

A REPORT
ON

AN INDUCED POLARIZATION SURVEY
CARMACKS AREA, YUKON TERRITORY

For

CYPRUS ANVIL MINING CORPORATION

Vancouver, British Columbia

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of \$6,500.00

J.B. Craig
Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

[Signature]
Supervising Mining Recorder
for Commissioner of Yukon Territory

By:

Peter E. Walcott & Associates Limited

Vancouver, British Columbia

December, 1975

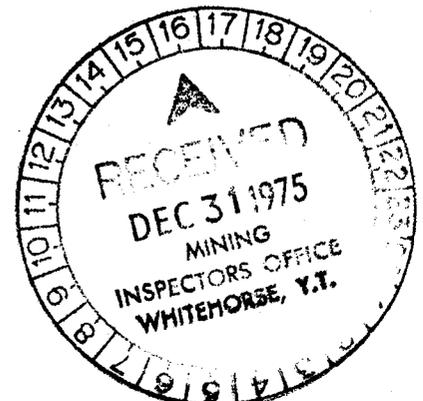


TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
PROPERTY, LOCATION AND ACCESS	2
PREVIOUS WORK	3
PURPOSE	4
GEOLOGY	5
SURVEY SPECIFICATIONS	6
DISCUSSION OF RESULTS	8
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	9

MAPS AND DIAGRAMS

CLAIM LOCATION MAP - Scale 1:5,000,000	
GRID LOCATION MAP - Scale 1" = 1/2 mile	
I.P. PROFILES - L.00 to 36S - Scale 1" = 200'	

APPENDICES

COST OF SURVEY	i
PERSONNEL EMPLOYED ON SURVEY	ii
CERTIFICATION	iii

INTRODUCTION

Between August 18th and 25th, 1975, Peter E. Walcott & Associates Limited carried out a limited induced polarization survey over part of a property, located in the Carmacks area of the Yukon Territory, optioned by Cyprus Anvil Mining Corporation.

The survey was carried out over N 55° W handcut lines which were turned off at right angles at 400 foot intervals from a N 35° E baseline.

Measurements (first to fourth separation) of apparent resistivity and frequency effect (the I.P. response parameter) were made using the "dipole-dipole" method of surveying with a 200 foot dipole and frequencies of 0.3 and 5 c.p.s.

The data are presented in contoured form on individual line profiles contained in this report.

The progress of the survey was hampered by difficulties incurred with both the implantment of electrodes and attainment of proper electrical contact with the ground on the north slope of the hill due to the underlying permafrost.

PROPERTY, LOCATION AND ACCESS

The property is located in the Whitehorse Mining Division of the Yukon Territory and consists of the following claims:

<u>Claim Name</u>	<u>Record No.</u>
AG 1 - 36	Y75866-901
AU 33 - 40	Y75938-945
41 - 44	Y75918-921

The claims are situated on the west side of Freegold Mountain, some 32 miles west-northwest of the settlement of Carmacks, Yukon Territory.

Access is readily obtained from Carmacks via the Carmacks-Ormsby Mines-Revenue Creek road, a journey of some 44 miles, using four-wheel drive transportation.

PREVIOUS WORK

Previous work on the property and in the general area consists of geological prospecting, trenching, borehole investigation and geochemical and geophysical surveying.

For a detailed description of these, the reader is referred to reports held by Cyprus Anvil Mining Corporation.

PURPOSE

The purpose of the survey was to try and outline, using the induced polarization technique, areas of economic sulphide mineralization, the occurrence of which is suggested by the soil geochemistry results and the favourable geological environment.

GEOLOGY

The following comments on regional and local geology are taken from a report by W. J. Roberts, 1974, written for Dynasty Explorations Ltd. (Cyprus Anvil Mining Corporation) to which the reader is referred for a detailed description.

"The area forms part of the Dawson Range, where significant values in copper, molybdenum, gold and silver are associated with Cretaceous and Tertiary intrusions in a porphyry setting. Leaching in the presence of pyrite and possible secondary enrichment is effective since much of the area was not affected by the last major Yukon glaciation. Copper molybdenum mineralization is associated with phyllitic alteration in a quartz monzonite to granitic stock of Jurassic age, cut by younger acid porphyritic dykes of Tertiary age. Sporadic malachite and azurite coatings occur on generally limonitic stained fracture surfaces, with very minor remnant pyrite, chalcopyrite and molybdenite. Trench samples averaged around .15% Cu."

SURVEY SPECIFICATIONS

The induced polarization (I.P.) survey was carried out using a system manufactured by McPhar Geophysics Limited of Don Mills, Ontario. Measurements with this system are made in the frequency domain.

The system consists basically of three units, a receiver, a transmitter and a motor generator. The transmitter, which obtains its power from the 2.5 ks 400 cycle generator driven by a gasoline engine, injects current into the ground at two electrodes C₁ and C₂ at two preselected frequencies, while the receiver, a very stable and sensitive potentiometer tuned to the frequency selected, makes measurements of observed voltages across the potential electrodes P₁ and P₂.

The data recorded in the field consists of careful measurements of the current (I) flowing through electrodes C₁ and C₂, the voltage (V) appearing between the potential electrodes P₁ and P₂ on the low frequency, and the "percentage apparent frequency effect" appearing between P₁ and P₂ (the receiver is designed to measure directly:

$$\text{the \%age F.E.} = \frac{(P_a \text{ low} - P_a \text{ high}) \times 100}{P_a \text{ high}}$$

The apparent resistivity (P_a) in ohm-feet is proportional to the ratio of the measured voltage and current, the proportionality factor depending on the geometry of the array used. In practise P_a is plotted.

$$\frac{2\pi}{}$$

A third parameter termed the "metal factor" is also calculated by dividing the apparent frequency effect by P_a and multiplying by 1,000.

$$\frac{2\pi}{}$$

The survey was carried out using the "dipole-dipole" electrode array. This electrode configuration and the methods of presenting the results are illustrated in the appendix. Depth penetration with this array is increased or decreased by increasing or decreasing "a" and/or n.

In practise, the equipment is set up at a particular station of the line to be surveyed; three transmitting dipoles are laid out to the rear, measurements are made for all possible combinations of transmitting and receiving dipoles, the latter consisting of two porous pots filled with an electrolyte copper sulphate solution "a" feet apart, up to the fourth separation, i.e. n = 4; the equipment is moved 3 "a" feet along the line to the next set-up.

SURVEY SPECIFICATIONS - (Cont'd)

6.1 miles of profiling was carried on the survey using the aforementioned technique with a 200 foot dipole.

DISCUSSION OF RESULTS

The results of the I.P. survey showed the area surveyed to exhibit a low flat frequency effect over which two distinct anomalous zones are clearly discernible.

The resistivity response appeared to be fairly uniform over the area surveyed with a small resistivity high partially associated with the southern anomalous zone.

No anomalous readings were obtained over the copper soil anomaly in the middle part of the area surveyed.

The stronger of the I.P. zones is located on lines 28, 32 and 36S respectively and is undelineated to the south, whereas the weaker but broader zone is located on lines 0, 4 and 8S respectively and is open to the north.

The causative sources of these zones become shallower to the south and north respectively, i.e. downslope from the top of the hill.

The strongest and broadest part of the first zone is observed on L-32S as the zone appears to become narrower and shallower on L-36S, whereas the strongest and broadest part of the second zone is located on L-0.

No anomalous copper soil values and/or high magnetic readings were obtained over either of these zones, suggesting their most probable causative sources are pyrite (it should be borne in mind here that soil sampling over the northern zone could not be carried out properly due to permafrost conditions).

A mafic porphyry dike containing ample pyrite and pyrrhotite was subsequently observed some 400 feet south of the anomaly on L-36S. However, this need have no direct association with the I.P. anomaly as it probably is related to the small, discrete, magnetic high centered around 40N on L104W obtained on a previous survey.

There is some possibility that these zones could be part of the phyllic zone in a classical porphyry model with the copper sulphides located some 500 feet (the depth of penetration of the survey) or more beneath the leached cap rock forming the hill. However, some stronger geochemical expression to the south would be expected if there were the case.

In any event, because of the small size of the anomaly and the relative depth, a substantial zone of enrichment would be necessary to form an economic deposit.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Between August 18th and 25th, 1975, Peter E. Walcott & Associates Limited carried out a limited induced polarization survey over a property optioned by Cyprus Anvil Mining Corporation.

The property, i.e. the Ag and Au claims, is located in the Carmacks area of the Yukon Territory.

The results showed that:

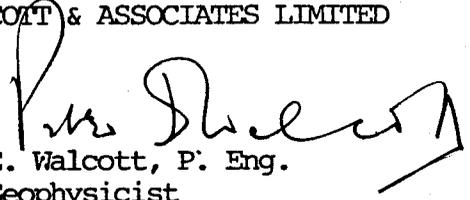
- (1) no I.P. response was obtained over the copper soil anomaly,
- (2) the two anomalous zones observed on the extremities of the area surveyed did not exhibit any geochemical or magnetic correlation,
- (3) the causative sources of these anomalies became shallower as the survey lines progressed downslope.

As a result, the writer concludes that the causative sources of these anomalies appear to be pyrite.

Based on this and other considerations previously discussed, he recommends that no further work be done on the property at this time.

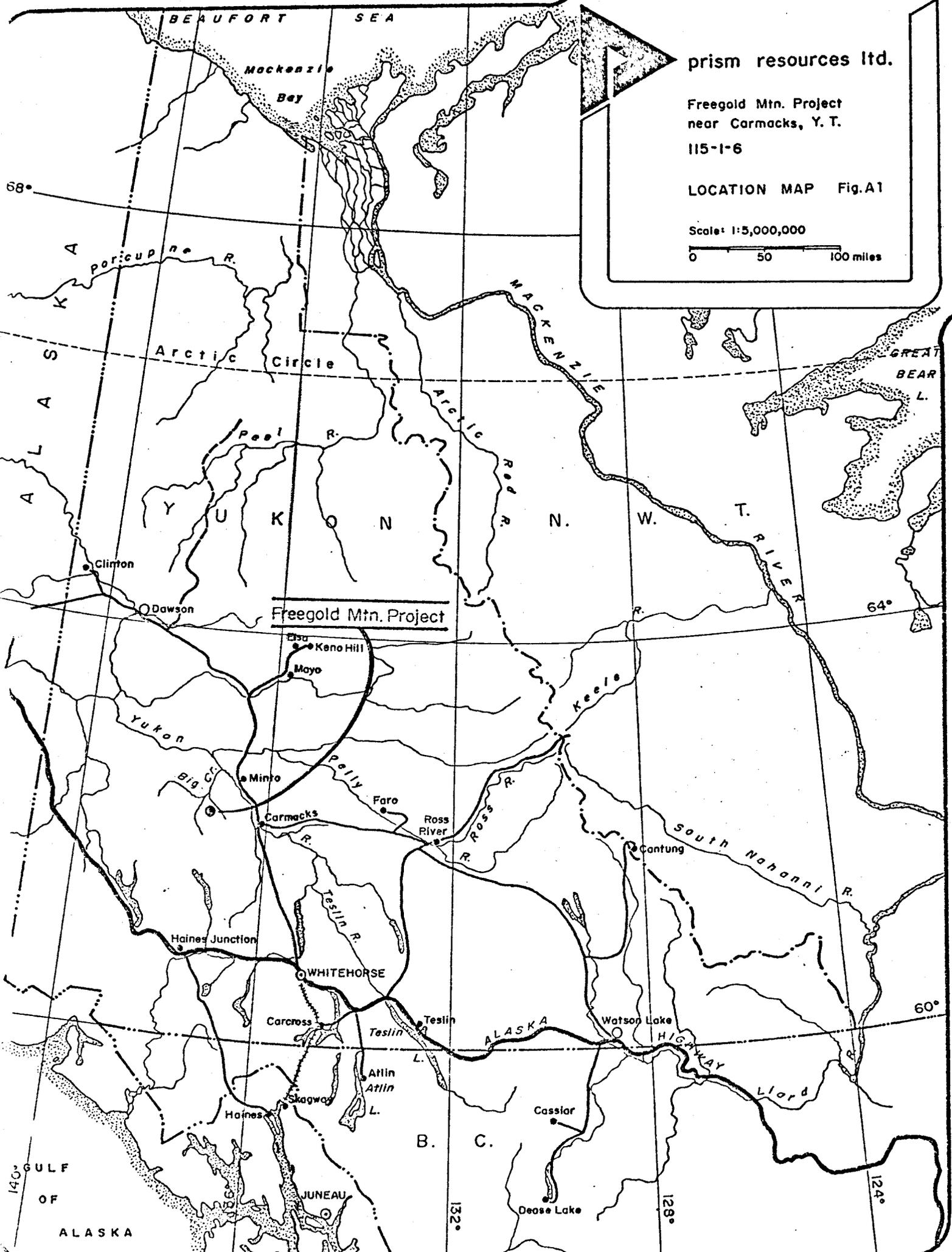
Respectfully submitted,

PETER E. WALCOTT & ASSOCIATES LIMITED


Peter E. Walcott, P. Eng.
Geophysicist

Vancouver,
British Columbia

December, 1975.



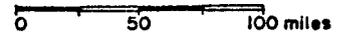
prism resources ltd.

Freegold Mtn. Project
near Carmacks, Y. T.

115-1-6

LOCATION MAP Fig.A1

Scale: 1:5,000,000



Freegold Mtn. Project

68°

64°

60°

140°

132°

128°

124°

GULF OF ALASKA

JUNEAU

Dease Lake

Watson Lake

Cassiar

Haines

Atlin

Atlin

Carcross

WHITEHORSE

Haines Junction

Cantung

Ross River

Faro

Carmacks

Minto

Moyo

Keno Hill

Dawson

Clinton

BEAUFORT SEA

Mackenzie Bay

GREAT BEAR L.

Arctic Circle

Arctic Red R.

MACKENZIE R.

T. RIVER

Porcupine R.

Pool R.

Yukon R.

Big Ck.

Pelly R.

Keel R.

Ross R.

South Nahanni R.

Teslin R.

ALASKA

HIGHWAY

Liard

B.

C.

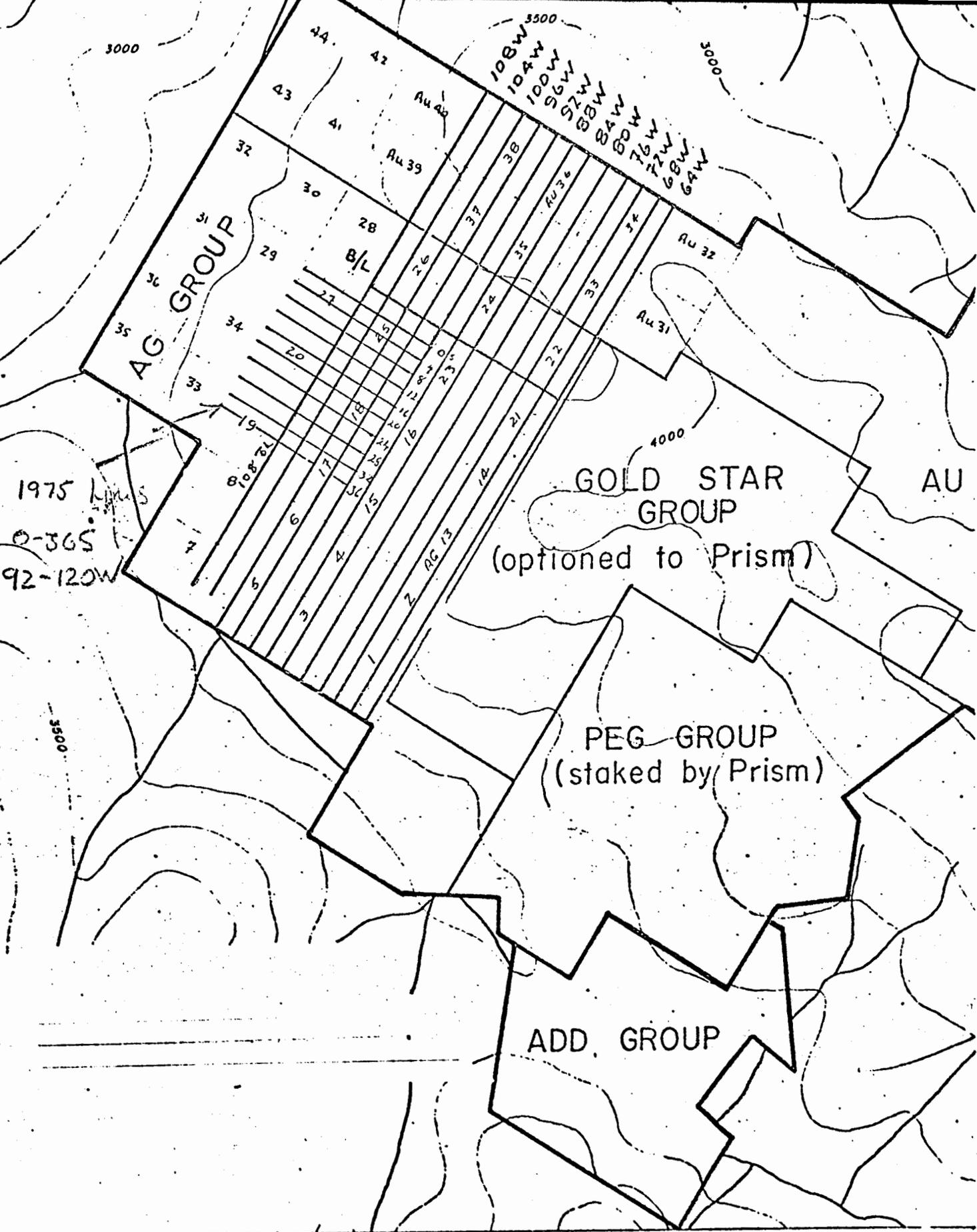
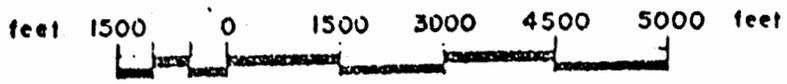


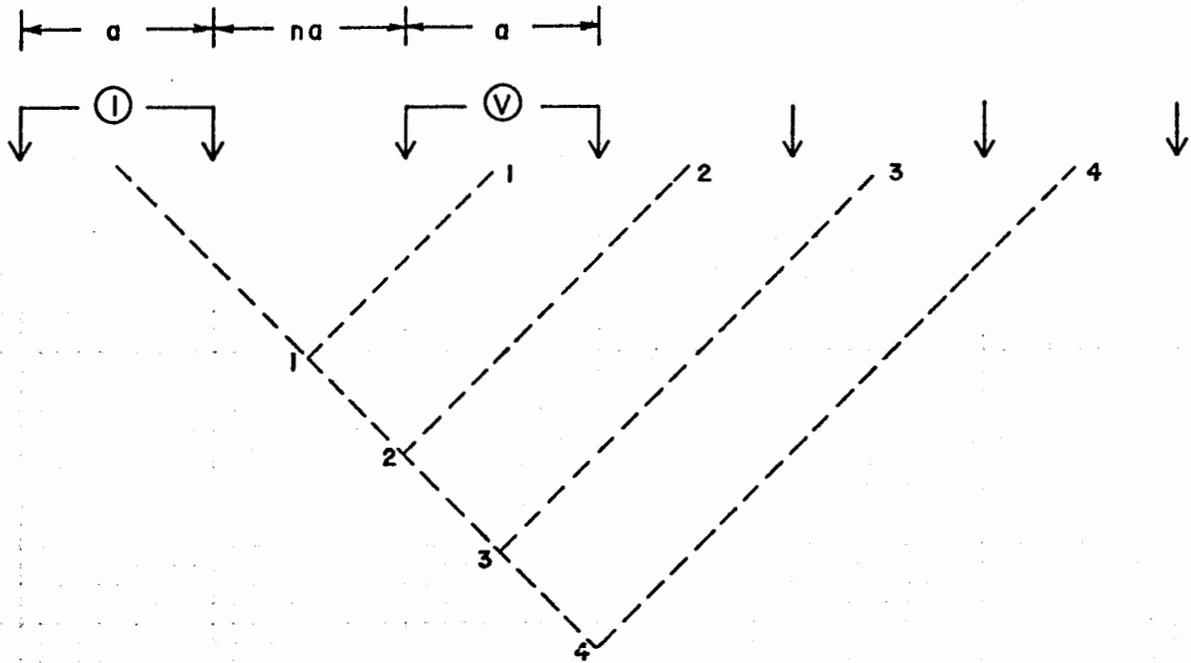
FIGURE 3

Mt. FREEGOLD PROPERTIES

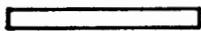
SCALE: 1 inch = 1/2 mile



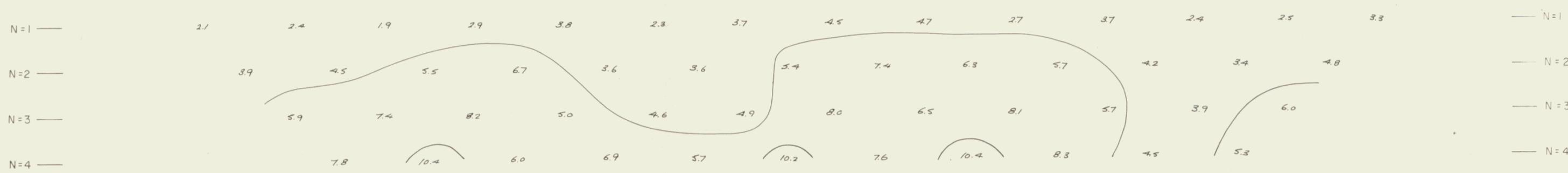
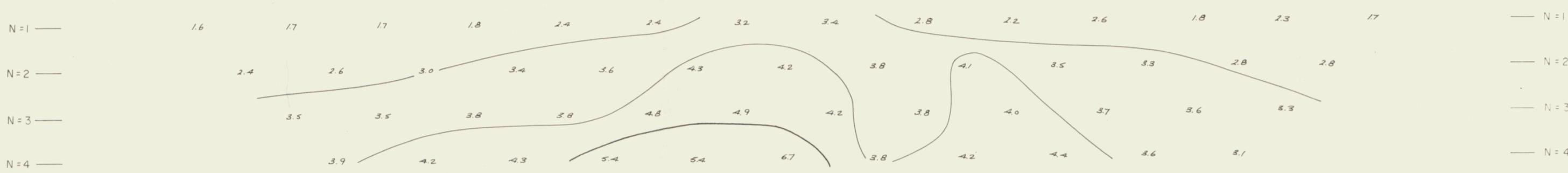
DIPOLE - DIPOLE ARRAY



ANOMALOUS ZONE



POSSIBLE ANOMALOUS ZONE



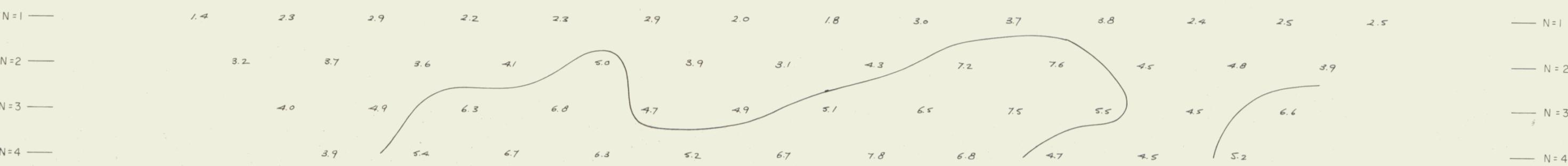
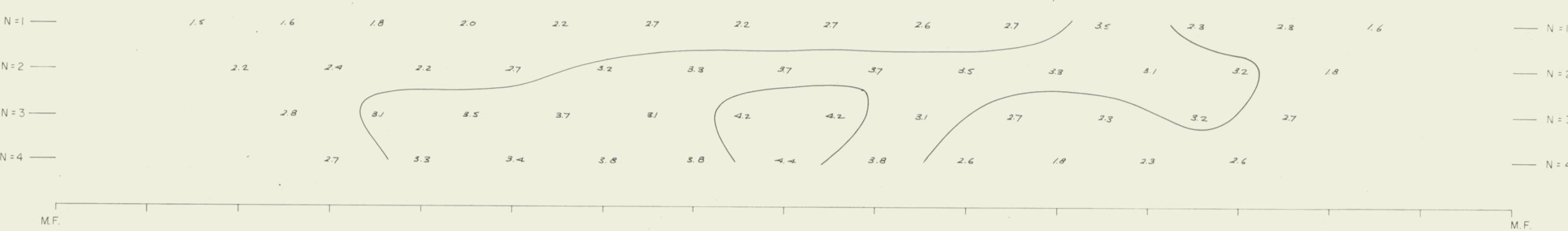
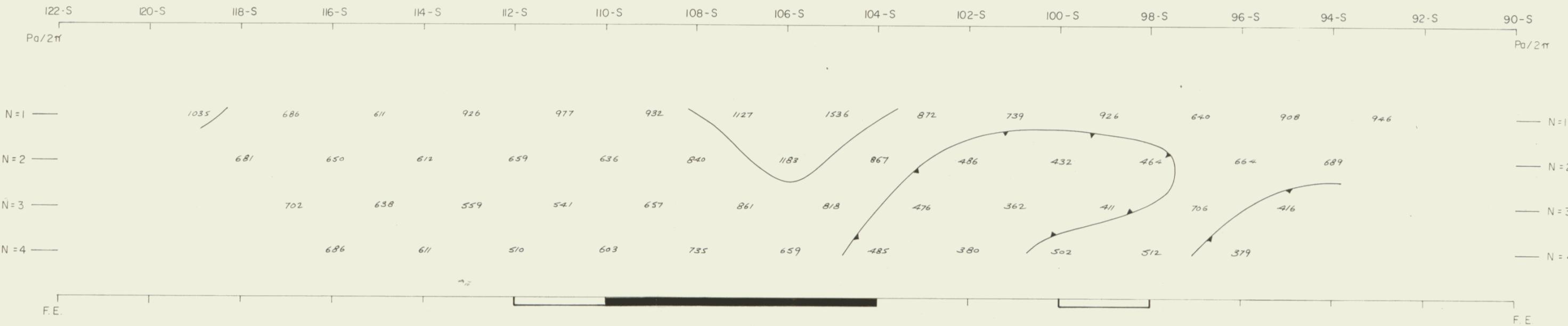
CYPRUS ANVIL MINING
CORP. LTD.

FREEGOLD AREA

L-0+00

a = 200'
FREQUENCY 0.3 & 5.0 C.P.S.

SCALE: 1" = 200'



CYPRUS ANVIL MINING
CORP. LTD.

FREEGOLD AREA

L-4 S

a = 200'
FREQUENCY 0.3 & 5.0 C.P.S.

SCALE: 1" = 200'



CYPRUS ANVIL MINING
CORP. LTD.

FREEGOLD AREA

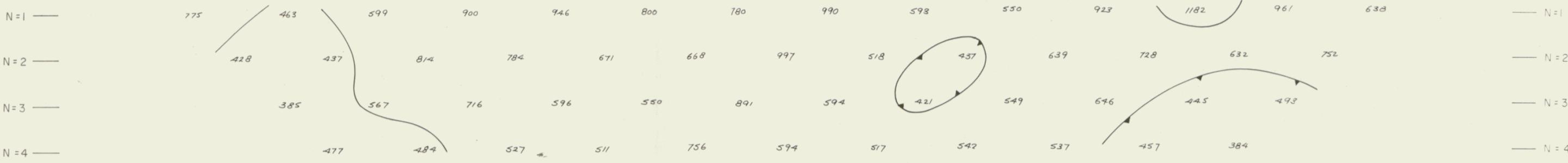
L-8S

a = 200'

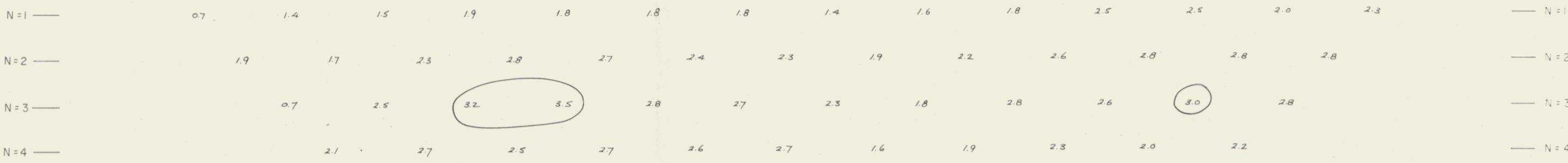
FREQUENCY 0.3 & 5.0 C.P.S.

SCALE: 1" = 200'

122-W 120-W 118-W 116-W 114-W 112-W 110-W 108-W 106-W 104-W 102-W 100-W 98-W 96-W 94-W 92-W 90-W
 Pa/2π Pa/2π



F.E. F.E.



M.F. M.F.



CYPRUS ANVIL MINING
CORP. LTD.

FREEGOLD AREA

L-12S

a = 200'
FREQUENCY 0.3 & 5.0 C.P.S.

SCALE: 1" = 200'



CYPRUS ANVIL MINING
CORP. LTD.

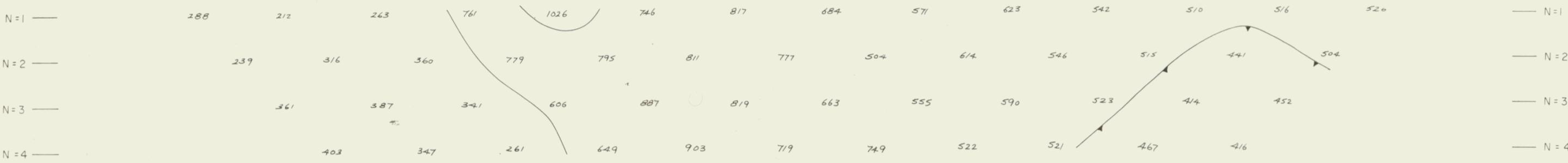
FREGOLD AREA

L-16S

α = 200'
FREQUENCY 0.3 & 5.0 C.P.S.

SCALE: 1" = 200'

122-W 120-W 118-W 116-W 114-W 112-W 110-W 108-W 106-W 104-W 102-W 100-W 98-W 96-W 94-W 92-W 90-W
 Pa/2π Pa/2π



F.E. F.E.



M.F. M.F.



CYPRUS ANVIL MINING
CORP. LTD.

FREEGOLD AREA

L-20S

a = 200'
FREQUENCY 0.3 & 5.0 C.P.S.

SCALE: 1" = 200'

122-W 120-W 118-W 116-W 114-W 112-W 110-W 108-W 106-W 104-W 102-W 100-W 98-W 96-W 94-W 92-W 90-W
 Pa/2π Pa/2π



F.E. F.E.



M.F. M.F.



CYPRUS ANVIL MINING
CORP. LTD.

FREGOLD AREA

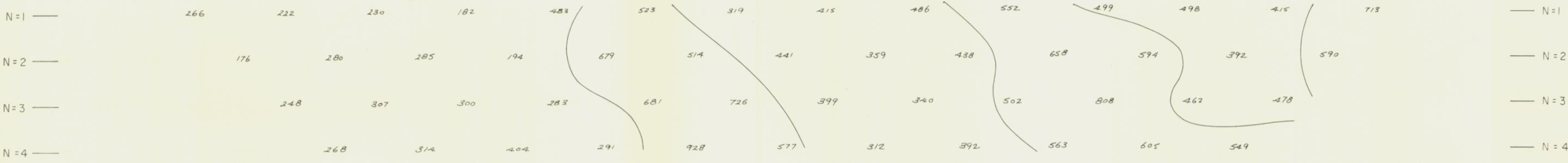
L-24 S

a = 200'

FREQUENCY 0.3 & 5.0 C.P.S.

SCALE: 1" = 200'

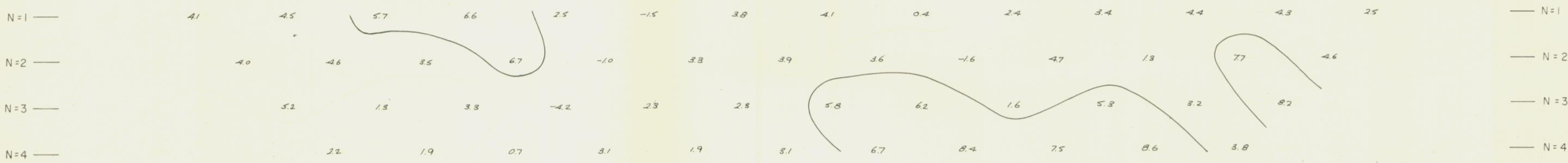
122-W 120-W 118-W 116-W 114-W 112-W 110-W 108-W 106-W 104-W 102-W 100-W 98-W 96-W 94-W 92-W 90-W
 Pa/2π Pa/2π



F.E. F.E.



M.F. M.F.



CYPRUS ANVIL MINING
 CORP. LTD.

FREGOLD AREA

L-28S

a = 200'
 FREQUENCY 0.3 & 5.0 C.P.S.

SCALE: 1" = 200'



CYPRUS ANVIL MINING
CORP. LTD.

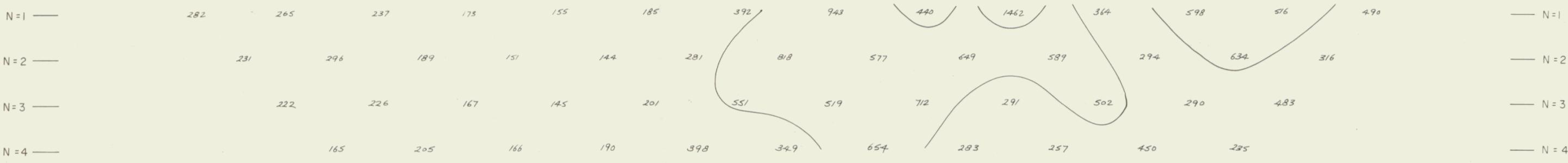
FREGOLD AREA

L - 32 S

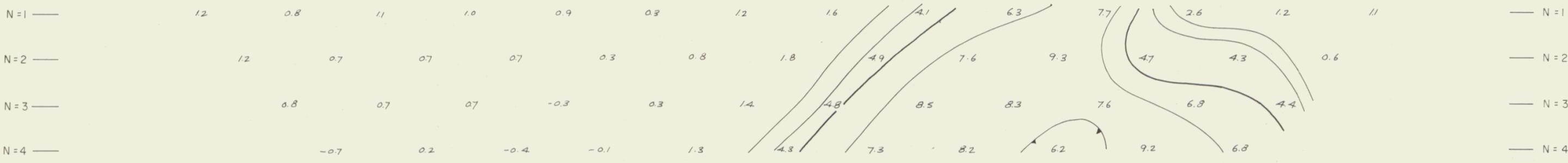
$\alpha = 200'$
FREQUENCY 0.3 & 5.0 C.P.S.

SCALE: 1" = 200'

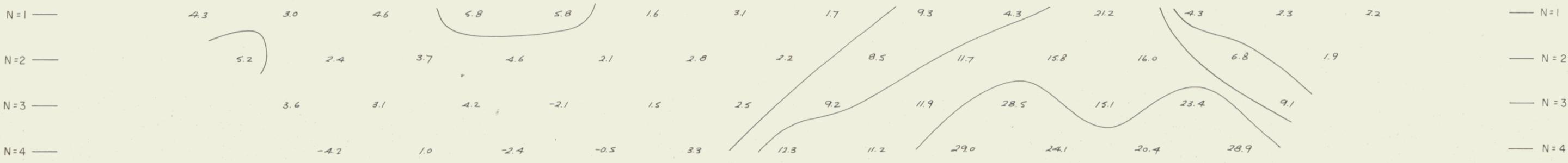
122-W 120-W 118-W 116-W 114-W 112-W 110-W 108-W 106-W 104-W 102-W 100-W 98-W 96-W 94-W 92-W 90-W
 Pa/2π Pa/2π



F.E. F.E.



M.F. M.F.



CYPRUS ANVIL MINING
 CORP. LTD.

FREGOLD AREA

L-36 S

a = 200'
 FREQUENCY 0.3 & 5.0 C.P.S.

SCALE: 1" = 200'