A PRELIMINARY REPORT

ON

TURAM ELECTROMAGNETIC & GRAVITY SURVEYS

Janice & Echo-Delta Grids,

Faro Area, Yukon Territory

FOR

CYPRUS ANVIL MINING CORPORATION

Vancouver, British Columbia

BY

PETER E. WALCOTT & ASSOCIATES LIMITED

Vancouver, British Columbia

MAY 1977

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 $ 68,536.30

Resident Geologist or
Resident Mining Engineer

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

B. R. BAXTER
Supervising Mining Recorder

for Commissioner of Yukon Territory

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APPENDIX

ACCOMPANYING MAPS

INTRODUCTION

Between March 7th and April 23rd, 1977, Peter E. Walcott & Associates Limited carried out Turam electromagnetic and gravity surveying over the Echo - Delta and Janice grids for Cyprus Anvil Mining Corporation.

Measurements of field strength and phase difference were made every 100 feet along the lines on the Turam survey with an S.E. 71 electromagnetic unit operating at a frequency of 400 Hz. and using a coil separation of 100 feet.

On the gravity survey measurements of relative gravity were made every 100 feet along the picket lines. In addition elevations at each of the gravity stations were obtained with theodolites and rods using the stadia method.

After corrections were applied in each method the data were plotted and presented in profile form on the accompanying maps.

SURVEY SPECIFICATIONS.

The basic principle of any electromagnetic survey is that when conductors are subjected to primary alternating fields secondary magnetic fields are induced in them. Measurements of these secondary fields give indications as to the size, shape and conductivity of conductors. In the absence of conductors no secondary fields are obtained.

The electromagnetic survey was carried out using an S.E. 71 electromagnetic unit. The primary field was set up by closed inductive loops laid on the ground. Two receiver coils connected by a lightweight shielded cable to a compensator amplifier are used to measure the distortions in the electromagnetic field. The quantities measured are:

1. the ratio of the field strengths at each coil and

2. the phase difference in the fields at the two coils.

Large rectangular loops 4000' to 4800' wide and 2000' to 3000' deep were used on the survey with the loops to the south on the assumed footwall side of the formations.

Readings were taken every 100 feet along the picket lines perpendicular to the long side of the loops with a 100 foot coil separation and using a frequency of 400 Hz.

In all some 124.1 miles of surveying were completed using this method.

The gravity survey was carried out using a Scintrex CG-2 meter. This instrument measures variations in the earth's gravitational field to an accuracy of $\pm$ 0.01 milligals.

Values of observed gravity were obtained every 100 feet along the picket lines. Corrections for meter drift were made by tying-in to previously established base stations at intervals not exceeding two to three hours.

The elevations of the gravity stadias were determined by rod and transit (Sokkisha TM 20C theodolite) using the stadia method. Errors in the tying-in of loops were kept to a minimum, and did not exceed 1.0 foot per loop.

Corrections were then applied to the observed gravity values for differences in elevation using a density of 2.7 gm/cc, i.e. an elevation correction factor of 0.06, and latitude.

SURVEY SPECIFICATIONS cont'd

These Bouguer values were then plotted in profile form.

In all some 54.8 miles of gravity surveying were carried out.

DISCUSSION OF RESULTS.

Although a number of conductors of poor to good conductivity can be seen on Maps W-231-1 and W-232-1 and 2 the location of these grids with respect to themselves and the area in general has not been properly determined so that further discussion of the Turam results will wait until this can be done this Summer.

On the gravity survey as terrain corrections are to be carried out for irregularities in the surface topography, and as such necessitates knowledge of the terrain densities as well as the nature of the ground surface, particularly in the immediate vicinity of the station - information that is not presently available - further evaluation of the data will be left until the fall when the additional information will hopefully be available.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.

Between March 7th and April 23rd, 1977, Peter E. Walcott & Associates Limited carried out Turam electromagnetic and gravity surveys over the Janice and Echo - Delta grids for Cyprus Anvil Mining Corporation.

Although to date the data have been plotted, additional information is needed to properly locate the grids with respect to each other and to others (previous work) in the general area to properly evaluate the results.

As a result the writer recommends that further discussion of the surveys' results be held in abeyance until the additional required information is obtained.

Respectfully submitted,

PETER E. WALCOTT & ASSOCIATES LIMITED

Peter E. Walcott, P.Eng.
Geophysicist

Vancouver, B.C.

Ma7 1977

CYPRUS ANVIL MINING CORPORATION

ECHO-DELTA GRID, ANVIL AREA, Y.T.

TURAM ELECTROMAGNETIC SURVEY

PROFILES OF FIELD STRENGTH & PHASE DIFFERENCE

f = 400 Hz

SCALE: 1 INCH = 400 FEET

400 200 0 400 800 1200

MAP NO. W-232-1
TO ACCOMPANY A REPORT BY
PETER E. WALCOTT P.Eng., DATED MAY-1977

PETER E. WALCOTT & ASSOC. LTD.
MARCH - APRIL 1977

CYPRUS ANVIL MINING CORPORATION

ECHO-DELTA GRID, ANVIL AREA, Y.T.

TURAM ELECTROMAGNETIC SURVEY

PROFILES OF FIELD STRENGTH & PHASE DIFFERENCE

f = 400 Hz

SCALE: 1 INCH = 400 FEET

400 0 400 800 1200

MAP NO. W-332-4

TO ACCOMPANY A REPORT BY PETER E. WALCOTT P.Eng., DATED MAY-1977

PETER E. WALCOTT & ASSOC. LTD.
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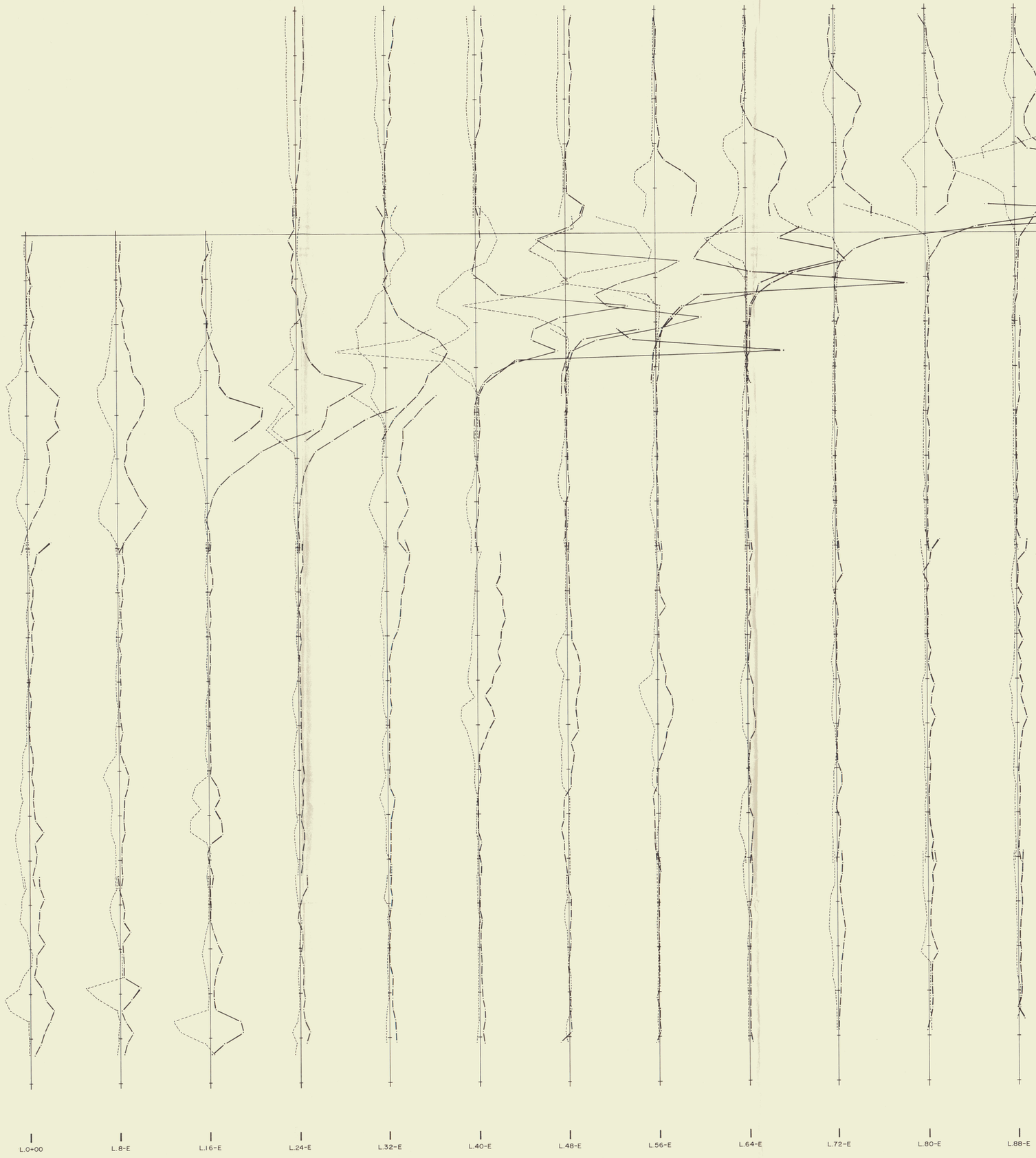
80% 100% 100%
PHASE DIFFERENCE
FIELD STRENGTH
-10% 0 +10%

L.0+00 L.8-E L.16-E L.24-E L.32-E L.40-E L.48-E L.56-E L.64-E L.72-E L.80-E L.88-E L.96-E L.104-E L.112-E L.120-E L.128-E

20-N 16-N 12-N 8-N 4-N BASE - LINE 4-S 8-S 12-S 16-S 20-S 24-S 28-S 32-S 36-S 40-S 44-S 48-S 52-S 56-S 60-S 64-S 68-S 72-S 76-S



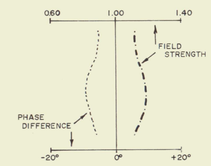
L.0+00 L.8-E L.16-E L.24-E L.32-E L.40-E L.48-E L.56-E L.64-E L.72-E L.80-E L.88-E

20-N 16-N 12-N 8-N 4-N BASE - LINE 4-S 8-S 12-S 16-S 20-S 24-S 28-S 32-S 36-S 40-S 44-S 48-S 52-S 56-S 60-S 64-S 68-S 72-S 76-S

L.96-E L.104-E L.112-E L.120-E L.128-E

N

LEGEND



CYPRUS ANVIL MINING CORP.

JANICE ; ANVIL AREA ; WHITEHORSE M.D., YUKON

S.E. 71 , FREQUENCY - 400 C.P.S.

TURAM ELECTROMAGNETIC SURVEY

PROFILES OF FIELD STRENGTH & PHASE DIFFERENCE

SCALE 1" = 400 FEET

400 200 0 400 800 1200

MAP No. W-231-1

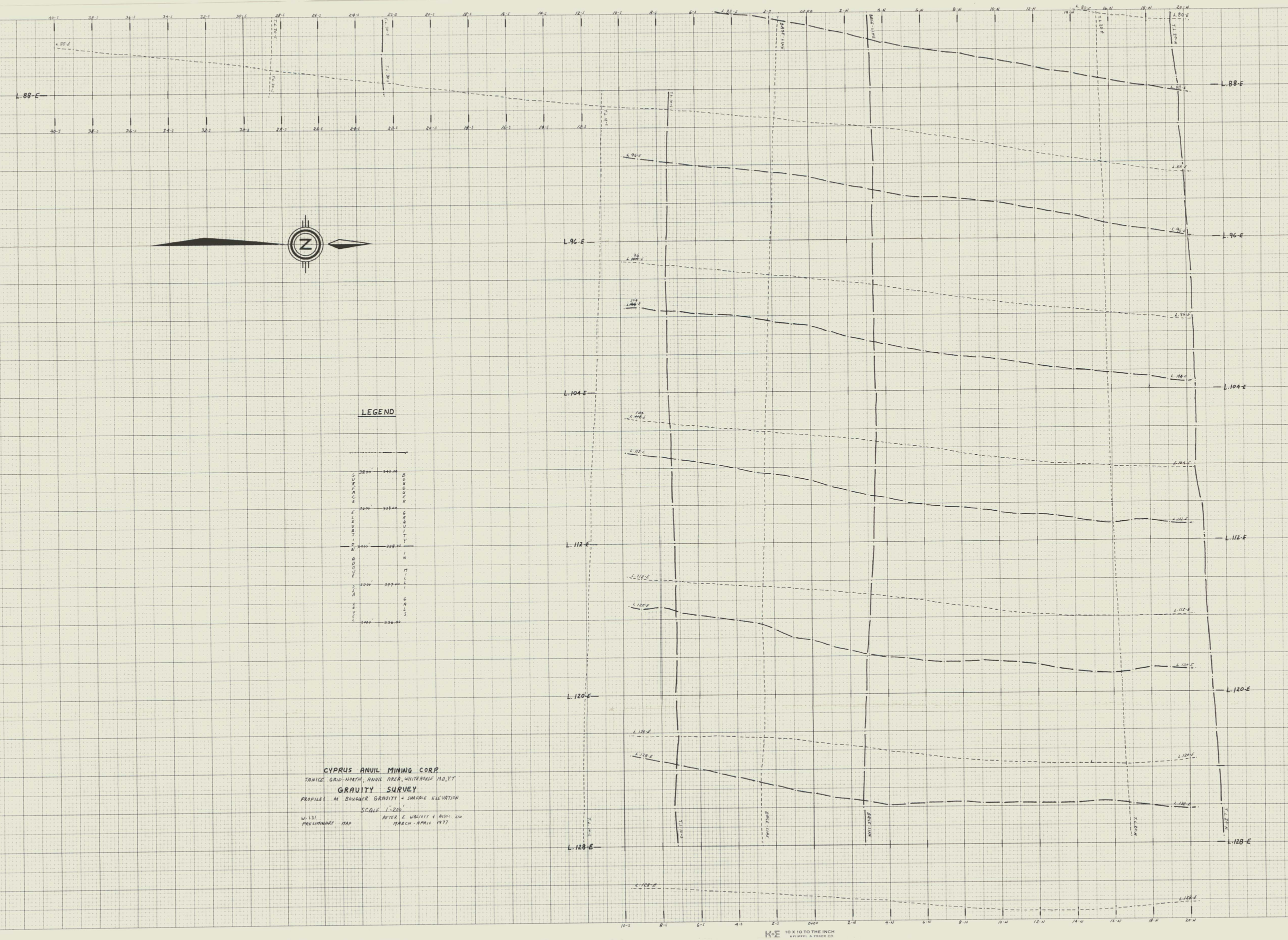
TO ACCOMPANY A REPORT BY PETER E. WALCOTT, P.Eng. ; DATED - MAY 1977

PETER E. WALCOTT & ASSOC. LTD.

MARCH - 1977


L.0+00
L.8-E
L.16-E
L.24-E
L.32-E
L.40-E
LEGEND
SURFACE ELEVATION ABOVE SEA LEVEL
BOUGUER GRAVITY IN MILLIGALS
3800' 340.00
3600' 339.00
3400' 338.00
3200' 337.00
3000' 336.00
CYPRUS ANVIL MINING CORP.
JANICE GRID-NORTH, ANVIL AREA, WHITEHORSE M.D., Y.T.
GRAVITY SURVEY
PROFILES OF BOUGUER GRAVITY + SURFACE ELEVATION
SCALE 1"=200'
W-231
PRELIMINARY MAP
PETER E. WALCOTT + ASSOC. LTD.
MARCH-APRIL 1977
10 X 10 TO THE INCH
KEUFFEL & ESSER CO.

L.188-N
L.180-N
L.172-N
L.164-N
L.156-N
L.148-N
L.140-N
CYPRUS ANVIL MINING CORP.
JANICE GRID - SOUTH ; ANVIL AREA ; WHITEHORSE M.D. Y.T.
GRAVITY SURVEY
PROFILES of BOUGUER GRAVITY & SURFACE ELEVATION
SCALE 1" = 200'
W-231
PRELIMINARY MAP
PETER E. WALCOTT & ASSOC. LTD.
MARCH - APRIL 1977
10 X 10 TO THE INCH
KEUFFEL & ESSER CO.



LEGEND

SURFACE ELEVATION ABOVE M.S.L. LEVEL

3800'	340.00
3600'	339.00
3400'	338.00
3200'	337.00
3000'	336.00

BOUGUER GRAVITY IN MILLIGALS

CYPRUS ANVIL MINING CORP

JANICE GRID-NORTH, ANVIL AREA, WHITEHORSE MAP AREA, Y.T.

GRAVITY SURVEY

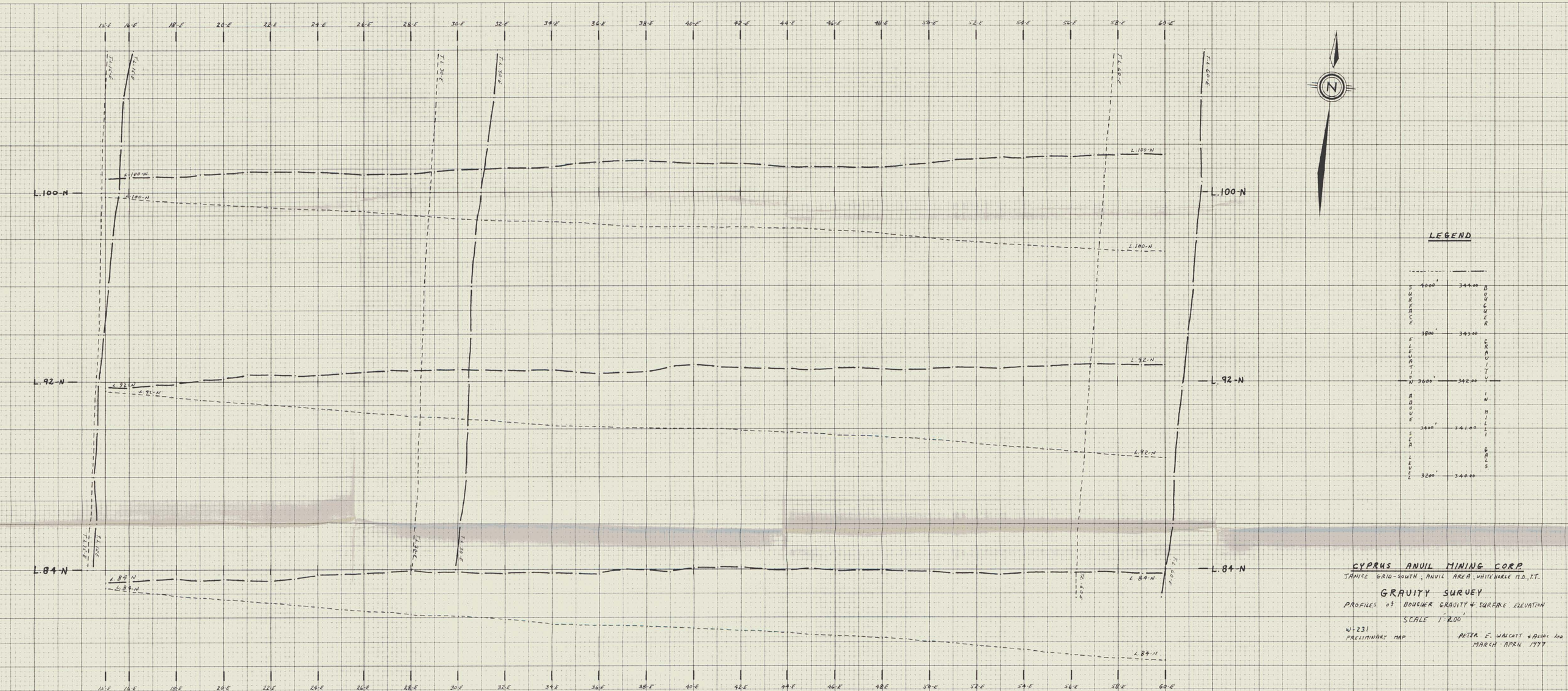
PROFILES OF BOUGUER GRAVITY + SURFACE ELEVATION

SCALE 1"=200'

W-131
PRELIMINARY MAP

PETER E. WALCOTT & ASSOC. LTD
MARCH - APRIL 1977

K&E 10 X 10 TO THE INCH
KEUFFEL & ESSER CO.



CYPRUS ANVIL MINING CORP

JANICE GRID-SOUTH, ANVIL AREA, WHITEHORSE M.D., Y.T.

GRAVITY SURVEY

PROFILES of BOUGUER GRAVITY & SURFACE ELEVATION

SCALE 1" = 200'

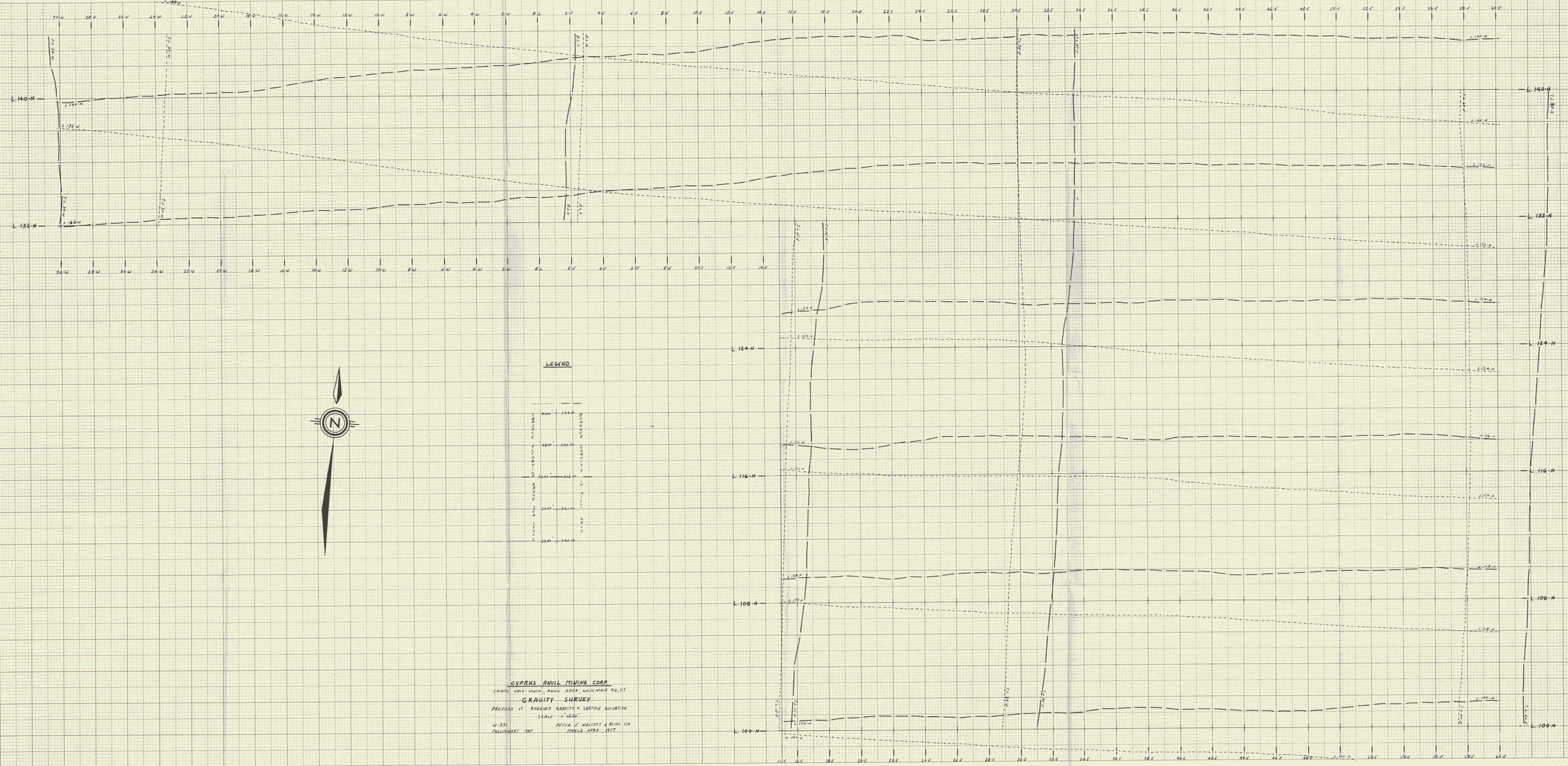
W-231

PRELIMINARY MAP

PETER E. WALCOTT & ASSOC. LTD

MARCH - APRIL 1977


CYPRUS ANUIL MINING CORP.
JANICE GRID-NORTH; ANUIL AREA; WHITEHORSE M.D.; Y.T.
GRAUITY SURUEY
PROFILES of BOUGUER GRAUITY & SURFACE ELEUATION
SCALE 1" = 200'
W-231
PRELIMINARY MAP
PETER E. WALCOTT & ASSOC. LTD
MARCH - APRIL 1977
L.40-E
L.48-E
L.56-E
L.64-E
L.72-E
L.80-E
L.88-E
Z
10 X 10 TO THE INCH
KEUFFEL & ESSER CO.



CYPRUS ANVIL MINING CORP

JANICE GRID: SOUTH, ANVIL AREA, WHITEHORSE MD, Y.T.

GRAVITY SURVEY

PROFILES of BOUGUER GRAVITY & SURFACE ELEVATION

SCALE 1"=200'

W-231 PETER E. WALCOTT & ASSOC. LTD

PRELIMINARY MAP MARCH 1977