



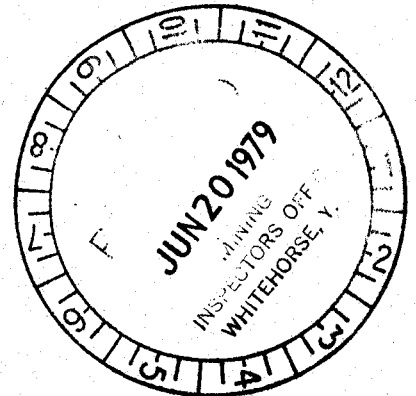
A REPORT

ON

TURAM ELECTROMAGNETIC & GRAVITY SURVEYS

Kit Grid

Faro Area, Yukon Territory



FOR

CYPRUS ANVIL MINING CORPORATION

Vancouver, British Columbia

BY

090473
PETER E. WALCOTT & ASSOCIATES LIMITED

Vancouver, British Columbia

MAY 1979

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

\$ 7,000.⁰⁰

R. DeBicki July 13/79
Acting Resident Geologist or
Resident Mining Engineer

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

B. R. BAXTER
Supervising Mining Recorder
Commissioner of Yukon Territory

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INTRODUCTION

Between July 16th and 28th, 1977, Peter E. Walcott & Associates Limited carried out a Turam electromagnetic survey over the KIT grid for Cyprus Anvil Mining Corporation.

This was followed by a gravity survey between September 14th and October 11th, 1977 over the same grid.

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.

During November - December 1978 terrain corrections were carried out for the gravity effects due to irregularities in surface topography and the original gravity data was reprocessed.

These results along with those from the Turam survey are presented on Maps W-240-1 to 6 that accompany this report.

PROPERTY, LOCATION AND ACCESS

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

<u>Claim Name</u>	<u>Record No.</u>
KIT 1 - 92	YA 4730 - 4821
93 - 105	YA 8988 - 9000
106 - 117	YA 18002 - 18013

The claims are situated to the east of Blind Creek some 9 miles northeast of the town of Faro.

Access is obtainable from Faro either by helicopter or by a disused winter road that traverses the property and joins the old Blind Creek road some 6 miles away. During these surveys access was obtained by means of helicopter.

PREVIOUS WORK.

Previous work in the area consisted of airborne magnetic and electromagnetic surveying, ground electromagnetic investigation, geochemical soil sampling, geological mapping, and diamond drilling, the results of which are documented in reports and/or maps held by Cyprus Anvil Mining Corporation.

PURPOSE.

The Turam survey was carried out to trace out the graphitic horizons of Units 3 E and 5 A that run onto the grid from the adjoining Janice claims to the east where they had been successfully located using the Turam method.

The gravity survey was carried out in order to possibly screen the previously located graphitic horizons as to their association with economic sulphide mineralization i.e. to see if any excess mass was associated with the E.M. conductors.

GEOLOGY.

The reader is referred to reports held by Cyprus Anvil Mining Corporation.

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 formation.

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 26 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 ± 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

Terrain corrections were carried out for the effects due to irregularities in surface topography by approximating the surface by a network of rectangular prisms. To this end the topography was digitized along contour lines (100' contours) on the existing 1" = 1000' orthophoto maps and the data grided at 100 feet.

The grid was also recovered on the orthophoto maps and the data digitized.

Nagy's exact expression for the gravitational attraction of a vertical prism was used to calculate the terrain effect for three zones of varying size prisms as listed.

<u>Zone</u>	<u>Width</u>	<u>Size of Prism</u>	<u>No. of Prisms</u>
1	0 - 400'	100'	16
2	400' - 1600'	200'	60
3	1600' - 9600'	400'	560

The height of each prism was taken to be the elevation difference between the ground surface at the centre of the prism and the Bouguer plane.

A density of 2.7 gm/cc was used in the computation.

In all some 32 miles of gravity surveying were carried out and processed by this method.

DISCUSSION OF RESULTS

The results of this survey should be studied in conjunction with those on the adjoining Janice property (report by Peter E. Walcott dated March 1978).

The results of the Turam survey show the property to exhibit more electromagnetic noise than the Janice. However three complex conductive zones, Zones "A", "B" & "C" are still readily discernible.

Zone "A" appears to be the continuation of its namesake from the Janice grid, and is presumably the electromagnetic expression of Unit 3E.

Zone "B" also appears to be the continuation of Zones "B" and "E" from the Janice grid, but is considerably more widespread, and in some cases exhibits greater conductivity. It also presumably represents the electromagnetic expressions of the graphitic horizons of Unit 5A.

Zone "C" of moderate conductivity would also appear to be indicative of graphitic material in Unit 5A.

The broad conductors north of T-L. 30S would appear to be attributable to the conductive overburden in Blind Creek Valley.

The field profile plots of the gravity survey showed the Bouguer gravity to be relatively smooth (Maps W-240-2 & 3).

After terrain corrections were carried out five residual anomalies, anomalies "M", "N", "T", "U" & "V", remained after the regional was removed by graphical smoothing.

"M" and "N" are continuous from the same on the Janice grid. Both parallel the topography as do "T" and "V".

Anomaly "M" appears to be associated with conductor "A", while "N", "T" & "V" are associated with conductor "B".

As discussed in the Janice report problems exist with grid recovery and with the orthophoto map. Severe discrepancies between the recovered and the surveyed elevations were noted (up to 50 feet) particularly in the region in the break of slope associated with anomaly "T". Therefore it would appear that some if not all of this residual could be attributable to incorrect terrain corrections.

DISCUSSION OF RESULTS cont'd

Similarly anomaly "U" was a low on the uncorrelated Bouguer profiles.

This could have been the cause of anomaly "M" on the Janice grid where essentially negative results were obtained with borehole investigations.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

During November & December 1978 Peter E. Walcott & Associates Limited carried out terrain corrections and further gravity processing on the KIT gravity data that were obtained in the field between September 14th and October 11th, 1977.

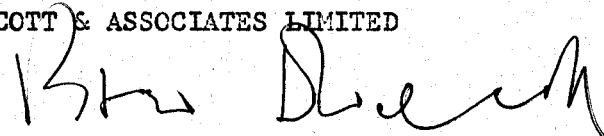
The gravity survey, after terrain corrections were applied, defined the location of five anomalies, four of which showed good correlation with the favorable graphitic horizons outlined by the Turam survey.

However due to certain discrepancies observed in the terrain correction processing as discussed previously and the unsuccessful investigations of similar situations on the adjoining Janice grid the writer is extremely reticent about recommending further work on the property at this time.

Accordingly the data should be shelved until further and/or different input is available for reprocessing and massaging.

Respectfully submitted,

PETER E. WALCOTT & ASSOCIATES LIMITED


Peter E. Walcott, P.Eng.
Geophysicist

Vancouver, B.C.

May 1979

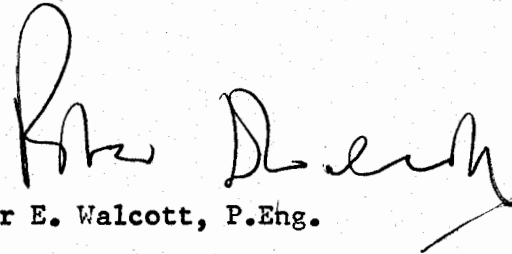
A P P E N D I X

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CERTIFICATION

I, Peter E. Walcott of the Municipality of Coquitlam, British Columbia, hereby certify that:

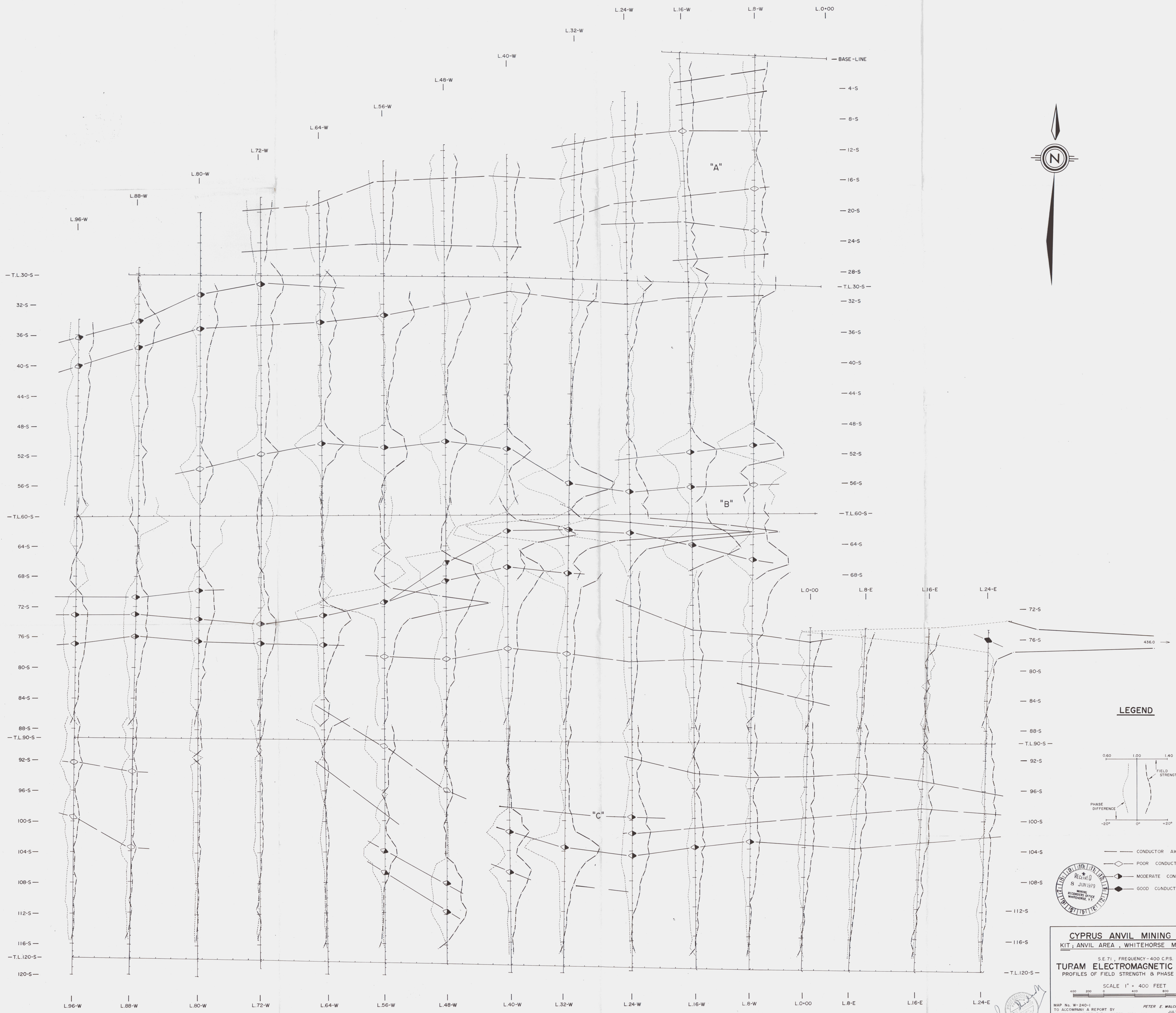
1. I am a Graduate of the University of Toronto in 1962 with a B.A.Sc. in Engineering Physics, Geophysics Option.
2. I have been practising my profession for the last seventeen years.
3. I am a member of the Association of Professional Engineers of British Columbia, Ontario and the Yukon Territory.
4. I hold no interest, direct or indirect, in the securities or properties of Cyprus Anvil Mining Corporation, nor do I expect to receive any.



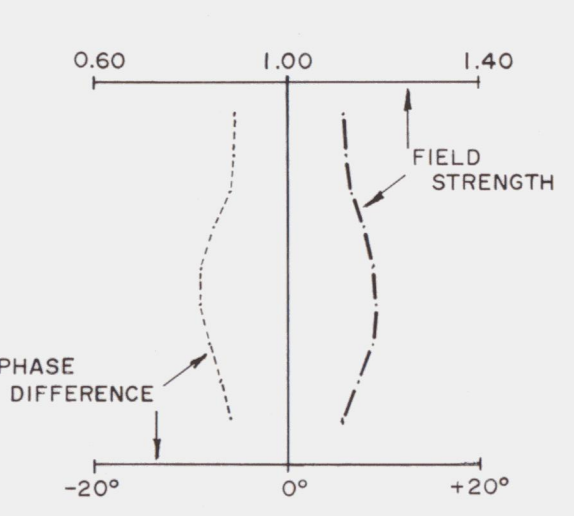
Peter E. Walcott, P.Eng.

Vancouver, B.C.

May 1979



LEGEND



- CONDUCTOR AXIS
- POOR CONDUCTOR
- ◐ MODERATE CONDUCTOR
- ◑ GOOD CONDUCTOR



CYPRUS ANVIL MINING CORP.
 KIT; 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

MAP No. W-240-1
 TO ACCOMPANY A REPORT BY
 PETER E. WALCOTT, P. Eng. DATED - MAY - 1979

PETER E. WALCOTT & ASSOC. LTD.
 JULY - 1977



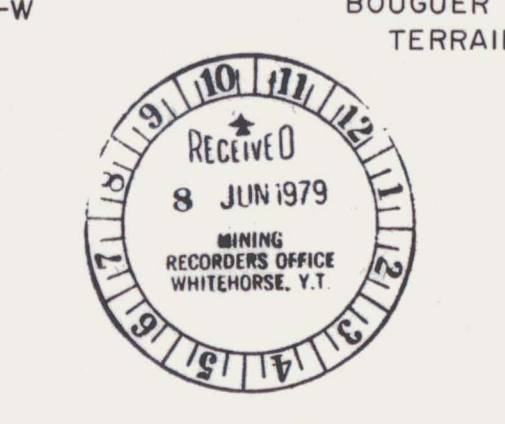


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E	3600 + 340.00	E
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V	3400 + 338.00	R
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O		T
N	3200 + 336.00	Y
A		I
B		N
O		J
V	3000 + 334.00	M
E		J
S		L
A	2800 + 332.00	L
L		S
E		A
V		L
L	2600 + 330.00	S

DENSITY = 2.70 gm/cc

LEGEND

SURFACE ELEVATION
BOUGUER GRAVITY
BOUGUER GRAVITY PLUS
TERRAIN CORRECTION



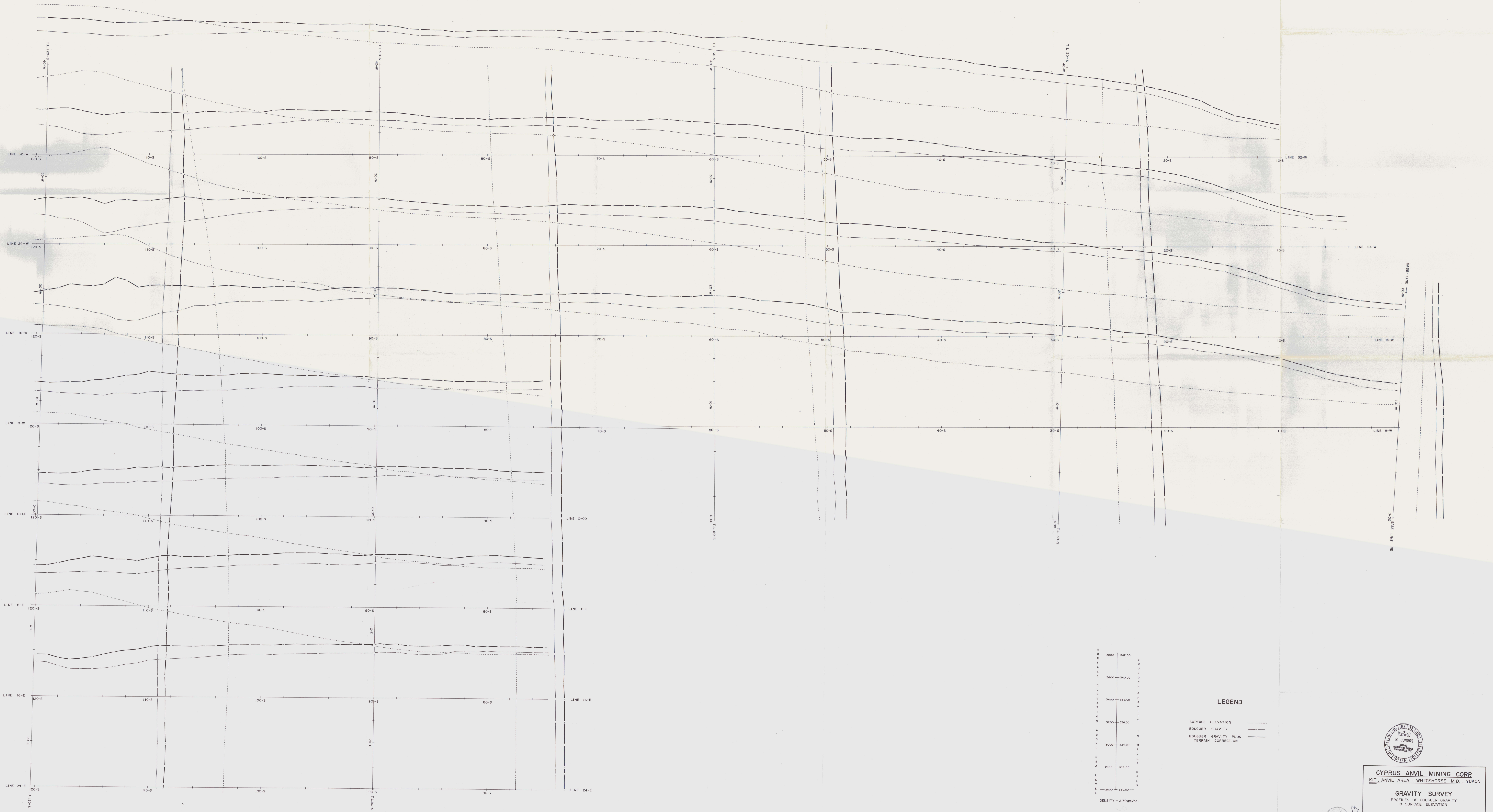
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GRAVITY SURVEY
PROFILES OF BOUGUER GRAVITY
& SURFACE ELEVATION

SCALE 1" = 200 FEET

MAP No. W-247-1
TO ACCOMPANY A REPORT BY
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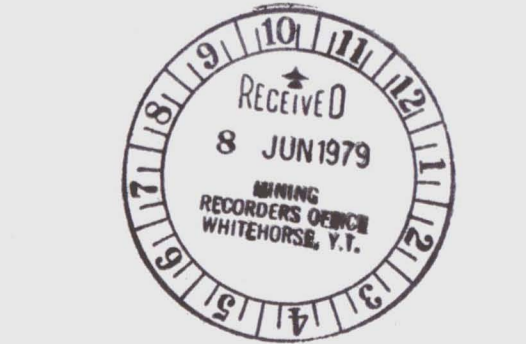
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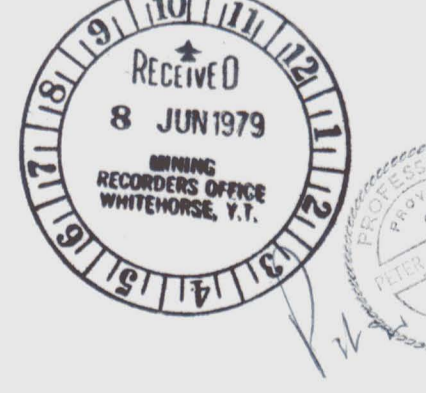
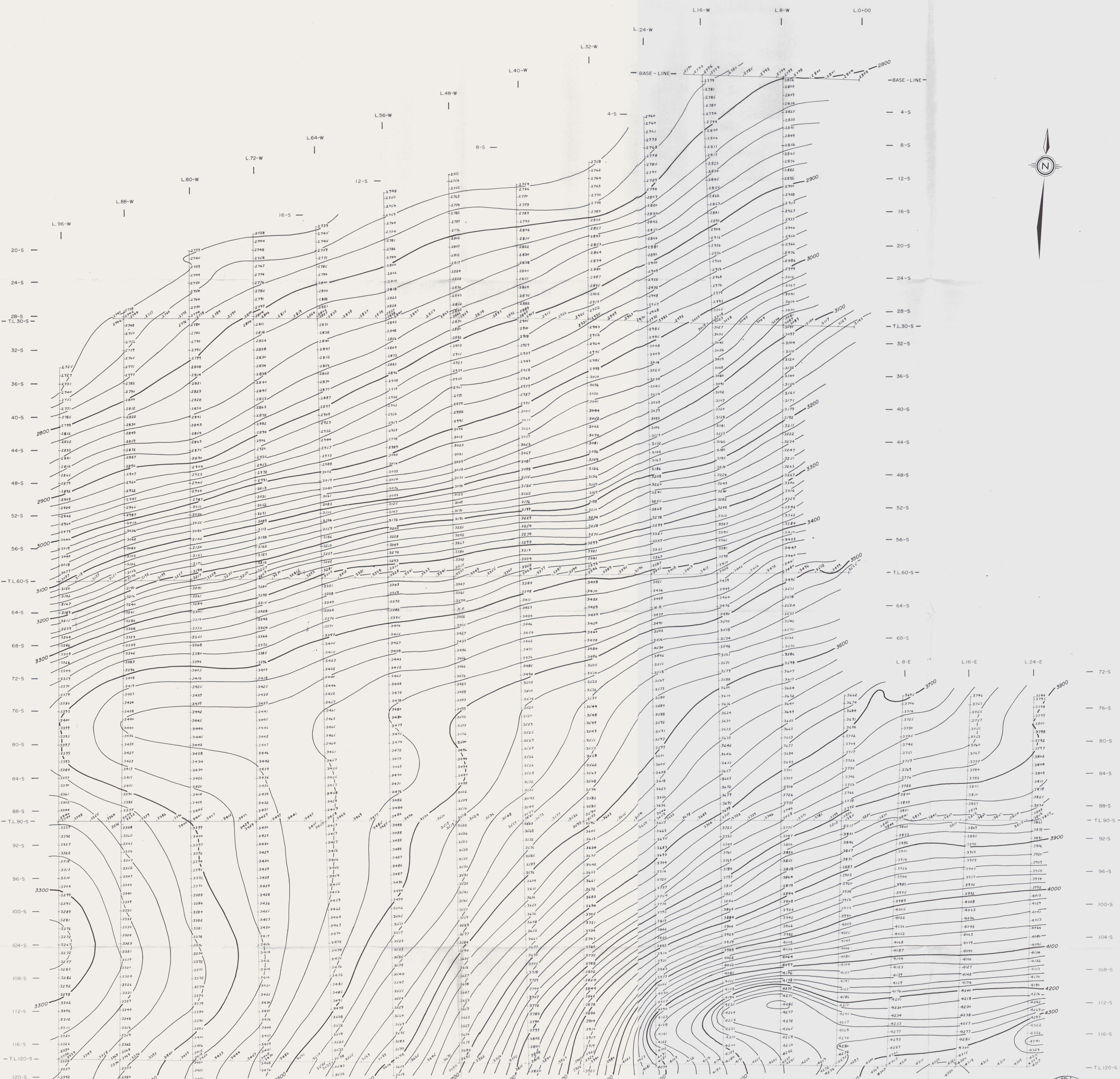
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LEGEND

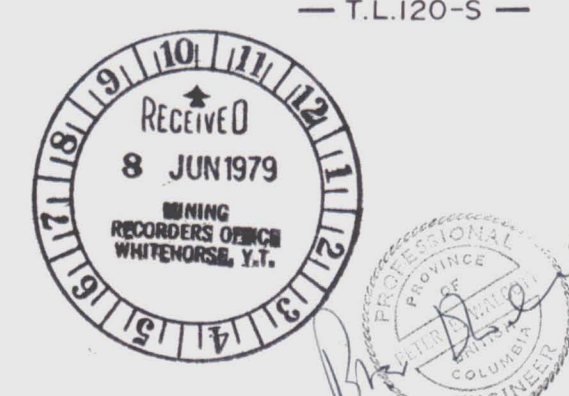
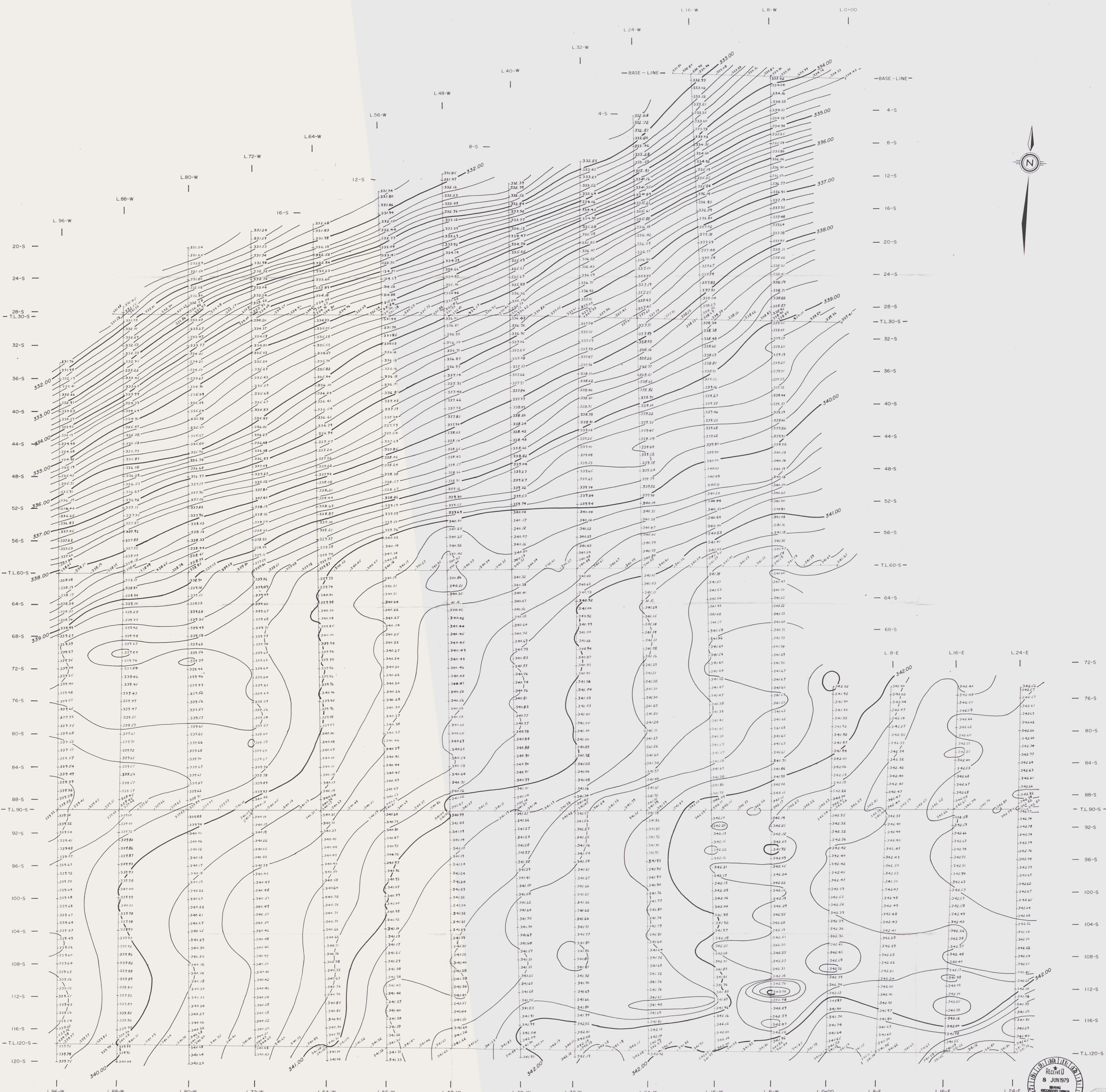
- SURFACE ELEVATION
- BOUGUER GRAVITY
- BOUGUER GRAVITY PLUS TERRAIN CORRECTION
- TERRAIN CORRECTION



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GRAVITY SURVEY
 PROFILES OF BOUGUER GRAVITY
 & SURFACE ELEVATION
 SCALE 1" = 200 FEET
 MAP NO. W-247-S
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GRAVITY SURVEY
 CONTOURS OF SURFACE ELEVATION
 SCALE 1" = 400 FEET
 MAP No. W-247-4
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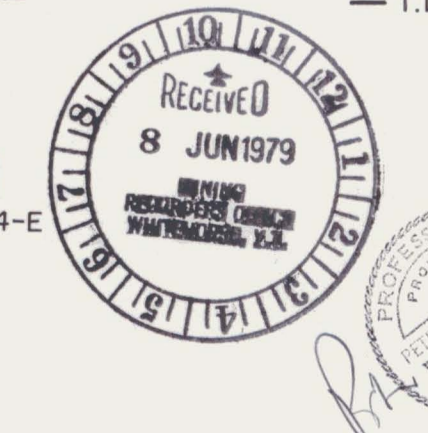
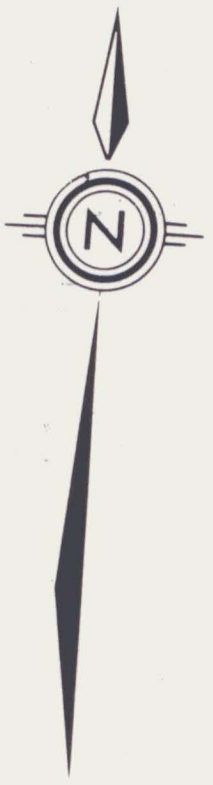
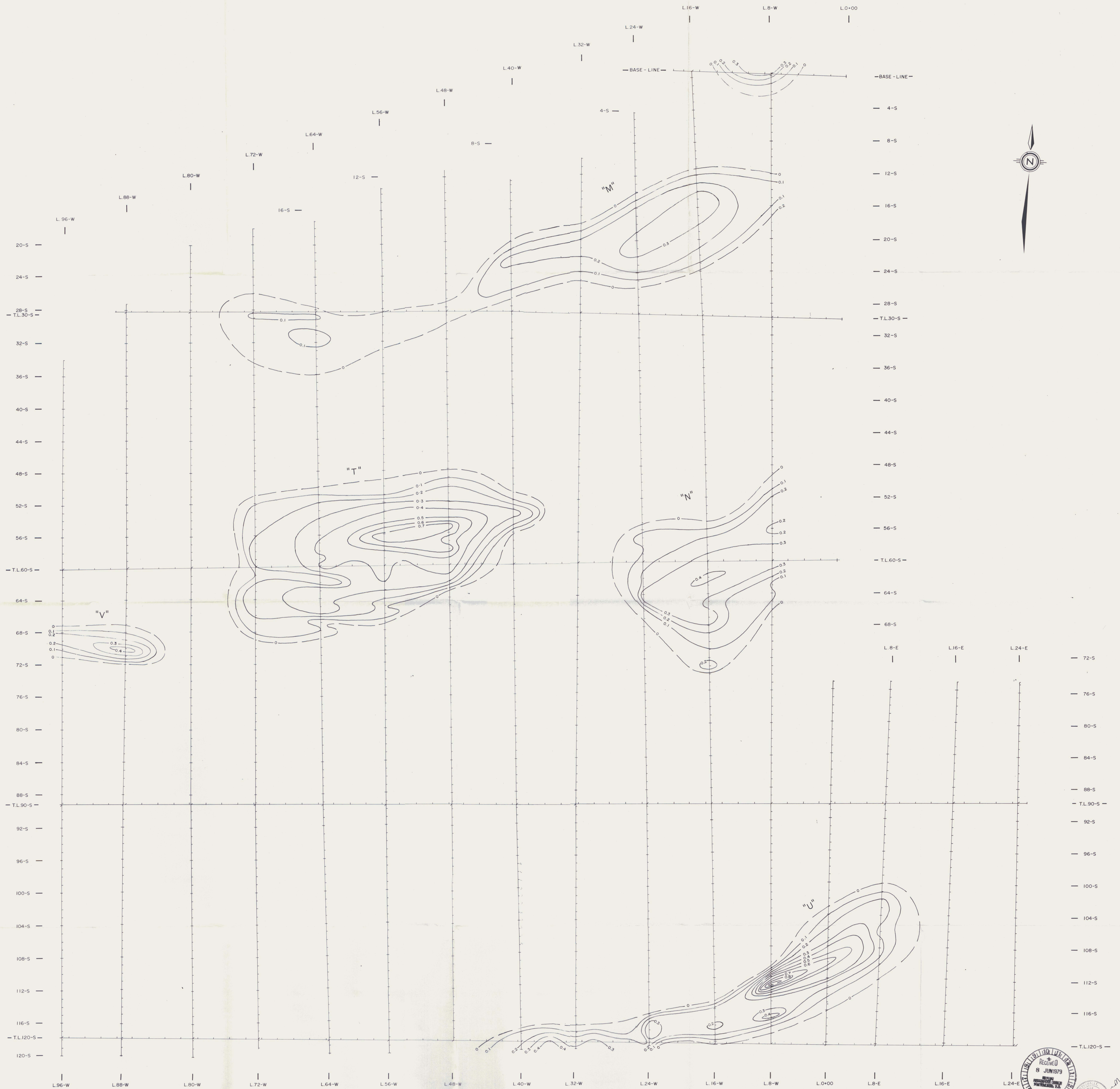
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GRAVITY SURVEY
 CONTOURS OF BOUGUER GRAVITY

SCALE 1" = 400 FEET

MAP No. W-247-5
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GRAVITY SURVEY
CONTOURS OF RESIDUAL GRAVITY
 SCALE 1" = 400 FEET
 MAP No. W-247-G
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