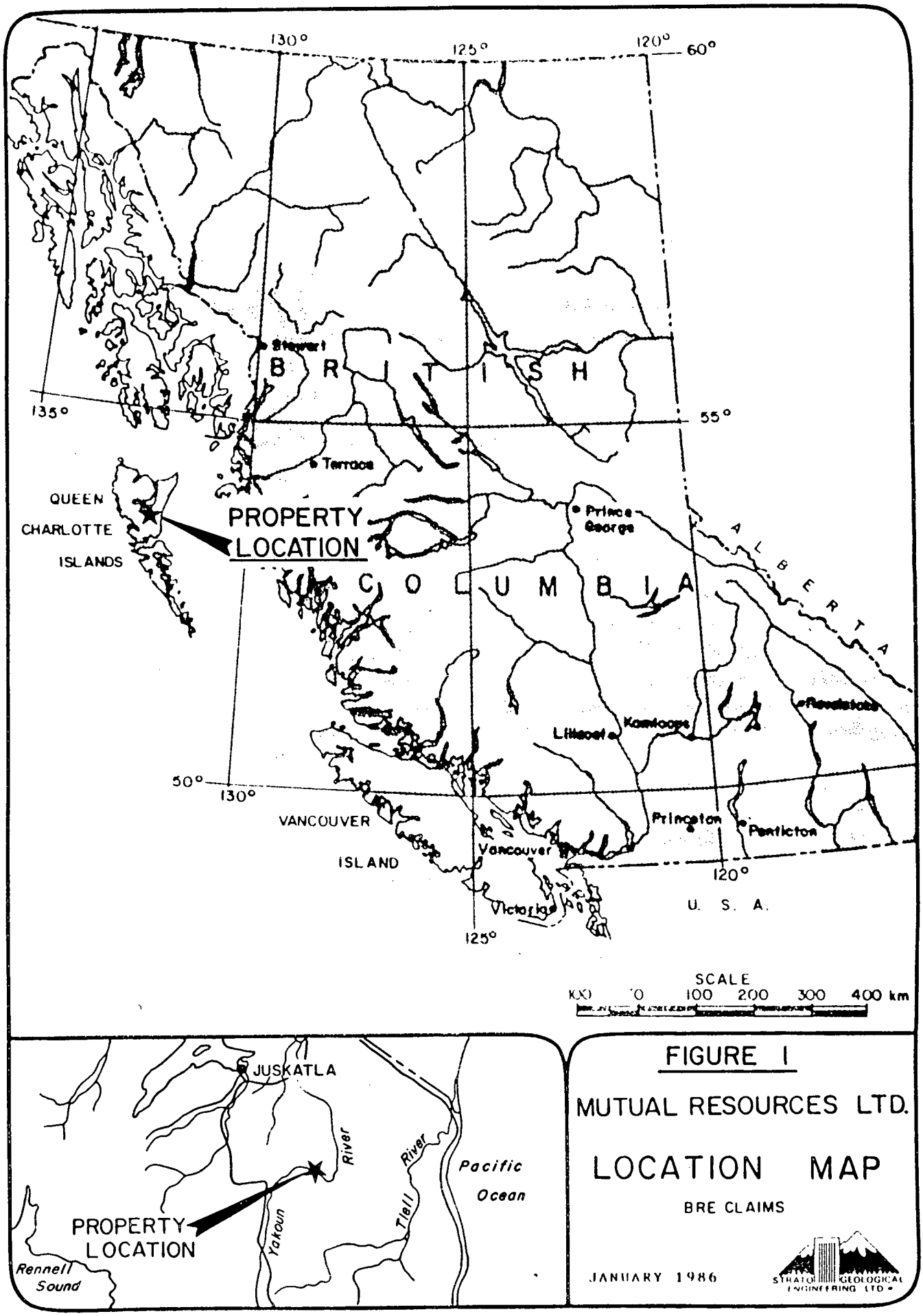

FIGURE 1

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LOCATION MAP

BRE CLAIMS

JANUARY 1986

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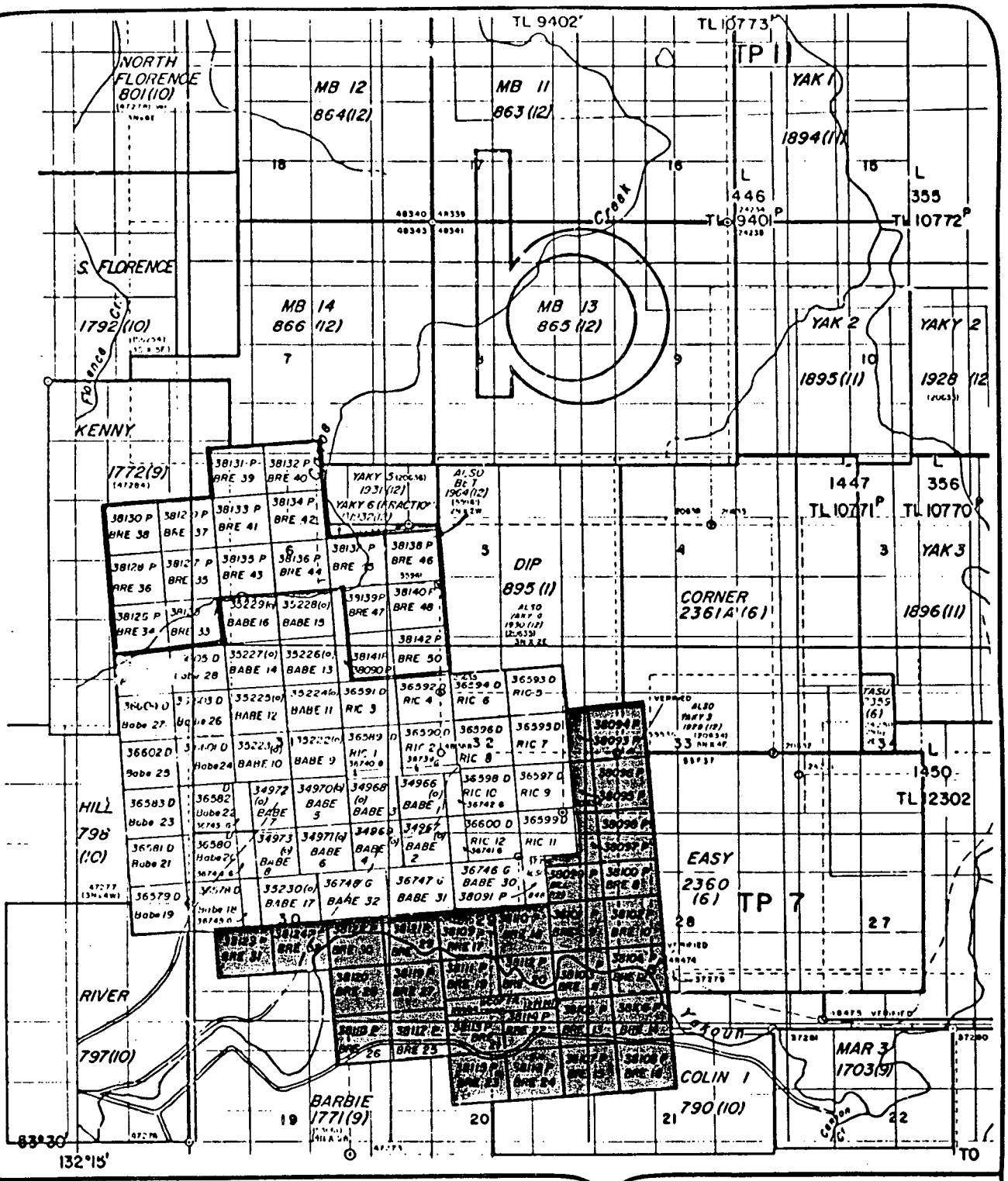

SKEENA M. D. , N.T.S. 103 F / 9
QUEEN CHARLOTTE ISLANDS , B. C.

Metres 1000 500 0 1000 2000
Kilometres 1 .5 0 1 2

FIGURE 2

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CLAIM MAP

BRE CLAIMS

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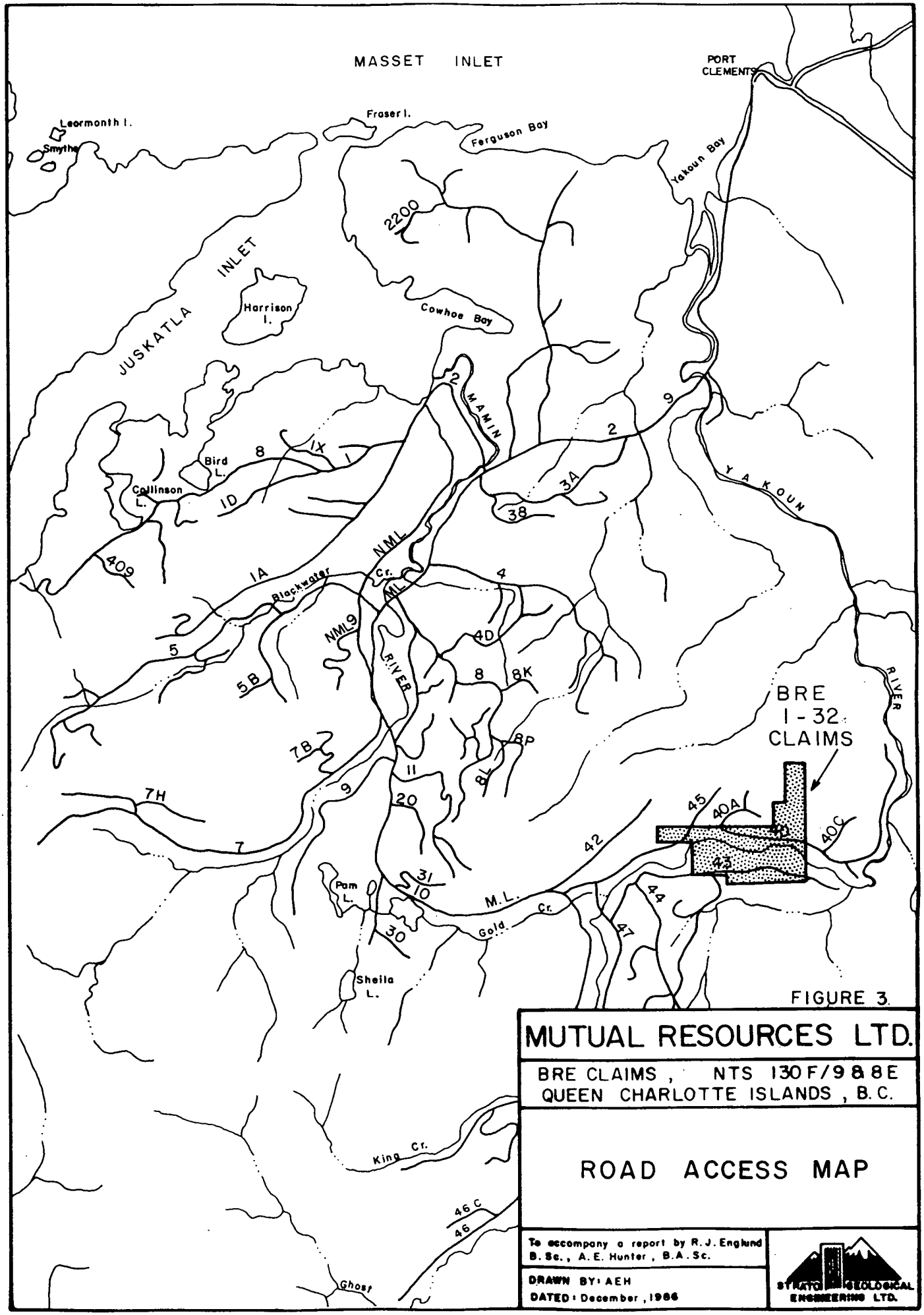

FIGURE 3.

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BRE CLAIMS, NTS 130F/9&8E
QUEEN CHARLOTTE ISLANDS, B.C.

ROAD ACCESS MAP

To accompany a report by R.J. England B.Sc., A.E. Hunter, B.A.Sc.

DRAWN BY: AEH
DATED: December, 1986

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CLAIMS

The area worked on comprises 32 claim units and one fraction and covers the area south and east of Consolidated Cinola's main and original claims in the Skeena Mining Division. The claims are recorded as follows:

CLAIM	RECORD NO.	OWNER
BRE 1 to 32	38093 - 38124	Mutual Resources Ltd.
WOOF Fr.	1271 (4)	Mutual Resources Ltd.

The claims are shown on British Columbia Mineral Titles Map M103-F-9E (Figure 2). Work has been filed to keep the claims in good standing unti 1986, this report being a part of that work program.

HISTORY

The BRE claims were staked along with Efrem Specogna's RIC and BABE claims which are currently controlled by Consolidated Cinola Mines Ltd. These claim groups were previously optioned to Kennco (1971), Cominco (1972), Silver Standard (1973) and Quintana (1974-76). The BRE 1 to 32 claims

are one of two blocks that were retained by Silver Standard during 1973. Control of both blocks was acquired by Mutual Resources Ltd. in 1979 and a soils geochemical survey was carried out on the BRE 1 to 32 claims in 1980.

GEOLOGY

The BRE 1 to 32 claims probably lie on the fault trace of the Specogna fault system. A cross-section of this system through the Cinola gold deposit to the north is available from the B.C. Department of Mines and Petroleum Resources in "Geology in British Columbia 1975", page G-74, Figure G-34. To the west of the Specogna fault are found the rhyolite ash flows of the Masset Formation which are underlain unconformably by argillites of the Queen Charlotte Group. To the east, porphyritic rhyolite intrudes the argillites of the Queen Charlotte Group and surfaces along the fault where it forms a local topographic high. Further east these rocks are overlain unconformably by sandstones and conglomerates of the Skonun Formation. To the south of the Cinola gold deposit the Specogna fault is thought to be splayed and the area is thought to contain a considerable depth of overburden.

SURVEY PROCEDURES

The purpose of the geophysical work was to determine the depth to bedrock and to locate any faults that could represent a continuation of the Specogna fault system found to the north.

The variation of apparent resistivity with depth is used to establish the depth to bedrock and the type of material present below a particular survey site. Measuring this vertical variation is known as electric sounding. The particular geophysical survey method employed for this purpose was a Wenner Array. In such a survey current electrodes are driven in the ground and a voltage is measured between two potential electrodes in contact with the earth and on a line between the current electrodes. All electrodes are a constant distance (known as the "a" spacing) from the nearest neighbours. In this case electric sounding involves systematically increasing the "a" spacing and recording the resultant values of voltage and current. From this information an apparent resistivity (ρ_a) is calculated for each "a" spacing. Studying ρ_a as "a" increases yields knowledge of the variation of resistivity with depth below the centre of the array. One problem with this survey method is that as the Wenner array is expanded any lateral variations in resistivity encountered, such as faults, contacts and/or adjacent resistivity

anomalies, can produce false results if they are not recognized. By adding a central potential electrode and taking two more sets of readings for each "a" spacing one can test for lateral variations in resistivity. This is known as the Lee-partition method and was done at two Wenner array survey sites. Two Wenner arrays centred at the same point but oriented approximately perpendicular to each other were also used at one site to check for lateral variations in resistivity.

A double-dipole spread was also used to measure lateral and vertical variations in depth. This technique employs a current dipole and a potential dipole both of size "a". The distance between dipoles is an integer value (n) of "a". The current and voltage in the respective dipoles are used to calculate an apparent resistivity (ρa) which is plotted in pseudo section midway between the centre of the two dipoles at a depth "a". At each potential dipole location the current electrode was moved four successive integer values of "a" away to obtain depth information.

The Wenner array and double-dipole surveys were generally carried out from roads due to the thick second growth forest in the area. Electrodes were inserted in the bush to insure good electrical contact. A thin snow cover and frost layer were

encountered. Two different sized Wenner arrays were deployed. The larger Wenner array usually consisted of the "a" spacings 25, 50, 75, 100, 125, 150, 200, 250 and 300 metres. The small Wenner array usually consisted of the "a" spacings 5, 10, 20, 30, 40, 50, 60 and 70 metres. In the absence of lateral variations in resistivity these survey methods yield a knowledge of the resistivity to depths comparable to the largest "a" spacing. The size of the dipoles used in the double-dipole survey (known as "a") was fifty metres. The dipole separations used were 50, 100, 150 and 200 metres (integer values N = 1 to 4). This method yields a knowledge of the resistivity to depths of up to about one hundred metres.

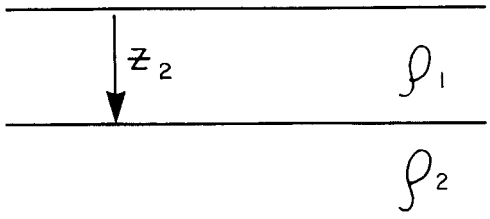
Each survey location was assigned a title, such as BRE VI, which was used on the flags marking electrode locations. Figure 4 gives the location of geophysical survey sites BRE I to BRE IX. The centre and end points (furthest electrode locations) are indicated for each Wenner array. The endpoints of the double-dipole survey, BRE IX, are also indicated. The following table summarizes the techniques employed at each survey location.

SURVEY LOCATION	GEOPHYSICAL SURVEY TECHNIQUES	SURVEY PARAMETERS
BRE I	Wenner array	large, a = 25 to 300 metres
BRE II	Wenner array	large, a = 25 to 300 metres
BRE III	Wenner array	large, a = 25 to 300 metres
BRE IV	Wenner array	large, a = 25 to 300 metres
BRE V	Wenner array	small, a = 5 to 70 metres (same centre as BRE II)
BRE VI	Wenner array	small, a = 5 to 70 metres (same centre as BRE VII)
BRE VII	Wenner array & Lee-partition method	small, a = 5 to 70 metres (same centre as BRE VI)
BRE VIII	Wenner array & Lee-partition method	large, a = 25 to 300 metres
BRE IX	Double dipole survey	a = 50, n =1 to 4

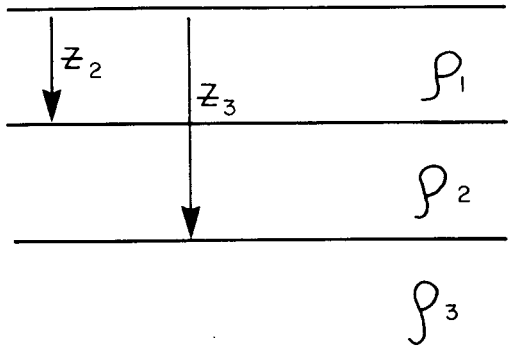
DATA ANALYSIS

Up to four different techniques were used to analyse the data from each Wenner array survey. In the field Moore's cumulative plots and Barne's layering bar graphs were developed from the data. Barne's layering analysis is usually used on Wenner arrays with a maximum "a" spacing of one hundred feet. Lateral and large vertical variations in resistivity posed problems when using this analysis method. A plot of ρ_a vs "a" on log-log paper proved the most useful analytical tool. Wenner array master curves for two horizontal beds were used for quantitative interpretation. Plots suggesting three horizontal layers were treated in part as a two layer model. Less vigorous qualitative techniques were also used. The Tagg's curves method was also used in several cases for models consisting of two horizontal layers. Generally, good agreement was found between these techniques. Figure 5 shows the parameters involved in the two and three layer horizontal bed models. Figure 6 summarizes the ρ_a interpretation results obtained from the Wenner array surveys. Figure 7 contains the log-log plots of ρ_a vs "a" for each Wenner array survey site. A number of other plots generated for interpretion of the Wenner array data are not included in with this report.

TWO LAYER MODEL



THREE LAYER MODEL



MODEL PARAMETERS

z_2 Depth below surface to the top of the second layer.

z_3 Depth below surface to the top of the third layer.

ρ_1 Resistivity of the first layer.

ρ_2 Resistivity of the second layer.

ρ_3 Resistivity of the third layer.

FIGURE 5

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BRE CLAIMS, NTS 130 F/9 & 8 E
QUEEN CHARLOTTE ISLANDS, B.C.

HORIZONTAL LAYER MODELS

To accompany a report by R.J. Englund B.Sc., A.E. Hunter, B.A.Sc.

DRAWN BY: AEH
DATED: December, 1986

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Survey Site	Model * Parameters	Moore's Cumulative	Barne's Layering	ρ_a vs a Log-Log Plot	Tagg's Curves	Best Estimates	Lateral Resistivity Variations
BRE I	Z_2	< 25	—	35	—	35	low ρ_a at a spacing > 125 possible cause is a river
	ρ_1	—	300-600	<600	—	400	
	ρ_2	—	—	>3000	—	>3000	
BRE II	Z_2	35	25	29	25	25	low ρ_a at a >150 possible cause is a fault zone
	ρ_1	—	100	127	115	115	
	ρ_2	—	500	720	594	600	
BRE III	Z_2	50	50	60	—	50	drop in ρ_a at a =300 m possible cause is a fault
	Z_3	135	—	132	—	135	
	ρ_1	—	160	170	—	165	
	ρ_2	—	20-30	<50	—	30	
	ρ_3	—	—	>700	—	>700	
BRE IV	Z_2	35	50	35	41	35	
	Z_3	120	—	100-125	—	120	
	ρ_1	—	200	250	230	225	
	ρ_2	—	38	37	37	37	
	ρ_3	—	—	>10000	—	>10000	
BRE V	Z_2	27	20	—	25	25	
	ρ_1	—	100	80	82	80	
	ρ_2	—	1400	—	1010	1000	
BRE VI & BRE VII	Z_2	—	—	10	—	10	low ρ_a at a = 20m possible cause is a fault
	ρ_1	—	—	700	—	700	
	ρ_2	—	80	65	—	65	
BRE VIII	Z_2	—	—	—	—	—	hi ρ_a at a = 50m possible cause is a fault
	ρ_1	—	90	—	—	90	
	ρ_2	—	—	—	—	—	

* The units used are metres for depth and Ω-m for resisitivity

FIGURE 6

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SUMMARY of WENNER ARRAY INTERPRETATION RESULTS

To accompany a report by R.J. England B.Sc., A.E. Hunter, B.A.Sc.

DRAWN BY: AEH
DATED: December, 1986

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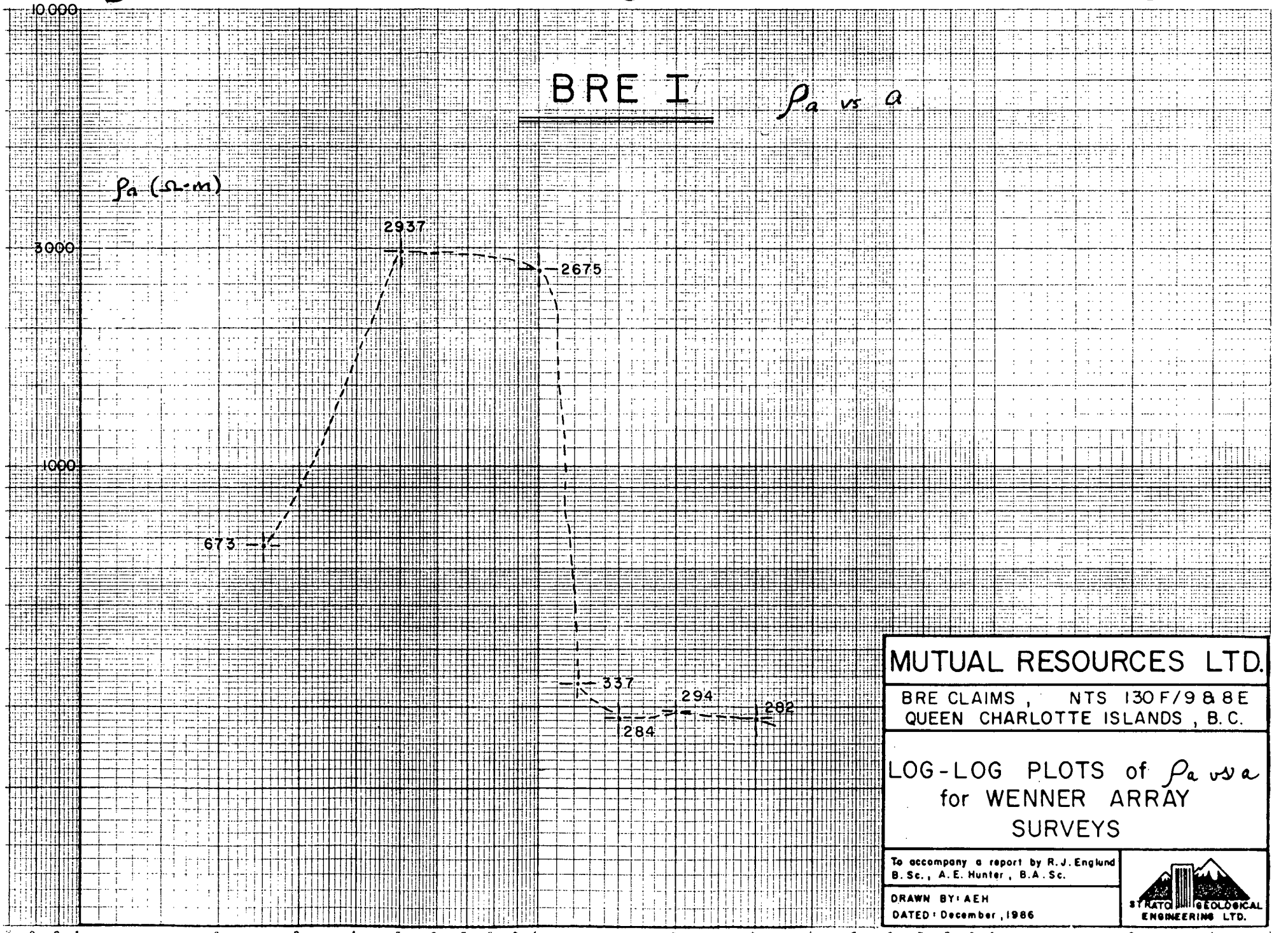
Logarithmic, 2¼ X 2 Cycles.

BRE I ρ_a vs a



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LOG-LOG PLOTS of ρ_a vs a for WENNER ARRAY SURVEYS

To accompany a report by R.J. Englund B.Sc., A.E. Hunter, B.A.Sc.

DRAWN BY: AEH
DATED: December, 1986

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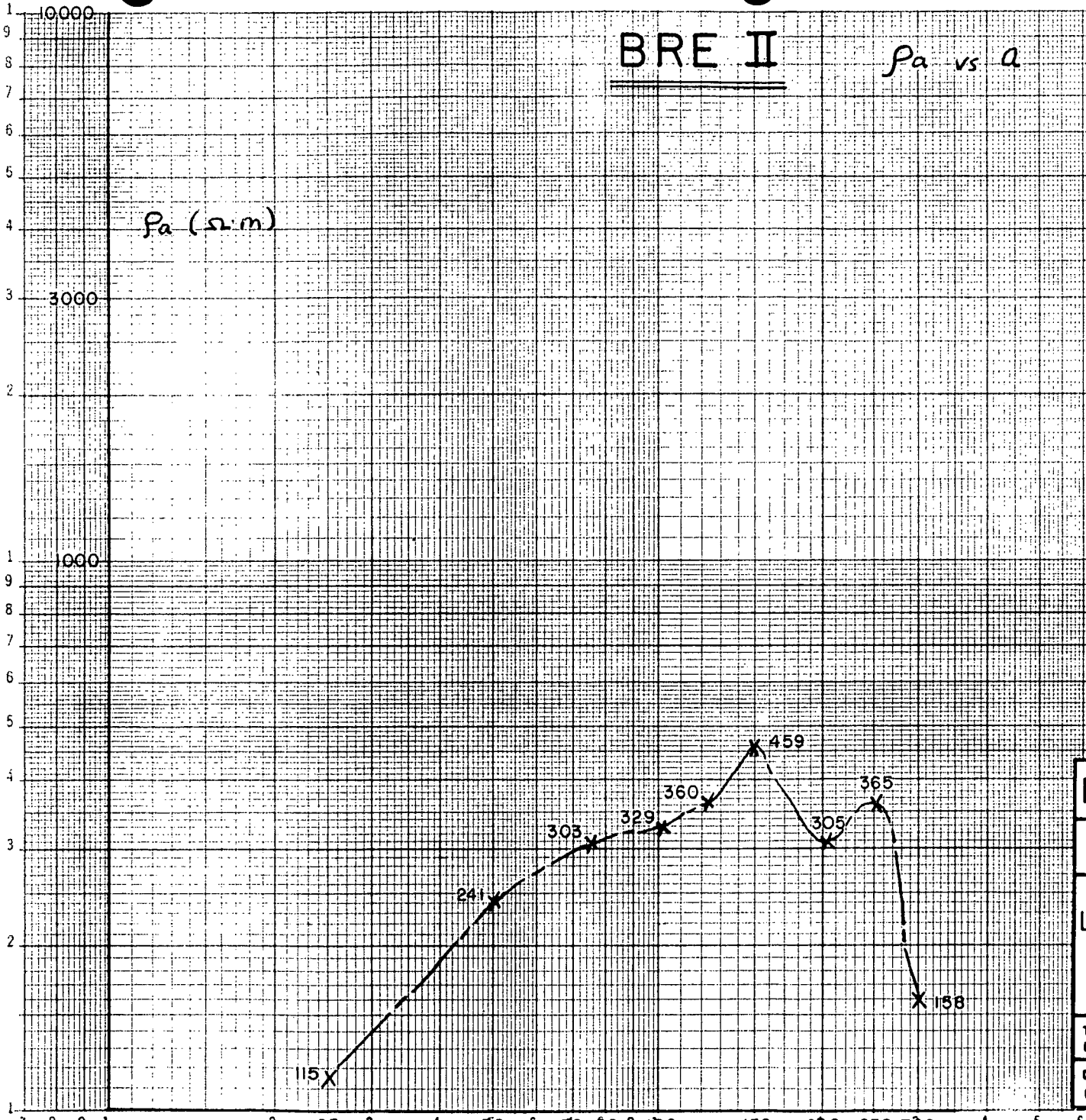
FIGURE 7a

Logarithmic, 2½ X 2 Cycles.

BRE II

ρ_a vs a



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LOG-LOG PLOTS of ρ_a vs a for WENNER ARRAY SURVEYS

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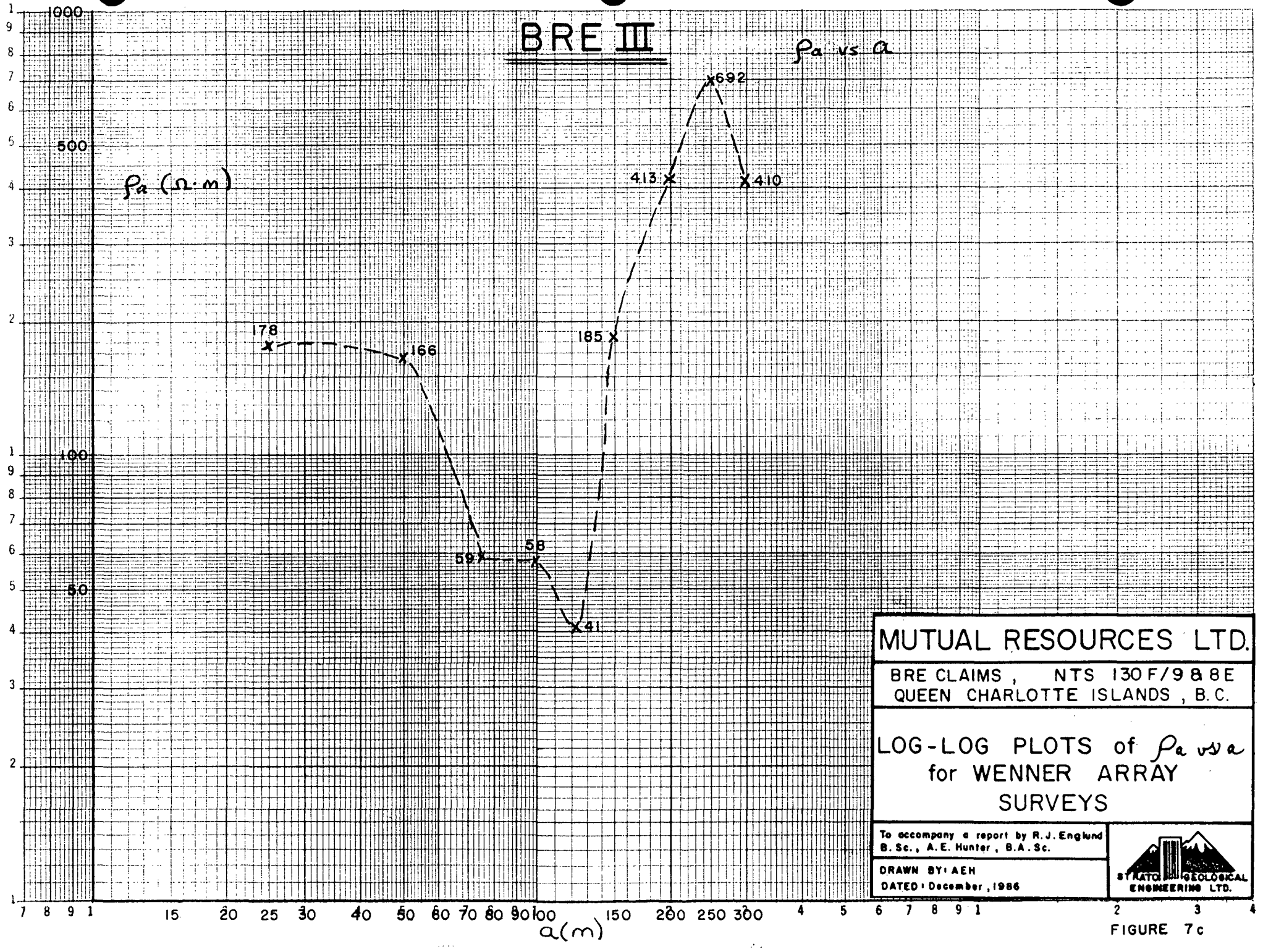
FIGURE 7b



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LOG-LOG PLOTS of ρa vs a for WENNER ARRAY SURVEYS

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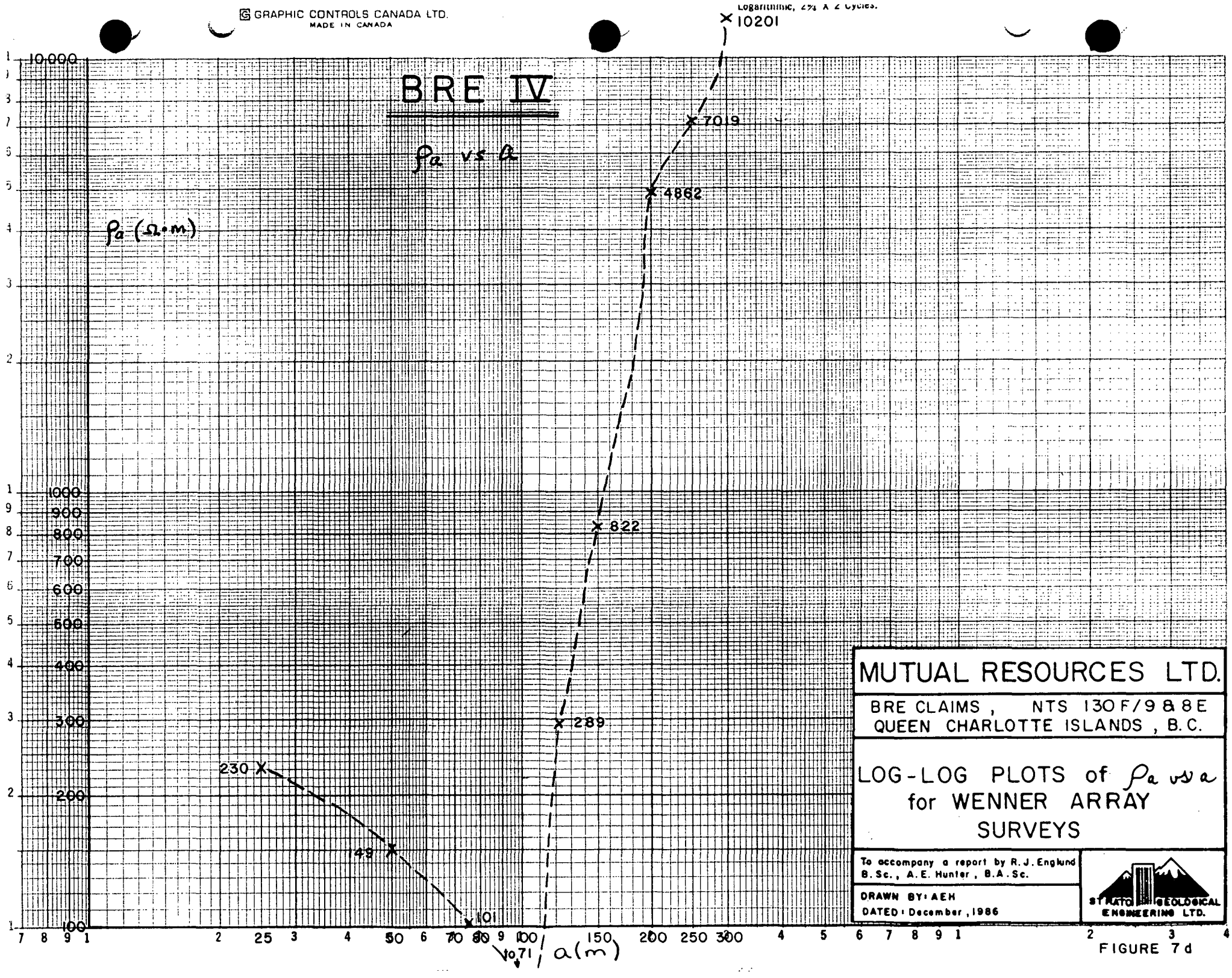
FIGURE 7c



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LOG-LOG PLOTS of ρa vs a for WENNER ARRAY SURVEYS

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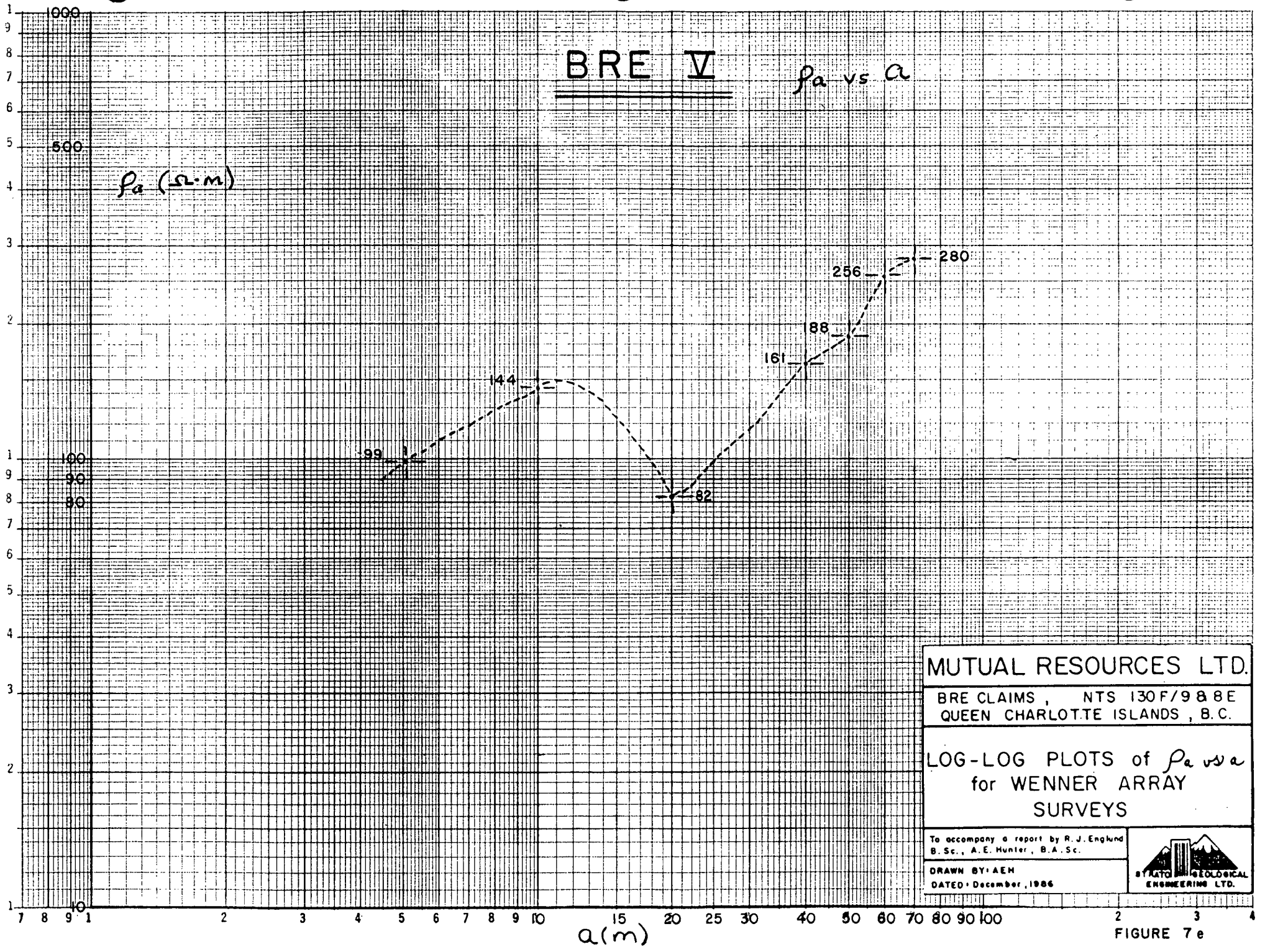
FIGURE 7d

Logarithmic, 2¼ X 2 Cycles.



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BRE CLAIMS, NTS 130F/9 & 8E
QUEEN CHARLOTTE ISLANDS, B.C.

LOG-LOG PLOTS of ρa vs a
for WENNER ARRAY
SURVEYS

To accompany a report by R. J. Englund B.Sc., A.E. Hunter, B.A.Sc.

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DATED: December, 1986

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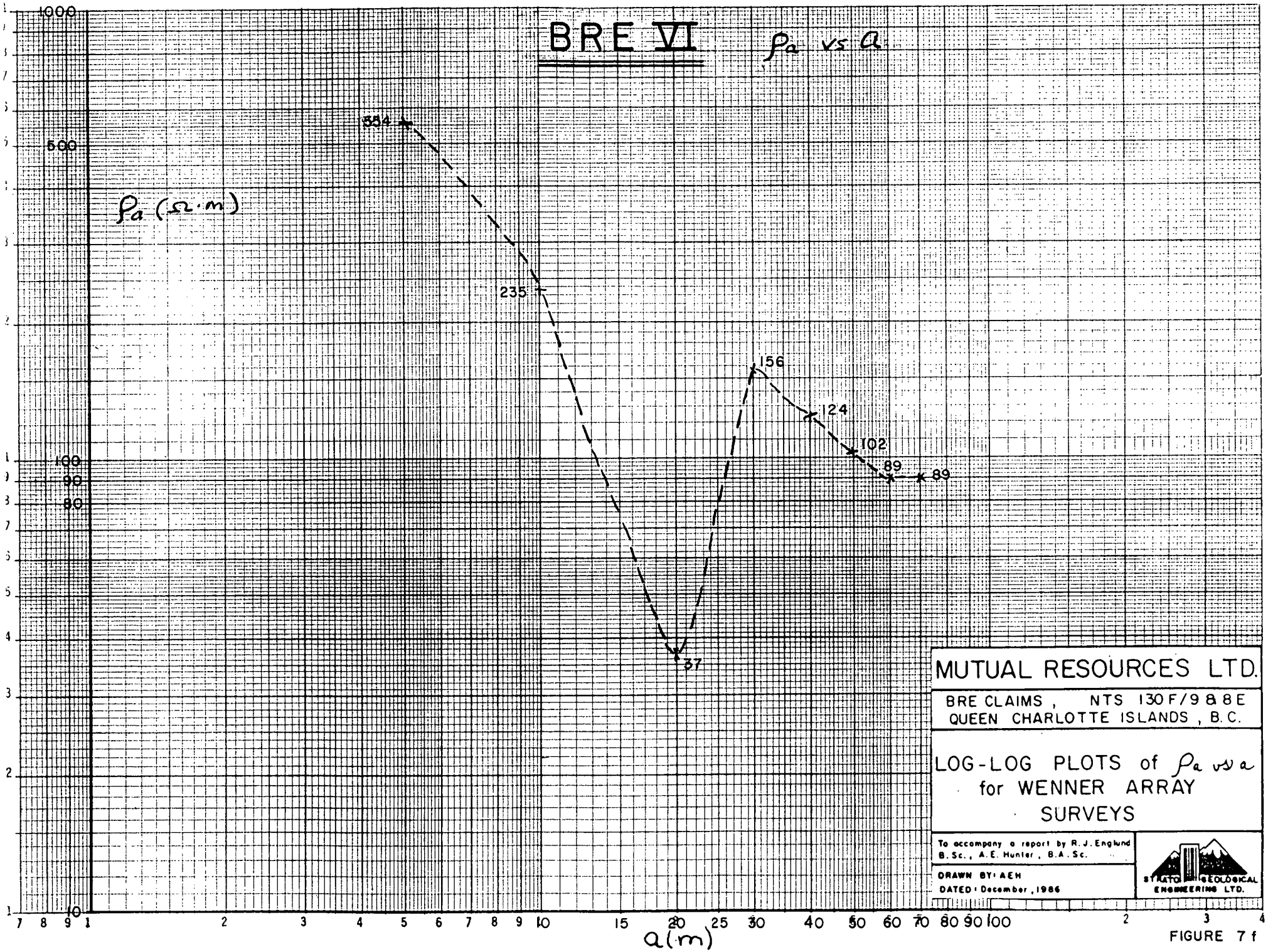
FIGURE 7e

Logarithmic, 2½ X 2 Cycles.



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BRE CLAIMS, NTS 130 F/9 & 8 E
QUEEN CHARLOTTE ISLANDS, B.C.

LOG-LOG PLOTS of ρ_a vs a
for WENNER ARRAY
SURVEYS

To accompany a report by R. J. Englund B.Sc., A.E. Hunter, B.A.Sc.

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DATED: December, 1986

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FIGURE 7 f

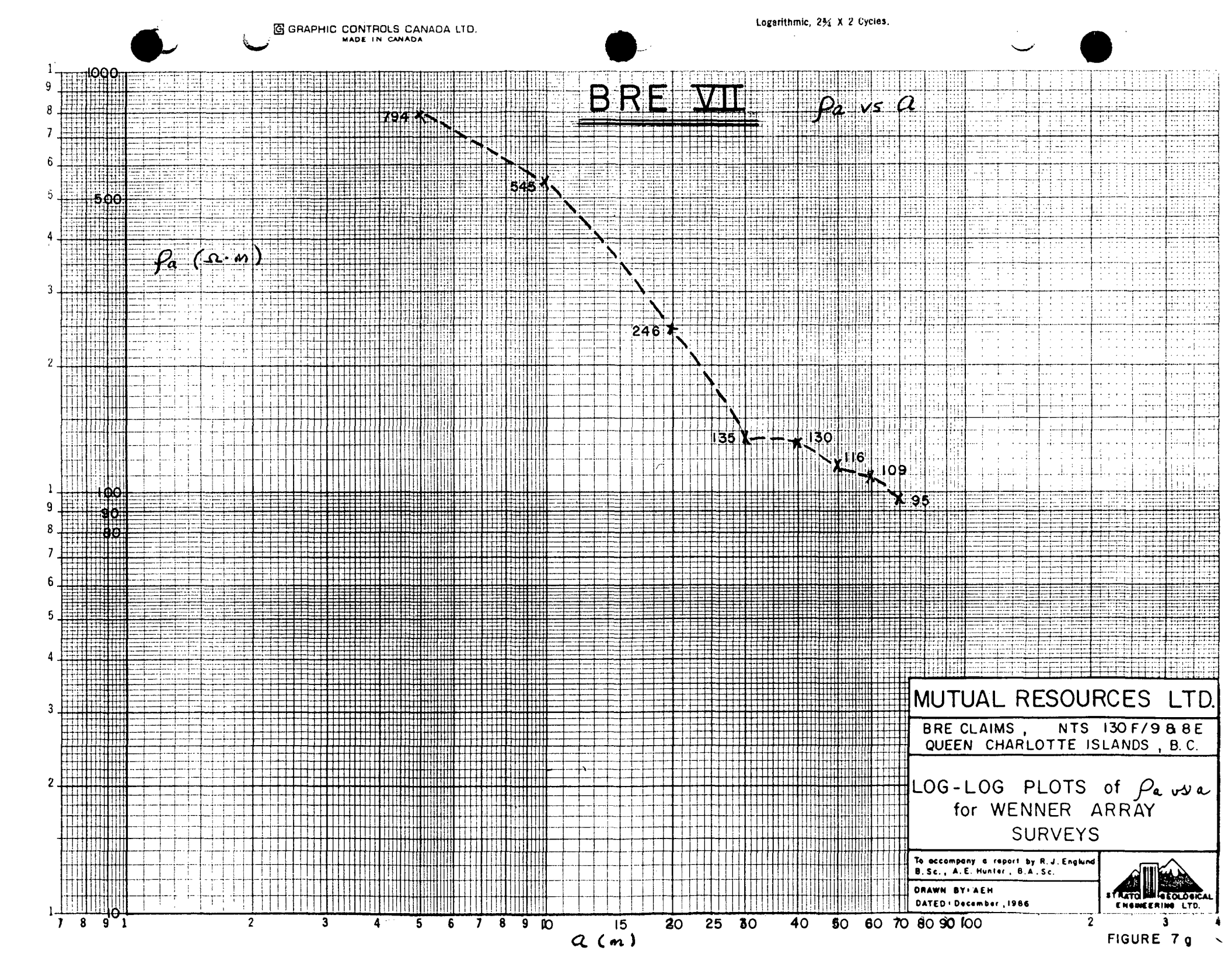
GRAPHIC CONTROLS CANADA LTD.
MADE IN CANADA
Logarithmic, 2¾ X 2 Cycles.
BRE VII
ρa vs a
ρa (Ω·m)
a (m)
794
545
246
135
130
116
109
95
1000
500
100
90
80
MUTUAL RESOURCES LTD.
BRE CLAIMS, NTS 130F/9 & 8E
QUEEN CHARLOTTE ISLANDS, B.C.
LOG-LOG PLOTS of ρa vs a
for WENNER ARRAY
SURVEYS
To accompany a report by R.J. Englund B.Sc., A.E. Hunter, B.A.Sc.
DRAWN BY: AEH
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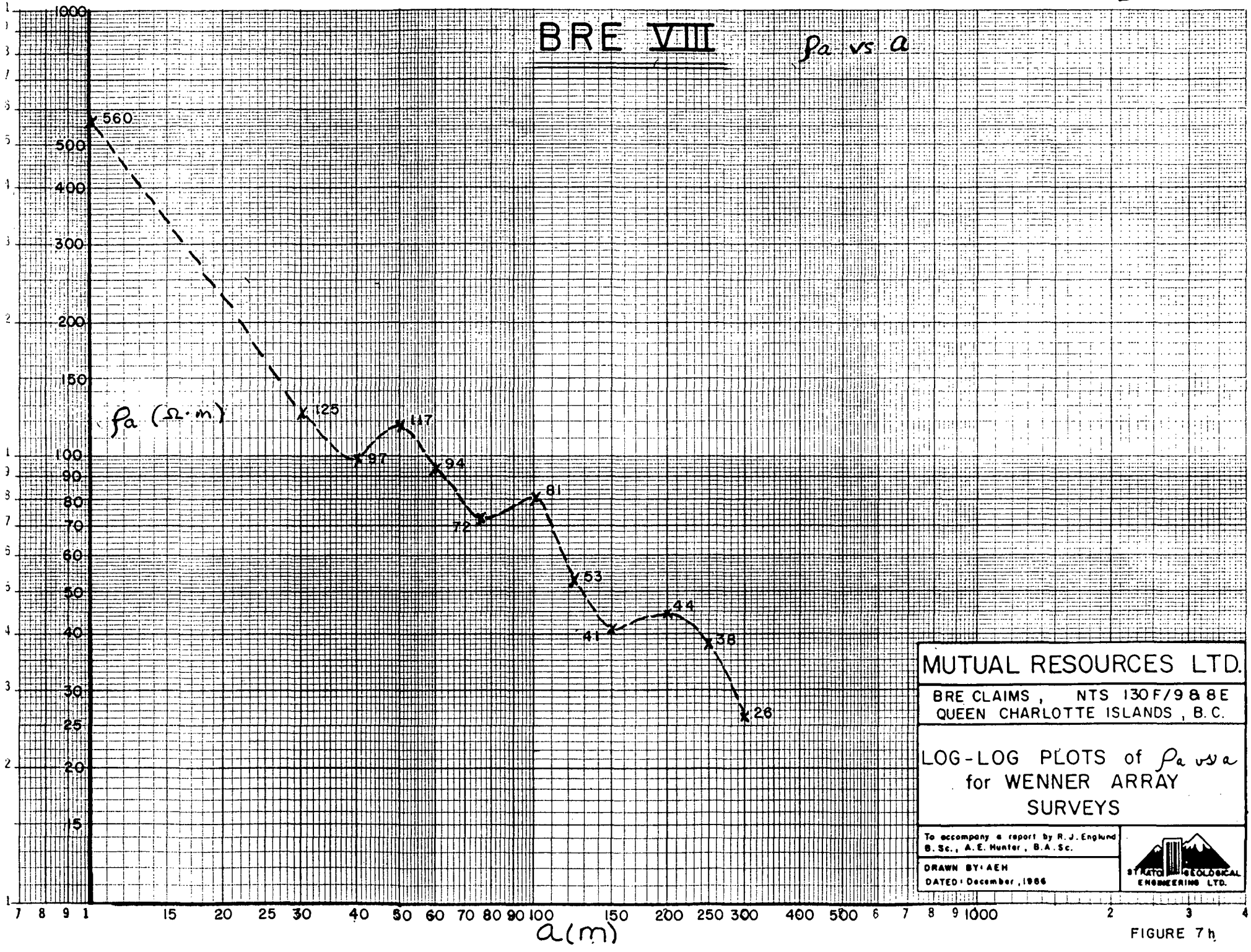
FIGURE 7g

Logarithmic, 2¾ X 2 Cycles.



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QUEEN CHARLOTTE ISLANDS, B.C.

LOG-LOG PLOTS of ρa vs a for WENNER ARRAY SURVEYS

To accompany a report by R. J. Englund B. Sc., A. E. Hunter, B.A.Sc.

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DATED: December, 1986

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FIGURE 7h

The Lee-Partition method was used in conjunction with the Wenner arrays at survey sites BRE VII and BRE VIII. Analysis of the ρ_a vs "a" plots generated from this method were useful in identifying lateral variations in ground resistivity that would have otherwise confused the interpretation of the Wenner array survey results. The plots are not included in this report although the results of their interpretation are summarized under the heading "Lateral Resistivity Variations" (Figure 6).

The Double-dipole survey data was used to generate an apparent resistivity pseudo-section which is presented as Figure 8.

DISCUSSION OF RESULTS

Most of the interpretation was completed using the Wenner array survey data. To a large extent the Lee-partition method and, to a lesser extent, the Double-dipole survey data were interpreted in conjunction with the Wenner array survey data. The results of these surveys can best be discussed by considering three groups of Wenner array survey sites.

BRE I, BRE II and BRE V

The first group includes survey sites BRE I, BRE II, and BRE V. The BRE I site is located at the junction of logging roads Branch 40 and Branch 45, north of the Yakoun River and in the northwest corner of the BRE 32 claim. From this point the large Wenner array was expanded along Branch 40. The BRE II and BRE V sites are both located at the intersection of logging roads Branch 44 and Branch 43, to the south of Yakoun River and in the centre of the BRE 24 claim. Both a large (BRE II) and a small (BRE V) Wenner array were centred here and expanded east along Branch 43 and west along Branch 44.

The estimated depth to bedrock at both of these sites is between 25 and 30 metres. At the BRE II and BRE V site interpretation of the data using a bedrock resistivity value of between 600 and 1000 Ω - m. This is the resistivity value one would expect from the argillites of the Queen Charlotte Group found on the west side of the Specogna fault. A qualitative interpretation of the log-log plot for the BRE I site gives a bedrock resistivity value of greater than 3000 Ω - m. This value is typical of rhyolite ash flows such as those found in the Masset Formation located on the west side of the Specogna fault. The surface layer resistivity is estimated at between 30 and 400 Ω- m at both sites and typifies alluvial material.

The log - log plots of BRE I and BRE II show a decrease of resistivity at depth beyond "a" spacings of 100 and 150 metres respectively. This can be explained at the BRE I site by the close proximity of the Yakoun River. However the BRE II site is much further from the river and the explanation is probably a low resistivity zone placed 300 to 450 metres from the centre of the array. Figure 4 shows that a fault, located about 300 metres west of the array centre, is on strike with the west branch of Specogna fault shown on the BABE 32 claim. Faults often produce low resistivity zones.

BRE III and BRE IV

The second group of survey sites includes BRE III and BRE IV. Both are located on the south side of the Yakoun River on logging road Branch 43. The BRE III site is in the northeast corner of the BRE 22 claim and the BRE IV site is in the northeast corner of the BRE 16 claim. A larger Wenner array was centred at each of these sites and expanded along the logging road.

The estimated depth to bedrock at these two sites is 120 to 135 metres and was obtained by a qualitative interpretation of their log-log plots. The character of these plots indicates

three different subsurface layers. The top layer has a resistivity of 160 to 250 Ω- m which is indicative of alluvium. At the BRE III site this layer is approximately 50 metres thick and at the BRE IV site it is about 35 metre thick. The second layer has a resistivity of 30 to 40 Ω - m and this indicates it is rich in clay. This layer is about 85 metres thick at both sites. At site BRE IV the resistivity of the bottom layer is over 10,000 Ω- m and represents bedrock. This resistivity value is indicative of conglomerates or sandstones such as those found in the Skonun Formation located on the east side of the Specogna fault system. The depth to bedrock is about 120 metres.

Estimating the bedrock resistivity at site BRE III is more problematic. The apparent resistivity at "a" spacings greater than 250 metres actually falls off and this could indicate a lateral as opposed to vertical variation in resistivity. A low resistivity zone, such as that caused by a fault, is indicated. This would produce a bedrock resistivity value lower than is actually the case. A bedrock resistivity of 700 to 1000 Ω - m is obtained if the effect of lateral resistivity variations is ignored. This value is comparable to that of argillites such as those found in the Queen Charlotte Group. However, the bedrock resistivity value could be much higher - comparable to that found at the BRE IV site - if a

lateral variation is biasing the results. Assuming a fault is responsible for the lateral resistivity variation, it would lay along the strike of the eastern branch of the Specogna Fault.

BRE VI, BRE VII, BRE VIII and BRE IX

The third group of Wenner array spreads are BRE VI, BRE VII and BRE VIII. The BRE VI and BRE VII surveys are crossed small Wenner arrays both centred at the intersection of logging road Branch 40 and a small road to the south. This junction is about 130 metres west along Branch 40 from its intersection with Branch 40A. Wenner array BRE VI was expanded along Branch 40 from this point while BRE VII was expanded along the small road to the south and into the bush to the north. The large Wenner array BRE VIII was centred at the intersection of Branch 40 and Branch 40A. It was expanded from this point along Branch 40. The Lee-partition method was used along with the Wenner array at sites BRE VII and BRE VIII. BRE IX, the double-dipole survey, was completed along logging road Branch 40 from its intersection with Branch 45 to a distance of 2300 metres to the east.

On the log-log plots of the Wenner array ρ_a decreases with increasing "a" spacing. It is possible that this effect is caused by the close proximity of the Yakoun River. However, Lee-partition measurements at BRE VII showed no significant lateral variation in resistivity over a distance of 250 metres from the

river. Discounting lateral variations, bedrock is greater than 200 metres deep at site BRE VIII and greater than 70 metres deep at the BRE VI and BRE VII sites. The data indicates a fault located 80 metres west of the intersection of Branch 40 and Branch 40A. The low resistivity zone associated with this may also have hidden indications of bedrock. An interpretation of the log-log plot for Wenner array BRE VII indicates a surficial layer of 10 metres with a resistivity of 65 Ω - m, probably a clay rich layer.

The evidence supporting the existence of a low resistivity fault is threefold. The BRE VIII Wenner array shows the signature of such a zone 70 to 80 metres from the centre of the array. Wenner arrays BRE VI and BRE VII were centred at the same place and only the BRE VI data shows a low resistivity zone located about forty to fifty metres from the arrays centre. Lee-partition measurements taken with the BRE VIII Wenner array and an examination of its data shows a low resistivity zone located about 70 metres west of the array centre. BRE IX, the Double-dipole survey shows a resistivity high 50 metres west and a sharp resistivity gradient 80 metres west of the array centre of BRE VIII. A fault placed about 70 to 80 metres west of the intersection of Branch 40 and Branch 40A is on strike with the east branch of the Specogna fault located to the northwest.

Generally the Double-dipole apparent resistivity pseudo-section indicates a high resistivity layer, probably alluvium, underlain by a lower resistivity layer which is probably clay rich. At the western end of the survey the resistivity increases with depth, indicating that bedrock is nearer the surface in this area. This is in line with the results of Wenner array BRE I, just 200 metres to the west, which places bedrock at 35 metres depth.

Respectfully submitted,
Strato Geological Engineering Ltd.

A. E. Hunter, B.A.Sc.
Geophysicist

R. J. Englund, B.Sc.
Geophysicist

January 31, 1986

STRATO GEOLOGICAL ENGINEERING LTD.

REFERENCES

Beaton, R. H. (1980)
Report on Geochemical Surveys Conducted on the BRE 33-50 Mineral Claims, Graham Island, Queen Charlotte Islands, Skeena Mining Division. The work was done for Mutual Resources Ltd.

Englund, R. J. (1981)
Report on Geophysical Surveys Conducted on the BABE Mineral Claims of the Consolidated Cinola Mines Ltd. Gold Deposit, Graham Island, Queen Charlotte Islands, Skeena Mining Division.

Seraphim, R. H. (1979)
Report on the BRE 1-50 Mineral Claims, Graham Island, Queen Charlotte Islands, Skeena Mining Division. The work was done for Mutual Resources Ltd.

CERTIFICATES

I, AL E. HUNTER, of Vancouver, British Columbia, Canada do hereby certify the following:

1. I will receive the degree of Bachelor of Applied Science with Specialization in Geophysics from the University of British Columbia, Vancouver, British Columbia in 1986.

2. Since leaving university I have practised geophysics in western and northern Canada for approximately 5 years.

3. I have no direct, indirect or contingent interest, nor do I expect to receive any such interest, in the securities or properties of Mutual Resources Ltd.

Dated at Surrey, British Columbia, this 31st day of January, 1986.

A. E. Hunter, Geophysicist

I, RALPH J. ENGLUND, of 1112 Grover Avenue, Coquitlam, British Columbia, do hereby certify as follows:

1. I am a Consulting Geophysicist with offices at 3566 King George Highway, Surrey, B. C. V4A 5B6

2. I graduated in 1971 from the university of British Columbia, with a degree of Bachelor of Science.

3. I have been engaged in the study, teaching, and practice of exploration geophysics continuously for a period of 12 years. I have worked as a geophysical consultant on numerous projects in Western North American since 1972.

4. I am a member in good standing of the British Columbia Geophysical Society.

5. The field work and the interpretation of results of this report were done under my direct supervision.

6. I have not received, nor do I expect to receive, any interest, direct or indirect, or contingent, in the securities or properties of Mutual Resources Ltd., and that I am not an insider of any company having an interest in the BRE 1 - 32 mineral claims or any other properties in the area.

Dated at Surrey, British Columbia, this 31st day of January, 1986.

R. J. Englund, B.Sc.

TIME-COST DISTRIBUTION

The geophysical survey work was carried out over portions of the BRE Claim Group by Strato Geological Engineering Ltd. during the period November 10 to November 19, 1985. A listing of personnel and distribution of costs is as follows:

Personnel:

A. Hunter, B.A.Sc.	Geophysicist
J. Gibson	Geophysical Technician
G. A. Olson	Field Assistant
N. J. Nahirnick	Field Assistant

Cost Distribution:

Field work (4 man crew)		
8 days @ $635/day		$ 5,080.00
Room and board		
28 mdays @ $50/mday		1,400.00
4WD truck, (incl. gas, oil, etc.)		
8 days @ $90/day		720.00
IP/Resistivity Equipment @ $60/day		480.00
Field supplies		160.00
Mob-demob - personnel and equipment		
Air Fare - PWA	631.75	
personnel and expenses	390.00	1,021.75
Maps and Report - data processing, plotting, drafting, reproduction, etc.		785.00
Interpretation and Report		1,800.00
Contingencies - office expense, L.D. telephone, shipping, etc.		87.80
Total		$ 11,534.55

Signed: R Eng

Strato Geological Engineering Ltd.

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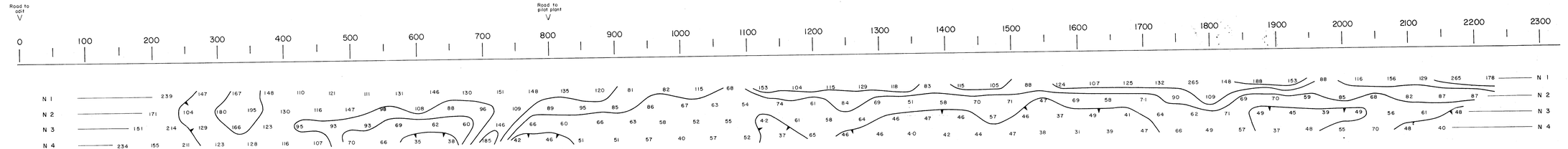
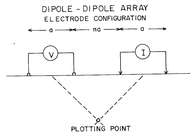


LEGEND

DIPOLE - DIPOLE ARRAY
ELECTRODE CONFIGURATION



NOTES:

- Logarithmic contour intervals : 1, 1·5, 2·5, 5, 7·5, 10
- Instrument : Sabre Electronics I.P./Resistivity Unit. Model 21-1,
- Frequency Domain - 0·3 - 10 Hz, Tx Power - 450 watts
- Work done on BR 40, a = 50m, n = 1 to 4

FIGURE 8

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BRE CLAIMS NTS 130 F/9&8E
QUEEN CHARLOTTE ISLANDS, B.C.

DOUBLE - DIPOLE APPARENT RESISTIVITY PSUEDO - SECTION

50 0 50 100 150m

To accompany a report by A.E. Hunter B.A.Sc. and R.J. England, B.Sc.
STRATO GEOLOGICAL ENGINEERING LTD.

DRAWN BY: AEH

Dated: December, 1985

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,379

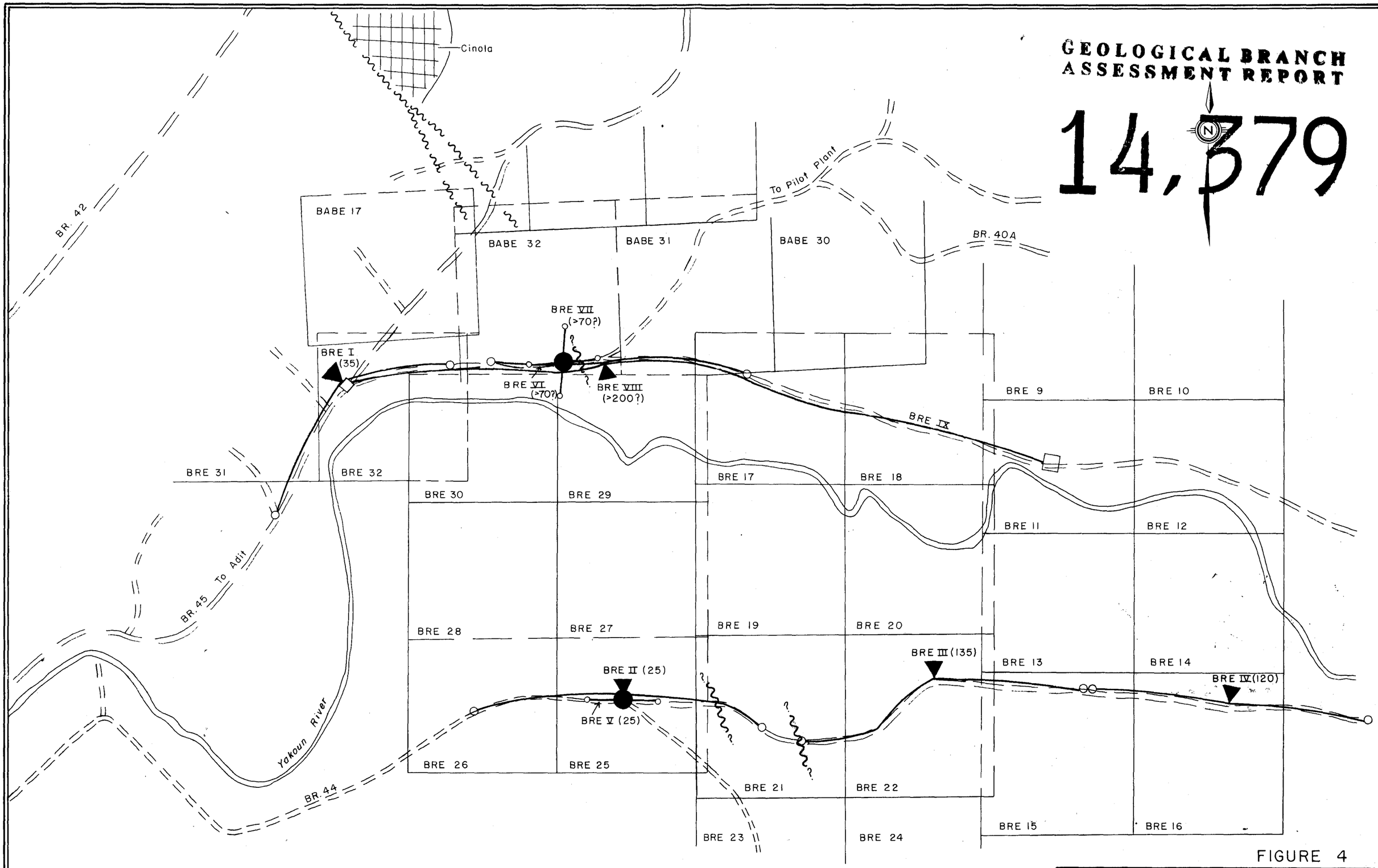

FIGURE 4

LEGEND

NOTE:
- Sabre Electronics I.P./Resistivity Unit, Model 21-1
- Frequency Domain-0.3 Hz, Tx Power - 450 watts

··· Double dipole a = 50 Resistivity n = 1 to 4

··· Wenner array - small a = 5 to 70 m

··· Wenner array - large a = 25 to 300m

BRE 40 ··· Logging roads

··· Estimated fault trace locations

··· Claim boundaries

BRE I 65 ··· Survey site name followed by estimated depth to bedrock where applicable

>200 ? depth greater than 200 m but questionable

AEH

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BRE CLAIMS NTS 130 F/9&8E
QUEEN CHARLOTTE ISLANDS, B.C.

SURVEY LOCATION MAP

200 0 200 400 600 m

To accompany a report by R. J. Englund, B.Sc. and A.E. Hunter, B.A. Sc.
STRATO GEOLOGICAL ENGINEERING LTD.

DRAWN BY: A E H | Dated: December, 1985

STRATO GEOLOGICAL ENGINEERING LTD.