

GRAVITY SURVEY AND INTERPRETATION
IN THE
SUE CLAIM GROUP, YUKON TERRITORY

for

CONWEST EXPLORATION COMPANY LIMITED
MacMILLAN JOINT VENTURE

Feb. to May, 75; Feb. to July, 1976; Feb. to May, 1977

WHITEHORSE MINING DISTRICT

N.T.S. 105 L 10, 14, 15

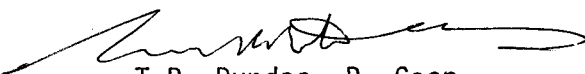
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FIELD SUPERVISION BY D. DORVAL

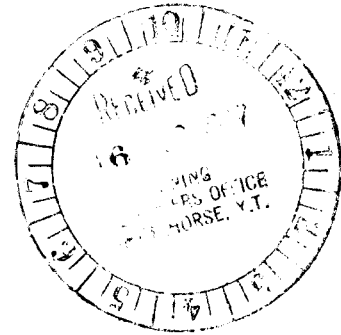
Calgary, Alberta
April 29, 1977

D. Dorval, C.E.T., P. Geop.



T.R. Dundas, P. Geop.

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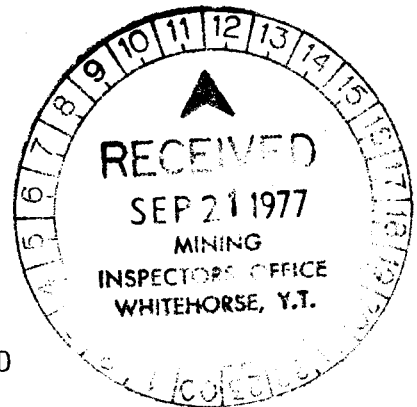
GRAVITY SURVEY
AND
INTERPRETATION
IN THE SUE CLAIM GROUP
YUKON TERRITORY
1977

for

CONWEST EXPLORATION COMPANY LIMITED
MacMILLAN JOINT VENTURE

by

KENTING EXPLORATION SERVICES LIMITED
Calgary, Alberta



090213



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

\$110,300.00

A handwritten signature in cursive script, appearing to read "J.R. Craig".

~~Resident Geologist or
Resident Mining Engineer~~

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

A handwritten signature in cursive script, appearing to read "B.R. Baxter".

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

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I. INTRODUCTION

This report covers the reduction, presentation and interpretation of a gravity survey conducted on the Sue claim group over the years 1975 to 1977. The gravity survey was conducted entirely on the Sue claim group which was staked by Conwest Exploration Co. Ltd. in August, 1974. The claims are currently held by Conwest in Trust for the MacMillan Joint Venture (Conwest Exploration Co. Ltd. and U.S. Steel, Western Hemisphere Inc.).

The gravity survey consists of a total of 8182 stations which were produced during the periods of February to May, 1975; February to July, 1976 and February to May, 1977.

In this report a portion of the survey coverage (4644 stations) is re-processed and re-interpreted from previous work (see Previous Work) and some new coverage (3538 stations acquired in 1977) is evaluated.

The gravity survey was conducted as a followup to an extensive horizontal-loop E.M. and Magnetometer survey conducted in 1975. The gravity survey was used to detect any massive sulfide mineralization occurring within the outlined conductive zones. The geology is believed to be similar to that at Vangorda Creek (70 miles S.E.) where lead-zinc mineralization occurs within conductive graphite rocks.

II. PROPERTY

The Sue claim group consisted originally of 1070 contiguous mineral claims staked between August 15 and August 28, 1974. A total of 951 claims of this original group remain and are described more fully below.

ORIGINAL CLAIM GROUP

<u>Claim No.</u>	<u>Grant Number</u>	<u>Date Recorded</u>	<u>At</u>
1- 748	80651 - 81398	September 11, 1974	Whitehorse
749- 848	90401 - 90500	September 11, 1974	Whitehorse
849- 850	96681 - 96682	September 3, 1974	Mayo
851- 870	90501 - 90520	September 11, 1974	Whitehorse
871, 72, 73, 74	96685, 86, 83, 84	September 3, 1974	Mayo
875- 896	90521 - 90542	September 11, 1974	Whitehorse
897- 898	96687 - 96688	September 3, 1974	Mayo
899-1008	90543 - 90652	September 11, 1974	Whitehorse
1009-1010	96675 - 96676	September 3, 1974	Mayo
1011-1040	90653 - 90682	September 11, 1974	Whitehorse
1041-1044	96677 - 96680	September 3, 1974	Mayo
1045-1070	90683 - 90708	September 11, 1974	Whitehorse

The above claims are all located on claim sheets 105 L 10, 14 and 15 and were transferred and registered in the name of Conwest Exploration Company Limited.

The following claims remain registered in the name of Conwest Exploration Company Limited.

<u>CLAIM NAME</u>	<u>NUMBER OF CLAIMS</u>	<u>CLAIM NAME</u>	<u>NUMBER OF CLAIMS</u>
"Sue" 1 - 48	48	"Sue" 316	1
50	1	318	1
52	1	320	1
54	1	329 - 351	23
56	1	355	1
58 - 72	15	357	1
83 - 96	14	359	1
99	1	361	1
101	1		
		363 - 404	42
		408 - 560	153
		562 - 582	21
103	1	584 - 600	17
105	1	608 - 618	11
107	1	627 - 848	222
109 - 298	190	851 - 869	19
300	1	877 - 889	13
302	1	891	1
305	1	893	1
306	1	899 - 938	40
308	1	949 - 971	23
310	1	977 - 1006	30
312	1	1013 - 1039	27
314	1	1049 - 1065	17
	<u>284</u>		<u>667</u>
		<u>TOTAL</u>	<u>951</u>

III. LOCATION AND ACCESS

The Sue claim group lies north of the Pelly River and south of the MacMillan River just east of their junction, 146 miles due north of Whitehorse, Yukon Territory. (Figure No. 1).

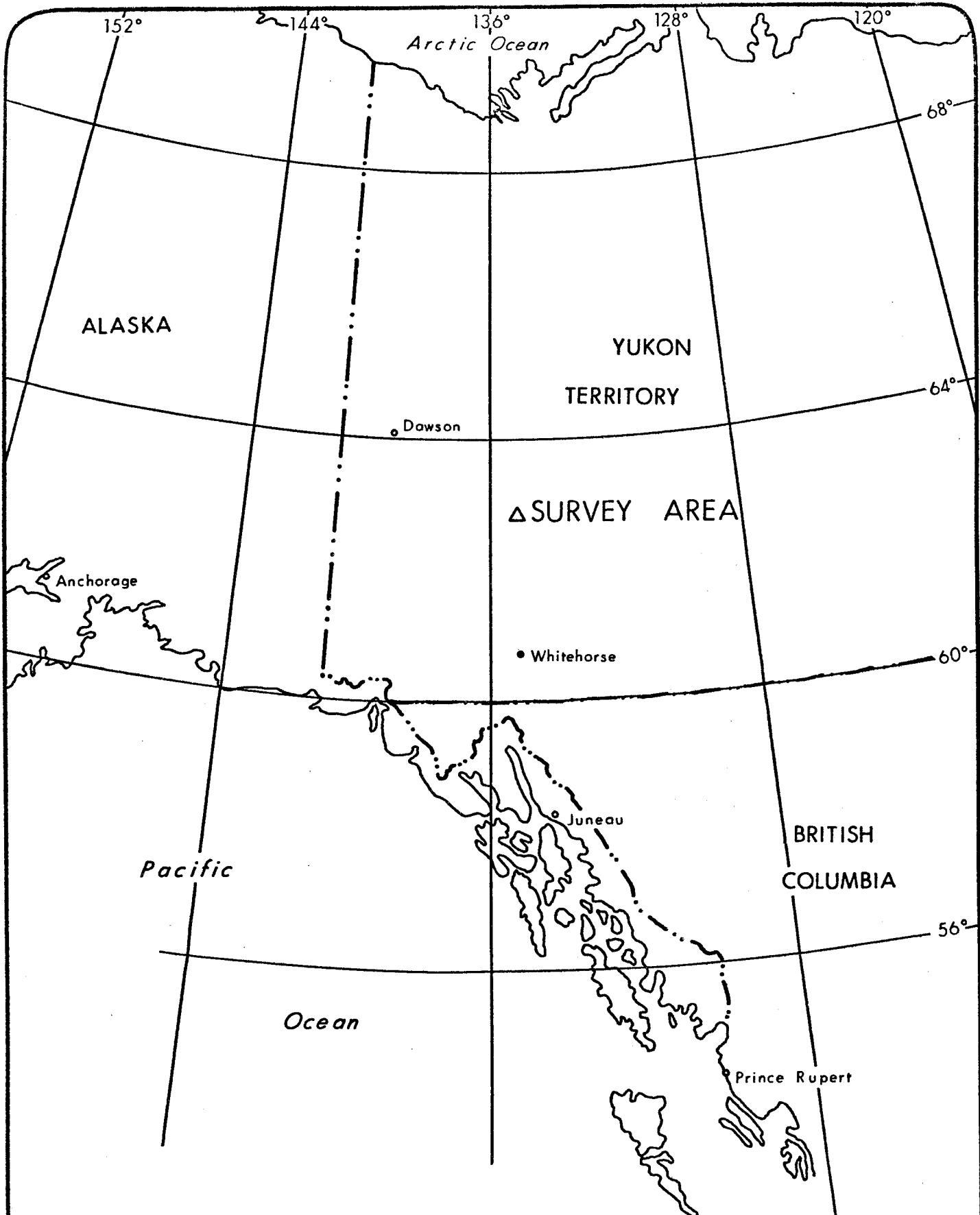
There is no all weather road access to the claims. A winter tractor road can be used from Pelly Crossing on the Klondike Highway, 156 miles north of Whitehorse, to freight supplies to the property during the period January to April, a distance of about 60 miles from the Highway. This winter road which was originally built in 1966 to Detour Lakes on the south side of the Pelly River, was extended in 1975 to the main base camp at Oz Lake in the north central part of the Sue claim group, a distance of 11½ miles, as shown on the Property Location Map.

Fixed wing aircraft access is possible by float or ski equipped planes from bases in Whitehorse or Mayo to Oz Lake, distances of 148 and 60 miles respectively.

Alternatively, a dirt strip at Detour Lakes is useable by light wheeled aircraft during the summer. This strip has not been maintained in recent years and is starting to grow in.

Helicopters can be chartered from Mayo, or Ross River 105 miles southeast, and provide the best local access over the large claim group.

The nearest settlements are Mayo, Carmacks 66 miles south-west and Faro 77 miles south-east. The latter town was built in 1970 to support the large Anvil lead-zinc-silver mine and is connected by a new all-weather road to Carmacks on the Klondike Highway.



ALASKA

YUKON
TERRITORY

BRITISH
COLUMBIA

Anchorage

Dawson

Whitehorse

△ SURVEY AREA

Juneau

Prince Rupert

Pacific

Ocean

Arctic Ocean

MACMILLAN JOINT VENTURE

LOCATION MAP

FIGURE I

A potential hydro-electric site exists at Granite Canyon on the Pelly River about 35 air miles downstream from the property.

The area of the claim group is for the most part gently undulating and occupies a low saddle between the Pelly and MacMillan Rivers rising from about 1750' ASL at river level to a maximum of 2550' ASL on the highest peak. Local relief is mostly less than 500'. The hills and valleys are elongated westerly parallel to the regional strike and direction of glacial ice movement.

Vegetation consisting of spruce, pine, birch, poplar and alders covered the entire property, although a major forest fire in 1970 destroyed most of it over the western two-thirds of the property. The dead timber is still mostly standing.

Other than Oz Lake, the largest on the property, most other lakes are small and drainage is poor.

IV. GENERAL GEOLOGY

The Glenlyon map area (105 L) was mapped by R.B. Campbell in 1949-1954 and the results of his work were published as G.S.C. Memoir 352 in 1967.

The adjoining Tay River map area (105 K) which contains all the known deposits of lead-zinc of the type sought, was mapped by Roddick and Green in 1958-1960, and published as G.S.C. Map 13-1961. In 1967 and 1968, Templeton-Kluit undertook a more detailed study of the geology and mineral deposits of the Vangorda area, and the results of which were published as G.S.C. Bulletin 208 in 1972.

The area of interest comprises a belt of Proterozoic and Paleozoic sediments and volcanics which follow the north-east side of the Pelly River, the latter marking the locus of a major transcurrent fault known as the Tintina Trench.

The Vangorda area is dominated locally by the Anvil Range Batholith which has domed the stratigraphy. This granite is not exposed in the MacMillan area. The favourable horizon is a series of probably Cambrian schists and phyllites which are locally strongly graphitic. These latter rocks have been observed on the Sue claim group in outcrop and earlier drilling, and closely resemble the host rock at Vangorda and Anvil.

Reconnaissance of the Sue claims has indicated very little outcrop is present. Overburden, however, is not locally expected to exceed 100 feet except along the south side where high benches of glacial valley fill have been cut by the Pelly River.

Glaciation is presumed to have covered the entire claim group. Ice movement was west north-west as indicated by numerous drumlins.

V. PREVIOUS WORK

Apart from Campbell's mapping which suffered from lack of outcrop in the claim group area, the only previous known exploration of the area covered by the Sue claims was by Conwest in 1966-67. This previous work was initiated as a result of the discovery by the Dynasty-Cyprus joint venture of a major lead-zinc-silver deposit in the Vangorda Creek area, 60 miles to the south-east in 1965.

A total of 734 claims were staked and exploration included an airborne Mark IV Input electromagnetic and magnetometer survey, selected anomaly follow-up on the ground using Electromagnetic and magnetic methods, and limited diamond drilling. The work suffered from a lack of understanding of a geological environment and geophysical character of the known deposits and failed to locate significant mineralization. It has since been concluded that the previous work served to enhance the possibilities of Vangorda type mineralization by confirming similar rock types in the vicinity of the Sue claim group.

Conwest Exploration Company Limited acquired by staking in August 1974 a total of 1070 contiguous mineral claims known as the Sue claim group, located approximately 145 miles north of Whitehorse, Yukon Territory. These claims which form the basis for the MacMillan Joint Venture in which U.S. Steel Western Hemisphere Inc. is the other participant, were located to cover geological formations believed favourable for the occurrence of lead-zinc-silver mineralization similar to that which occurs 60 to 80 miles south-east along strike in the Vangorda Creek area.

A major program of gridding and geophysical surveys was undertaken during the winter and spring of 1975 to commence an evaluation of the claims. Included in this work program were:

- a) photogrammetric mapping for 1"=1000; base maps;
- b) an 11.5 mile extension of an existing winter tractor road to the base camp on the claim group;
- c) 353 miles of bulldozer gridding including baselines;
- d) 76 miles of hand cut grid;
- e) chaining and picketing of all grid lines at 100 foot intervals;
- f) 410.7 miles of magnetometer surveys;
- g) 400.5 miles of electromagnetic surveys;
- h) 33.6 miles of levelling and gravity surveys.

This work was the subject of a report by D.B. Sutherland and C.K. O'Connor for the MacMillan Joint Venture dated September 2, 1975. The results of the gravity survey (1758 stations) are included in the data set discussed in this report.

In the following winter, a gravity survey was conducted to continue the gravity coverage of the conductive zones. This survey was conducted during February to May 1976 with some additional checking done in June and July 1976. This survey, consisting of 2886 gravity stations, was the subject of a report by Dr. J. Wyder of Kenting Exploration Services Limited on August 24, 1976. That report and the accompanying maps were filed for assessment credit in 1976. The results of that survey are also included in the data set discussed in this report.

VI. DESCRIPTION OF METHODS AND EQUIPMENT USED

The 1975 gravity field work was conducted by Gledhill Consultants Inc. of Don Mills, Ontario under the supervision of G.W. Grant. The gravity observations were made with a World Wide gravity meter with a scale constant of 0.09437 milligals per scale division. Elevations were determined by a level survey with closed loops. Error is estimated to be less than 0.1 foot per mile.

The 1976 and the 1977 gravity survey was conducted by Kenting Exploration Services under the supervision of J. Van Melson and D.R. Van Wyck (1976) and the author (1977). Gravity observations were made with LaCoste Romberg gravity meters equipped with electrostatic readouts. Elevations were determined by surveying with automatic theodolites and loop ties assured an accuracy of better than 0.1 foot per mile. During the 1977 field season an additional 5.1 miles of base line was hand-cut to optimize survey production.

In 1976, the data was reduced in the field with the aid of a Wang 600 programmable calculator. In 1977, the data was reduced in the field with a Hewlett Packard 9825A calculator interfaced to a high speed printer. The raw data was stored on magnetic tape cartridges for reduction and automatic profile-plotting by the printer. This system allowed the immediate examination of the data for errors and anomalous responses requiring checking or survey extensions.

Field work for all three years was based in tent camps and camp support was provided by fixed-wing aircraft from Whitehorse and Mayo. Local transportation was via snowmobile. The very heavy snowfalls in the 1976 and 1977 winters, in addition to the steep terrain and numerous windfallen trees, necessitated the use of a special crew to clear the bulldozed lines and to break the trail to enable rapid travel.

Gravity stations (1976 and 1977 surveys) were located by chaining along slope from the baseline and were marked with labelled pin flags set in the snow. Nails were put in trees along the lines for elevation bench marks and turning points. Gravity bases were established in a network over the survey area. These bases were tied to a central campbase located at Clew Hitclaw Lake by at least two separate loops.

VII. DATA REDUCTION

The data discussed in this report which were acquired over three field seasons were reduced and plotted in some form in the field. The following described the original data reduction and the processing or re-processing which enabled the combination of the three data sets.

1975 Gravity Survey

These data were reduced in the field using a Bouguer density of 2.67 gms/cc. It was later processed at a density of 2.3 gms/cc in order to remove the topographic effect of a particular hill (drumlin) at 7S on line 15W (see Progress Report No. 1, dated September 2, 1975 written for the MacMillan Joint Venture for claim group assessment).

It was later recognized that a density of 2.60 gms/cc is required to effectively remove bedrock topographical features (see report of August 24, 1976 prepared by Kenting Exploration Services Limited for Sue claim group assessment work). This higher density removes the influence of surface bedrock topography while gravity lows due to low density material (drumlin gravel and swampy ground) remain. These gravity lows are usually readily identified by reference to topography. As an example, Figure 5 shows two gravity low areas which are probably due to a drumlin (109N) and a swampy area (80N).

This data was reprocessed at a density of 2.6 gms/cc using the raw data taken from the field notes. A Hewlett Packard 9825 programmable calculator was used in this processing. The data was recorded on magnetic tape cassettes in a format enabling its combination with the subsequent survey data. This format allowed the efficient application of base-level shifts to the gravity and elevation data in order to match the 1975-76 surveys.

These base-level shifts were based on repeats of 182 stations on lines 44W, 45W and 46W (see figure 43). The shifts which were applied were -145.08 milligals for Bouguer gravity and +1819.40 feet for elevations.

Most of this survey was based on a baseline cut on the east part of the survey area extending from line 0 to line 44W. This baseline is parallel to the baseline used for the 1976-77 survey, but is offset to the north. In order to process the complete survey, it was necessary to use a continuous grid systems. A 7100 foot adjustment was added to the station numbers for lines 16W and 44W.

1976 Gravity Data

The 1976 data was processed in the field with the use of a Wang 600 programmable calculator at densities of 2.3 and 2.67 gms/cc. The data was later reprocessed at a density of 2.6 gms/cc after examining several profiles in the survey areas. Base level shifts for these data were not necessary since the same gravity bases and elevation bench marks were used for the 1977 survey.

These data were reprocessed with the use of a Hewlett Packard 9825 calculator in the same format as the 1977 data.

1977 Gravity Data

The 1977 data was processed in the field with a Hewlett Packard 9825 programmable calculator interfaced to a high-speed printer. The raw gravity data was recorded on magnetic tape cassettes enabling efficient processing and the automatic production of profiles of each line. This system enabled the immediate reduction of the data allowing the checking of any suspect gravity readings and the extension of coverage to outline anomalous areas before field work was finished.

VIII. DATA PROCESSING AND PRESENTATION

The three data sets were integrated and edited with the Hewlett Packard 9825 calculator. The entire data set was then directly transmitted to a larger computer for the regional - residual separation and for computer plotting and contouring of the gravity values. Some amount of "smoothing" of the contouring is apparent especially on the 1"=400' scale maps. The computer program designs its own grid system for contouring and this results in the contours not always crossing between the gravity stations at exactly the place that a "human" contourer would choose.

The Bouguer gravity values are shown in computer contoured maps at scales of 1"=½ miles (Figure 45) and 1"=400' (figures 48-1 to 48-6).

In order to ensure the objectivity of the regional-residual separation a computer based method of statistically fitting a low degree polynomial surface to the Bouguer gravity was used. After examining the "shape" of several different polynomial degrees, a seventh-degree polynomial was chosen to represent the regional gravity. This polynomial surface was contoured and is presented at a scale of 1"=½ mile as the regional gravity map in Figure 46.

The use of the complete 8182 gravity station data set enabled a better selection of the regional gravity component than was possible after the previous surveys were conducted. This improved regional gravity field results from the expanded coverage which enabled a more complete assessment of the large scale gravity variations occurring in this area. The improved regional map leads to the production of a more valid residual map.

Some amount of subjectivity is introduced by the choice of which polynomial degree to use, however, with a few exceptions (notably the north block) all of the anomalies apparent on the profiles show on the resulting residual map as high gravity areas. This indicates that a reasonably successful regional-residual separation was

accomplished by this method. In areas where possible anomalies are created or distorted, they are included in the set of gravity profiles (Figures 3 to 42). The computer-fitted regional along those profiles is shown to aid references to the residual gravity map.

The residual gravity values are shown as computer-contoured maps at scales of 1"=½ mile (Figure 47) and 1"=400' (Figures 49-1 to 49-6). The 1"=½ mile map is reproduced in color to simplify reference to the individual anomalies which are discussed later in this report.

Geophysical compilation maps are presented at scales of 1"=1000' (Sheets 3 to 6) and 1"=½ mile (Sheet 7). The electromagnetic and magnetic data shown were acquired in 1975 and were discussed in Progress Report Number 1, produced for the MacMillan Joint Venture dated September 2, 1975 (Sue claim group assessment).

IX. INTERPRETATION

In this report the entire gravity map is examined in this interpretation, although 4644 of the 8182 gravity stations have been previously interpreted. These previous interpretations cover anomalies G-1 through G-17 (see section on Previous Work). The total gravity coverage is evaluated because the extended coverage allows the choice of a much improved regional component producing a more definitive residual map. The potential of several previously discussed anomalies, particularly those occurring on the edges of the previous survey coverage, has changed on the new residual map.

Regional Gravity

The regional gravity map is presented in Figure 46 at a scale of 1"=½ mile. The regional map is a computer-contoured map of a portion of a seventh-degree polynomial surface. This surface was produced by a computer program designed to statistically (least-squares) fit a selected polynomial to a Bouguer gravity map.

The degree of the polynomial determines the number of relative maximums (or minimums) that can occur over the map area. In other words, the higher the degree, the greater the number of "bumps" that will appear in the regional map. For this map the seventh degree was selected out of several "fittings" that were computed because it produced a residual map showing most of the interesting local anomalies and it created a minimal number of edge anomalies.

The regional map shows the gravity effects due to deep or large-scale geological sources. The major trends are probably due to the location of the survey within a major mountain chain. A significant correlation is noted between the high gravity zone along the south-west edge of the survey area and a highly magnetic zone as indicated by airborne magnetometer data (G.S.C. Geophysics papers 3385 and 3392)

and ground magnetometer work (Sheet 6).

This magnetic zone appears to be associated with the Tintina fault zone. The location of this fault in the western end of the survey area appears to be indicated by a sharp drop in gravity to the south. This feature is not apparent on the regional map due to the map's highly smoothed nature, however, it is apparent on the Bouguer gravity map. This sharp drop may be producing the anomaly labelled G-29, as can be seen in Figure 30.

This high gravity zone along with the magnetic response may be due to a large basic intrusive at depth. The sharp magnetic anomalies observed in the ground survey data may be due to small, near-surface intrusions associated with the deeper body. This also provides a possible explanation for any of the residual gravity anomalies occurring in this area. Two anomalies, G-2 and G-4, are known to occur over basic intrusives and several others appear to be correlated with outcropping intrusives.

RESIDUAL GRAVITY

General Features

It should be noted that the regional-fitting technique used fits the regional to the "average" of the map. This means that a residual anomaly due simply to a high density source would appear on the residual map as a high area flanked by low (negative) gravity. Anomalies can also be partly hidden if they occur within an overall low-gravity area. For these reasons, the amplitude and shapes of anomalies should always be considered in a relative sense as compared to the surrounding gravity values.

The residual map shows a distinct geological strike direction and some of the high and low areas are continuous for up to 15,000 feet. The numerous long negative anomalies are especially apparent and appear to be related to swamps representing bedrock troughs filled with low density gravel and organic material. Many other negative anomalies occur over topographic highs which tend to have a length of only about 2000'. These features are almost certainly caused by low density gravel forming the numerous drumlins in the area.

The occurrence of several blocks of low gravity along the north edge of the main body of the gravity survey, the termination of many gravity anomalies and the partial correspondence of strike changes in the conductive zone suggest the presence of structural breaks striking in a north-easterly direction. The existence of these possible faults needs to be confirmed by further investigations since they may have some significance in the location of mineralization.

Individual Anomalies

All of the gravity highs shown on the residual map are individually interpreted below. Profiles are included of each anomaly showing Bouguer gravity, resi-

dual gravity, surface topography and usually a model fitted to the residual gravity. The residual gravity shown on these profiles resulted from a regional component that was "hand picked" for each profile. The resulting residual anomaly is often different than that appearing on the map because the computer-based separation evaluated the regional between adjacent lines as well as along each line. The "hand picked" regional was designed to give the maximum possible amplitude and size to the anomaly in profile form.

In some cases anomalies were either created or "hidden" during the process of regional separation. These anomalies are also included in the profiles and are evaluated on a profile basis. The computer-generated regional value is usually shown as a guide in comparing those profiles to the residual map.

Each anomaly that has any reasonable amount of potential was matched by a gravity model. These models must be considered only as a guide in assessing the anomalies potential since each anomaly can be matched by many different models. In general, the model width is the most definitive of the parameters. The depth of burial, and especially the thickness and density contrast, can be varied proportionally, to produce a similar anomaly model. The model's strike length, usually 2000', is the least definitive of the parameters and is best determined by examining the residual map.

<u>ANOMALY</u>	<u>FIGURE</u>	<u>LINE/STATION</u>	<u>AMPLITUDE</u>	<u>STRIKE LENGTH</u>	<u>EVALUATION</u>	<u>PRIORITY RATING</u>
G1	3	37W/104N	0.8 mgals	2000'	-well defined -associated with conductive zones -may extend to north under drumlin -may extend east and west under thicker overburden	first
G2	4	44W/151N	1.1 mgals	not defined	-well defined, single line anomaly -may extend to west -probably due to outcropping basic intrusive	third
G3	5	46W/95N	0.6 mgals	1000'	-broad, low amplitude -within conductive zone -may be regional anomaly -may be due to dense limestone/dolomite -possibly exaggerated by flanking gravity lows	second
G4	6	34W/12S	0.5 mgals	not defined	-narrow, well defined peak -possible association with conductive zones -probably due to outcropping basic intrusive forming local topographic high at 13S	third
G5	7	22W/66N	0.5 mgals	5000'	-indistinct, considerable strike length -occurs in or near conductive zones -may be due to gravity low over drumlin at south edge	third
G6	8	54W/80-105N	0.6 mgals	2-3000'	-broad, poorly defined -occurs within conductive zones -may be due to limestone/dolomite -could be considered as a regional anomaly	third

<u>ANOMALY</u>	<u>FIGURE</u>	<u>LINE/STATION</u>	<u>AMPLITUDE</u>	<u>STRIKE LENGTH</u>	<u>EVALUATION</u>	<u>PRIORITY RATING</u>
G7	9	62W/98N	0.6 mgals	not defined	-sharp, well defined -limited size/density of source -on edge of conductive zone -could be due to basic intrusive forming topo high -similar to G4	third
G8	10	63W/52N	0.8 mgals	1000' +	-well defined -considerable width, near surface -within conductive zone -may continue to west under lake -may be due to two sources each with a magnetic response -could be due to outcropping iron formation	second
G9	11	62W/9N	0.4 mgals	2000'	-poorly defined -may be due to flanking gravity lows	third
G10	12	68W/89N	0.7 mgals	2000' (?)	-well defined, but not readily obvious on residual map -occurs within low gravity block -may be same source as G24 or G21 -anomaly affected by possible drumlin at 87N	second
G11	13	70W/51-68N	0.5 mgals	2000'+	-extensive, low amplitude -may be influenced by flanking lows -within conductive zone	second
G12	14	72W/5N	-	-	-probably due to adjacent gravity low due to lack of water depth correction to gravity observations on lake	-
G13	15	77W/72N	0.3 mgals	3000' (?)	-indefinite, low amplitude -may be due to basic intrusive	third
G14	16	81W/68N	0.5 mgals	2000' (?)	-indefinite -may be due to low gravity over possible drumlin at 59N -may be same source as G13	third

<u>ANOMALY</u>	<u>FIGURE</u>	<u>LINE/STATION</u>	<u>AMPLITUDE</u>	<u>STRIKE LENGTH</u>	<u>EVALUATION</u>	<u>PRIORITY RATING</u>
G15	17	80W/5N	0.4 mgals	1000' (?)	-well defined, but single-line peak -may be caused by flanking lows	second
G16	18	87W/38N	1.0 mgals	?	-sharp, well defined peak -may be influenced by a topographical feature (creek valley) -may occur within a conductive zone -could be due to a narrow intrusive	second
G17	19	88W/20N	1.3 mgals	2000'+	-sharp, well defined, flat top -massive, shallow source indicated -occurs at end of conductive zone -could be due to near-surface, very dense intrusive forming bedrock ridge within gravel cover	first
G18	20	88W/7N	0.4 mgals	?	-well defined, but single-line peak -may be similar source as G16	third
G19	21	80W/42-52N	0.3 mgals	1000' (?)	-poorly defined, low amplitude -could be considered as a regional anomaly -occurs within a conductive zone -could be due to two separate sources	third
G20	22	66W/23N	0.3 mgals	3000'	-poorly defined, low amplitude -occurs on edge of conductive zone -could be due to flanking lows	third
G21	23	66W/81N	0.4 mgals	1000' (?)	-deep or low density source indicated -may be due to low gravity over possible drumlin at 87N -may be within conductive zone	third
G22	23	66W/95N	0.4 mgals	1000'	-only partly defined -may be caused by low gravity over drumlin at 87N	third
G23	24	63W/18S	0.9 mgals	?	-only partly defined -may be caused by regional removal	third

<u>ANOMALY</u>	<u>FIGURE</u>	<u>LINE/STATION</u>	<u>AMPLITUDE</u>	<u>STRIKE LENGTH</u>	<u>EVALUATION</u>	<u>PRIORITY RATING:</u>
G24	25	71W/82N	0.6 mgals	1000' (?)	-well defined anomaly (if reading at 81N is ignored) -could be due to intrusive -anomaly not very distinct on residual map since it occurs in a low gravity block -may join anomaly G10 -occurs within conductive zone	second
G25	26	55W/107N	0.3 mgals	1000' (?)	-poorly defined, low amplitude -may be influenced by location of low gravity block to the east	third
G26	27	54W/20N	0.5 mgals	?	-only partly defined -could be due to gravity lows due to swamp (20-24N) and drumlin 28N	third
G27	28	91W/9S	0.6 mgals	?	-distinct single line peak -may be due to basic intrusive -similar to G16 and G18	third
G28	29	58W/248N	0.5 mgals	1000' (?)	-distinct single line anomaly -may be associated with conductor	second
G29	30	89W/23-35S	0.5 mgals	3000'+	-occurs in area of large regional effect -associated with ground magnetic response -could be caused by basic intrusives -could be related to Tintina Fault -residual anomaly could be made much larger by changing regional	second
G30	31	61W/198W	-	-	-end of line anomaly -probably due to lack of regional information to the south	third

<u>ANOMALY</u>	<u>FIGURE</u>	<u>LINE/STATION</u>	<u>AMPLITUDE</u>	<u>STRIKE LENGTH</u>	<u>EVALUATION</u>	<u>PRIORITY RATING</u>
G31	32	62W/224N	0.6 mgals	not defined	-narrow, single line peak -may be associated with conductor -could be due to intrusive	third
G32	33	85W/33S	0.5 mgals	1000' (?)	-well defined, but narrow, single-line peak -may be associated with conductor -could be influenced by possible drumlin at 37S	second
G33	34	67W160N	-	-	-end of line anomaly -probably due to regional value	third
G34	35	45W/70N	0.7 mgals	2000+ (?)	-only partly defined on line 45W, but a closed anomaly is indicated on line 44W -may be partly due to regional value and presence of lake to south	second
G35	36	50W/90N	0.5 mgals	2000' (?)	-poorly defined -may be due to flanking lows -occurs with conductive zone -could have same source as anomaly G3	second
G36	37	77W/45-56S	0.3 mgals	1000'+	-poorly defined, low amplitude -occurs partly within conductive zone	third
G37	38	44W/22S	0.6 mgals	?	-not very obvious on residual map -may be significant due to proximity of conductor	third
G38	39	62W/82S	0.4 mgals	1000' (?)	-poorly defined, low amplitude -may be significant due to possible association with conductor	second
G39	40	51W/47N	0.9 mgals	1000' (?)	-profile shows anomaly may be distorted due to a possible drumlin at 45N -single line anomaly -could be influenced by flanking lows	third
G40	41	68W/80-89S	0.4 mgals	1000' (?)	-broad, low amplitude -could be due to overburden variations	third
G41	42	48W/74N	0.5 mgals	3000'	-poorly defined, low amplitude -may be associated with narrow conductive zone	second

X. SUMMARY AND RECOMMENDATIONS

A gravity survey consisting of 8,182 stations was conducted over the years 1975 and 1977 on the Sue claim group. The gravity observations were made at 100 foot intervals along lines spaced at 1,000 feet.

The gravity observations were reduced using a Bouguer density of 2.6 gms/cc. The regional-residual separation was accomplished by a statistical fit of a polynomial surface (seventh degree) to the Bouguer gravity map with the use of a large computer. In total, 41 anomalies are indicated in the residual gravity.

In general, a seismic profile run over each anomaly might help to eliminate those due to bedrock topography as well as enable the selection of the best location (minimum overburden) for drilling. A portable reflection/refraction system using a hammer source would probably be sufficient.

In areas where no conductor was indicated, a more diagnostic E.M. survey over the gravity anomalies is recommended. A system that uses a wide frequency range such as a Crone Pulse E.M. might penetrate any blanketing overburden or outline a low-grade (low conductivity) ore zone. A high sensitivity magnetometer might indicate the presence of basic intrusive rock causing a gravity anomaly, thereby eliminating some drill testing.

All initial drill holes should be vertical. If drilling gives positive results, a more detailed gravity and seismic survey should be carried out before any extensive drilling is done. Surveying on lines of 200' spacing would allow the optimization of drill locations by mapping overburden thickness and defining the limits of the potential ore body.



The recommended investigation of the anomalies is as follows:

<u>ANOMALY</u>	<u>PRIORITY RATING</u>	<u>RECOMMENDED ACTION</u>
G-1	First	- Drill on Line 37W at 104N
G-17	First	- Seismic profile on Lines 87 to 91 - Resurvey with more diagnostic E.M. System - Drill on Line 88W at 20N
G-8	Second	- Drill on Line 63W at 52N
G-24	Second	- Resurvey with high sensitivity magnetometer to evaluate possible basic intrusive source. - Drill on Line 71W at 83N
G-35	Second	- Seismic profile - Drill on Line 50W at 90N
G-41	Second	- Seismic profile - Check E.M. conductor - Drill on Line 48W at 74N
G-28	Second	- Seismic profile - Check location of conductor - Drill on Line 58W at 249N
G-32	Second	- Seismic profile - Check location of conductor - Drill on Line 85W at 33S
G-38	Second	- Seismic profile - Check location of conductor - Drill on Line 62W at 82S
G-11	Second	- Seismic profile - Drill on Line 70W at 53N and 63N
G-3	Second	- Seismic profile - Drill at best location on line 46W between 88N and 104N
G-10	Second	- Check for weak conductor - Run high sensitivity magnetic survey to detect a possible basic intrusive - Drill on Line 68W at 89N

<u>ANOMALY</u>	<u>PRIORITY RATING</u>	<u>RECOMMENDED ACTION</u>
G-15	Third	<ul style="list-style-type: none"> - Seismic profile - Check for weak conductor - Drill on Line 80W at 5N
G-16	Third	<ul style="list-style-type: none"> - Seismic profile - Run high sensitivity magnetic survey to check for basic intrusive source. - Drill on Line 87W at 38N
G-29	Second	<ul style="list-style-type: none"> - Check for weak conductor - Evaluate meaning of magnetic response - Drill on Line 89W at 32S
G-34	Second	<ul style="list-style-type: none"> - Check weak conductor - Seismic profile - Drill on Line 45W at 71N
G-14	Third	<ul style="list-style-type: none"> - Seismic profile - Check for weak conductor - Run high sensitivity mag survey to check for basic intrusive source - Drill on Line 81W at 68N
G-39	Third	<ul style="list-style-type: none"> - Seismic profile to check interpretation of low gravity part of anomaly - Check for weak conductor - Drill on Line 51W at 47N depending on seismic information

GEOPHYSICAL COMPILATION MAP LEGEND


ELECTROMAGNETIC ZONES

STRONG.....
WEAK.....




MAGNETIC PROFILES

1"= 1000' SCALE MAPS : 1"= 1250 GAMMAS

1"= 1/2 MILE SCALE MAP : 1"= 3300 GAMMAS

MAGNETIC ZONES.....

GRAVITY PROFILES

FIRST PRIORITY ZONE.....
SECOND PRIORITY ZONE.....
THIRD PRIORITY ZONE.....

SCALES

1"= 1000' SCALE MAPS

LINES 16W TO 46W; 2.3 DENSITY, 1"= 2.5 MILLIGALS

LINES 47W TO 91W; 2.6 DENSITY, 1"= 1.0 MILLIGALS

1"= 1/2 MILE SCALE MAPS

LINES 16W TO 46W; 2.3 DENSITY, 1"= 6.60 MILLIGALS

LINES 47W TO 91W; 2.6 DENSITY, 1"= 2.64 MILLIGALS

FIGURE 2

LEGEND

- TERRAIN (1" = 100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 1000X2000X300
 DEPTH TO TOP (FEET) 100
 DENSITY CONTRAST (gms/cc) 0.30

SCALE 1" = 400'

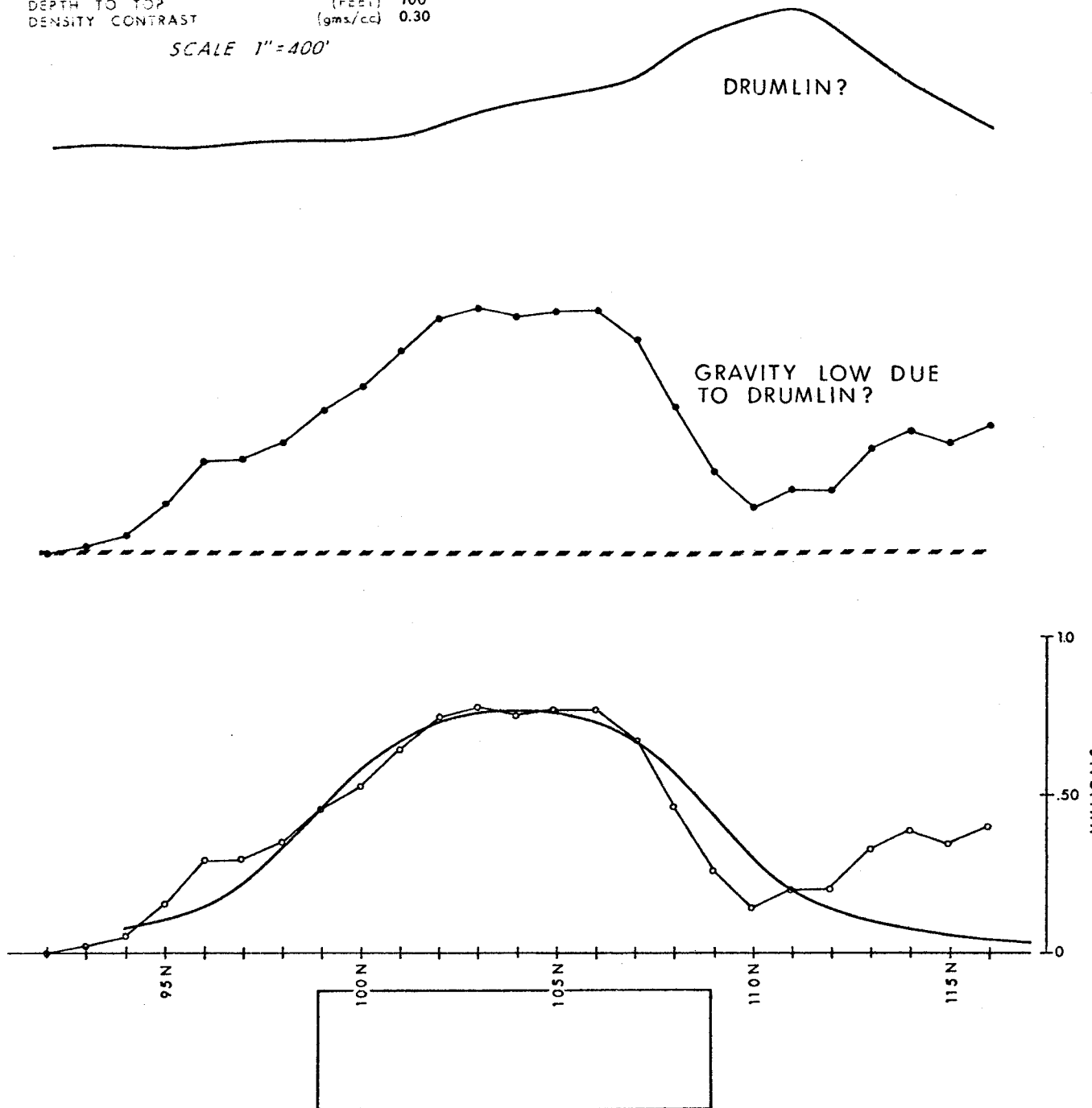


FIGURE 3

ANOMALY G-1

LINE 37W

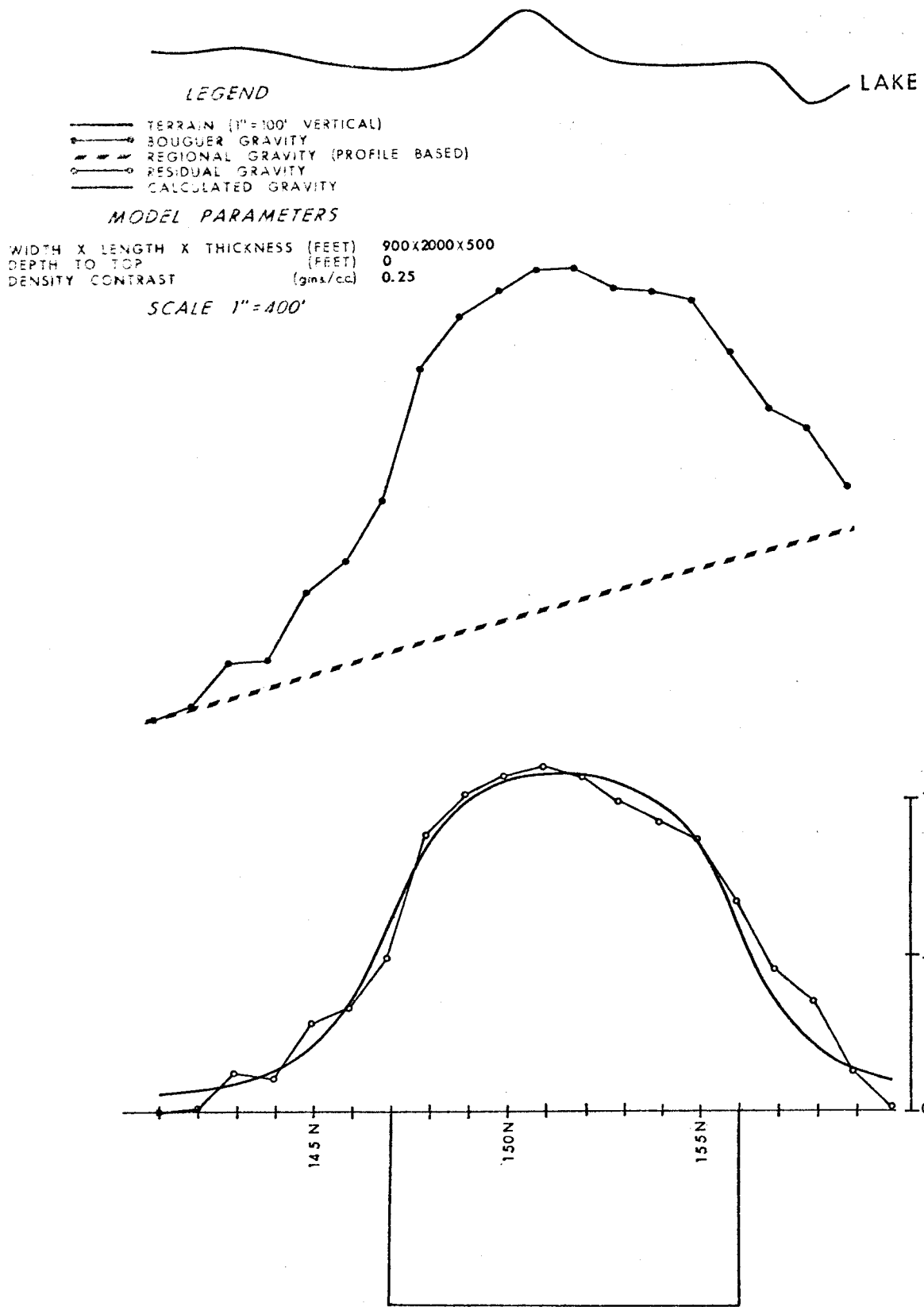


FIGURE 4

ANOMALY G-2

LINE 44W

LEGEND

- TERRAIN (1"=100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- - - RESIDUAL GRAVITY
- CALCULATED GRAVITY

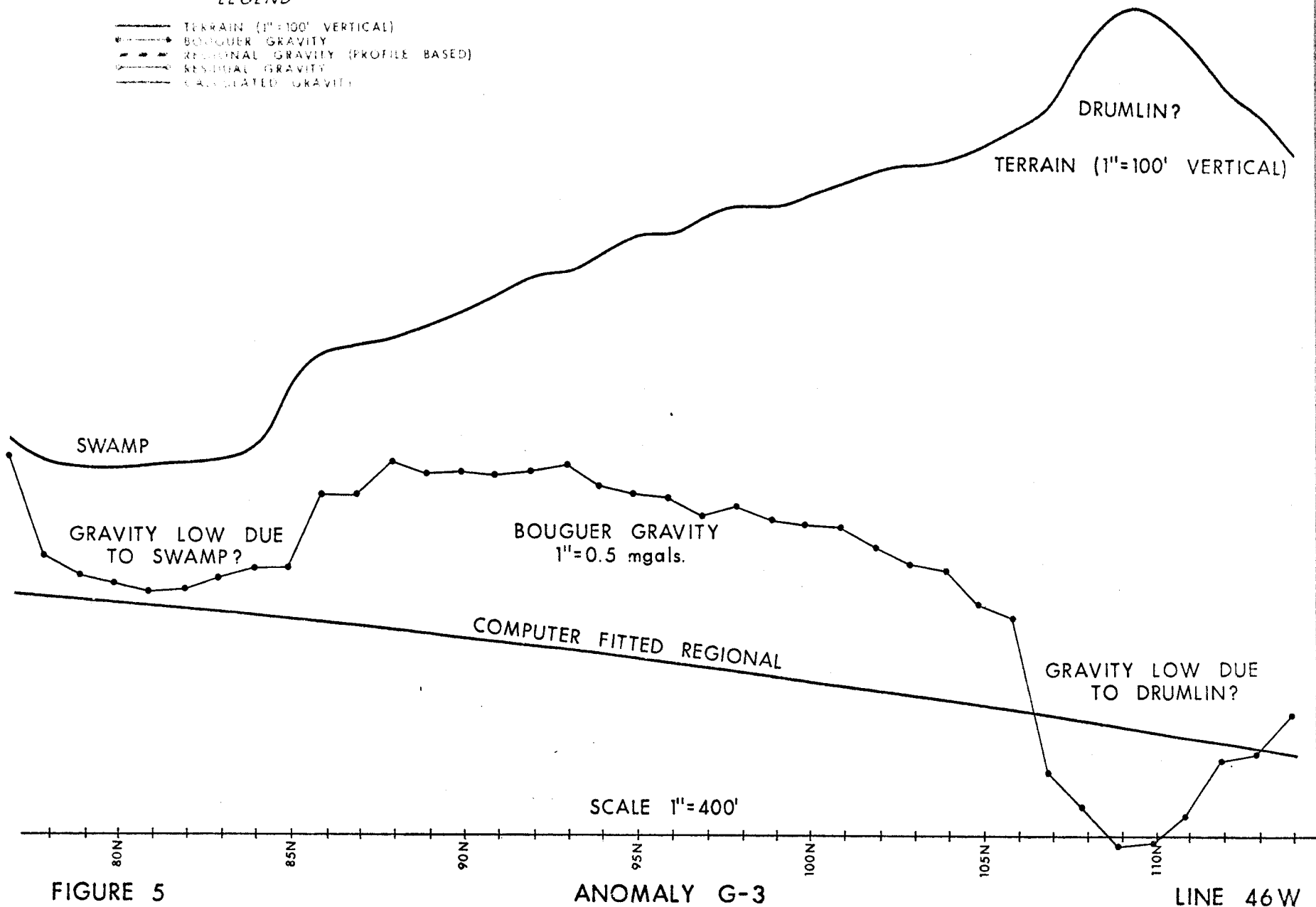


FIGURE 5

ANOMALY G-3

LINE 46W



LEGEND

- TERRAIN (1"=100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 300 x 2000 x 500
 DEPTH TO TOP (FEET) 0
 DENSITY CONTRAST (gms/cc) 0.20

SCALE 1"=400'

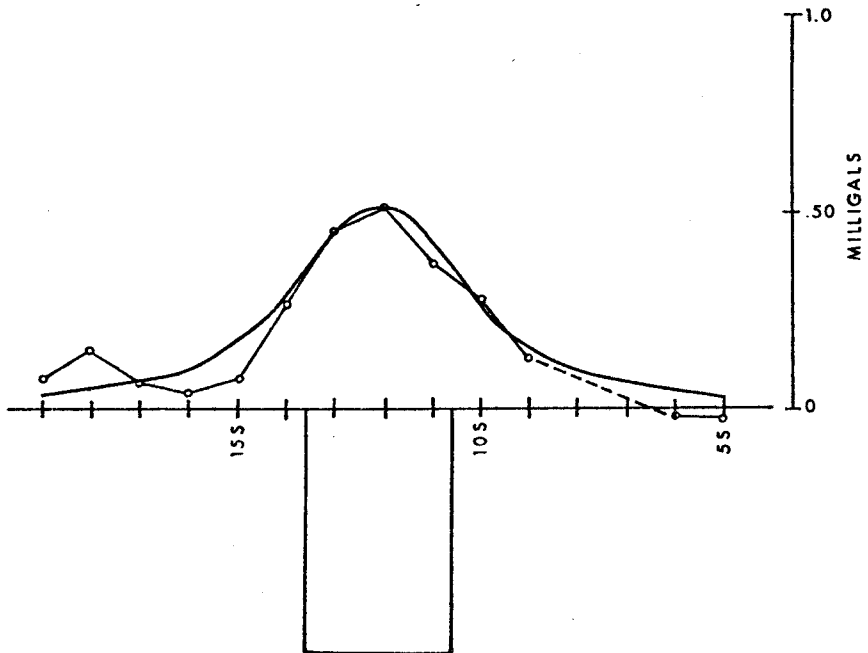
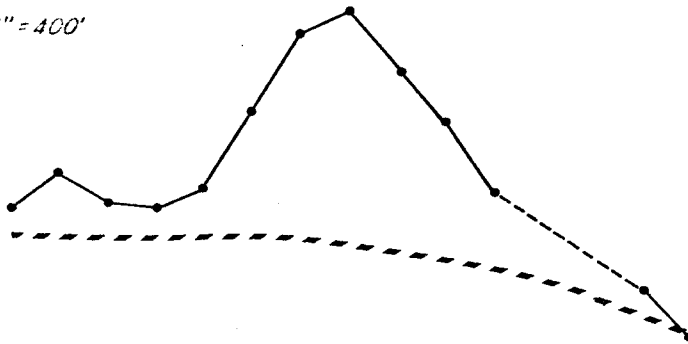


FIGURE 6

ANOMALY G-4

LINE 34W

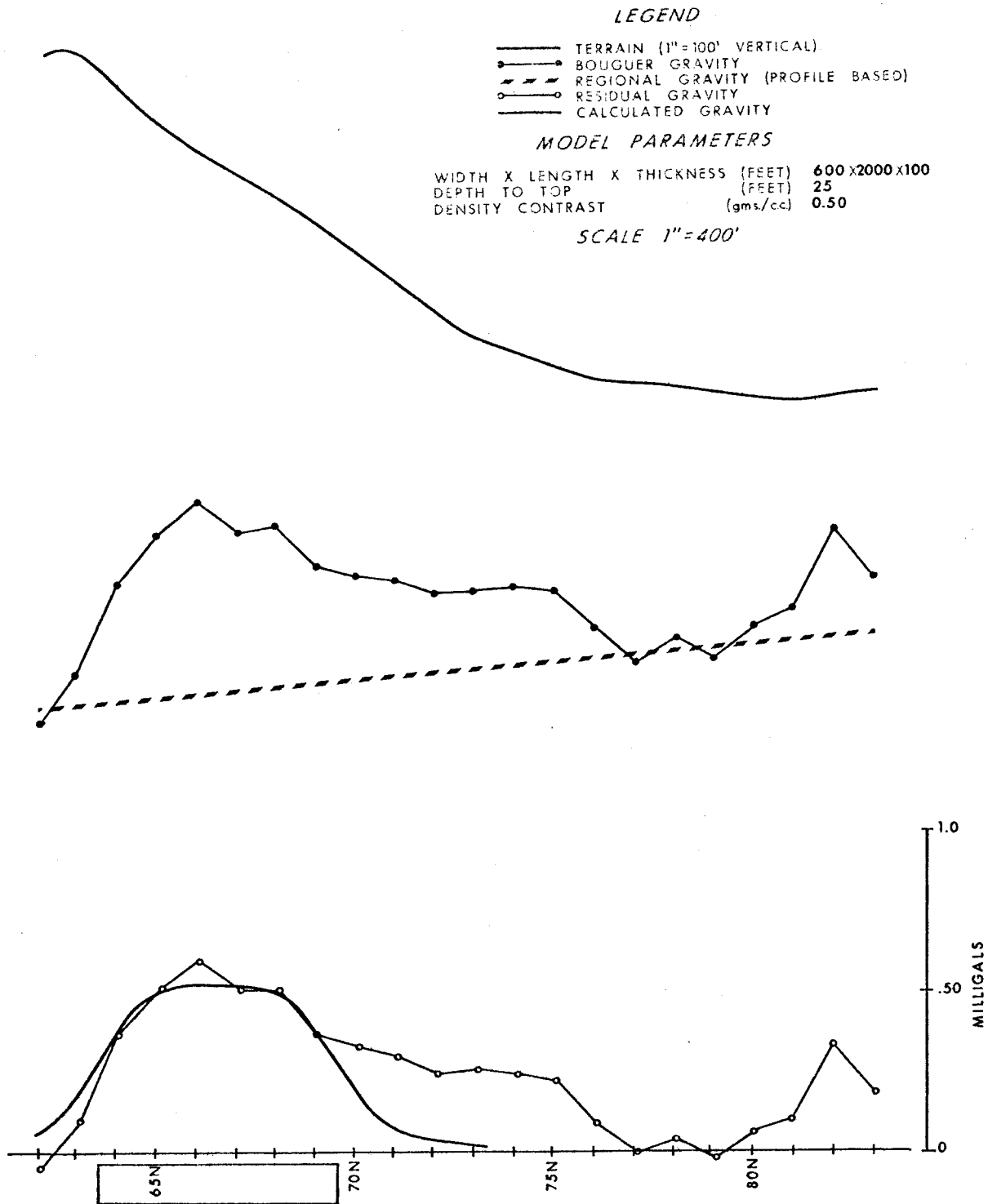
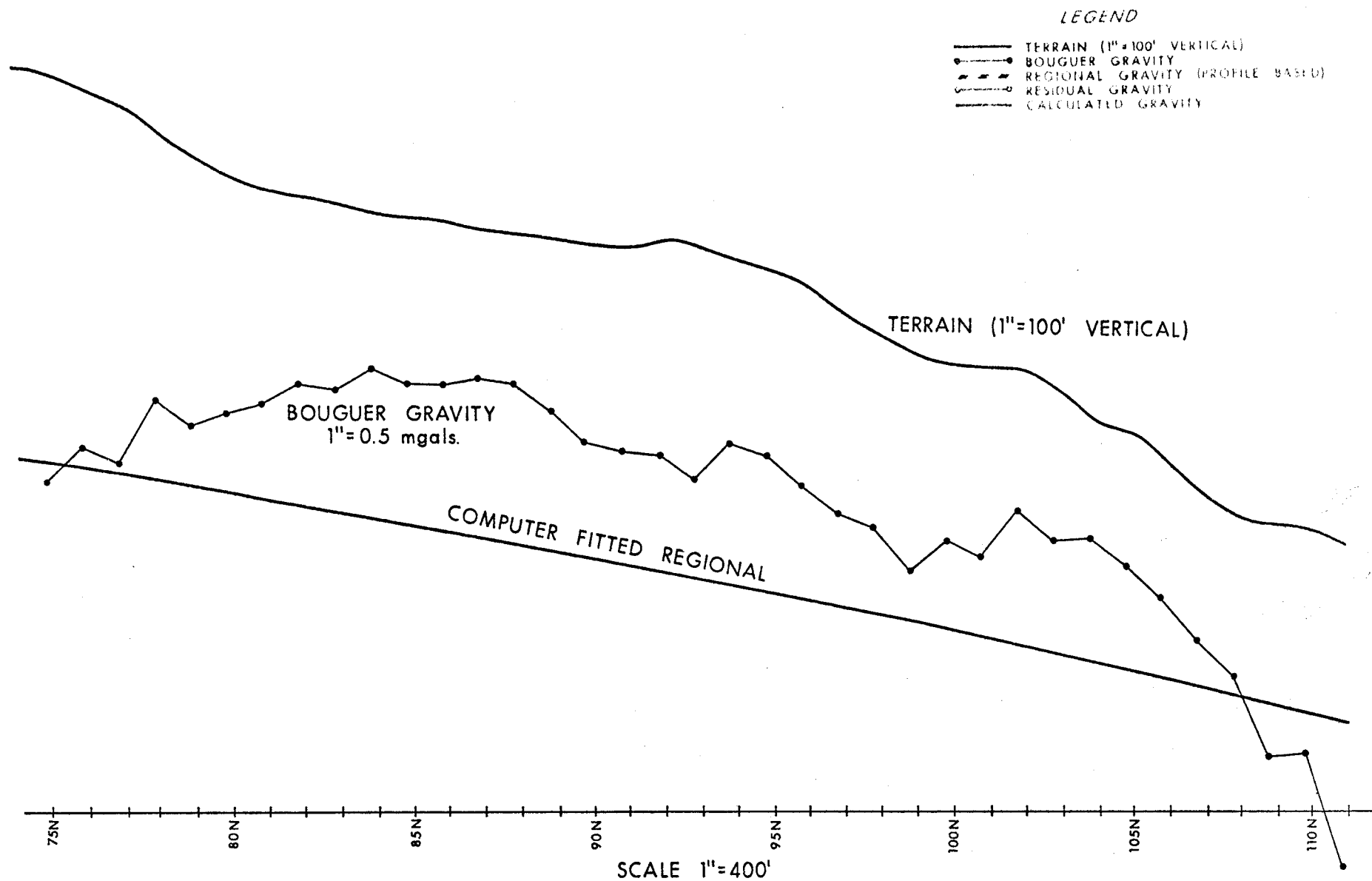
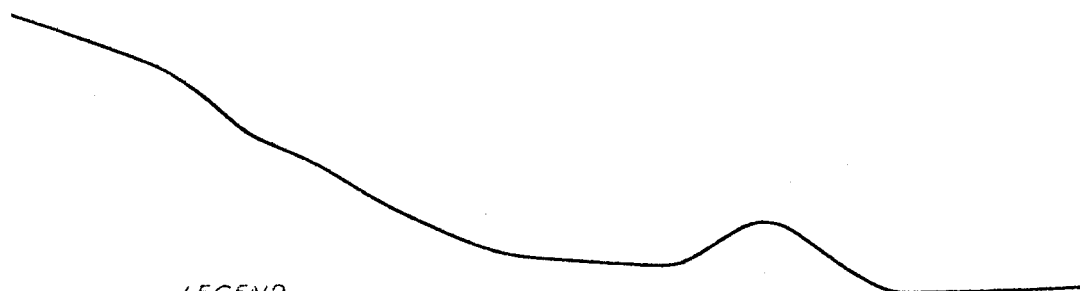


FIGURE 7

ANOMALY G-5

LINE 2 2W





LEGEND

- TERRAIN (1"=100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 200X2000X250
 DEPTH TO TOP (FEET) 50
 DENSITY CONTRAST (gms/cc) 0.50

SCALE 1"=400'

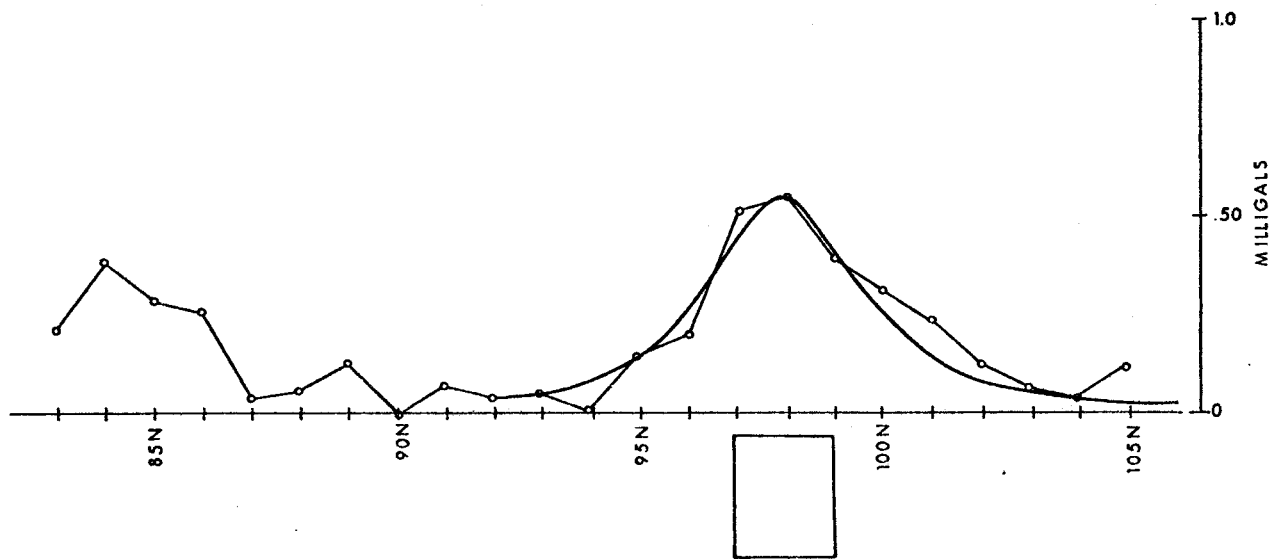
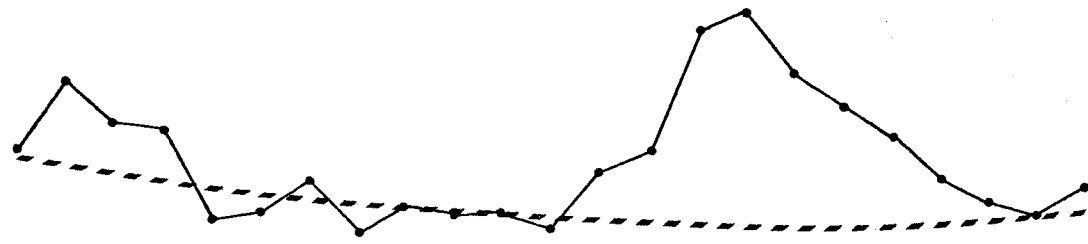


FIGURE 9

ANOMALY G-7

LINE 62W

LEGEND

- TERRAIN (1"=100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 1100X2000X125
DEPTH TO TOP (FEET) 25
DENSITY CONTRAST (gms/cc) 0.50

SCALE 1"=400'

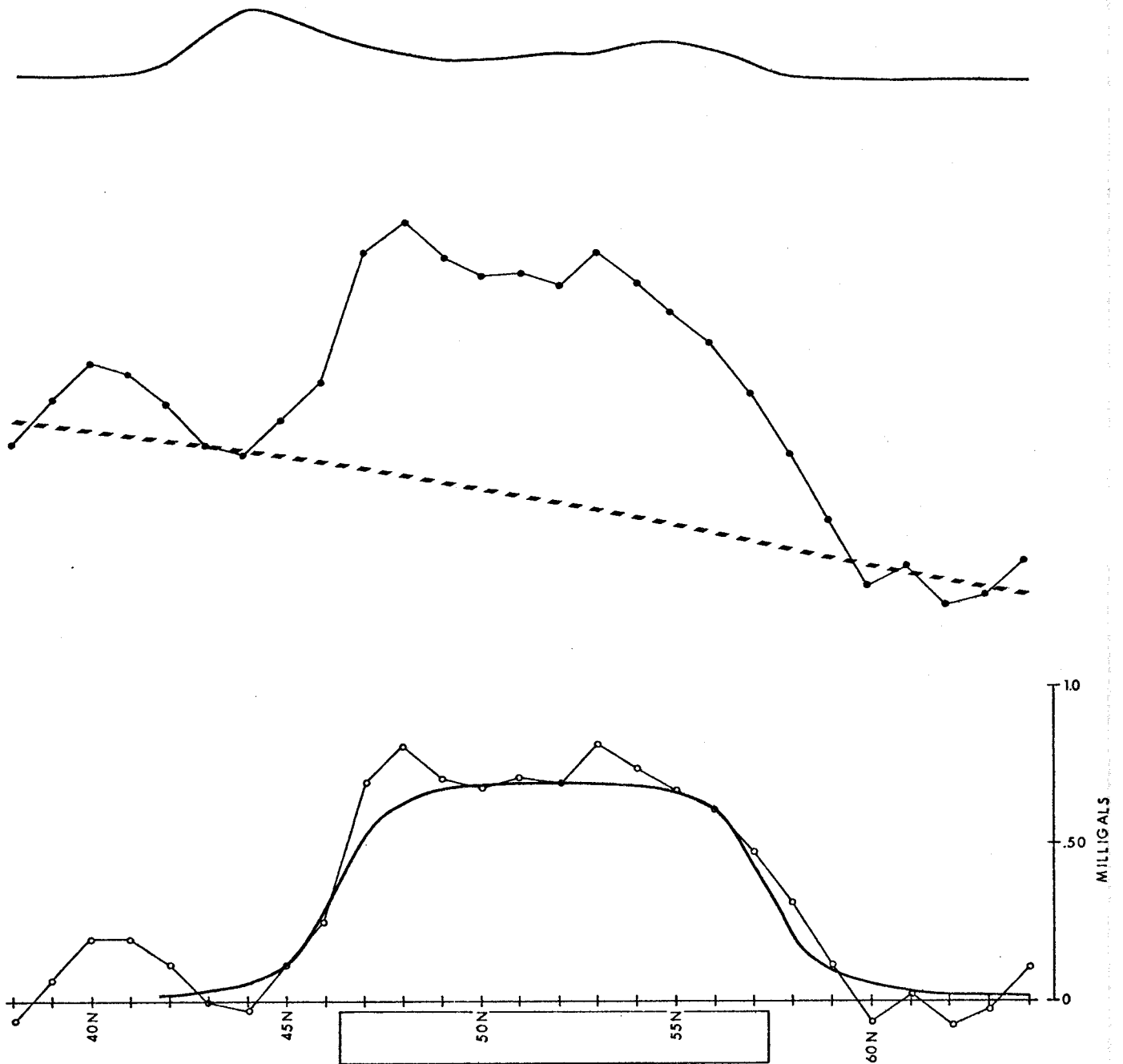
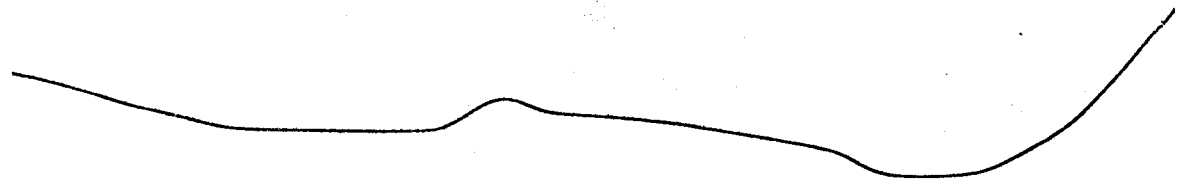


FIGURE 10

ANOMALY G-8

LINE 63W



LEGEND

- TERRAIN (1" = 100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 900 X 2000 X 100
 DEPTH TO TOP (FEET) 25
 DENSITY CONTRAST (gms./cc) 0.40

SCALE 1" = 400'

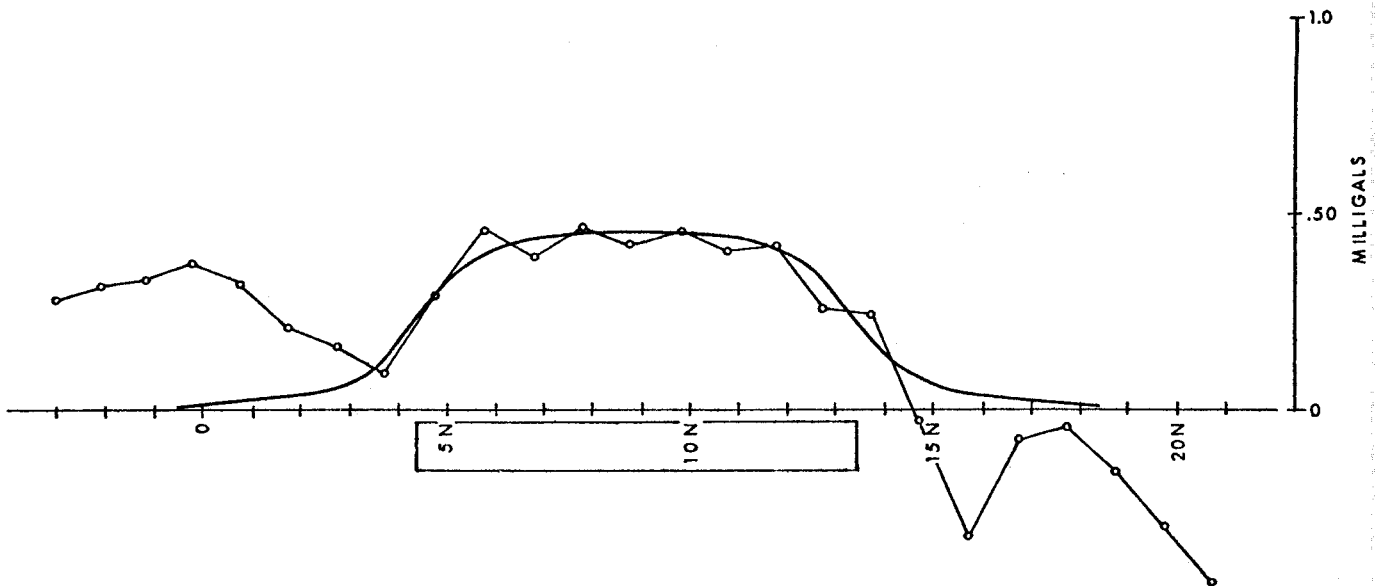
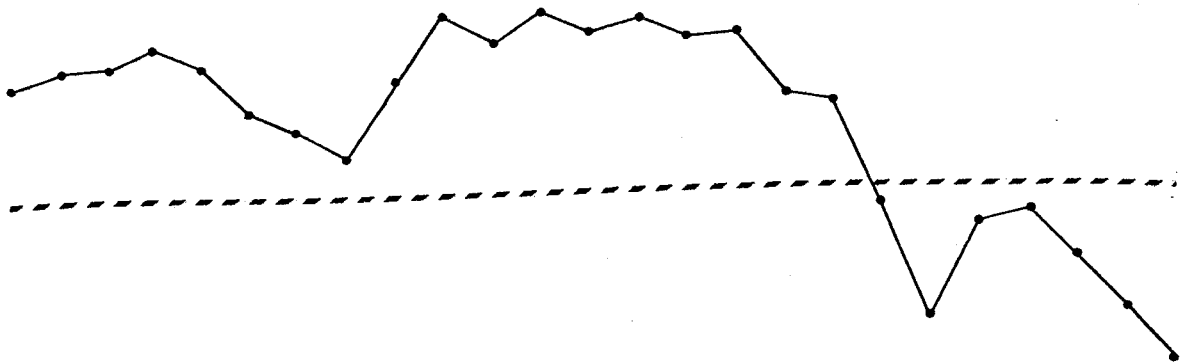


FIGURE 11

ANOMALY G-9

LINE 62W

LEGEND

- TERRAIN (1"=100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 700X2000X150
 DEPTH TO TOP (FEET) 75
 DENSITY CONTRAST (gms/cc) 0.50

SCALE 1"=400'

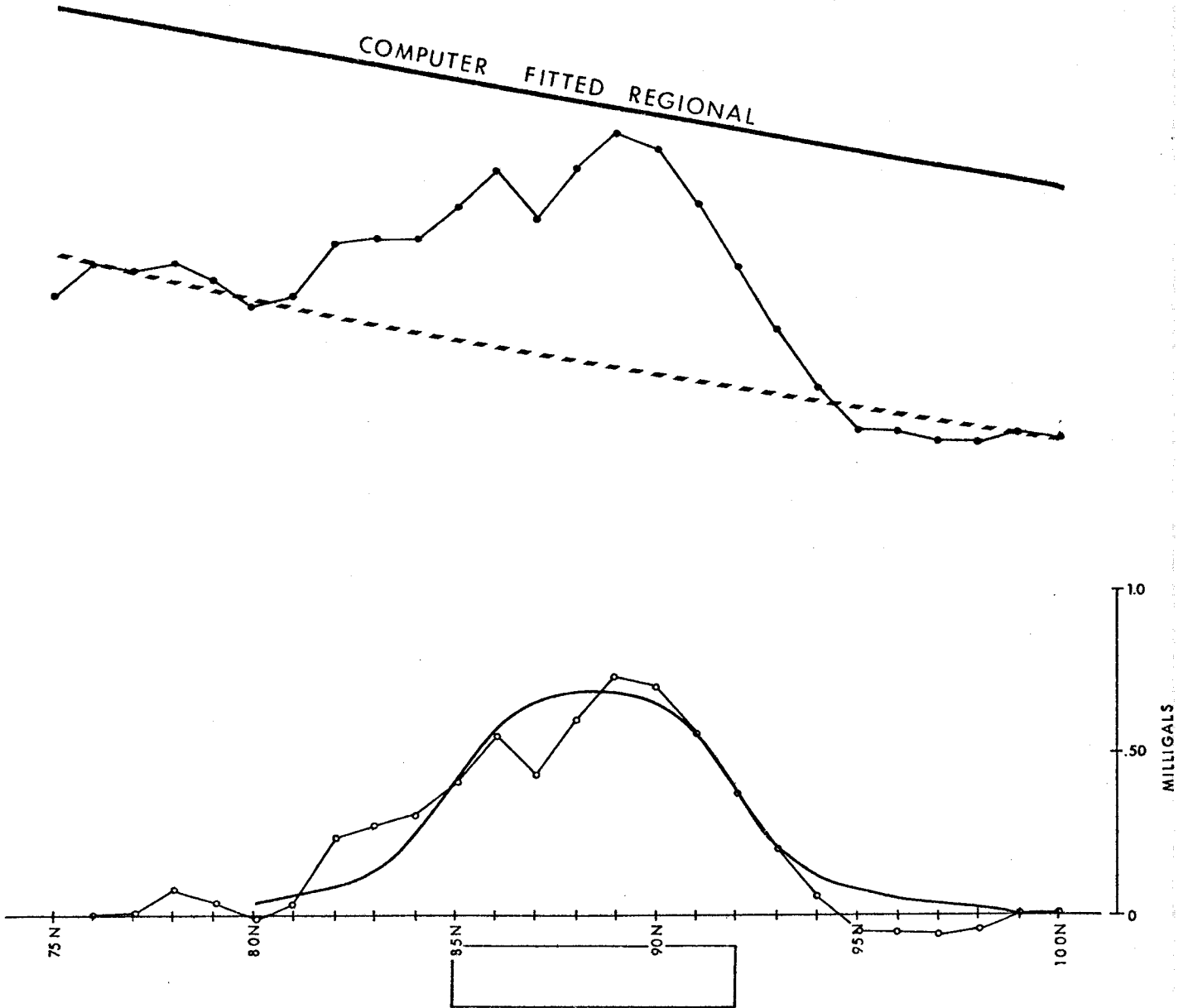


FIGURE 12

ANOMALY G-10

LINE 68W

LEGEND

- TERRAIN (1" = 100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

DEPTH TO TOP (FEET) 50
 DENSITY CONTRAST (gms./cc) 0.50

SCALE 1" = 400'

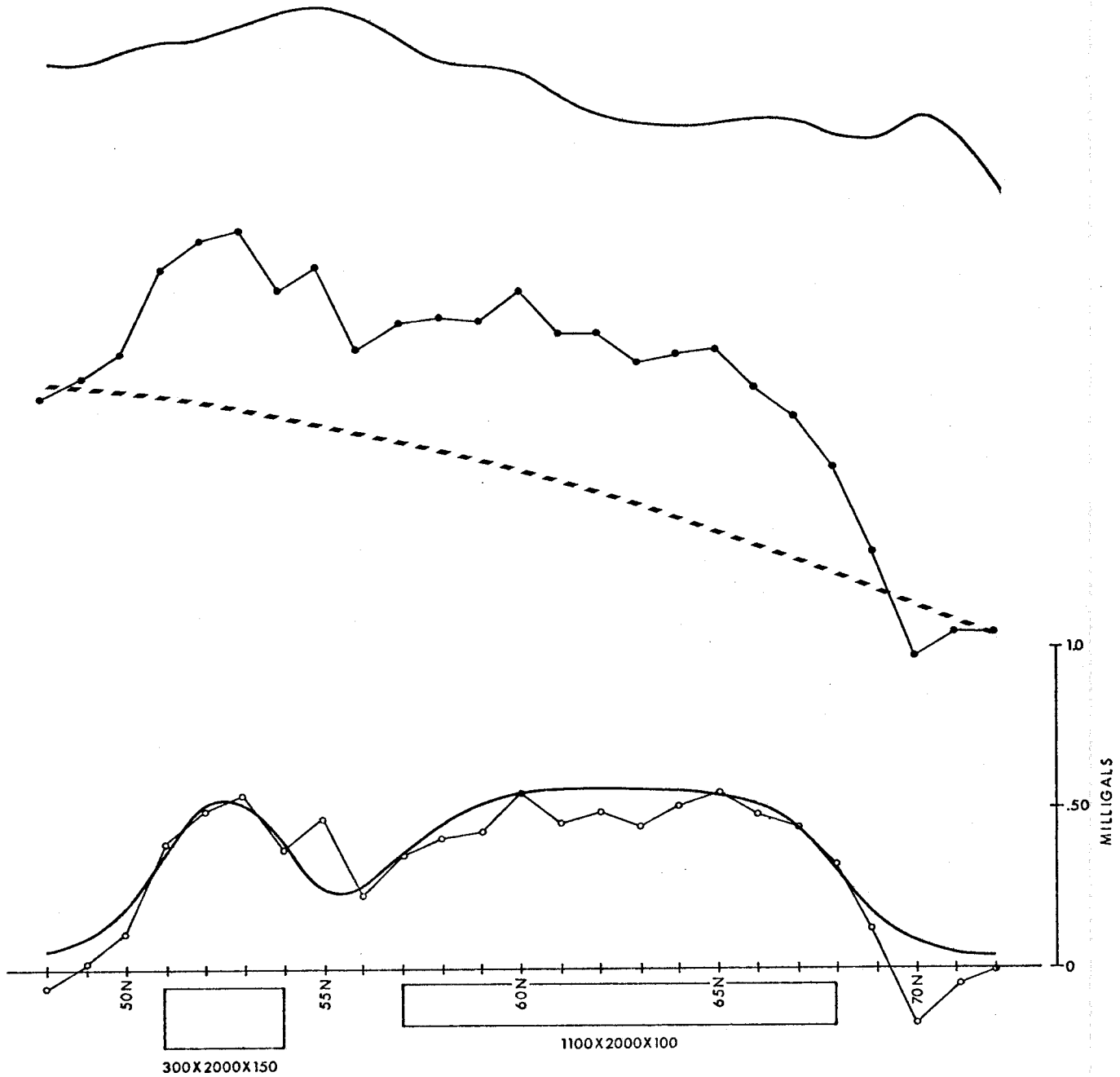


FIGURE 13

ANOMALY G-11

LINE 70W

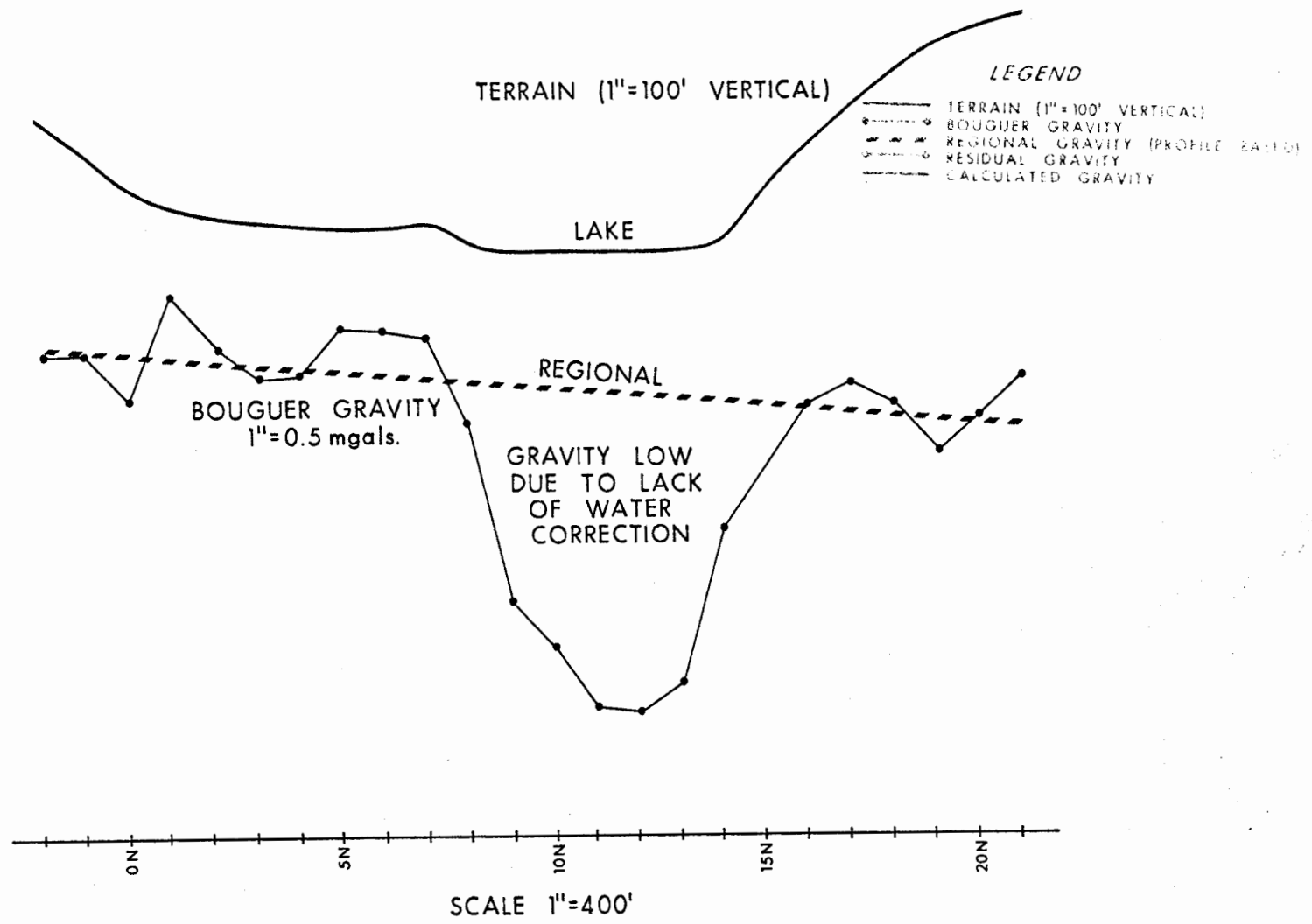


FIGURE 14

ANOMALY G-12

LINE 72W

LEGEND

- TERRAIN (1"=100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

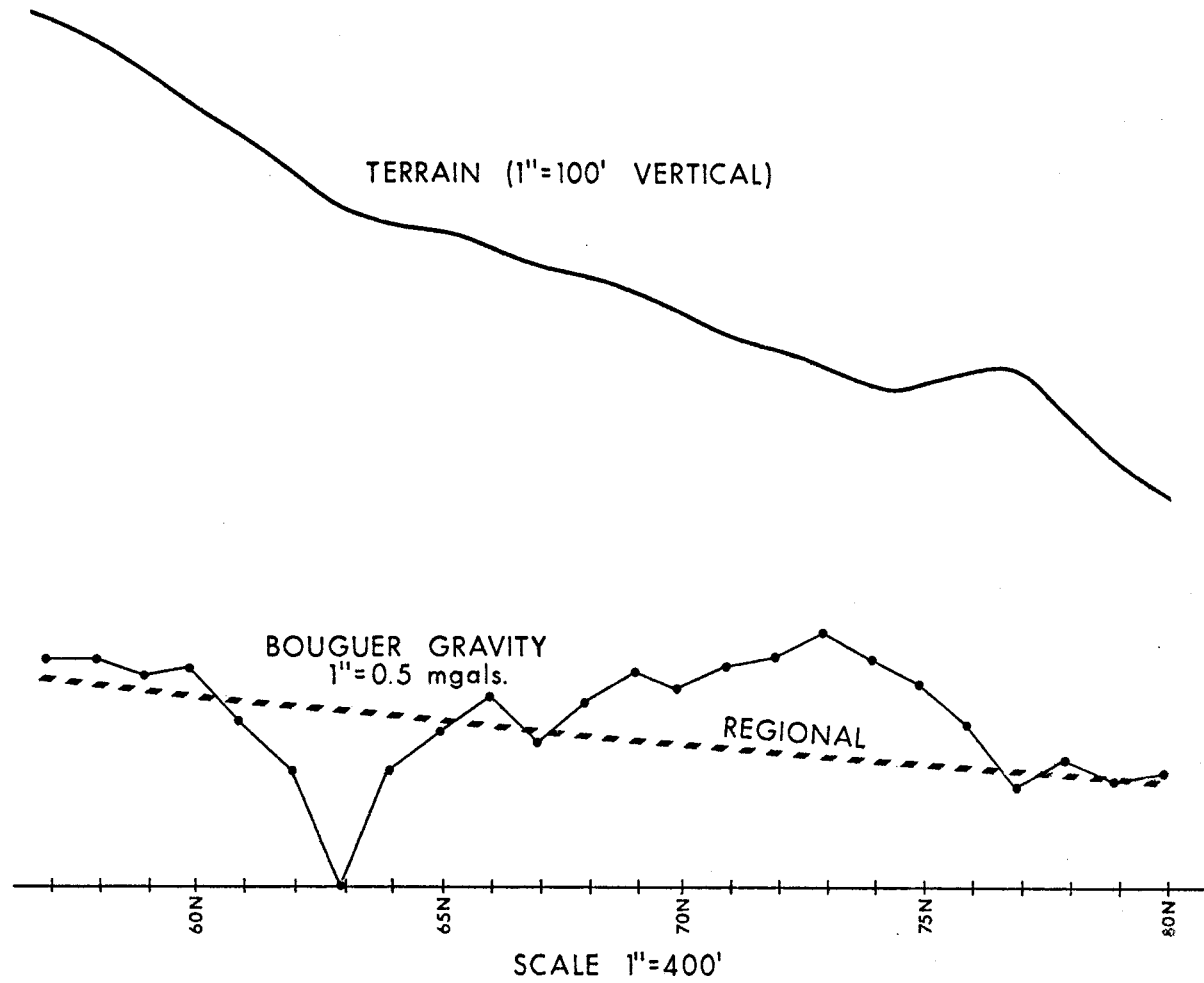


FIGURE 15

ANOMALY G-13

LINE 77W

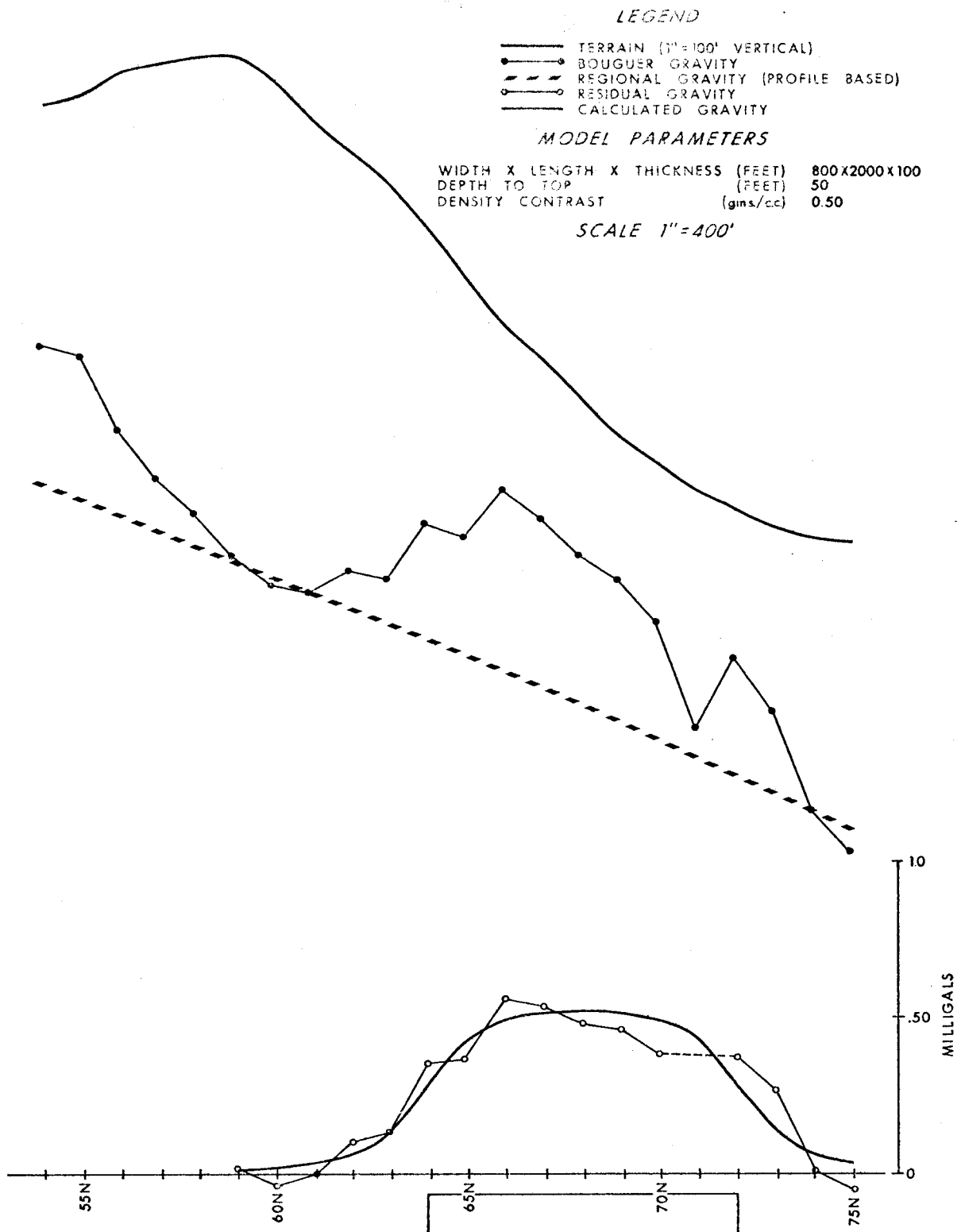


FIGURE 16

ANOMALY G-14

LINE 81 W

LEGEND

- TERRAIN (1" = 40' VERTICAL)
- BOUGHER GRAVITY
- REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 900 X 1000 X 75
 DEPTH TO TOP (FEET) 25
 DENSITY CONTRAST (gms/cc) 0.50

SCALE 1" = 400'

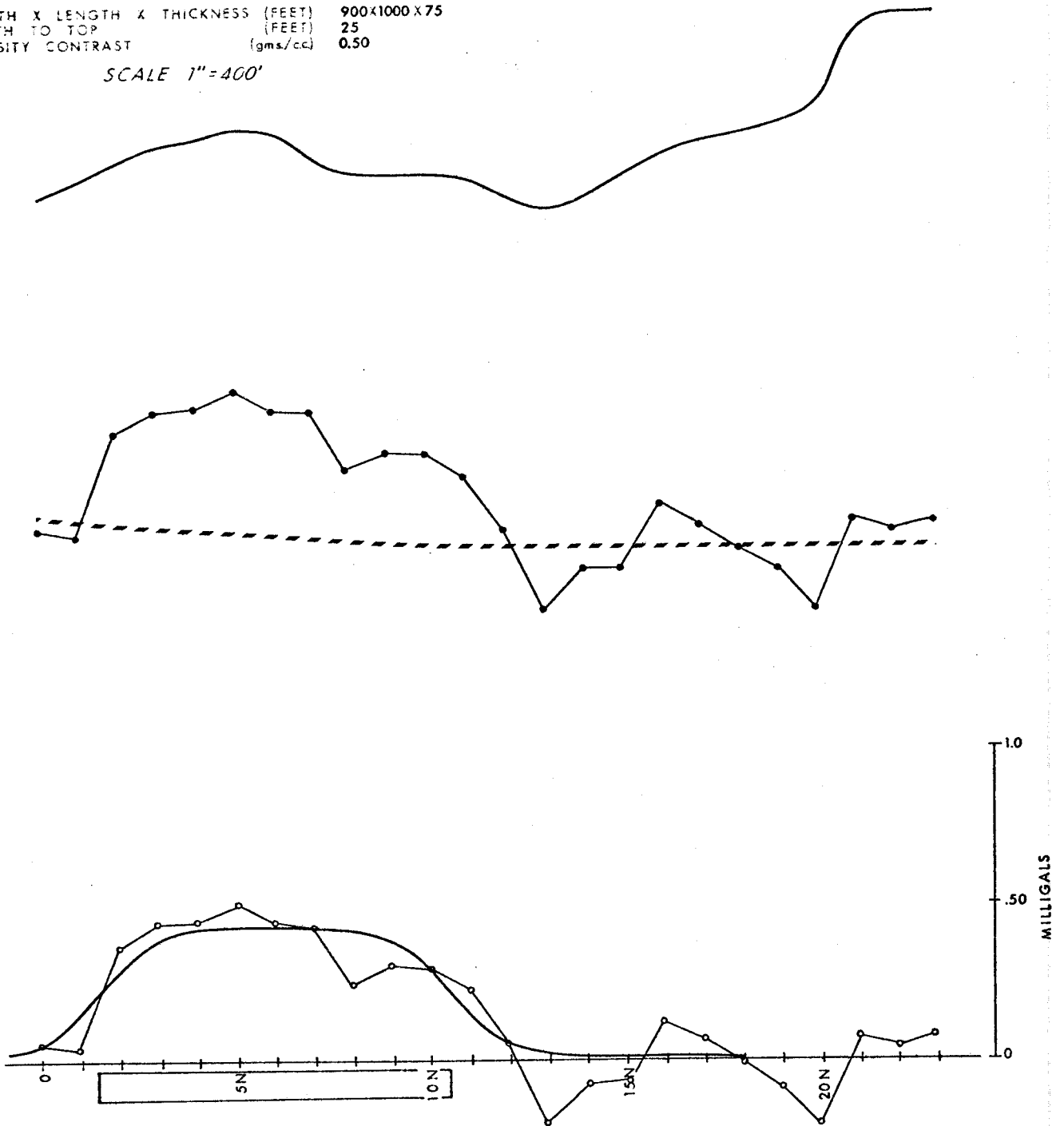
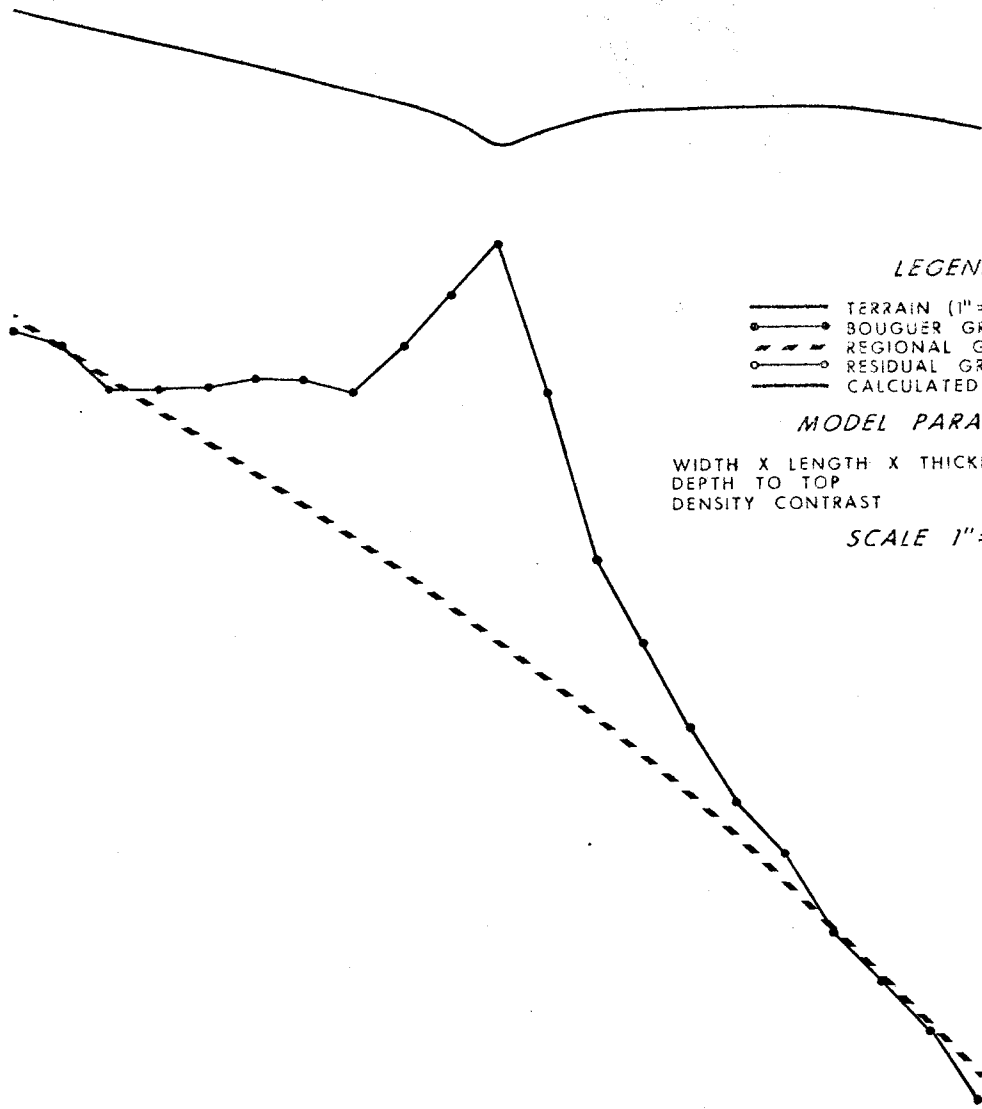


FIGURE 17

ANOMALY G-15

LINE 80W



LEGEND

- TERRAIN (1" = 100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 600 X 2000 X 150
 DEPTH TO TOP (FEET) 0
 DENSITY CONTRAST (gms./cc) 0.5

SCALE 1" = 400'

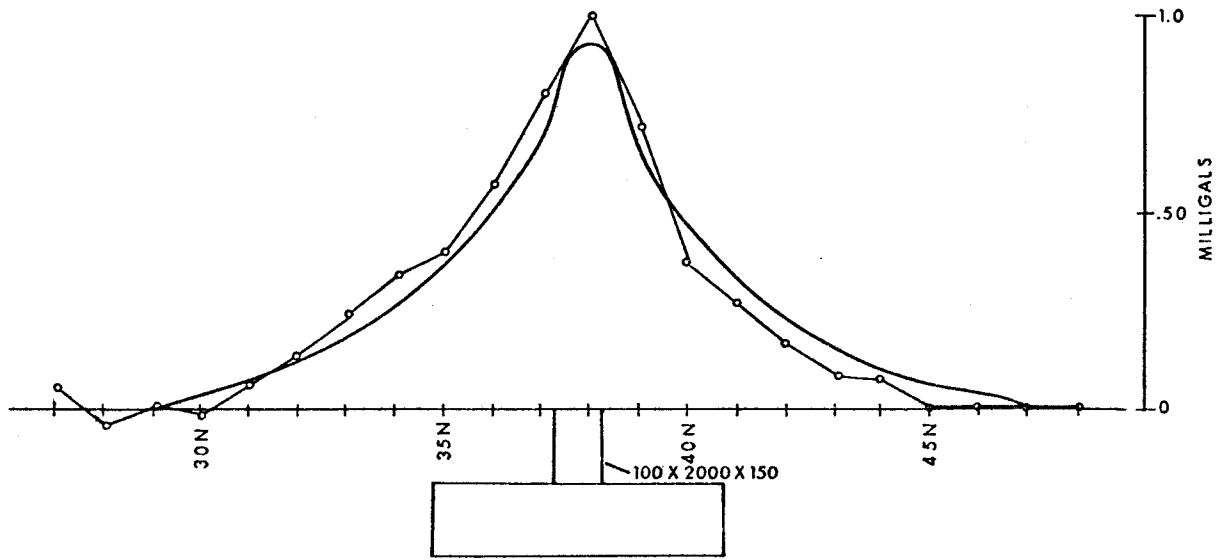


FIGURE 18

ANOMALY G-16

LINE 87W

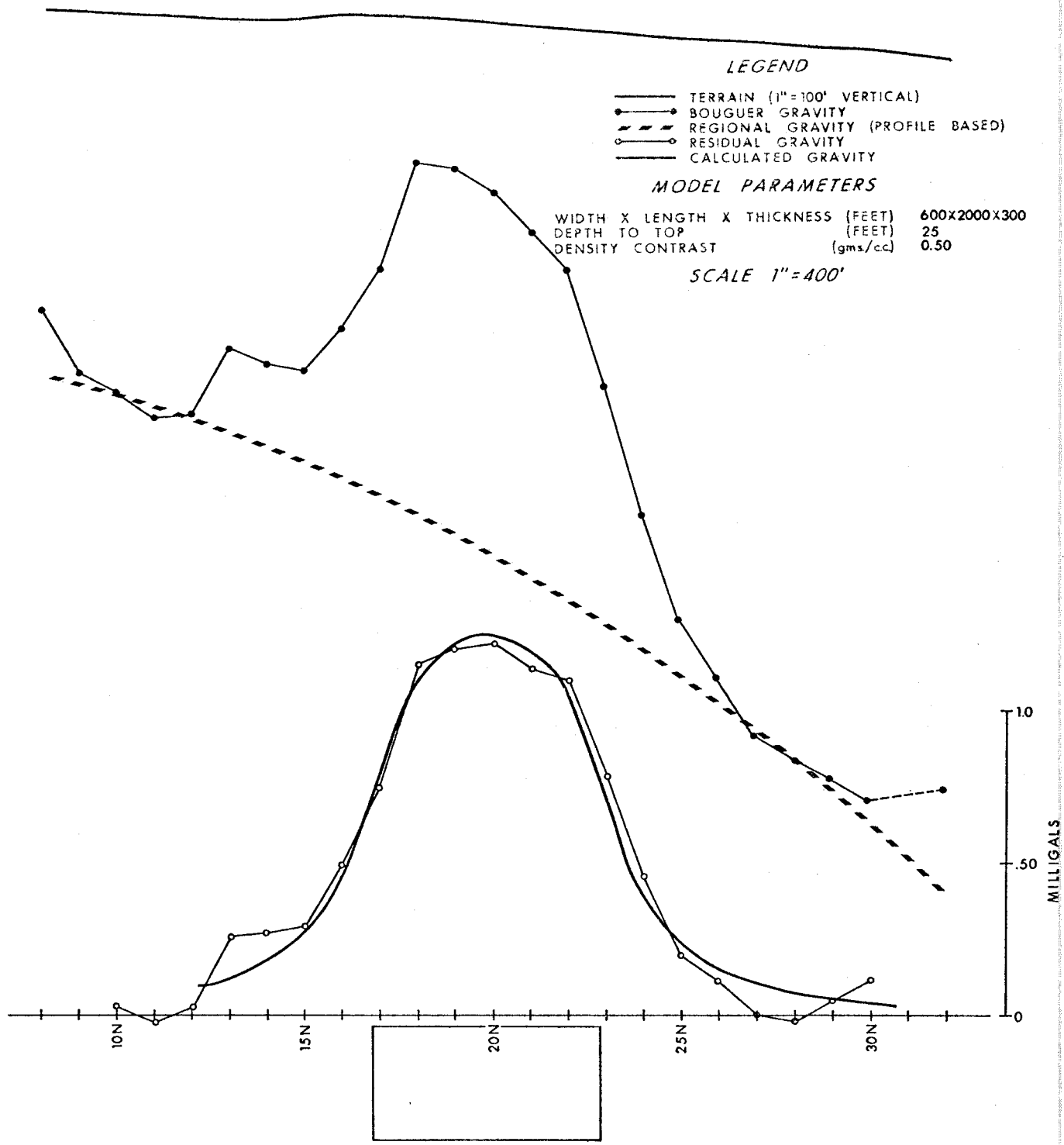
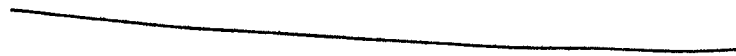


FIGURE 19

ANOMALY G-17

LINE 88 W



LEGEND

- TERRAIN (1" = 100' VERTICAL)
- BOUGUER GRAVITY
- REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 200X2000X125
 DEPTH TO TOP (FEET) 50
 DENSITY CONTRAST (gms./cc) 0.50

SCALE 1" = 400'

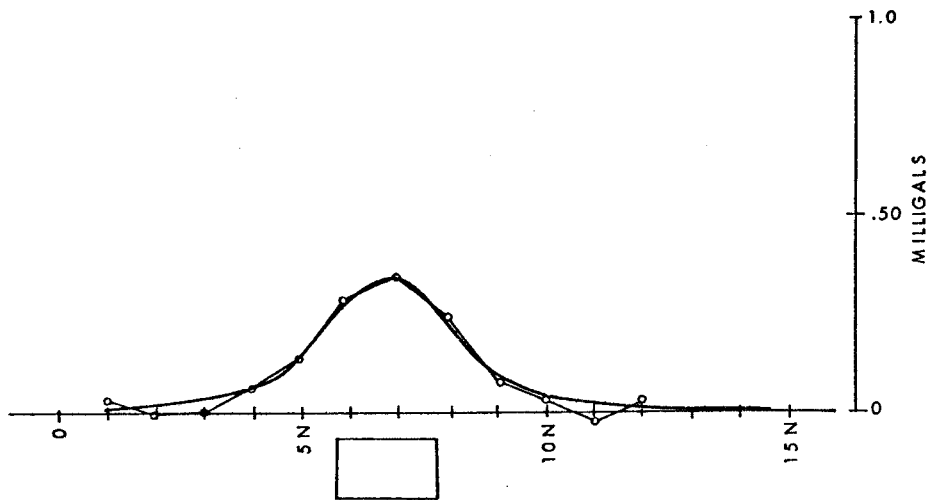
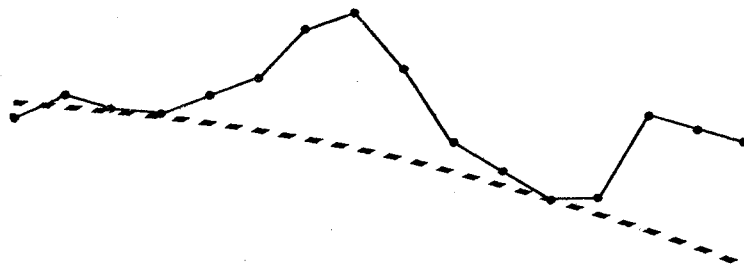
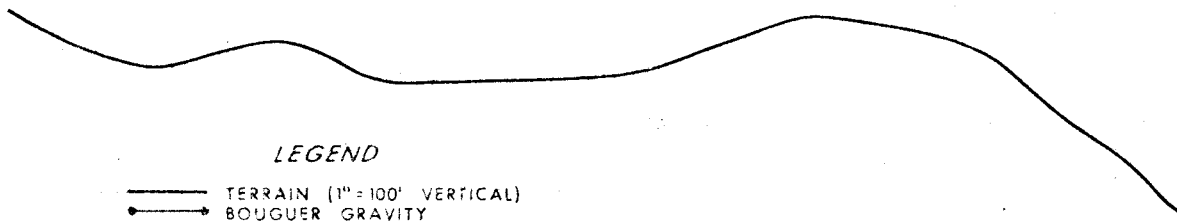


FIGURE 20

ANOMALY G-18

LINE 88W



LEGEND

- TERRAIN (1" = 100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

DEPTH TO TOP (FEET) 100
 DENSITY CONTRAST (gms/cc) 0.50

SCALE 1" = 400'

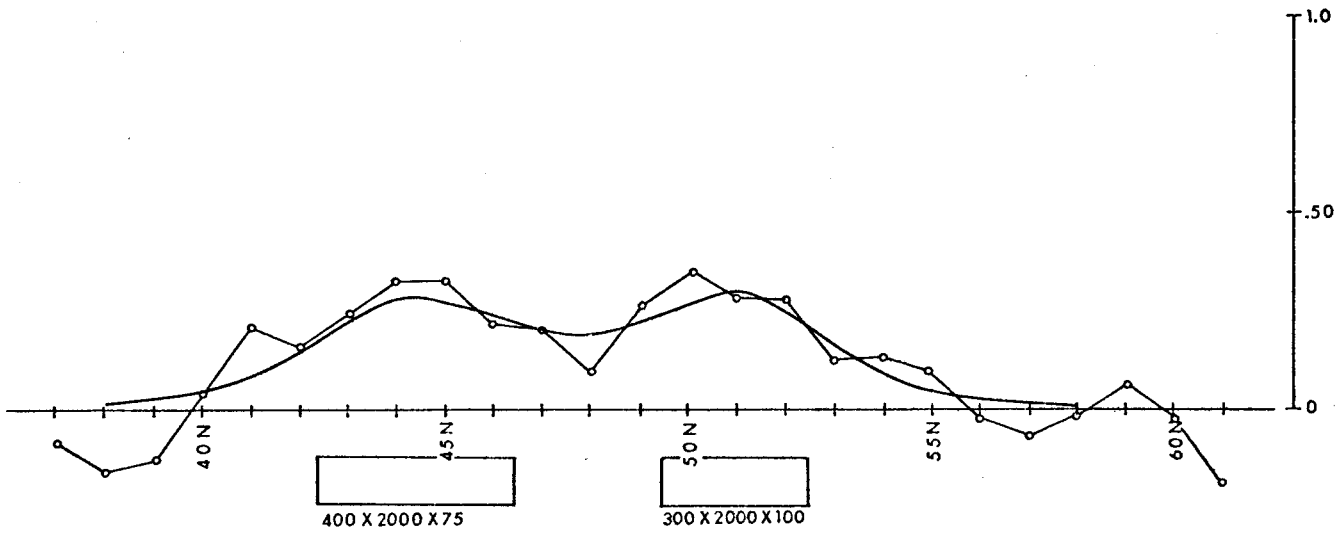
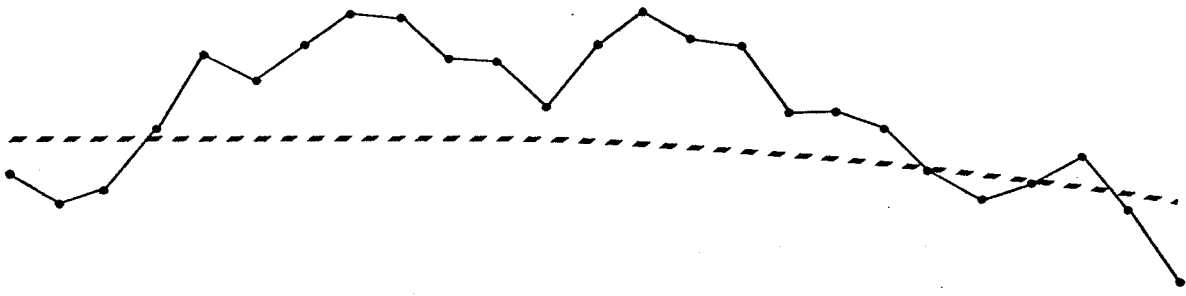
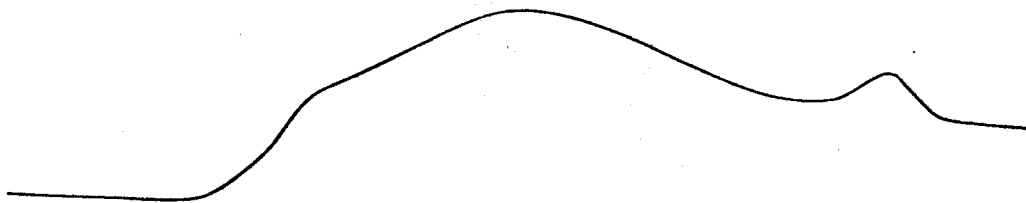


FIGURE 21

ANOMALY G-19

LINE 80 W



LEGEND

- TERRAIN (1"=100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 500 X 3000 X 50
 DEPTH TO TOP (FEET) 40
 DENSITY CONTRAST (gms/cc) 0.50

SCALE 1"=400'

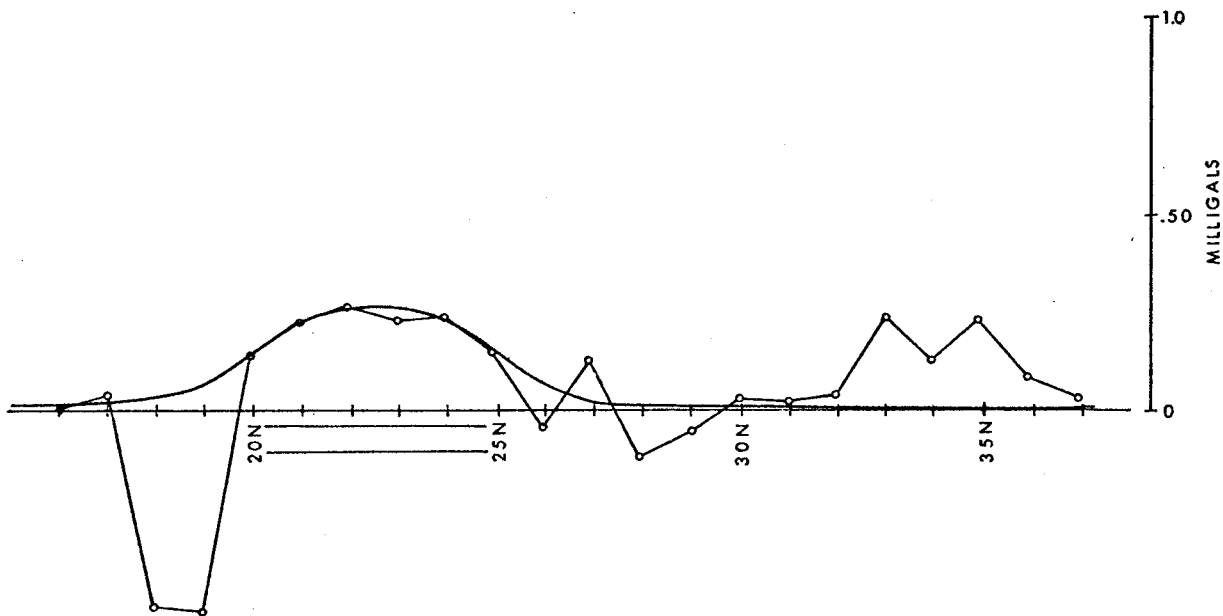
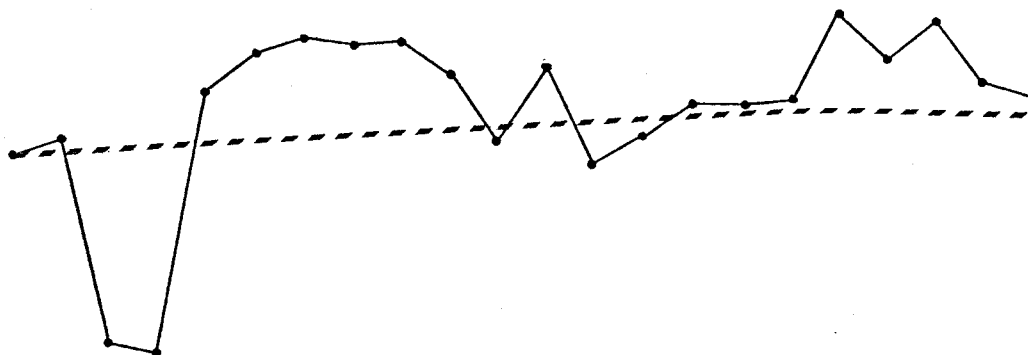


FIGURE 22

ANOMALY G-20

LINE 66W

LEGEND

- TERRAIN (1"=100' VERTICAL)
- BOUGUER GRAVITY
- REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 700 X 2000 X 100
 DEPTH TO TOP (FEET) 150
 DENSITY CONTRAST (gms./c.c) 0.50

SCALE 1"=400'

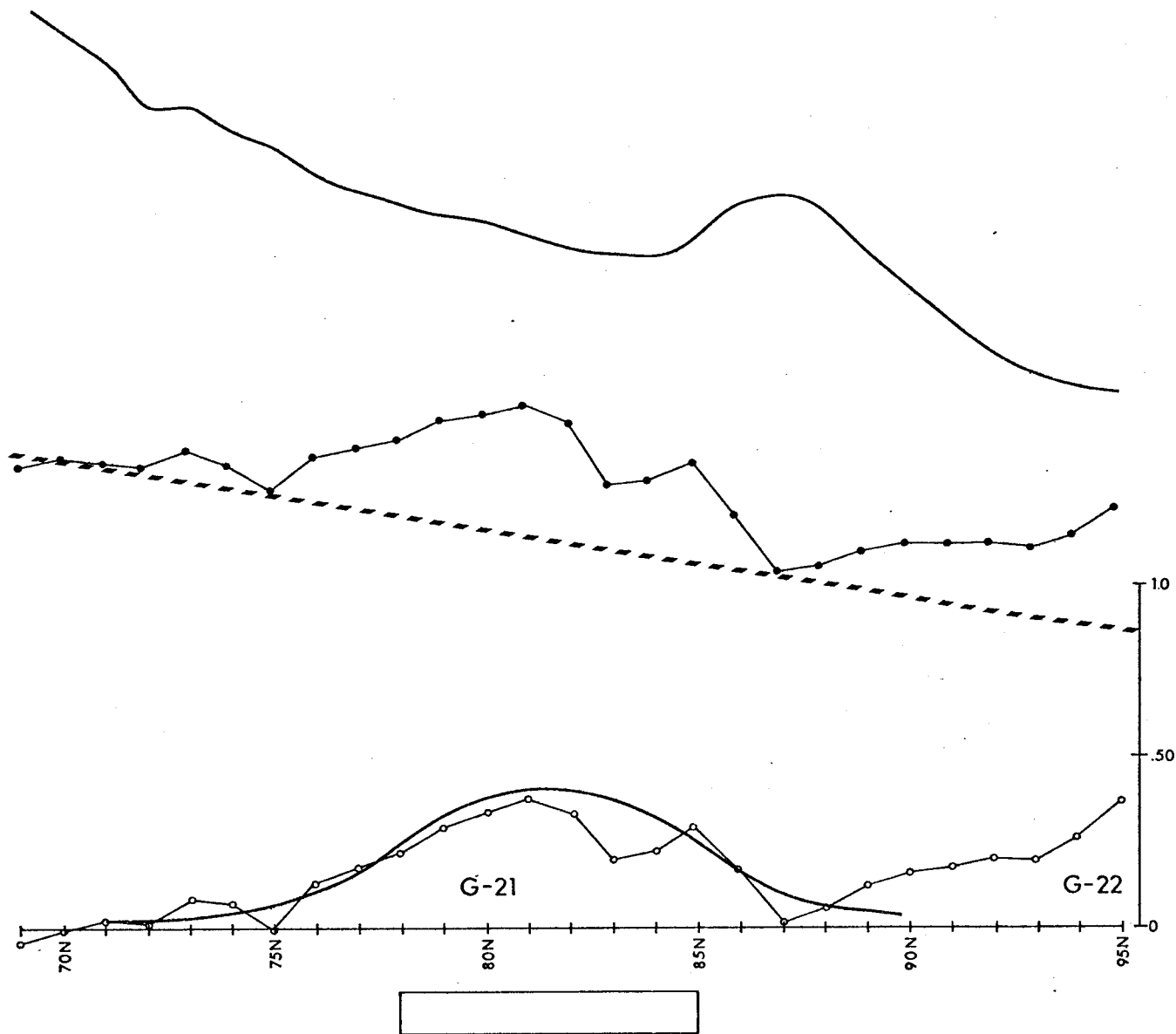


FIGURE 23

ANOMALY G-21&22

LINE 66W



LEGEND

- TERRAIN (1" = 100' VERTICAL)
- BOUGUER GRAVITY
- REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 300X2000X300
 DEPTH TO TOP (FEET) 25
 DENSITY CONTRAST (gms./cc) 0.50

SCALE 1" = 400'

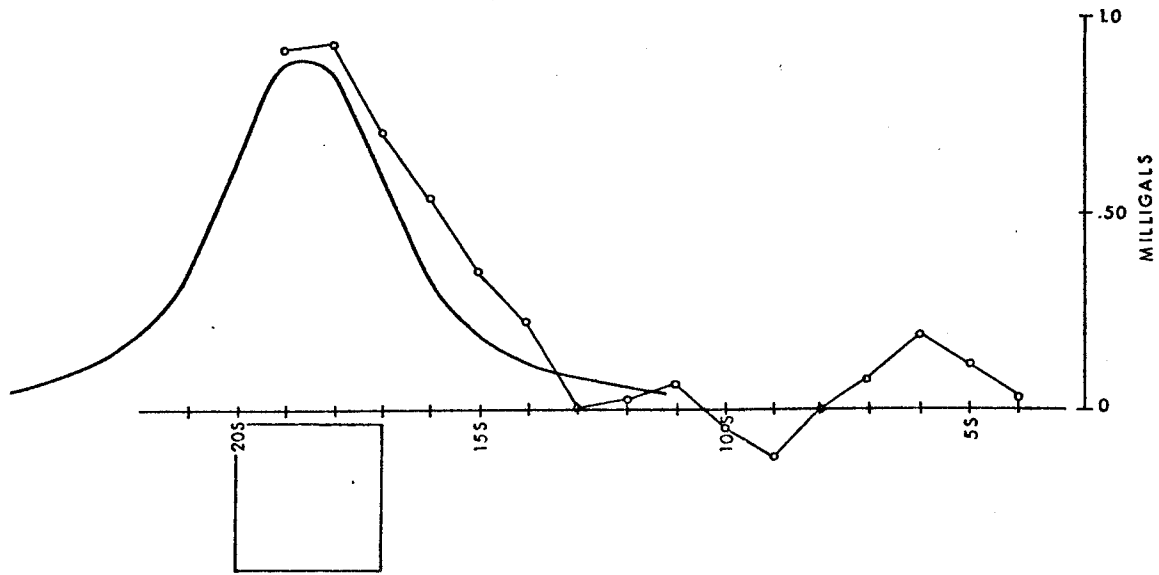
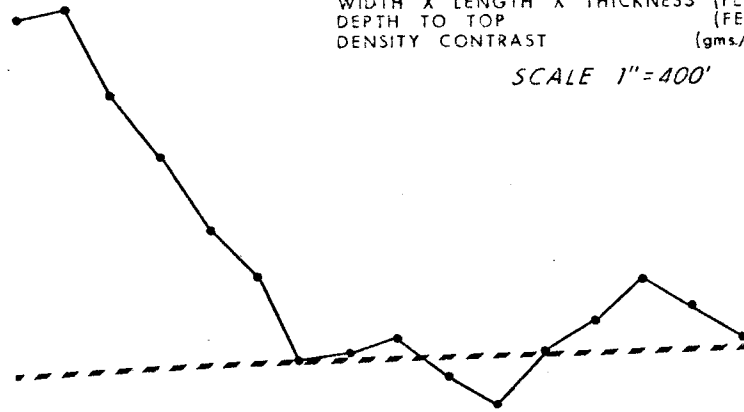


FIGURE 24

ANOMALY G-23

LINE 63W

LEGEND

- TERRAIN (1"=100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 600 X 500 X 225
 DEPTH TO TOP (FEET) 100
 DENSITY CONTRAST (gms/cc) 0.50

SCALE 1"=400'

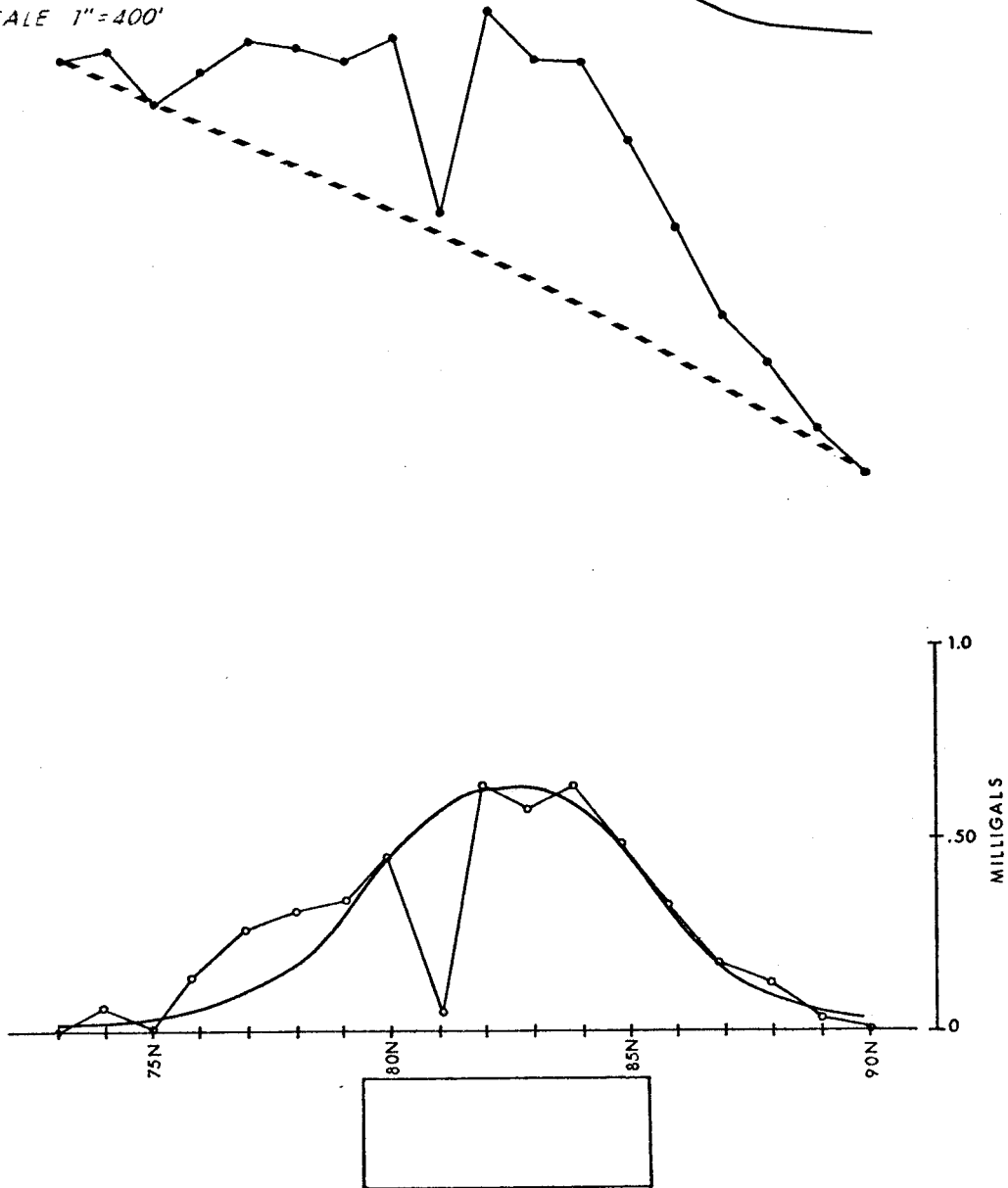


FIGURE 25

ANOMALY G-24

LINE 71W

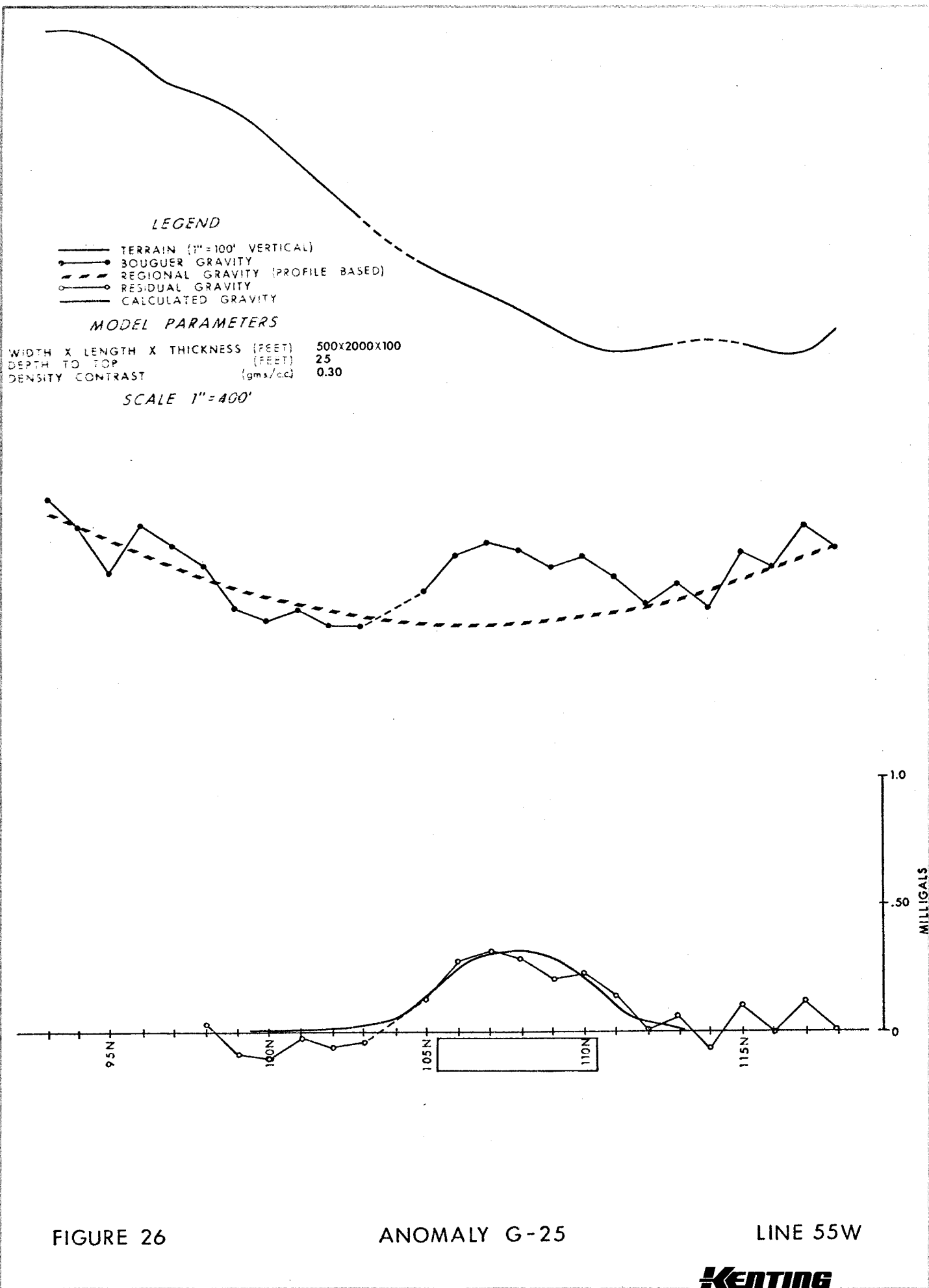


FIGURE 26

ANOMALY G-25

LINE 55W

LEGEND

- TERRAIN (1"=100' VERTICAL)
- BOUGSER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 600X2000X100
 DEPTH TO TOP (FEET) 50
 DENSITY CONTRAST (gms/cc) 0.50

SCALE 1"=400'

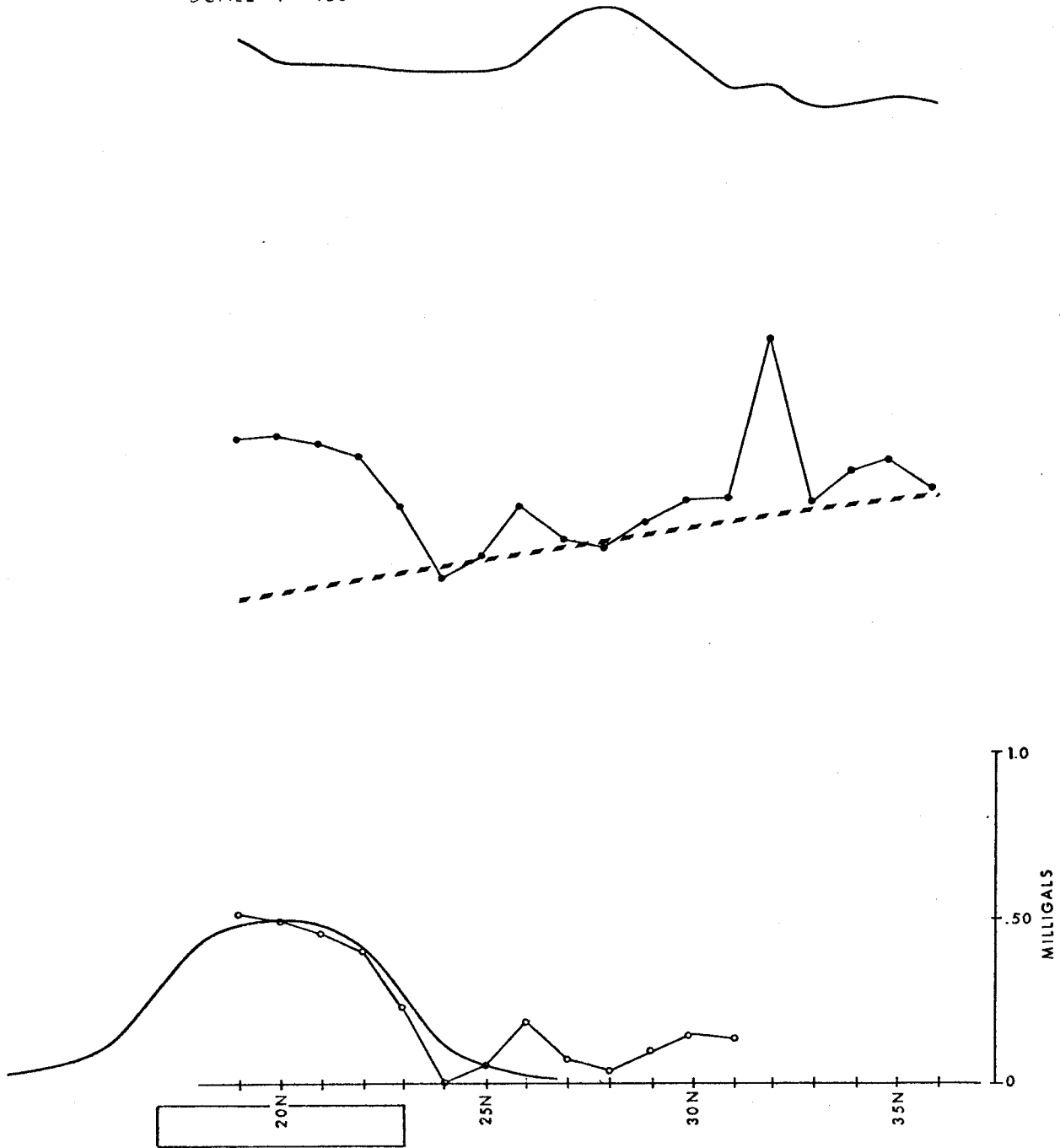


FIGURE 27

ANOMALY G-26

LINE 54W

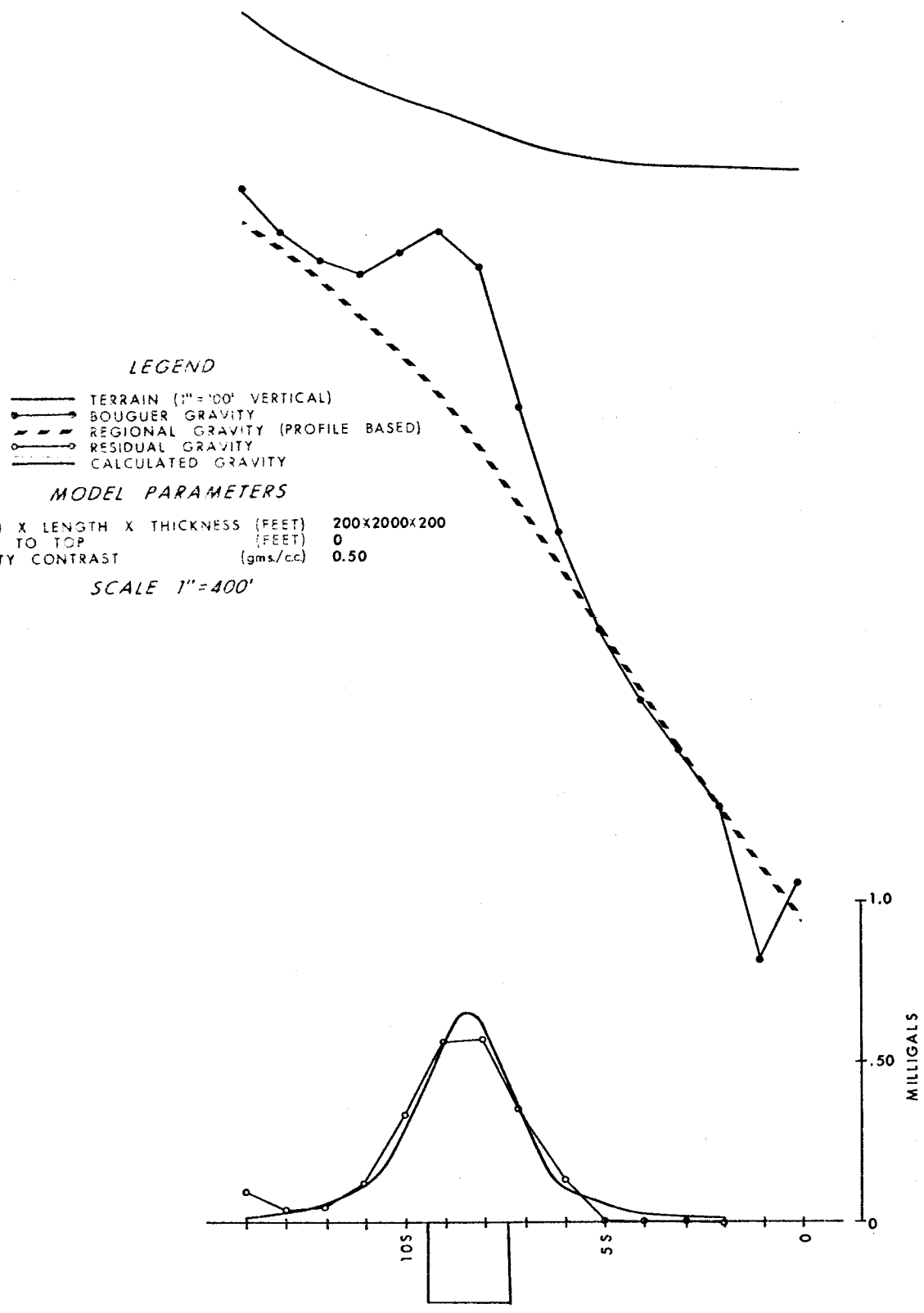


FIGURE 28

ANOMALY G-27

LINE 91 W

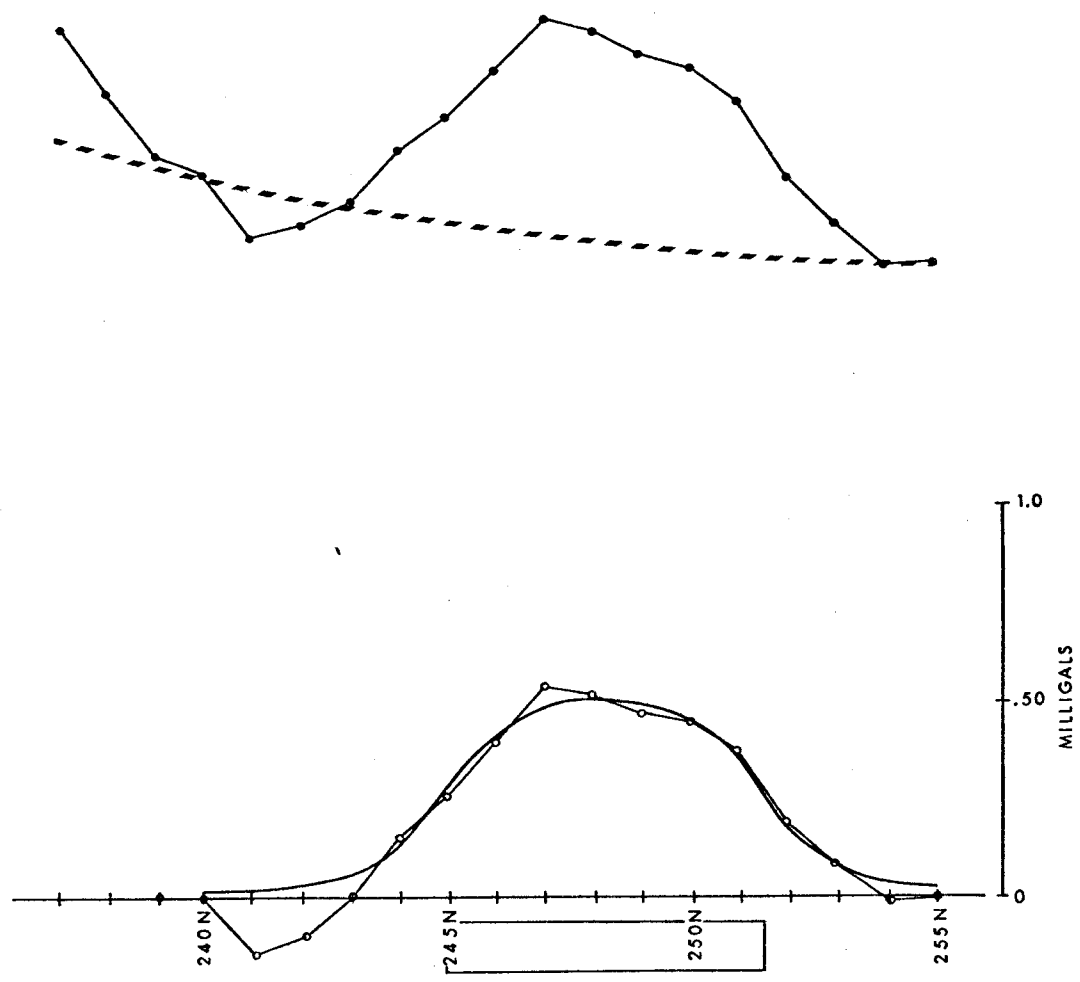
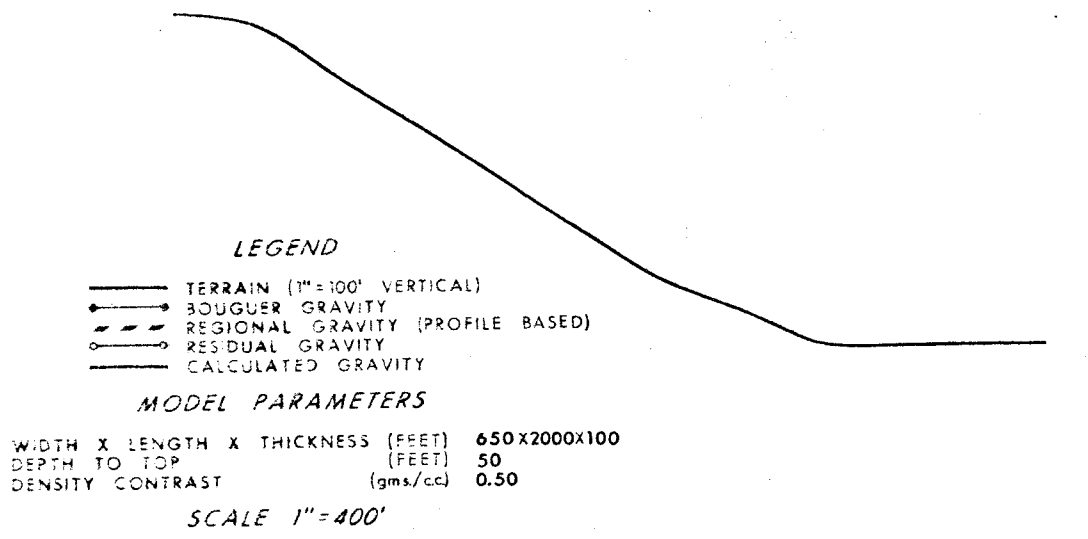


FIGURE 29

ANOMALY G-28

LINE 58 W

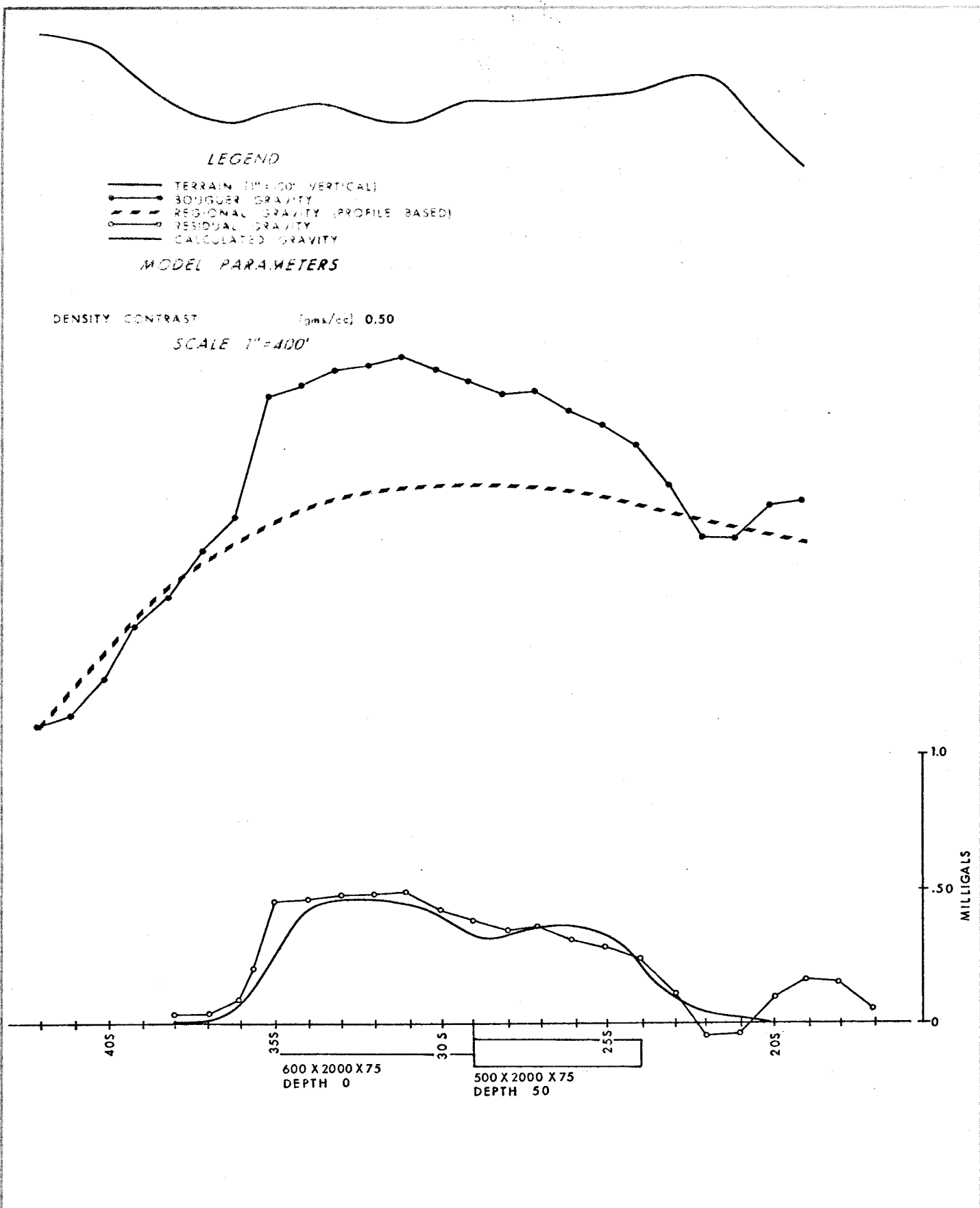


FIGURE 30

ANOMALY G-29

LINE 89 W

LEGEND

- TERRAIN (1"=100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

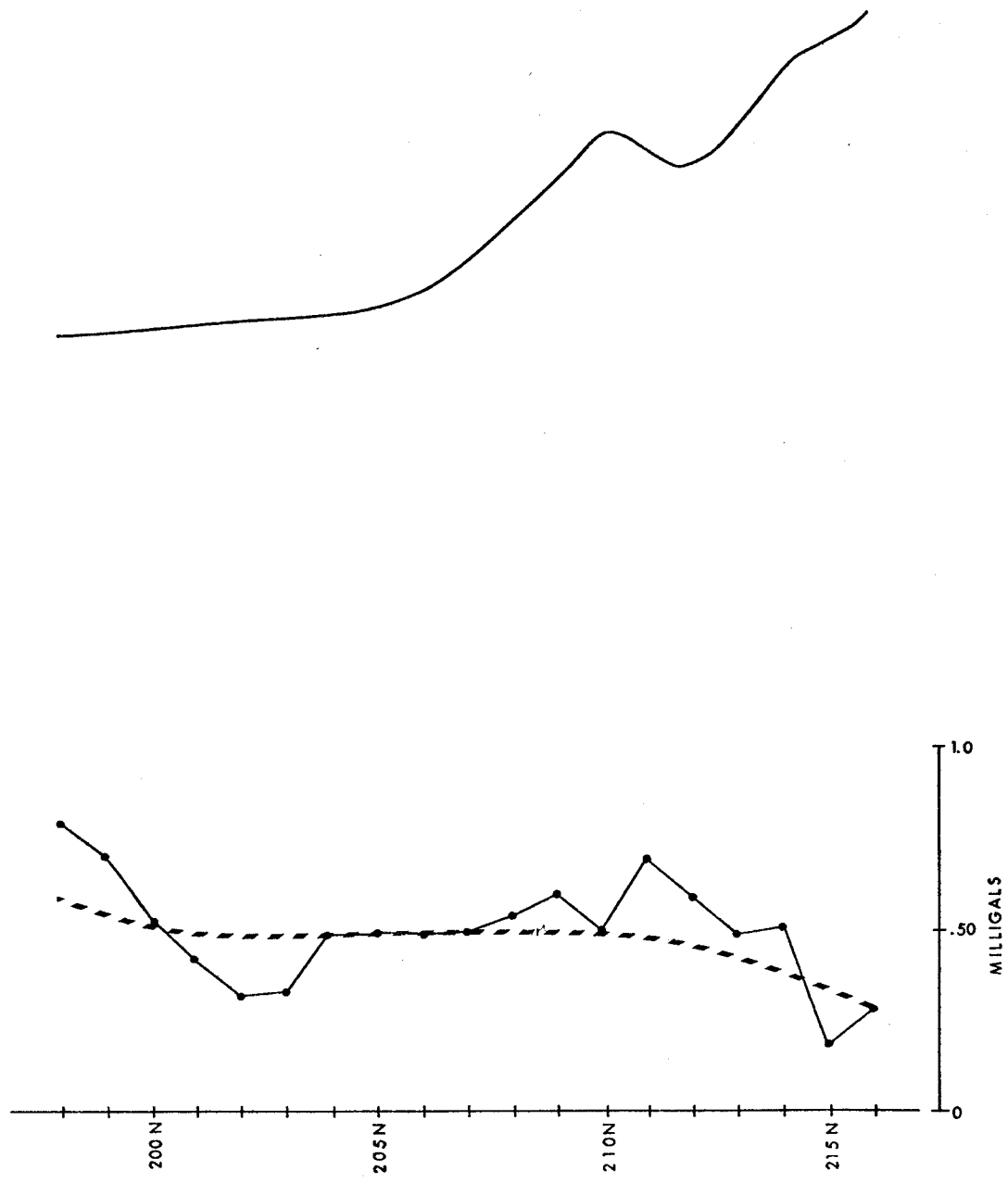


FIGURE 31

ANOMALY G-30

LINE 61W

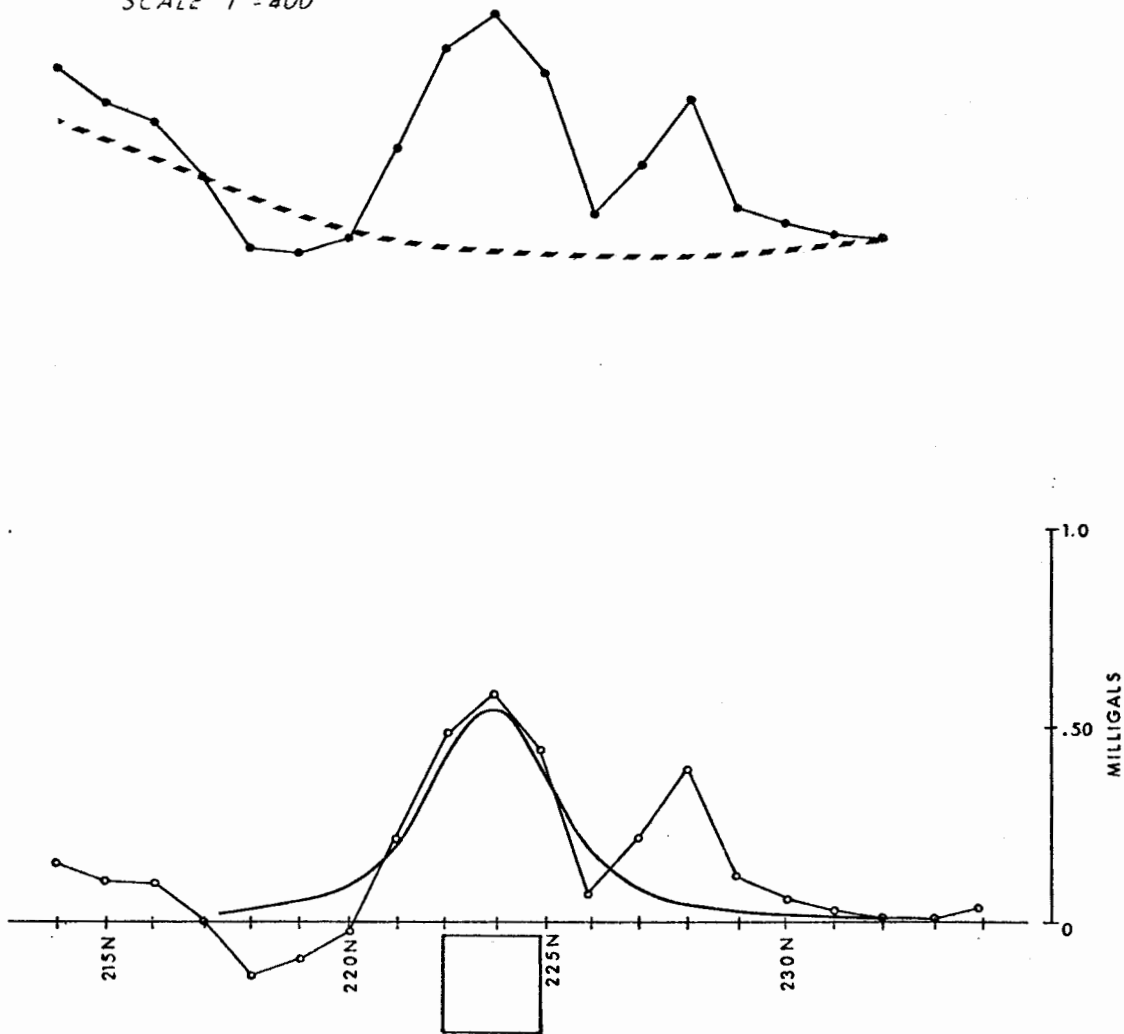
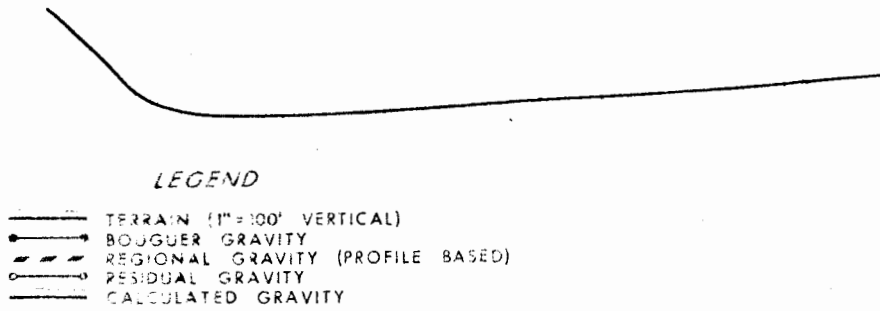


FIGURE 32

ANOMALY G-31

LINE 62W

LEGEND

- TERRAIN (1"=100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 300X1500X150
 DEPTH TO TOP (FEET) 50
 DENSITY CONTRAST (gms/cc) 0.50

SCALE 1"=400'

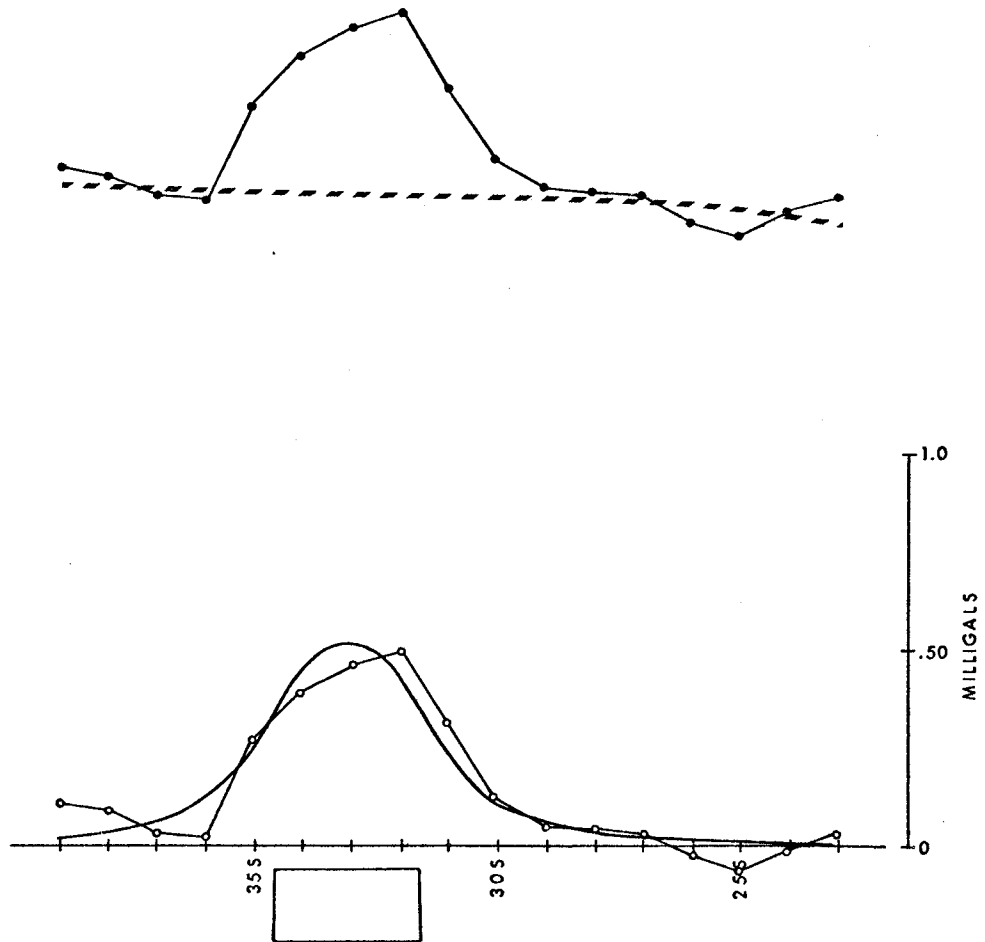


FIGURE 33

ANOMALY G-32

LINE 85W

LEGEND

- TERRAIN (1"=100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

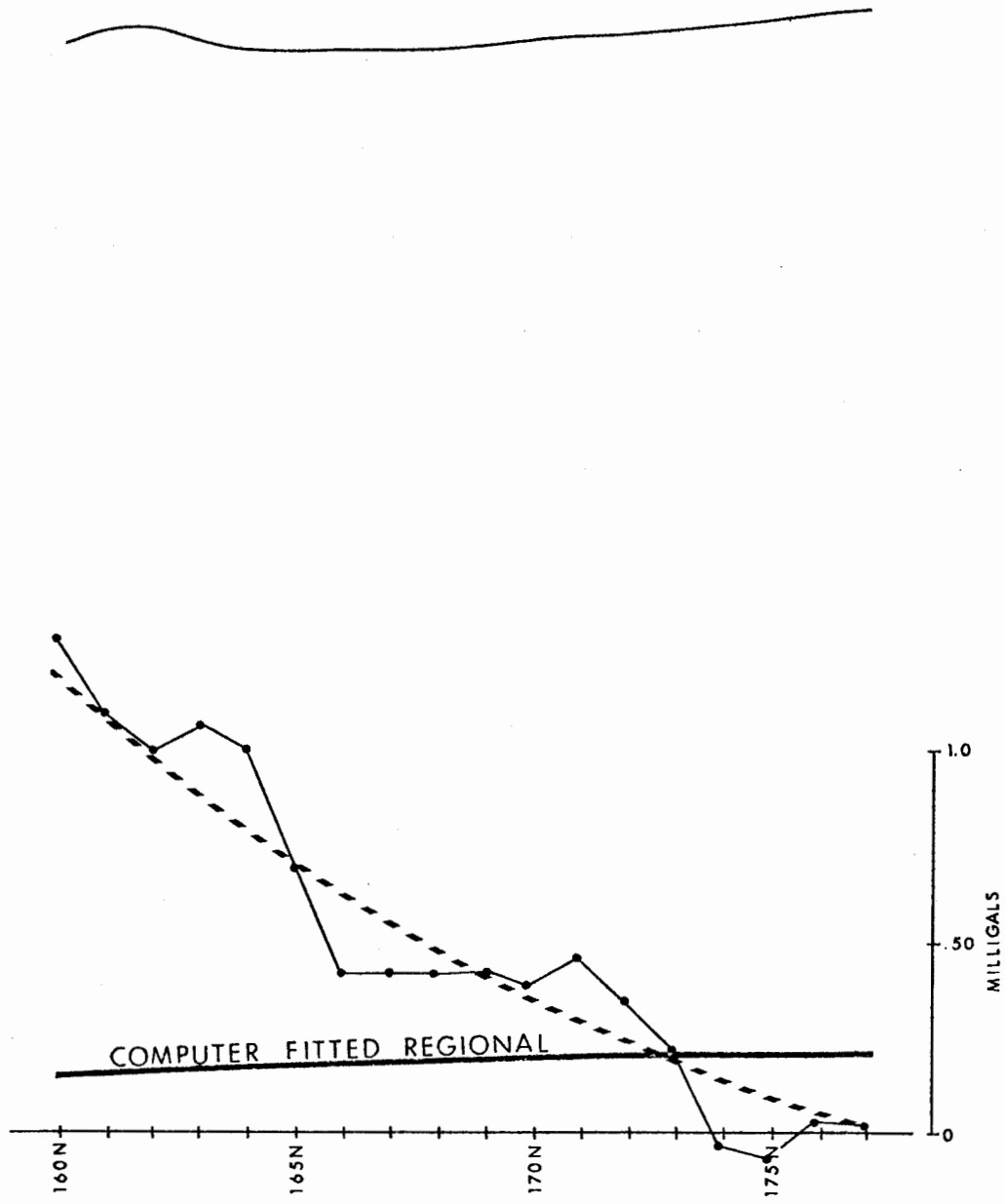


FIGURE 34

ANOMALY G-33

LINE 67W

LEGEND

- TERRAIN (1"=100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 800x2000x150
 DEPTH TO TOP (FEET) 75
 DENSITY CONTRAST (gms/cc) 0.50

SCALE 1"=400'

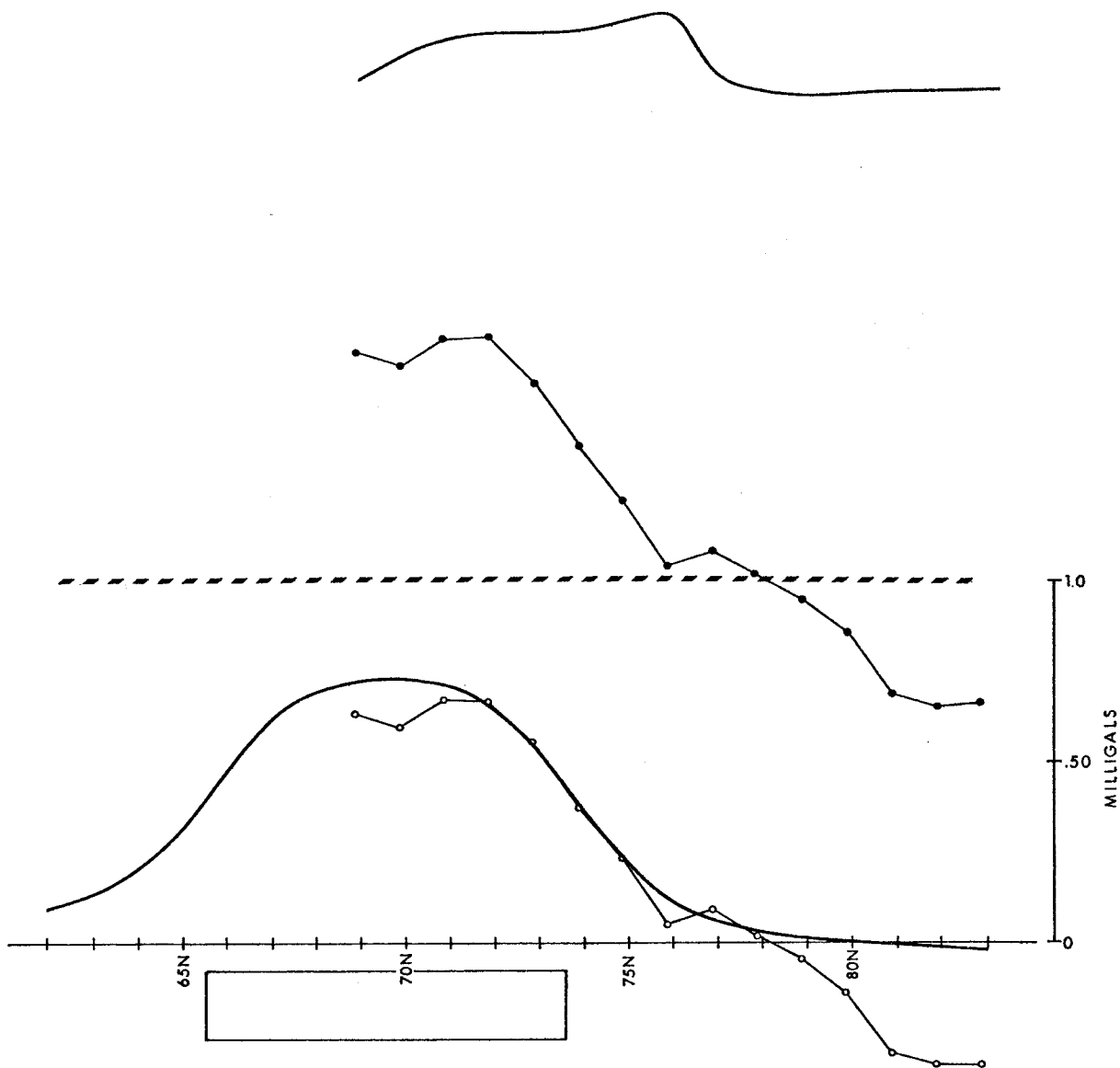
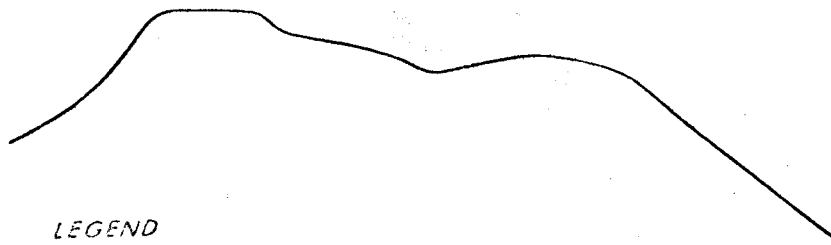


FIGURE 35

ANOMALY G-34

LINE 45W



LEGEND

- TERRAIN (1"=100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 700X2400X125
 DEPTH TO TOP (FEET) 75
 DENSITY CONTRAST (gms/cc) 0.50

SCALE 1"=400'

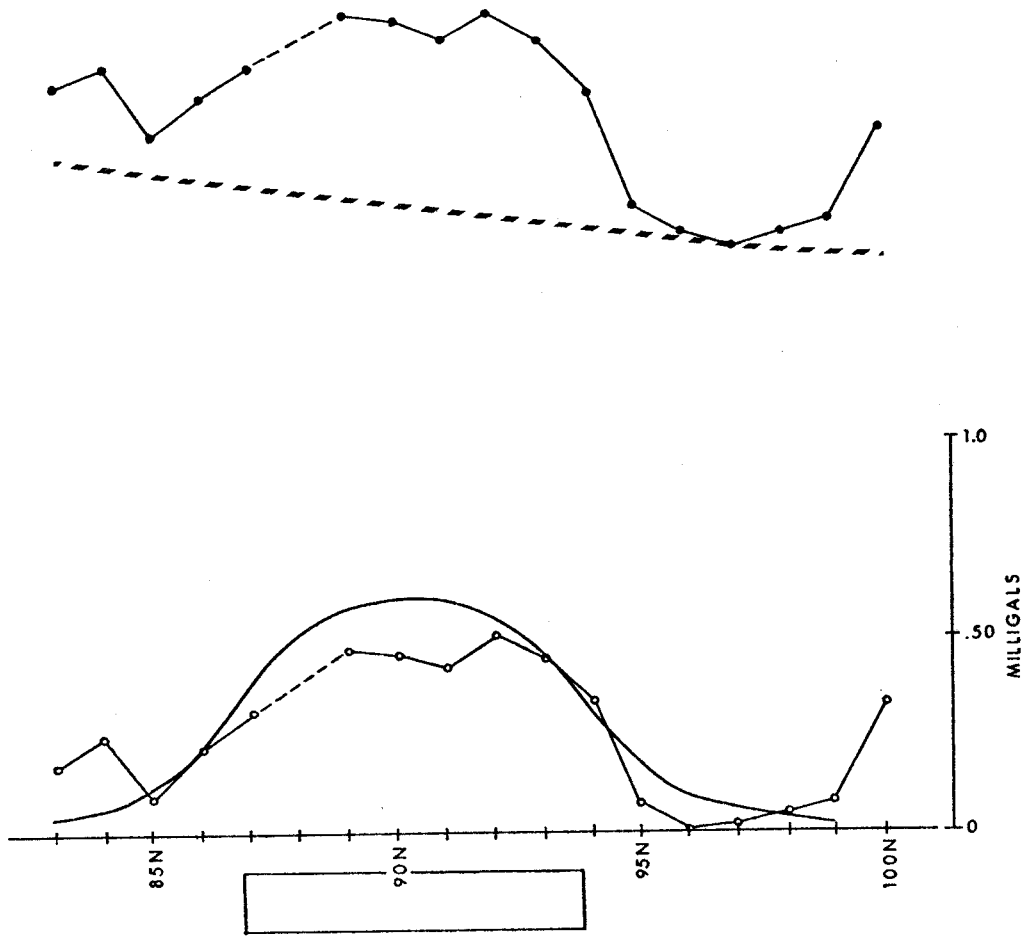


FIGURE 36

ANOMALY G-35

LINE 50W

LEGEND

- TERRAIN (1" = 100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- REGIONAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 1100 X 2400 X 50
 DEPTH TO TOP (FEET) 0
 DENSITY CONTRAST (gms/cc) 0.50

SCALE 1" = 400'

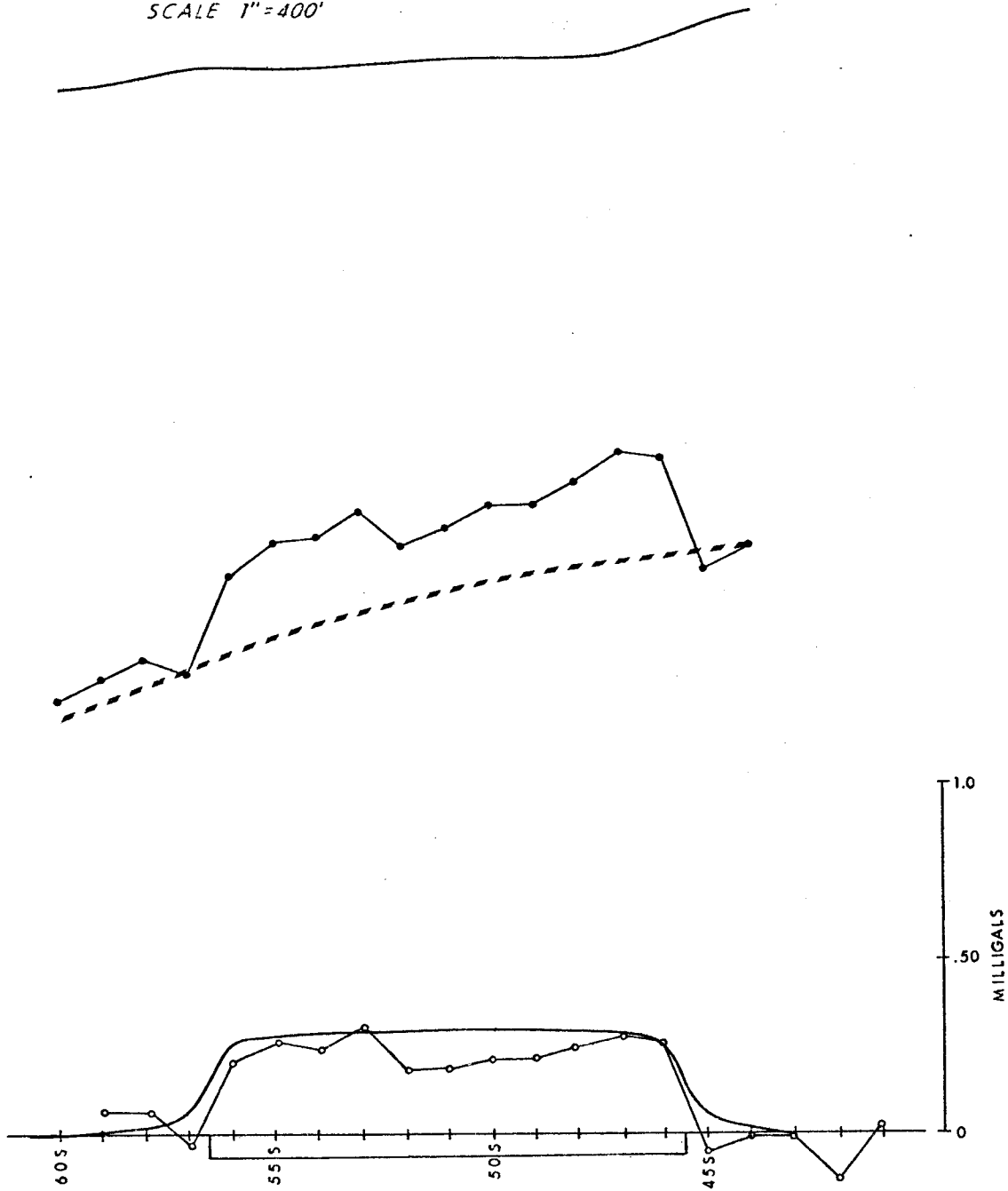


FIGURE 37

ANOMALY G-36

LINE 77 W



LEGEND

- TERRAIN (1"=100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 600 X 2000 X 200
 DEPTH TO TOP (FEET) 200
 DENSITY CONTRAST (gms/cc) 0.50

SCALE 1"=400'

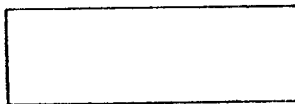
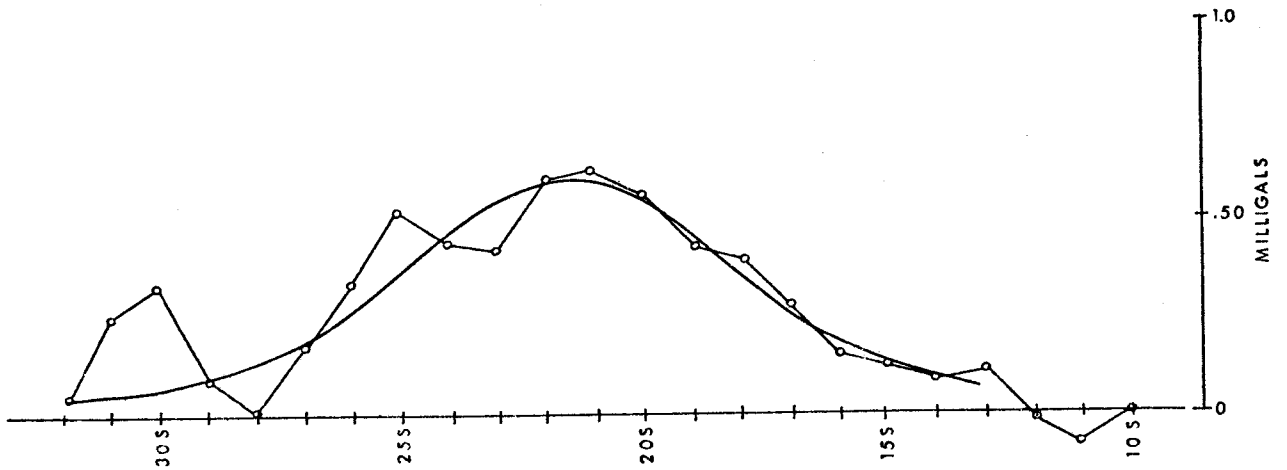
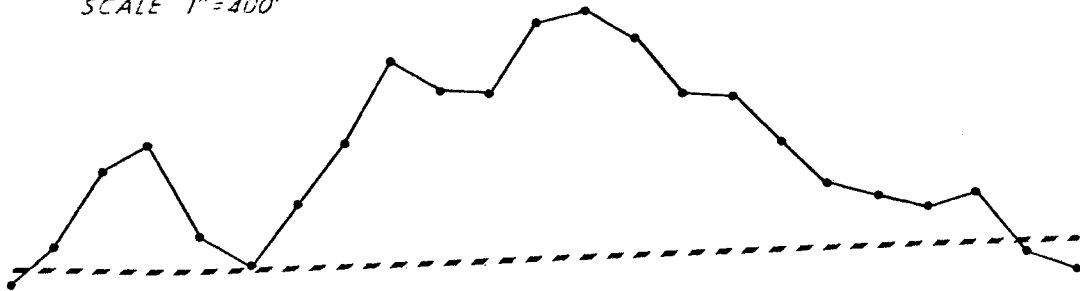


FIGURE 38

ANOMALY G-37

LINE 44 W



LEGEND

- TERRAIN (1"=100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 700 X 2000 X 75
 DEPTH TO TOP (FEET) 100
 DENSITY CONTRAST (gms/cc) 0.50

SCALE 1"=400'

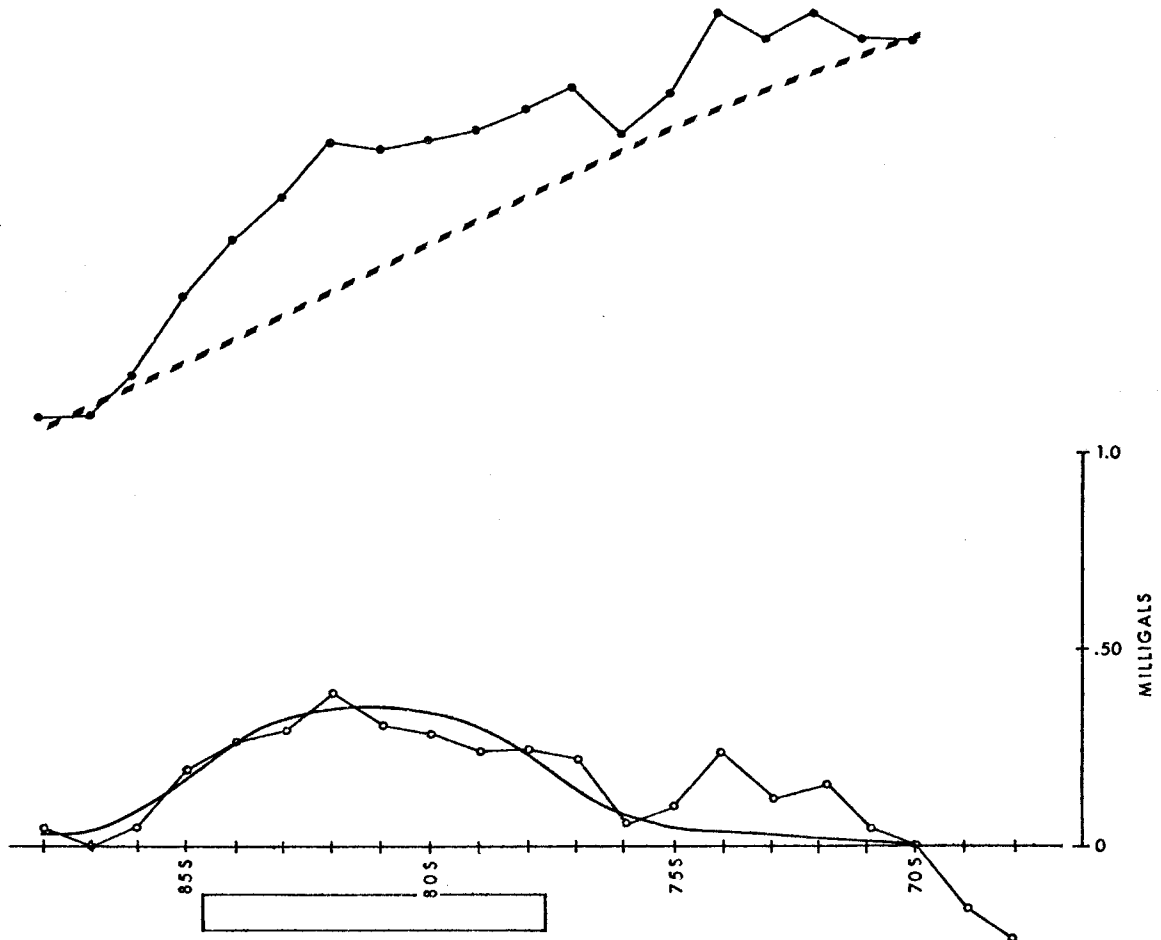
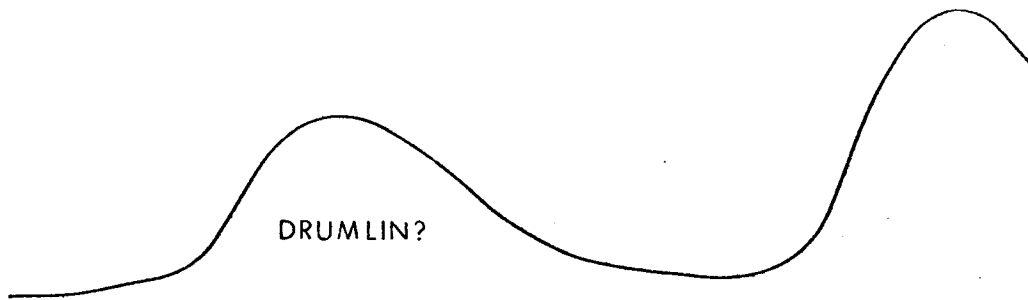


FIGURE 39

ANOMALY G-38

LINE 62 W



LEGEND

- TERRAIN (1" = 100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 800 X 1000 X 235
 DEPTH TO TOP (FEET) 65
 DENSITY CONTRAST (gms./cc) 0.50

SCALE 1" = 400'

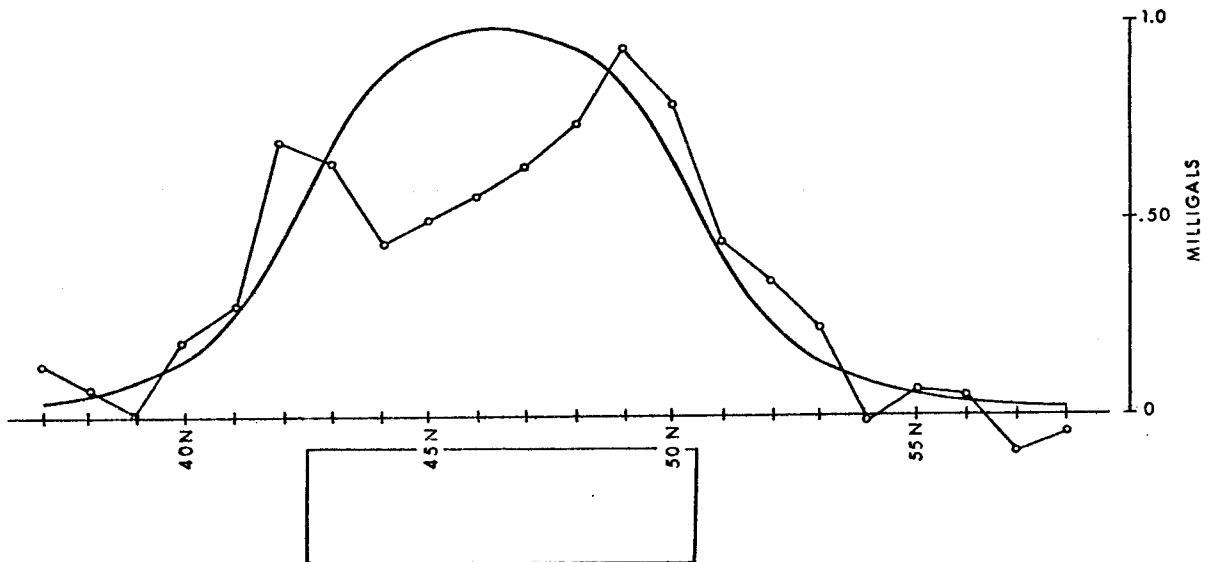
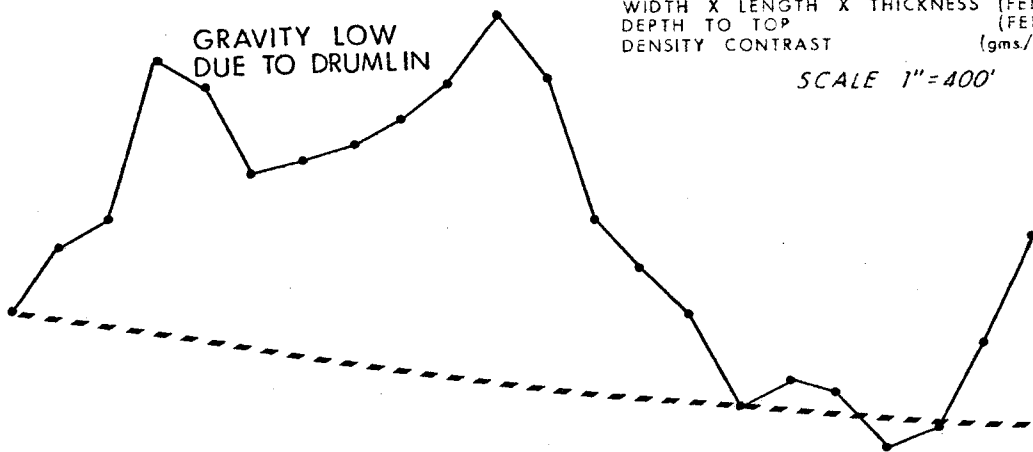


FIGURE 40

ANOMALY G-39

LINE 51W



LEGEND

- TERRAIN (1"=100' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 900X2000X100
 DEPTH TO TOP (FEET) 200
 DENSITY CONTRAST (gms./cc) 0.50

SCALE 1"=400'

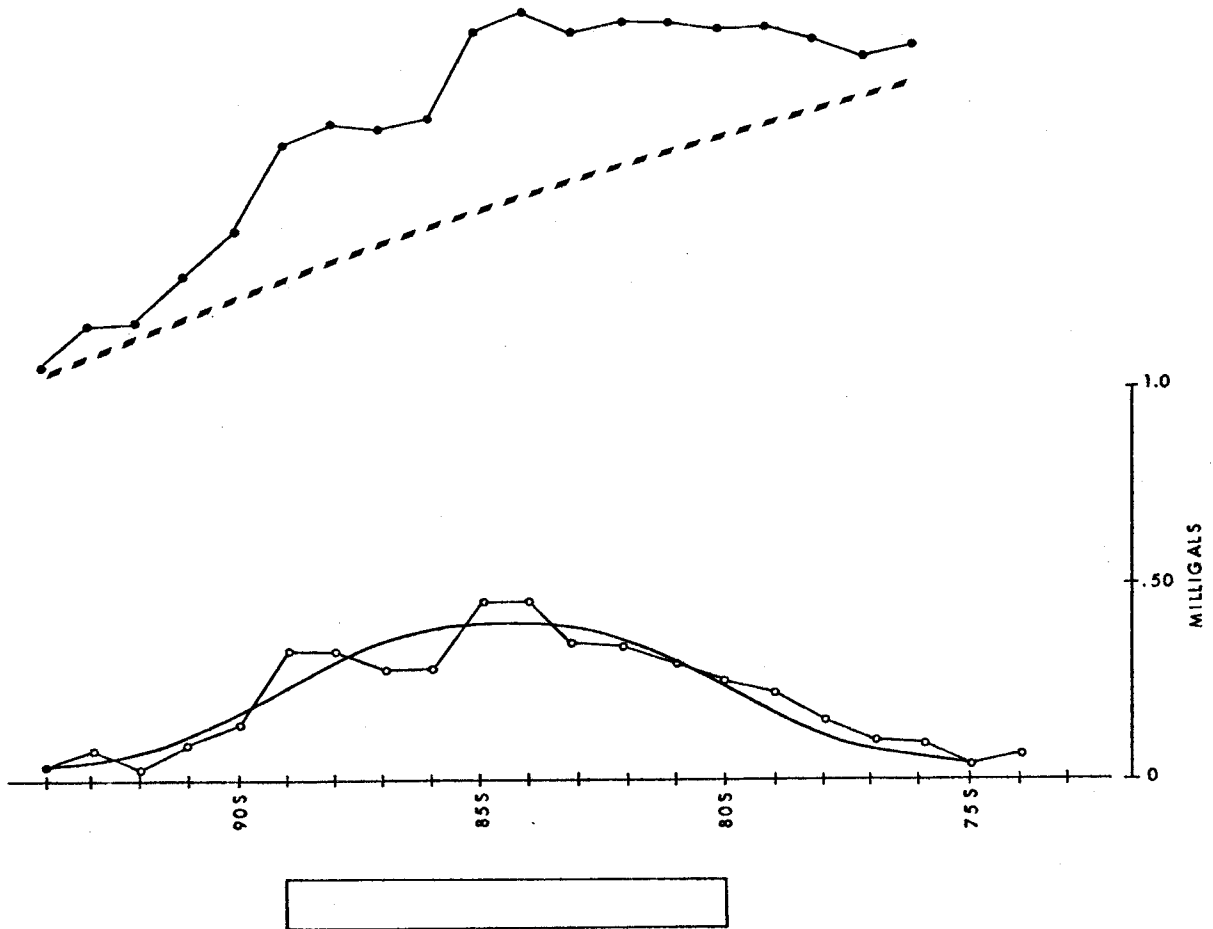


FIGURE 41

ANOMALY G-40

LINE 68W

LEGEND

- TERRAIN (1"=400' VERTICAL)
- BOUGUER GRAVITY
- - - REGIONAL GRAVITY (PROFILE BASED)
- RESIDUAL GRAVITY
- CALCULATED GRAVITY

MODEL PARAMETERS

WIDTH X LENGTH X THICKNESS (FEET) 800 X 2000 X 75
 DEPTH TO TOP (FEET) 25
 DENSITY CONTRAST (gms./cc) 0.50

SCALE 1"=400'

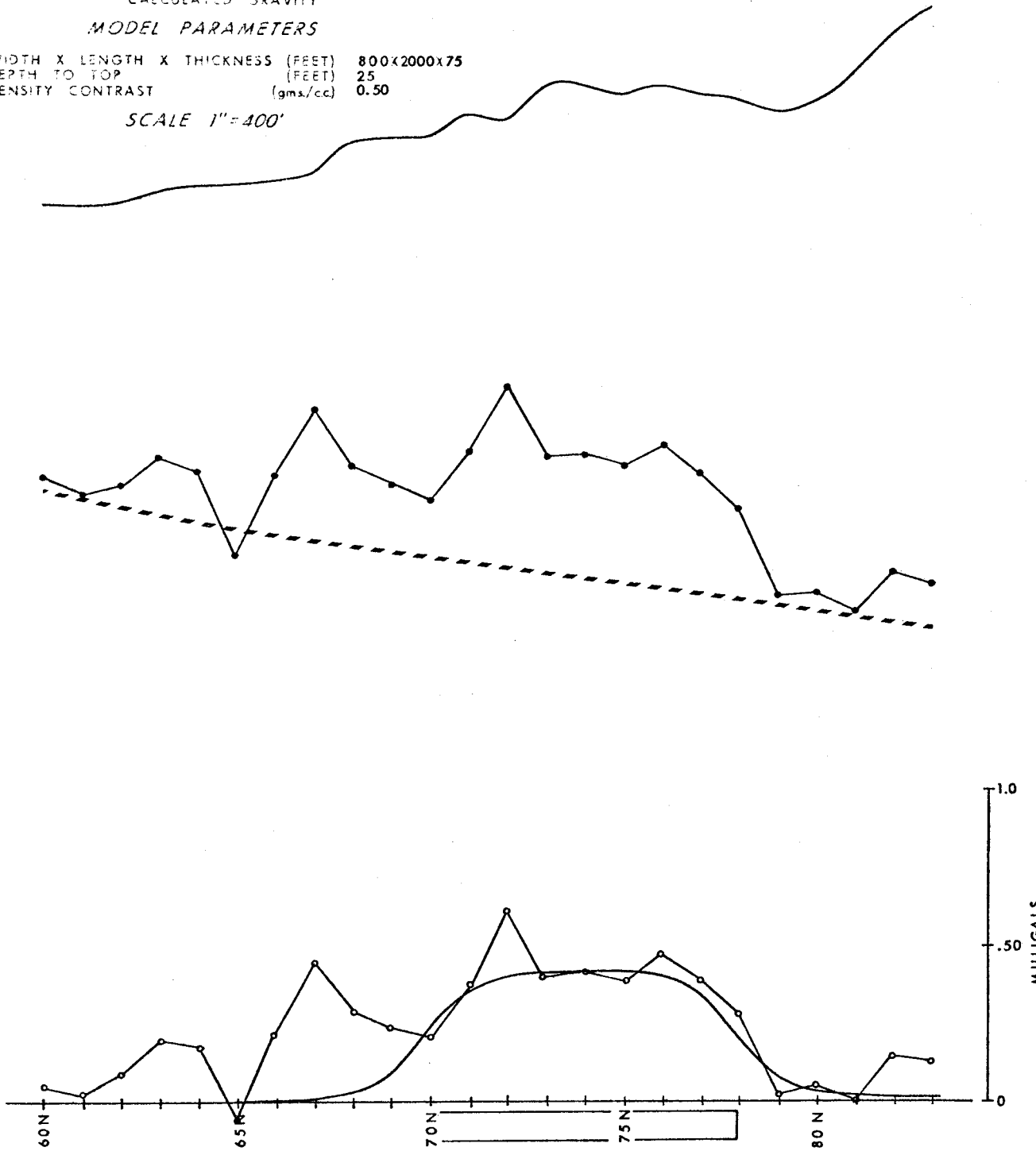
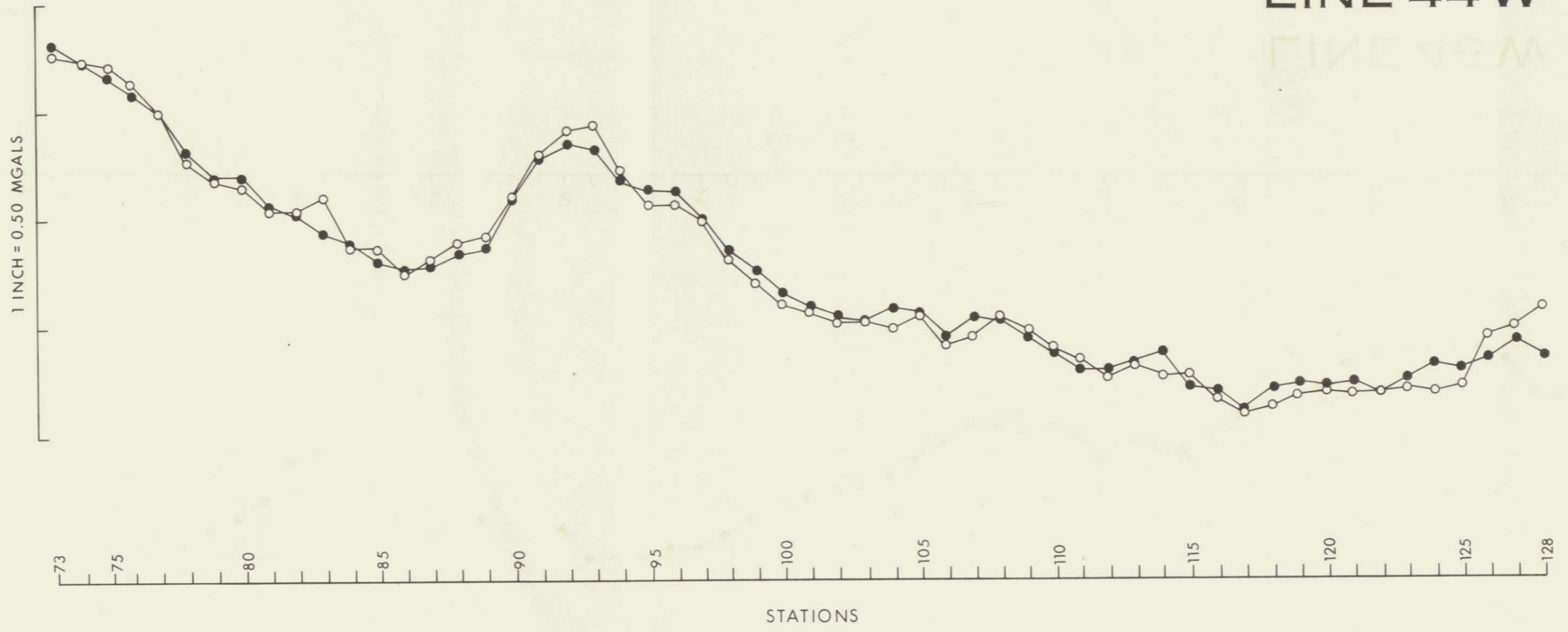


FIGURE 42

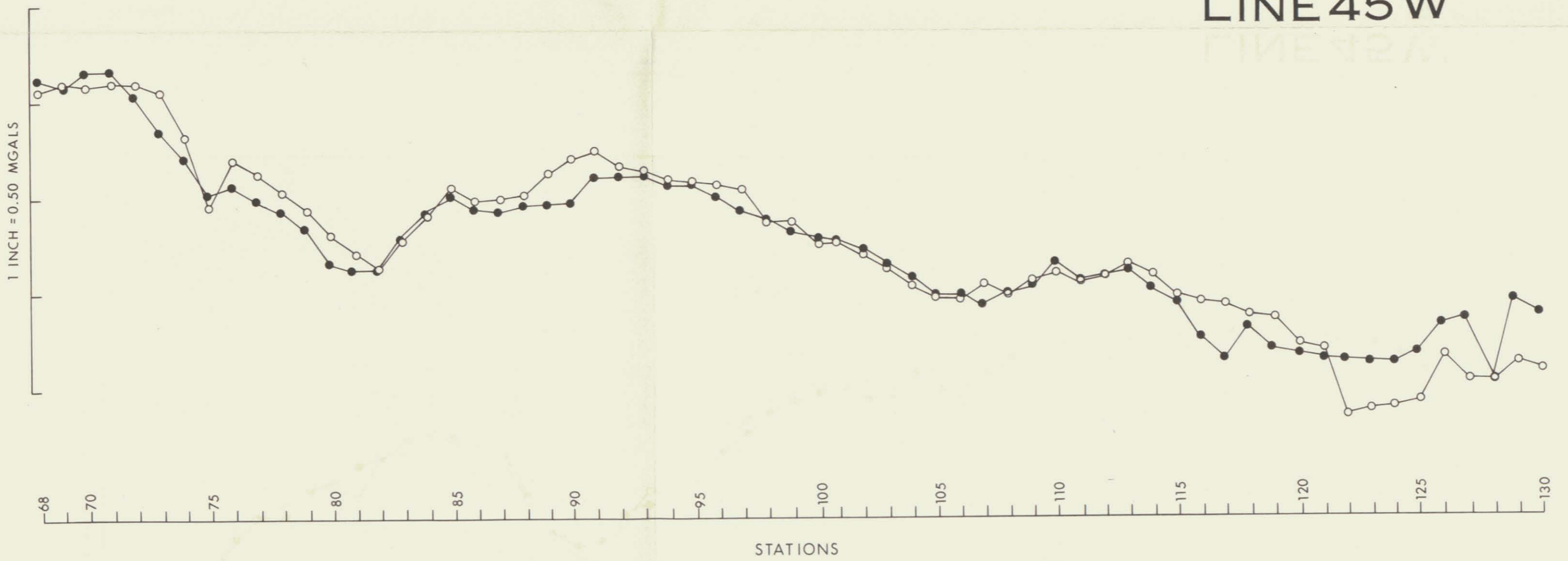
ANOMALY G-41

LINE 48W

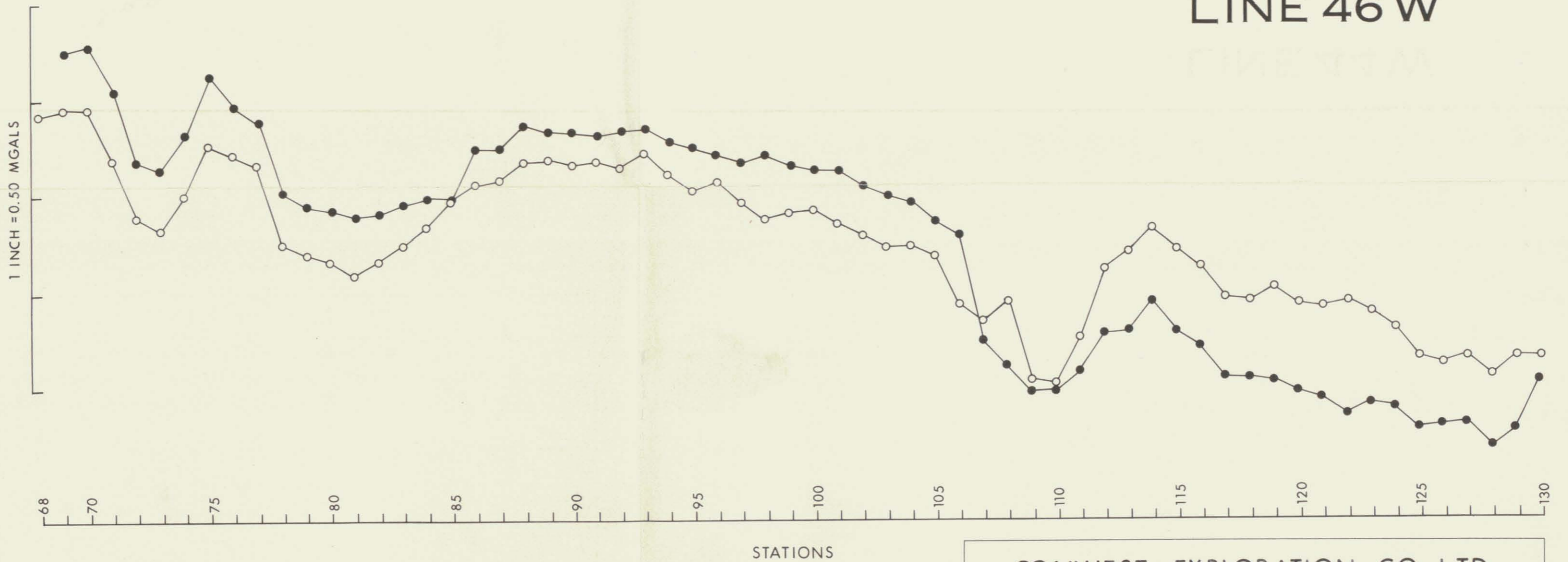
LINE 44W



LINE 45W



LINE 46W



LEGEND

- GLEDHILL 1975 SURVEY
- KENTING 1977 SURVEY

CONWEST EXPLORATION CO. LTD.

MACMILLAN JOINT VENTURE
BOUGUER GRAVITY PROFILES
KENTING - GLEDHILL REPEATS

TO ACCOMPANY REPORT BY: D. DORVAL

KENTING
EXPLORATION SERVICES LIMITED

CALGARY
ALBERTA

SCALE: 1" = 400'
JOB NO.: 2817
C.I.:

DATE: APRIL 1977
FIGURE NO.: 43
DRAWN BY: S.S.



LEGEND

Grid line & number 40W

Gravity survey coverage 1975 1976 1977

1"=400' Sheets (28) & number 34

1"=1000' Sheets (6) & number 3

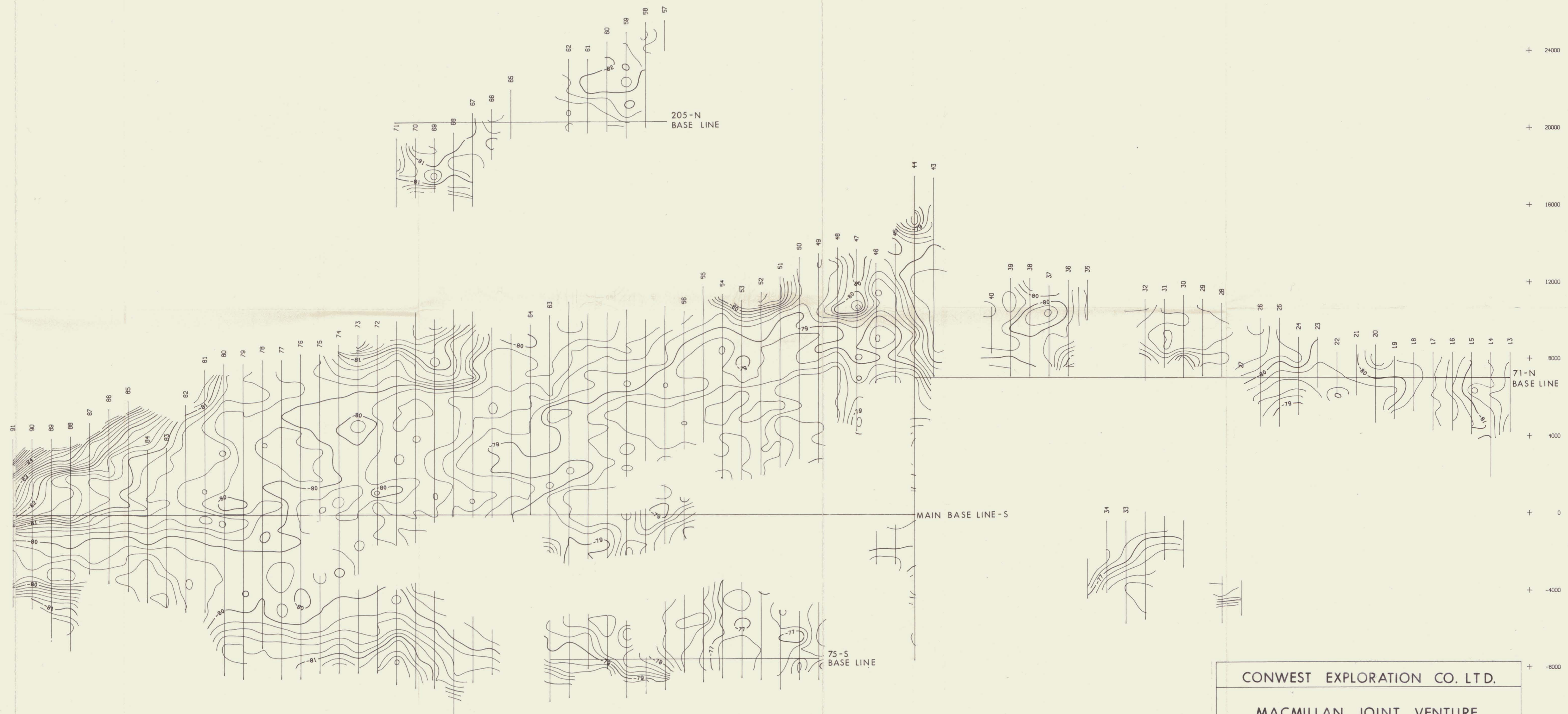
NOTE: Complete Grid Coverage with Magnetometer & Electromagnetic Surveys



GEOPHYSICAL SURVEY COVERAGE & INDEX MAP

28000 +
24000 +
20000 +
18000 +
12000 +
8000 +
4000 +
0 +
-4000 +
-8000 +
-12000 +

+ 28000
+ 24000
+ 20000
+ 18000
+ 12000
+ 8000
+ 4000
+ 0
+ -4000
+ -8000
+ -12000



CONWEST EXPLORATION CO. LTD.

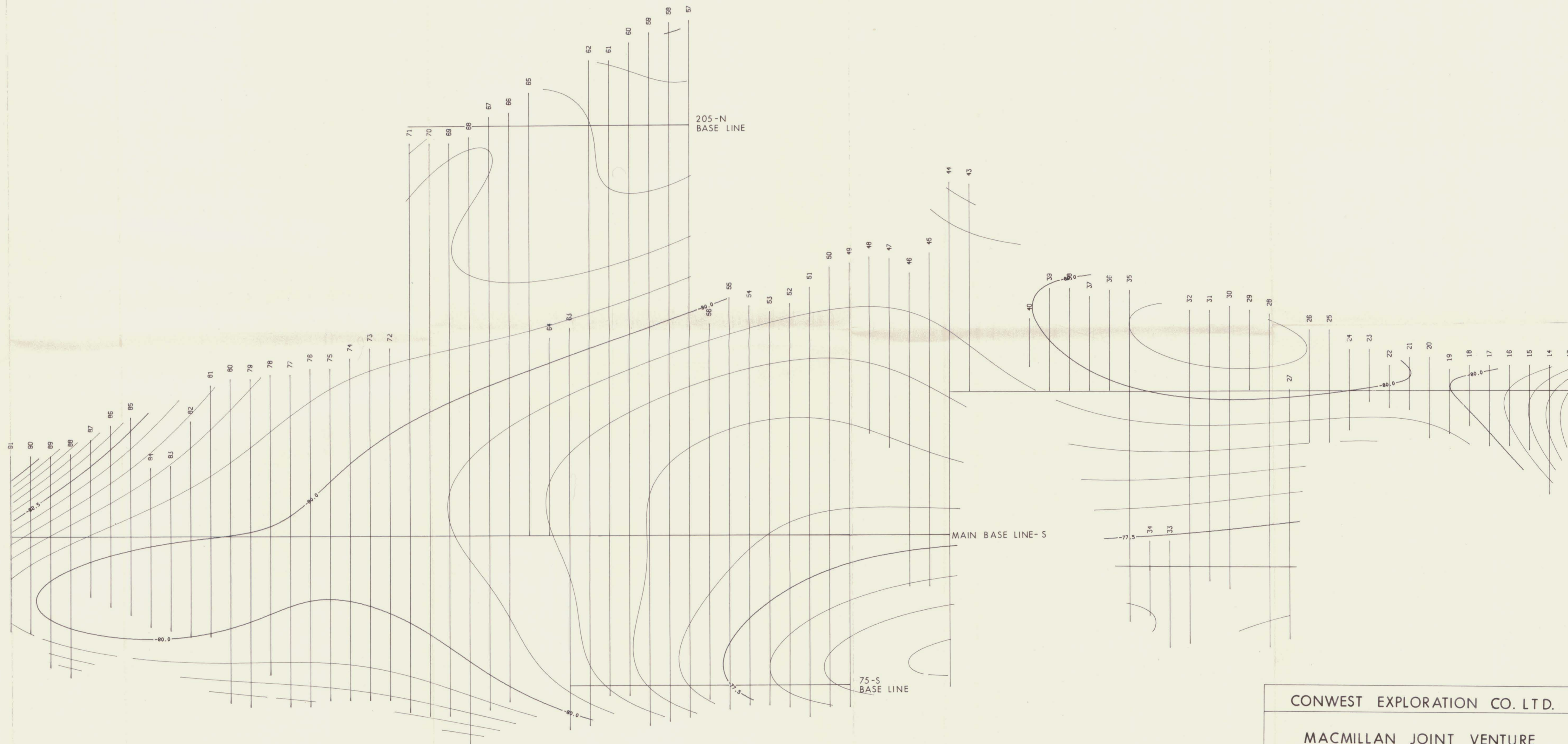
MACMILLAN JOINT VENTURE
BOUGUER GRAVITY

TO ACCOMPANY REPORT BY: D. DORVAL

Kenting EXPLORATION SERVICES LIMITED	CALGARY	SCALE: 1" = 1/2 mile	DATE: MAY 1977
	ALBERTA	JOB NO.: 2817	FIGURE NO.: 45
		C.I. = 0.2 mgals	DRAWN BY: GP

28000 +
24000 +
20000 +
16000 +
12000 +
8000 +
4000 +
0 +
-4000 +
-8000 +
-12000 +

+ 28000
+ 24000
+ 20000
+ 16000
+ 12000
+ 8000
+ 4000
+ 0
+ -4000
+ -8000
+ -12000

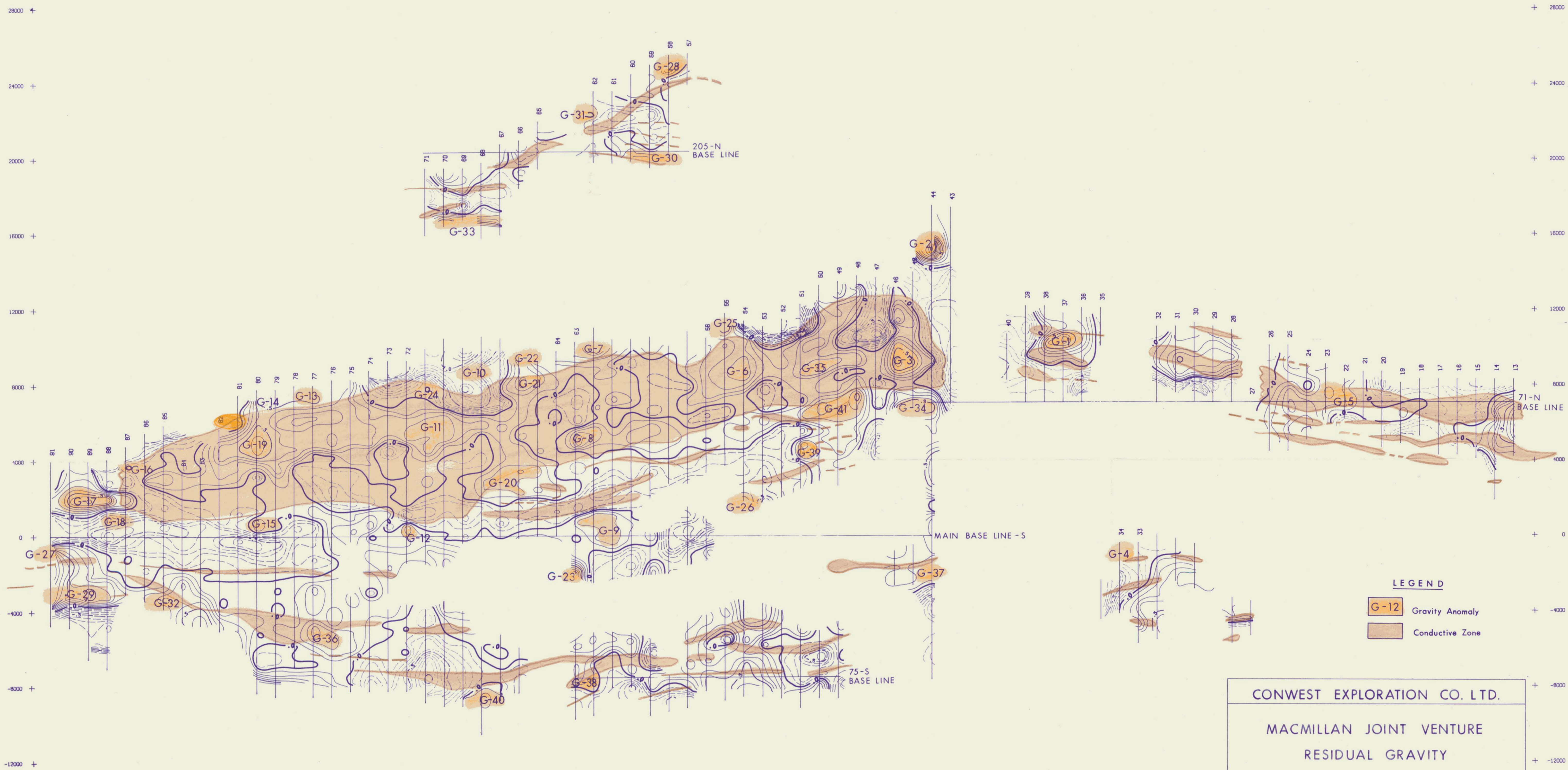


CONWEST EXPLORATION CO. LTD.

MACMILLAN JOINT VENTURE
REGIONAL GRAVITY

TO ACCOMPANY REPORT BY: D. DORVAL.

Kenting EXPLORATION SERVICES LIMITED	CALGARY	SCALE: 1" = 1/2 mile	DATE: MAY 1977
	ALBERTA	JOB NO: 2817	FIGURE NO: 46
		C.I.# 0.5 mgals	DRAWN BY: GP

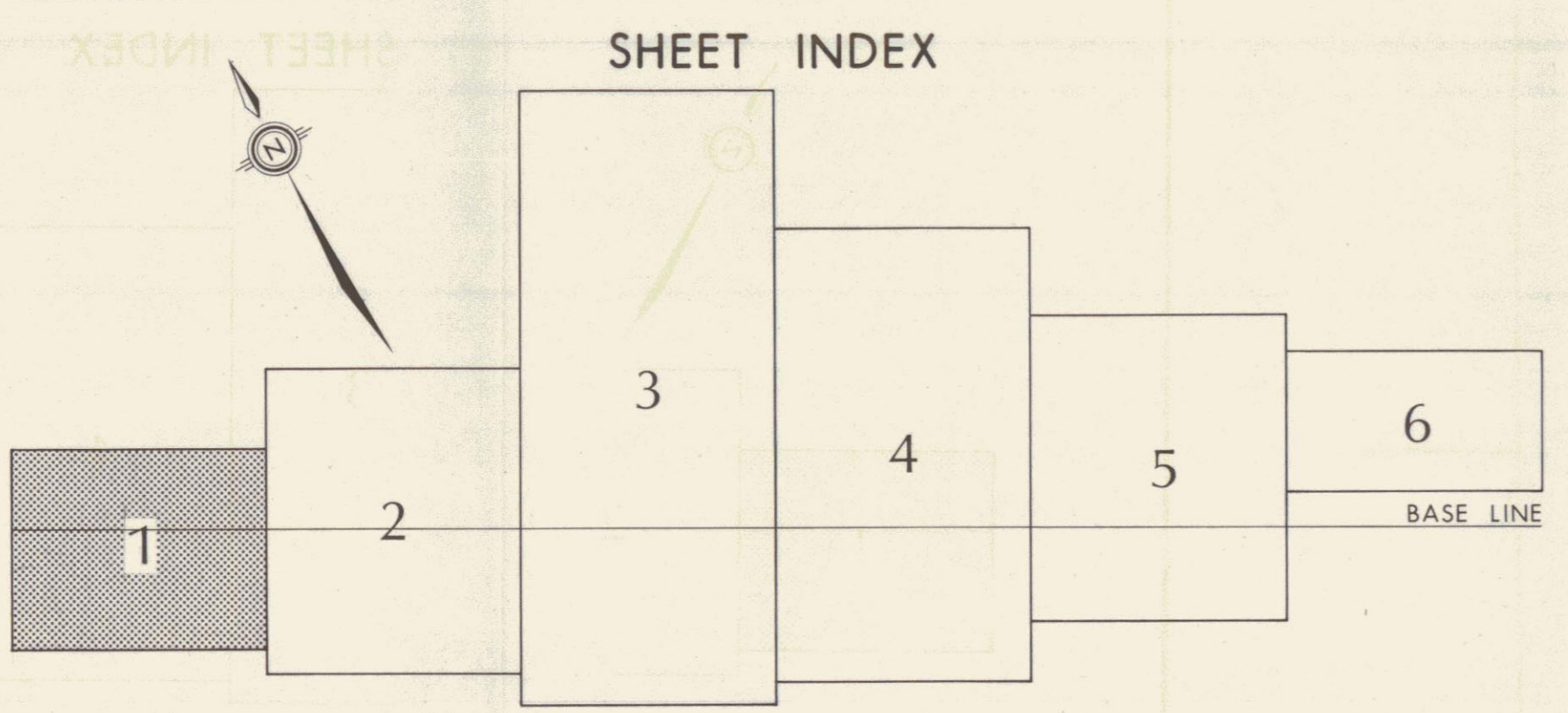
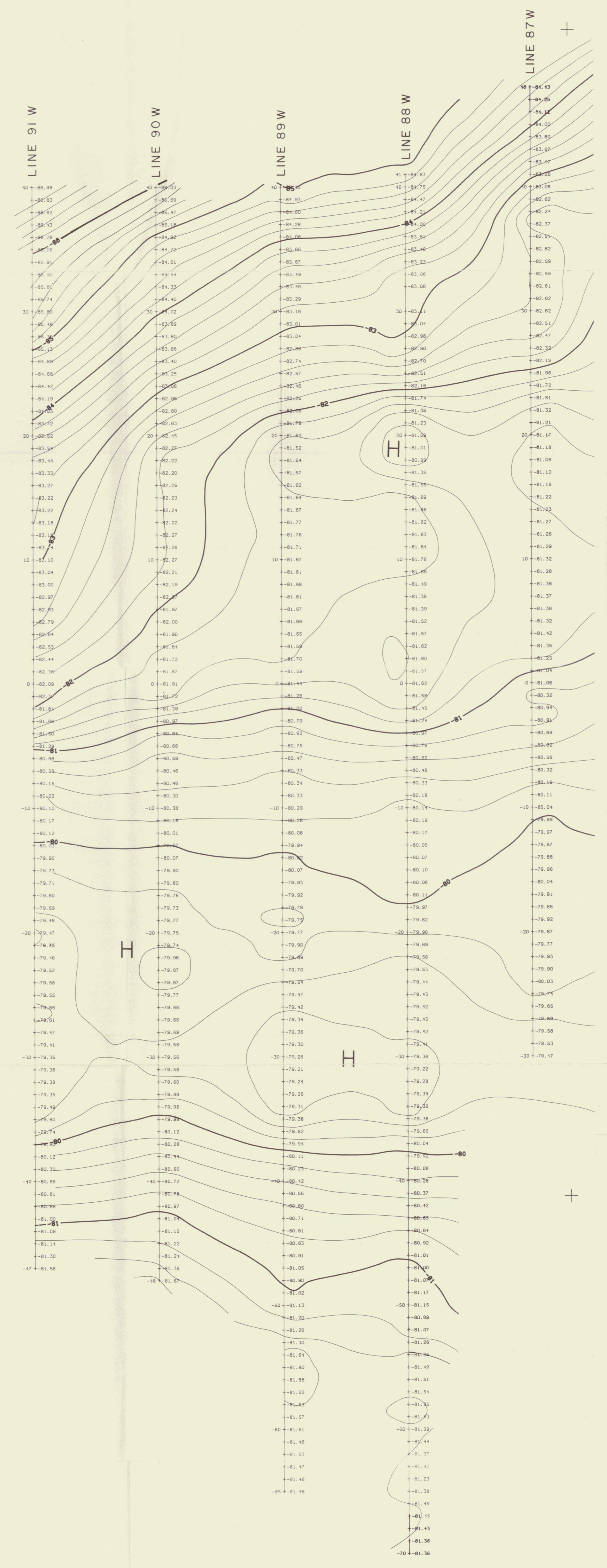


CONWEST EXPLORATION CO. LTD.

MACMILLAN JOINT VENTURE
RESIDUAL GRAVITY

TO ACCOMPANY REPORT BY: D. DORVAL

Kenting EXPLORATION SERVICES LIMITED	CALGARY ALBERTA	SCALE: 1" = 1/2 mile JOB NO.: 2817 C.I. = 0.1 mgals	DATE: MAY 1977 FIGURE NO.: 47 DRAWN BY: GP
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CONWEST EXPLORATION CO. LTD.

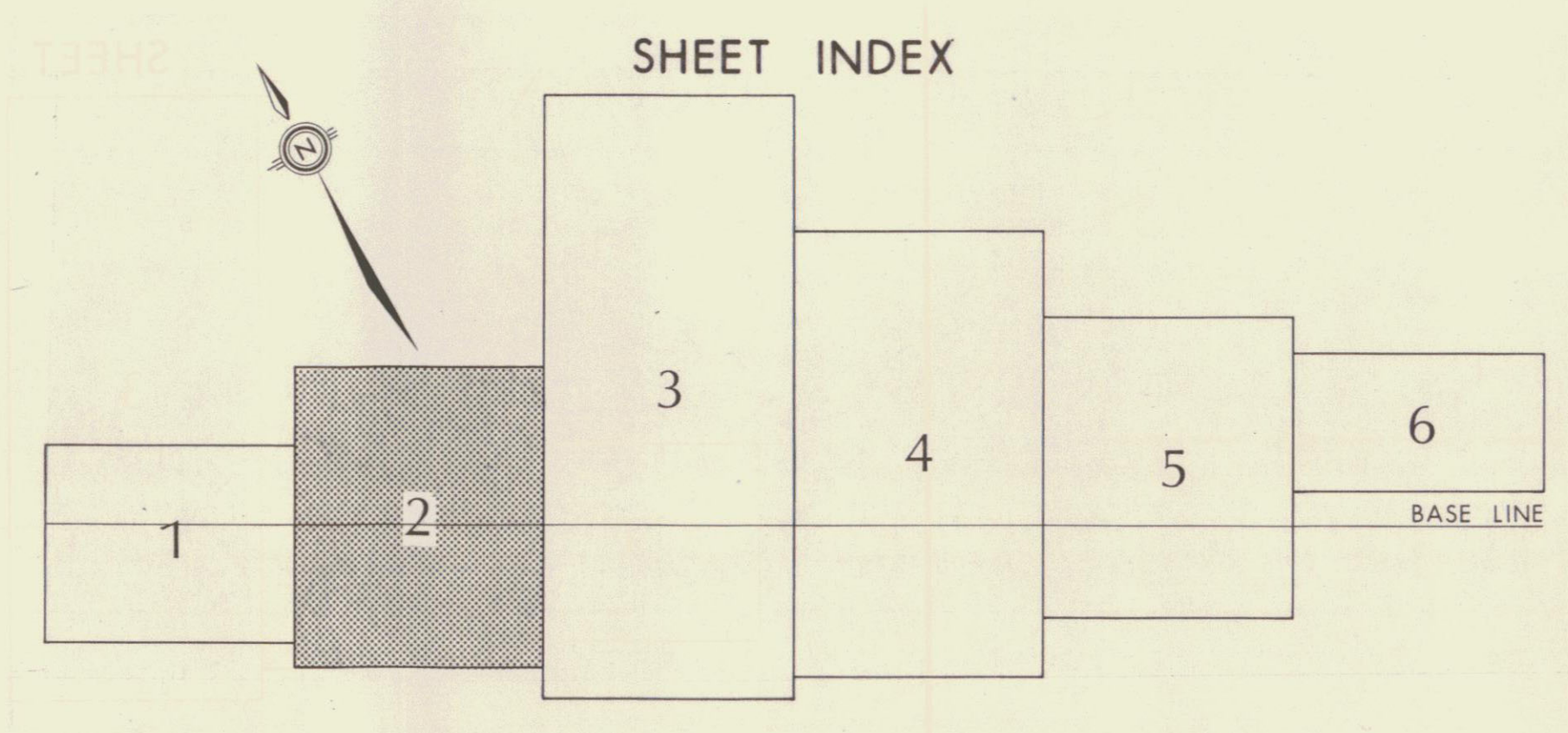
MACMILLAN JOINT VENTURE
BOUGUER GRAVITY

TO ACCOMPANY REPORT BY: D. DORVAL

Kenting CALGARY ALBERTA
EXPLORATION SERVICES LIMITED

SCALE 1" = 400'
JOB NO. 2817
C. I. 0.20 mgals

DATE APRIL 1977
FIGURE NO. 48-1
DRAWN BY: HM

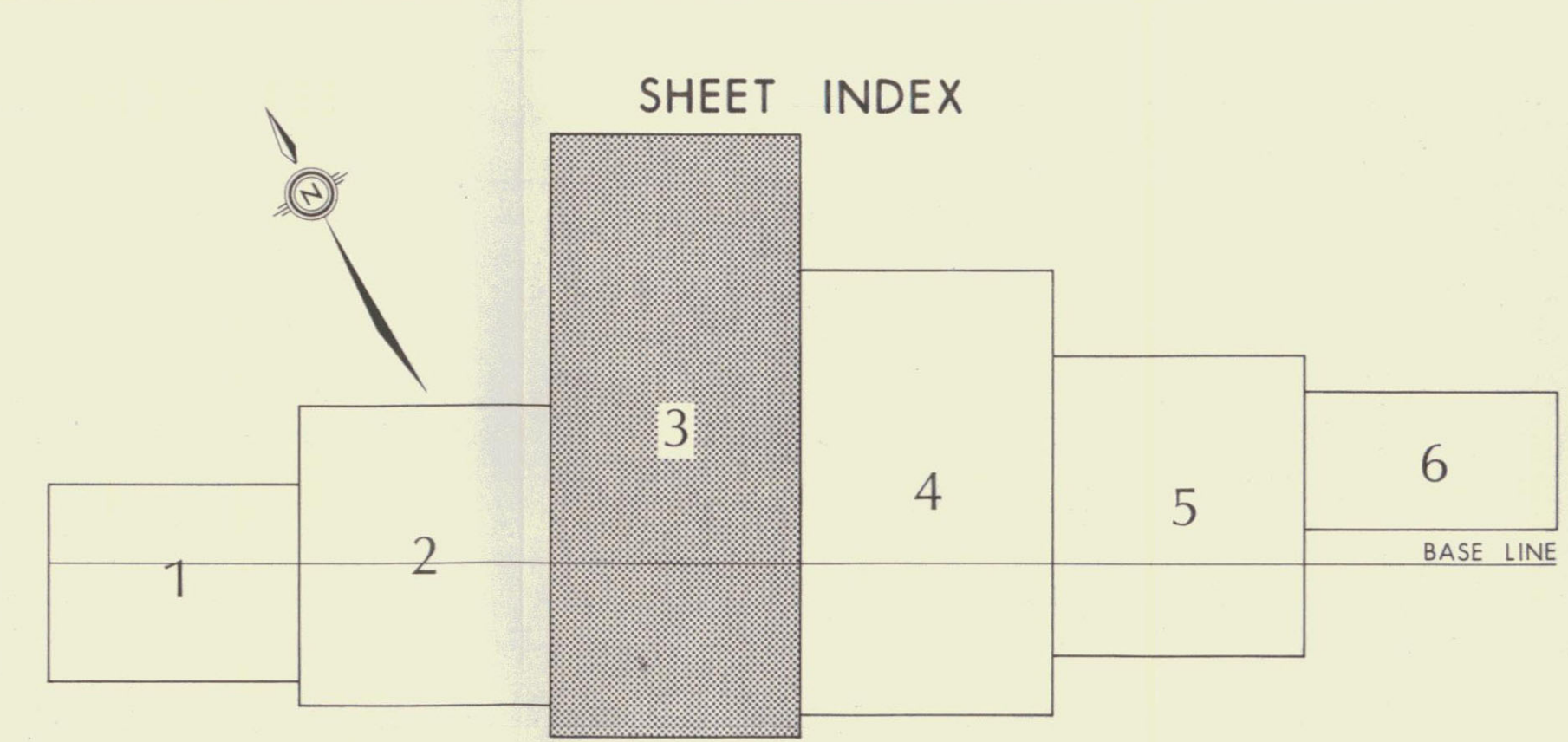


CONWEST EXPLORATION CO. LTD.
 MACMILLAN JOINT VENTURE
 BOUGUER GRAVITY

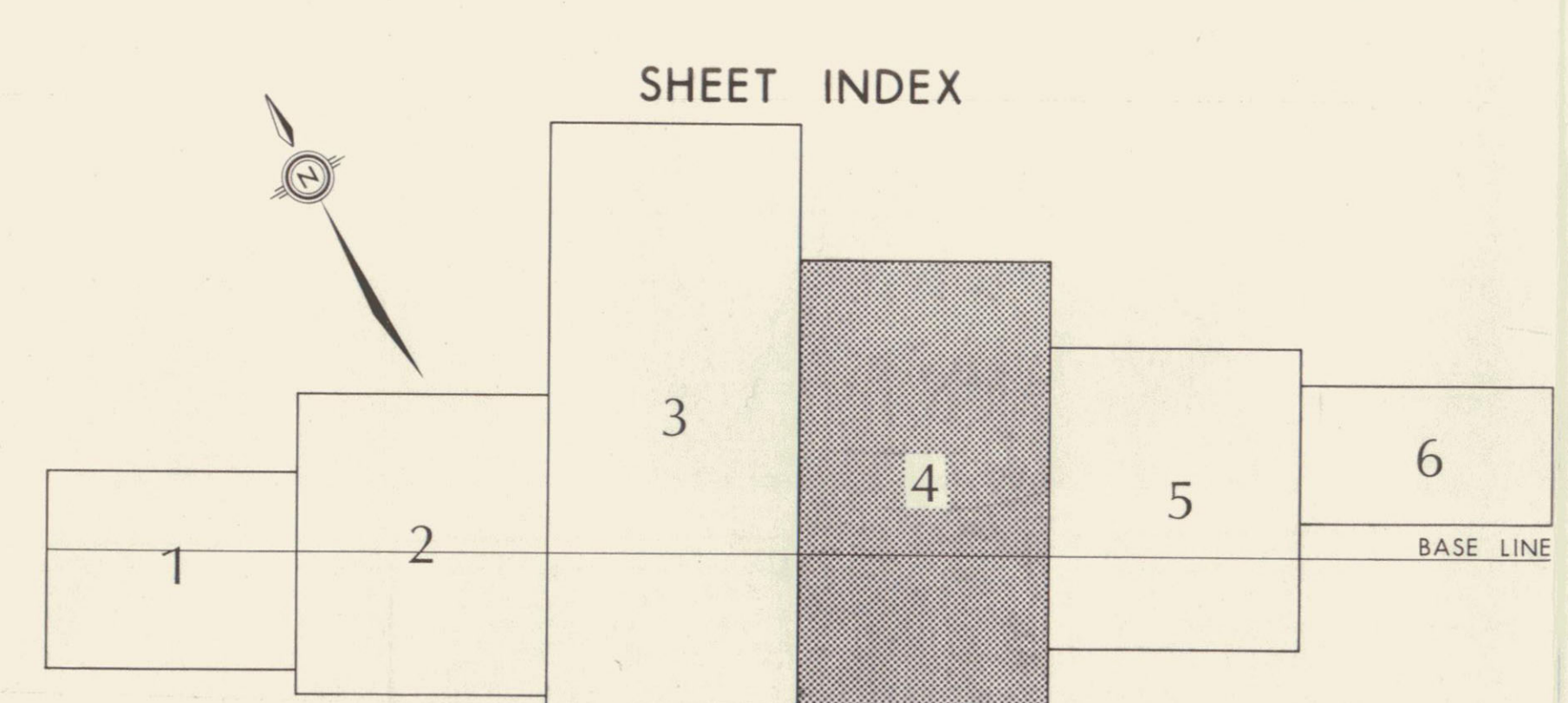
TO ACCOMPANY REPORT BY: D. DORVAL

KENTING
 CONSULTANTS

SCALE 1:50,000
 DATE APRIL 1977
 JOB NO. 2817
 FIGURE NO. 8B/2
 C.T. 0.12 pages
 DRAWN BY: H.M. & S.J.

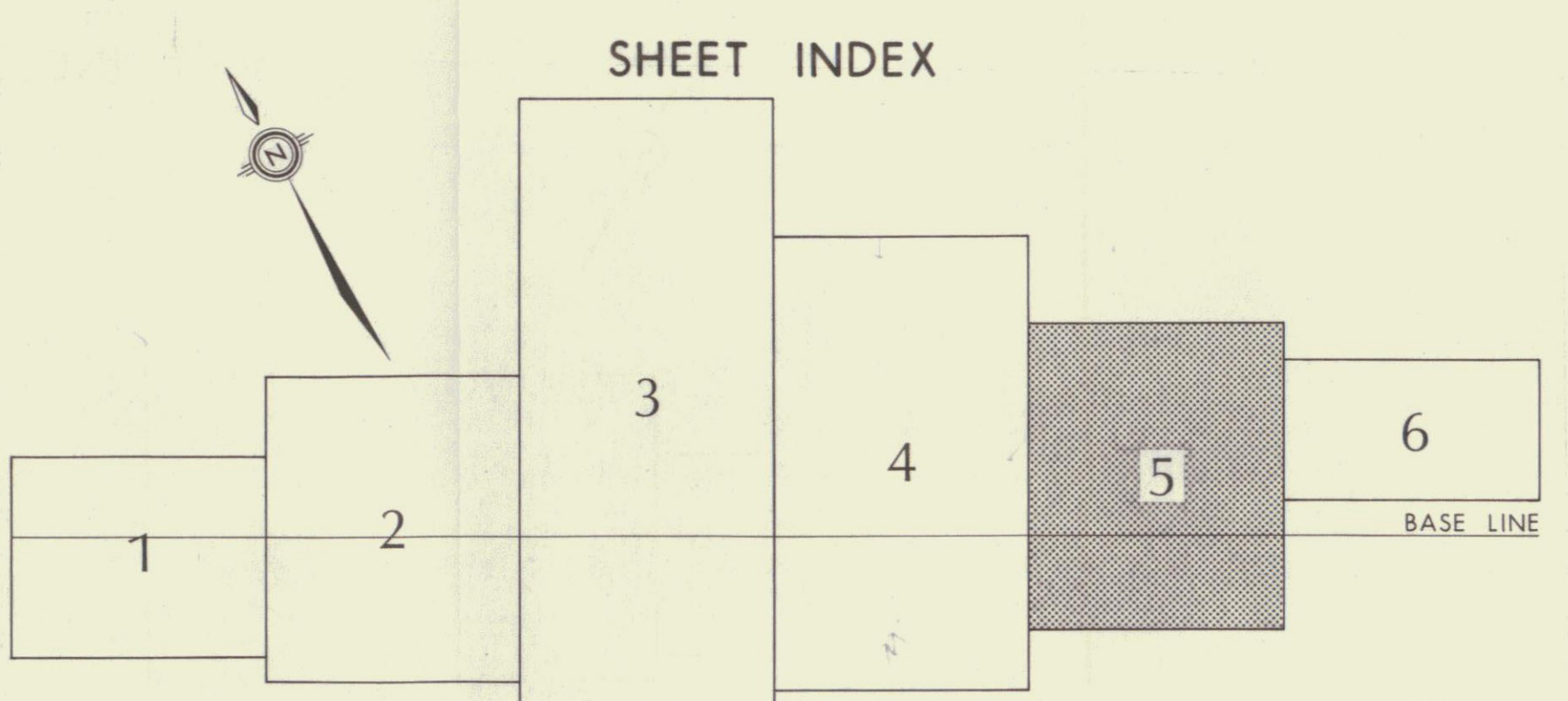


CONWEST EXPLORATION CO. LTD.
 MACMILLAN JOINT VENTURE
 BOUGUER GRAVITY
 TO ACCOMPANY REPORT BY D. DONALD
 Kentra
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 1:50,000
 1:50,000
 1:50,000



CONWEST EXPLORATION CO. LTD.
 MACMILLAN JOINT VENTURE
 BOUGUER GRAVITY
 TO ACCOMPANY REPORT BY D. DORVAL

Kembs CONSULTANTS
 1000-1010
 1010-1020
 1020-1030
 1030-1040
 1040-1050
 1050-1060
 1060-1070
 1070-1080
 1080-1090
 1090-1100
 1100-1110
 1110-1120
 1120-1130
 1130-1140
 1140-1150
 1150-1160
 1160-1170
 1170-1180
 1180-1190
 1190-1200
 1200-1210
 1210-1220
 1220-1230
 1230-1240
 1240-1250
 1250-1260
 1260-1270
 1270-1280
 1280-1290
 1290-1300
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 1980-1990
 1990-2000

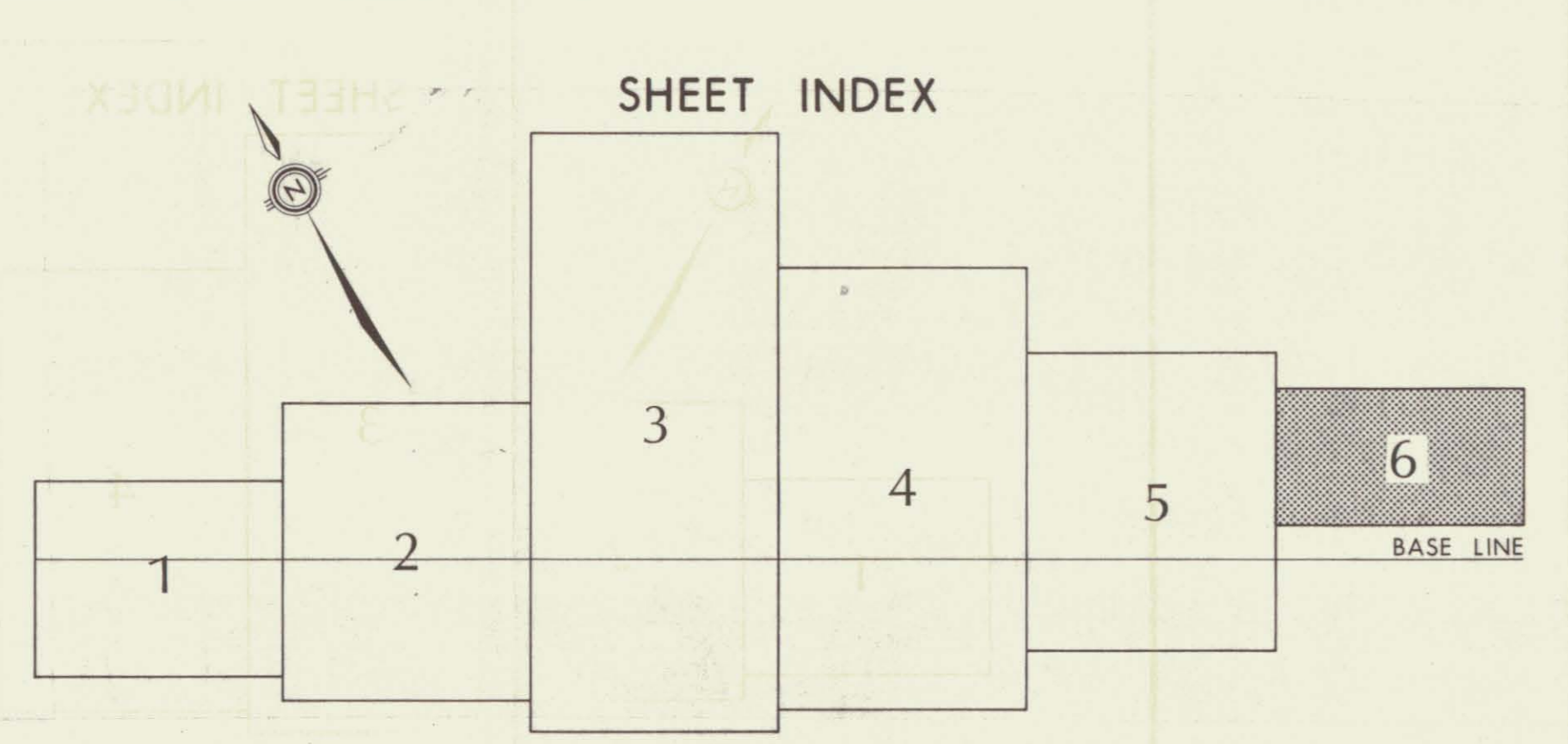


CONWEST EXPLORATION CO. LTD.
 MACMILLAN JOINT VENTURE
 BOUGUER GRAVITY

TO ACCOMPANY REPORT BY: D. DORVAL

Kentec CONSULTANTS
 1000-10th Avenue, Edmonton, Alberta, Canada T6C 2G2

SCALE: 1" = 400'
 JOB NO: 2817
 DATE: APRIL 1992
 FIGURE NO: 28.5
 DRAWN BY: B.M.

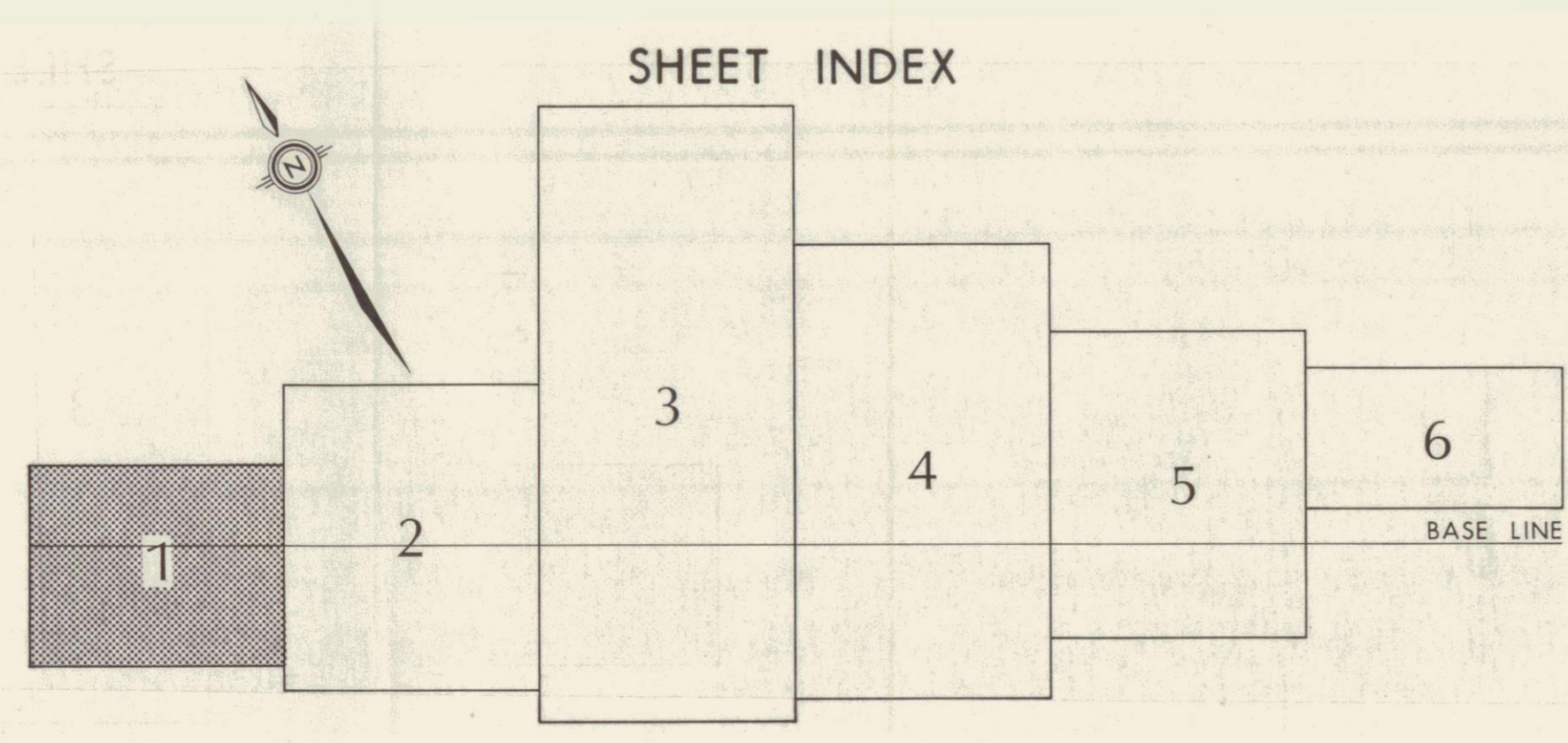
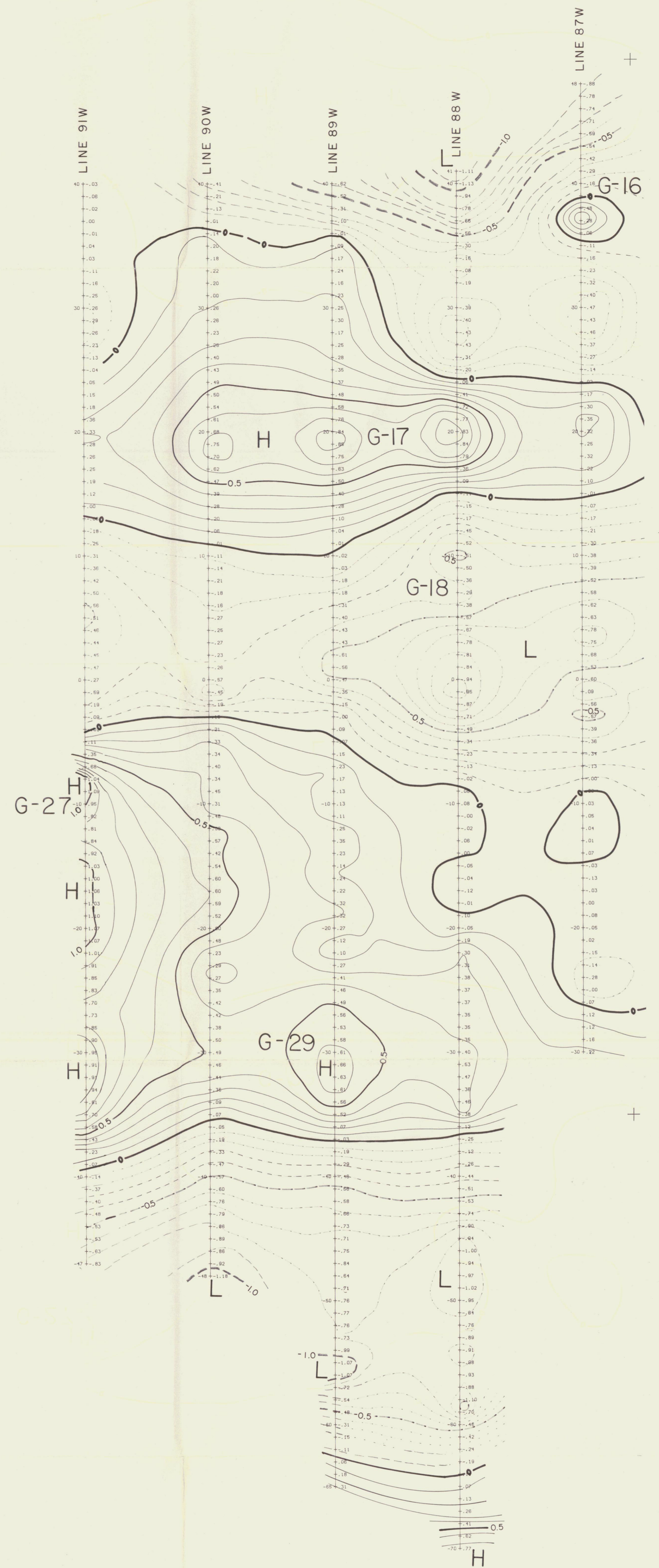


CONWEST EXPLORATION CO. LTD.

MACMILLAN JOINT VENTURE
BOUGUER GRAVITY

TO ACCOMPANY REPORT BY: D. DORVAL

Kenting EXPLORATION SERVICES LIMITED	CALGARY	SCALE 1" = 400'	DATE APRIL 1977
	ALBERTA	JOB NO. 2817	FIGURE NO. 48-6
		C.I. 0.20 mgals	DRAWN BY: H.M. B.S.S.

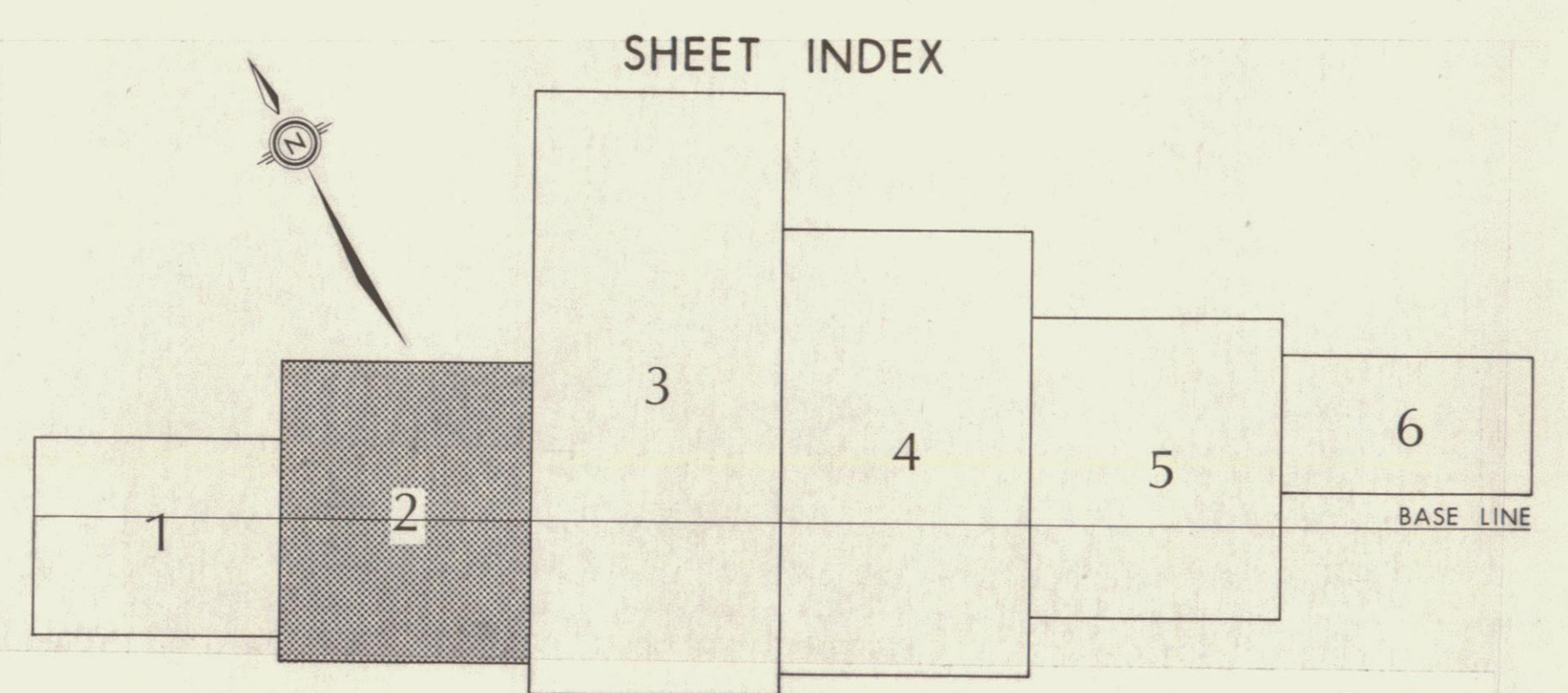
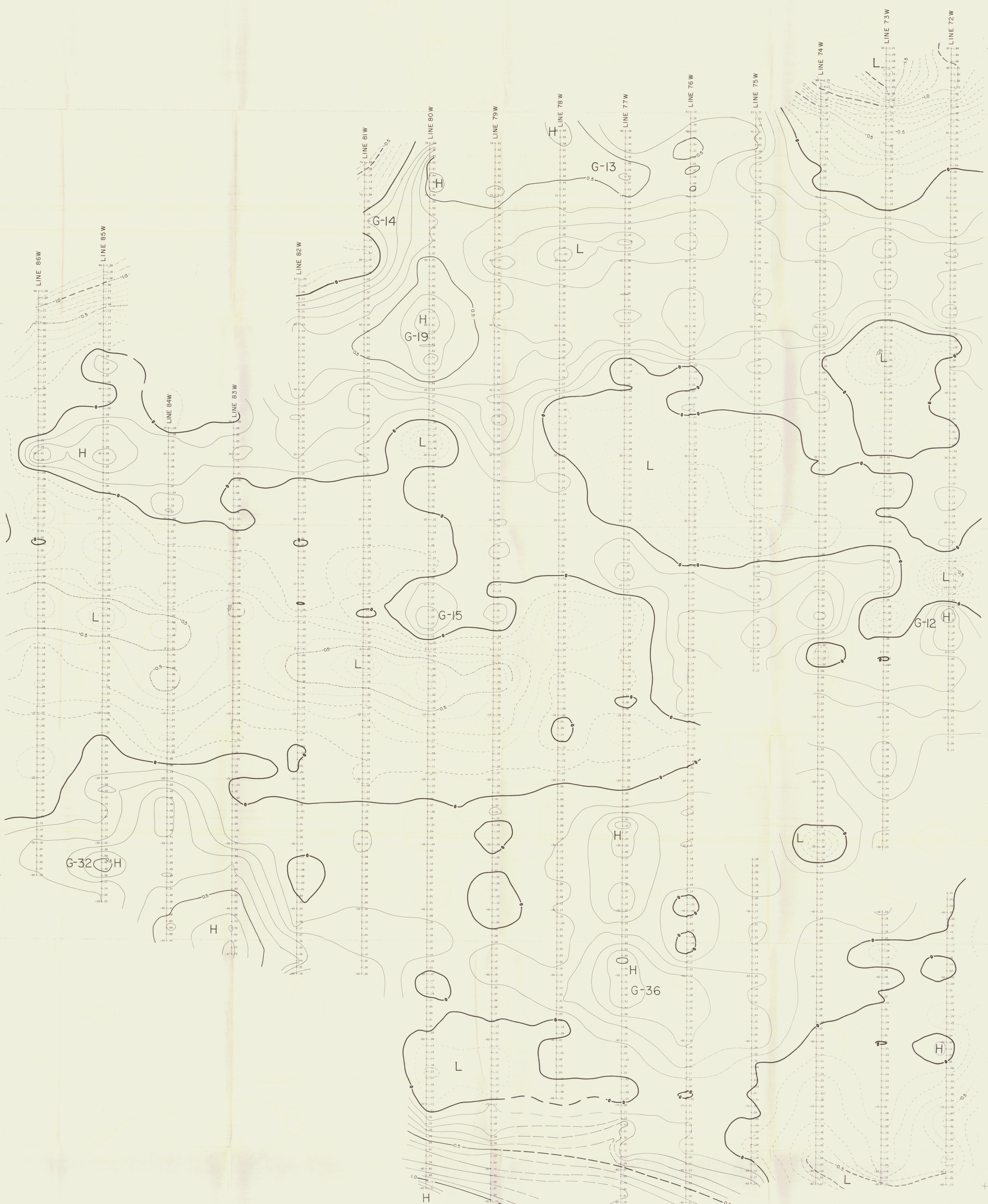


CONWEST EXPLORATION CO. LTD.

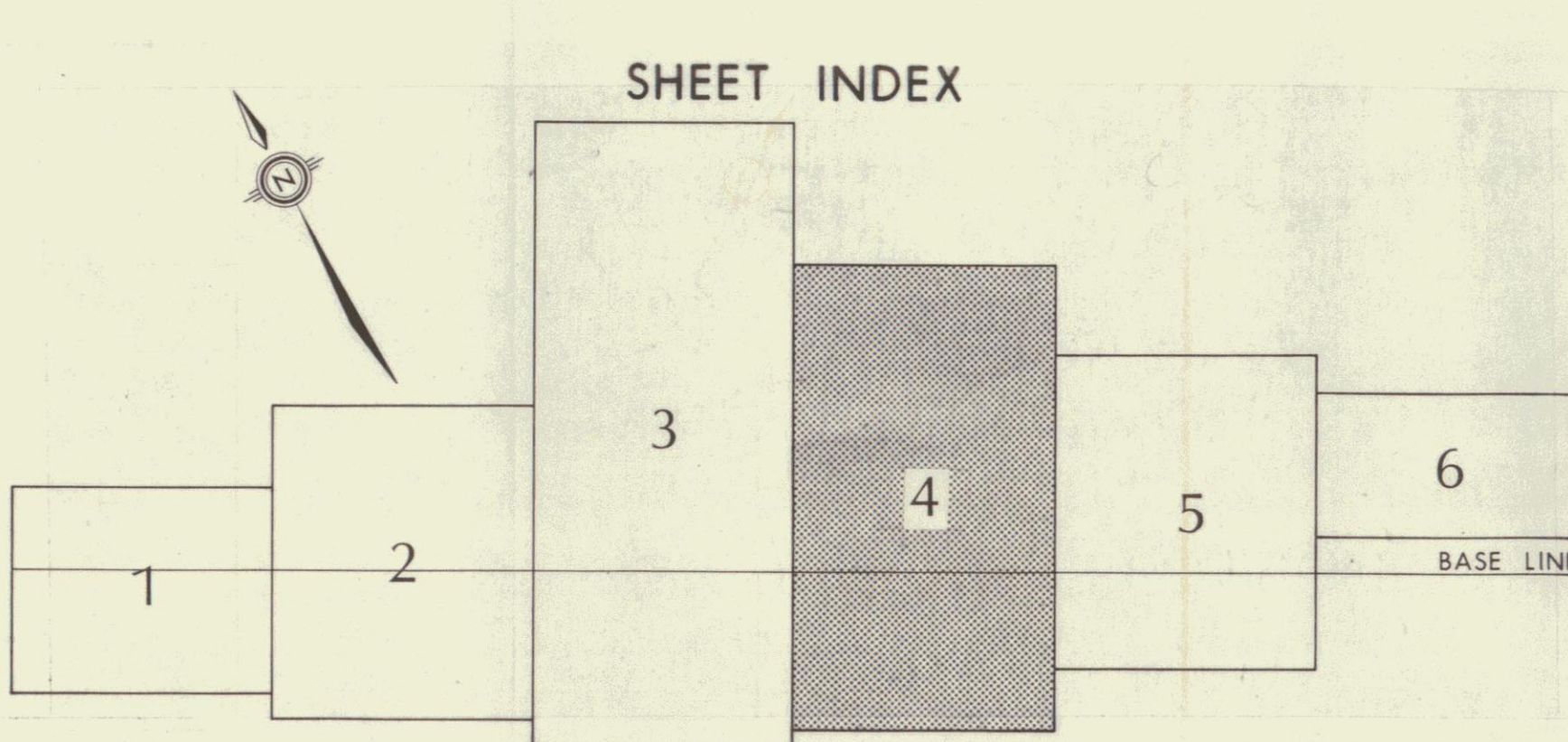
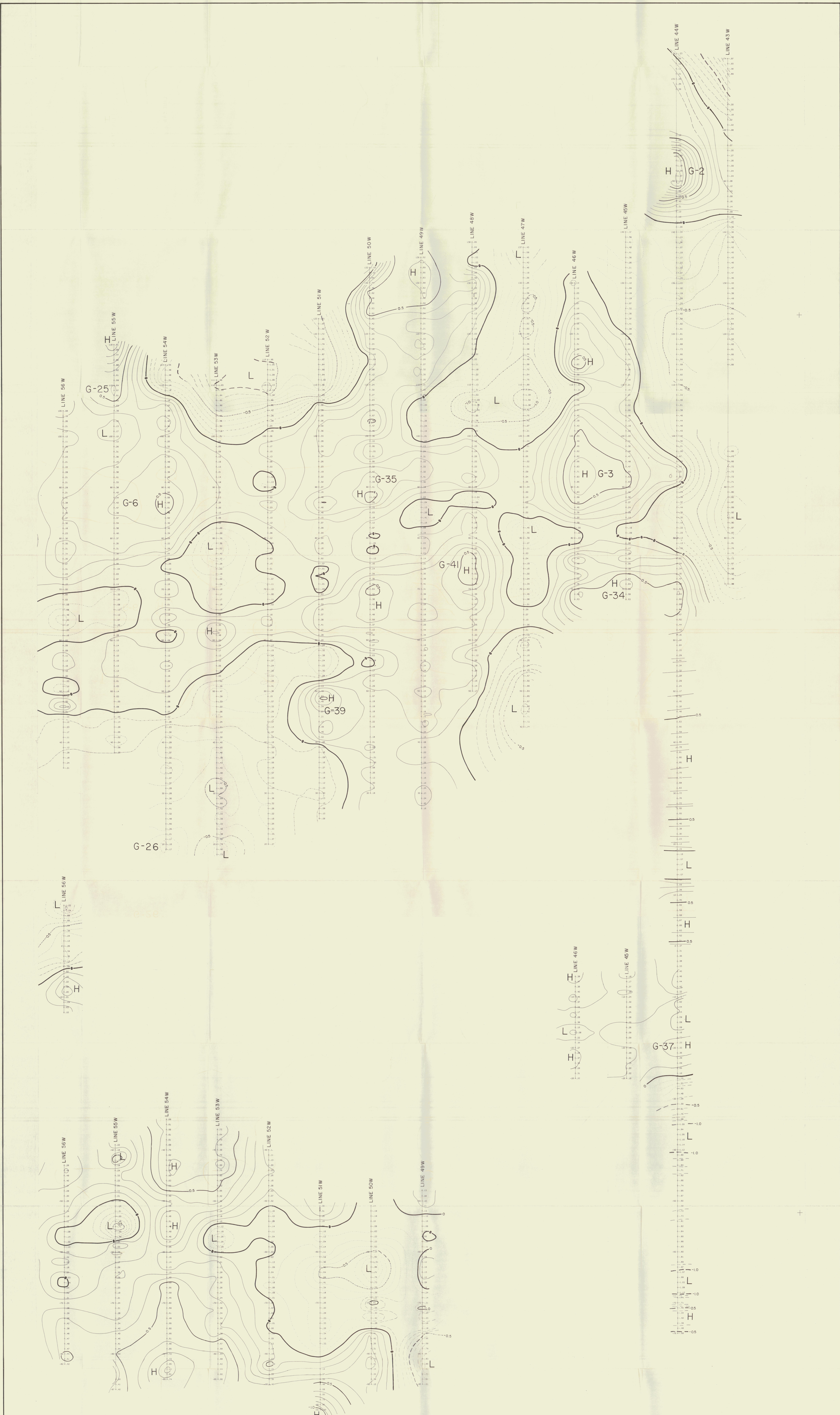
MACMILLAN JOINT VENTURE
RESIDUAL GRAVITY

TO ACCOMPANY REPORT BY: D. DORVAL

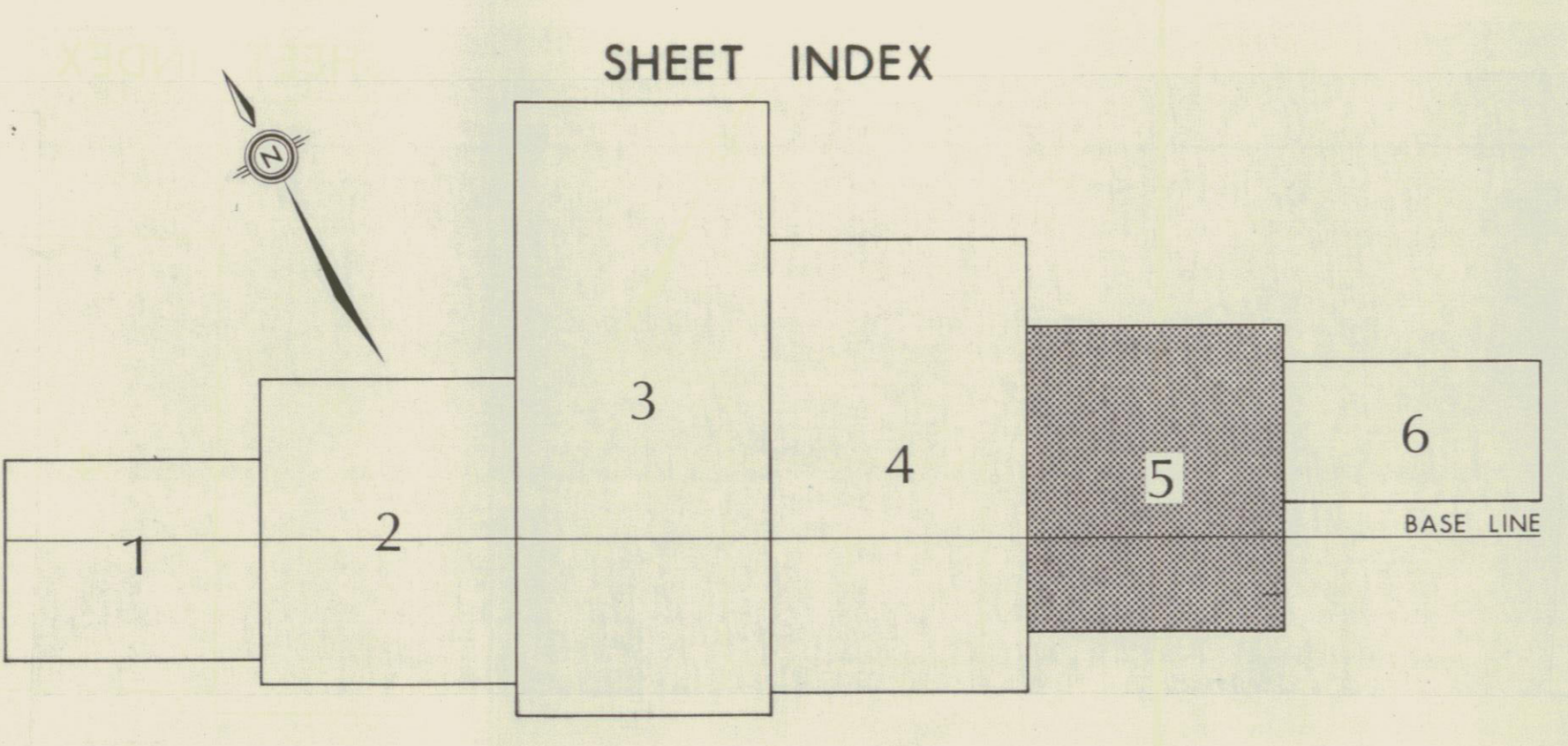
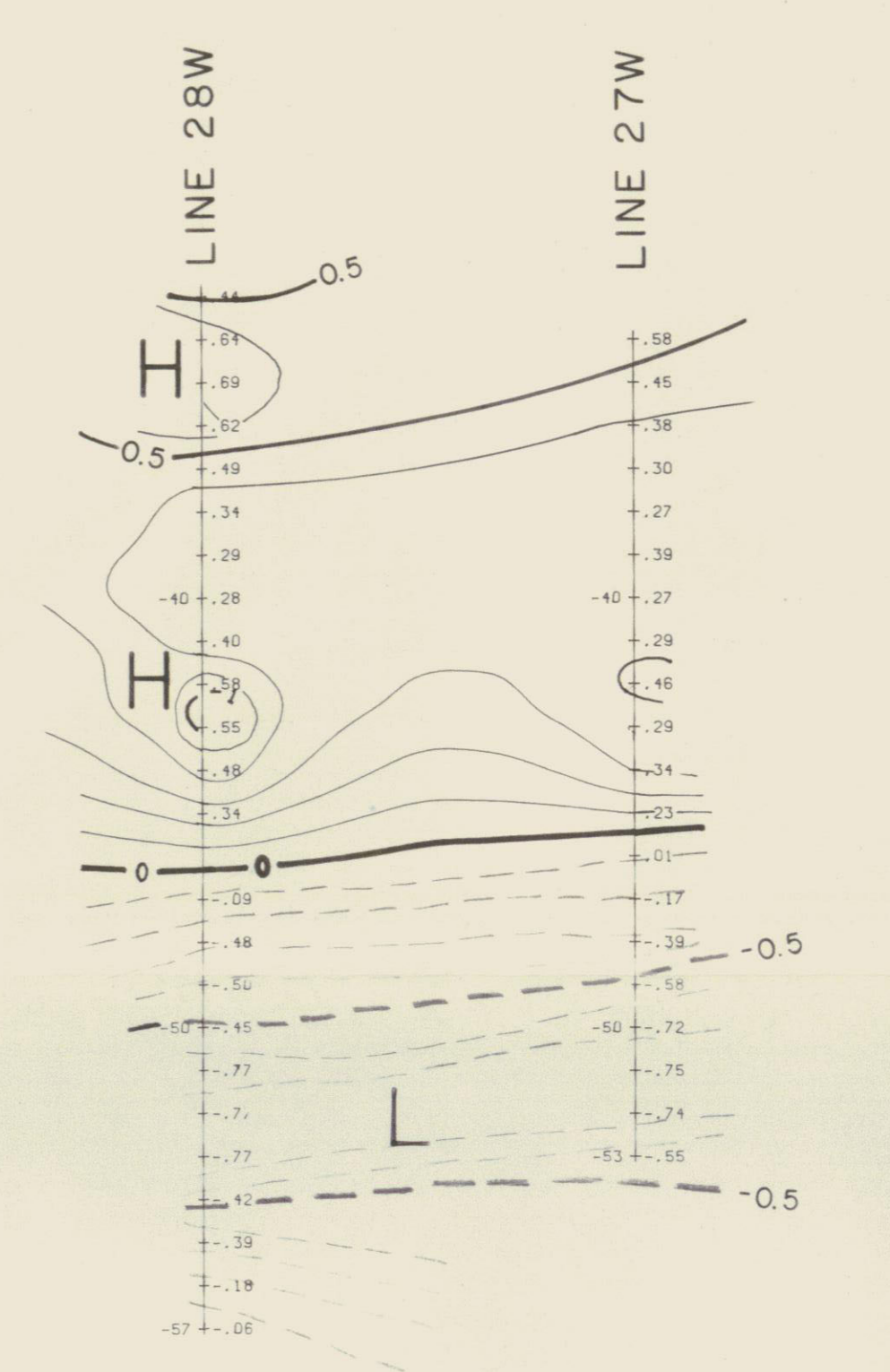
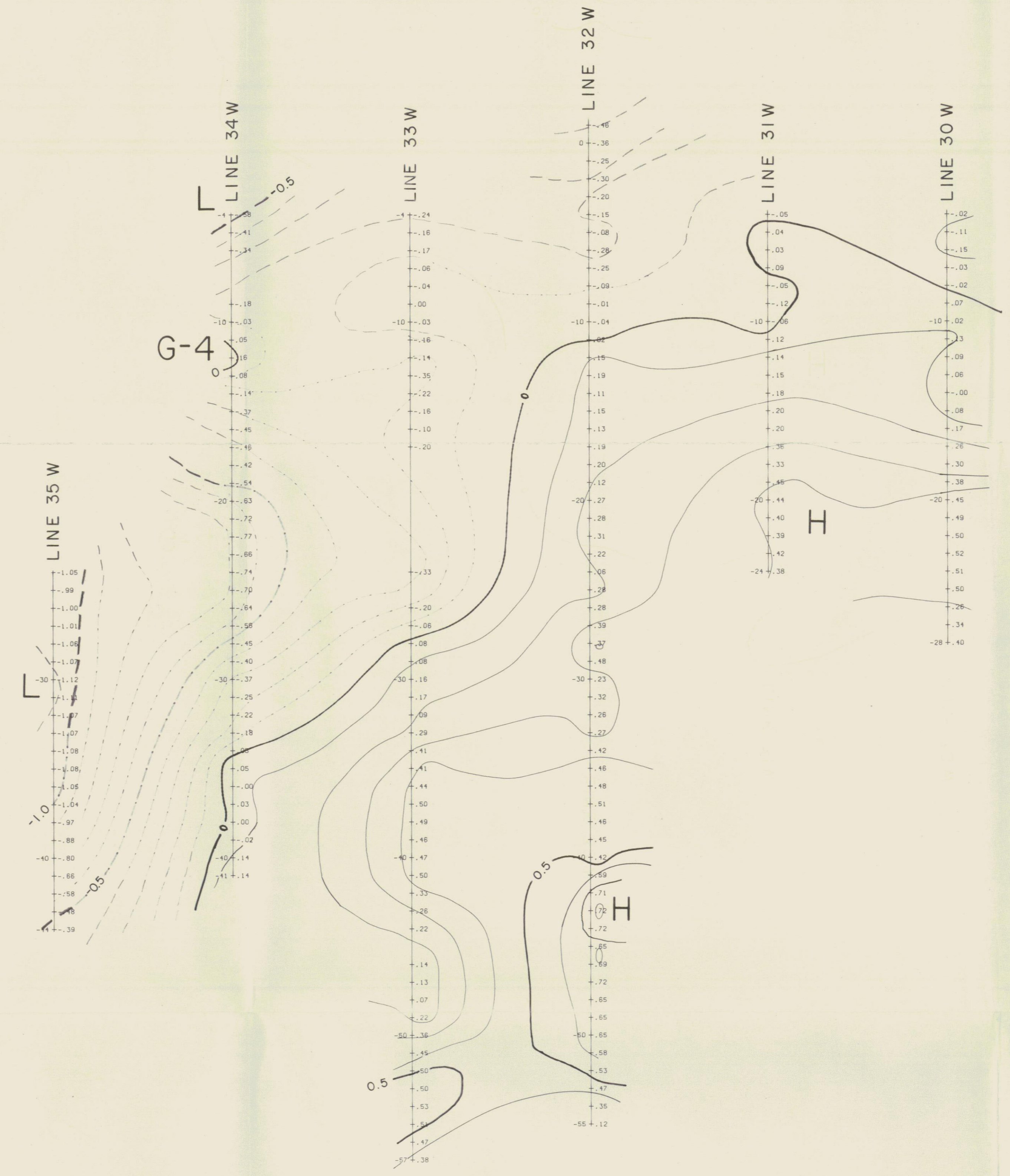
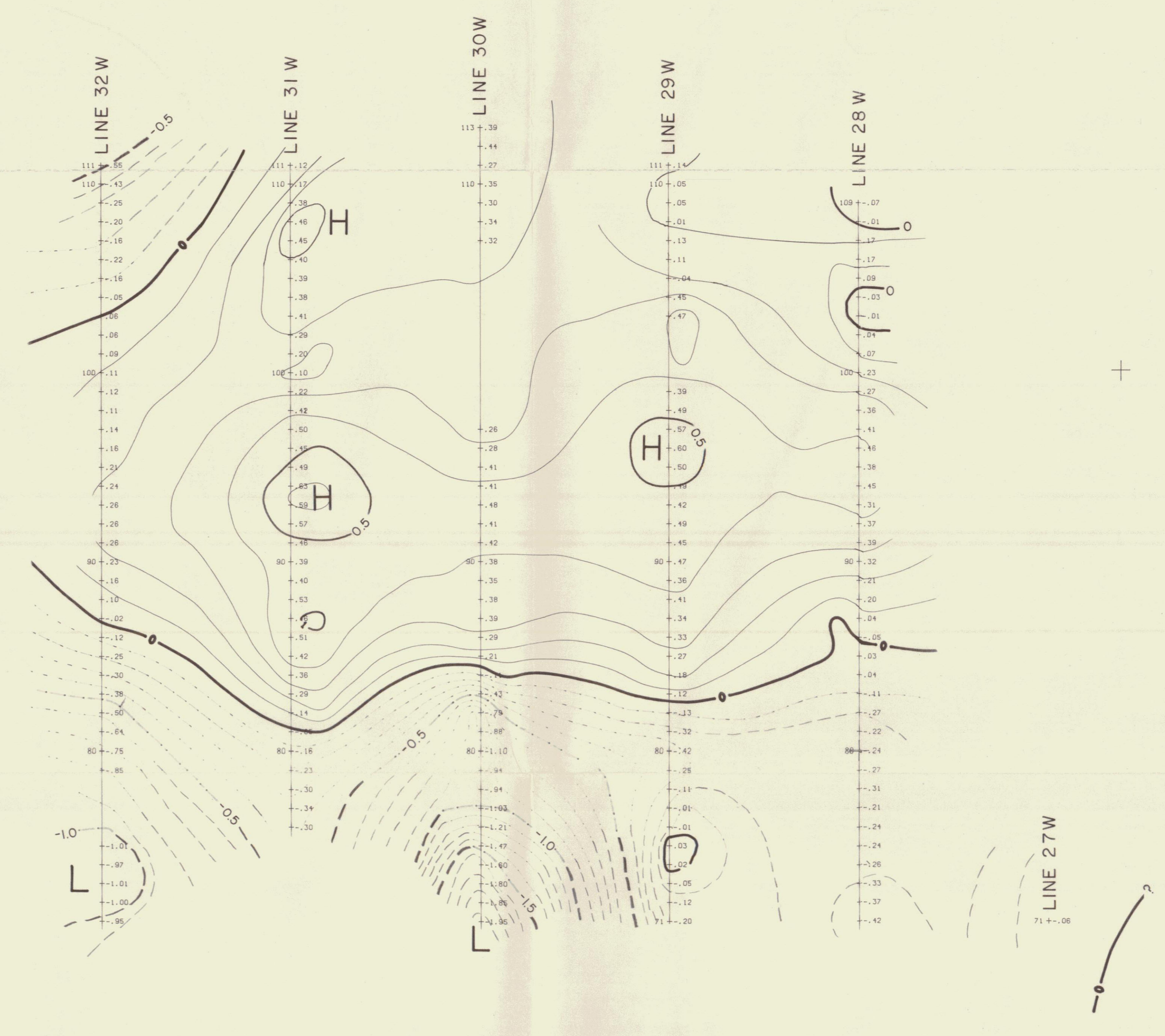
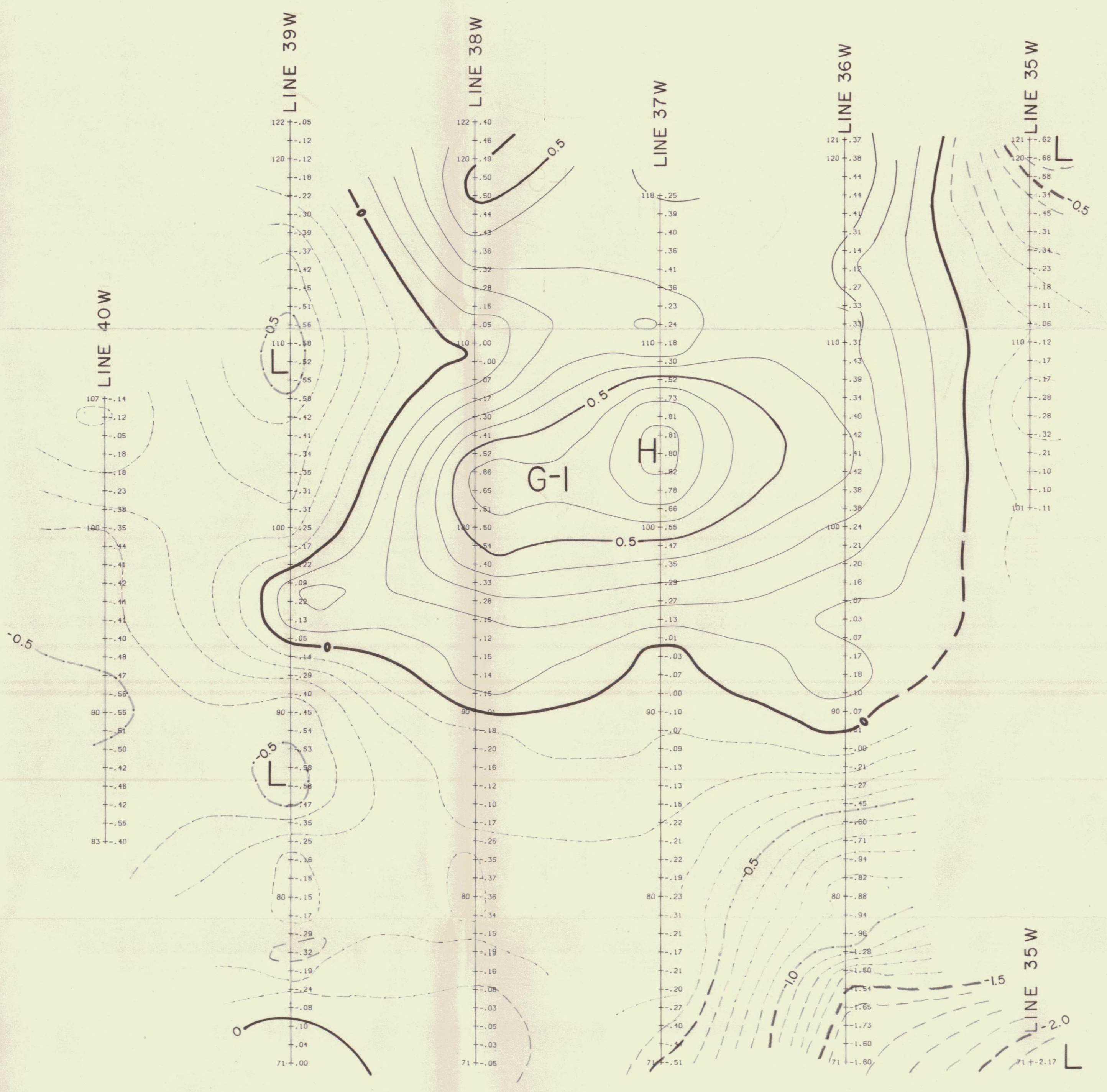
CALGARY ALBERTA
 SCALE 1" = 400'
 JOB NO. 2817
 C.I. 0.1 mgals
 DATE APRIL 1977
 FIGURE NO. 49-1
 DRAWN BY: R.M. & S.S.



CONWEST EXPLORATION CO. LTD.
 MACMILLAN JOINT VENTURE
 RESIDUAL GRAVITY
 TO ACCOMPANY REPORT BY: D. DORVAL
 Kenting
 SCALE 1" = 800'
 DATE APRIL 1977
 DRAWN BY: J. W. & S. S.



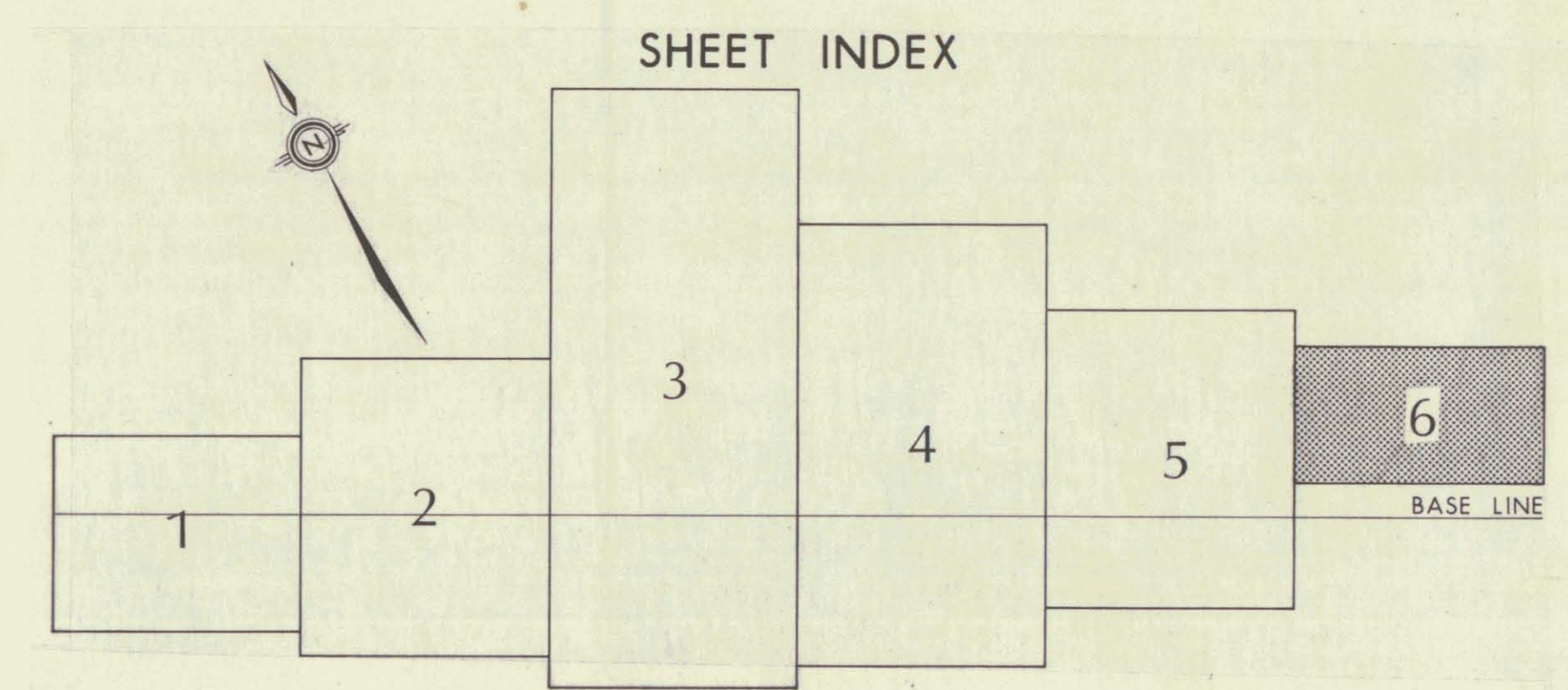
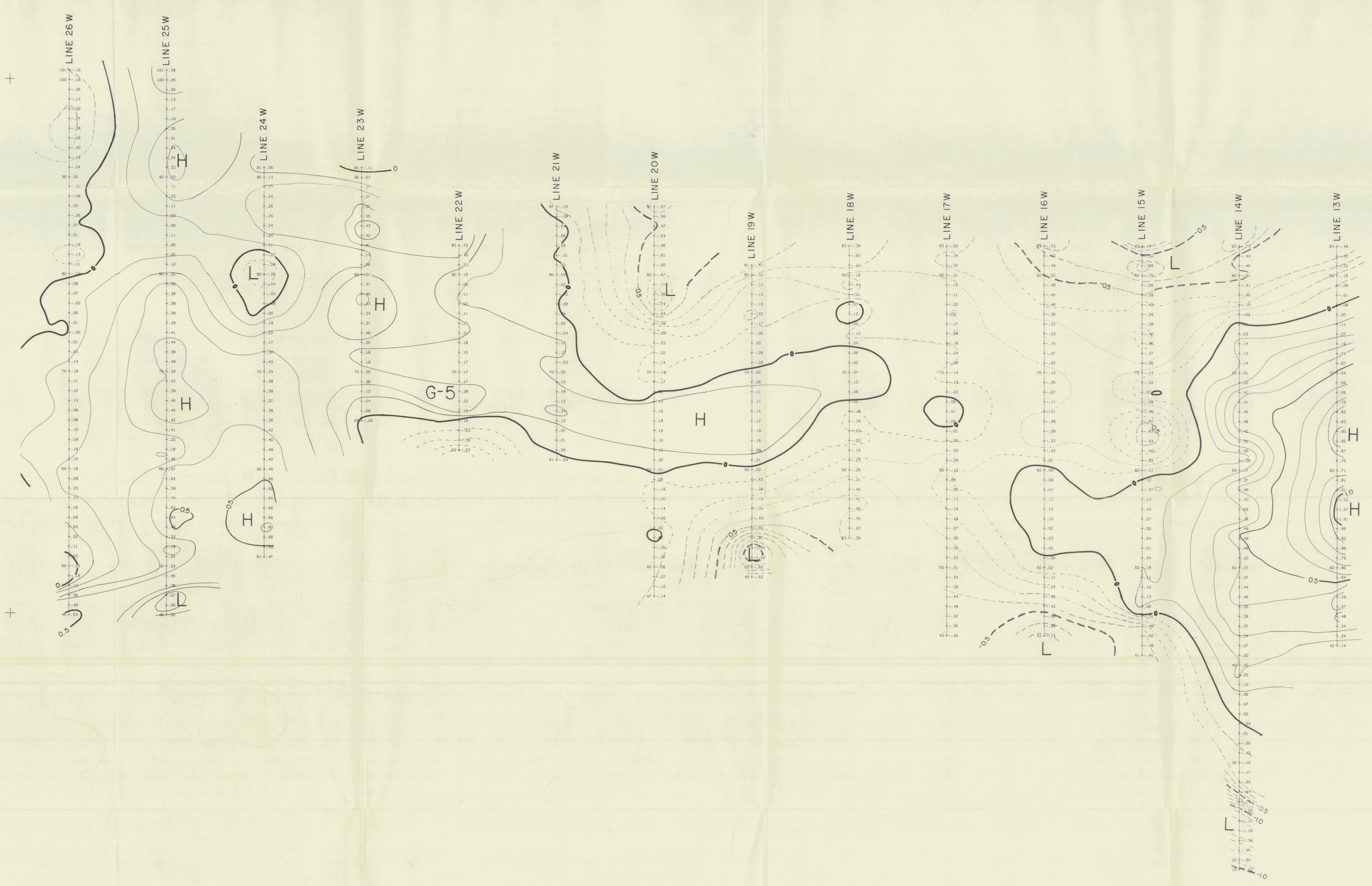
CONWEST EXPLORATION CO. LTD.
 MACMILLAN JOINT VENTURE
 RESIDUAL GRAVITY
 TO ACCOMPANY REPORT BY: D. DORVAL
 Kenting
 SCALE 1" = 200'
 DATE APRIL 1977
 DRAWN BY: M.W.S.3



CONWEST EXPLORATION CO. LTD.
 MACMILLAN JOINT VENTURE
 RESIDUAL GRAVITY
 TO ACCOMPANY REPORT BY: D. DORVAL

Kentec
 EXPLORATION SERVICES LIMITED

CADDERGAY ALBERTA SCALE 1" = 800' DATE APRIL 1977
 JOB NO. 1817 FIGURE NO. 43-B
 C.T. 5.5 pages DRAWN BY: W.W.S.S.



CONWEST EXPLORATION CO. LTD.
 MACMILLAN JOINT VENTURE
 RESIDUAL GRAVITY
 TO ACCOMPANY REPORT BY: D. DORVAL

Kenting EXPLORATION SERVICES LIMITED	CALGARY ALBERTA	SCALE 1" = 400'	DATE APRIL 1977
		JOB NO. 2817	FIGURE NO. 44-5
		C.T. 0.1 mgals	DRAWN BY H. M. & S.S.

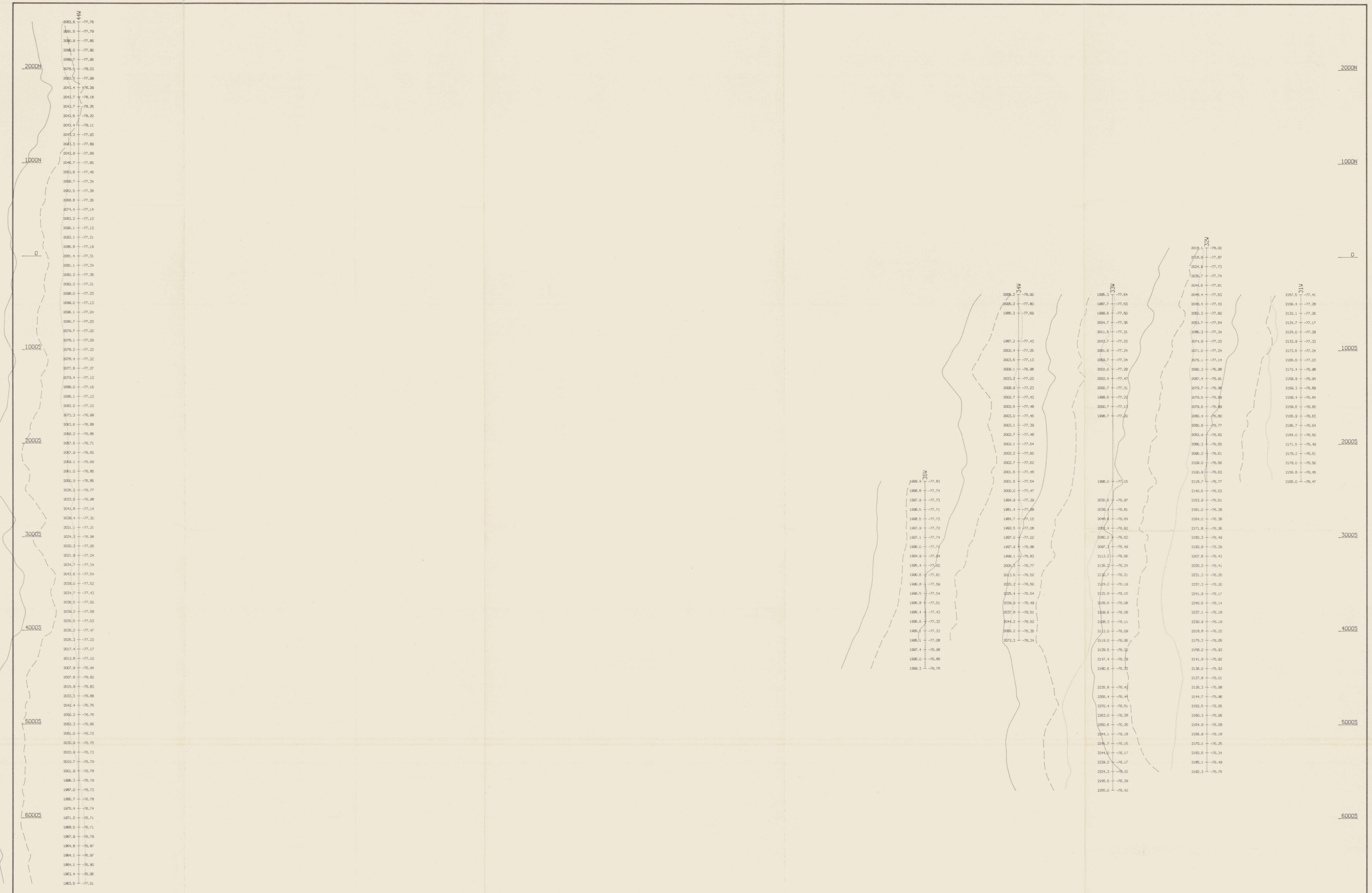


FIGURE 50

GRAVITY SURVEY

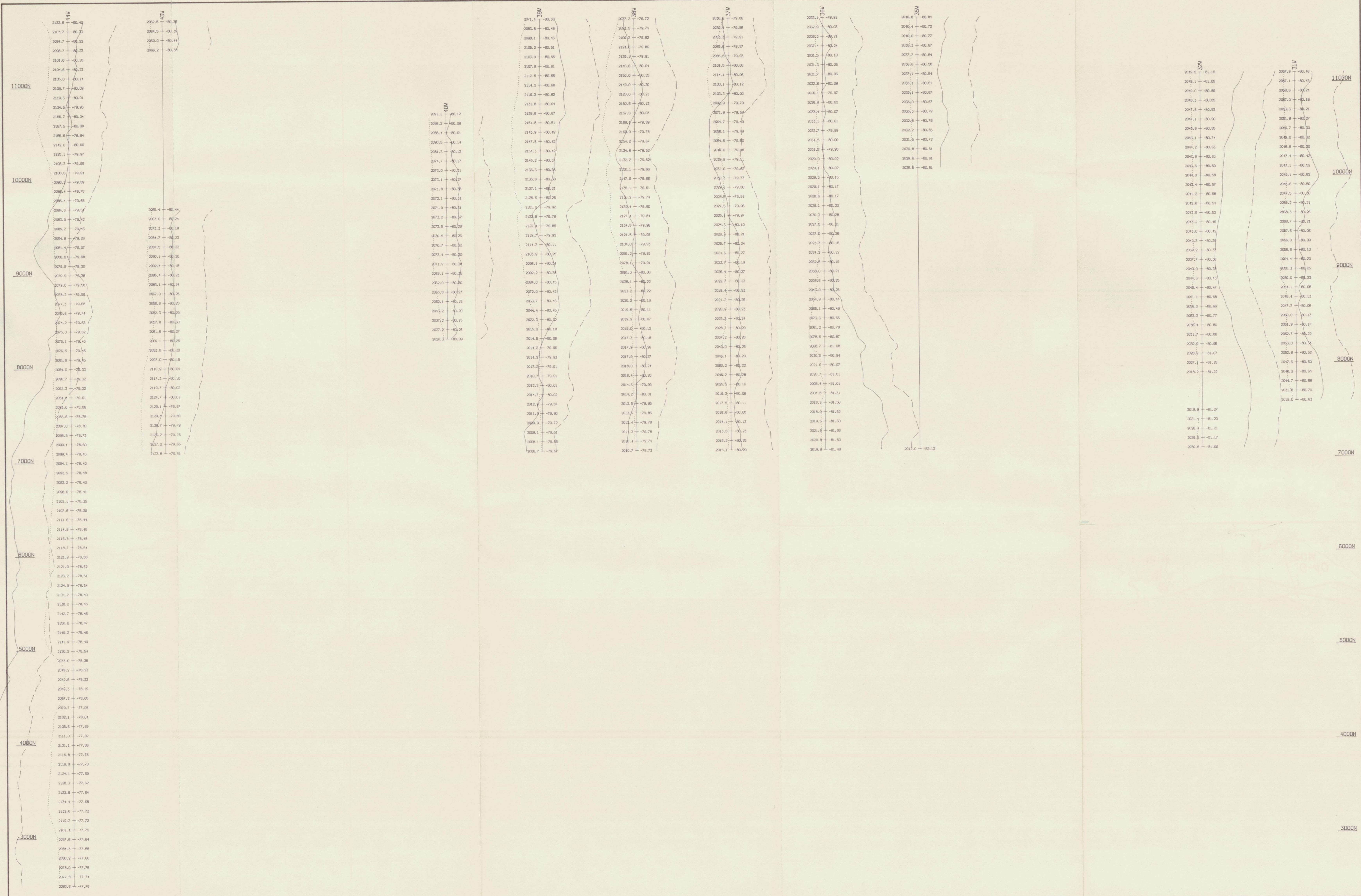
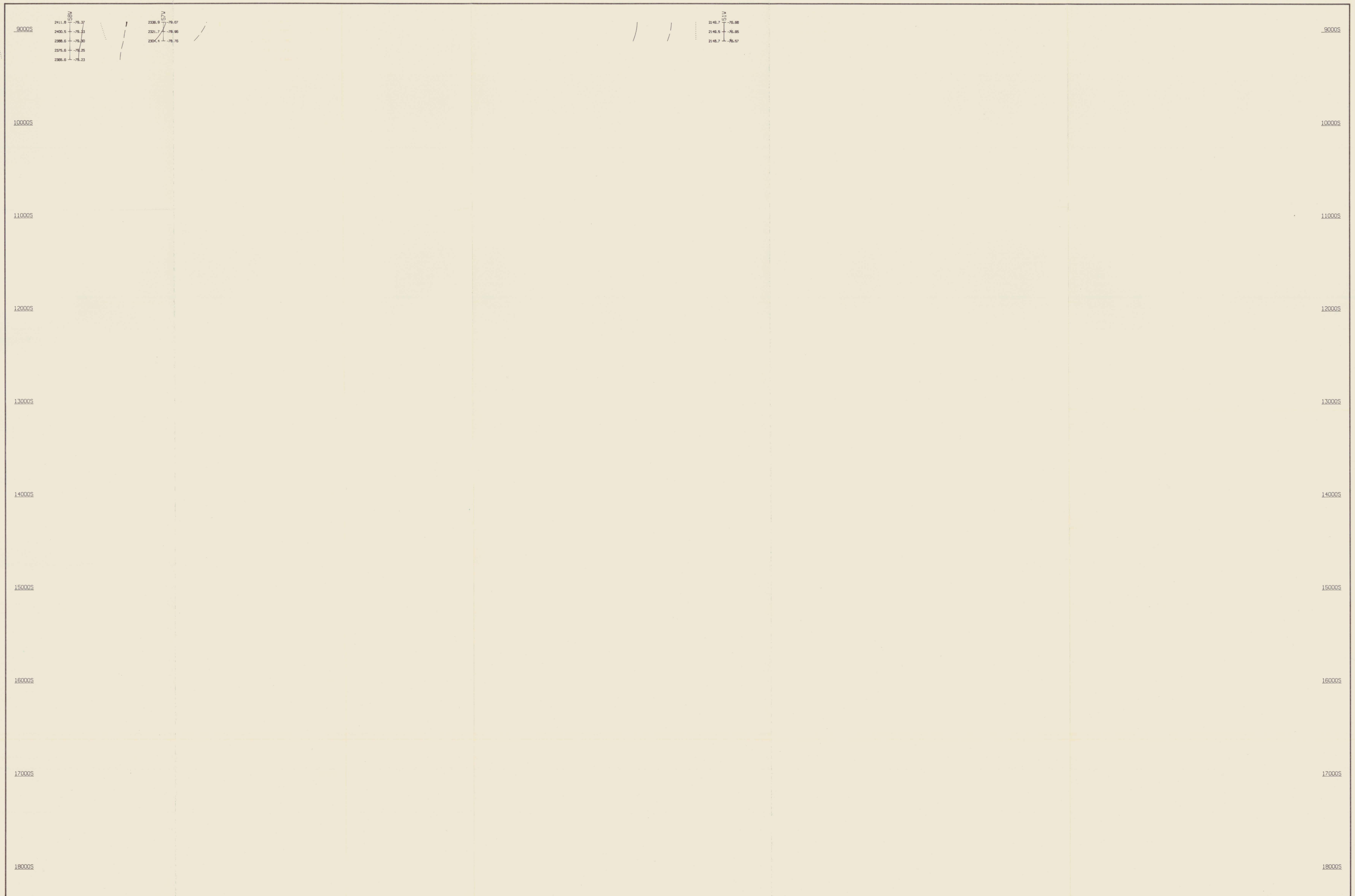


FIGURE 50

GRAVITY SURVEY



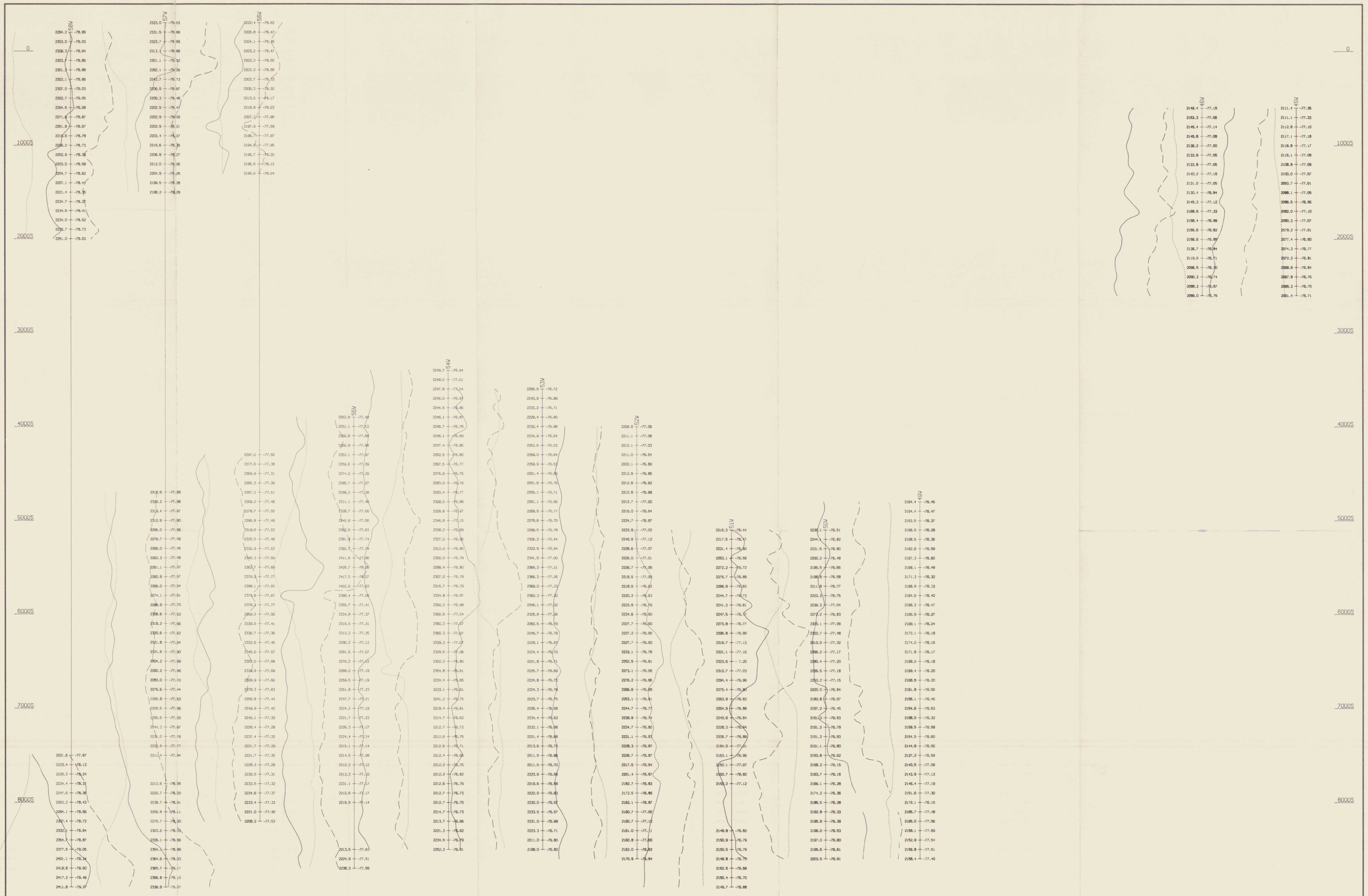


FIGURE 50

GRAVITY SURVEY

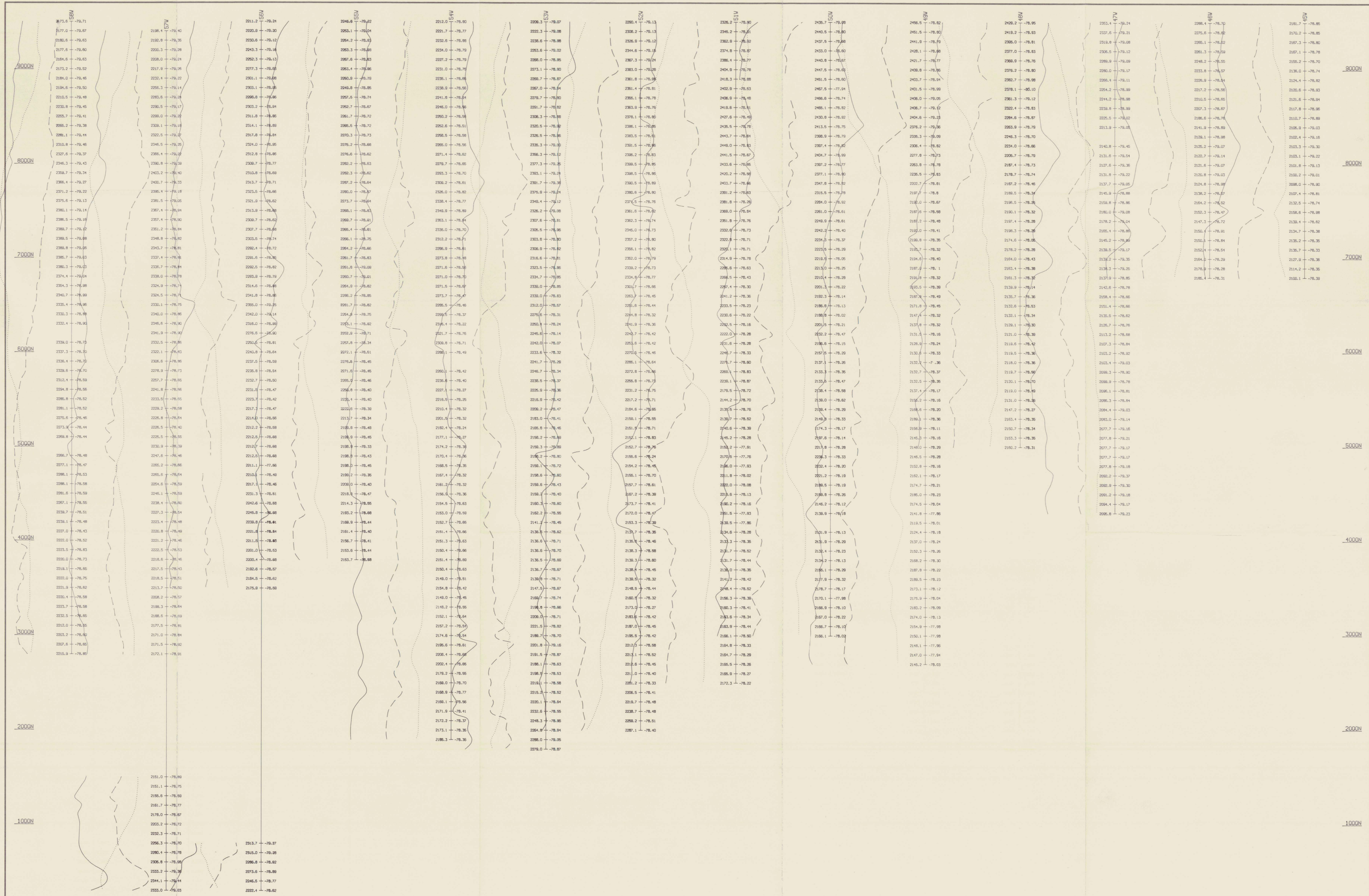


FIGURE 50

GRAVITY SURVEY

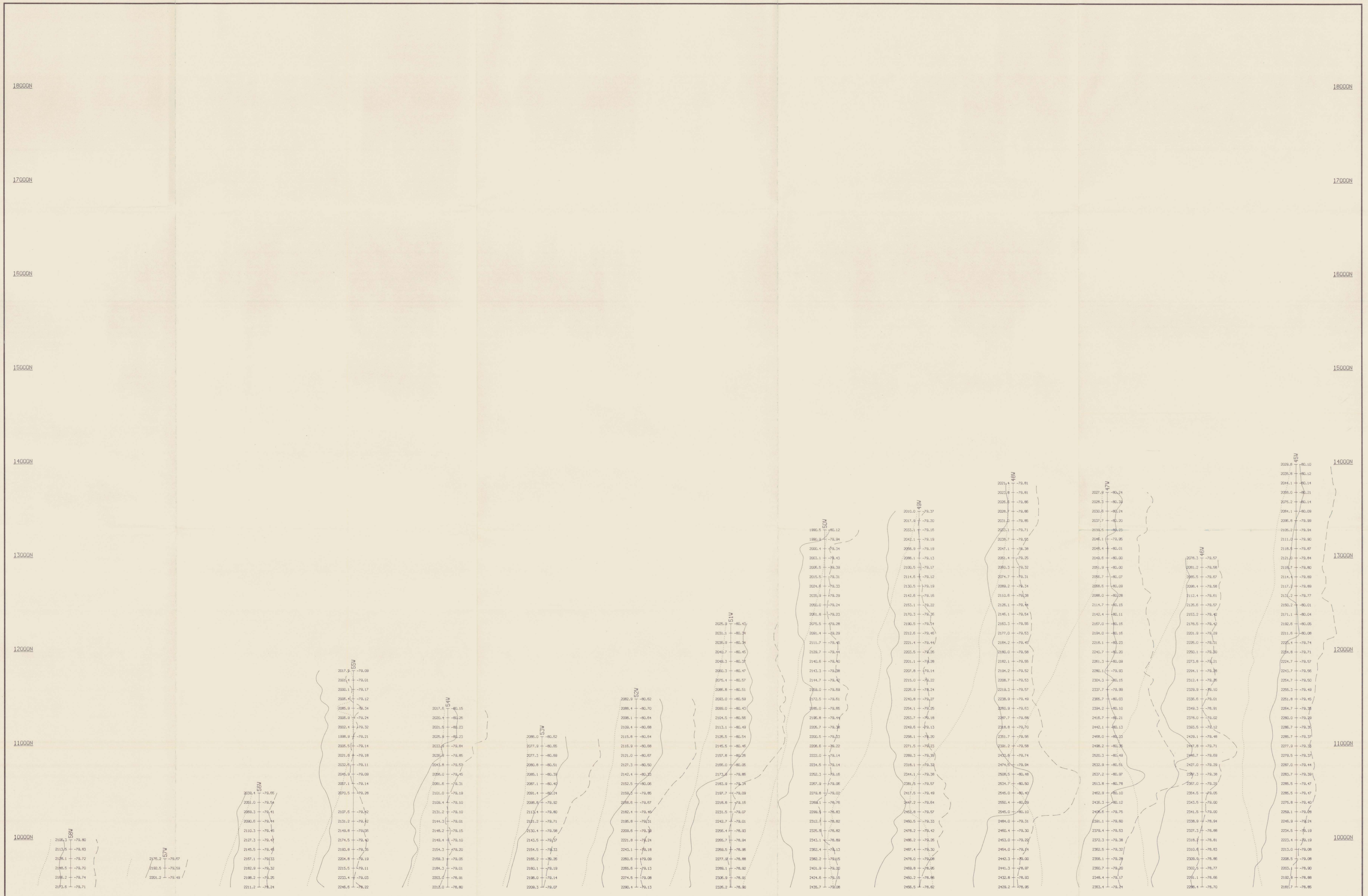


FIGURE 50

GRAVITY SURVEY

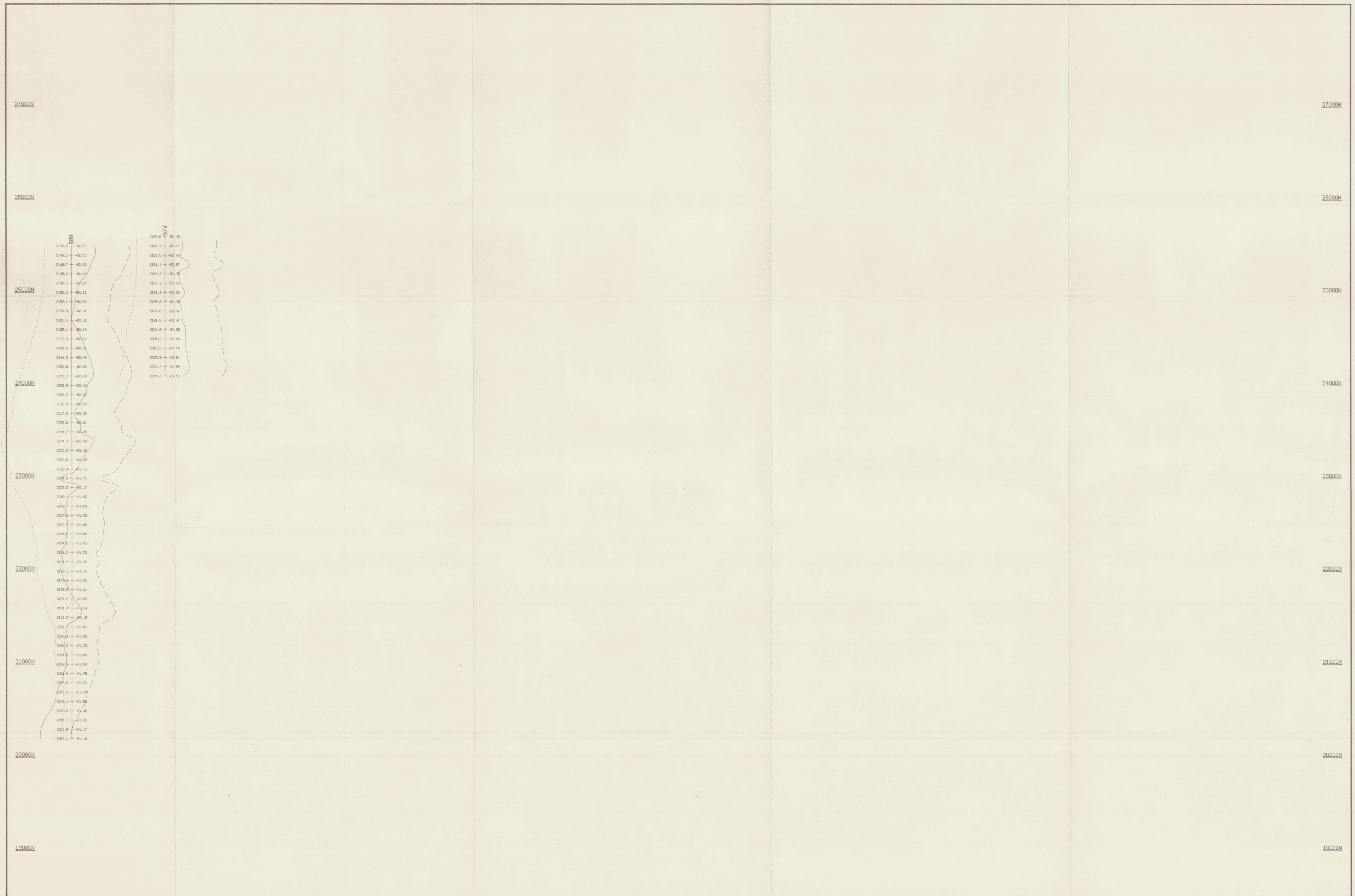


FIGURE 50

GRAVITY SURVEY



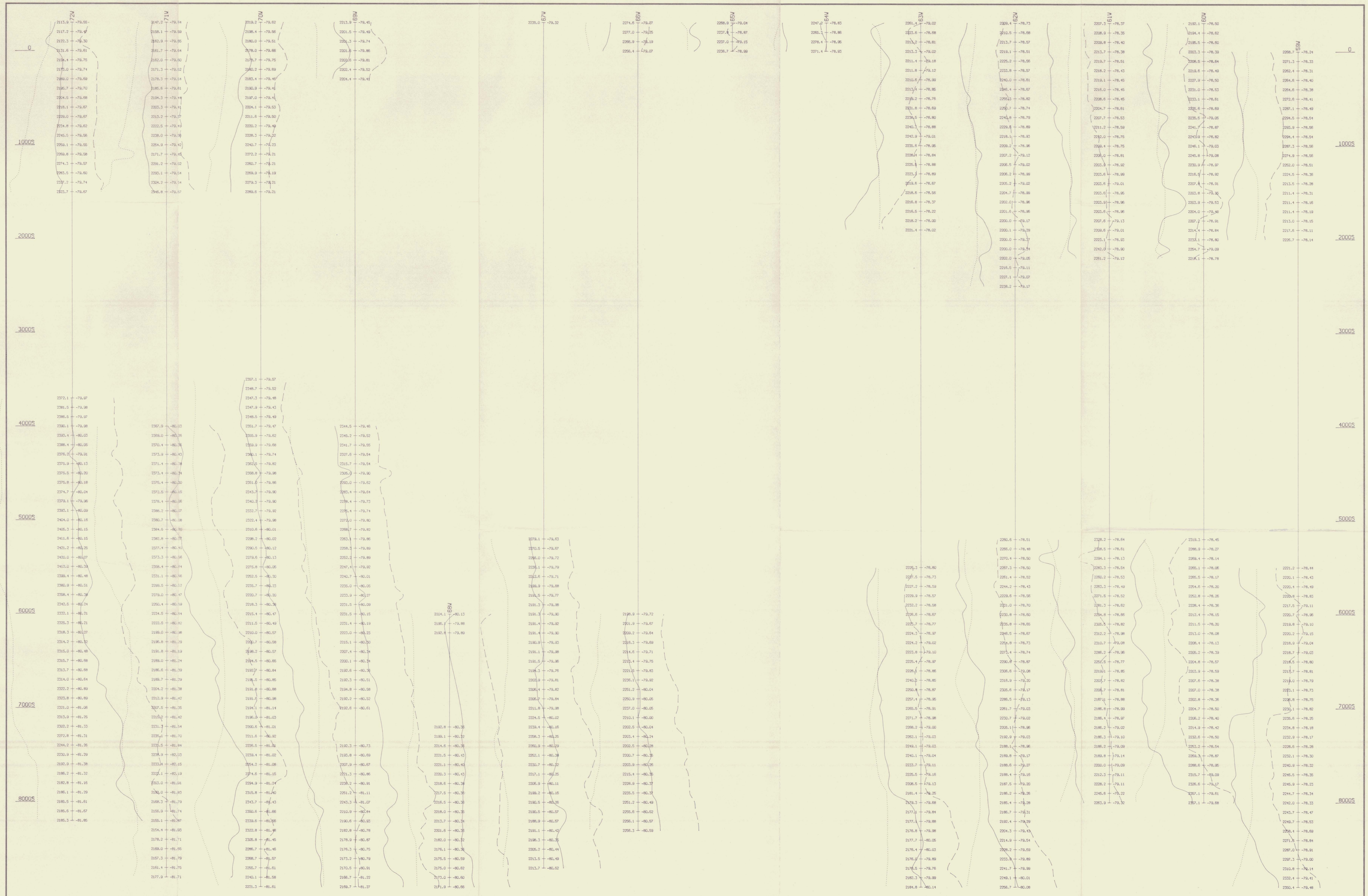


FIGURE 50

GRAVITY SURVEY

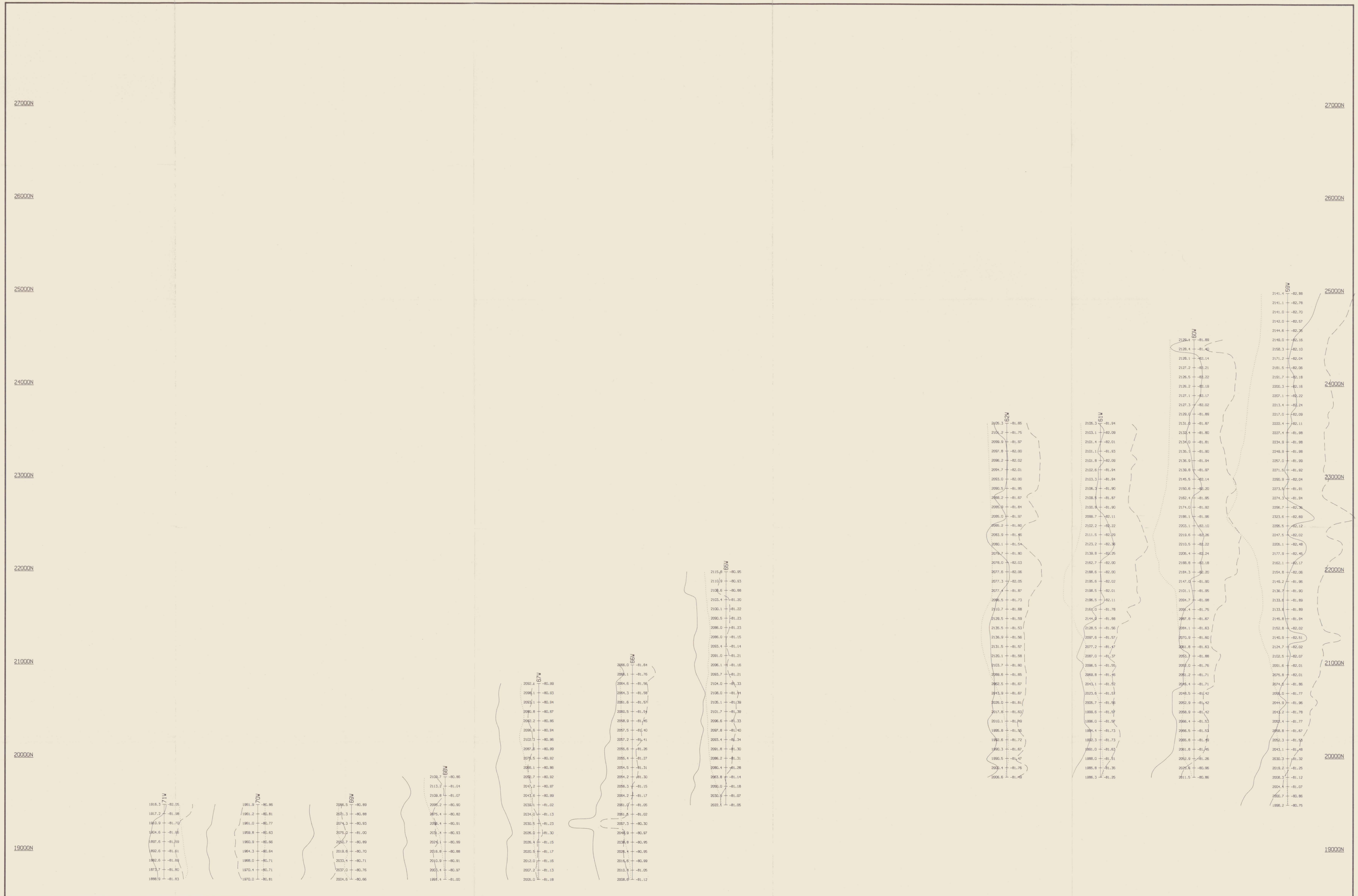


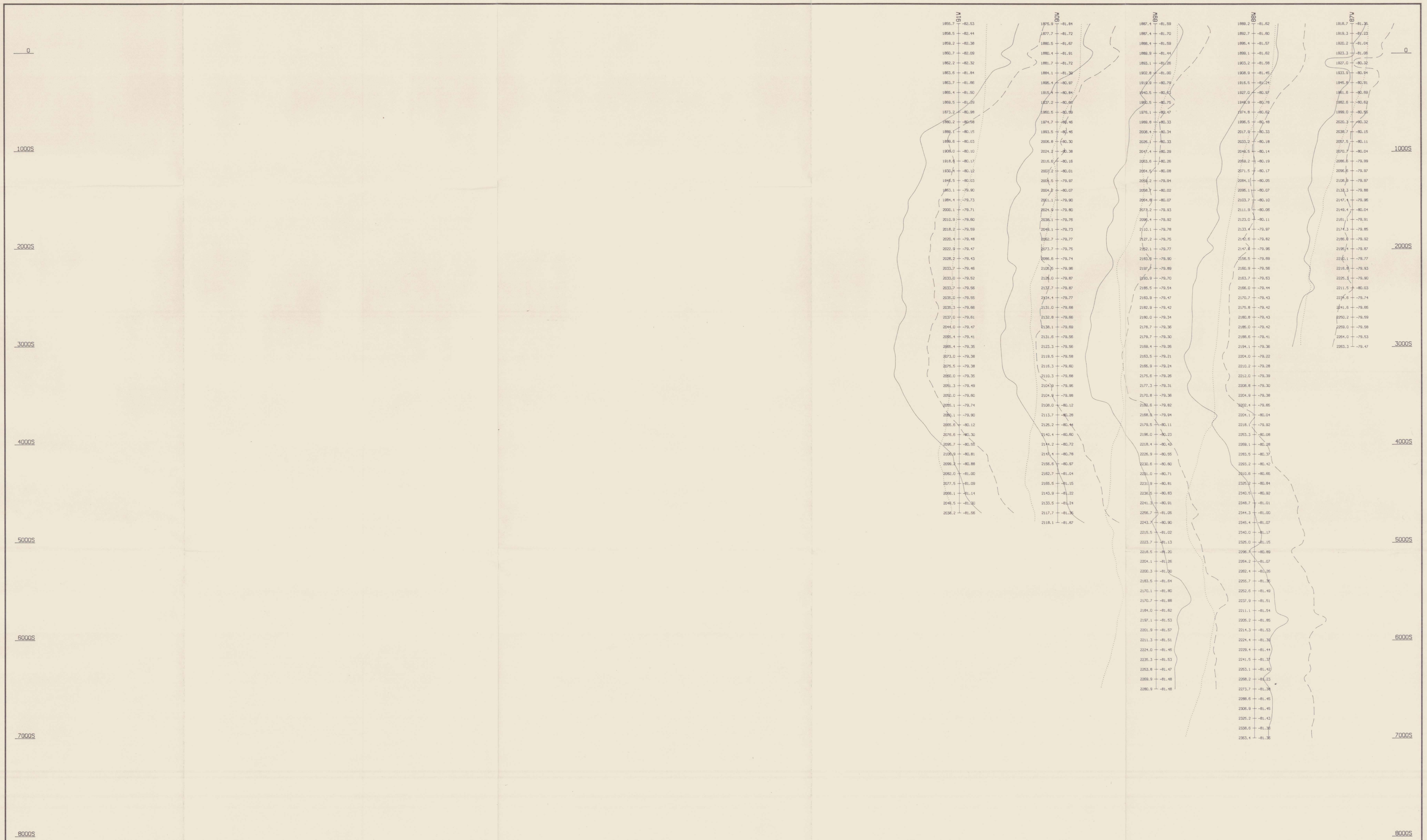
FIGURE 50

GRAVITY SURVEY



FIGURE 50

GRAVITY SURVEY



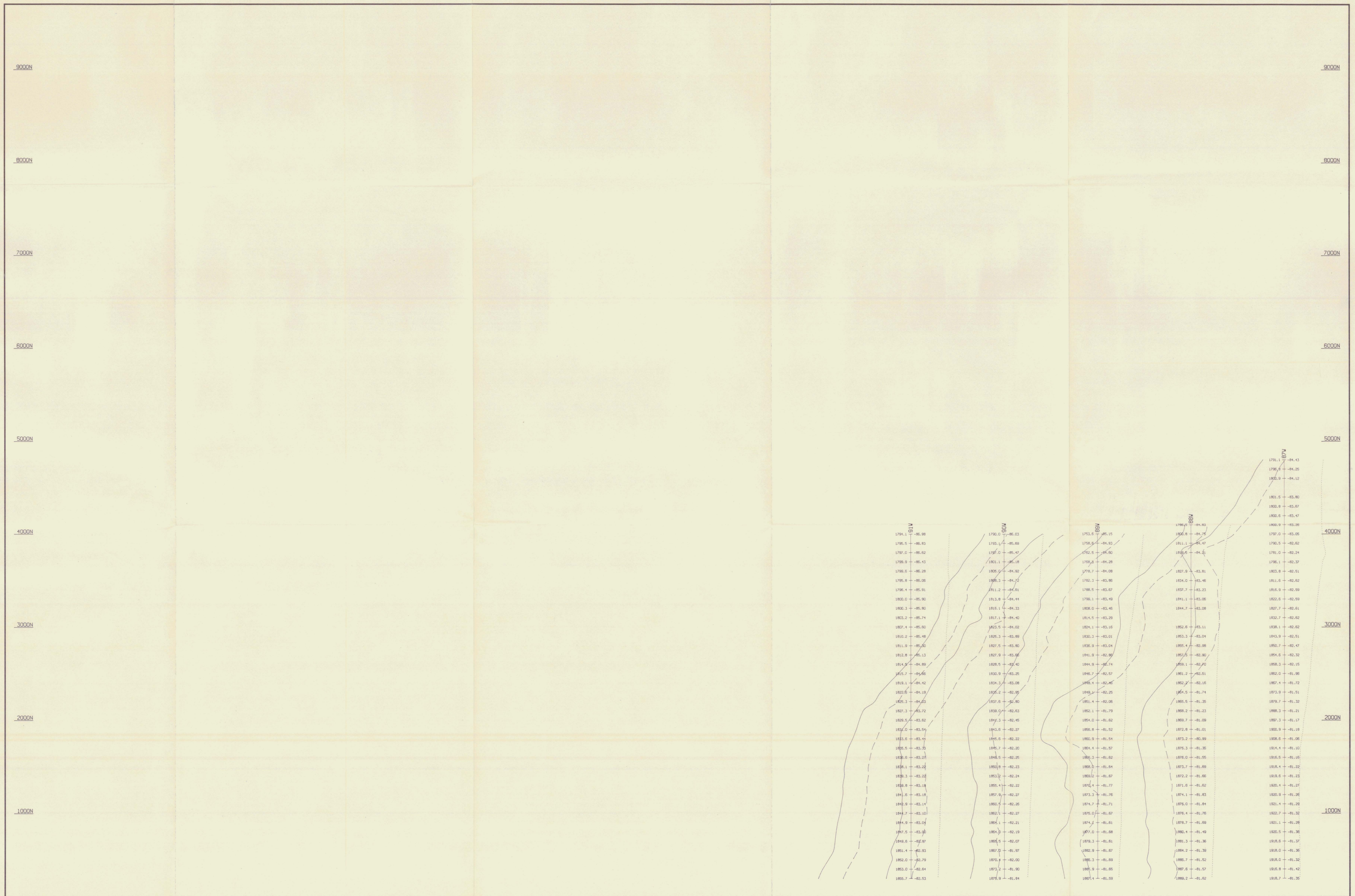
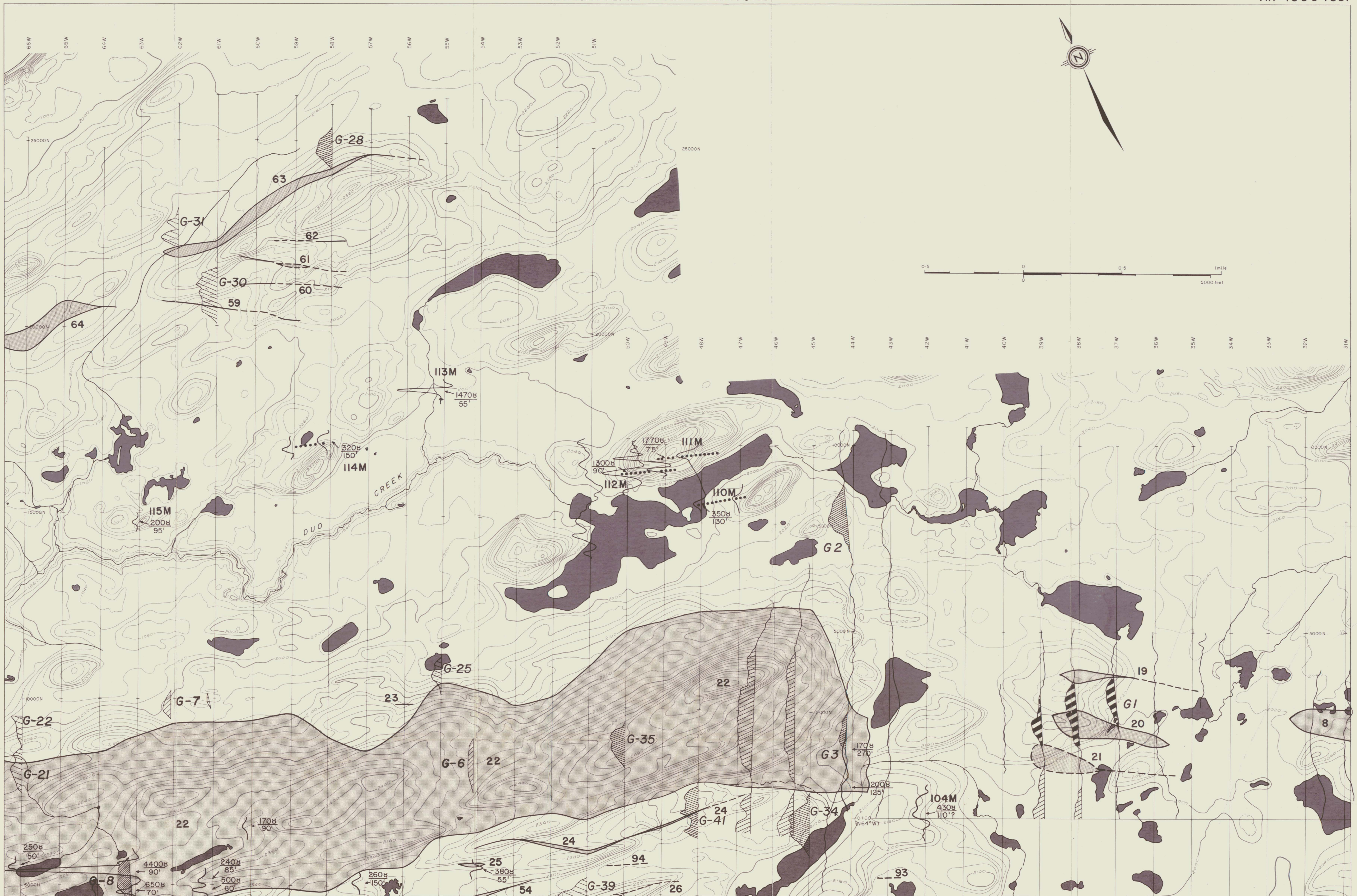
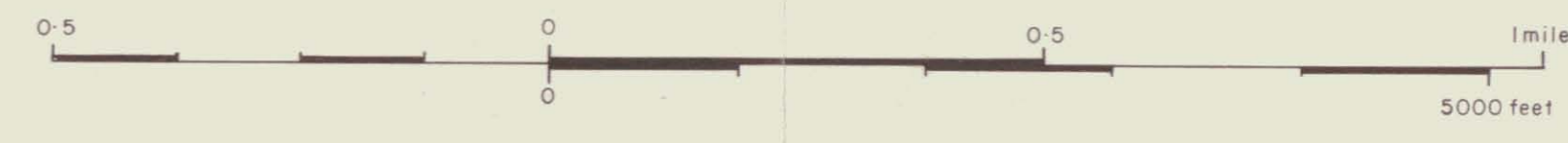
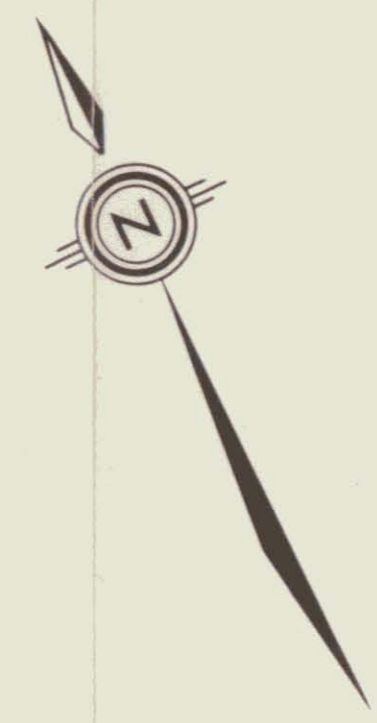


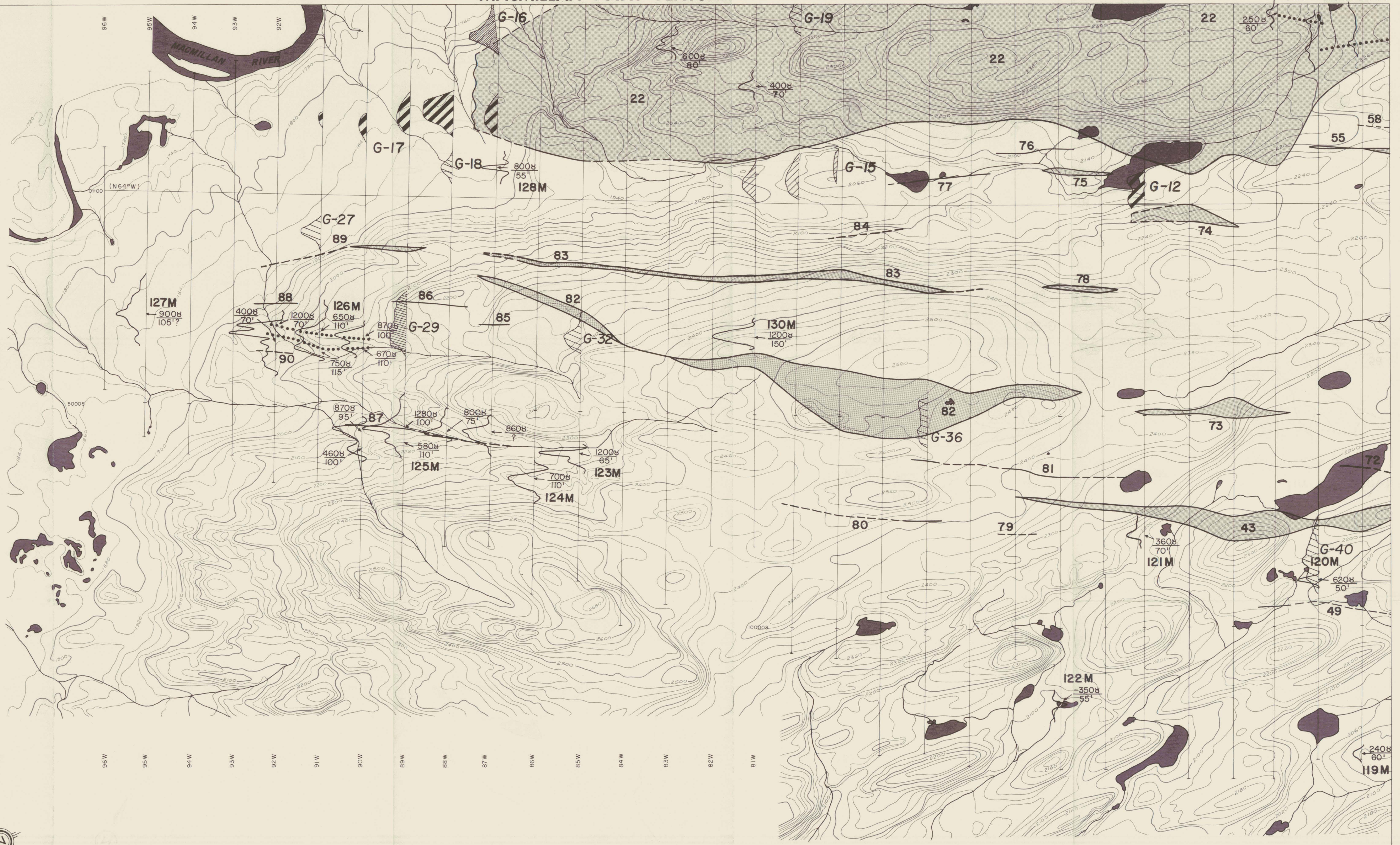
FIGURE 50

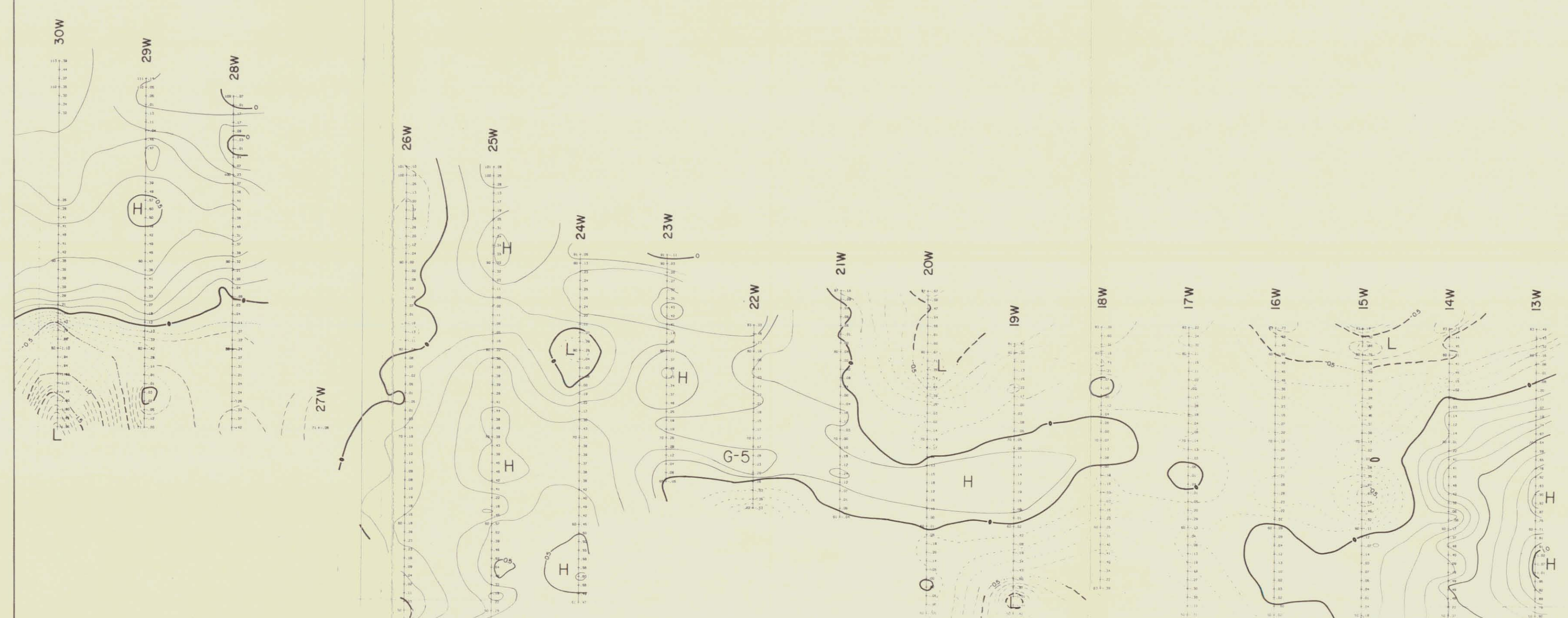
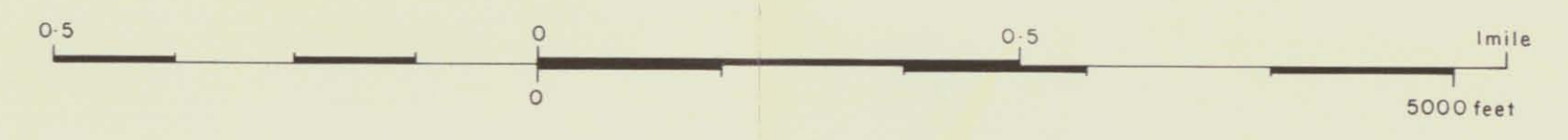
GRAVITY SURVEY



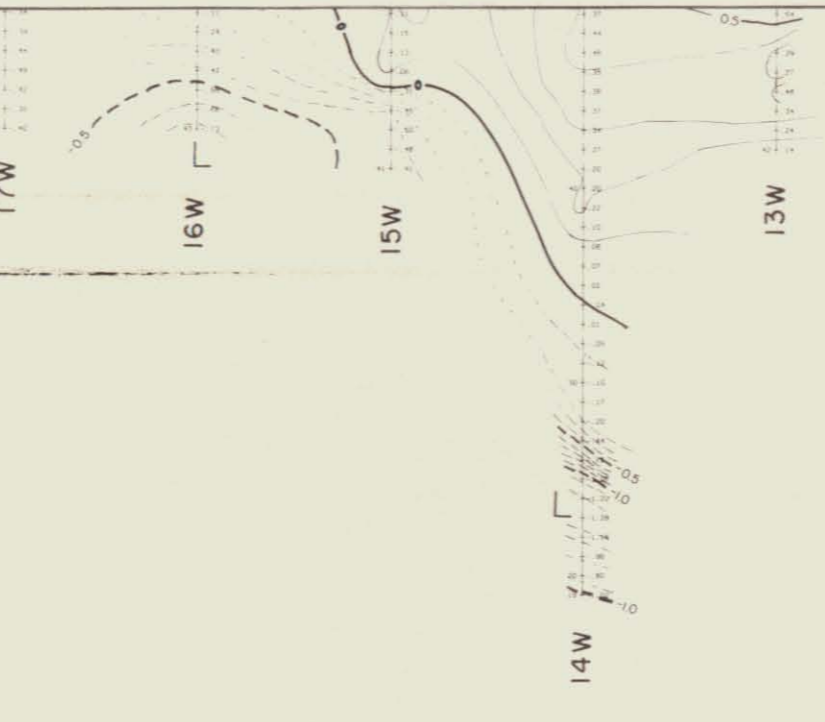
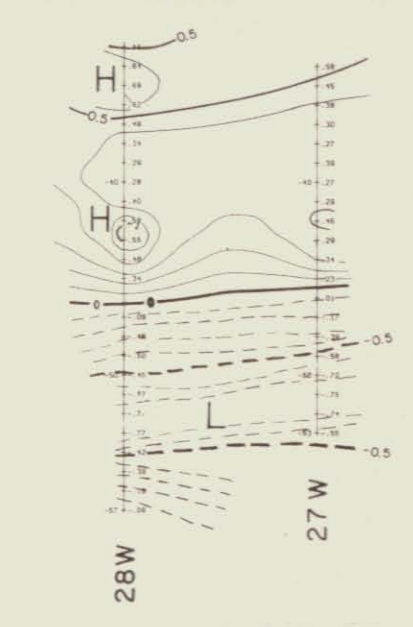
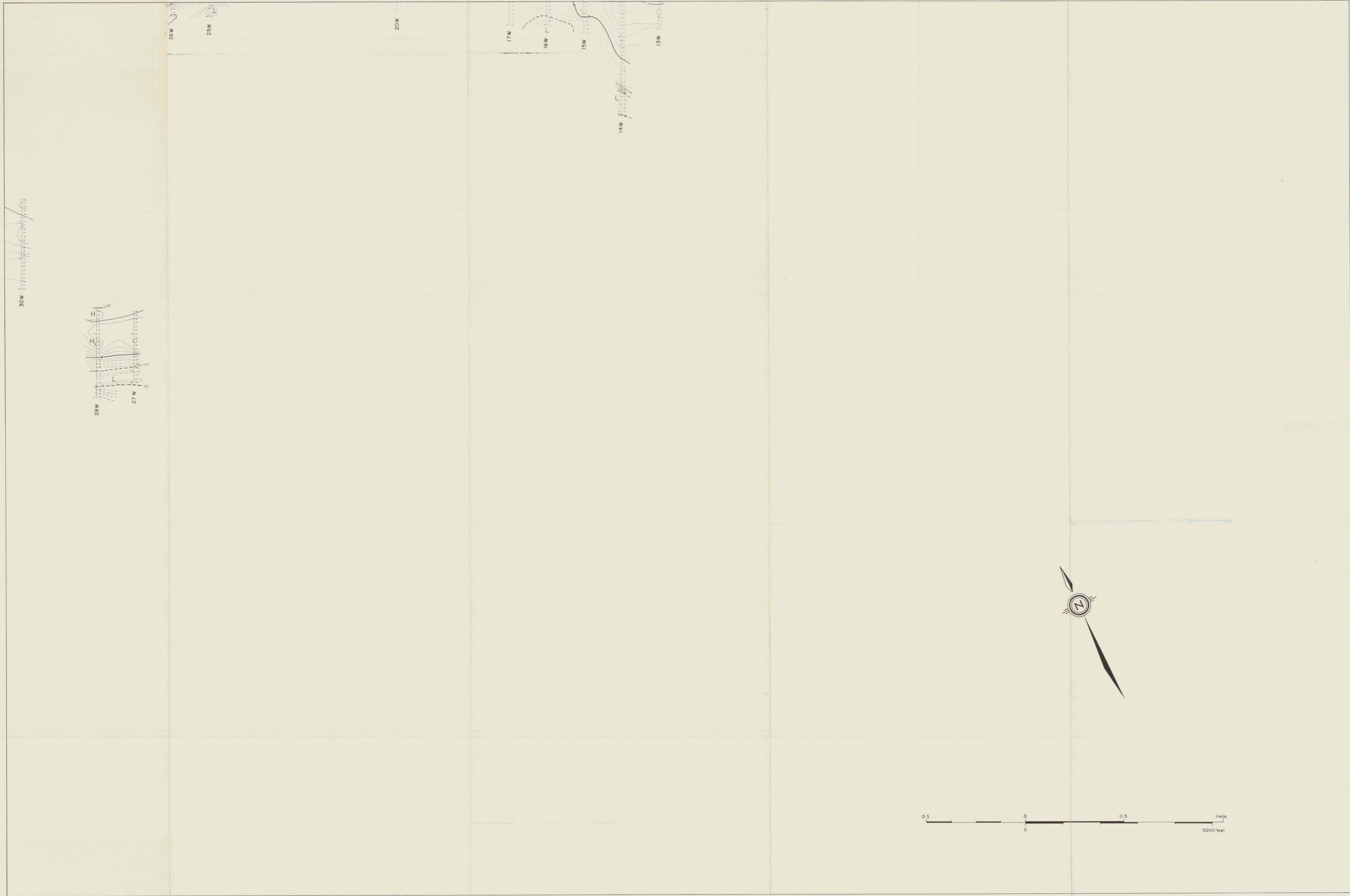


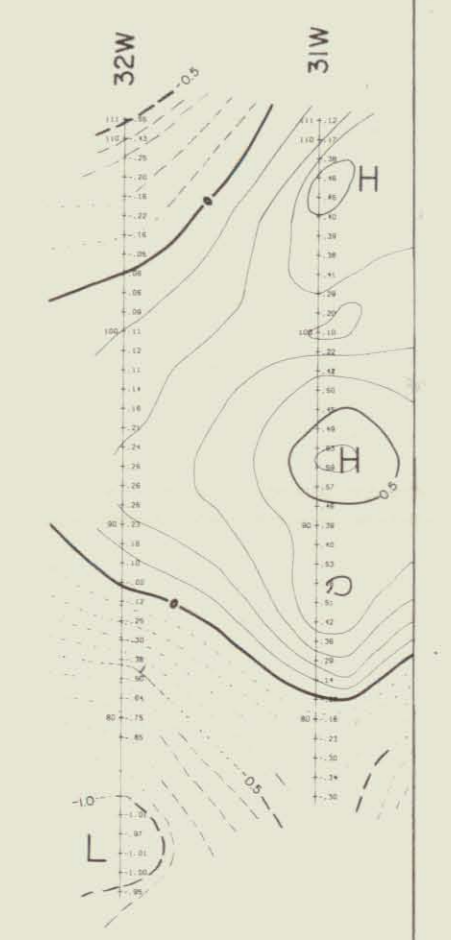
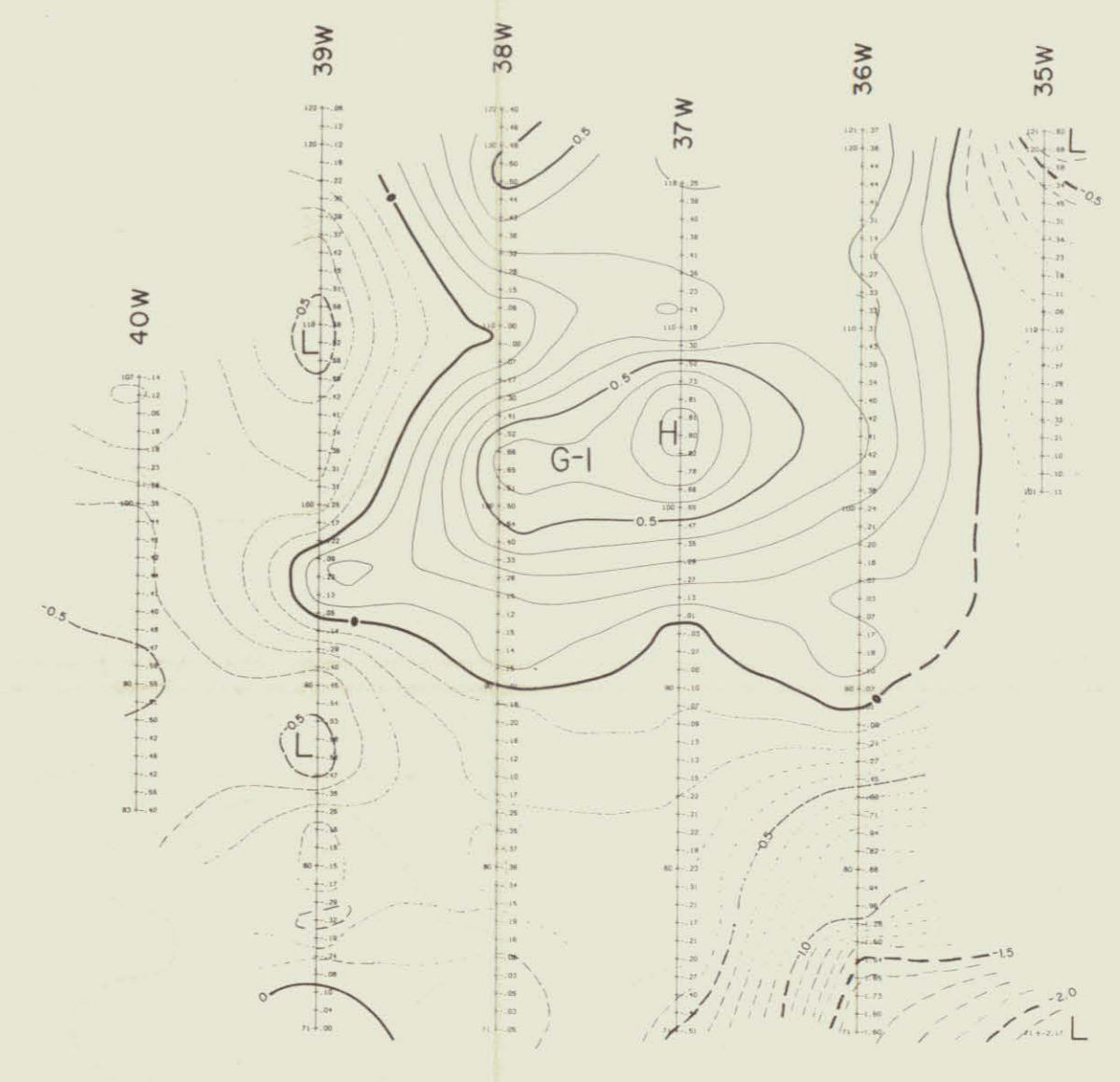
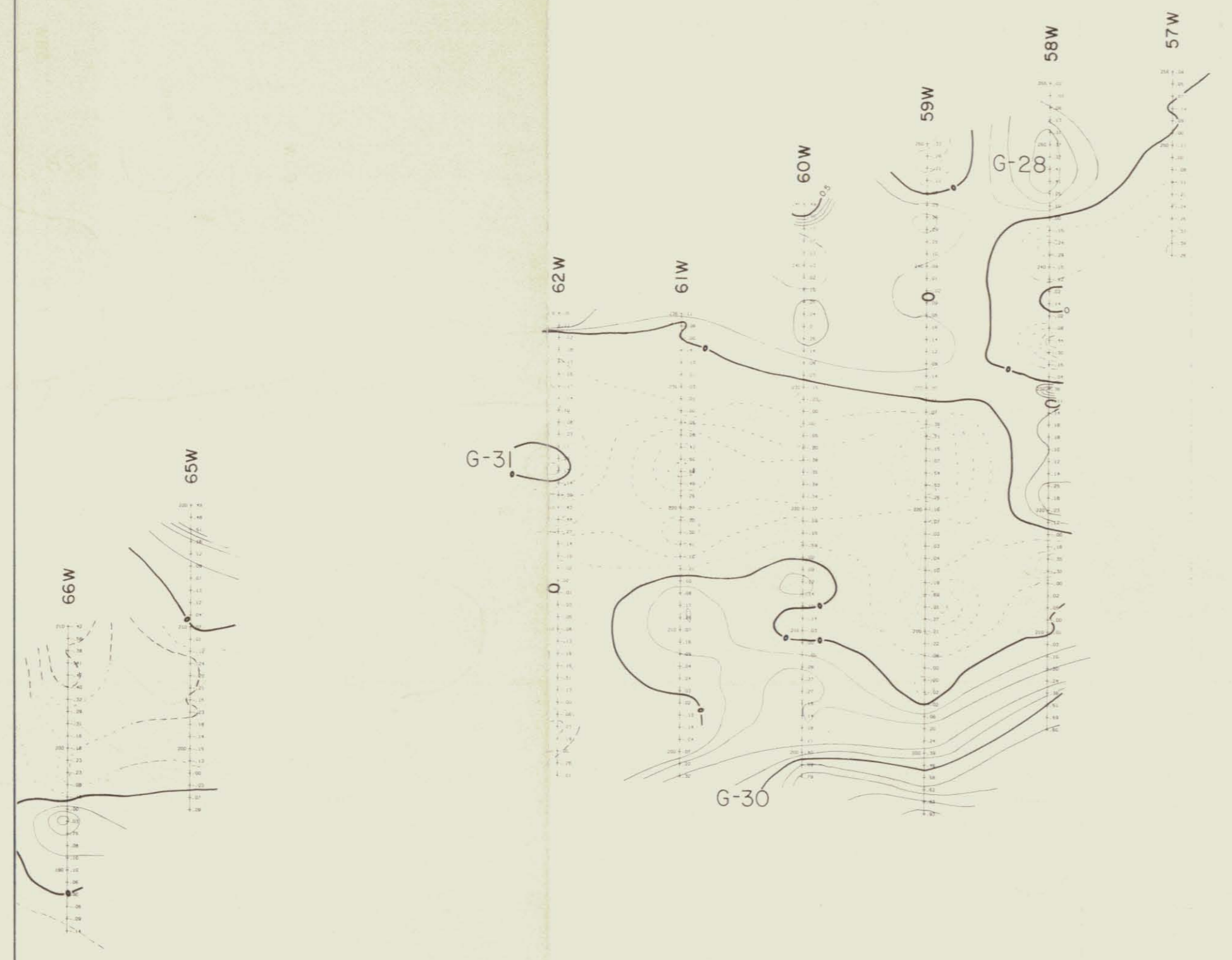
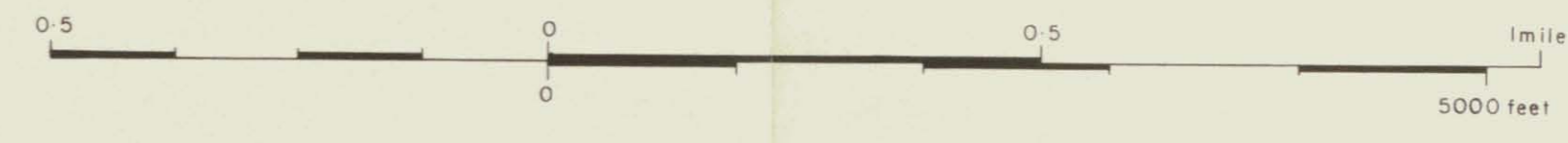
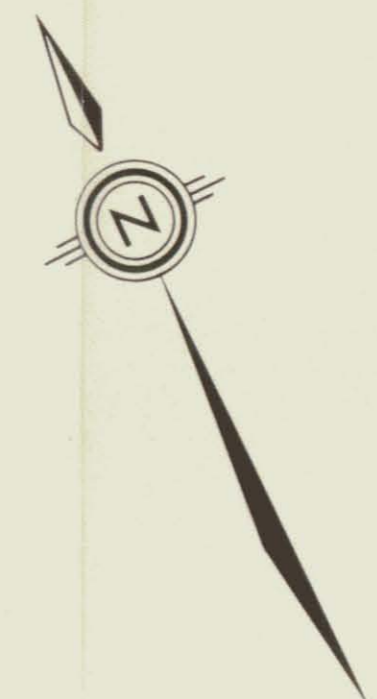






RESIDUAL GRAVITY







RESIDUAL GRAVITY

