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Operator: **CARDINAL MINERAL CORP.**

GEOPHYSICAL  
REPORT  
on the  
MARINER PROPERTY

Owner: *Mariner Explorations Inc.*

KAMLOOP MINING DIVISION  
CACHE CREEK, BRITISH COLUMBIA

N. Lat. 50° 48' 00"      W. Long. 121° 20' 00"

NTS 92I/14W

by

**FILMED**

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APRIL 4, 1987

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

16,050



## SUMMARY

The Mariner Claim comprises 20 units located at Cache Creek, British Columbia. Trans-Canada Highway 97 traverses the eastern sector of the ground.

Chromite was apparently discovered prior to 1938 and several drill tests and a magnetic survey were carried out prior to 1948. The next recorded exploration activity was conducted in 1982 when Mariner Explorations Inc. carried out trenching. Cardinal Mineral Corp. optioned the property in 1986 and carried out magnetic and gravimetric surveys which are the subject of this report.

A gravity anomaly of magnitude 0.2 to 0.55 milligals, associated a magnetic anomaly of 2000 gammas, is centered about L400S, 200E. The magnetic anomalies to the north which have previously been drilled and which intersected chromite have a gravity signature of at most 0.1 milligals. There is little evidence from the geophysical surveys of a large chromite body in this area. However, the possibility of small chromite pods has not been ruled out. Zone "B" is considered more promising than the area previously tested with drilling.



In light of the above, it is recommended that trenching be done in zone "B" at several locations between elevations 630 and 640 meters. Samples would be taken at regular intervals along the trenches, and density measurements taken prior to assaying. Should the results be encouraging, a detailed gravity survey at 5 meter spacing between Lines 200S and 550S for a distance of 200 meters on each line. The purpose would be to define drill targets and to better define the dip of the unit.

A tentative location for a drill test would be collared at L250S and 35E, with a bearing of 70 degrees and a dip of 60 degrees to a depth of at least 75 meters.

Respectfully submitted,  
Strato Geological Engineering Ltd.



M. Johnson, M.Sc.  
Geophysicist

April 4, 1987



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## 1. INTRODUCTION

### 1.1 Objectives

On the request of Cardinal Mineral Corporation, magnetic and gravitational surveys were undertaken by Strato Geological Engineering, Ltd. The purpose of the surveys was to better define the location and size of a chromite deposit known from previous drilling, geological exploration and magnetic surveys.

### 1.2 Location

Province:	British Columbia
Mining District:	Kamloops, Ashcroft Division
Area:	Cache Creek
Property Name:	Mariner
Latitude:	North 50 degrees 48'
Longitude:	West 121 degrees 20'
Disposition Holders:	CARDINAL MINERAL CORP.

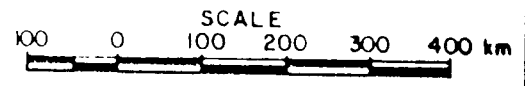
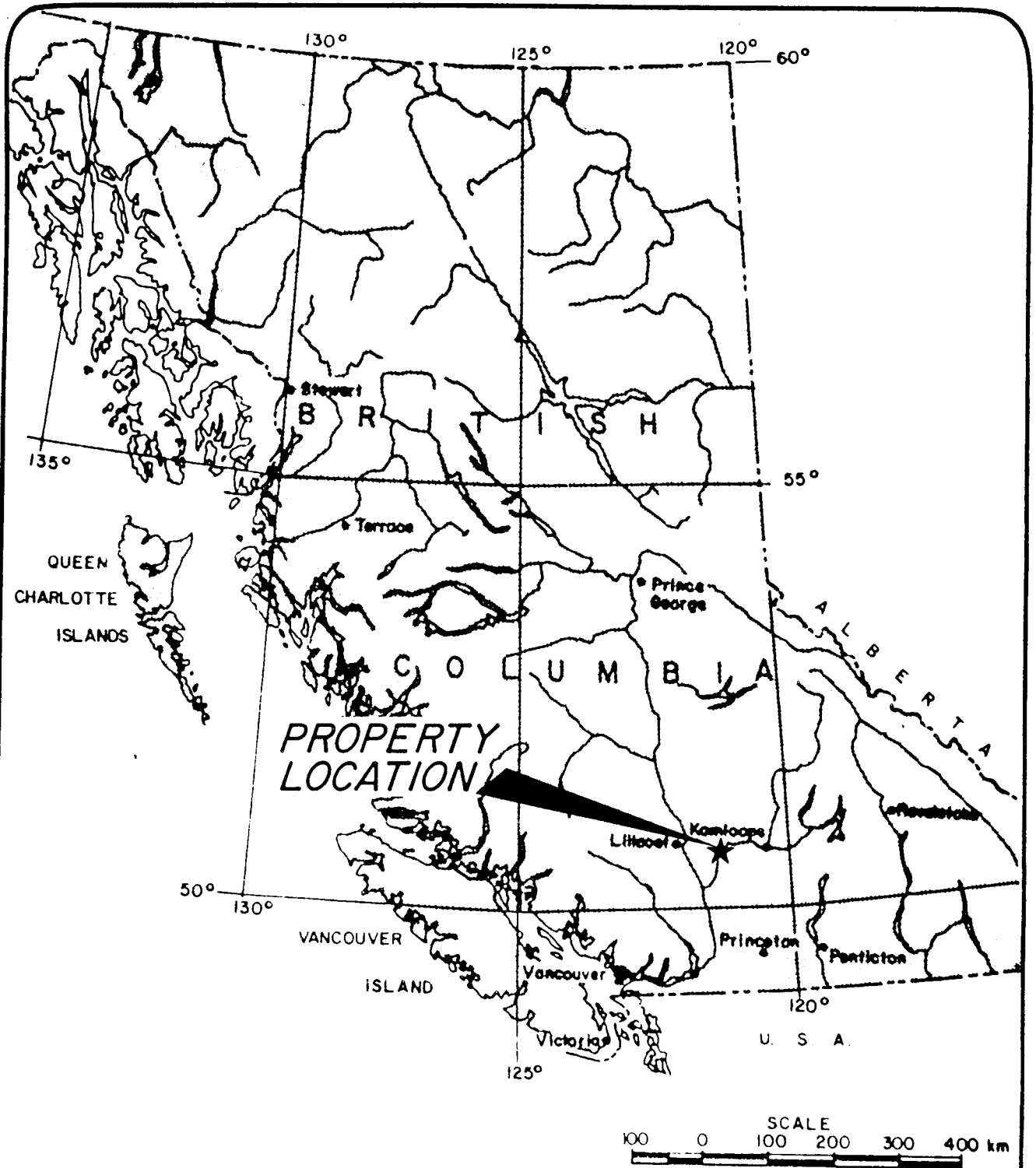
The property lies immediately west of the community of Cache Creek, and 80 kilometers west of Kamloops.

### 1.3 Access

Access to the property is via the Trans-Canada Highway and several unimproved roads on the property itself.

### 1.4 Operations and Communications

The field crew had its lodging in Cache Creek, B.C., and commuted to the property by four wheel drive vehicle. Frequent communication was made with the office in Surrey, B.C. Transportation in town and on the property was not a problem.



**FIGURE 1**  
**CARDINAL MINERAL CORP.**  
**MARINER CLAIM GROUP**  
 KAMLOOPS M.D.      NTS 92 1/14 W

**LOCATION MAP**

Feb. 1987





### 1.5 Physiography

The terrain in the Cache Creek area is mountainous and is cut by several rivers and streams. Just west of the property the terrain rises steeply. The east side of the property is bounded by the Bonaparte River. Elevations on the property vary from 450 meters to 720 meters.

The area is considered to be "environmentally sensitive" because of its proximity to the community of Cache Creek.

### 1.6 Claims

Each claim unit is 500m by 500m, or 25 hectares in area. The number of claims is 20, giving a total claims area of 500 hectares or five square kilometers.

As of November 20, 1986 the following information was available at the Office of the Gold Commissioner, Court House, Kamloops, B.C.:

Claim Name:	Mariner
Record Number:	3963 (3)
Claim Units:	5Nx4W (20)
Expiry Date:	March 1, 1987
Recorded Holder:	Mariner Explorations Inc.

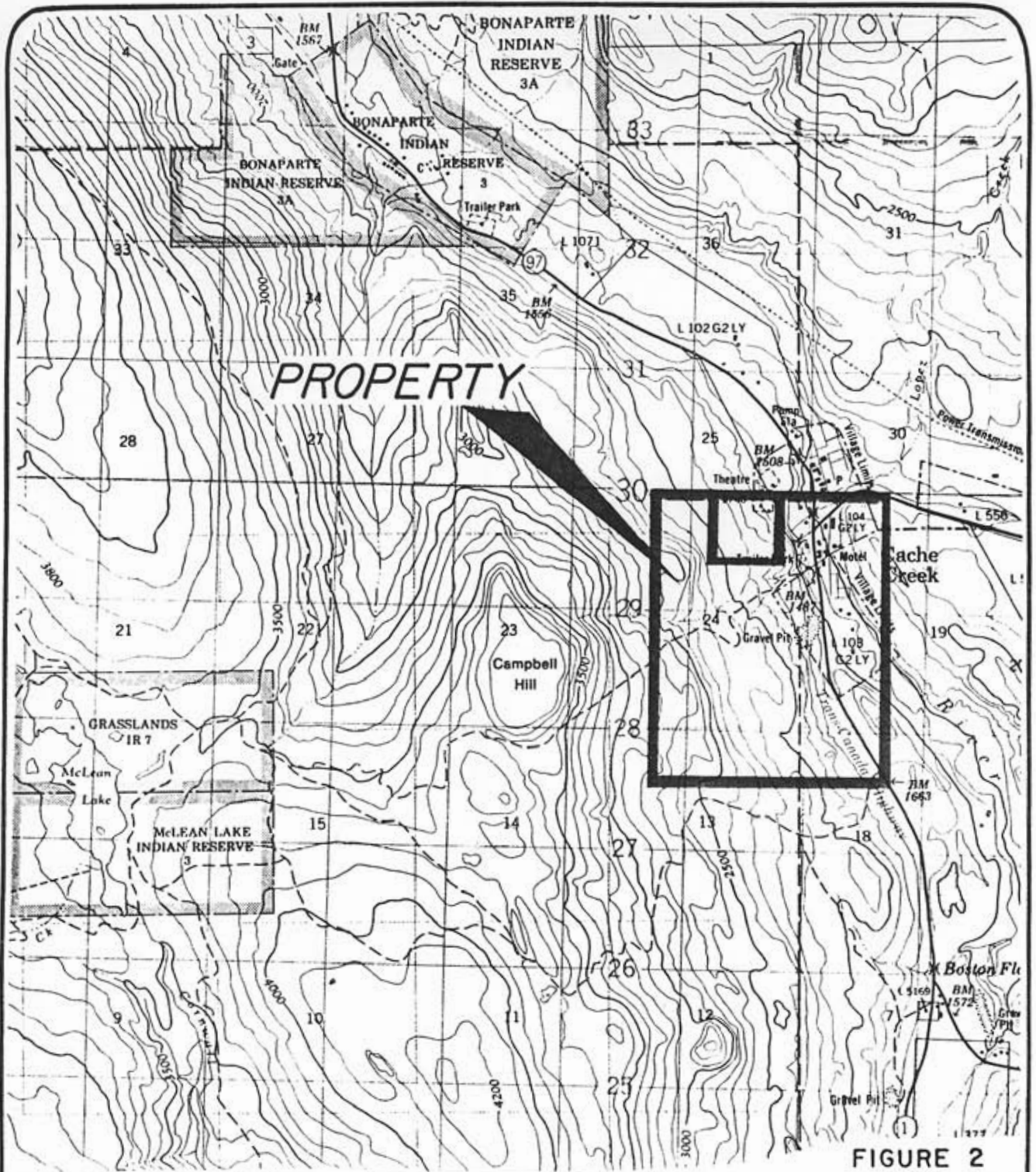


FIGURE 2

AFTER  
92 I/14  
CACHE CREEK

Scale: 1: 50 000



CARDINAL MINERAL CORP.  
MARINER CLAIM GROUP  
KAMLOOPS M.D. NTS.92 I/14W

TOPOGRAPHIC MAP

Feb. 1987



The property is located in Township 21, Ranges 24 and 25 in the Kamloops Land District.

Four claim units (2N x 2W) in the southeast corner of the claim area are the subject of negotiation between Mariner Explorations Inc. and the Village of Cache Creek for surface rights.

Within the claim area is one claim, the Everett (1) claim, not under record to Mariner Explorations Inc. Cardinal Mineral Corp. holds an option to earn a 100% interest in the Mariner Claim, subject to a 10% net profits interest, by completing exploration work on the property.

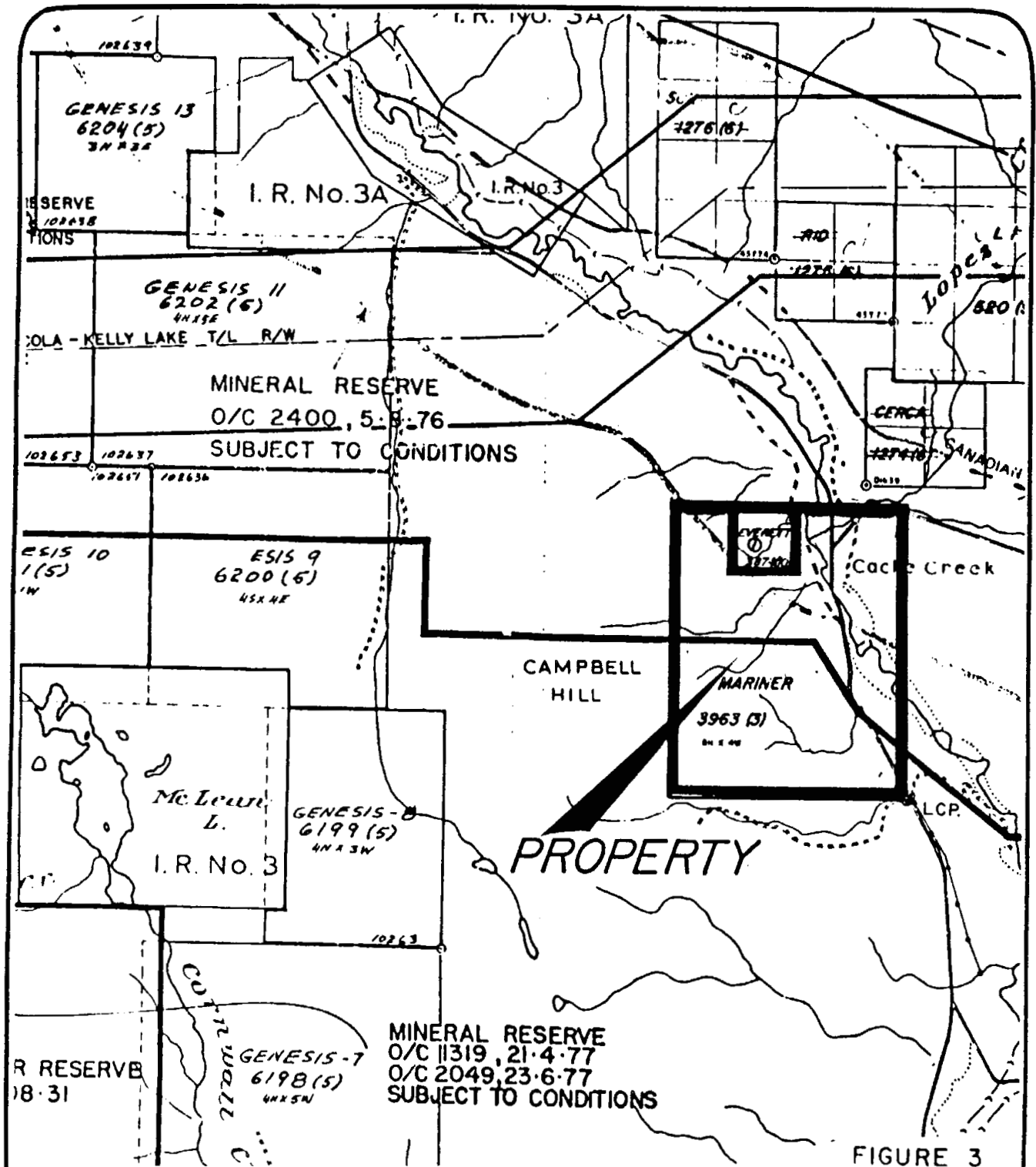
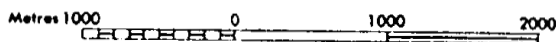


FIGURE 3

AFTER:  
MINERAL CLAIM MAP  
92 I/14W (M)

Scale 1:50,000



CARDINAL MINERAL CORP.

MARINER CLAIM GROUP  
KAMLOOPS M.D. NTS 92 I/14W

CLAIM MAP

Feb. 1987



## 2. HISTORY

The history of this property prior to 1947 is vague. Lester Starnes is reported to have had a chromite claim 4 1/2 miles west of Ashcroft, B. C., optioned to the Calgary Minerals Syndicate in 1938.

In 1947, the claims now held by Mariner were held as the Blue Rock claim group. J.W. Oakes of Vancouver held 11 claims and fractions at that time. The title of the claim group was then Dominion Chromium Property and was reported on by John C. Rogers. According to him, a magnetic survey had been done by the America Askania Corporation of Houston, Texas in 1939. Before this time at least five diamond drill holes had been drilled to test the indicated chromite deposits. Two of these drill holes were thought to have been shallow and three to have been deep tests. One of the deep drill holes was reported to have been lost in chromite mineralization in the area of anomaly "A" (Figure 4).

John C. Rogers examined the Dominion Chromium claims and his report is available in the geology report done by Mr. Don Tully of West Vancouver. He noted that the belt of serpentine and peridotite on the property were approximately 2,000 feet (600 meters) wide and trended south-southeasterly for more than one

mile (1.6 kilometers). He described a massive lenticular-shaped body of massive chromite measuring 15 feet (4.6 meters) long and four feet (1 meter) wide. He also reported "floats" of massive chromite in a ravine leading towards the Bonaparte River at the northern end of the property near the site of the original discovery of chromite on the claims. He also noted six mineral analyses of chromite samples in his report. These samples varied between 37.41 and 45.10 percent  $\text{Cr}_2\text{O}_3$  and having a chrome/iron ratio between 2.81 and 3.03.

Mr. Rogers concluded that the grade of the chromite was adequate and that a detailed magnetometer survey ought to be implemented to target areas for diamond drill hole exploration of the chromite bodies.

In the summer of 1947, this magnetometer survey was carried out by H.L. Banting (Figure 3). The results of this survey disclosed three magnetic anomalies.

Mr. Banting concluded that the magnetite content, based on survey results and magnetic susceptibility tests on the serpentinized peridotite rock mass, was uniformly low. He also suggested that pods of chromite could occur in a manner directly related to the three magnetic anomalies and that the serpentinized mass was probably cross faulted.

Banting recommended that seven diamond drill holes be drilled to test the serpentine mass occurring within the 2,000 gamma contour interval horizons on the magnetic anomalies.

Mariner Explorations Inc., in 1982, trenched five pits. One of these exposed a mass of chromite that is open to the west. Estimated volume of earth and rock excavated during this work is calculated at 134 cubic meters.

A recent re-examination of these pits was done by Mr. Don Tully of West Vancouver, B.C. The assay values of the chromite samples taken in November 1986 were as follows:

<u>Sample No.</u>	<u>613</u>	<u>614</u>
<u>Mineral</u>	<u>(Chip)</u>	<u>(Boulder)</u>
Chromite	37.3 %	36.7 %
Silica	10.7 %	10.1 %
Alumina	15.2 %	15.3 %
Lime	.77%	1.15%
Magnesia	20.1 %	19.4 %
Iron Oxide	8.1 %	13.1 %

Both samples also showed 0.005 Oz/st Platinum

Tully concludes that these grades are satisfactory for refractory grade chromite although the silica is slightly higher than the usual 5% that is required.

Mr. Tully expressed interest in the presence of gold and platinum in the samples taken. He recommended that a magnetometer and gravimetric survey be performed.



### 3. GEOLOGY

#### 3.1 Regional Geology

The general geology of the claim area is shown on Geological Survey of Canada Map 1010A.

Paleozoic argillites, greenstone volcanics and a belt of limestone intruded by a mass of serpentinized ultrabasic rock of probable late Mesozoic age underlie the property.

A tentative geologic timetable from Tully is as follows:

<u>FORMATION</u>	<u>DESCRIPTION/EVENT</u>	<u>AGE</u>
Sand, gravel, fluvial sediments and glacial debris	Unconsolidated  (Erosional unconformity)	Quaternary
Ultrabasic intrusives, mineralization including sparse pyrite, arsenopyrite(?), magnetite and chromite	Serpentinization Fine sulphides of iron, localized asbestos seams, (chromite considered to be magmatic segregation nized ultrabasic intrusive during emplacement)  (Faulting, folding, shearing and related tectonic activity)	(Probably late Jurassic or early Cretaceous)
Cache Creek Group	Argillites, greenstone volcanics, chert beds and limestone horizons	Permian or earlier

### 3.2 Property Geology

The geological formations on the property have been subjected to repeated folding and faulting events. There is a schistosity which has developed approximately parallel to the Bonaparte river. It has been postulated that the valley occupied by the river itself marks a major strike zone in the area which may have been very influential in the placement of the serpentinized ultrabasic which bears the chromite deposits.

The body of the peridotite is estimated to have a width at surface of 2,000 feet (0.6 kilometers). The strike is open at both the northern and southern ends of the property. The contact areas of the ultrabasic and Cache Creek Group have not been mapped to delineate the boundary.

The Geological Survey of Canada Aeromagnetic Map 5219g illustrates the trend of the basement geology which has been shown to correlate with the features of the geology at surface. A geological sketch map (After H.L. Banting, Oct. 1947) showing the serpentine outcrop in relation to the Cache Creek Formation is presented as Figure 6.

#### 4. GEOPHYSICS: Magnetics

##### 4.1 Station locations

The magnetometer survey was carried out on the property between January 5 and January 16, 1987, by technicians A. E. Hunter and Lucas Meyer. A total of 1149 stations were read.

The starting point for the survey was station OW,ON which is a local topographic high easily identifiable from the topographic map. All lines were run with a compass and hip chain at a nominal spacing of 25 meters. The baseline has a bearing of 340 degrees, and was surveyed twice with the magnetometer to set up tie points for the crosslines. Crosslines were surveyed in loops and the values drifted as necessary to tie with the baseline values. Most lines tied within 10 gammas. Lines that did not tie to this accuracy were resurveyed.

##### 4.2 Findings

The majority of the property has background values in the range of 57250 to 57500 gammas, with no significant gradients across the survey area. Two major features were located. Zone "A", a roughly circular feature with a diameter of 600 meters centered at 250N and 50E, has values about 250 gammas above background.

Within this area are four pod-like anomalies of 1000-1250 gammas above background. The two most northerly of these pods have loosely associated lows to the east, suggesting dipolar magnetic pods dipping to the west.

The second feature extends from 100S to 600S at a strike direction of 310 degrees, and is designated zone "B". It is characterized by values 1500 to 2500 gammas above background and is flanked to the east by a low area of similar magnitude. Profiles of this feature on lines 200S and 600S can be found in appendix VIII. The pattern on these profiles suggests a dipolar magnetic body with a dip of 45 degrees to the west and suboutcropping about 50 meters below surface. The most probable cause of this feature is magnetite within the serpentine unit which Banting noted as outcropping in this area.

The findings of this survey are similar to those of the survey reported by Banting in 1947. The main difference is that the older work did not establish a dip on the southern zone and the northern zone has been shown to be somewhat larger than originally indicated. Note that the absence of lows associated with the podlike highs suggests that dips are greater in the "A" zone.



## 5. GEOPHYSICS: Gravimetrics

### 5.1 Station Locations

Station locations were established using a Topcon Theodolite (see appendix I). The base station on the property was located by triangulation at a marked elevation point on the 1:50000 topographic map at coordinates 5629820N and 617260S. The baseline established for the magnetics was surveyed by transit from 1125 North to 800 South. Cross lines were generated by turning 90 degree angles from the baseline. Locations do not necessarily correspond to those for the magnetic survey, but were flagged as gravity stations. Loops were tied to the baseline values. Most loops closed positionally within five meters and had elevation closures of under two meters. Closure errors were corrected by linearly distributing the error around the loop. Two lines, 350S and 450S, had poor closures. Because these lines were surveyed on the last two days, it was not possible to redo the loops and they have been omitted from the results. Observations were extended beyond line 250N to the west along a powerline to establish the density of the Cache Creek volcanics which outcrop on Campbell Hill. A number of points along highway 1 and within the town of Cache Creek were also surveyed to establish background readings. Because of the steep terrain and slippery conditions when the survey was done, eight stations within the main grid were not surveyed.

## 5.2 Gravity Readings

The Lacoste-Romberg Gravimeter functioned well. Due to steep terrain and melting snow, it was necessary to prepare sites for the dish of the gravimeter. A base station was established at the motel in Cache Creek, which was read at the beginning and end of the survey day. All values were drifted to this station to eliminate diurnal drift. Lines were repeated if the misclosure at this station exceeded .05 milligals. The absolute accuracy of all gravity observations is calculated to be within .05 milligals of the true value.

## 5.3 Data Reduction of Transit Survey

The transit survey data was reduced using an HP41C programmable calculator using standard reduction formulas. Correspondence between the transit survey and the topographic map is generally good. However, in the extreme northwest and southeast corners of the property steep terrain caused elevation variations of up to 10 meters.

## 5.5 Density

A density of 2.67 gm/cc was used in the complete Bouguer calculations. This is the standard value used in gravity reduction. It is possible to estimate the density of the rock units by plotting the gravity values against elevations and

fitting a straight line to the resulting values by linear regression. This was done with two lines, 250S and 700S. The results of this analysis appear in Appendix VII. Density values of 2.79 and 2.68 gm/cc were found with this analysis, with excellent fit of all data to the line model. These results confirm that the chosen density for Bouguer reduction is reasonable, and that the entire survey area is one formation (except for surface variations). Note that in areas where two distinctly different density units existed, the gravity/elevation plot would have two slopes corresponding to the different densities.

#### 5.6 Terrain corrections

Terrain corrections were done with custom software developed by Martin Johnson. The basic approach was to develop a grid of blocks over the property and the surrounding area which would closely represent the topography. The effect of each of these blocks was summed for each of the survey stations according to the formulas in Appendix III.

Within the survey area block elevations were established using the survey points. Since blocks were generated on a grid of 25 by 25 meters, it was necessary to interpolate results between survey lines. This was done by a program which looked for points

within a 150 meter by 150 meter area around the center of the block to be generated. Any point within the actual block was given a weighting of 8 in relation to points found in the surrounding area, and the average of the values found was taken to be the block elevation. This was checked visually against the existing topographic map for overall accuracy.

A commercial package called UNIRAS was also tried which uses a similar pattern with a circular search radius and polynomial smoothing, but this package would not yield satisfactory block elevations.

The remainder of the elevations were established by picking points off the 1:50000 government map of the area. Points within the coordinates 616500 E to 618500 E and 5627500 N to 5630000 N were picked on a 25 meter grid and the average of these values used to generate 25 meter by 25 meter blocks. Beyond this area, one kilometer block estimates were generated between 612500 E to 622500 E and 5624000 N and 5634000 N as shown in Figure 48 (appendix III).

The terrain corrections were done in two parts and the results for the outer zone of one kilometer blocks are listed separately than those for the inner zone of 25 meter blocks as



defined above. The corrections due to the outer zone vary from 3.2 to 5.4 milligals. The main effect was to increase the values on the westerly end of the survey lines as the result of Campbell Hill which is centered about 1.25 kilometers west of the property and has an elevation of 1150 meters. The terrain corrections in the inner zone were more significant due to the steep slopes on the eastern half of the property. Elevations drop from the plateau value of 640 meters to under 520 meters, with slopes up to 40%. The inner zone terrain corrections vary from 1.2 to 1.8 milligals across the flat areas, and rise to over 4 milligals in places at and on the steep slopes.

Special attention was paid to the accuracy on the east side of the baseline between lines 300S and 650S to assure the best possible results. Difficulties were encountered in this area due to poor correspondence between the survey values and supplementary points used to generate block elevation estimates. The overall effect of this and other inaccuracies is a noise envelope of approximately .15 milligals in the Complete Bouguer values. Lines 350S and 450S were omitted from the final results because, although confirming a similar pattern to the other lines, the absolute gravity values could not be made to correspond with adjacent lines.

## 6. INTERPRETATION

### 6.1 Discussion of results

The complete Bouguer values are shown on Figure 6. The most important regional feature is an increase in the gravity values of 2.5 milligals from north to south across the property. This is characterized by a strong gradient from 650N to 100N and a shallower gradient to the south. The cause of this feature is interpreted as being variations in the basement rock depth which are not significant in the economic interpretation. To the west of the property, the values along the powerline rise steeply to a value more than 3 milligals higher than any in the main grid. The gradient is too steep to be due to a deep feature, and is more likely to be due to crossing into a denser rock unit.

East/west profiles show a strong gradient on the western side of the property from stations 400W to 175W. The gravimetric readings in this area have corrections of 1 to 2 milligals due to the extreme changes in elevation in this area.

The area bounded by 200W and 50E and between 150N and 400S is a gravity low which probably reflects Quaternary sediments. Higher values on the ends of the lines and to the south are interpreted as being due to serpentized peridotite, with a thin

or non-existent covering of sediments. This shows on the plan map as the 11.75 milligal contour indicating the boundaries of the serpentine unit and the sediments.

The most significant gravity feature corresponds with the Magnetic Zone "B". It has a length of 350 meters and a width of up to 150 meters and anomalous gravity values from 0.2 to 0.55 milligals above background. This zone is on the eastern flank of the 2000 gamma magnetic anomaly in an area mapped by Banting (Figure 4) as having serpentine outcrops.

The serpentine outcrops located between 100N and 400N (Magnetic Zone "A") have little or no gravitational signature. Since this is an area which was previously drilled and holes were reported to have intersected chromite, it is concluded that the pods are too small or too deep in the northern area to be reflected in the gravity readings. This makes the area to the south of greater interest.

It is not clear that the 0.4 milligal anomaly in zone B is directly caused by Chromite mineralization. As the modeling will show, it is just as likely that the anomaly is the result of an outcrop of serpentine surrounded by a least dense unit. Nevertheless, economic mineralization can not be ruled out,

particularly since the Chromite to the north does not have a strong gravity signature. The presence of magnetite near this area is also an encouraging indication since chromite has been located within the magnetic anomalies to the north.

## 5.2 Modeling

The modeling method used was the Talwanic method, which gives the gravitational effect of a two-dimensional multi-sided polygon. This method has proved quite effective when the width of the ore zone is relatively constant, as in the present case. Four lines, 0N, 250S, 400S and 550S were modeled and the results appear in Appendix VI. The approach used was to create areas of different densities delineated as the vertices of polygons. The difference between the densities of the polygons rather than the absolute densities is the significant factor in determining the shape of the profiles generated. In this case density contrasts of 0.3 and 0.5 milligals were modeled. Although the sections show this as due to a sedimentary unit of density 2.2 or 2.4 gm/cc underlain by a denser unit of 2.7 gm/cc, the results would be the same for any combination where the density difference was the same.

The usual approach when attempting modeling is to start with a point at which the density of the underlying rocks is known, as from drill results. Since this kind of information was not available, an assumption had to be made. It is known that the area has been glaciated, so it was postulated that the flat area at elevation 630 meters was the top of the glacial moraine. It was assumed that the denser unit (serpentine) would be at or near surface at the western end of the lines at elevation 650 meters. Figures 37, 38, and 40 show this type of model with a density contrast of 0.3 milligals. This model gives satisfactory results on lines 0N and 250S, with a suboutcrop of the serpentine at 20 meters and 4 meters respectively. However on line 400S this model did not fully account for the anomaly, particularly in the area from 200E to 300E. On line 550S it was necessary to assume a sedimentary cover on the western flank to fit the anomaly.

The second set of models put no constraints on the depth of sediments on the western flank and used a density contrast of 0.5 milligals. The depth to the sub-outcrop of the serpentine in the anomalous zone was kept constant. The main difference from the first model set is that the depth of sediments decreases from a central thickness of 200 meters to 130 meters on lines 0S, 250S and 400S, with a depth of 20 meters on the western flank. In light of the fact that the gravity values continue to increase sharply to the west, this model is believed to be more realistic.

On line 550S, a different approach was taken by establishing the sedimentary cover at 30 meters for both density contrasts. This resulted in maximum sediment thicknesses of 80 and 120 meters. In neither case was it possible to get a satisfactory fit to the high value at station 250E. Thus there is some evidence of a small zone of much higher density in this area.

Several general conclusions can be established from the modeling. Except for the anomalies on lines 400S and 550S, the rest of the anomalous zone can easily be accounted for by variations in the sedimentary cover. The magnetic values show a dip of 45 degrees to the west. The modeling generally confirms the westerly dip of the serpentine zone, although the dip may be steeper to the north and much shallower to the south. Secondly, even with the addition of a second polygon of higher density than the serpentine (see figure 40) it was not fully possible to explain the high values from 200 to 300E on lines 400S and 550S.

## 7. CONCLUSIONS AND RECOMMENDATIONS

An anomalous zone of magnitude 0.2 to 0.55 milligals was located about 50 meters to the west of a magnetic anomaly of 2000 gammas, and extending for 550 meters at a strike of 320 degrees. The magnetic anomalies to the north which had previously been drilled and which intersected chromite have a gravity signature of at most 0.1 milligal. There is little evidence from the geophysical surveys of a large chromite body in this area. However, the possibility of small chromite pods has not been ruled out. Magnetic Zone "B" is considered more promising than the area previously tested with drilling.

In light of the above, it is recommended that trenching be done in zone "B" at several locations between elevations 630 and 640 meters. Samples would be taken at regular intervals along the trenches, and density measurements taken prior to assaying. Should the results be encouraging, the next step would be a detailed gravity survey at 5 meter spacings between 200S and 550S for a distance of 200 meters on each line. The purpose would be to define drill targets and to better define the dip of the unit.

A tentative location for a drill hole is shown on figure 38.  
It should be collared at 250S and 35E, with a bearing of 70  
degrees and a dip of 60 degrees to a depth of at least 75 meters.

Respectfully submitted,  
Strato Geological Engineering Ltd.



M. Johnston, M.Sc.  
Geophysicist

April 4, 1987



## 8. REFERENCES

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The Gravitational Attraction of a Right Rectangular Prism,  
Geophysics Vol. XXXI, p. 362-371.

## 9. CERTIFICATE

I, MARTIN JOHNSON, of the City of Vancouver, Province of British Columbia, hereby certify that:

- 1) I am a geophysicist employed by Strato Geological Engineering Ltd. as a Consulting Geophysicist. My office is at 3566 King George Highway, Surrey, British Columbia, Canada, V4A 5B6
- 2) I obtained a Bachelor of Science degree in Mathematics and Physics from the University of British Columbia in 1966 and a Master of Science degree in Geophysics from the University of Utah, Salt Lake City in 1972.
- 3) I have been practising my profession as a geophysicist since 1972.
- 4) I have not received, nor do I expect to receive, any interests, direct or indirect, or contingent, in the securities or properties of Cardinal Mineral Corp., and that I am not an insider of any company having an interest in the Mariner Mineral Claim or any other properties in the area.

Dated at Surrey, this 4th day of April, 1987.



Martin Johnson, M.Sc.

## **APPENDIX I: Instrument Specifications**

## Instrument Specifications

### MAGNETOMETER

TYPE:	Scintrex
MODEL:	MP-2, Proton Magnetometer
FIELD:	Total
SENSITIVITY:	1 gamma
RANGE:	20,000 to 100,000 gammas
CAPABILITY:	5000 gammas/meter on gradient

### TRANSIT

TYPE:	Topcon Theodolite
MODEL:	TL 20-DE
SERIAL NO.:	E32999
OPTICAL SYSTEM:	Internal focusing analactic
ERECTING SYSTEM:	Porro-prism
MAGNIFICATION:	30x
FIELD:	1° 20'
RESOLUTION:	3"
STADIA RATIO:	100
STADIA CONSTANT:	0
OTHER:	Optical micrometer Digital readout

### GRAVIMETER

TYPE:	Lacoste & Romberg Land gravity meter
MODEL:	Model G #g199
RANGE:	7000 mgals
ACCURACY:	+0.01 mgals
DRIFT RATE:	<1mgal/month

**APPENDIX II: Time-Cost Distribution**

## TIME - COST DISTRIBUTION

The claims toward which work is being applied with this report is the Mariner Claim held by under option by Cardinal Mineral Corp. Field work was completed by Strato Geological Engineering Ltd. during the period of January 5 through February 9, 1987. Office work was completed during February and March, 1987.

A listing of personnel and distribution of costs is as follows:

### Personnel


R. Englund, B.Sc.	Project Supervisor
M. Johnston, M.Sc.	Project Geophysicist
A.E. Hunter, B.A.Sc.	Geophysicist
L. Meyer, B.A.Sc.	Geophysicist, Gravimeter Operator
E. Ulmer, C.E.T.	Surveyor
R. Bunce	Field Assistant, Rod man
K. Pinksen	Field Assistant

### Cost Distribution

A. Hunter Jan. 5 - Feb. 4	
L. Meyer Jan. 5 - Feb. 4	
E. Ulmer, R. Bunce, K. Pinkson Jan. 15 - Feb. 4	
M. Johnston Jan. 16 - 19	
R. Englund Jan. 4, 5, 16-19, 31 - Feb. 1 - 134 man days.	\$27,315.00
Room and Board - 134 @ 55/day	7,370.00
Vehicular - 4WD Trucks - 39 days @ 105/d (incl. gas, oil, insurance, etc.)	4,095.00
Field Equipment	
- Proton magnetometer	840.00
- LaCaste Romberg Gravity meter	2,040.00
- Topcon TL 20DE	600.00
- Computer and printer	720.00
- Materials & supplies, etc.	465.00
	<u>4,665.00</u>

Office Work  
- Gravity reduction, computer processing,  
programming,  
M. Johnston, A. Hunter, R.J. Englund 7,100.00  
- Drafting, reproduction, typing, etc 825.00  
- Geophysical Report 1,600.00

TOTAL \$52,970.00

Signed:   
Strato Geological Engineering Ltd.

**APPENDIX III: Terrain Correction Procedures**



### APPENDIX III: Terrain Correction Procedure

The formula for gravitational attraction is:

$$\Delta F = G\rho \frac{\Delta V}{r^2}$$

where  $G$  = Gravitational constant,  $\rho$  is the density,  $\Delta V$  is the volume element and  $r$  is the distance to the mass.

This formula may be integrated by parts to solve for the vertical component, which in Cartesian coordinates gives the formula:

$$F_z = G\rho \int_{x_1}^{x_2} dx \int_{y_1}^{y_2} dy \int_{z_1}^{z_2} \frac{z dz}{R}$$

where  $R = \sqrt{(x^2 + y^2 + z^2)^3}$

The solution of this integral for a right rectangular prism can take several forms. The solution given by Nagy (see references) is:

$$F_z = G\rho \left[ x \ln(y+r) + y \ln(x+r) - z \arcsin \frac{z^2 + y^2 + yr}{(y+r)\sqrt{y^2 + z^2}} \right]$$

with the appropriate limits for  $x, y,$  and  $z$  (setting the axis of our coordinate system at the station at which we presently wish to determine the terrain correction. If the prism is completely contained within one of the  $xy$  quadrants and we establish the base of the prism at the height of the station ( $Z_1=0$  and  $Z_2$ =Elevation difference between block and station), the solution takes the form:

$$F = X_2(T_1 - T_2) - X_1(T_3 - T_4) + Y_2(T_5 - T_6) - Y_1(T_7 - T_8) + Z_2(T_9 - T_{10} - T_{11}) + T_{12}$$

where the terms  $T_1$  to  $T_{12}$  take the form:

$$T = LN \left\{ \frac{U_K \cdot \sqrt{U_I^2 + U_K^2}}{U_K - \sqrt{U_I^2 + U_K^2 + Z_2^2}} \right\}$$

where U=Y in T1 to T4 and U=X in T5 to T8  
 V=X in T1 to T4 and V=Y in T5 to T8

and T1, T5- I=2, K=2                      T2, T6- I=2, K=1  
           T3, T7- I=1, K=2                      T4, T8- I=1, K=1

T9 to T12 take the form:

$$T = \text{ARCSIN} \left\{ \frac{Y_K + Z_2^2 + Y_K \sqrt{X_I^2 + Y_K^2 + Z_2^2}}{(Y_K + \sqrt{X_I^2 + Y_K^2 + Z_2^2}) \sqrt{Y_K^2 + Z_2^2}} \right\}$$

and T9- I=2, K=2                      T10- I=1, K=2  
       T11- I=2, K=1                      T12- I=1, K=1

Individual T terms may be large but since they come in pairs of opposite sign, the sum result is small. As a result any program designed to calculate the effect must be written in double precision.

In the special case where the block under consideration straddles either the x or y axis, the form of the equation is:

$$F1 = X2(T1 - T2) - X1(T3 - T4) + Y2(T5 - T6) - Y1(T7 - T8) + Z2(T9 - T10 - T11 + T12) + F13 + F14$$

where the terms F13 and F14 have the form:

$$T13 = Y2 \text{ LN} \left\{ \frac{Y_2}{Y_2 + Z_2} \right\} \qquad T14 = Y1 \text{ LN} \left\{ \frac{Y_1}{Y_1 + Z_2} \right\}$$

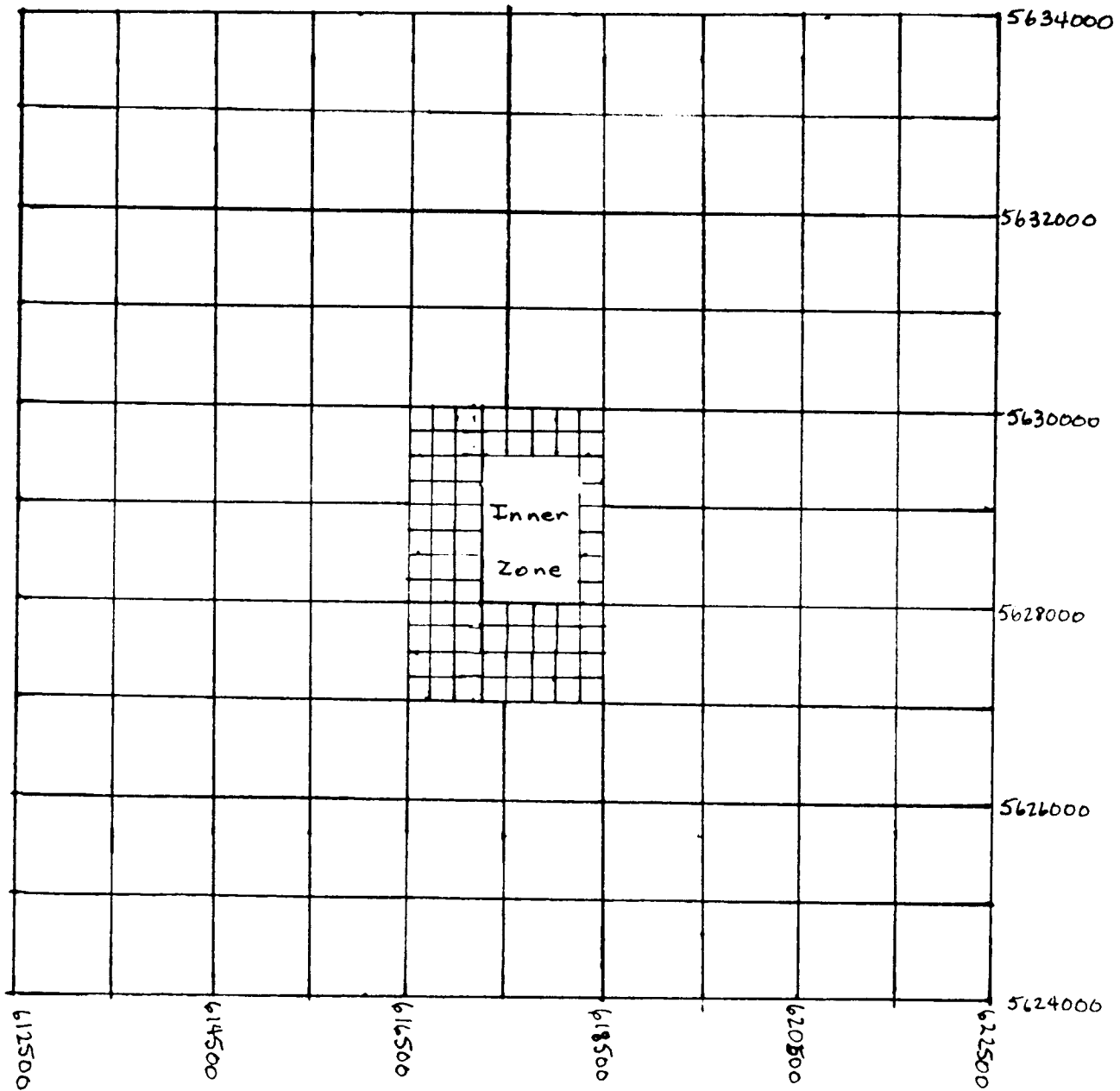
Note the difference in the signs of the T terms in equations for F and F1. The gravitational attraction in milligals is given by:

$$G = .0087 \times 2.67 \times F$$

The Fortran program to make the above calculations takes 5 seconds for a single block on a Kaypro II, and 5/100 of a second on an IBM AT computer. Running time for the calculations done for this project was 12 hours on the IBM-64 computer.

A drawing showing the blocks used in the above calculations follows on the next page.

Outer Zone - 1 kilometer + 250 meter blocks  
Inner Zone - 25 meter blocks  
(See Columns in Gravity Listings)



TERRAIN CORRECTION  
BLOCKS

Figure 48

**APPENDIX IV: Complete Bouguer Gravity Listings**

LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS 6	LAT 6	TER1 6	TER2 6	CB 6	GRAV (mgal)
650N	300	617113.7	629262.0	651.87	4174.54	0.54	5.41	2.16	4310.87	
650N	275	617136.5	629270.6	644.84	4176.04	0.44	5.25	2.07	4310.64	
650N	250	617161.2	629280.0	639.31	4177.52	0.43	5.10	1.77	4310.57	
650N	225	617184.5	629288.8	639.38	4177.81	0.42	4.84	1.50	4310.34	
650N	200	617209.7	629298.4	640.25	4177.87	0.42	4.55	1.42	4310.20	
650N	175	617233.0	629307.2	638.82	4178.01	0.41	4.37	1.53	4309.98	
650N	150	617255.0	629315.5	630.48	4179.35	0.40	4.40	1.67	4309.84	
650N	125	617278.0	629324.2	618.35	4181.71	0.39	4.42	1.71	4309.86	
650N	100	617300.5	629332.7	612.62	4182.96	0.39	4.35	1.51	4309.71	
650N	75	617324.5	629341.8	609.29	4183.80	0.38	4.24	1.38	4309.64	
650N	50	617348.7	629351.0	608.06	4184.19	0.37	4.10	1.33	4309.60	
650N	25	617373.0	629360.2	607.03	4184.51	0.37	3.97	1.32	4309.58	
650N	0	617398.4	629369.8	602.00	4185.56	0.36	3.91	1.38	4309.62	
650N	-25	617424.7	629379.7	596.36	4186.64	0.35	3.86	1.45	4309.60	
650N	-50	617446.5	629388.0	589.52	4187.92	0.34	3.85	1.33	4309.40	
650N	-75	617470.0	629396.9	582.48	4189.28	0.34	3.85	1.32	4309.36	
650N	-100	617493.0	629405.6	575.44	4190.63	0.33	3.85	1.38	4309.38	
650N	-125	617515.1	629414.0	568.70	4191.95	0.32	3.85	1.38	4309.36	
650N	-150	617538.8	629422.9	564.96	4192.76	0.32	3.81	1.39	4309.40	
650N	-175	617564.4	629432.6	559.02	4193.91	0.31	3.79	1.45	4309.41	
650N	-200	617589.1	629441.9	556.78	4194.48	0.30	3.72	1.37	4309.39	
650N	-225	617615.6	629452.0	556.14	4194.74	0.29	3.63	1.43	4309.49	
650N	-250	617642.0	629462.0	556.30	4194.80	0.29	3.54	1.45	4309.51	
650N	-275	617666.0	629471.1	562.86	4193.47	0.28	3.39	1.63	4309.49	
650N	-300	617692.0	629480.9	570.92	4191.75	0.27	3.25	1.96	4309.53	
650N	-325	617714.7	629489.5	575.08	4190.64	0.26	3.19	2.48	4309.69	
650N	-350	617729.4	629495.0	576.24	4190.09	0.26	3.16	2.89	4309.74	

9999

LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS 6	LAT 6	TER1 6	TER2 6	CB GRAV (mgal)
550N	400	617065.1	629160.6	687.60	4167.53	0.53	5.20	1.99	4310.50
550N	375	617086.2	629167.3	678.84	4169.23	0.52	5.20	1.99	4310.47
550N	350	617108.5	629174.2	667.28	4171.56	0.51	5.24	1.98	4310.54
550N	325	617127.6	629180.3	656.13	4173.65	0.51	5.32	2.06	4310.60
550N	300	617146.7	629186.2	643.37	4176.28	0.51	5.46	1.78	4310.58
550N	275	617169.9	629193.6	637.31	4177.62	0.50	5.31	1.74	4310.53
550N	250	617193.6	629200.9	632.95	4178.59	0.49	5.13	1.61	4310.32
550N	225	617218.0	629208.7	629.09	4179.42	0.49	4.95	1.49	4310.09
550N	200	617243.4	629216.6	624.74	4180.25	0.48	4.80	1.44	4309.86
550N	175	617269.0	629224.7	621.28	4180.97	0.48	4.64	1.40	4309.69
550N	150	617294.1	629232.4	619.52	4181.43	0.47	4.46	1.30	4309.52
550N	125	617318.8	629240.2	615.46	4182.22	0.46	4.36	1.34	4309.44
550N	100	617341.4	629247.3	607.10	4183.93	0.46	4.30	1.30	4309.41
550N	75	617366.5	629255.2	604.55	4184.50	0.45	4.24	1.28	4309.39
550N	50	617391.9	629263.1	602.39	4185.03	0.45	4.11	1.22	4309.29
550N	25	617419.1	629271.7	601.33	4185.30	0.44	3.97	1.33	4309.33
550N	0	617433.8	629276.3	601.30	4185.47	0.42	3.86	1.38	4309.41
550N	-25	617456.4	629286.7	597.50	4186.36	0.42	3.83	1.31	4309.45
550N	-50	617479.3	629297.2	592.60	4187.29	0.41	3.79	1.37	4309.43
550N	-75	617503.3	629308.2	588.50	4188.11	0.41	3.73	1.45	4309.46
550N	-100	617528.9	629320.0	577.40	4190.31	0.40	3.78	1.48	4309.55
550N	-125	617558.1	629333.4	567.70	4192.06	0.39	3.80	1.61	4309.53
550N	-150	617585.9	629346.2	571.90	4191.25	0.38	3.71	1.64	4309.47
550N	-175	617608.9	629356.8	569.70	4191.76	0.37	3.55	1.67	4309.41
550N	-200	617634.3	629368.4	568.10	4192.01	0.36	3.47	1.81	4309.40
550N	-225	617656.6	629378.7	563.80	4193.02	0.35	3.45	1.89	4309.59
550N	-250	617679.6	629389.3	560.10	4193.77	0.34	3.42	2.03	4309.63
550N	-275	617703.5	629400.2	559.40	4193.88	0.33	3.35	2.13	4309.73
550N	-300	617726.2	629410.7	558.10	4193.99	0.33	3.30	2.26	4309.66
550N	-325	617750.1	629421.7	560.00	4193.47	0.32	3.22	2.60	4309.76
550N	-350	617770.1	629430.9	561.00	4192.99	0.31	3.16	3.06	4309.87
550N	-375	617786.0	629440.0	558.20	4193.39	0.30	3.15	3.22	4309.86

9999

LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS 6	LAT 6	TER1 6	TER2 6	CB GRAV (mgal)
500N	400	617079.4	629113.0	684.30	4168.15	0.56	5.21	2.37	4310.89
500N	375	617102.2	629120.2	677.76	4169.44	0.56	5.08	2.24	4310.64
500N	350	617127.6	629128.1	671.51	4170.73	0.55	4.93	2.32	4310.61
500N	325	617145.7	629133.7	656.87	4173.59	0.55	5.16	2.03	4310.54
500N	300	617169.6	629141.2	644.92	4176.07	0.54	5.11	1.90	4310.48
500N	275	617196.5	629148.7	638.28	4177.47	0.53	5.07	1.89	4310.51
500N	250	617216.6	629155.9	634.14	4178.27	0.53	4.96	1.79	4310.28
500N	225	617241.4	629163.6	626.99	4179.69	0.52	4.89	1.63	4310.06
500N	200	617264.4	629170.8	623.05	4180.44	0.52	4.76	1.49	4309.77
500N	175	617288.7	629178.4	619.60	4181.10	0.51	4.62	1.33	4309.44
500N	150	617312.0	629185.7	616.36	4181.83	0.50	4.50	1.30	4309.37
500N	125	617336.4	629193.3	615.52	4182.05	0.50	4.33	1.32	4309.27
500N	100	617360.2	629200.8	611.27	4182.85	0.49	4.25	1.36	4309.19
500N	75	617385.3	629208.6	603.83	4184.32	0.49	4.22	1.29	4309.09
500N	50	617408.8	629215.9	601.98	4184.78	0.48	4.11	1.26	4309.04
500N	25	617431.2	629222.9	599.04	4185.37	0.47	4.06	1.31	4309.04
500N	0	617454.8	629230.3	592.90	4186.69	0.47	4.00	1.32	4309.10
500N	-25	617477.0	629237.3	585.40	4188.32	0.46	4.01	1.42	4309.36
500N	-50	617502.5	629245.3	579.20	4189.59	0.46	3.98	1.56	4309.52
500N	-75	617527.3	629253.0	578.40	4189.87	0.45	3.87	1.67	4309.62
500N	-100	617554.1	629261.4	577.40	4190.08	0.44	3.76	1.69	4309.54
500N	-125	617577.3	629268.7	576.50	4190.20	0.44	3.78	1.83	4309.65
500N	-175	617619.8	629282.0	553.60	4194.44	0.43	3.85	2.08	4309.69
500N	-200	617642.9	629289.2	542.50	4196.25	0.42	3.95	2.44	4309.77
500N	-225	617668.4	629297.2	529.50	4198.66	0.42	3.99	2.55	4309.87
500N	-250	617695.4	629305.6	522.90	4200.11	0.41	3.95	2.63	4309.95
500N	-275	617722.6	629314.1	515.00	4201.25	0.40	4.00	3.03	4309.97
500N	-300	617746.1	629321.5	509.60	4202.33	0.44	4.00	2.96	4310.00
500N	-325	617770.5	629329.1	504.80	4203.23	0.39	3.95	3.07	4309.03
500N	-350	617794.0	629337.4	499.40	4204.22	0.38	3.97	3.11	4309.91

9999

LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS 6	LAT 6	TER1 6	TER2 6	CB GRAV (mgal)
450N	400	617079.2	629063.3	684.75	4169.12	0.60	5.22	1.72	4311.36
450N	375	617103.9	629071.3	680.56	4169.78	0.60	5.18	1.72	4311.14
450N	350	617130.2	629079.9	670.27	4171.60	0.59	5.15	1.77	4310.95
450N	325	617150.4	629086.4	656.48	4174.22	0.58	5.19	1.67	4310.79
450N	300	617170.6	629092.9	647.19	4176.05	0.58	5.15	1.58	4310.67
450N	275	617192.1	629099.9	638.90	4177.67	0.57	5.17	1.50	4310.58
450N	250	617216.0	629107.7	633.21	4178.75	0.57	5.11	1.44	4310.42
450N	225	617239.7	629115.4	627.22	4179.92	0.56	5.01	1.45	4310.31
450N	200	617263.7	629123.2	621.62	4180.98	0.56	4.91	1.56	4310.28
450N	175	617290.9	629132.0	618.63	4181.62	0.55	4.73	1.58	4310.16
450N	150	617314.2	629139.6	615.84	4182.12	0.54	4.67	1.49	4309.96
450N	125	617338.9	629147.7	613.05	4182.74	0.54	4.46	1.42	4309.75
450N	100	617362.4	629155.2	607.86	4183.78	0.53	4.43	1.41	4309.72
450N	75	617387.6	629163.4	602.47	4184.78	0.52	4.37	1.44	4309.62
450N	50	617411.4	629171.2	598.68	4185.59	0.52	4.29	1.43	4309.59
450N	25	617436.1	629179.2	595.89	4186.16	0.52	4.23	1.45	4309.58
450N	0	617469.8	629181.0	589.00	4187.53	0.50	4.08	1.64	4309.61
450N	-25	617495.1	629189.1	592.65	4187.25	0.50	3.87	1.40	4309.59
450N	-50	617518.8	629196.7	596.91	4186.50	0.50	3.69	1.61	4309.71
450N	-75	617542.0	629204.1	592.37	4187.49	0.49	3.65	1.64	4309.79
450N	-100	617566.3	629211.9	586.63	4188.56	0.48	3.63	1.70	4309.76
450N	-125	617587.7	629218.8	578.59	4190.09	0.48	3.66	1.71	4309.74
450N	-150	617611.4	629226.4	573.85	4191.05	0.47	3.63	1.75	4309.78
450N	-175	617635.4	629234.1	570.11	4191.49	0.47	3.68	1.96	4309.74
450N	-200	617656.1	629240.7	557.27	4193.95	0.46	3.70	2.04	4309.76
450N	-225	617676.5	629247.2	547.23	4195.85	0.46	3.76	2.22	4309.93
450N	-250	617700.7	629255.0	539.39	4197.24	0.45	3.82	2.26	4309.87
450N	-275	617728.1	629263.8	538.85	4197.45	0.44	3.72	2.21	4309.81
450N	-350	617794.3	629274.7	507.03	4203.00	0.43	3.93	2.57	4309.85
450N	-375	617810.6	629288.6	500.79	4204.03	0.42	3.94	2.90	4309.80
450N	-400	617838.2	629287.4	506.05	4203.35	0.42	3.92	2.56	4309.79

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LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS G	LAT G	TER1 G	TER2 G	CB GRAY (mgal)
400N	400	617095.1	629014.0	689.15	4168.53	0.64	5.05	1.68	4311.46
400N	375	617119.4	629021.7	685.44	4169.10	0.63	4.84	1.84	4311.24
400N	350	617143.9	629029.4	676.33	4170.71	0.63	4.83	1.75	4310.96
400N	325	617167.8	629037.0	665.12	4172.73	0.62	4.88	1.75	4310.81
400N	300	617191.1	629044.3	655.61	4174.53	0.62	4.90	1.68	4310.69
400N	275	617215.8	629052.1	645.80	4176.53	0.61	4.86	1.63	4310.65
400N	250	617239.6	629059.6	639.79	4177.70	0.60	4.82	1.56	4310.53
400N	225	617263.9	629067.4	633.48	4178.82	0.60	4.76	1.60	4310.42
400N	200	617287.4	629074.7	624.38	4180.40	0.59	4.75	1.75	4310.41
400N	175	617311.7	629082.4	616.07	4181.98	0.59	4.73	1.82	4310.30
400N	150	617335.0	629089.8	612.16	4182.80	0.58	4.63	1.76	4310.18
400N	125	617358.4	629097.2	609.95	4183.35	0.57	4.49	1.60	4309.99
400N	100	617383.1	629104.9	607.74	4183.78	0.57	4.36	1.56	4309.81
400N	50	617433.3	629120.9	602.82	4184.99	0.56	4.12	1.38	4309.62
400N	25	617459.2	629129.1	598.11	4185.99	0.55	4.05	1.46	4309.70
400N	0	617483.9	629137.0	604.00	4184.78	0.55	3.88	1.54	4309.56
400N	-25	617513.6	629133.2	602.75	4184.95	0.55	3.73	1.59	4309.38
400N	-50	617534.9	629140.0	599.99	4185.55	0.54	3.65	1.63	4309.39
400N	-75	617559.2	629147.9	596.83	4186.24	0.53	3.59	1.84	4309.60
400N	-100	617582.2	629155.2	592.37	4187.00	0.53	3.55	1.88	4309.48
400N	-125	617605.8	629162.8	585.01	4188.42	0.52	3.56	1.87	4309.44
400N	-150	617628.4	629170.0	573.65	4190.65	0.52	3.64	1.88	4309.53
400N	-175	617651.4	629177.4	565.39	4192.31	0.51	3.67	1.91	4309.61
400N	-200	617675.9	629185.2	563.23	4192.74	0.50	3.60	1.89	4309.51
400N	-275	617746.0	629207.7	549.95	4195.34	0.49	3.53	2.13	4309.67
400N	-300	617766.7	629214.3	545.09	4196.16	0.49	3.53	2.16	4309.56
400N	-325	617792.7	629222.7	535.13	4198.05	0.48	3.61	2.16	4309.56
400N	-350	617813.0	629229.2	528.97	4199.23	0.47	3.63	2.21	4309.59
400N	-375	617838.8	629237.4	523.01	4200.46	0.46	3.65	2.26	4309.71
400N	-400	617861.6	629244.7	529.55	4199.07	0.46	3.45	2.63	4309.77
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LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS 6	LAT 6	TER1 6	TER2 6	CB 6	GRAV (mgal)
350N	400	617130.1	628913.2	679.20	4170.57	0.68	5.25	1.39	4311.48	
350N	375	617153.9	628968.7	673.70	4171.68	0.68	4.97	1.42	4311.27	
350N	350	617178.1	628977.0	672.60	4171.85	0.67	4.72	1.63	4311.17	
350N	325	617200.9	628984.9	663.30	4173.60	0.66	4.74	1.55	4311.02	
350N	300	617226.2	628993.6	656.60	4174.82	0.66	4.63	1.68	4310.94	
350N	275	617248.0	629001.1	646.00	4176.82	0.65	4.64	1.70	4310.88	
350N	250	617271.6	629009.2	644.40	4177.21	0.64	4.55	1.56	4310.72	
350N	225	617295.7	629017.5	642.80	4177.49	0.64	4.39	1.68	4310.64	
350N	200	617318.4	629025.3	636.00	4178.64	0.63	4.36	1.62	4310.35	
350N	175	617341.5	629033.3	628.80	4179.89	0.62	4.36	1.65	4310.20	
350N	150	617362.3	629040.4	620.20	4181.51	0.62	4.36	1.67	4310.15	
350N	125	617385.4	629048.4	614.90	4182.65	0.61	4.31	1.66	4310.19	
350N	100	617409.0	629056.5	614.70	4182.73	0.60	4.15	1.50	4309.89	
350N	75	617432.6	629064.6	612.40	4183.27	0.60	4.05	1.46	4309.84	
350N	50	617456.1	629072.7	610.80	4183.67	0.59	3.94	1.51	4309.85	
350N	25	617479.6	629080.8	609.30	4184.02	0.58	3.83	1.48	4309.76	
350N	0	617503.1	629088.9	607.80	4184.30	0.58	3.74	1.58	4309.75	
350N	-25	617531.0	629097.0	603.00	4185.21	0.57	3.68	1.62	4309.69	
350N	-50	617554.0	629105.0	598.11	4186.13	0.56	3.65	1.61	4309.60	
350N	-75	617578.0	629114.0	591.91	4187.19	0.56	3.69	1.79	4309.64	
350N	-100	617601.0	629121.0	580.82	4189.33	0.55	3.70	1.90	4309.73	
350N	-125	617624.0	629129.0	572.13	4190.89	0.54	3.73	2.03	4309.73	
350N	-150	617647.0	629137.0	568.93	4191.64	0.54	3.68	1.92	4309.75	
350N	-175	617670.0	629145.0	558.34	4193.67	0.53	3.76	2.07	4309.86	
350N	-200	617694.0	629153.0	556.35	4194.25	0.52	3.69	2.01	4309.90	
350N	-225	617718.0	629162.0	560.15	4193.64	0.51	3.53	1.96	4309.82	
350N	-250	617742.0	629170.0	555.06	4194.45	0.50	3.50	2.01	4309.67	
350N	-275	617767.0	629178.0	547.77	4195.96	0.49	3.53	1.95	4309.68	
350N	-300	617790.0	629187.0	545.37	4196.26	0.49	3.50	2.10	4309.63	
350N	-325	617813.0	629194.0	541.78	4196.84	0.48	3.56	2.15	4309.60	
350N	-350	617836.0	629202.0	535.89	4198.00	0.47	3.57	2.21	4309.66	
350N	-375	617860.0	629211.0	532.29	4198.65	0.46	3.58	2.27	4309.66	
350N	-400	617884.0	629219.0	528.00	4199.27	0.46	3.62	2.49	4309.72	

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LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS 6	LAT 6	TER1 6	TER2 6	CB GRAV (mgal)
300N	400	617146.2	628913.2	678.65	4170.61	0.72	5.07	1.64	4311.53
300N	375	617170.3	628921.5	674.12	4171.48	0.71	4.92	1.72	4311.43
300N	350	617192.1	628929.0	660.48	4174.04	0.71	5.06	1.75	4311.48
300N	325	617216.8	628937.5	655.85	4175.05	0.70	4.91	1.67	4311.33
300N	300	617242.8	628946.5	651.01	4175.93	0.69	4.78	1.80	4311.25
300N	275	617271.3	628956.3	655.58	4174.93	0.69	4.71	1.66	4310.94
300N	250	617294.8	628964.4	649.44	4176.36	0.68	4.46	1.54	4310.79
300N	225	617319.2	628972.8	647.41	4176.72	0.67	4.22	1.64	4310.59
300N	200	617343.2	628981.0	642.27	4177.53	0.67	4.15	1.60	4310.28
300N	175	617367.2	628989.3	636.34	4178.72	0.66	4.11	1.62	4310.27
300N	150	617391.1	628997.5	630.60	4179.77	0.65	4.06	1.64	4310.16
300N	125	617413.8	629005.3	623.87	4181.09	0.65	4.04	1.63	4310.13
300N	100	617438.4	629013.8	619.73	4181.95	0.64	3.97	1.57	4310.03
300N	75	617462.3	629022.0	613.40	4183.15	0.63	3.94	1.57	4309.94
300N	50	617487.2	629030.6	609.66	4183.89	0.63	3.87	1.62	4309.93
300N	25	617501.1	629035.4	606.33	4184.46	0.62	3.85	1.72	4309.91
300N	0	617520.1	629040.7	601.60	4185.38	0.62	3.83	1.68	4309.84
300N	-25	617544.0	629049.0	598.39	4186.08	0.61	3.76	1.76	4309.92
300N	-50	617567.0	629057.0	591.58	4187.34	0.60	3.76	1.94	4310.00
300N	-75	617592.0	629065.0	580.08	4189.40	0.60	3.73	2.20	4310.04
300N	-100	617616.0	629074.0	585.57	4188.60	0.59	3.63	1.99	4309.99
300N	-125	617640.0	629082.0	586.67	4188.43	0.58	3.58	1.99	4309.97
300N	-150	617665.0	629091.0	579.46	4189.92	0.57	3.57	1.97	4310.03
300N	-175	617688.0	629098.0	572.65	4191.35	0.56	3.52	1.95	4310.02
300N	-200	617708.0	629105.0	564.15	4193.14	0.56	3.47	1.92	4310.09
300N	-225	617732.0	629114.0	558.24	4194.44	0.55	3.46	1.90	4310.15
300N	-250	617757.0	629122.0	556.64	4194.83	0.54	3.39	1.93	4310.18
300N	-275	617782.0	629131.0	551.33	4195.78	0.53	3.38	1.90	4310.04
300N	-300	617806.0	629139.0	547.42	4196.78	0.52	3.32	1.79	4310.09
300N	-325	617830.0	629149.0	544.32	4197.39	0.52	3.31	1.87	4310.16
300N	-350	617852.0	629155.0	537.61	4198.69	0.51	3.34	1.95	4310.24
300N	-375	617877.0	629163.0	533.51	4199.22	0.50	3.33	2.13	4310.12
300N	-400	617896.0	629170.0	521.20	4201.59	0.49	3.41	2.07	4310.07

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LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS G	LAT G	TER1 G	TER2 G	CB G	GRAV (mgal)
250N	400	617154.0	628868.0	677.10	4171.27	0.75	5.18	1.40	4311.78	
250N	375	617178.0	628875.0	674.17	4171.96	0.74	4.97	1.38	4311.66	
250N	350	617202.0	628883.0	672.64	4172.29	0.74	4.79	1.38	4311.51	
250N	325	617226.0	628891.0	669.61	4172.96	0.73	4.60	1.40	4311.41	
250N	300	617249.0	628898.0	664.47	4173.94	0.73	4.51	1.41	4311.29	
250N	275	617273.0	628906.0	659.64	4174.91	0.72	4.42	1.43	4311.23	
250N	250	617297.0	628913.0	660.01	4174.86	0.72	4.23	1.53	4311.16	
250N	225	617321.0	628921.0	656.38	4175.49	0.71	4.13	1.57	4311.01	
250N	200	617345.0	628928.0	652.25	4176.28	0.71	4.05	1.58	4310.92	
250N	175	617368.0	628936.0	647.02	4177.28	0.70	4.00	1.56	4310.81	
250N	150	617392.0	628943.0	643.49	4177.89	0.69	3.92	1.64	4310.71	
250N	125	617418.0	628952.0	639.66	4178.47	0.69	3.84	1.77	4310.59	
250N	100	617442.0	628959.0	629.52	4180.36	0.68	3.87	1.65	4310.38	
250N	75	617466.0	628967.0	626.49	4181.00	0.68	3.80	1.65	4310.36	
250N	50	617490.0	628976.0	623.76	4181.41	0.67	3.71	1.70	4310.19	
250N	25	617513.0	628982.0	611.33	4183.46	0.66	3.80	1.84	4310.01	
250N	0	617538.9	628990.0	602.40	4185.16	0.66	3.81	1.91	4310.03	
250N	-25	617568.9	629000.3	598.45	4185.96	0.66	3.73	2.01	4310.08	
250N	-50	617593.7	629008.2	602.09	4185.46	0.65	3.56	1.93	4310.03	
250N	-75	617617.4	629016.1	601.72	4185.56	0.64	3.46	2.14	4310.16	
250N	-100	617641.2	629023.0	596.76	4186.59	0.64	3.44	2.22	4310.27	
250N	-125	617664.9	629030.9	592.00	4187.42	0.63	3.41	2.21	4310.11	
250N	-150	617687.7	629037.8	583.63	4189.04	0.63	3.44	2.18	4310.09	
250N	-175	617711.4	629045.7	576.27	4190.48	0.62	3.45	2.15	4310.05	
250N	-200	617734.2	629053.6	568.01	4192.10	0.62	3.48	2.12	4310.05	
250N	-225	617757.0	629060.5	558.14	4194.06	0.62	3.54	2.11	4310.12	
250N	-250	617779.7	629067.4	551.58	4195.37	0.61	3.56	2.15	4310.19	
250N	-275	617803.5	629075.3	547.42	4196.39	0.60	3.54	2.01	4310.20	
250N	-300	617829.2	629083.2	542.55	4197.33	0.59	3.52	2.00	4310.16	
250N	-325	617853.0	629091.1	536.59	4198.54	0.59	3.53	2.00	4310.18	
250N	-350	617877.7	629099.0	534.53	4198.95	0.58	3.48	2.06	4310.21	
250N	-375	617900.6	629105.9	533.26	4199.16	0.58	3.42	2.22	4310.27	
250N	-400	617925.3	629113.8	531.20	4199.40	0.57	3.37	2.48	4310.31	

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LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS 6	LAT 6	TER1 6	TER2 6	CB 6	GRAV (mgal)
200N	400	617172.4	628821.3	679.00	4170.99	0.77	5.07	1.48	4311.87	
200N	375	617195.6	628828.4	674.97	4171.90	0.78	4.91	1.40	4311.76	
200N	350	617218.7	628836.4	671.64	4172.62	0.78	4.76	1.36	4311.63	
200N	325	617244.9	628844.5	667.91	4173.44	0.77	4.60	1.33	4311.52	
200N	300	617268.1	628851.6	665.57	4173.97	0.77	4.45	1.39	4311.50	
200N	275	617292.3	628859.7	663.74	4174.34	0.76	4.30	1.38	4311.34	
200N	250	617317.5	628867.7	662.71	4174.66	0.75	4.14	1.24	4311.29	
200N	225	617340.7	628874.8	659.08	4175.21	0.75	4.05	1.54	4311.19	
200N	200	617365.9	628882.9	654.15	4176.25	0.74	3.98	1.40	4311.04	
200N	175	617390.1	628890.9	649.02	4177.22	0.73	3.93	1.39	4310.93	
200N	150	617415.2	628899.1	644.69	4178.00	0.73	3.86	1.43	4310.83	
200N	125	617440.4	628907.1	644.76	4177.89	0.72	3.72	1.65	4310.80	
200N	100	617464.6	628914.2	641.32	4178.41	0.72	3.65	1.80	4310.73	
200N	75	617487.8	628922.2	630.79	4180.55	0.71	3.70	1.70	4310.74	
200N	50	617512.0	628930.3	615.76	4183.21	0.71	3.71	1.99	4310.70	
200N	25	617546.2	628940.4	622.73	4181.91	0.70	3.54	1.98	4310.62	
200N	0	617552.8	628942.2	624.60	4181.13	0.70	3.49	2.33	4310.51	
200N	-25	617576.0	628950.0	621.55	4181.87	0.69	3.43	2.24	4310.49	
200N	-50	617591.2	628954.1	614.12	4183.06	0.69	3.47	2.54	4310.45	
200N	-75	617624.5	628965.2	604.88	4184.98	0.68	3.46	2.40	4310.50	
200N	-100	617648.7	628973.3	593.85	4187.13	0.68	3.51	2.38	4310.51	
200N	-125	617675.0	628981.4	585.41	4188.73	0.67	3.53	2.35	4310.43	
200N	-150	617696.2	628988.6	576.48	4190.43	0.67	3.57	2.39	4310.45	
200N	-175	617722.5	628996.6	567.24	4191.97	0.66	3.61	2.66	4310.48	
200N	-200	617746.7	629003.7	564.11	4192.79	0.65	3.56	2.50	4310.46	
200N	-225	617770.0	629011.9	558.17	4193.98	0.65	3.56	2.43	4310.43	
200N	-250	617792.2	629018.9	550.64	4195.62	0.64	3.59	2.30	4310.46	
200N	-275	617817.6	629026.1	546.71	4196.56	0.64	3.56	2.31	4310.48	
200N	-300	617839.8	629034.2	543.77	4197.32	0.63	3.52	2.04	4310.46	
200N	-325	617865.1	629042.2	540.74	4197.98	0.63	3.48	1.98	4310.43	
200N	-350	617888.3	629049.4	535.50	4198.99	0.62	3.48	2.04	4310.46	
200N	-375	617914.6	629057.5	534.07	4199.30	0.62	3.42	2.03	4310.42	
200N	-400	617939.8	629065.6	533.33	4199.47	0.61	3.35	2.24	4310.58	
200N	-425	617961.0	629072.0	532.70	4199.21	0.60	3.29	2.67	4310.55	

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LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS 6	LAT 6	TER1 6	TER2 6	CB GRAV (mgal)
150N	400	617183.2	628745.8	682.65	4170.17	0.85	5.02	1.56	4311.90
150N	375	617207.1	628754.6	678.13	4171.13	0.84	4.93	1.58	4311.87
150N	350	617231.0	628763.5	674.32	4171.94	0.84	4.77	1.51	4311.70
150N	300	617278.0	628780.9	667.49	4173.49	0.82	4.50	1.45	4311.55
150N	275	617301.2	628789.5	664.67	4174.09	0.82	4.37	1.45	4311.47
150N	250	617324.2	628798.0	662.33	4174.55	0.81	4.24	1.37	4311.25
150N	225	617347.6	628806.7	660.74	4174.87	0.80	4.11	1.42	4311.17
150N	200	617371.8	628815.6	658.43	4175.34	0.80	3.99	1.48	4311.12
150N	175	617395.1	628824.3	653.41	4176.29	0.79	3.94	1.42	4310.96
150N	150	617418.1	628832.8	648.80	4177.23	0.78	3.84	1.40	4310.84
150N	125	617441.9	628841.6	645.68	4177.75	0.78	3.80	1.45	4310.78
150N	100	617465.6	628850.4	643.27	4178.14	0.77	3.71	1.56	4310.71
150N	75	617488.1	628858.7	636.65	4179.27	0.76	3.70	1.77	4310.73
150N	50	617514.9	628868.7	628.34	4180.85	0.76	3.69	1.84	4310.73
150N	25	617541.4	628878.5	631.62	4180.20	0.75	3.52	1.94	4310.65
150N	0	617564.2	628886.9	638.10	4178.94	0.74	3.35	2.18	4310.73
150N	-25	617587.0	628896.0	636.32	4179.39	0.74	3.28	2.18	4310.76
150N	-50	617609.2	628904.4	629.88	4180.56	0.73	3.27	2.34	4310.79
150N	-75	617631.5	628912.7	622.45	4181.96	0.73	3.28	2.35	4310.76
150N	-100	617653.7	628921.1	614.31	4183.37	0.72	3.29	2.50	4310.72
150N	-125	617676.0	628929.4	607.08	4184.67	0.71	3.30	2.51	4310.61
150N	-150	617698.2	628937.7	595.34	4187.03	0.71	3.36	2.47	4310.67
150N	-175	617721.5	628947.1	586.51	4188.73	0.70	3.39	2.37	4310.55
150N	-200	617744.7	628955.5	577.17	4190.43	0.70	3.43	2.40	4310.49
150N	-225	617766.0	628963.8	567.63	4192.35	0.69	3.49	2.38	4310.56
150N	-250	617790.2	628973.2	557.90	4194.35	0.68	3.50	2.32	4310.59
150N	-275	617813.6	628981.6	549.96	4196.10	0.68	3.54	2.12	4310.61
150N	-300	617837.8	628990.9	543.83	4197.42	0.67	3.52	2.02	4310.62
150N	-325	617862.1	629000.2	540.79	4197.99	0.67	3.54	2.05	4310.63
150N	-350	617886.3	629009.6	540.16	4198.14	0.66	3.46	2.10	4310.61
150N	-375	617910.6	629018.9	533.82	4199.51	0.65	3.48	2.03	4310.67
150N	-400	617936.8	629028.3	533.69	4199.56	0.65	3.39	2.07	4310.65
150N	-425	617956.0	629032.0	533.35	4199.55	0.64	3.33	2.20	4310.63

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LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS 6	LAT 6	TER1 6	TER2 6	CB GRAV (mgal)
100N	400	617200.5	628699.1	687.70	4169.18	0.89	4.91	1.69	4311.94
100N	375	617223.4	628707.6	679.10	4170.98	0.88	4.88	1.61	4311.93
100N	350	617245.8	628715.9	674.10	4172.06	0.88	4.77	1.51	4311.81
100N	325	617269.7	628724.7	670.00	4173.00	0.87	4.64	1.43	4311.73
100N	300	617293.1	628733.4	667.40	4173.65	0.86	4.49	1.45	4311.73
100N	275	617316.2	628741.9	665.20	4174.06	0.86	4.35	1.38	4311.50
100N	250	617340.2	628750.8	662.60	4174.67	0.85	4.23	1.36	4311.44
100N	225	617363.3	628759.4	659.40	4175.28	0.84	4.13	1.34	4311.30
100N	200	617386.6	628768.0	657.00	4175.80	0.83	4.02	1.36	4311.24
100N	175	617410.6	628776.9	654.50	4176.23	0.83	3.92	1.38	4311.10
100N	150	617434.5	628785.7	649.40	4177.22	0.82	3.86	1.38	4311.02
100N	125	617458.8	628794.7	645.40	4177.98	0.81	3.79	1.40	4310.93
100N	100	617482.4	628803.5	642.20	4178.58	0.81	3.70	1.48	4310.81
100N	75	617508.7	628813.2	635.90	4179.75	0.80	3.58	1.68	4310.89
100N	50	617534.7	628822.9	645.60	4177.89	0.79	3.44	1.78	4310.89
100N	25	617558.1	628831.5	646.80	4177.57	0.78	3.33	2.02	4310.92
100N	0	617581.5	628840.2	645.00	4177.90	0.78	3.27	2.24	4311.06
100N	-25	617617.8	628862.8	635.72	4179.57	0.78	3.23	2.41	4311.04
100N	-50	617641.6	628870.4	628.64	4180.95	0.77	3.22	2.54	4311.13
100N	-75	617685.3	628887.1	621.76	4182.08	0.76	3.15	2.87	4311.16
100N	-100	617707.1	628894.8	613.08	4183.73	0.75	3.17	2.86	4311.11
100N	-125	617726.8	628901.4	602.20	4185.78	0.75	3.23	2.78	4310.99
100N	-150	617749.6	628910.1	592.63	4187.60	0.74	3.26	2.70	4310.85
100N	-175	617774.4	628918.8	586.25	4188.83	0.74	3.25	2.67	4310.80
100N	-225	617818.9	628935.1	569.79	4192.03	0.72	3.31	2.51	4310.64
100N	-250	617841.6	628942.8	558.21	4194.29	0.72	3.40	2.47	4310.64
100N	-275	617864.4	628951.4	549.33	4196.09	0.71	3.45	2.30	4310.60
100N	-300	617887.2	628959.1	550.35	4196.05	0.71	3.35	2.22	4310.58
100N	-325	617909.9	628967.8	542.57	4197.25	0.70	3.39	2.48	4310.55
100N	-350	617934.7	628976.4	535.59	4198.84	0.69	3.42	2.27	4310.57
100N	-375	617957.4	628985.1	528.62	4200.33	0.69	3.41	2.20	4310.60
100N	-400	617981.2	628992.8	527.64	4200.78	0.68	3.35	2.02	4310.62
100N	-425	618000.0	628996.0	527.26	4200.79	0.67	3.35	2.20	4310.83
100N	-450	618019.0	629003.0	523.28	4201.43	0.67	3.35	2.36	4311.74

9999

LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS 6	LAT 6	TER1 6	TER2 6	CB GRAV (mgal)
50N	400	617216.8	628640.0	689.74	4168.78	0.93	4.85	1.79	4312.01
50N	375	617239.9	628649.4	681.57	4170.40	0.92	4.81	1.74	4311.93
50N	350	617264.3	628659.4	674.00	4171.99	0.91	4.75	1.64	4311.87
50N	325	617288.8	628669.4	670.32	4172.84	0.91	4.61	1.60	4311.82
50N	300	617312.5	628679.1	667.35	4173.50	0.90	4.47	1.50	4311.64
50N	275	617336.2	628688.8	664.18	4174.23	0.90	4.34	1.41	4311.53
50N	250	617359.0	628698.1	661.31	4174.83	0.89	4.23	1.37	4311.40
50N	225	617382.9	628707.8	658.64	4175.43	0.87	4.12	1.33	4311.31
50N	200	617407.4	628717.8	655.96	4175.92	0.87	4.01	1.34	4311.16
50N	175	617432.6	628728.1	652.49	4176.58	0.86	3.91	1.35	4311.04
50N	150	617457.1	628738.0	648.12	4177.51	0.85	3.85	1.38	4311.07
50N	125	617481.1	628748.7	646.95	4177.78	0.85	3.73	1.37	4310.99
50N	100	617505.8	628758.0	644.08	4178.32	0.84	3.65	1.49	4310.99
50N	75	617529.7	628767.7	647.40	4177.73	0.83	3.50	1.54	4310.94
50N	50	617553.5	628777.4	650.63	4177.01	0.83	3.36	1.83	4311.01
50N	25	617577.3	628787.2	652.96	4176.40	0.82	3.25	2.19	4311.10
50N	0	617600.4	628796.6	652.30	4176.39	0.81	3.18	2.54	4311.23
50N	-25	617621.1	628805.6	642.72	4178.27	0.80	3.20	2.38	4311.08
50N	-50	617644.4	628816.1	631.58	4180.40	0.80	3.24	2.37	4311.04
50N	-75	617670.9	628827.9	628.44	4180.76	0.79	3.18	2.65	4311.00
50N	-100	617689.6	628836.2	618.02	4182.74	0.78	3.23	2.66	4310.98
50N	-125	617708.7	628844.9	607.38	4184.96	0.77	3.28	2.43	4310.91
50N	-150	617732.9	628855.8	596.94	4186.93	0.77	3.32	2.42	4310.85
50N	-175	617756.9	628866.6	589.90	4188.16	0.76	3.32	2.47	4310.74
50N	-200	617781.7	628877.6	580.46	4189.98	0.75	3.35	2.53	4310.79
50N	-225	617805.1	628888.2	574.54	4191.22	0.74	3.35	2.44	4310.76
50N	-250	617827.6	628898.2	567.20	4192.67	0.73	3.37	2.38	4310.71
50N	-275	617851.6	628909.0	563.16	4193.41	0.73	3.33	2.46	4310.70
50N	-300	617876.3	628920.1	559.72	4193.93	0.72	3.30	2.64	4310.68
50N	-325	617896.8	628929.3	550.88	4195.70	0.71	3.35	2.53	4310.65
50N	-350	617917.1	628938.4	539.66	4197.90	0.70	3.45	2.42	4310.62
50N	-375	617939.7	628948.6	531.22	4199.49	0.70	3.51	2.51	4310.70
50N	-400	617961.4	628958.2	521.98	4201.37	0.67	3.59	2.42	4310.73

9999



LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS 6	LAT 6	TER1 6	TER2 6	CB 6	GRAV (mgal)
0	0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	350	617288.7	628599.6	674.10	4172.11	0.97	4.68	1.65	4312.01	
0	325	617312.1	628610.0	670.81	4172.82	0.96	4.54	1.53	4311.80	
0	300	617335.6	628620.6	668.73	4173.31	0.95	4.39	1.49	4311.67	
0	275	617357.9	628630.6	664.94	4174.15	0.94	4.29	1.40	4311.58	
0	250	617382.3	628641.5	663.16	4174.53	0.93	4.15	1.38	4311.44	
0	225	617405.6	628654.0	660.07	4175.16	0.93	4.05	1.34	4311.32	
0	200	617429.8	628662.8	656.59	4175.92	0.92	3.96	1.34	4311.29	
0	175	617453.3	628673.3	653.80	4176.54	0.91	3.87	1.35	4311.28	
0	150	617479.2	628684.9	650.92	4177.24	0.90	3.78	1.33	4311.29	
0	125	617503.3	628695.7	648.33	4177.77	0.89	3.69	1.40	4311.28	
0	100	617527.2	628706.4	649.05	4177.62	0.88	3.57	1.44	4311.17	
0	50	617573.4	628727.1	653.88	4176.66	0.87	3.32	1.81	4311.28	
0	25	617597.1	628737.7	655.79	4176.11	0.86	3.21	2.21	4311.39	
0	0	617620.2	628748.1	660.50	4174.68	0.85	3.10	2.86	4311.40	
0	-25	617645.2	628757.4	646.31	4177.33	0.84	3.15	2.87	4311.32	
0	-50	617665.3	628766.4	633.01	4180.06	0.84	3.21	2.61	4311.24	
0	-75	617688.3	628776.7	622.02	4182.21	0.83	3.25	2.66	4311.30	
0	-100	617711.1	628787.1	612.12	4184.09	0.82	3.28	2.52	4311.12	
0	-125	617733.1	628797.0	604.32	4185.51	0.81	3.29	2.57	4311.05	
0	-150	617753.9	628806.4	595.43	4187.35	0.80	3.33	2.37	4310.97	
0	-175	617777.0	628816.9	589.53	4188.50	0.80	3.32	2.40	4310.98	
0	-200	617799.0	628826.8	585.13	4189.34	0.79	3.29	2.44	4310.95	
0	-225	617819.6	628836.1	578.53	4190.63	0.78	3.31	2.38	4310.90	
0	-250	617843.8	628847.1	571.04	4192.19	0.77	3.32	2.29	4310.81	
0	-275	617865.4	628856.7	568.14	4192.69	0.77	3.28	2.33	4310.83	
0	-300	617889.6	628867.7	562.14	4193.81	0.76	3.28	2.39	4310.80	
0	-325	617910.2	628876.9	553.15	4195.51	0.76	3.34	2.45	4310.87	
0	-350	617930.7	628886.2	541.25	4197.71	0.75	3.44	2.54	4310.90	

9999

LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS 6	LAT 6	TER1 6	TER2 6	CB 6	GRAV (mgal)
50S	350	617309.4	628553.4	671.60	4172.44	1.00	4.66	1.78	4311.98	
50S	325	617333.0	628564.0	668.79	4173.43	1.00	4.52	1.43	4311.96	
50S	300	617355.7	628574.2	667.97	4173.68	0.99	4.35	1.43	4311.84	
50S	275	617378.4	628584.4	664.96	4174.32	0.98	4.24	1.33	4311.67	
50S	250	617401.0	628594.5	662.34	4174.97	0.97	4.14	1.24	4311.61	
50S	225	617423.6	628604.6	659.53	4175.59	0.96	4.04	1.20	4311.51	
50S	200	617446.2	628614.7	656.91	4176.22	0.96	3.95	1.13	4311.47	
50S	175	617469.7	628625.3	654.30	4176.86	0.95	3.86	1.07	4311.44	
50S	150	617492.2	628635.4	652.38	4177.34	0.94	3.76	1.03	4311.39	
50S	125	617515.9	628646.0	650.57	4177.66	0.93	3.67	1.14	4311.37	
50S	100	617540.5	628657.0	649.25	4178.02	0.92	3.57	1.16	4311.38	
50S	75	617565.7	628668.3	652.24	4177.39	0.91	3.46	1.29	4311.34	
50S	50	617589.2	628678.8	655.22	4176.82	0.90	3.30	1.45	4311.36	
50S	25	617612.8	628689.4	655.11	4176.79	0.90	3.22	1.77	4311.54	
50S	0	617640.9	628701.9	656.40	4175.82	0.89	3.12	2.59	4311.53	
50S	-25	617664.7	628712.6	649.50	4176.83	0.88	3.24	2.80	4311.51	
50S	-50	617680.7	628719.8	639.00	4178.91	0.87	3.22	2.68	4311.37	
50S	-75	617700.1	628728.4	625.89	4181.42	0.87	3.24	2.69	4311.33	
50S	-100	617719.2	628737.0	615.39	4183.62	0.86	3.27	2.47	4311.27	
50S	-125	617742.3	628747.3	605.98	4185.44	0.85	3.30	2.47	4311.26	
50S	-150	617765.6	628758.8	597.18	4187.09	0.84	3.32	2.48	4311.20	
50S	-175	617788.2	628767.9	590.08	4188.46	0.83	3.33	2.44	4311.13	
50S	-200	617811.0	628778.1	584.67	4189.61	0.83	3.32	2.32	4311.12	
50S	-225	617835.4	628789.1	583.47	4189.78	0.82	3.25	2.44	4311.06	
50S	-250	617858.1	628799.2	579.37	4190.55	0.81	3.22	2.49	4311.03	
50S	-275	617878.5	628808.3	568.86	4192.58	0.80	3.29	2.41	4310.98	
50S	-300	617902.6	628819.2	558.76	4194.56	0.79	3.34	2.43	4311.04	
50S	-325	617924.1	628828.8	550.75	4196.07	0.79	3.38	2.47	4311.05	
50S	-350	617948.2	628839.6	543.35	4197.47	0.78	3.41	2.53	4311.07	

9999

LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS G	LAT G	TER1 G	TER2 G	CB GRAY (mgal)
100S	350	617325.0	628528.8	668.10	4173.27	0.98	4.66	1.76	4312.08
100S	325	617349.0	628534.9	664.40	4174.20	0.97	4.55	1.59	4312.00
100S	300	617372.4	628544.7	663.50	4174.47	0.97	4.38	1.54	4311.87
100S	275	617397.5	628553.2	662.30	4174.68	0.96	4.23	1.53	4311.68
100S	250	617430.6	628562.0	659.90	4175.17	0.96	4.26	1.52	4311.67
100S	225	617444.6	628571.1	657.20	4175.87	0.96	4.02	1.45	4311.57
100S	200	617467.8	628579.9	655.00	4176.36	0.95	3.92	1.46	4311.53
100S	175	617491.1	628588.7	652.80	4176.82	0.95	3.83	1.44	4311.47
100S	125	617539.9	628607.1	650.30	4177.43	0.94	3.63	1.49	4311.41
100S	100	617564.2	628616.3	650.50	4177.37	0.94	3.52	1.53	4311.31
100S	75	617588.5	628625.5	650.80	4177.34	0.94	3.41	1.64	4311.34
100S	50	617612.8	628634.0	652.80	4176.94	0.93	3.30	1.79	4311.37
100S	25	617637.0	628643.9	653.90	4176.57	0.93	3.21	2.10	4311.43
100S	0	617660.3	628652.7	652.30	4176.70	0.92	3.15	2.41	4311.49
100S	-25	617682.5	628661.1	643.68	4178.19	0.92	3.20	2.58	4311.50
100S	-50	617702.0	628668.5	631.46	4180.63	0.92	3.24	2.50	4311.49
100S	-75	617724.3	628676.9	619.05	4182.64	0.92	3.29	2.69	4311.30
100S	-100	617747.7	628685.6	609.63	4184.64	0.91	3.31	2.50	4311.28
100S	-125	617771.8	628694.9	604.31	4185.66	0.91	3.29	2.46	4311.19
100S	-150	617795.5	628703.9	597.20	4186.98	0.91	3.29	2.51	4311.16
100S	-175	617817.6	628712.2	587.58	4189.02	0.90	3.29	2.39	4311.24
100S	-200	617841.3	628721.2	581.67	4190.04	0.90	3.33	2.54	4311.21
100S	-225	617866.7	628730.8	579.75	4190.31	0.90	3.30	2.60	4311.17
100S	-250	617890.3	628739.8	569.03	4192.21	0.89	3.36	2.68	4311.08
100S	-275	617915.0	628749.1	562.52	4193.99	0.89	3.36	2.61	4311.09
100S	-300	617939.5	628758.4	554.50	4195.11	0.89	3.40	2.66	4311.12

9999

LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS 6	LAT 6	TER1 6	TER2 6	CB GRAV (mgal)
150S	350	617343.0	628479.0	661.35	4174.47	1.00	4.67	1.95	4312.18
150S	325	617366.0	628488.0	659.65	4175.03	1.00	4.61	1.70	4312.10
150S	300	617390.0	628497.0	657.84	4175.49	1.00	4.46	1.61	4311.96
150S	275	617414.0	628506.0	656.64	4175.82	1.00	4.31	1.53	4311.83
150S	250	617439.0	628515.0	655.24	4176.18	0.99	4.17	1.46	4311.67
150S	225	617463.0	628525.0	653.23	4176.69	0.99	4.06	1.40	4311.61
150S	200	617486.0	628533.0	651.63	4177.16	0.99	3.95	1.34	4311.62
150S	175	617510.0	628542.0	650.63	4177.38	0.99	3.84	1.32	4311.51
150S	150	617533.0	628551.0	650.42	4177.51	0.98	3.73	1.31	4311.47
150S	125	617556.0	628560.0	650.72	4177.46	0.98	3.61	1.32	4311.37
150S	100	617580.0	628569.0	651.21	4177.35	0.98	3.51	1.39	4311.32
150S	75	617603.0	628578.0	651.51	4177.22	0.97	3.43	1.52	4311.30
150S	50	617627.0	628586.0	650.11	4177.53	0.97	3.34	1.59	4311.31
150S	25	617650.0	628595.0	651.60	4177.15	0.97	3.24	1.88	4311.41
150S	0	617678.0	628606.0	647.90	4177.76	0.96	3.19	2.07	4311.42
150S	-25	617704.8	628621.2	635.52	4180.02	0.96	3.22	2.21	4311.41
150S	-50	617727.7	628629.4	629.24	4181.23	0.96	3.21	2.36	4311.53
150S	-75	617750.4	628638.1	623.25	4182.21	0.95	3.20	2.53	4311.48
150S	-100	617774.2	628646.9	613.97	4183.96	0.95	3.22	2.47	4311.36
150S	-125	617796.9	628655.7	610.69	4184.64	0.95	3.17	2.42	4311.31
150S	-150	617822.7	628665.4	603.90	4185.59	0.94	3.20	2.72	4311.24
150S	-175	617845.5	628673.2	593.62	4187.56	0.94	3.22	2.74	4311.22
150S	-200	617867.2	628682.0	583.03	4189.55	0.94	3.26	2.77	4311.21
150S	-250	617911.7	628697.6	560.60	4193.57	0.93	3.43	2.96	4311.16
150S	-275	617934.6	628706.3	550.40	4195.48	0.93	3.45	3.05	4311.18
150S	-300	617960.3	628716.1	543.90	4196.94	0.93	3.46	3.00	4311.21

9999

LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS 6	LAT 6	TER1 6	TER2 6	CB GRAV (mgal)
200S	350	617382.1	628398.3	663.50	4174.16	1.13	4.57	1.90	4312.27
200S	325	617404.9	628409.3	658.91	4175.23	1.12	4.49	1.67	4312.12
200S	300	617427.7	628420.4	654.72	4176.14	1.11	4.41	1.54	4311.99
200S	275	617450.4	628431.4	651.12	4177.02	1.10	4.32	1.48	4312.01
200S	250	617473.1	628442.4	649.03	4177.45	1.09	4.21	1.35	4311.75
200S	225	617495.5	628453.3	647.54	4177.85	1.08	4.09	1.20	4311.68
200S	200	617519.3	628464.8	646.95	4178.07	1.07	3.96	1.24	4311.61
200S	175	617542.0	628475.9	648.25	4177.93	1.07	3.82	1.24	4311.56
200S	150	617564.5	628486.8	649.36	4177.78	1.06	3.69	1.24	4311.51
200S	125	617586.9	628497.7	649.87	4177.75	1.05	3.48	1.32	4311.43
200S	75	617633.7	628520.4	648.98	4177.79	1.03	3.40	1.45	4311.32
200S	50	617656.2	628531.4	648.59	4177.86	1.02	3.32	1.56	4311.33
200S	25	617678.7	628542.3	648.70	4177.82	1.01	3.21	1.70	4311.34
200S	0	617700.4	628552.9	647.60	4177.78	1.00	3.18	1.96	4311.30
200S	-25	617723.6	628564.0	644.87	4178.15	1.00	3.14	2.29	4311.42
200S	-50	617747.7	628575.5	640.14	4179.03	0.99	3.11	2.46	4311.50
200S	-75	617770.4	628586.4	632.61	4180.37	0.98	3.11	2.53	4311.43
200S	-100	617791.5	628596.5	626.18	4181.52	0.97	3.11	2.64	4311.41
200S	-125	617814.4	628607.4	617.65	4183.11	0.96	3.12	2.66	4311.34
200S	-150	617837.6	628618.5	612.52	4183.84	0.95	3.10	2.92	4311.30
200S	-175	617855.8	628627.2	602.00	4185.84	0.95	3.15	2.90	4311.25
200S	-200	617877.0	628637.4	593.47	4187.30	0.94	3.18	2.98	4311.19
200S	-225	617896.4	628646.6	581.44	4189.48	0.93	3.28	3.03	4311.17
200S	-250	617916.1	628656.1	570.01	4191.67	0.92	3.36	3.08	4311.15
200S	-275	617941.9	628668.4	561.28	4193.16	0.91	3.46	3.24	4311.18
200S	-300	617960.6	628677.4	547.55	4195.80	0.91	3.48	3.34	4311.23

9999

LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS 6	LAT 6	TER1 6	TER2 6	CB 6	GRAV (mgal)
250S	350	617405.6	628349.7	662.10	4174.47	1.16	4.52	1.98	4312.36	
250S	325	617429.5	628361.3	657.39	4175.52	1.16	4.44	1.76	4312.18	
250S	300	617452.6	628372.5	653.99	4176.33	1.15	4.34	1.63	4312.09	
250S	275	617475.8	628383.8	650.18	4177.13	1.14	4.26	1.55	4311.97	
250S	250	617498.2	628394.7	647.17	4177.87	1.13	4.17	1.42	4311.89	
250S	225	617520.8	628405.6	644.97	4178.35	1.12	4.08	1.38	4311.80	
250S	200	617544.2	628417.0	644.96	4178.45	1.11	3.94	1.31	4311.68	
250S	175	617566.6	628427.9	645.55	4178.44	1.10	3.82	1.28	4311.62	
250S	150	617589.1	628438.8	647.64	4178.10	1.09	3.68	1.30	4311.56	
250S	125	617611.6	628449.7	646.94	4178.26	1.09	3.59	1.31	4311.50	
250S	100	617634.0	628460.6	647.13	4178.23	1.08	3.49	1.37	4311.46	
250S	75	617656.5	628471.5	646.72	4178.23	1.07	3.41	1.43	4311.35	
250S	50	617679.0	628482.5	647.82	4177.93	1.06	3.31	1.56	4311.29	
250S	25	617701.5	628493.4	647.51	4177.96	1.05	3.24	1.70	4311.31	
250S	0	617724.0	628504.3	647.60	4177.90	1.05	3.17	1.90	4311.41	
250S	-25	617756.7	628527.2	644.13	4178.47	1.03	3.10	2.25	4311.55	
250S	-50	617778.8	628537.7	639.56	4179.35	1.02	3.08	2.45	4311.70	
250S	-75	617802.5	628549.0	633.09	4180.45	1.01	3.07	2.79	4311.85	
250S	-100	617822.1	628558.2	624.92	4182.04	1.00	3.08	2.79	4311.83	
250S	-125	617843.1	628568.2	617.55	4183.35	0.99	3.09	2.84	4311.74	
250S	-150	617866.2	628579.2	609.88	4184.73	0.99	3.09	3.05	4311.82	
250S	-175	617888.8	628589.9	599.90	4186.46	0.98	3.13	3.20	4311.77	
250S	-200	617908.1	628599.2	590.03	4187.99	0.97	3.17	3.48	4311.67	
250S	-225	617927.6	628608.4	576.76	4190.29	0.96	3.27	3.42	4311.39	
250S	-250	617945.6	628616.9	564.39	4192.52	0.96	3.37	3.39	4311.25	
250S	-275	617963.2	628625.4	552.02	4194.79	0.96	3.49	3.37	4311.19	
250S	-300	617984.5	628635.4	544.65	4196.23	0.94	3.52	3.34	4311.17	

9999

LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS G	LAT G	TER1 G	TER2 G	CB G	GRAV (mgal)
300S	300	617468.5	628337.5	653.00	4176.47	1.17	4.32	1.63	4312.03	
300S	275	617491.4	628347.0	649.70	4177.27	1.17	4.24	1.52	4311.99	
300S	250	617514.1	628356.5	646.30	4178.00	1.16	4.16	1.42	4311.86	
300S	225	617537.8	628366.4	643.60	4178.66	1.15	4.07	1.38	4311.86	
300S	200	617561.7	628376.3	642.40	4178.95	1.14	3.96	1.36	4311.77	
300S	175	617585.3	628386.2	643.60	4178.84	1.14	3.82	1.27	4311.67	
300S	150	617608.5	628395.8	644.90	4178.59	1.13	3.69	1.27	4311.53	
300S	125	617631.5	628405.4	644.60	4178.65	1.12	3.64	1.29	4311.50	
300S	100	617654.6	628415.1	644.20	4178.72	1.11	3.55	1.34	4311.44	
300S	75	617677.7	628424.7	644.40	4178.64	1.11	3.46	1.51	4311.47	
300S	50	617701.6	628434.6	648.10	4177.84	1.10	3.34	1.60	4311.36	
300S	0	617743.8	628457.4	649.50	4177.52	1.08	3.15	1.96	4311.47	
300S	-25	617766.9	628467.0	648.83	4177.56	1.07	3.12	2.24	4311.61	
300S	-50	617790.1	628476.7	643.45	4178.70	1.06	3.10	2.29	4311.72	
300S	-75	617813.2	628486.3	637.37	4179.86	1.06	3.09	2.41	4311.79	
300S	-100	617837.5	628496.4	632.80	4180.66	1.05	3.07	2.71	4311.96	
300S	-125	617860.9	628506.2	629.62	4180.97	1.04	3.01	3.00	4311.89	
300S	-150	617884.1	628515.9	623.15	4181.72	1.03	3.00	3.38	4311.71	
300S	-175	617905.2	628524.7	609.57	4184.27	1.03	3.03	3.61	4311.74	
300S	-200	617926.3	628533.3	596.60	4186.73	1.02	3.08	3.60	4311.75	
300S	-225	617949.5	628543.1	583.73	4189.24	1.01	3.13	3.64	4311.84	
300S	-250	617972.3	628552.6	570.85	4191.57	1.00	3.20	3.76	4311.79	
300S	-275	617997.4	628563.1	558.77	4193.85	1.00	3.26	3.77	4311.79	
300S	-300	618019.0	628572.1	545.90	4196.06	0.99	3.38	3.84	4311.64	

LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS 6	LAT 6	TER1 6	TER2 6	CB GRWV (mgal)
400S	300	617507.0	628245.2	652.00	4176.67	1.25	4.27	1.59	4312.03
400S	250	617529.5	628254.6	648.00	4177.51	1.24	4.21	1.48	4311.90
400S	250	617553.1	628264.4	644.80	4178.32	1.23	4.13	1.42	4311.93
400S	225	617575.8	628273.9	641.60	4178.97	1.22	4.06	1.44	4311.89
400S	200	617598.7	628283.4	639.20	4179.51	1.22	3.98	1.34	4311.78
400S	175	617621.9	628293.1	638.10	4179.83	1.21	3.88	1.32	4311.75
400S	150	617645.0	628302.7	637.90	4179.91	1.20	3.77	1.30	4311.65
400S	125	617668.0	628312.3	639.50	4179.68	1.19	3.65	1.26	4311.57
400S	100	617691.1	628321.9	640.40	4179.52	1.19	3.54	1.31	4311.53
400S	75	617715.3	628332.0	640.50	4179.46	1.18	3.45	1.37	4311.45
400S	50	617738.0	628341.5	643.70	4178.74	1.17	3.36	1.49	4311.37
400S	25	617761.0	628351.1	644.60	4178.56	1.16	3.26	1.62	4311.39
400S	0	617784.1	628360.7	644.10	4178.59	1.16	3.20	1.77	4311.41
400S	-25	617799.7	628368.1	642.97	4178.86	1.15	3.16	1.91	4311.55
400S	-50	617822.4	628377.7	643.35	4178.73	1.14	3.10	2.13	4311.65
400S	-75	617845.2	628387.4	642.82	4178.75	1.14	3.05	2.45	4311.83
400S	-125	617894.7	628408.2	632.97	4180.41	1.12	3.01	2.93	4311.97
400S	-150	617917.9	628418.0	630.05	4180.54	1.11	2.98	3.55	4312.11
400S	-175	617947.2	628430.2	617.22	4182.68	1.10	3.01	4.02	4312.22
400S	-200	617968.9	628439.5	601.50	4185.51	1.09	3.08	3.89	4311.89
400S	-225	617988.6	628447.7	586.77	4188.38	1.09	3.17	3.79	4311.85
400S	-250	618013.9	628458.4	568.35	4191.77	1.08	3.31	3.82	4311.77
400S	-275	618037.2	628468.3	551.92	4194.98	1.07	3.47	3.77	4311.85
400S	-300	618063.2	628479.2	534.60	4198.11	1.06	3.65	3.73	4311.71

9999



LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS 6	LAT 6	TER1 6	TER2 6	CB 6	GRAV (mgal)
500S	300	617549.7	628154.2	653.85	4176.67	1.31	4.16	1.59	4312.34	
500S	275	617572.2	628163.3	648.90	4177.74	1.30	4.12	1.45	4312.25	
500S	250	617595.6	628172.8	644.34	4178.66	1.30	4.08	1.37	4312.16	
500S	225	617618.8	628182.0	642.09	4179.17	1.30	4.00	1.32	4312.09	
500S	200	617644.2	628192.2	637.63	4180.12	1.29	3.95	1.29	4312.07	
500S	175	617667.3	628201.4	635.38	4180.61	1.28	3.87	1.27	4311.99	
500S	150	617690.5	628210.8	634.72	4180.82	1.27	3.78	1.25	4311.97	
500S	125	617713.7	628220.1	635.97	4180.62	1.27	3.66	1.24	4311.88	
500S	100	617736.8	628229.4	635.91	4180.66	1.26	3.57	1.28	4311.85	
500S	75	617760.0	628238.7	636.16	4180.54	1.25	3.48	1.35	4311.75	
500S	50	617784.4	628248.4	638.50	4179.98	1.24	3.37	1.52	4311.70	
500S	25	617806.2	628257.2	640.95	4179.35	1.24	3.28	1.65	4311.59	
500S	0	617827.2	628267.2	640.30	4179.38	1.23	3.23	1.79	4311.58	
500S	-25	617850.4	628276.5	639.33	4179.40	1.22	3.18	2.07	4311.63	
500S	-50	617874.1	628285.9	638.35	4179.47	1.22	3.13	2.48	4311.87	
500S	-75	617897.9	628295.4	632.86	4180.38	1.21	3.12	2.68	4311.87	
500S	-100	617922.1	628305.2	626.68	4181.37	1.20	3.11	3.01	4311.96	
500S	-125	617945.3	628314.4	618.69	4182.65	1.19	3.12	3.24	4311.89	
500S	-150	617966.4	628322.7	607.51	4184.89	1.19	3.16	3.27	4312.01	
500S	-175	617987.8	628331.3	599.32	4186.44	1.18	3.18	3.30	4311.99	
500S	-200	618011.5	628340.8	590.24	4187.94	1.17	3.21	3.48	4311.90	
500S	-250	618052.5	628357.2	561.87	4193.18	1.16	3.43	3.39	4311.68	
500S	-275	618070.7	628364.5	546.88	4195.84	1.15	3.59	3.56	4311.71	
500S	-300	618090.5	628372.3	532.60	4198.35	1.14	3.76	3.66	4311.68	

9999

LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS 6	LAT 6	TER1 6	TER2 6	CB 6	GRAV (mgal)
550S	300	617551.3	628111.9	654.60	4176.39	1.35	4.21	1.58	4312.29	
550S	275	617575.2	628120.6	651.18	4177.13	1.35	4.14	1.47	4312.18	
550S	250	617599.5	628129.3	648.57	4177.69	1.34	4.06	1.49	4312.15	
550S	225	617621.4	628137.3	642.85	4178.90	1.33	4.05	1.35	4312.07	
550S	200	617647.0	628146.5	640.43	4179.45	1.33	3.96	1.29	4312.00	
550S	175	617672.1	628155.6	637.22	4180.10	1.32	3.90	1.25	4311.92	
550S	150	617697.1	628164.6	633.70	4180.78	1.31	3.84	1.25	4311.83	
550S	125	617723.3	628174.1	631.09	4181.39	1.30	3.77	1.26	4311.85	
550S	100	617748.9	628183.3	634.87	4180.70	1.29	3.61	1.26	4311.74	
550S	75	617774.4	628192.6	634.55	4180.74	1.29	3.52	1.41	4311.78	
550S	50	617798.8	628201.4	635.44	4180.55	1.28	3.43	1.46	4311.71	
550S	25	617822.3	628209.9	636.92	4180.11	1.28	3.34	1.61	4311.62	
550S	0	617851.6	628208.0	637.40	4179.92	1.28	3.27	1.85	4311.69	
550S	-25	617871.1	628227.9	634.65	4180.41	1.27	3.23	2.01	4311.76	
550S	-50	617894.5	628236.4	632.70	4180.61	1.26	3.19	2.35	4311.86	
550S	-75	617919.3	628245.3	626.35	4181.77	1.26	3.18	2.60	4312.01	
550S	-100	617944.2	628254.3	620.10	4182.72	1.25	3.17	2.92	4312.03	
550S	-125	617965.0	628261.9	610.15	4184.65	1.24	3.21	2.90	4312.02	
550S	-150	617986.8	628269.7	600.40	4186.49	1.24	3.25	2.95	4312.03	
550S	-175	618005.8	628276.6	591.55	4188.08	1.23	3.29	3.02	4311.98	
550S	-200	618026.7	628284.2	580.50	4190.20	1.23	3.36	3.07	4312.04	
550S	-225	618048.8	628292.1	569.95	4192.12	1.22	3.42	3.21	4312.08	
550S	-250	618072.4	628300.7	559.80	4194.12	1.21	3.48	3.35	4312.28	
550S	-275	618097.4	628309.7	549.35	4195.95	1.21	3.56	3.35	4312.13	
550S	-300	618114.6	628315.9	545.70	4196.30	1.20	3.55	3.46	4311.85	

9999

LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS G	LAT G	TER1 G	TER2 G	CB GRAV (mgal)
600S	300	617587.0	628061.4	653.15	4176.91	1.39	4.16	1.46	4312.40
600S	275	617609.7	628070.5	649.70	4177.70	1.39	4.10	1.39	4312.38
600S	250	617633.3	628080.0	646.06	4178.48	1.38	4.04	1.35	4312.33
600S	225	617656.1	628089.2	642.71	4179.23	1.37	3.97	1.29	4312.28
600S	200	617679.1	628098.4	639.77	4179.89	1.36	3.92	1.24	4312.26
600S	175	617702.1	628107.7	636.82	4180.38	1.36	3.84	1.22	4312.06
600S	150	617726.1	628117.3	633.18	4181.21	1.35	3.78	1.22	4312.10
600S	125	617749.5	628126.7	630.63	4181.67	1.34	3.70	1.25	4312.01
600S	100	617773.1	628136.2	629.59	4182.01	1.33	3.62	1.24	4312.04
600S	75	617795.7	628145.3	634.04	4181.16	1.33	3.47	1.25	4311.92
600S	50	617818.8	628154.5	635.40	4180.85	1.32	3.39	1.41	4311.93
600S	25	617842.0	628163.9	635.75	4180.66	1.31	3.34	1.61	4311.97
600S	0	617865.0	628173.1	632.20	4181.06	1.30	3.33	1.83	4311.87
600S	-25	617874.3	628178.1	631.39	4181.20	1.30	3.31	1.94	4311.94
600S	-50	617896.3	628187.1	628.07	4181.76	1.30	3.28	2.10	4311.98
600S	-75	617919.7	628196.6	624.76	4182.24	1.28	3.25	2.43	4312.09
600S	-100	617941.0	628205.2	619.44	4183.19	1.28	3.25	2.62	4312.18
600S	-125	617963.3	628214.1	607.92	4185.00	1.27	3.30	2.79	4311.94
600S	-150	617985.4	628223.1	599.90	4186.52	1.27	3.32	2.82	4311.93
600S	-175	618009.9	628233.1	590.89	4188.19	1.26	3.35	2.82	4311.85
600S	-200	618032.2	628242.0	580.57	4190.11	1.25	3.40	2.95	4311.91
600S	-225	618054.0	628250.8	570.05	4192.11	1.24	3.47	3.17	4312.12
600S	-250	618077.9	628260.6	557.93	4194.17	1.24	3.56	3.12	4311.83
600S	-275	618105.6	628271.7	550.02	4195.80	1.23	3.58	3.14	4311.94
600S	-300	618129.0	628281.1	541.90	4197.27	1.22	3.63	3.19	4311.90

9999

LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS 6	LAT 6	TER1 6	TER2 6	CB 6	GRAV (mgal)
650S	300	617585.3	628017.9	653.70	4176.56	1.43	4.25	1.53	4312.35	
650S	275	617610.2	628026.9	649.42	4177.53	1.42	4.20	1.42	4312.31	
650S	250	617635.0	628035.9	646.43	4178.17	1.41	4.12	1.36	4312.21	
650S	225	617660.1	628044.9	644.55	4178.63	1.41	4.03	1.38	4312.23	
650S	200	617687.6	628054.9	639.47	4179.70	1.40	3.98	1.27	4312.14	
650S	175	617711.0	628063.3	637.48	4180.15	1.39	3.91	1.25	4312.09	
650S	150	617735.3	628072.1	635.30	4180.61	1.38	3.83	1.28	4312.07	
650S	125	617760.6	628081.3	632.81	4181.10	1.38	3.77	1.25	4311.98	
650S	100	617787.0	628090.8	624.83	4182.59	1.37	3.78	1.33	4311.98	
650S	75	617810.9	628099.5	626.45	4182.48	1.36	3.62	1.30	4312.00	
650S	50	617834.9	628108.1	631.96	4181.34	1.36	3.50	1.44	4311.94	
650S	25	617858.3	628116.6	632.38	4181.22	1.35	3.42	1.61	4311.99	
650S	0	617881.6	628125.0	629.60	4181.70	1.34	3.38	1.74	4312.00	
650S	-25	617899.3	628133.3	627.90	4181.85	1.35	3.35	2.12	4312.18	
650S	-50	617920.8	628144.9	623.85	4182.40	1.34	3.33	2.33	4312.11	
650S	-75	617945.9	628148.9	612.01	4184.65	1.33	3.39	2.35	4312.10	
650S	-100	617971.9	628158.3	599.16	4187.04	1.32	3.46	2.40	4312.07	
650S	-125	617997.7	628167.6	592.52	4188.26	1.32	3.46	2.47	4312.06	
650S	-150	618020.3	628175.8	588.87	4188.85	1.31	3.43	2.78	4312.20	
650S	-175	618042.8	628184.0	577.93	4190.86	1.30	3.50	2.86	4312.20	
650S	-200	618065.4	628192.1	565.78	4192.96	1.30	3.60	2.96	4312.11	
650S	-225	618084.6	628199.1	550.94	4195.45	1.29	3.81	3.11	4312.04	
650S	-250	618103.1	628205.7	535.89	4198.13	1.29	3.97	3.28	4312.08	
650S	-275	618125.3	628213.8	528.35	4199.61	1.28	4.03	3.17	4312.02	
650S	-300	618148.5	628222.2	522.30	4201.01	1.27	4.06	2.94	4312.01	

9999



LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS G	LAT G	TER1 G	TER2 G	CB GRAV (mgal)
800S	300	617658.6	627862.0	649.70	4177.74	1.55	4.53	1.17	4312.72
800S	275	617681.9	627877.8	645.88	4178.41	1.53	4.43	1.12	4312.53
800S	250	617705.5	627887.7	642.37	4179.16	1.53	4.35	1.09	4312.48
800S	225	617730.0	627898.0	638.75	4179.92	1.52	4.28	1.12	4312.48
800S	200	617752.2	627907.6	635.63	4180.60	1.51	4.21	1.08	4312.43
800S	175	617776.2	627917.5	631.92	4181.40	1.51	4.15	1.15	4312.50
800S	125	617826.7	627938.7	626.59	4182.49	1.49	3.99	1.21	4312.43
800S	100	617848.6	627947.9	620.57	4183.47	1.48	3.99	1.44	4312.45
800S	75	617866.7	627955.5	609.60	4185.57	1.48	4.12	1.23	4312.31
800S	50	617871.7	627966.0	605.04	4186.38	1.47	4.16	1.27	4312.29
800S	25	617914.4	627975.6	598.92	4187.50	1.46	4.08	1.36	4312.21
800S	0	617940.0	627984.7	608.20	4185.84	1.46	3.78	1.40	4312.11
800S	-25	617966.3	627986.5	606.12	4186.26	1.45	3.73	1.46	4312.12
800S	-50	617991.4	627997.2	602.14	4187.11	1.44	3.68	1.55	4312.22
800S	-75	618008.1	628007.4	596.85	4188.11	1.43	3.69	1.61	4312.24
800S	-100	618038.8	628017.7	593.27	4188.83	1.42	3.63	1.73	4312.30
800S	-125	618061.3	628027.4	588.99	4189.67	1.42	3.60	1.85	4312.39
800S	-175	618107.5	628047.4	575.72	4191.94	1.40	3.62	2.29	4312.49
800S	-200	618130.2	628057.2	566.93	4193.56	1.39	3.66	2.33	4312.45
800S	-225	618153.3	628067.1	559.15	4194.73	1.39	3.69	2.56	4312.36
800S	-250	618174.2	628076.1	545.77	4197.04	1.38	3.84	2.69	4312.30
800S	-275	618197.6	628086.2	532.48	4199.47	1.37	3.99	2.74	4312.31
800S	-300	618217.5	628094.9	520.00	4201.74	1.36	4.17	2.79	4312.34
		9999							

LINE	STN	UTM (long)	UTM (lat)	ELEV (m)	OBS G	LAT G	TER1 G	TER2 B	CB GRAV (mgal)
0	600	617419.6	629321.2	602.20	4185.31	0.40	3.88	1.35	4309.39
0	575	617427.8	629300.7	602.20	4185.33	0.41	3.87	1.39	4309.45
0	525	617444.6	629252.8	598.30	4185.96	0.45	3.92	1.33	4309.34
0	475	617461.3	629206.2	588.80	4187.76	0.49	4.08	1.51	4309.66
0	425	617477.5	629158.9	594.00	4186.83	0.53	3.98	1.51	4309.69
0	375	617492.5	629111.5	605.60	4184.67	0.56	3.79	1.50	4309.64
0	325	617511.5	629064.5	607.50	4184.23	0.60	3.74	1.55	4309.62
0	275	617531.3	629015.6	610.80	4183.63	0.64	3.67	1.70	4309.78
0	225	617546.8	628962.9	611.40	4183.45	0.67	3.67	1.94	4309.99
0	175	617555.6	628922.5	629.90	4180.00	0.72	3.44	2.11	4310.17
0	125	617570.7	628865.3	641.90	4178.41	0.76	3.31	2.27	4311.02
0	75	617590.1	628817.2	648.00	4177.46	0.80	3.23	2.30	4311.25
0	25	617610.2	628772.5	657.70	4175.28	0.83	3.13	3.11	4311.72
0	-25	617630.4	628724.5	658.20	4175.40	0.87	3.11	3.15	4312.00
0	-75	617652.2	628676.4	654.10	4176.35	0.91	3.14	2.72	4311.78
0	-125	617671.7	628630.7	649.90	4177.24	0.94	3.17	2.35	4311.54
0	-175	617689.4	628577.6	646.30	4178.10	0.98	3.20	1.90	4311.31
0	-225	617710.7	628529.1	647.70	4177.85	1.02	3.18	1.89	4311.34
0	-275	617732.9	628483.3	647.80	4177.82	1.06	3.17	1.85	4311.33
0	-325	617753.7	628435.6	648.90	4177.59	1.10	3.15	1.90	4311.38
0	-375	617774.1	628387.8	646.30	4178.10	1.14	3.17	1.81	4311.35
0	-425	617795.4	628339.5	643.00	4178.77	1.18	3.20	1.71	4311.33
0	-475	617816.4	628290.8	642.00	4178.98	1.21	3.21	1.75	4311.44
0	-525	617843.5	628244.5	638.70	4179.67	1.25	3.23	1.81	4311.59
0	-575	617856.7	628196.5	635.20	4180.40	1.29	3.29	1.71	4311.63
0	-625	617874.0	628147.7	630.40	4181.49	1.32	3.36	1.68	4311.85
0	-675	617891.5	628101.1	626.60	4182.27	1.36	3.43	1.73	4312.04
0	-725	617909.3	628054.2	620.00	4183.60	1.40	3.54	1.59	4312.08
0	-750	617919.1	628031.0	615.60	4184.51	1.42	3.62	1.50	4312.13
0	-775	617930.2	628007.7	612.90	4185.01	1.44	3.68	1.45	4312.13
10000	1	617912.0	629590.0	457.40	4212.03	0.18	4.66	2.58	4309.42
10000	2	617883.0	629697.0	459.00	4211.83	0.10	4.74	1.86	4308.81
10000	3	617984.0	629474.0	455.70	4212.22	0.28	4.54	1.91	4308.58
10000	5	617998.0	629244.0	453.80	4212.58	0.46	4.74	3.63	4310.67
10000	6	618047.0	629199.0	454.10	4212.44	0.52	4.64	3.07	4309.99
10000	7	618082.0	629114.0	454.60	4212.27	0.56	4.62	3.51	4310.38
10000	8	618148.0	629124.0	454.40	4213.30	0.55	4.48	2.05	4309.76
10000	10	618106.0	629278.0	454.40	4213.27	0.43	4.43	1.67	4309.18
10000	11	618079.0	629447.0	456.00	4213.30	0.30	4.33	1.31	4308.93
10000	12	618082.0	629542.0	457.60	4213.11	0.22	4.24	1.08	4308.66
10000	13	618091.0	629656.0	460.10	4212.57	0.13	4.13	0.85	4308.18
10000	14	618082.0	629781.0	463.50	4211.82	0.03	4.06	0.61	4307.69
10000	15	618074.0	629957.0	466.00	4211.65	-0.11	4.49	0.40	4308.09

250W	450	617104.0	628887.0	678.50	4169.10	0.74	5.77	1.76	4310.83
250W	500	617062.0	628840.0	706.60	4165.35	0.78	5.56	1.71	4312.39
250W	550	617020.0	628818.0	723.10	4162.21	0.80	5.85	1.89	4312.99
250W	600	616975.0	628794.0	731.20	4160.50	0.81	5.96	1.50	4312.59
250W	650	616932.0	628771.0	754.30	4155.74	0.83	6.08	1.78	4312.80
250W	700	616893.0	628749.0	774.60	4151.83	0.85	6.33	1.94	4313.32
250W	750	616846.0	628725.0	790.20	4149.00	0.87	6.35	1.88	4313.54
250W	800	616807.0	628697.0	804.10	4146.32	0.89	6.53	1.86	4313.76
250W	850	616769.0	628669.0	820.80	4142.96	0.91	6.95	1.90	4314.17
250W	900	616725.0	628641.0	838.20	4139.81	0.93	7.28	1.91	4314.80
250W	950	616679.0	628610.0	852.60	4137.19	0.96	7.40	1.85	4315.11
250W	1000	616636.0	628581.0	864.40	4134.96	0.98	7.87	1.78	4315.62

9999



## **APPENDIX V: Gravity Profiles**

PROFILE OF LINE L650N

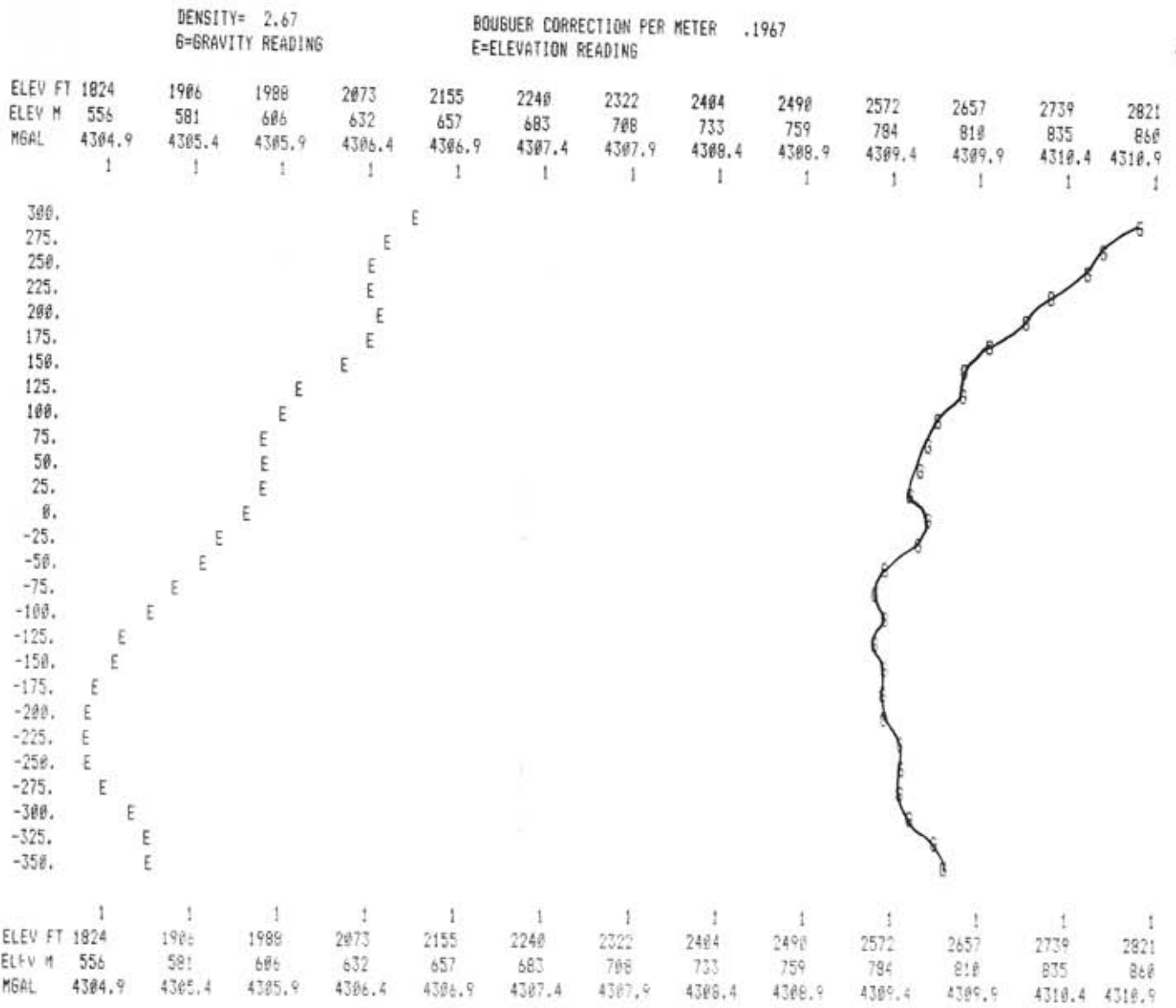


Figure 7

PROFILE OF LINE L550N

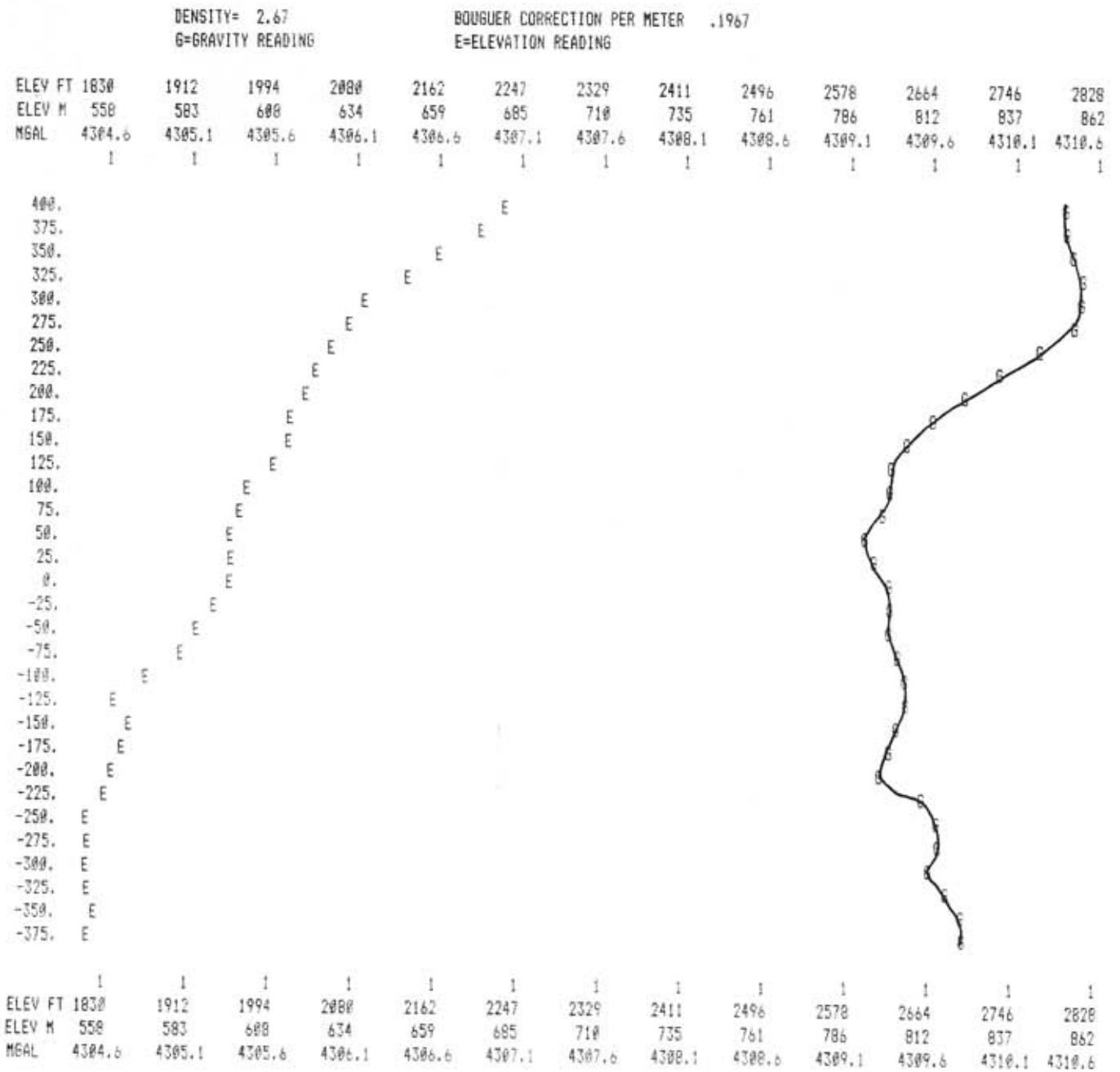


Figure 8

PROFILE OF LINE L500H

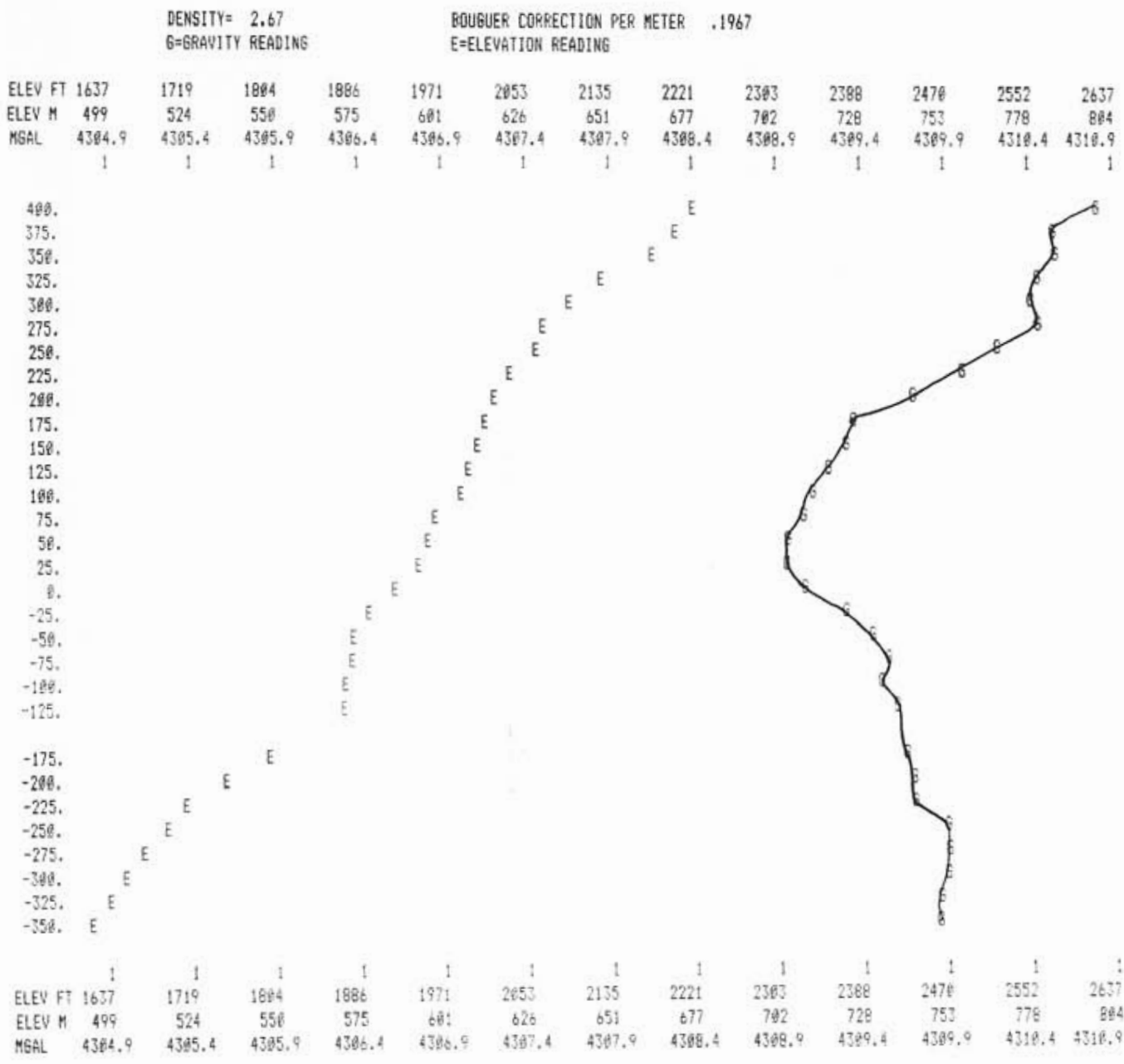


Figure 9

PROFILE OF LINE L450H

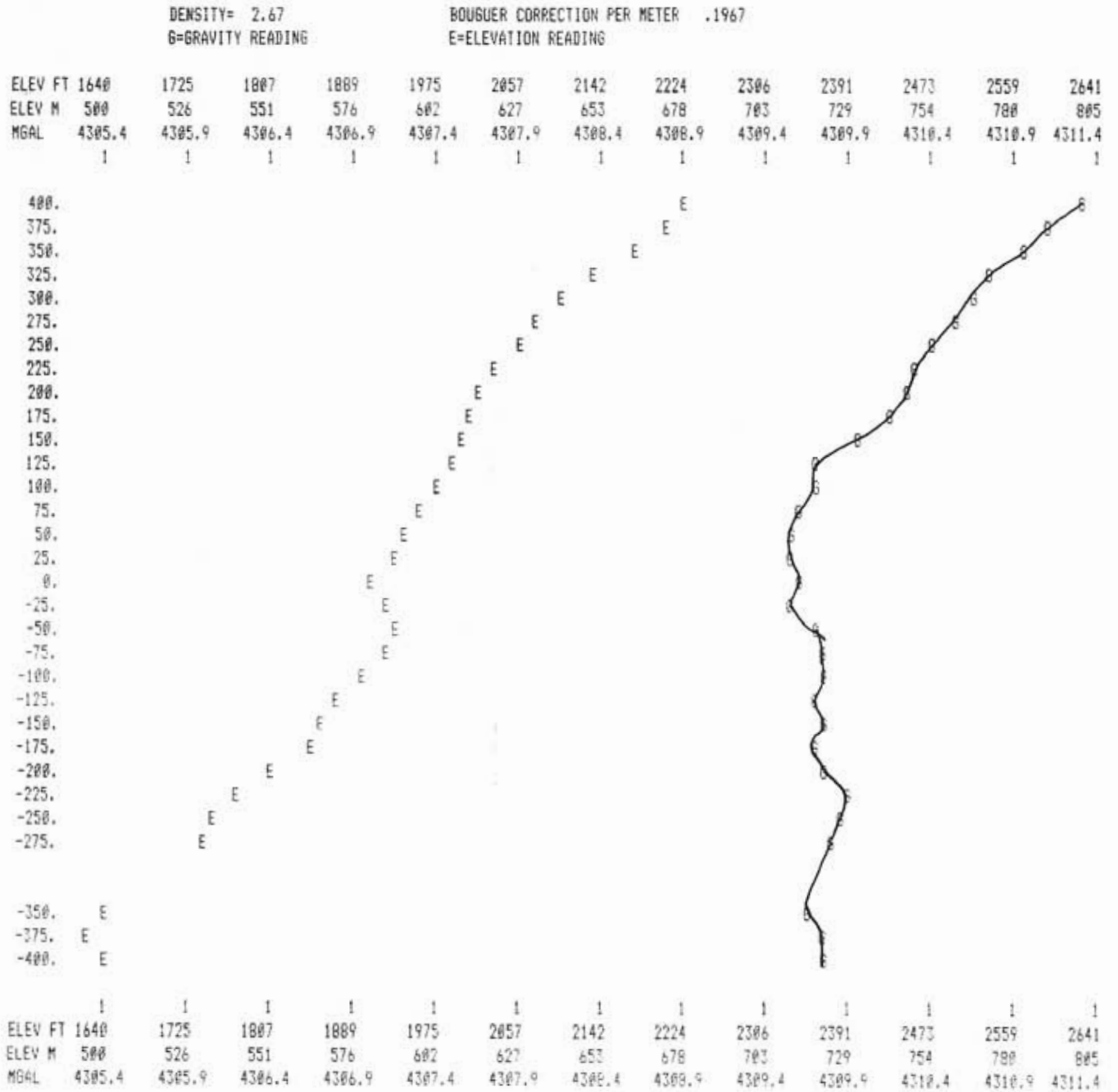


Figure 10

PROFILE OF LINE L400N

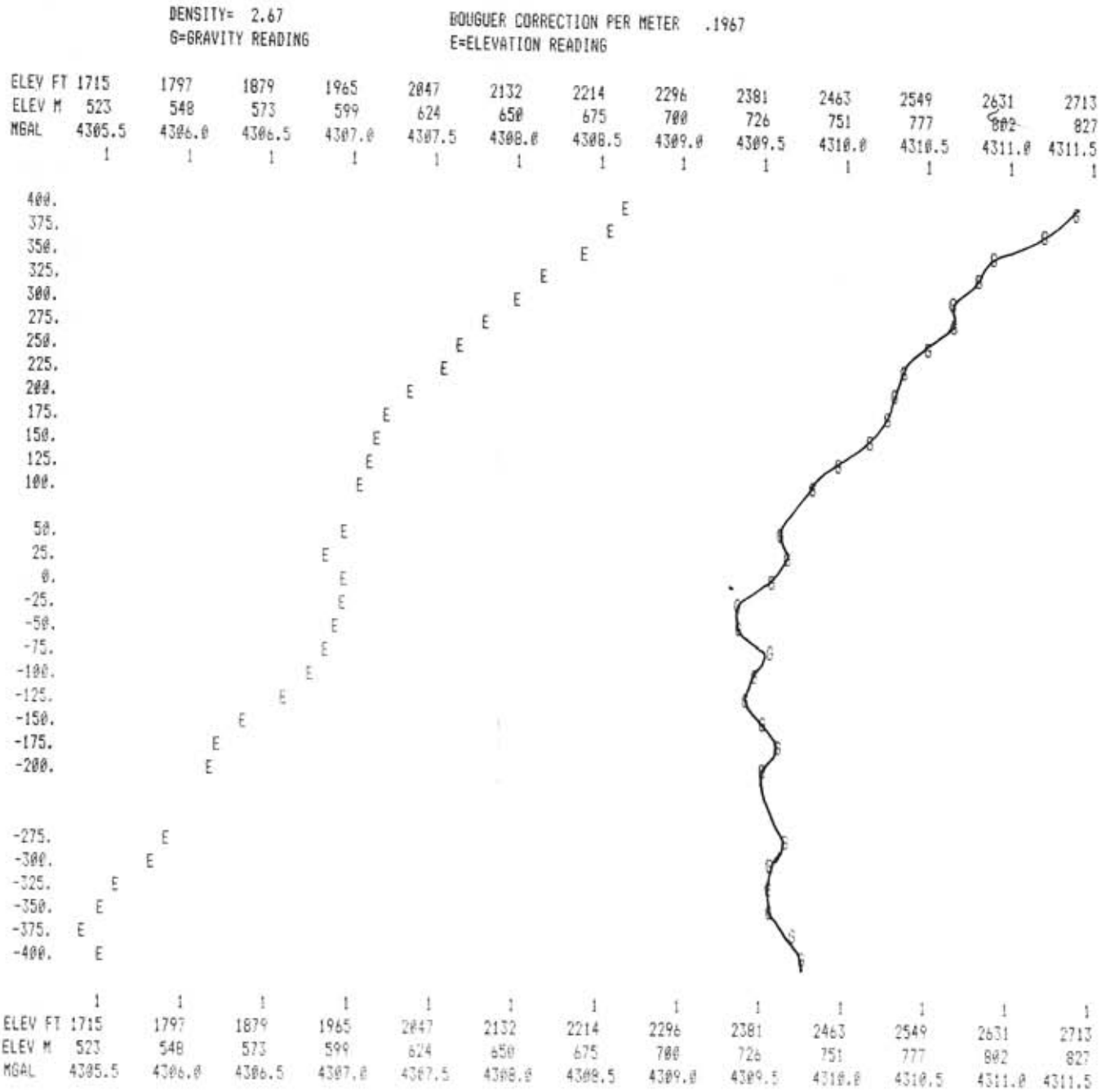


Figure 11

PROFILE OF LINE L350N

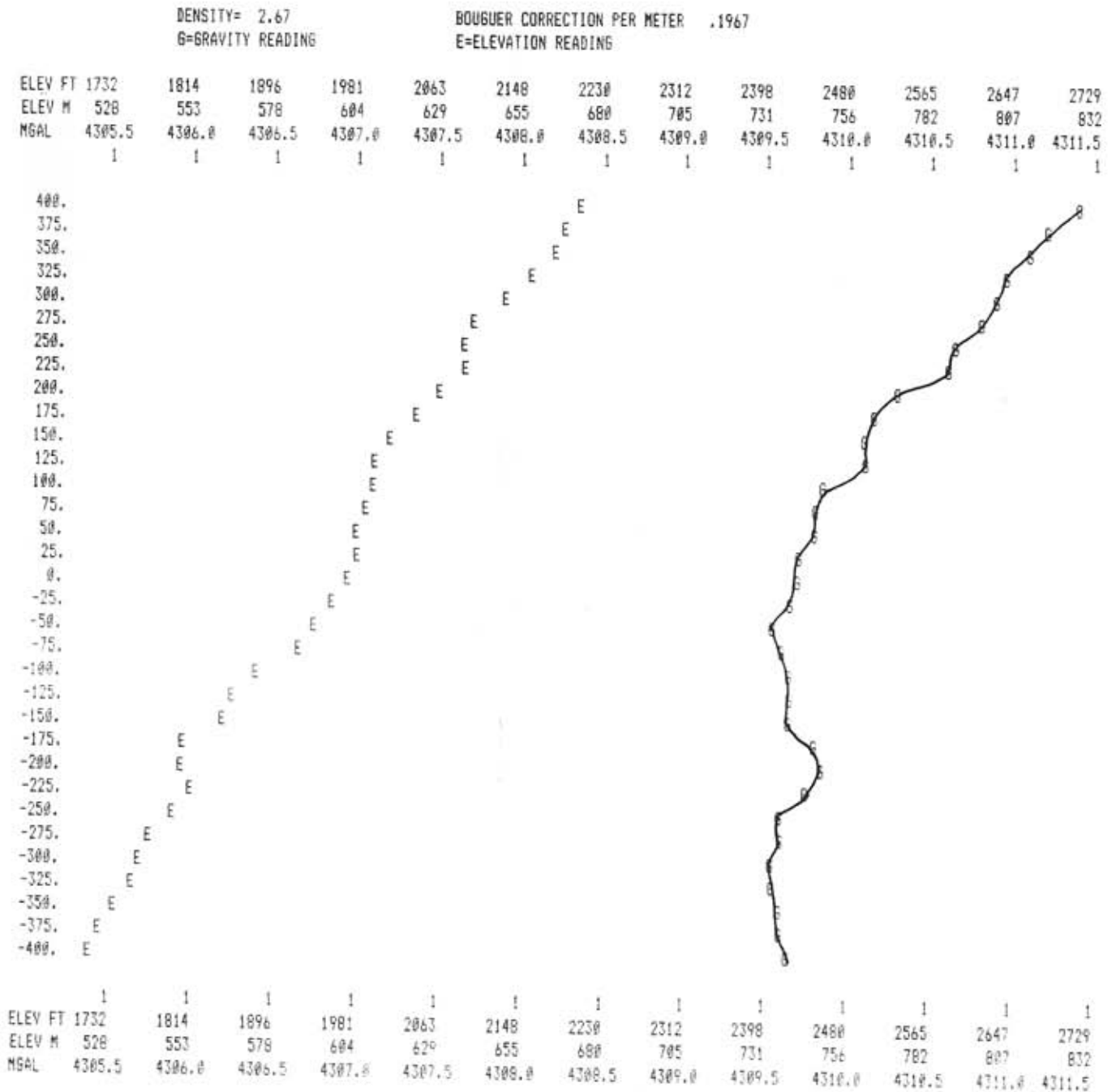


Figure 12

PROFILE OF LINE L300N

DENSITY= 2.67  
G=GRAVITY READING

BOUGUER CORRECTION PER METER .1967  
E=ELEVATION READING

ELEV FT	1709	1791	1876	1958	2040	2125	2208	2293	2375	2457	2542	2624	2709
ELEV M	521	546	572	597	622	648	673	699	724	749	775	800	826
MGAL	4305.5	4306.0	4306.5	4307.0	4307.5	4308.0	4308.5	4309.0	4309.5	4310.0	4310.5	4311.0	4311.5
	1	1	1	1	1	1	1	1	1	1	1	1	1

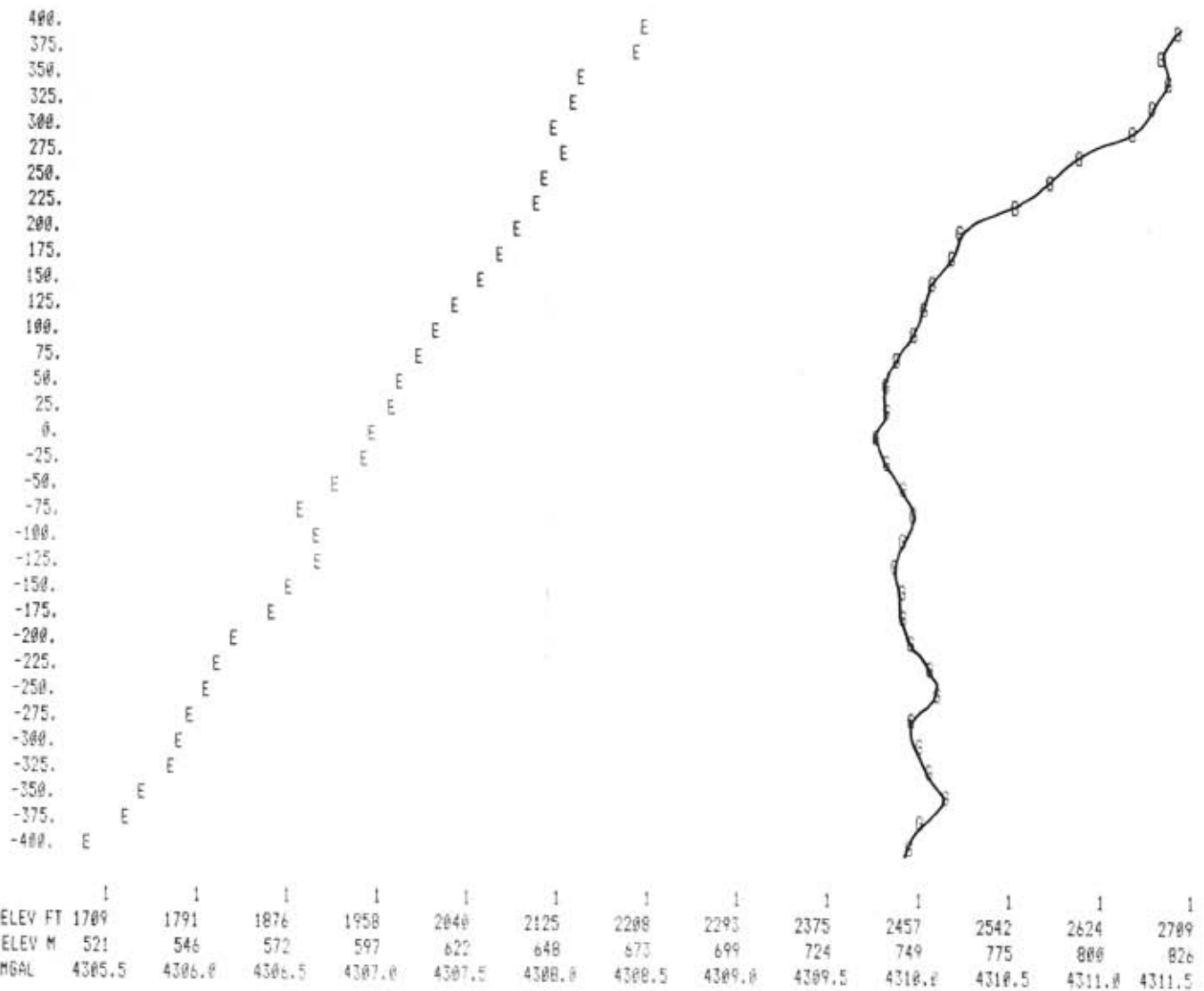


Figure 13



PROFILE OF LINE L250N

DENSITY= 2.67  
G=GRAVITY READING

BOUGUER CORRECTION PER METER .1967  
E=ELEVATION READING

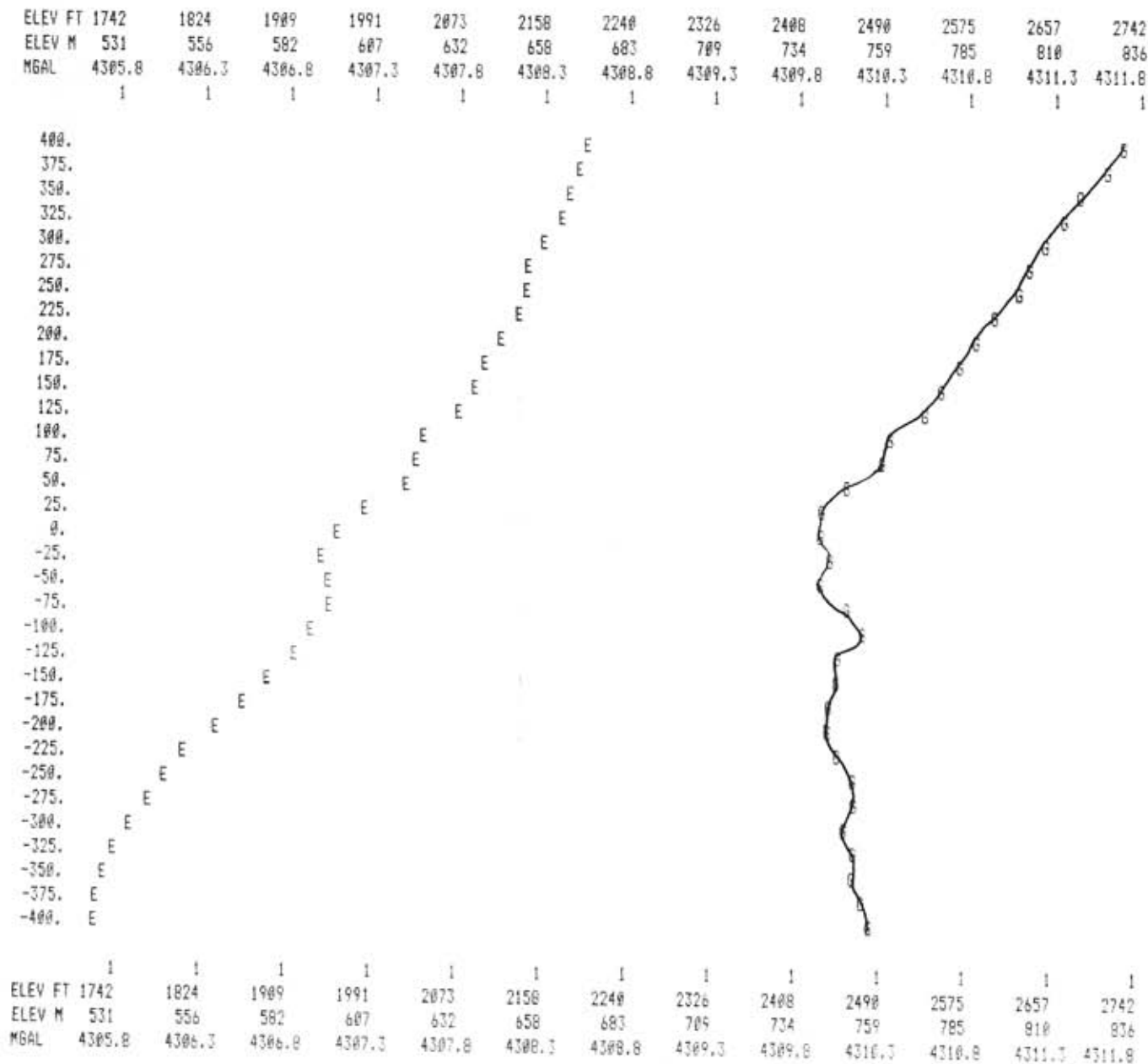


Figure 14

PROFILE OF LINE L200N

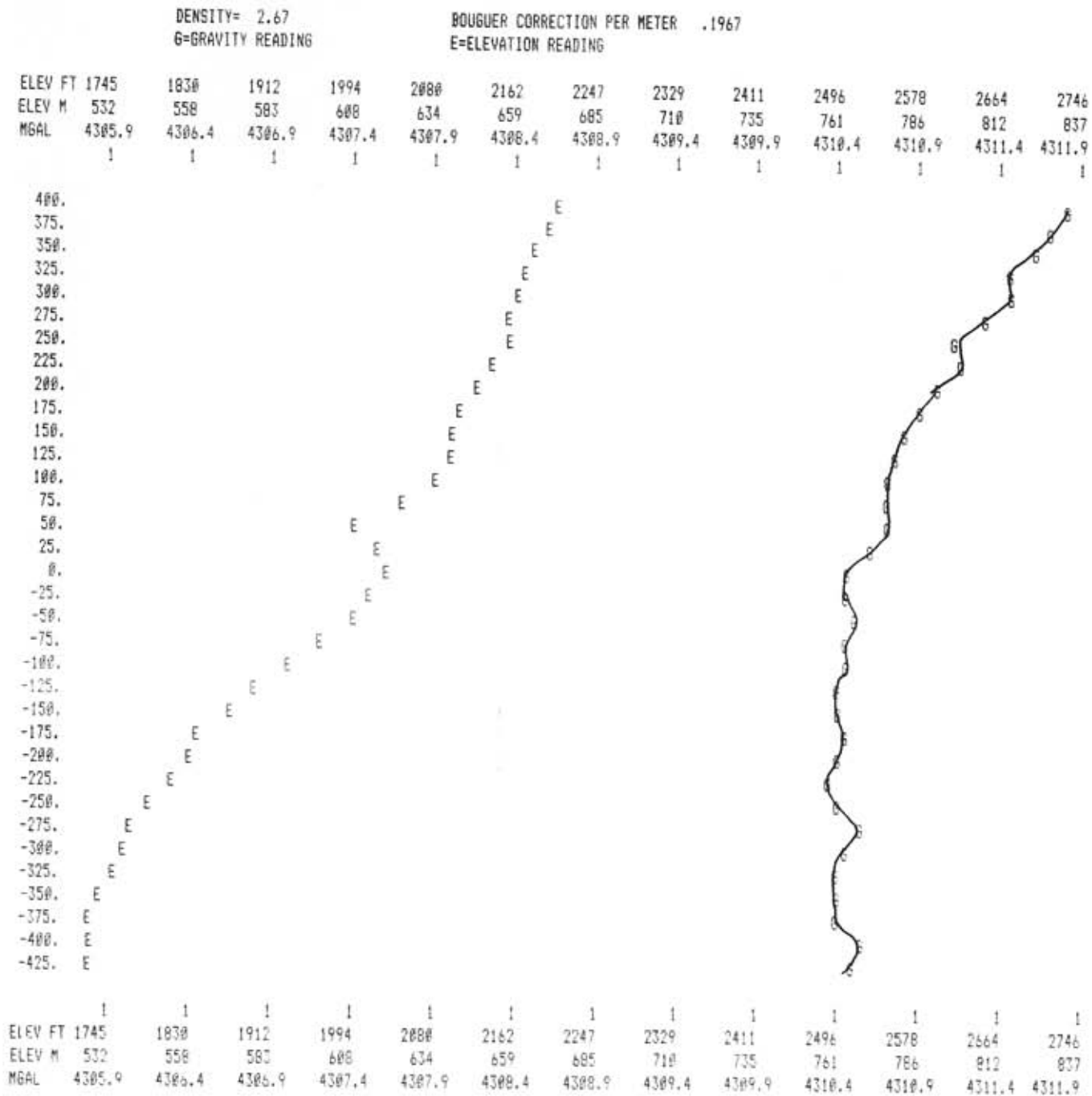


Figure 15

PROFILE OF LINE L150N

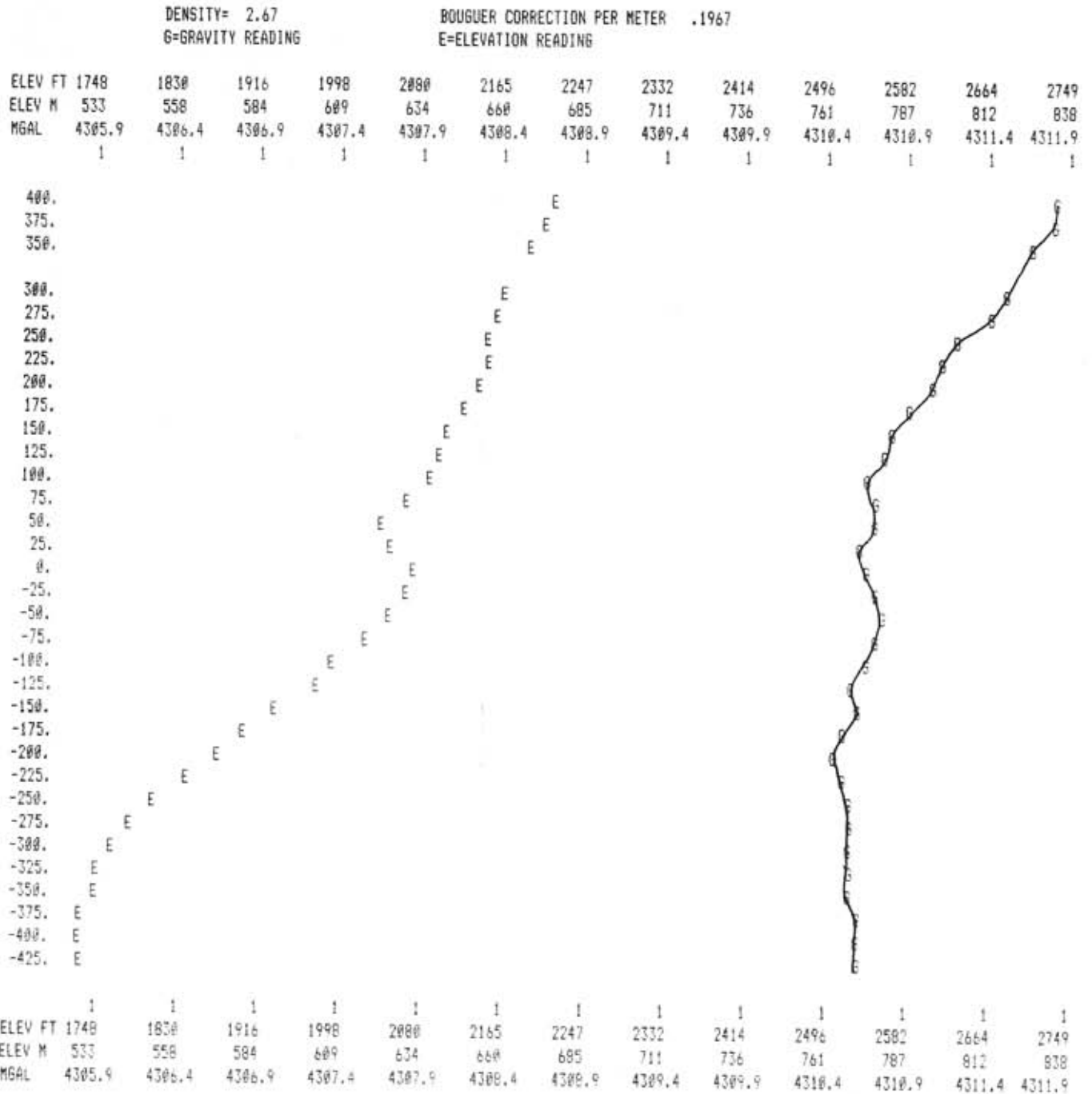


Figure 16

PROFILE OF LINE L100N

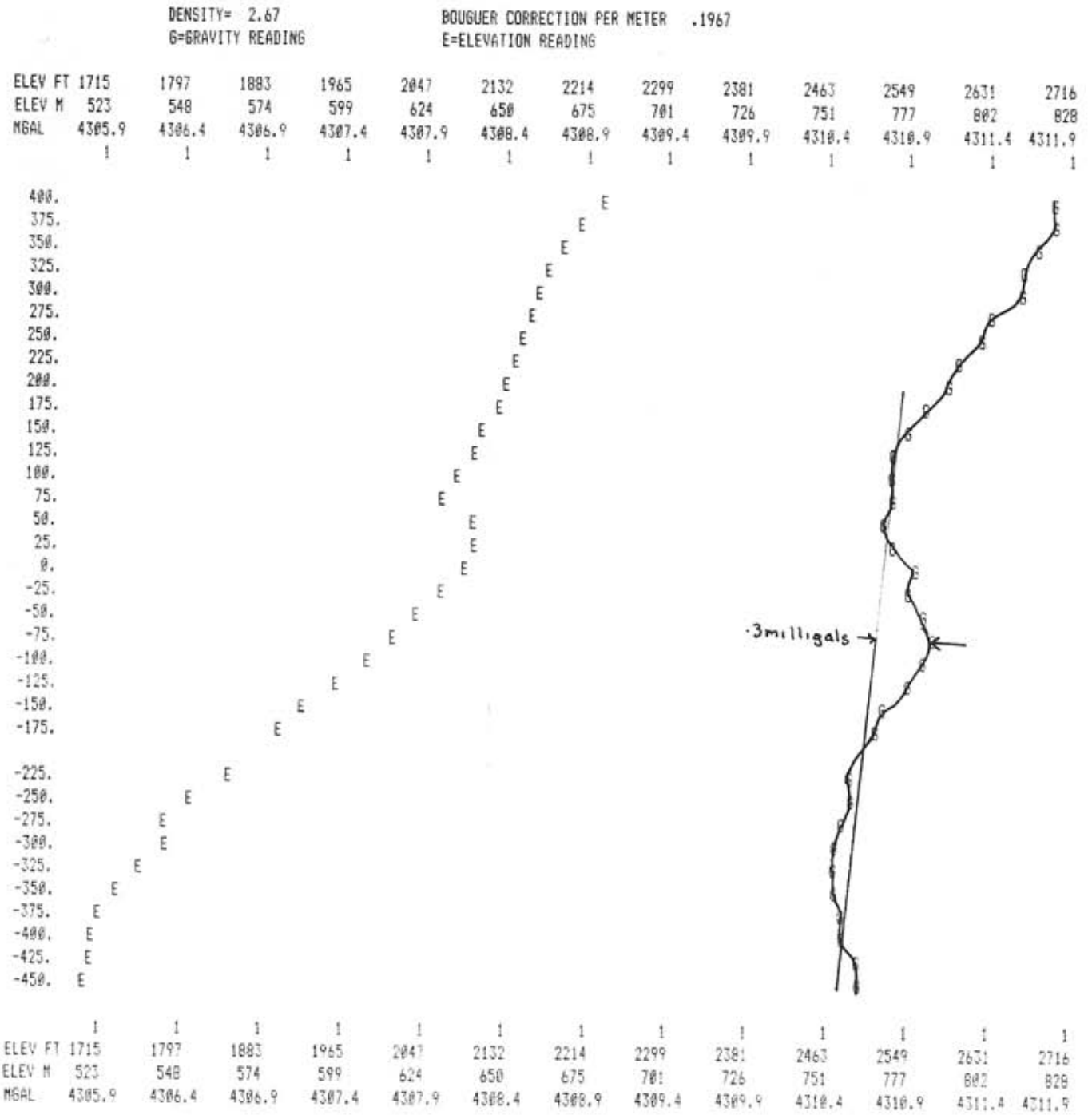


Figure 17

PROFILE OF LINE L50N

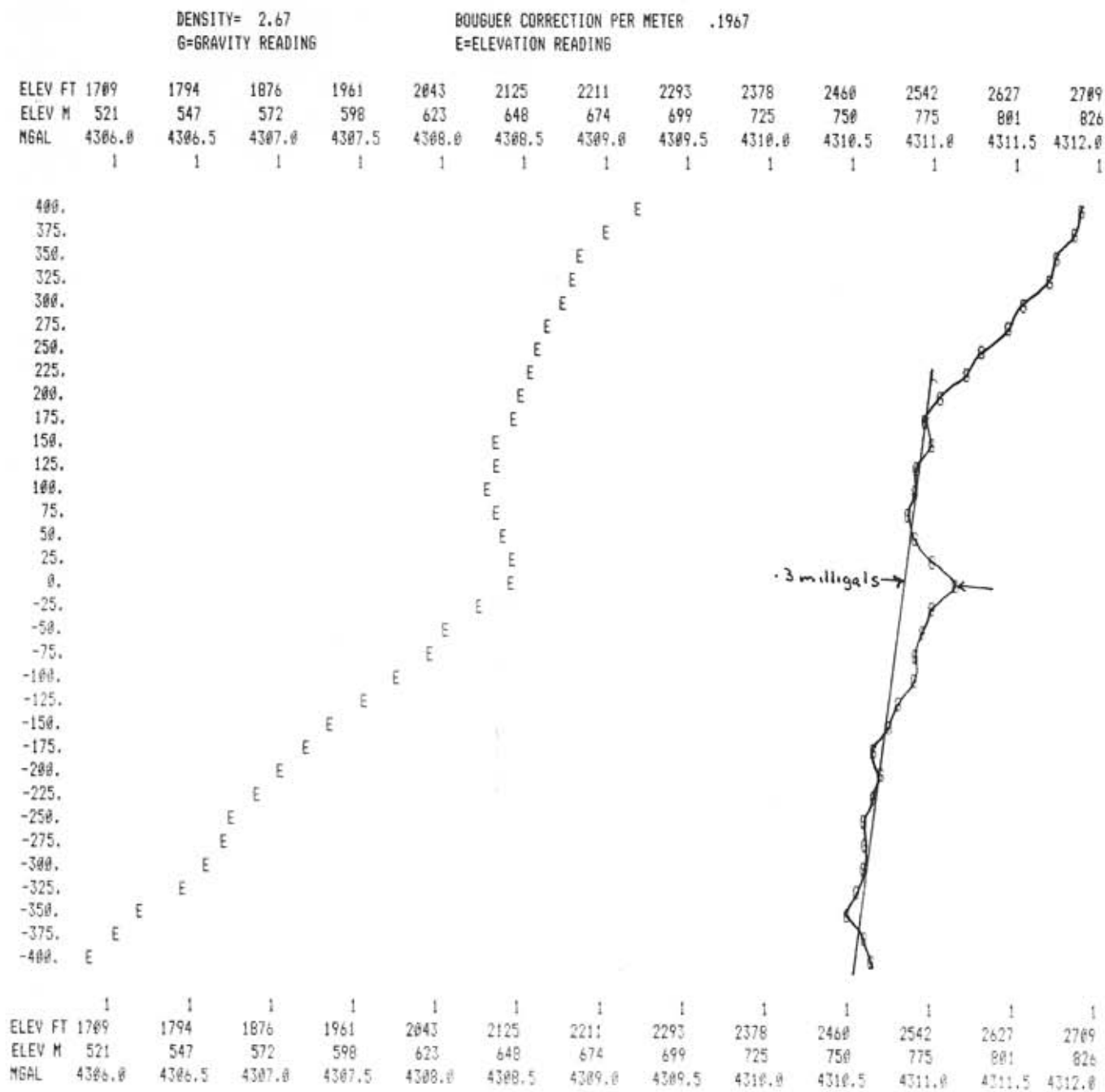


Figure 18

PROFILE OF LINE L00N

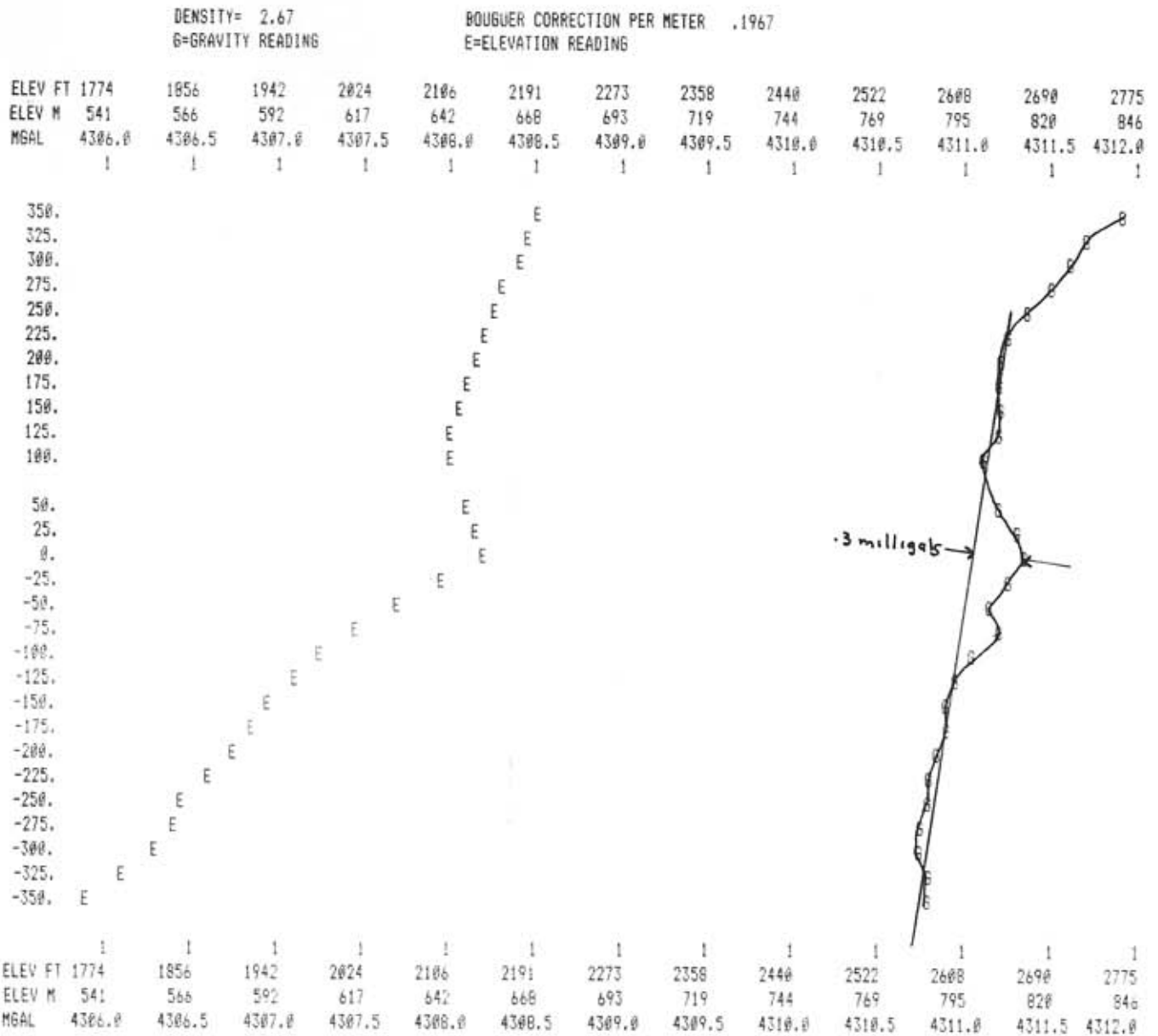


Figure 19

PROFILE OF LINE L50S

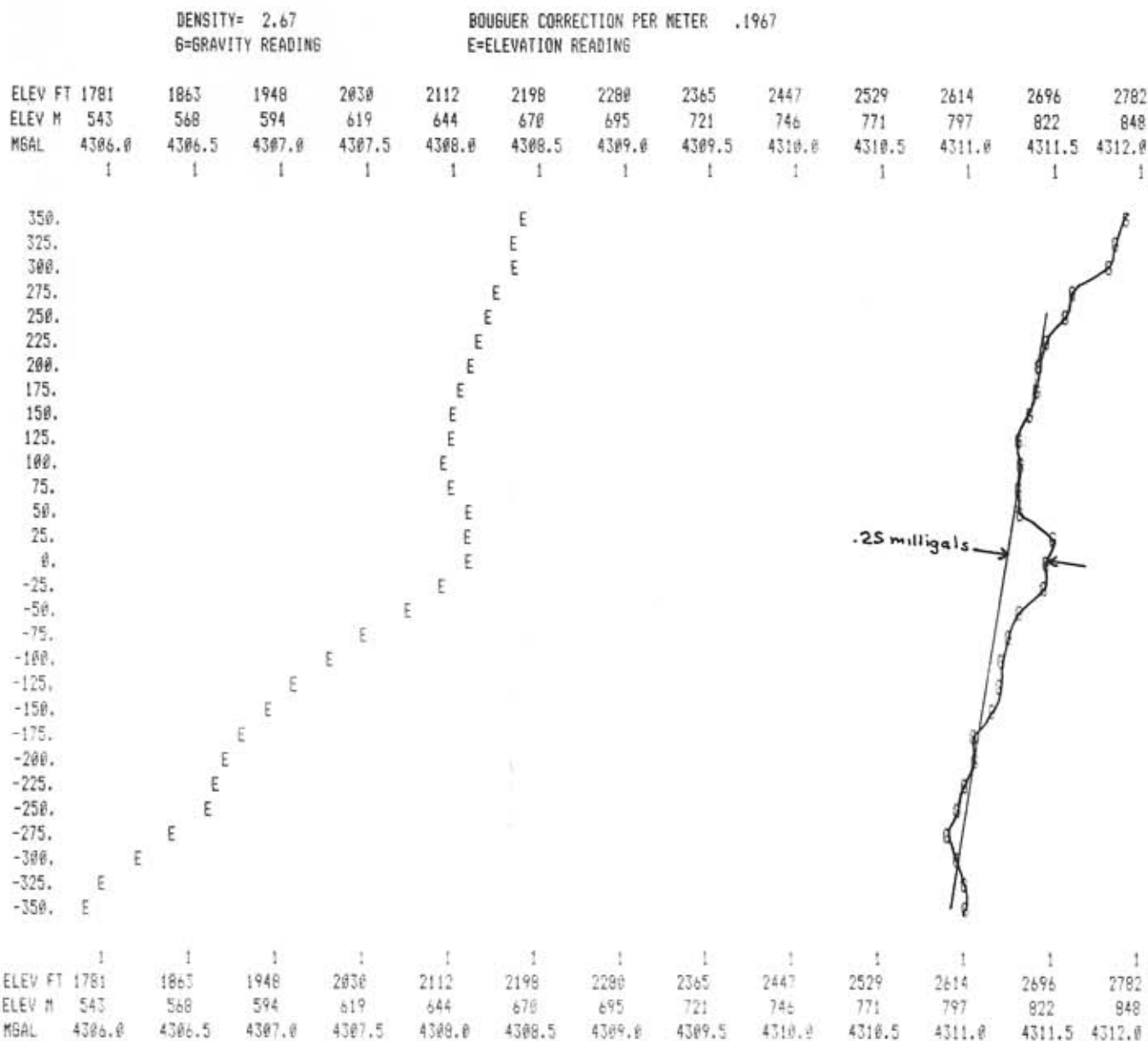


Figure 20

PROFILE OF LINE L100S

DENSITY= 2.67  
G=GRAVITY READING

BOUGUER CORRECTION PER METER .1967  
E=ELEVATION READING

ELEV FT	1817	1899	1984	2066	2152	2234	2316	2401	2483	2568	2650	2732	2818
ELEV M	554	579	605	630	656	681	706	732	757	783	808	833	859
MGAL	4306.1	4306.6	4307.1	4307.6	4308.1	4308.6	4309.1	4309.6	4310.1	4310.6	4311.1	4311.6	4312.1
	1	1	1	1	1	1	1	1	1	1	1	1	1

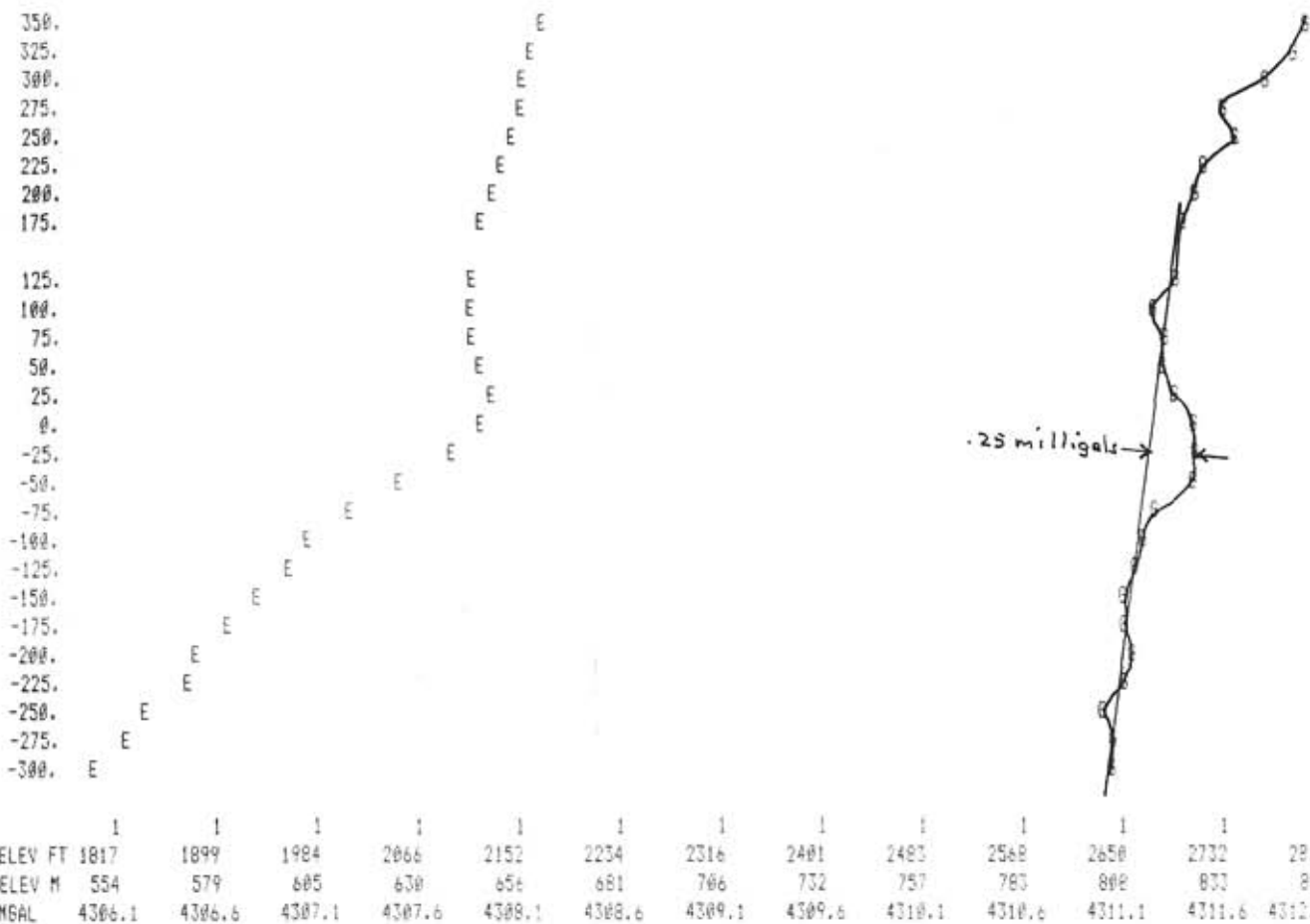


Figure 21



PROFILE OF LINE L1505

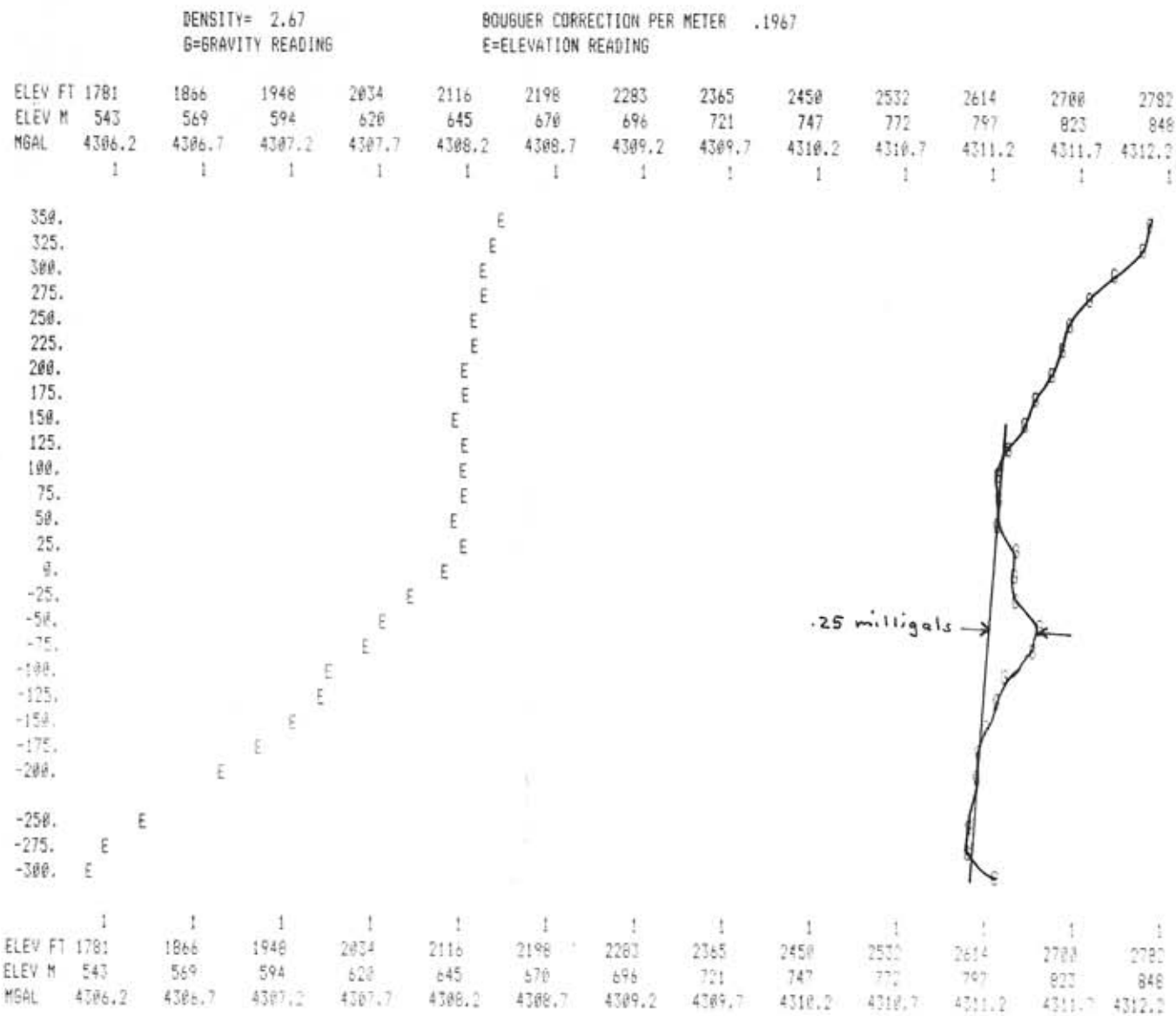


Figure 22

PROFILE OF LINE L200S

DENSITY= 2.67  
G=GRAVITY READING

BOUGUER CORRECTION PER METER .1967  
E=ELEVATION READING

ELEV FT	1794	1876	1961	2043	2129	2211	2293	2378	2460	2545	2627	2709	2795
ELEV M	547	572	598	623	649	674	699	725	750	776	801	826	852
MGAL	4306.3	4306.8	4307.3	4307.8	4308.3	4308.8	4309.3	4309.8	4310.3	4310.8	4311.3	4311.8	4312.3
	1	1	1	1	1	1	1	1	1	1	1	1	1

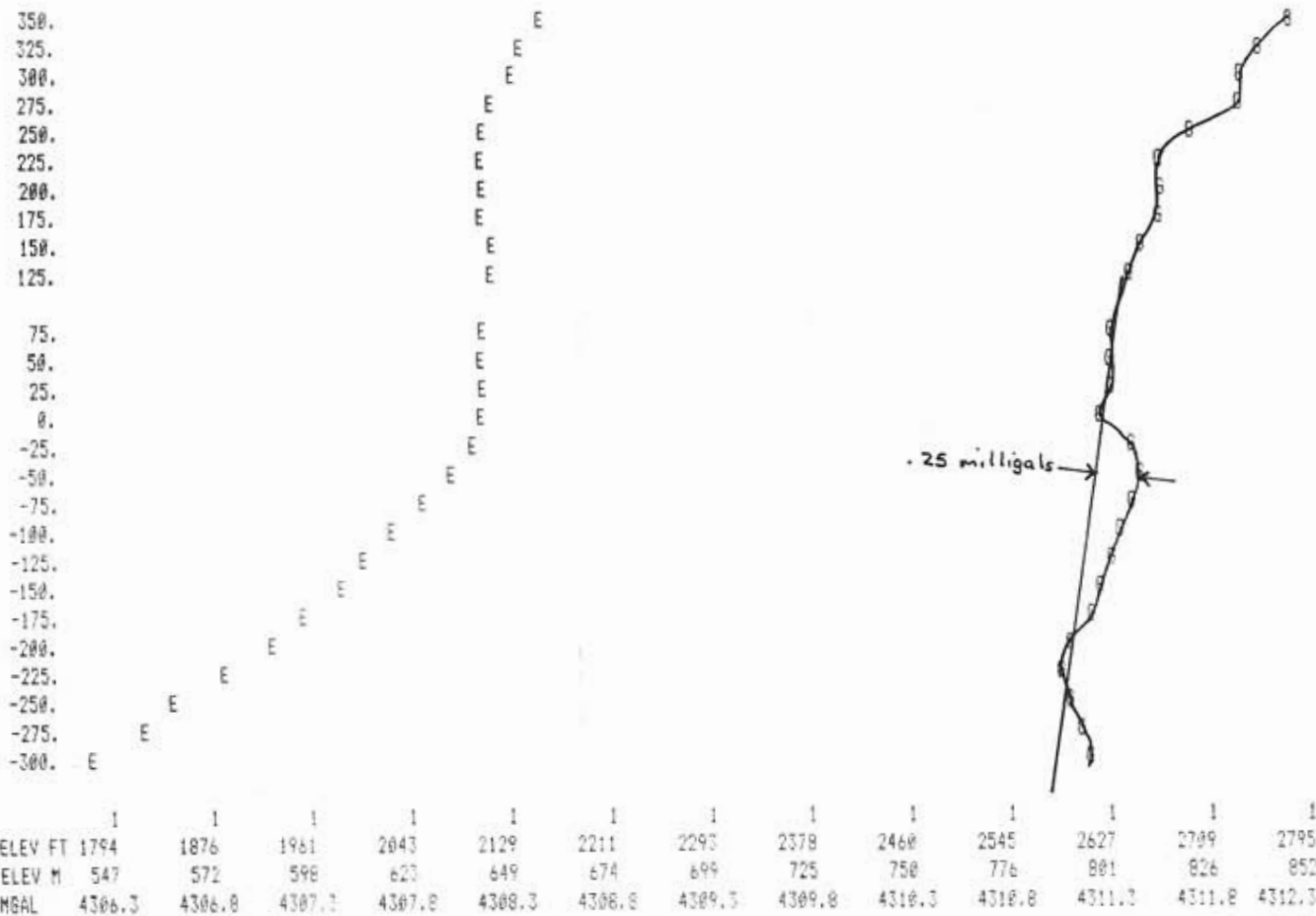


Figure 23

PROFILE OF LINE L2509

DENSITY= 2.67  
G=GRAVITY READING

BOUGUER CORRECTION PER METER .1967  
E=ELEVATION READING

ELEV FT	1784	1870	1952	2034	2119	2201	2286	2368	2450	2536	2618	2703	2785
ELEV M	544	570	595	620	646	671	697	722	747	773	798	824	849
MGAL	4306.4	4306.9	4307.4	4307.9	4308.4	4308.9	4309.4	4309.9	4310.4	4310.9	4311.4	4311.9	4312.4
	1	1	1	1	1	1	1	1	1	1	1	1	1

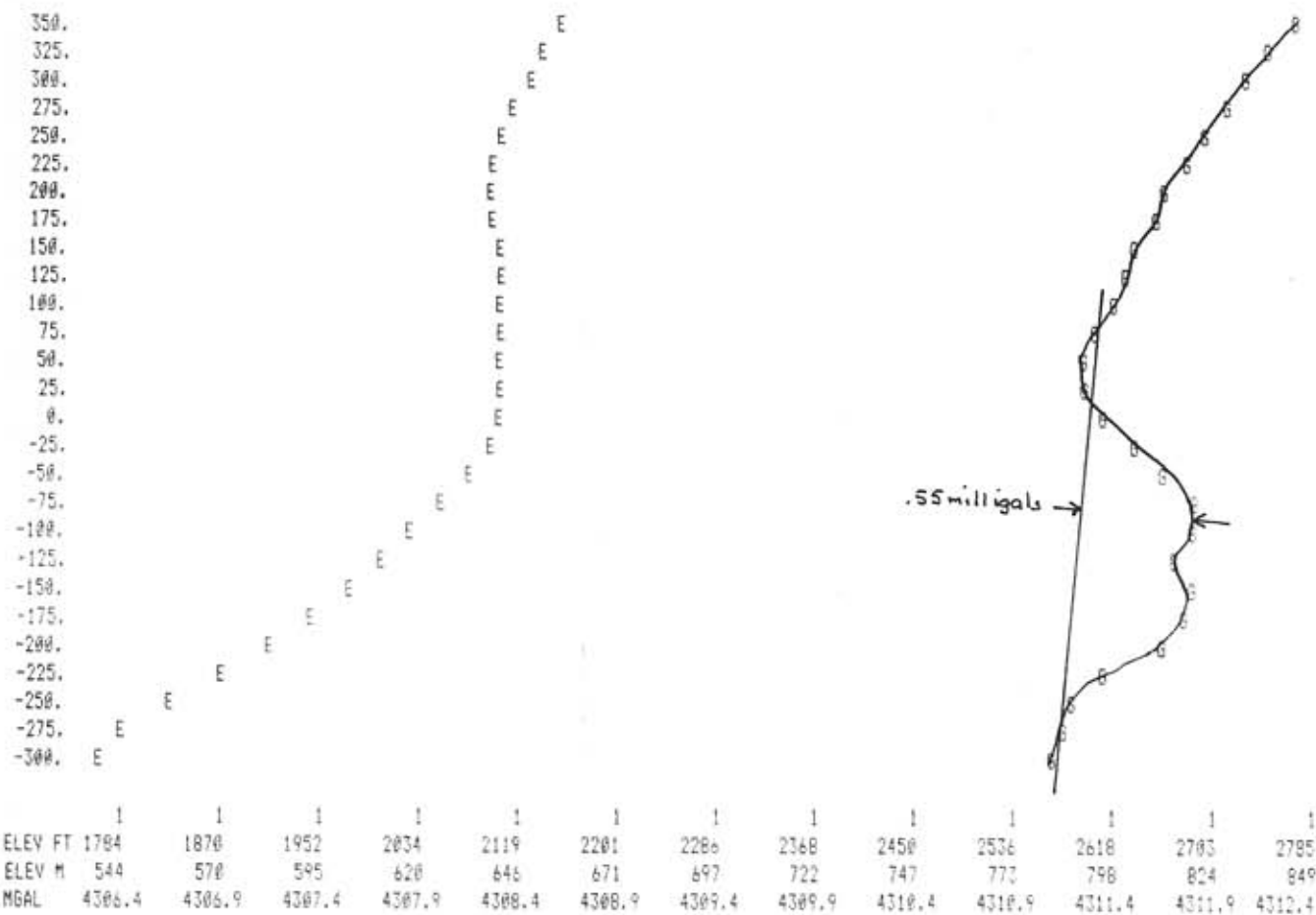


Figure 24

PROFILE OF LINE L300S

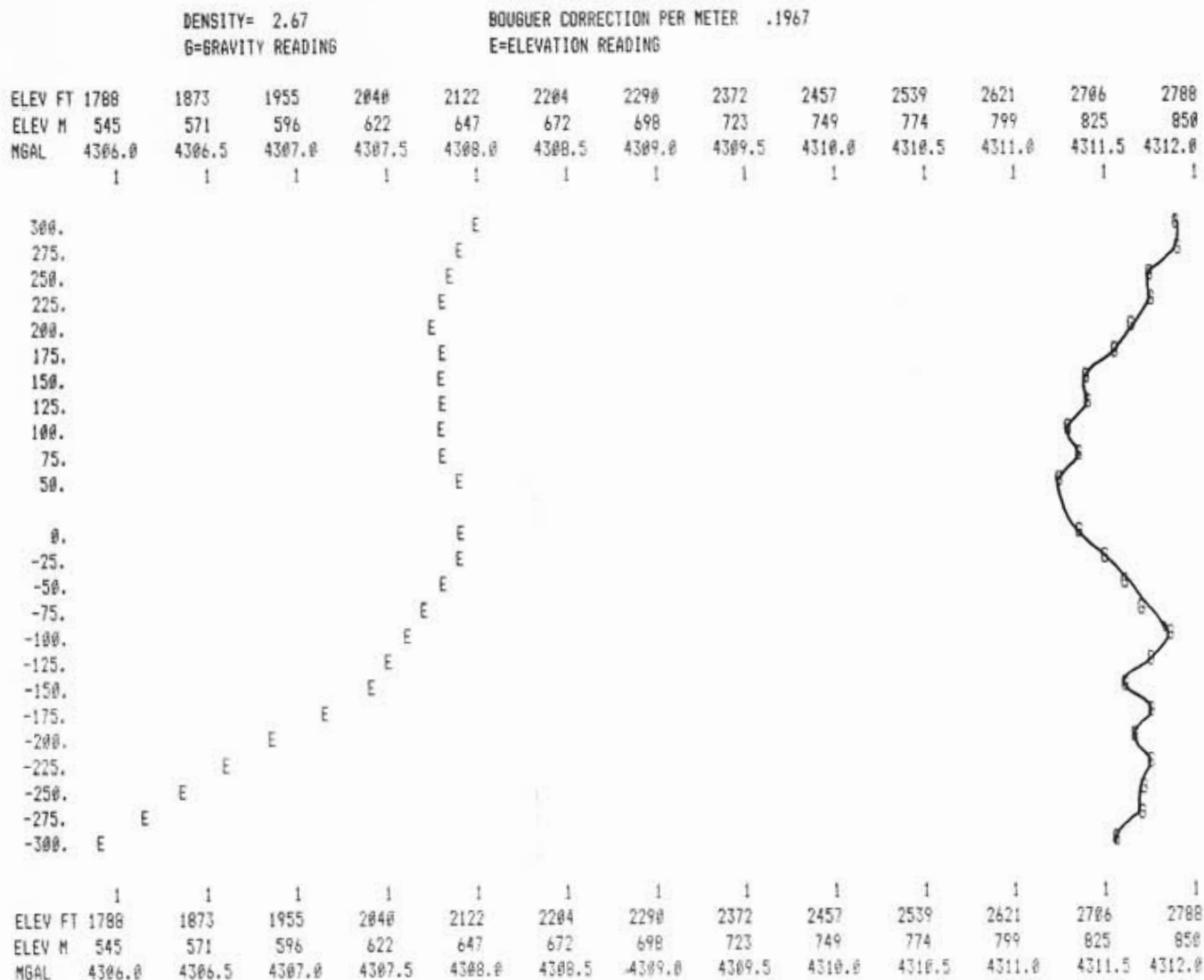


Figure 25

PROFILE OF LINE L350S

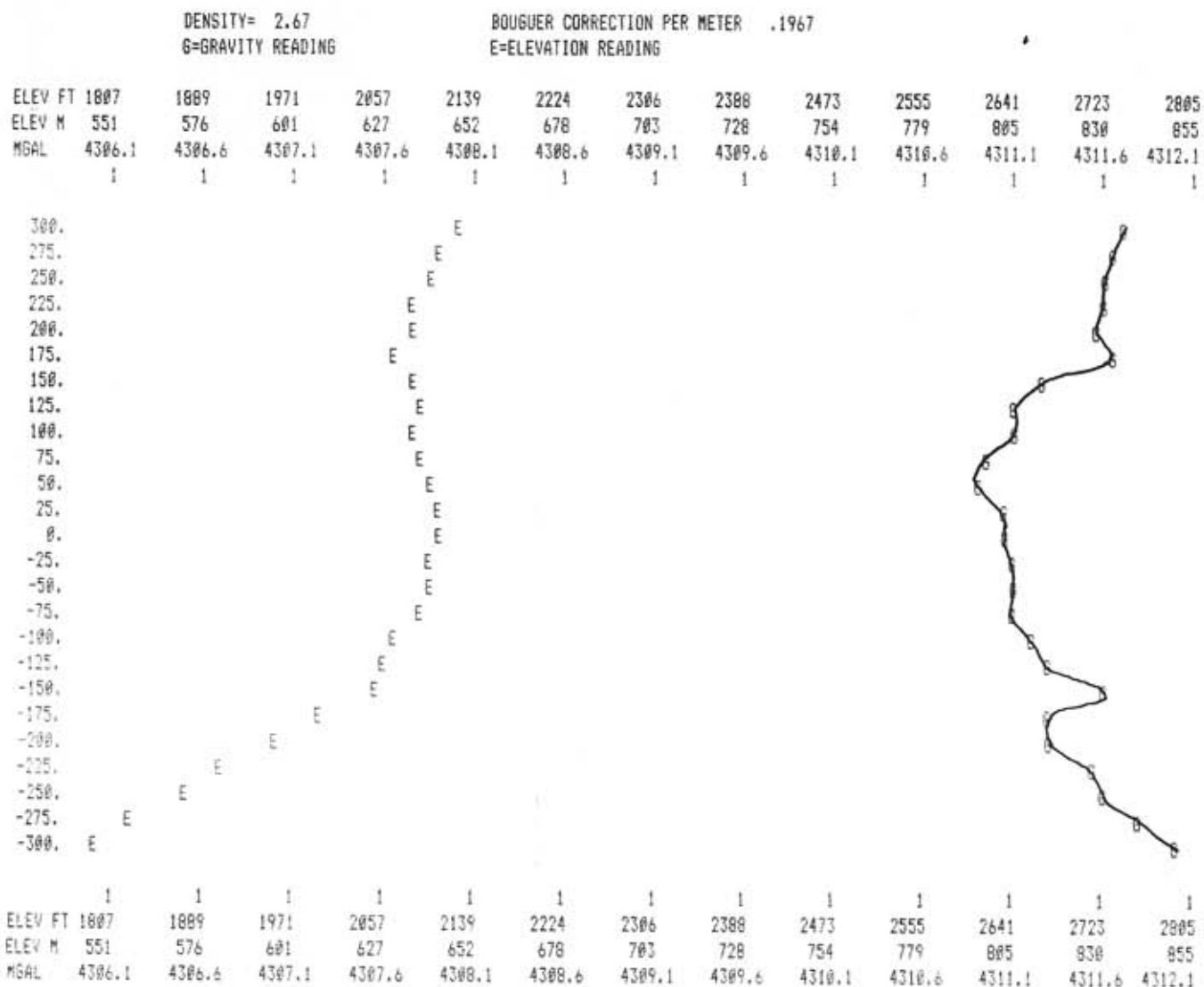


Figure 26

PROFILE OF LINE L400S

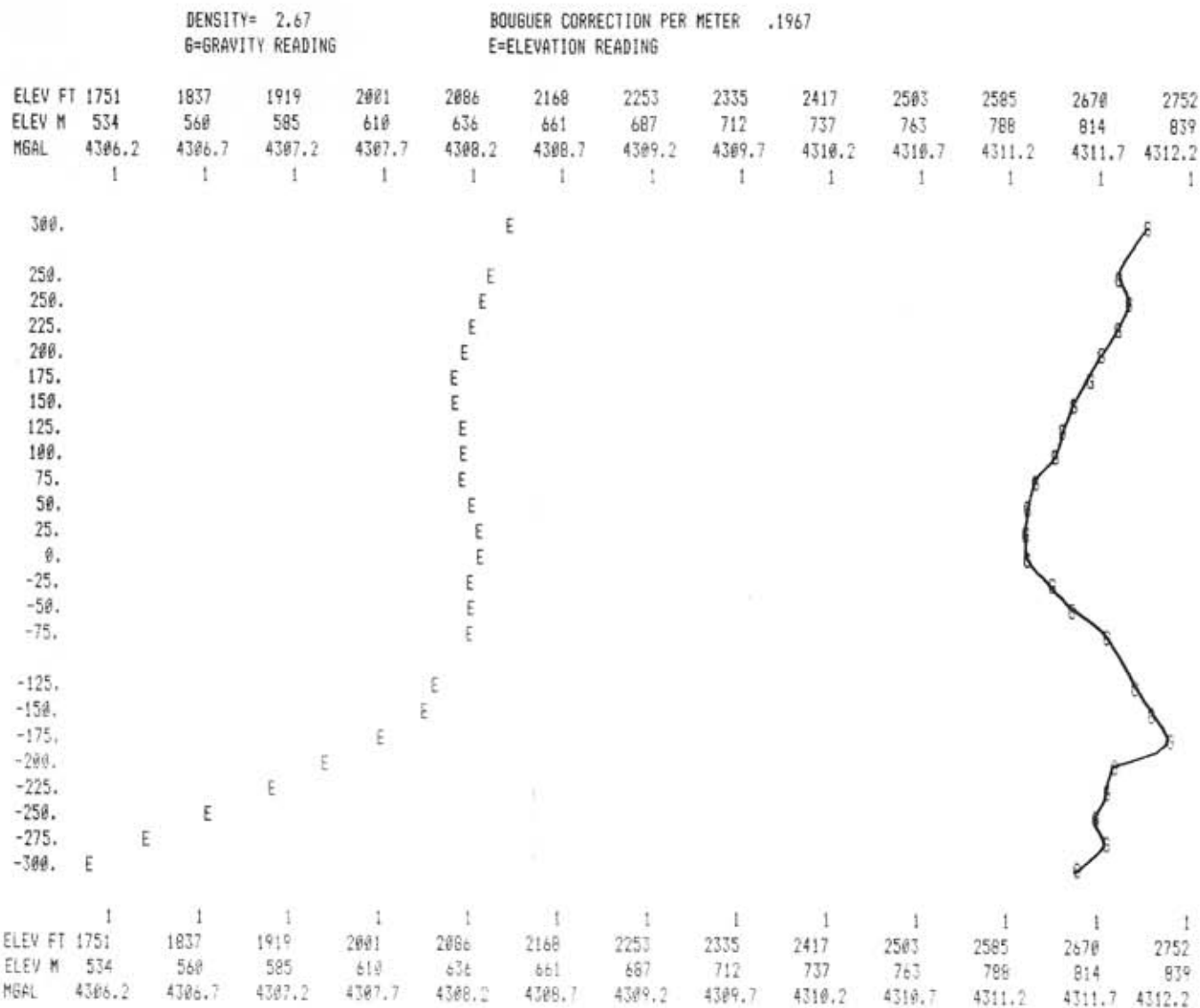


Figure 27

PROFILE OF LINE L450S

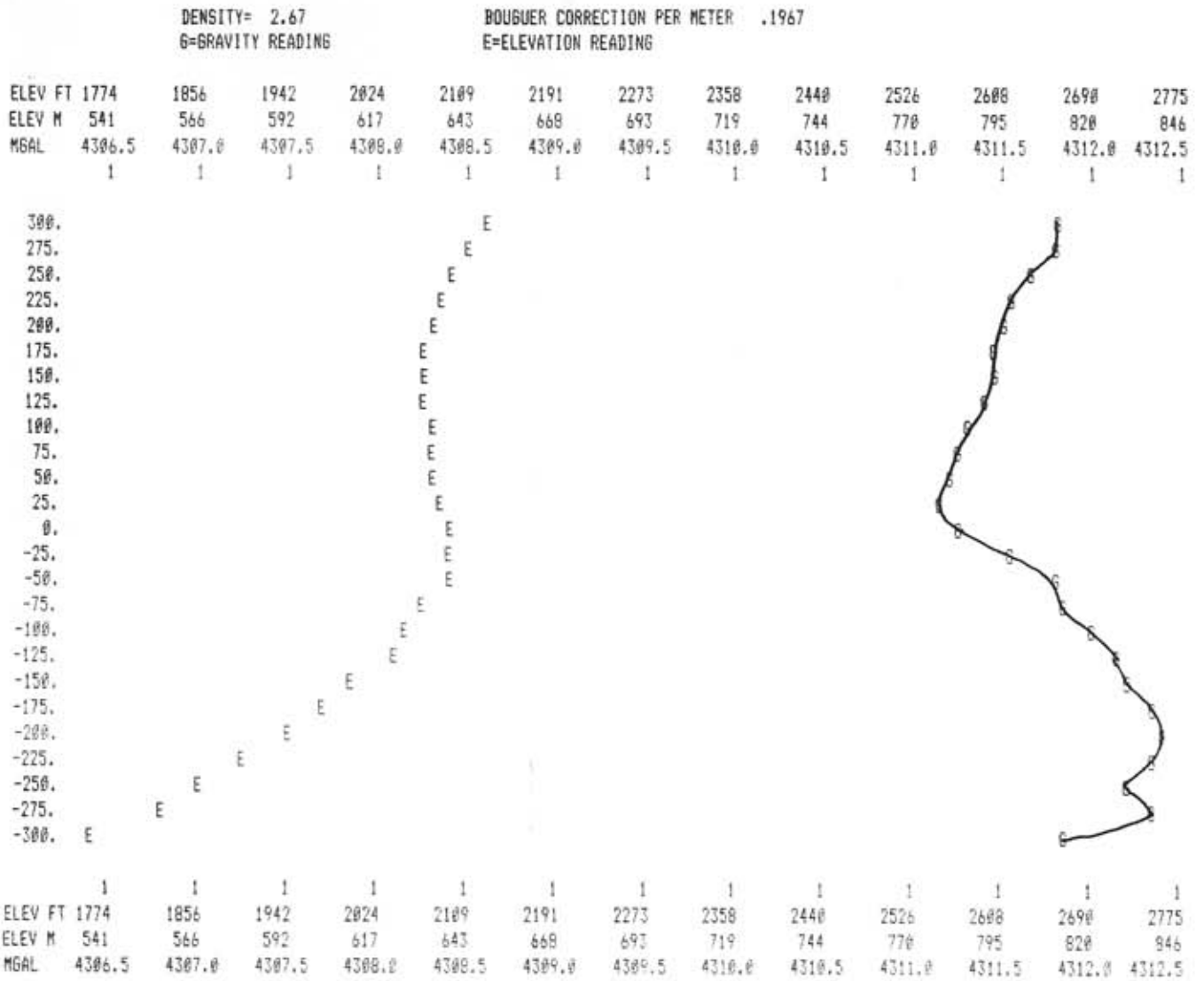


Figure 28

PROFILE OF LINE L5005

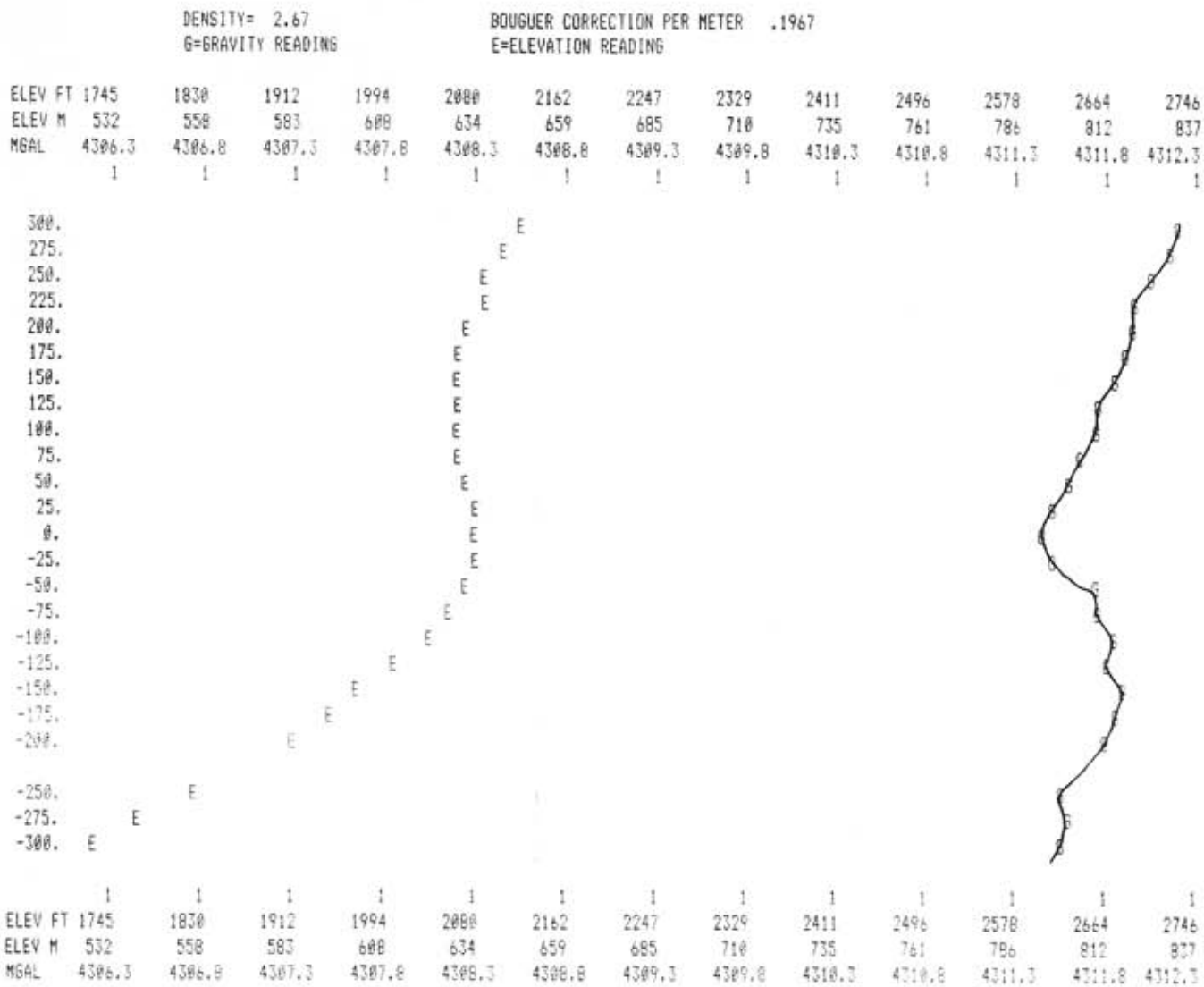


Figure 29



PROFILE OF LINE L550S

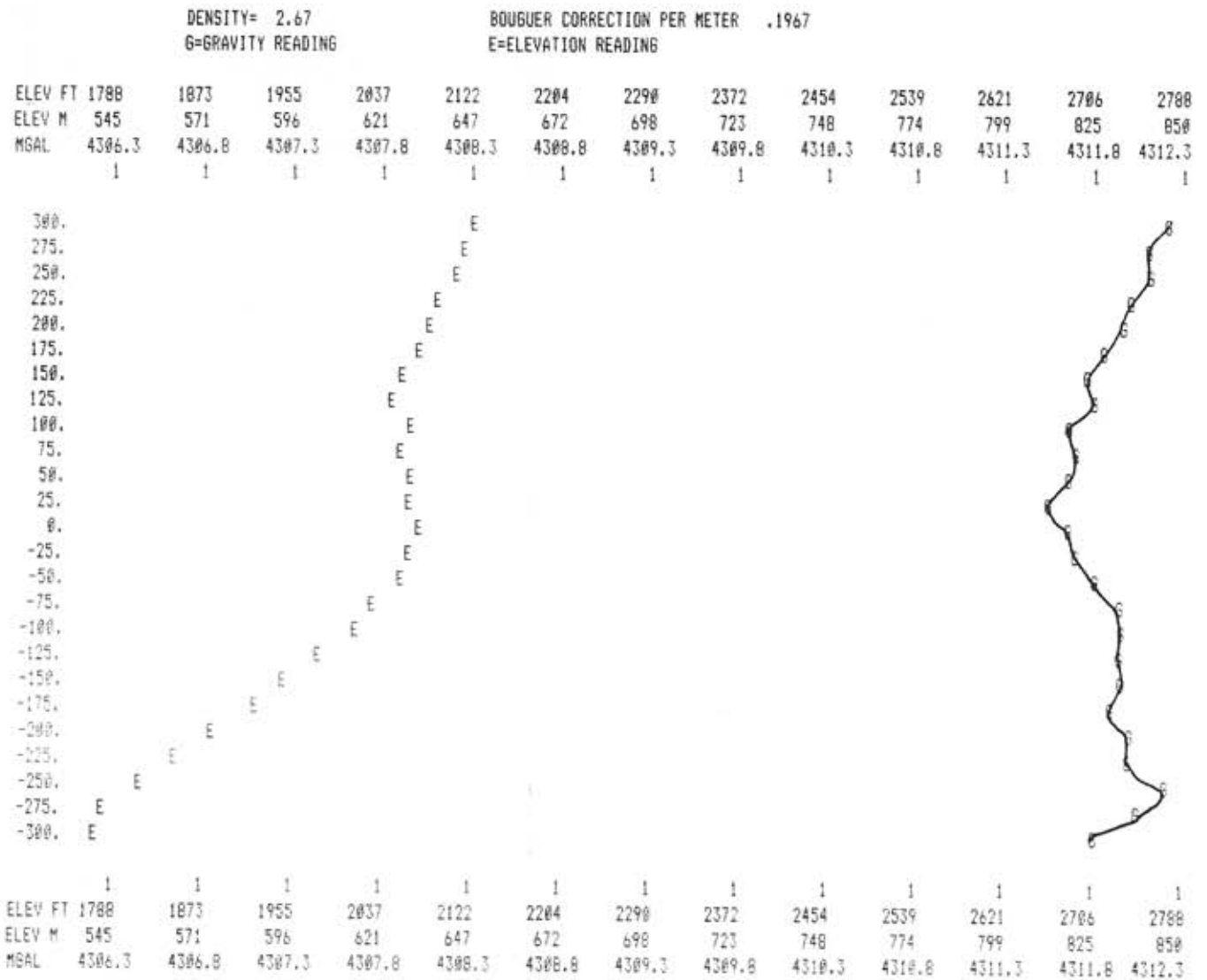


Figure 30

PROFILE OF LINE L600S

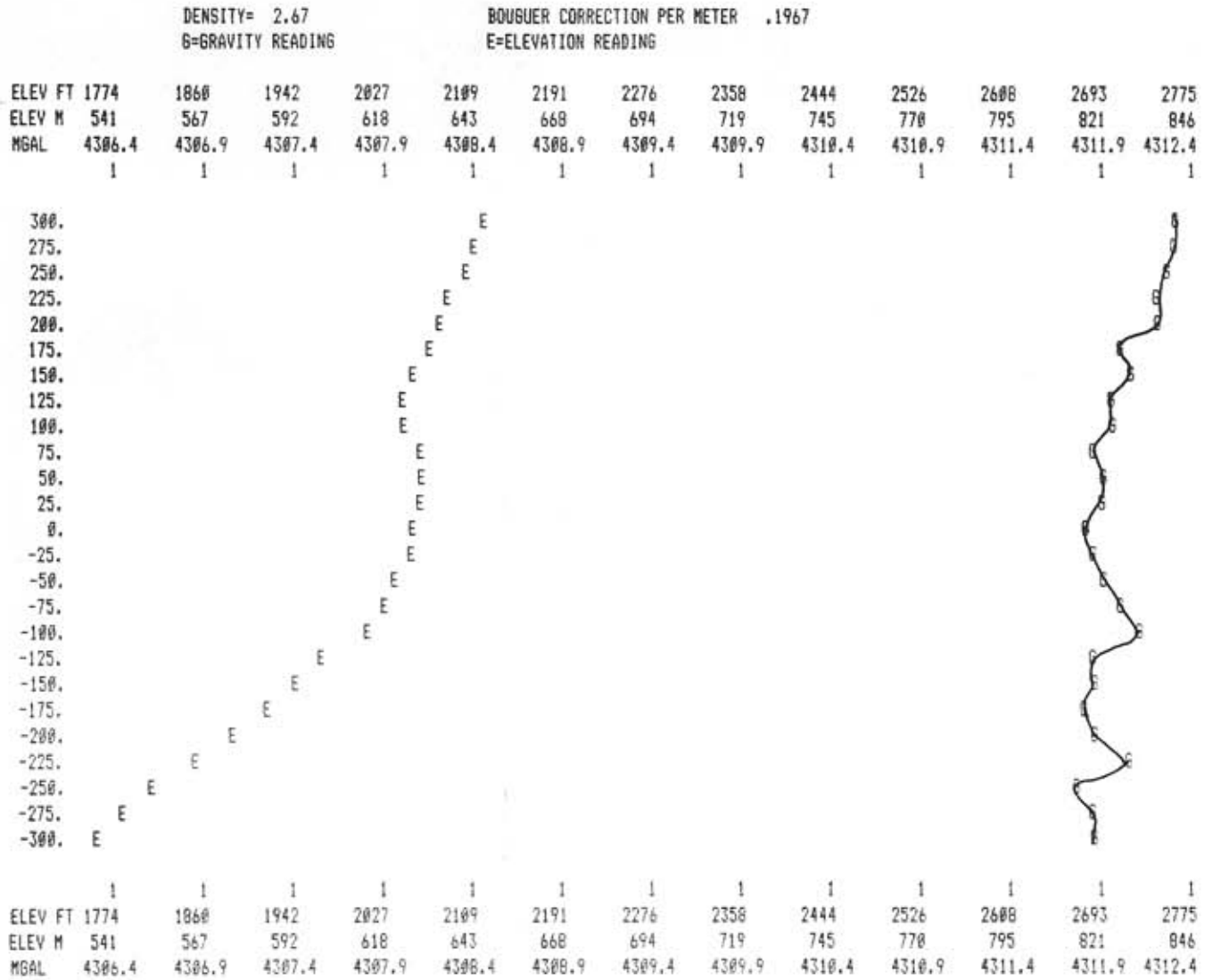


Figure 31

PROFILE OF LINE L650S

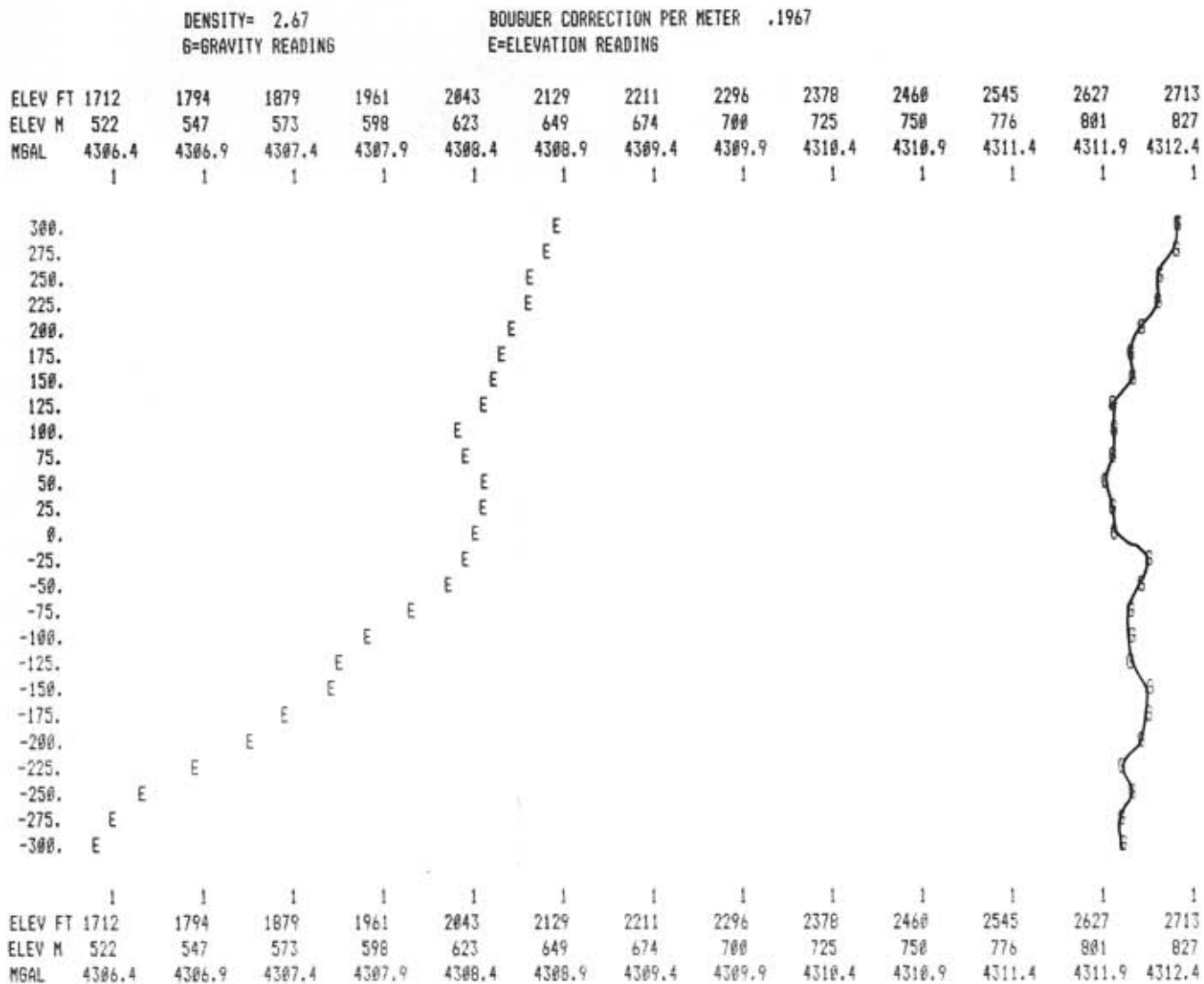


Figure 32

PROFILE OF LINE L700S

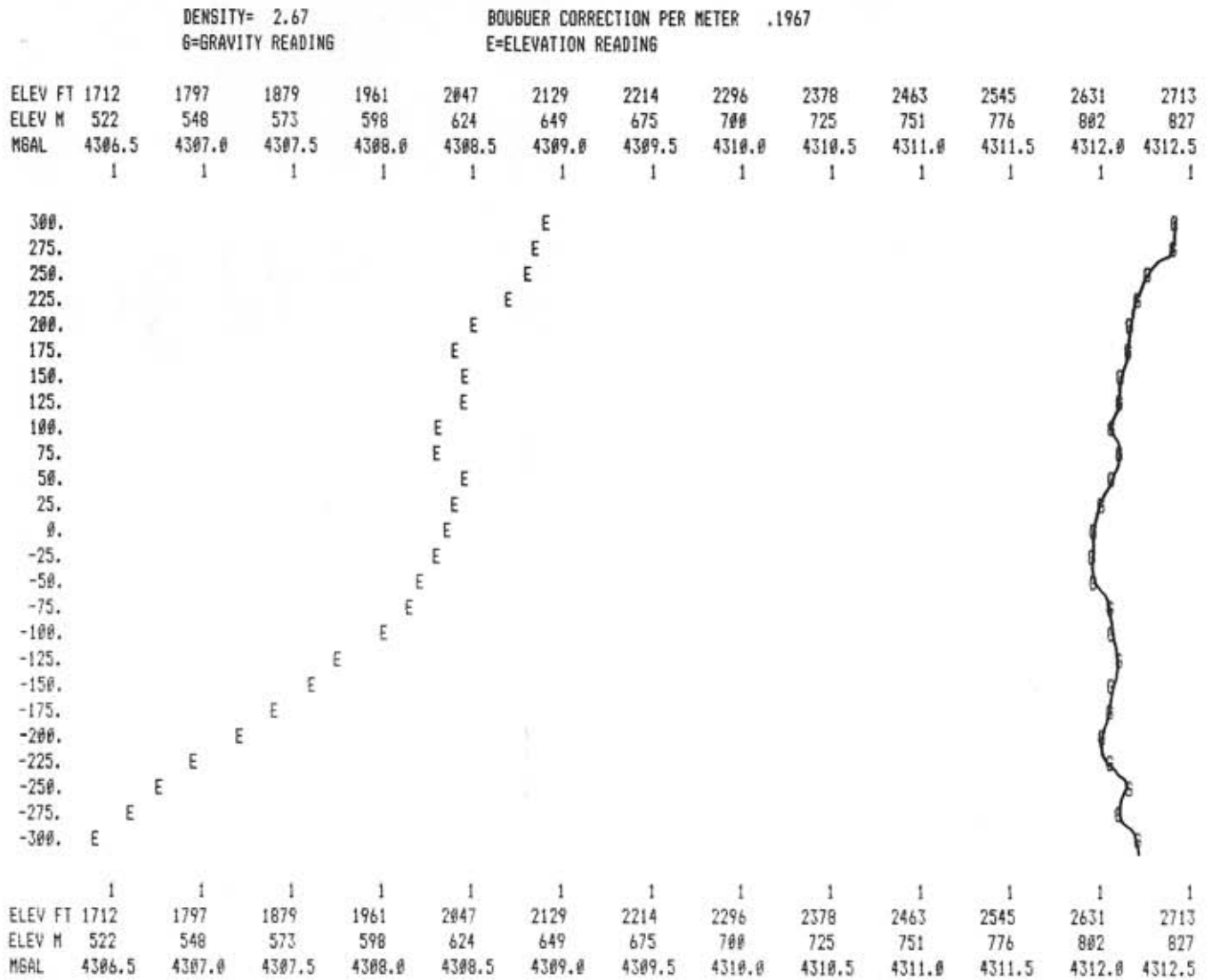


Figure 33

PROFILE OF LINE 800 S

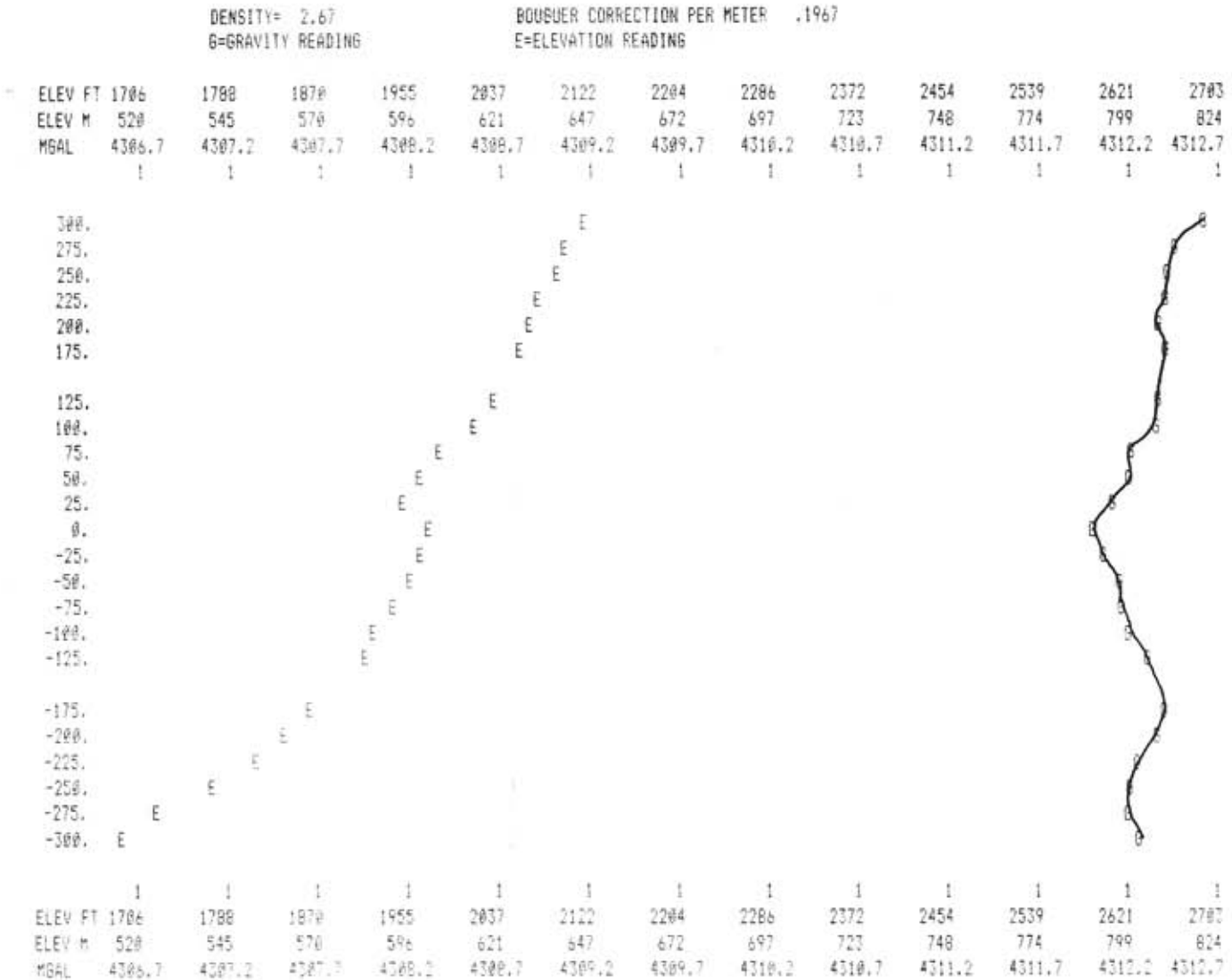


Figure 34

PROFILE OF LINE BASELINE

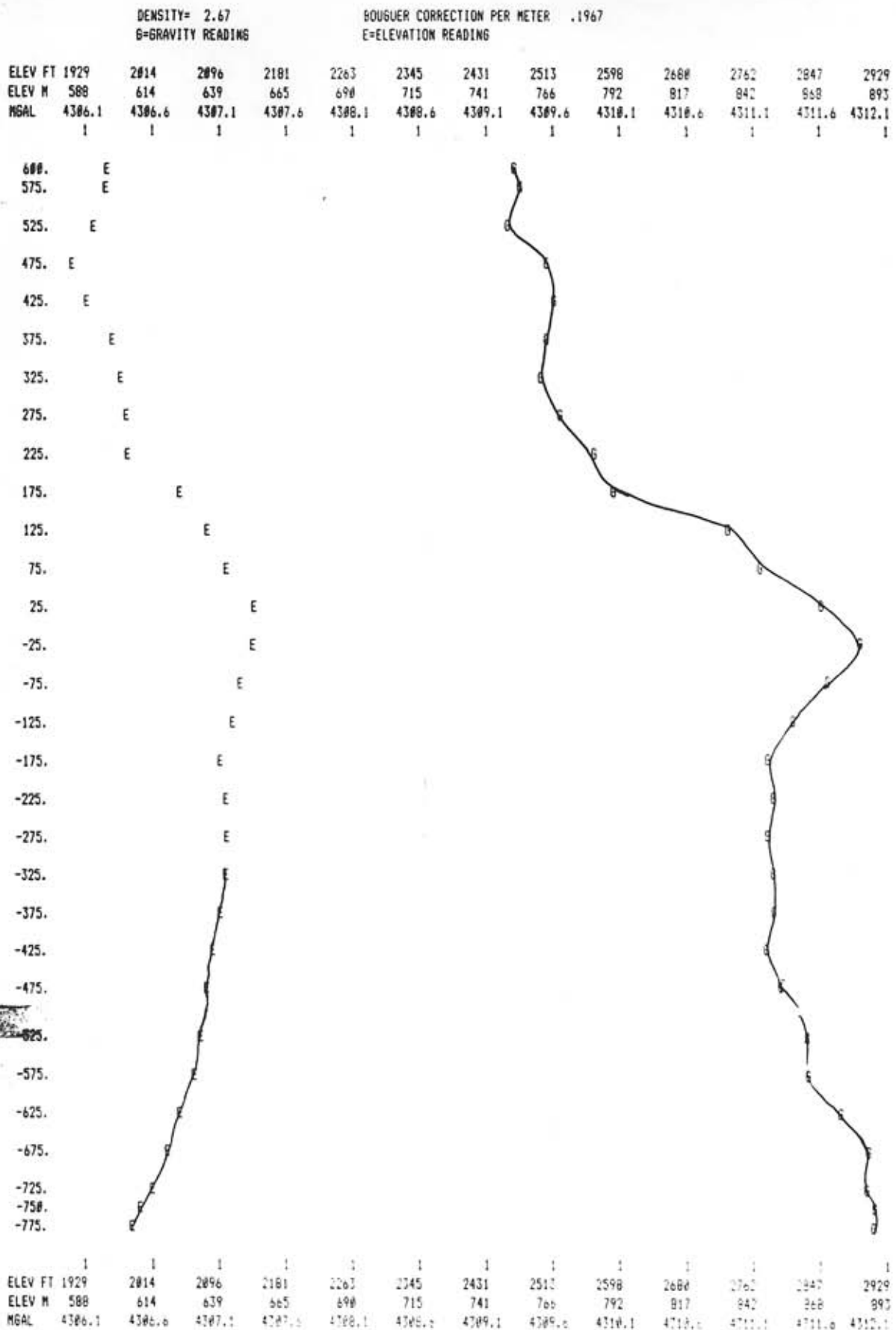


Figure 35

PROFILE OF LINE POWERLINE

DENSITY= 2.67  
G=GRAVITY READING

BOUGUER CORRECTION PER METER .1967  
E=ELEVATION READING

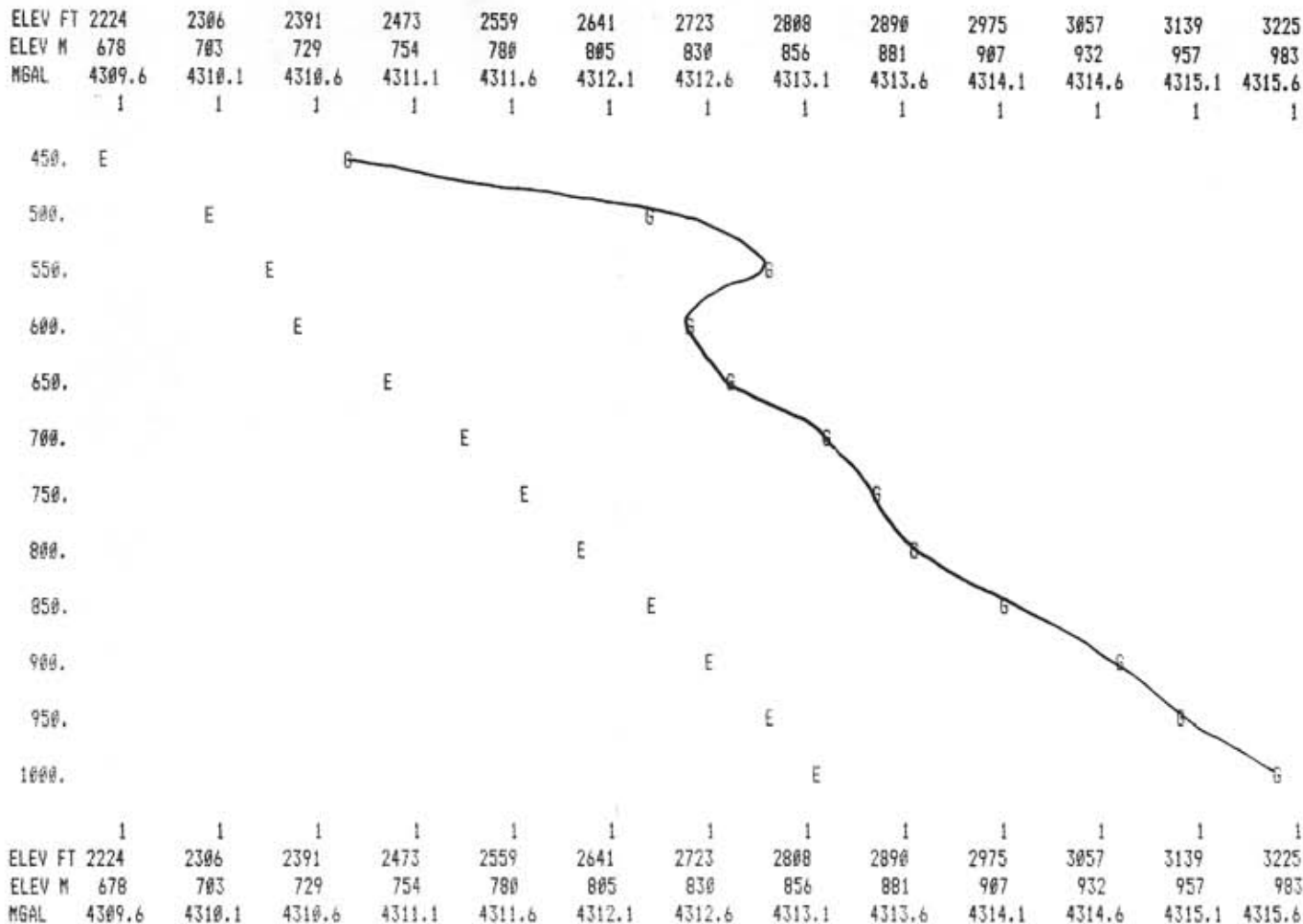


Figure 36

## APPENDIX VI: Gravity Modeling



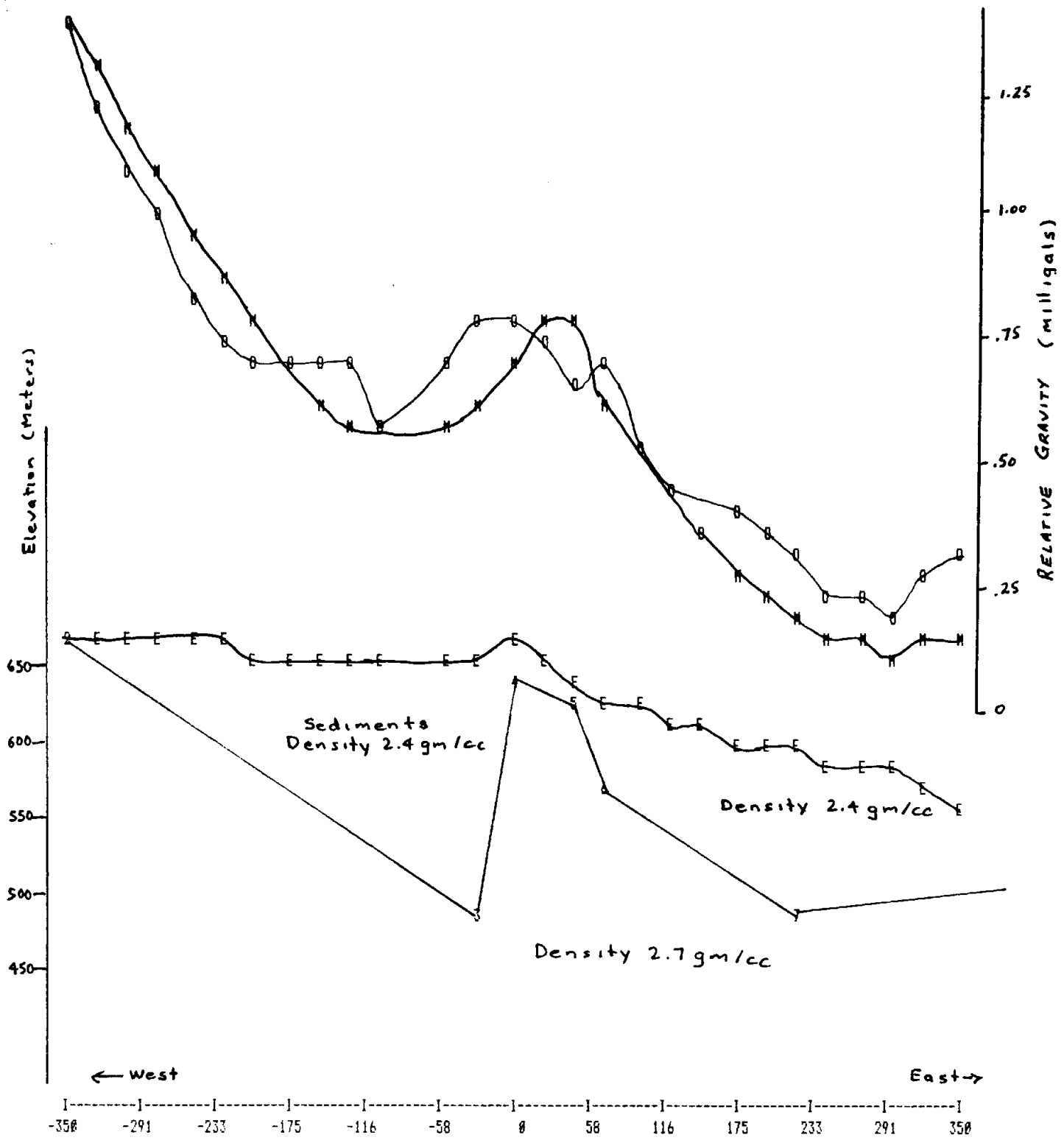


Figure 37 - LINE ON

LINE 00N WITH MODEL FOR 250S MOVED TO WEST

FILE NAME F00N

MODEL NAME MOD00N

FOR POLYGON 1 DENSITY CONTRAST = .3000

VERTEX	X-COORD	Z-COORD
1	-1000.00	870.00
2	-350.00	660.00
3	-25.00	450.00
4	0.00	640.00
5	50.00	620.00
6	75.00	550.00
7	225.00	450.00
8	500.00	500.00
9	1000.00	650.00
10	1000.00	0.00
11	-1000.00	0.00

STATION	ELEV	OBS.GRAVITY	MODEL GRAVITY	DIFFERENCE
-350.	674.10	1.2100	1.2100	0.0000
-325.	670.81	1.0000	1.1008	-0.1008
-300.	668.73	.8701	.9775	-0.1074
-275.	664.94	.7803	.8691	-0.0888
-250.	663.16	.6401	.7626	-0.1225
-225.	660.07	.5200	.6692	-0.1492
-200.	656.59	.4902	.5729	-0.0827
-175.	653.80	.4800	.4920	-0.0120
-150.	650.92	.4902	.4256	.0646
-125.	648.33	.4800	.3763	.1037
-100.	649.05	.3701	.3512	.0189
-50.	653.88	.4800	.3717	.1082
-25.	655.79	.5903	.4228	.1675
0.	660.50	.6001	.4770	.1231
25.	646.31	.5200	.5885	-0.0685
50.	633.01	.4404	.5628	-0.1224
75.	622.02	.5000	.4265	.0735
100.	612.12	.3203	.3119	.0085
125.	604.32	.2500	.2237	.0263
150.	595.43	.1704	.1503	.0201
175.	589.53	.1802	.0822	.0980
200.	585.13	.1504	.0227	.1277
225.	578.53	.1001	-.0234	.1235
250.	571.04	.0103	-.0560	.0662
275.	568.14	.0303	-.0784	.1086
300.	562.14	0.0000	-.0857	.0857
325.	553.15	.0703	-.0773	.1476
350.	541.25	.1001	-.0533	.1534

THE SUM OF THE SQUARE OF THE DIFFERENCES= .2803

Figure 37a

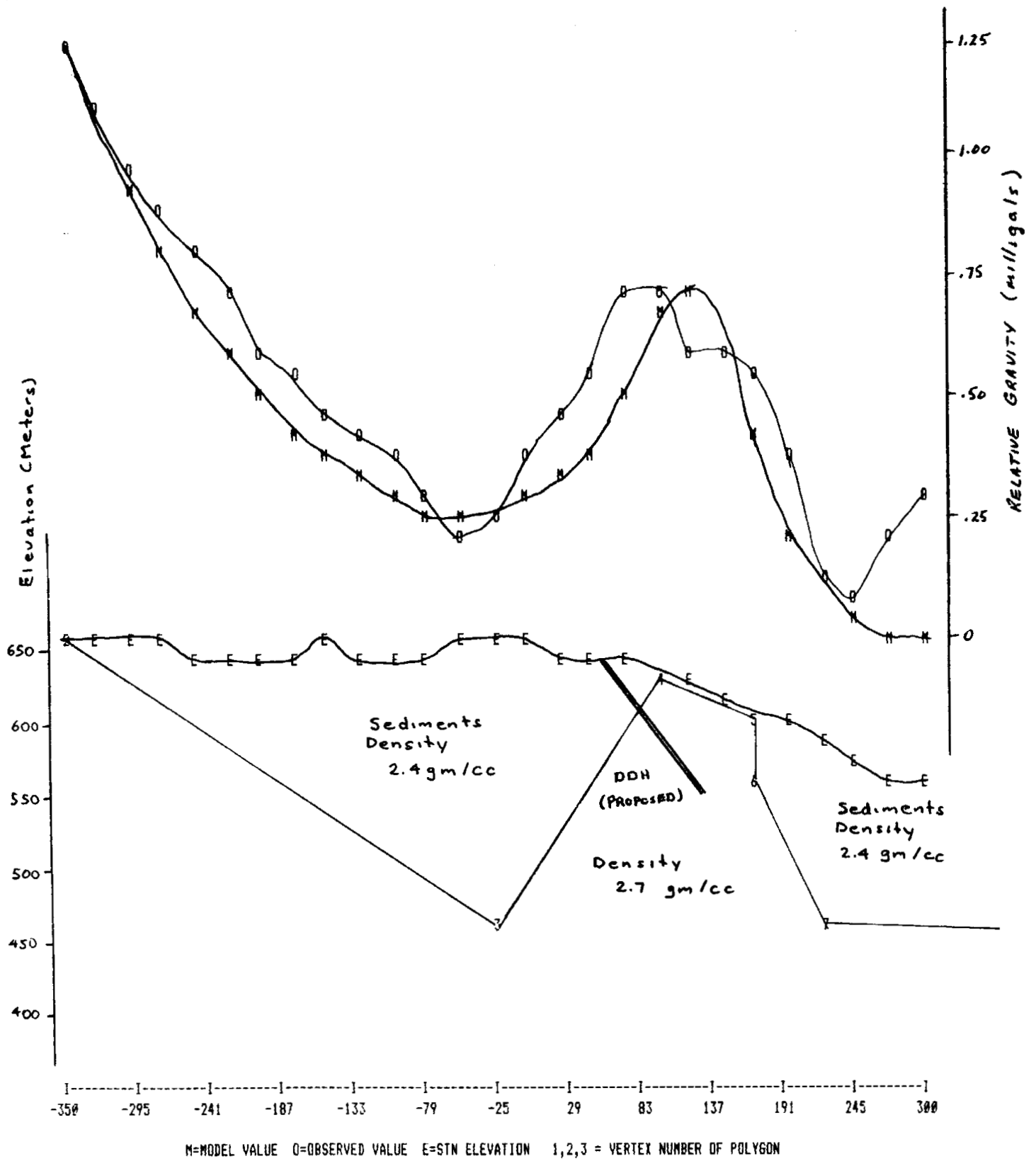


Figure 38 - LINE 250S

LINE 250S MODEL 3

FILE NAME F250S

MODEL NAME MOD2503

FOR POLYGON 1 DENSITY CONTRAST = .3000

VERTEX	X-COORD	Z-COORD
1	-1000.00	870.00
2	-350.00	660.00
3	-25.00	450.00
4	100.00	620.00
5	175.00	596.00
6	170.00	550.00
7	225.00	450.00
8	500.00	500.00
9	1000.00	650.00
10	1000.00	0.00
11	-1000.00	0.00

STATION	ELEV	OBS.GRAVITY	MODEL GRAVITY	DIFFERENCE
-350.	662.10	1.2300	1.2300	0.0000
-325.	657.39	1.0503	1.0562	-.0059
-300.	653.99	.9502	.8966	.0536
-275.	650.18	.8301	.7569	.0732
-250.	647.17	.7500	.6352	.1148
-225.	644.97	.6499	.5288	.1211
-200.	644.96	.5303	.4391	.0912
-175.	645.55	.4702	.3615	.1087
-150.	647.64	.4102	.2979	.1123
-125.	646.94	.3501	.2414	.1087
-100.	647.13	.3003	.2000	.1003
-75.	646.72	.2002	.1724	.0278
-50.	647.82	.1299	.1622	-.0323
-25.	647.51	.1499	.1674	-.0175
0.	647.60	.3003	.1903	.1099
25.	644.13	.3901	.2342	.1559
50.	639.56	.5000	.3052	.1948
75.	633.09	.6699	.4163	.2536
100.	624.92	.6602	.6011	.0591
125.	617.55	.5400	.6390	-.0990
150.	609.88	.5400	.5363	.0038
175.	599.90	.4902	.3604	.1299
200.	590.03	.2900	.1335	.1566
225.	576.76	.0303	.0105	.0198
250.	564.39	0.0000	-.0690	.0690
275.	552.02	.1001	-.1148	.2149
300.	544.65	.2100	-.1345	.3445

THE SUM OF THE SQUARE OF THE DIFFERENCES= .4562

Figure 38a

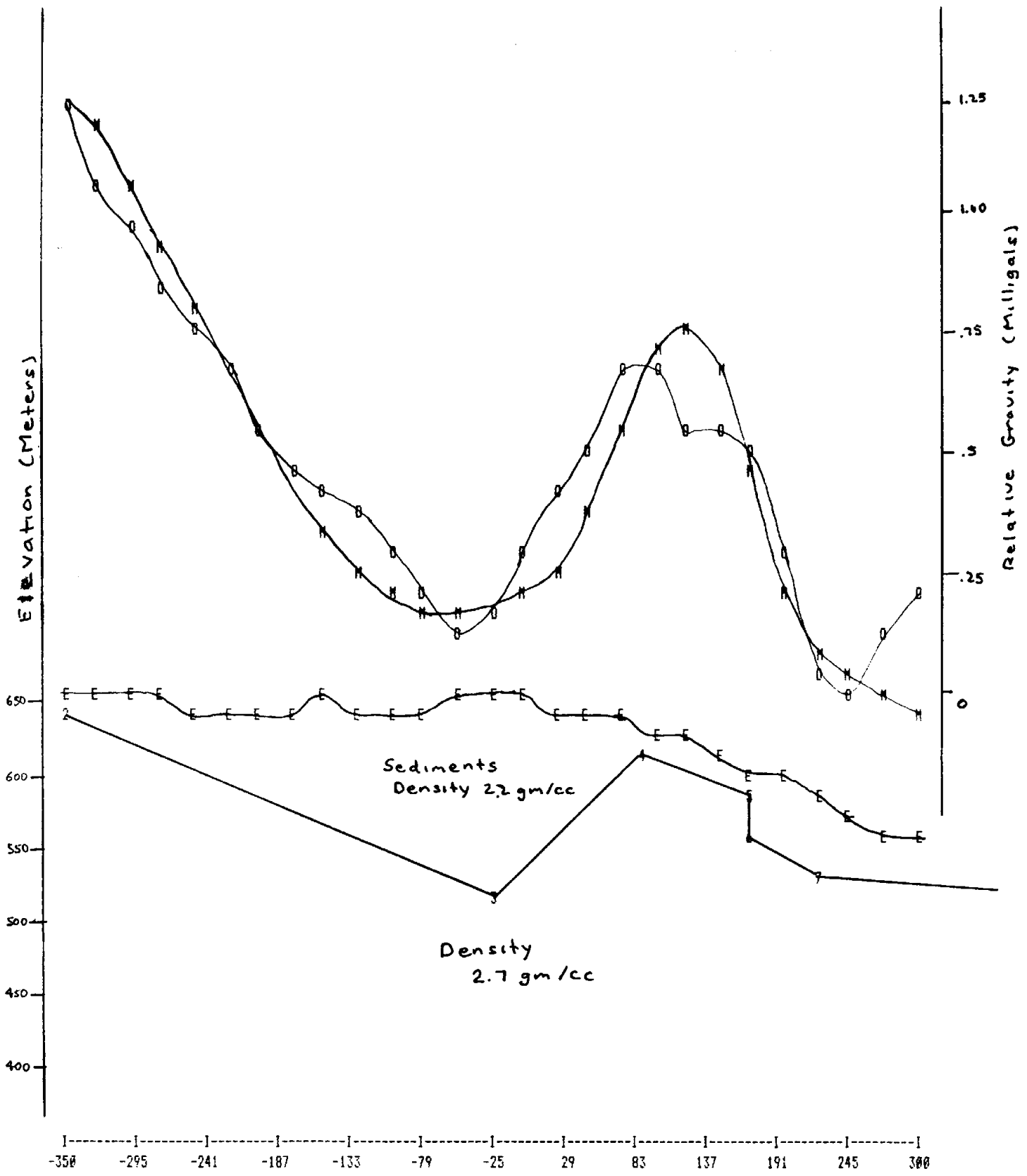


Figure 39 - LINE 2505

LINE 250S WITH DENSITY VARIATIONS

FILE NAME F250S MODEL NAME MOD250

FOR POLYGON 1 DENSITY CONTRAST = .5000

VERTEX	X-COORD	Z-COORD
1	-1000.00	870.00
2	-350.00	640.00
3	-25.00	500.00
4	90.00	608.00
5	175.00	586.00
6	170.00	550.00
7	225.00	520.00
8	500.00	500.00
9	1000.00	650.00
10	1000.00	0.00
11	-1000.00	0.00

STATION	ELEV	OBS.GRAVITY	MODEL GRAVITY	DIFFERENCE
-350.	662.10	1.2300	1.2300	0.0000
-325.	657.39	1.0503	1.1543	-.1040
-300.	653.99	.9502	1.0379	-.0877
-275.	650.18	.8301	.9207	-.0906
-250.	647.17	.7500	.7997	-.0497
-225.	644.97	.6499	.6793	-.0294
-200.	644.96	.5303	.5568	-.0265
-175.	645.55	.4702	.4439	.0263
-150.	647.64	.4102	.3405	.0697
-125.	646.94	.3501	.2615	.0886
-100.	647.13	.3003	.1980	.1023
-75.	646.72	.2002	.1567	.0435
-50.	647.82	.1299	.1365	-.0067
-25.	647.51	.1499	.1456	.0043
0.	647.60	.3003	.1809	.1193
25.	644.13	.3901	.2566	.1335
50.	639.56	.5000	.3701	.1299
75.	633.09	.6699	.5258	.1441
100.	624.92	.6602	.7011	-.0410
125.	617.55	.5400	.7408	-.2008
150.	609.88	.5400	.6590	-.1190
175.	599.90	.4902	.4557	.0345
200.	590.03	.2900	.2119	.0781
225.	576.76	.0303	.0856	-.0553
250.	564.39	0.0000	.0208	-.0208
275.	552.02	.1001	-.0038	.1039
300.	544.65	.2100	-.0318	.2418

THE SUM OF THE SQUARE OF THE DIFFERENCES= .2625

Figure 39a

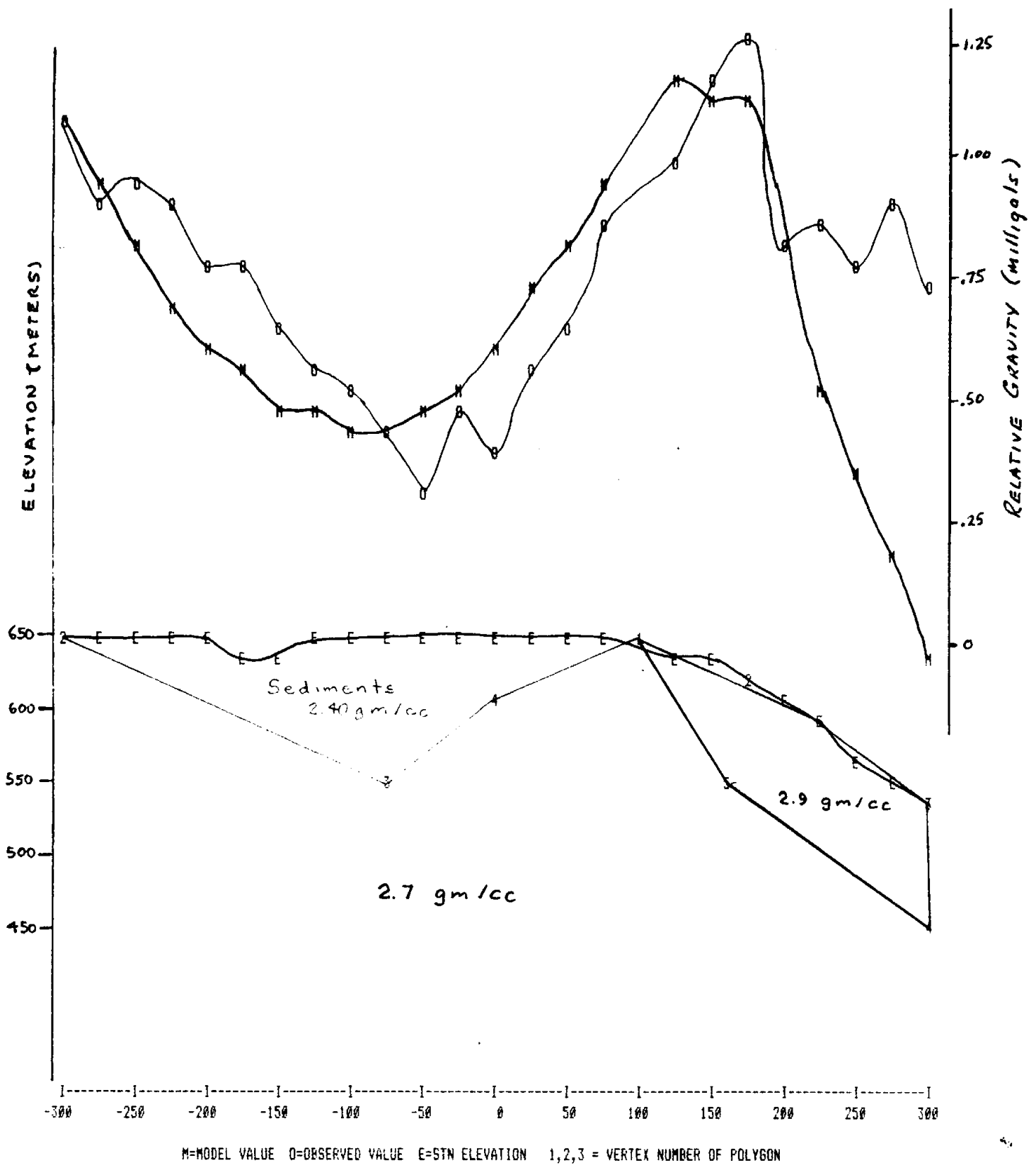


Figure 40- LINE 400S

LINE 400S WITH TWO DENSITY ZONES

FILE NAME F400S            MODEL NAME \\_ MOD 400S

FOR POLYGON 1            DENSITY CONTRAST = .3000

VERTEX	X-COORD	Z-COORD
1	-1000.00	870.00
2	-300.00	650.00
3	-75.00	550.00
4	0.00	600.00
5	100.00	640.00
6	160.00	550.00
7	300.00	450.00
8	500.00	500.00
9	1000.00	650.00
10	1000.00	0.00
11	-1000.00	0.00

FOR POLYGON 2            DENSITY CONTRAST = .5000

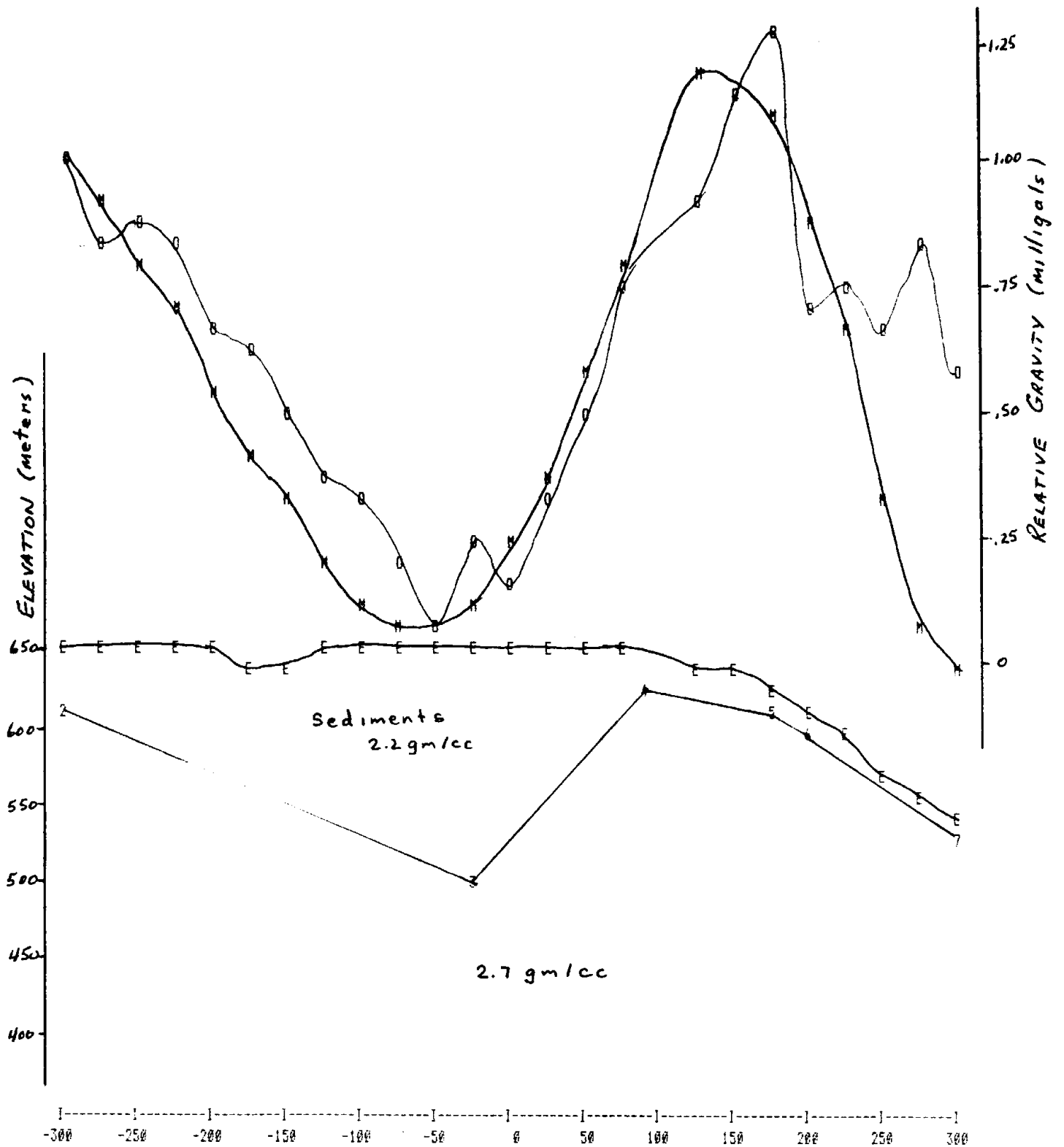
VERTEX	X-COORD	Z-COORD
1	100.00	640.00
2	175.00	615.00
3	300.00	532.00
4	300.00	450.00
5	160.00	550.00

STATION	ELEV	OBS. GRAVITY	MODEL GRAVITY	DIFFERENCE
-300.	652.00	.6797	.6797	0.0000
-275.	648.00	.5498	.5651	-.0152
-250.	644.50	.5801	.4521	.1280
-225.	641.60	.5400	.3538	.1862
-200.	639.20	.4297	.2749	.1548
-175.	638.10	.3999	.2084	.1915
-150.	637.90	.2998	.1556	.1442
-125.	639.50	.2197	.1196	.1001
-100.	640.40	.1797	.1018	.0779
-75.	640.50	.1001	.1071	-.0070
-50.	643.70	0.0000	.1380	-.1380
-25.	644.60	.1201	.1920	-.0719
0.	644.10	.0601	.2676	-.2075
25.	642.97	.1997	.3594	-.1597
50.	643.35	.2998	.4560	-.1562
75.	642.82	.4800	.5706	-.0906
125.	632.97	.6201	.7603	-.1402
150.	630.05	.7598	.7149	.0449
175.	617.22	.8701	.7430	.1271
200.	601.50	.4600	.4396	.0204
225.	586.77	.5000	.1944	.3056
250.	568.35	.4199	.0096	.4103
275.	551.90	.5498	-.1295	.6793
300.	534.60	.3599	-.3157	.6756

THE SUM OF THE SQUARE OF THE DIFFERENCES= 1.4913

Figure 40a -





M=MODEL VALUE O=OBSERVED VALUE E=STN ELEVATION 1,2,3 = VERTEX NUMBER OF POLYGON  
 LINE APPS WITH DENSITY CONTRAST OF .5 MILLIGALS

Figure 41 - LINE 400S

LINE 400S WITH DENSITY CONTRAST OF .5 MILLIGALS

FILE NAME F400S

MODEL NAME MOD 400 SV

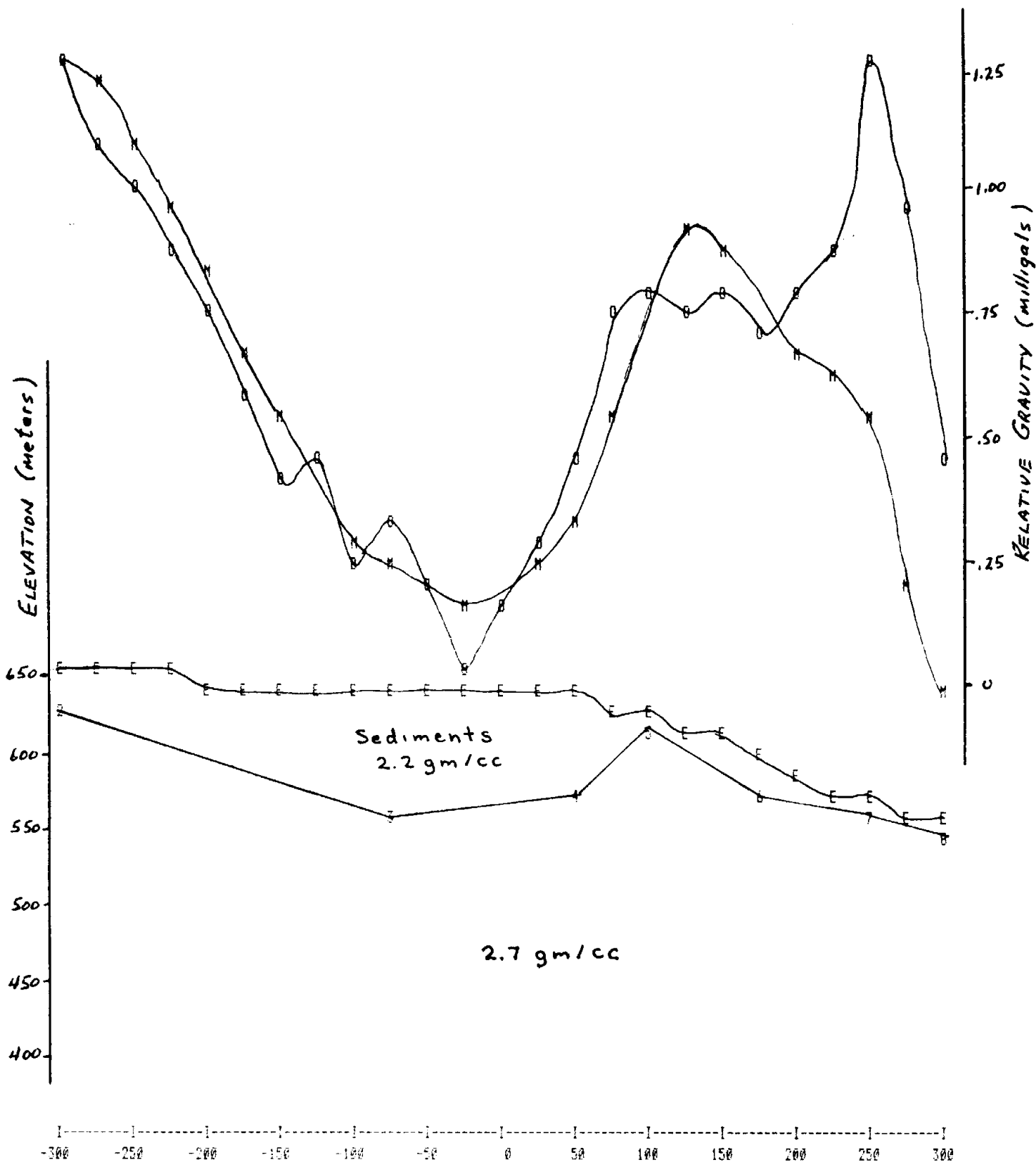
FOR POLYGON 1 DENSITY CONTRAST = .5000

VERTEX	X-COORD	Z-COORD
1	-1000.00	870.00
2	-300.00	610.00
3	-25.00	500.00
4	90.00	620.00
5	175.00	605.00
6	200.00	585.00
7	300.00	520.00
8	500.00	500.00
9	1000.00	650.00
10	1000.00	0.00
11	-1000.00	0.00

STATION	ELEV	OBS.GRAVITY	MODEL GRAVITY	DIFFERENCE
-300.	652.00	.6797	.6797	0.0000
-275.	648.00	.5498	.6222	-.0723
-250.	644.80	.5801	.5390	.0410
-225.	641.60	.5400	.4491	.0910
-200.	639.20	.4297	.3557	.0740
-175.	638.10	.3999	.2631	.1368
-150.	637.90	.2998	.1784	.1214
-125.	639.50	.2197	.1045	.1152
-100.	640.40	.1797	.0525	.1271
-75.	640.50	.1001	.0254	.0747
-50.	643.70	0.0000	.0213	-.0213
-25.	644.60	.1201	.0516	.0685
0.	644.10	.0601	.1186	-.0585
25.	642.90	.1997	.2248	-.0251
50.	643.35	.2998	.3614	-.0616
75.	642.82	.4800	.5273	-.0473
125.	632.97	.6201	.8020	-.1819
150.	630.05	.7598	.7546	.0052
175.	617.22	.8701	.7447	.1254
200.	601.50	.4600	.5978	-.1379
225.	586.77	.5000	.4338	.0662
250.	563.35	.4199	.1832	.2367
275.	551.92	.5498	.0226	.5272
300.	534.60	.3599	-.0327	.3926

THE SUM OF THE SQUARE OF THE DIFFERENCES= .6647

Figure 41a



M=MODEL VALUE O=OBSERVED VALUE E=STN ELEVATION 1,2,3 = VERTEX NUMBER OF POLYGON  
 LINE 550S WITH DENSITY CONTRAST OF .5 MILLIGALS

Figure 42- LINE 550S

LINE 550S WITH DENSITY CONTRAST OF .5 MILLIGALS

FILE NAME L550S MODEL NAME MOD550S

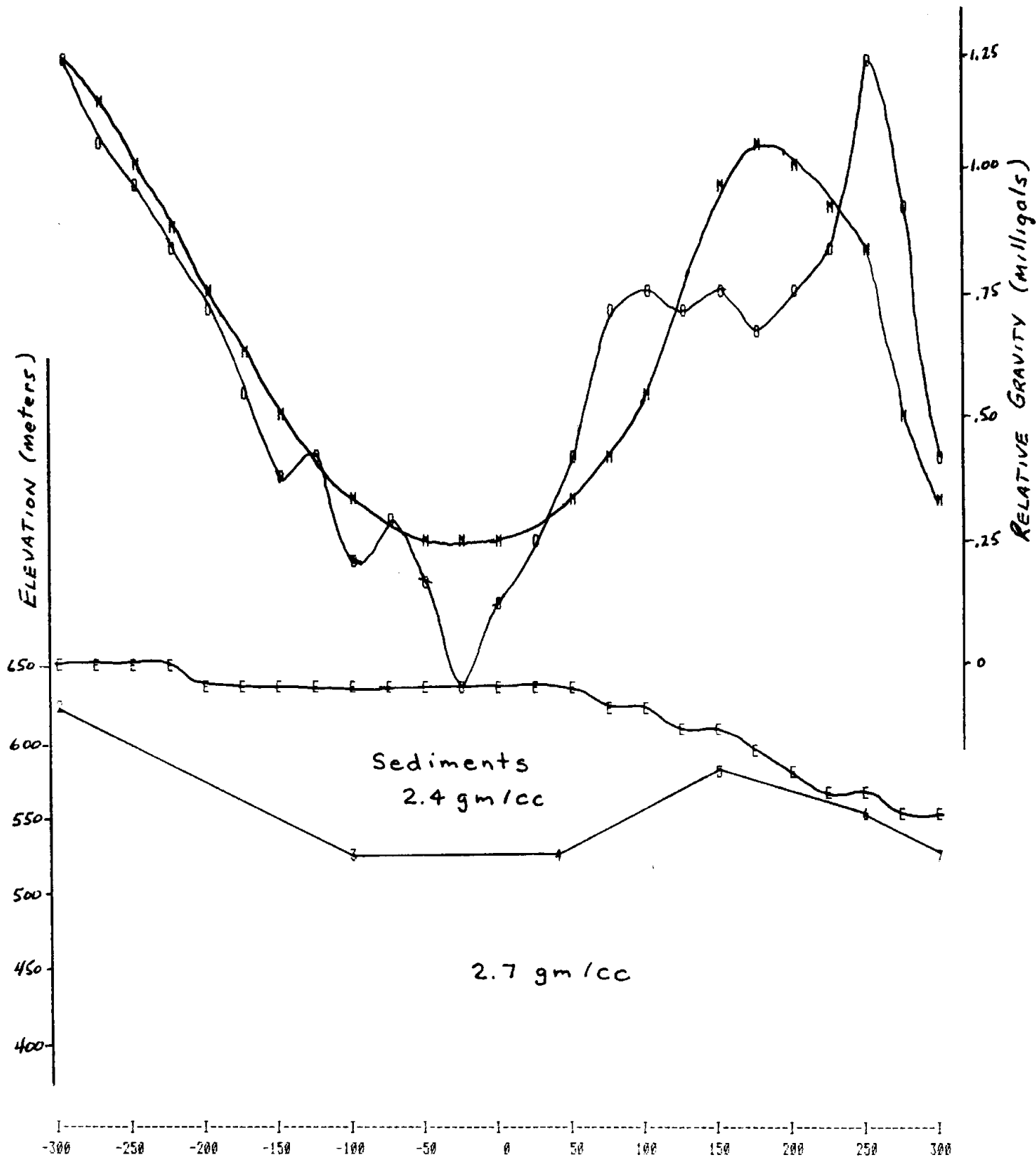
FOR POLYGON 1 DENSITY CONTRAST = .5000

VERTEX	X-COORD	Z-COORD
1	-1000.00	870.00
2	-300.00	620.00
3	-75.00	550.00
4	50.00	560.00
5	100.00	600.00
6	175.00	570.00
7	250.00	558.00
8	300.00	540.00
9	500.00	500.00
10	1000.00	650.00
11	1000.00	0.00
12	-1000.00	0.00

STATION	ELEV	OBS.GRAVITY	MODEL GRAVITY	DIFFERENCE
-300.	654.60	.6699	.6699	0.0000
-275.	651.18	.5601	.6273	-.0673
-250.	648.57	.5298	.5594	-.0296
-225.	642.85	.4497	.5052	-.0555
-200.	640.43	.3799	.4266	-.0467
-175.	637.22	.2998	.3549	-.0551
-150.	633.70	.2100	.2892	-.0792
-125.	631.09	.2300	.2272	.0028
-100.	634.87	.1201	.1545	-.0344
-75.	634.55	.1597	.1153	.0443
-50.	635.44	.0898	.0899	-.0000
-25.	636.92	0.0000	.0786	-.0786
0.	637.40	.0698	.0856	-.0158
25.	634.65	.1396	.1227	.0169
50.	632.70	.2397	.1762	.0635
75.	626.35	.3896	.2830	.1066
100.	620.10	.4097	.4068	.0029
125.	610.15	.3999	.4867	-.0868
150.	600.40	.4097	.4516	-.0419
175.	591.55	.3599	.3659	-.0060
200.	580.50	.4199	.3404	.0795
225.	569.95	.4600	.3193	.1407
250.	559.80	.6597	.2815	.3782
275.	549.35	.5098	.0994	.4104
300.	545.70	.2300	-.0005	.2305

THE SUM OF THE SQUARE OF THE DIFFERENCES= .4453

Figure 42a



M=MODEL VALUE O=OBSERVED VALUE E=STN ELEVATION 1,2,3 = VERTEX NUMBER OF POLYGON  
 LINE 550S WITH DENSITY CONTRAST OF .3 MILLIGALS

Figure 43 - LINE 550S

LINE 550S WITH DENSITY CONTRAST OF .3 MILLIGALS

FILE NAME L550S MODEL NAME 550SMOD3

FOR POLYGON 1 DENSITY CONTRAST = .3000

VERTEX	X-COORD	Z-COORD
1	-1000.00	870.00
2	-300.00	620.00
3	-100.00	520.00
4	40.00	520.00
5	150.00	585.00
6	250.00	558.00
7	300.00	520.00
8	500.00	500.00
9	1000.00	650.00
10	1000.00	0.00
11	-1000.00	0.00

STATION	ELEV	OBS.GRAVITY	MODEL GRAVITY	DIFFERENCE
-300.	654.60	.6699	.6699	0.0000
-275.	651.18	.5601	.6148	-.0548
-250.	648.57	.5298	.5429	-.0131
-225.	642.85	.4497	.4796	-.0299
-200.	640.43	.3799	.4077	-.0278
-175.	637.22	.2998	.3439	-.0441
-150.	633.70	.2100	.2882	-.0782
-125.	631.09	.2300	.2401	-.0102
-100.	634.87	.1201	.1945	-.0744
-75.	634.55	.1597	.1665	-.0068
-50.	635.44	.0898	.1476	-.0578
-25.	636.92	0.0000	.1379	-.1379
0.	637.40	.0698	.1389	-.0691
25.	634.65	.1396	.1554	-.0158
50.	632.70	.2397	.1815	.0583
75.	626.35	.3896	.2308	.1588
100.	620.10	.4097	.2961	.1136
125.	610.15	.3999	.3953	.0046
150.	600.40	.4097	.5137	-.1040
175.	591.55	.3599	.5690	-.2091
200.	580.50	.4199	.5463	-.1263
225.	569.95	.4600	.4974	-.0375
250.	559.80	.6597	.4666	.1931
275.	549.35	.5098	.2879	.2219
300.	545.70	.2300	.1849	.0451

THE SUM OF THE SQUARE OF THE DIFFERENCES= .2480

Figure 43a

**APPENDIX VII: Density Analysis**

# PLOT OF GRAVITY VERSUS ELEVATION

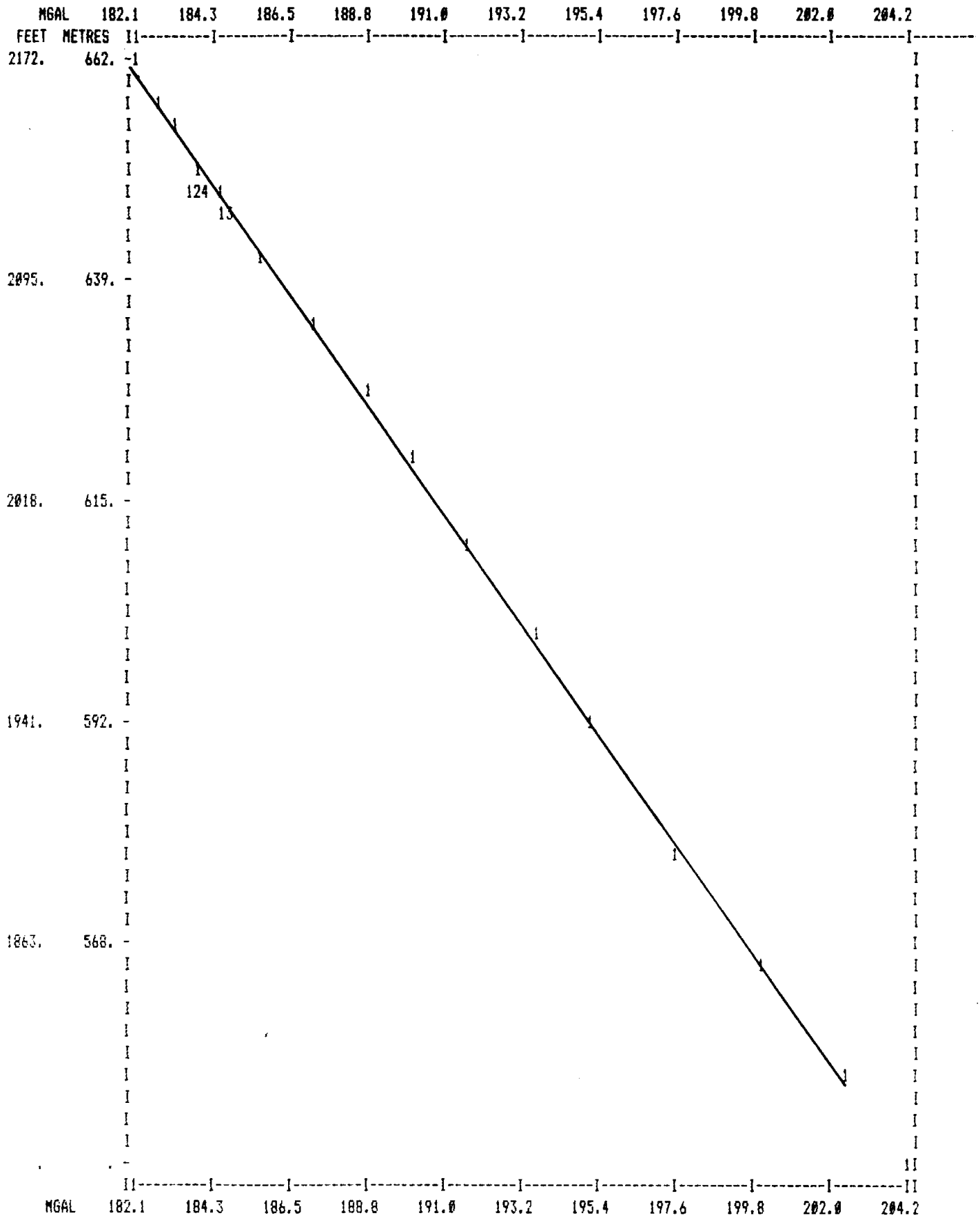


Figure 44- LINE 250S



# LINE 250S

NUMBER OF OBSERVATIONS= 27

THE PARAMETERS OF THE REGRESSION EQUATION  $GRAV=A + B \cdot ELEV$  ARE

A= 308.3814 B= -.1916 FOR ELEVATION IN METRES

A= 1011.4909 B= -.6283 FOR ELEVATION IN FEET

THE TOTAL SUM OF SQUARES= 1085.9375

SUMS OF SQUARES DUE TO REGRESSION= 1083.6250

THE SUM OF SQUARES DUE TO DEVIATION= 2.3125

THE CORRELATION COEFFICIENT = .9989

DENSITY= 2.7925
-----------------

THE POINTS OUTSIDE OF 1.6157 UNITS FROM THE LINE  $Y= 308.3814 + -.1916 \cdot X$  ARE IGNORED

NUMBER OF OBSERVATIONS= 27

THE PARAMETERS OF THE REGRESSION EQUATION  $GRAV=A + B \cdot ELEV$  ARE

A= 308.3814 B= -.1916 FOR ELEVATION IN METRES

A= 1011.4909 B= -.6283 FOR ELEVATION IN FEET

THE TOTAL SUM OF SQUARES= 1085.9375

SUMS OF SQUARES DUE TO REGRESSION= 1083.6250

THE SUM OF SQUARES DUE TO DEVIATION= 2.3125

THE CORRELATION COEFFICIENT = .9989

# GRAVITY/ELEVATION

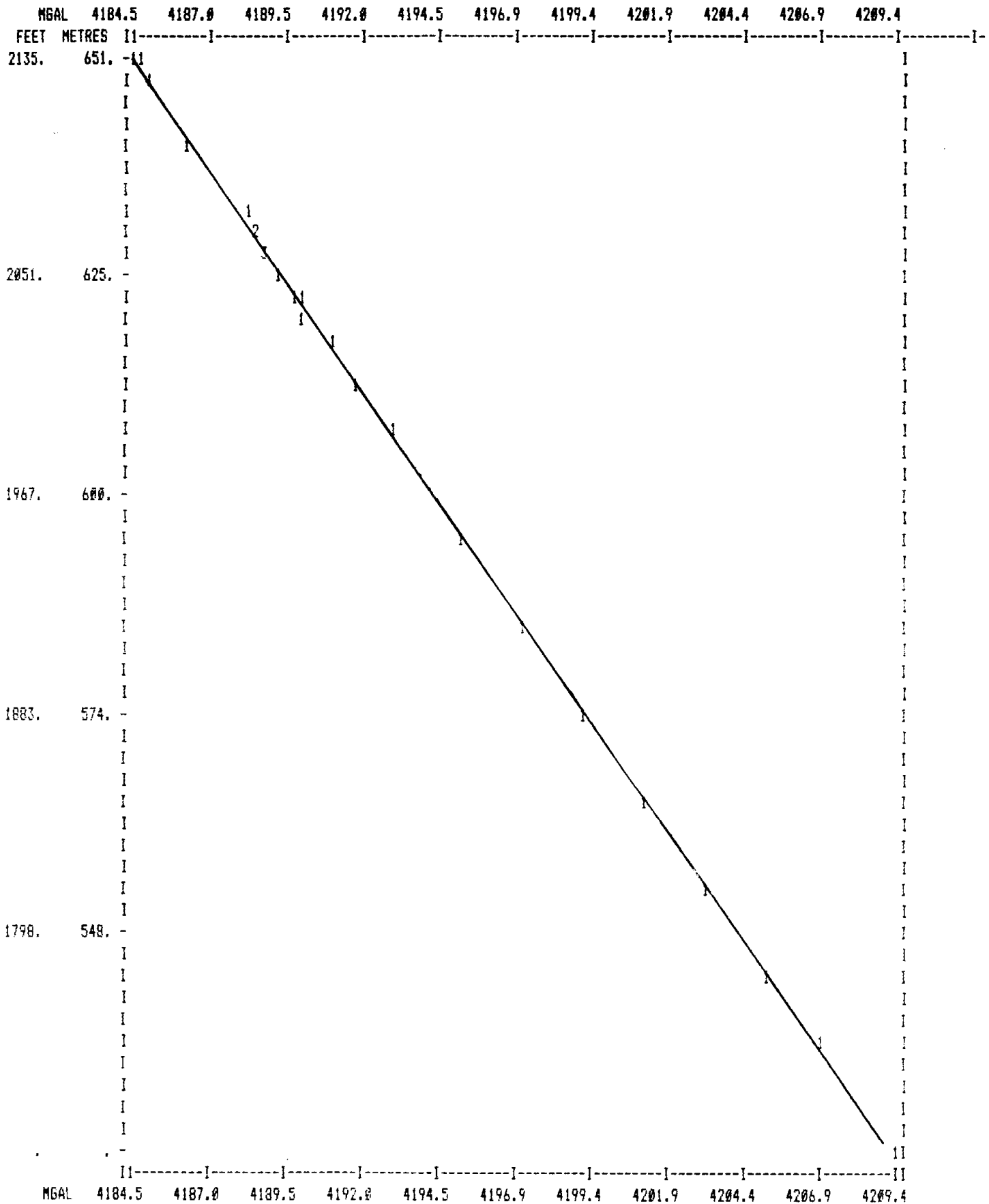


Figure 45 - LINE 700S

NUMBER OF OBSERVATIONS= 25

THE PARAMETERS OF THE REGRESSION EQUATION  $GRAV=A + B \cdot ELEV$  ARE  
A= 4311.8984 B= -.1963 FOR ELEVATION IN METRES  
A= 14143.0264 B= -.6438 FOR ELEVATION IN FEET  
THE TOTAL SUM OF SQUARES= 1152.0000  
SUMS OF SQUARES DUE TO REGRESSION= 1280.0000  
THE SUM OF SQUARES DUE TO DEVIATION= -128.0000  
THE CORRELATION COEFFICIENT = 1.0541

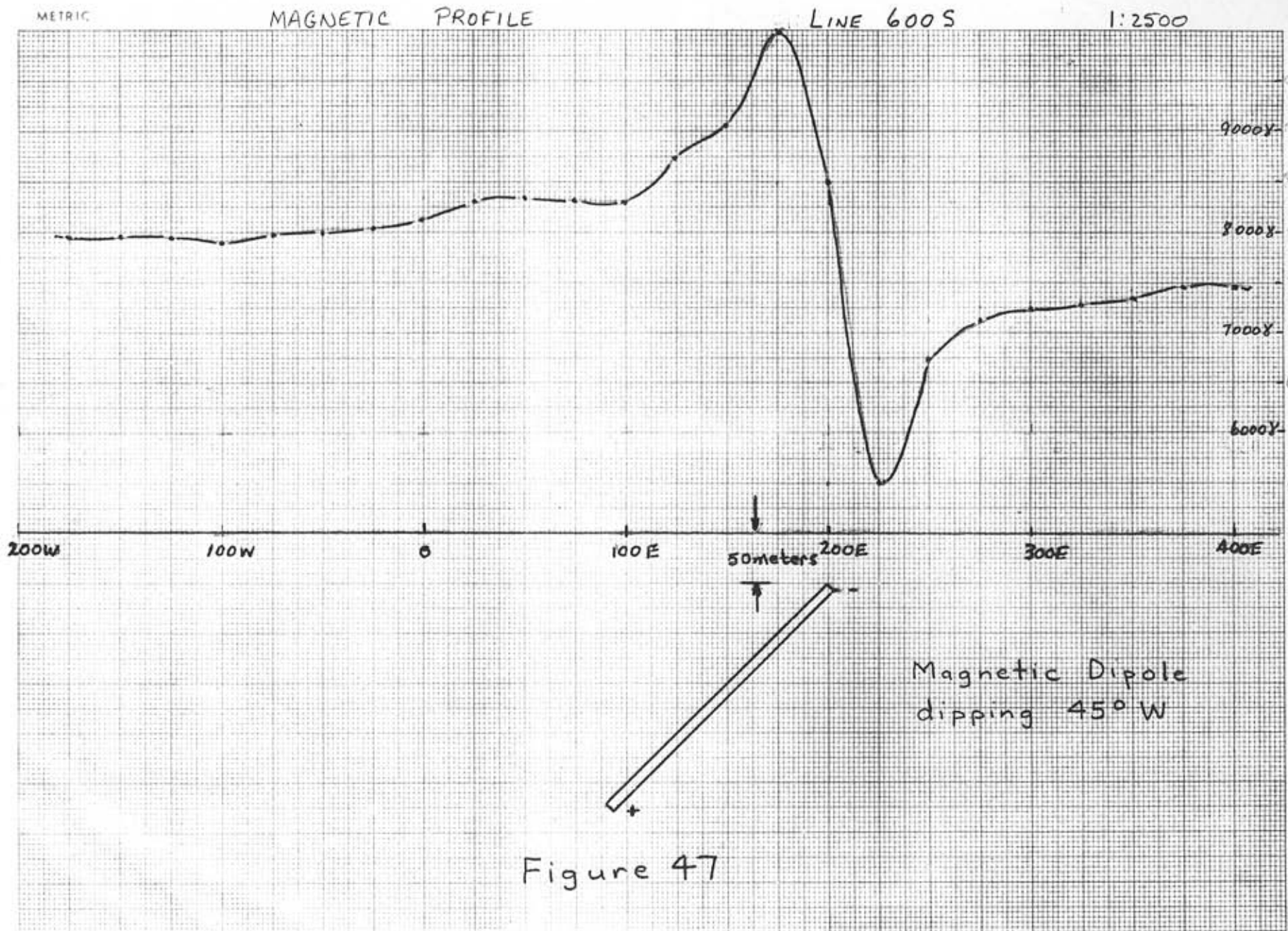
DENSITY=	2.6803
----------	--------

THE POINTS OUTSIDE OF 1.7321 UNITS FROM THE LINE  $Y= 4311.8984 + -.1963 * X$  ARE IGNORED

NUMBER OF OBSERVATIONS= 25

THE PARAMETERS OF THE REGRESSION EQUATION  $GRAV=A + B \cdot ELEV$  ARE  
A= 4311.8984 B= -.1963 FOR ELEVATION IN METRES  
A= 14143.0264 B= -.6438 FOR ELEVATION IN FEET  
THE TOTAL SUM OF SQUARES= 1152.0000  
SUMS OF SQUARES DUE TO REGRESSION= 1280.0000  
THE SUM OF SQUARES DUE TO DEVIATION= -128.0000  
THE CORRELATION COEFFICIENT = 1.0541

**APPENDIX VIII: Magnetic Cross sections**

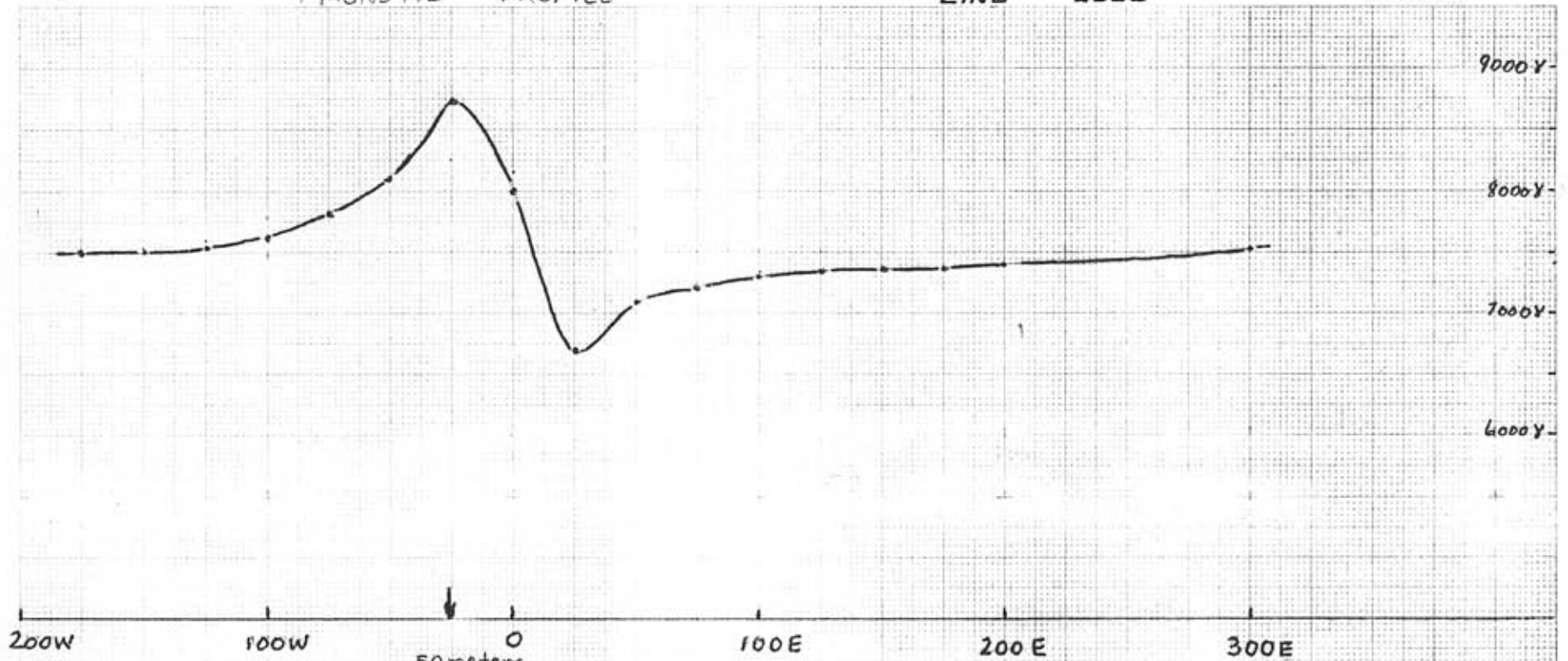


METD-1

# MAGNETIC PROFILE

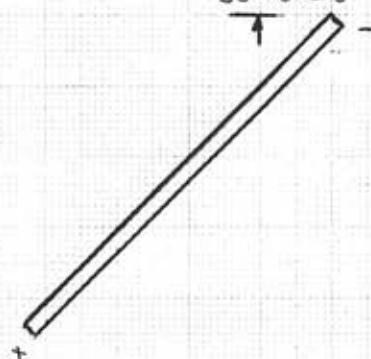
LINE 200S

1:2500



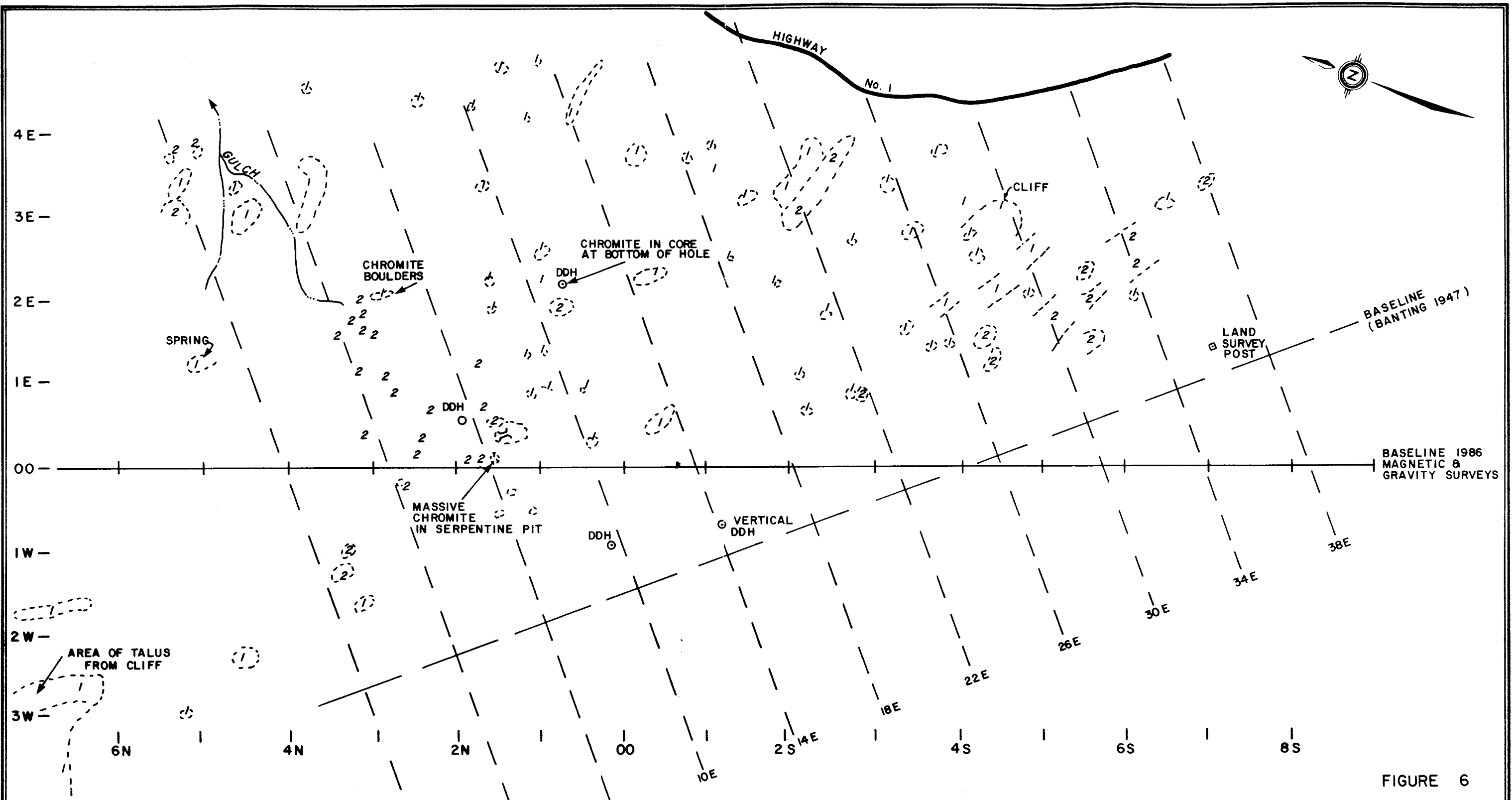
200W      100W      0      100E      200E      300E

50 meters



Magnetic Dipole  
dipping  $45^\circ W$

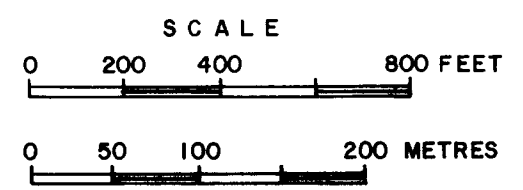
Figure 46



**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**16,050**

- 1 PERMIAN OR PRE-PERMIAN CACHE CREEK GROUP ANDESITIC CHERT, ARGILLITE, QUARTZITE AND LIMESTONE
- 2 INTRUSIVE CRETACEOUS OR LATER SERPENTINE



**NOTE:**  
AFTER H.L. BANTING, OCT. 15, 1947  
GEOLOGICAL SKETCH MAP - SHOWING  
DISTRIBUTION OF SERPENTINE OUTCROPS  
TO THE CACHE CREEK FORMATION.

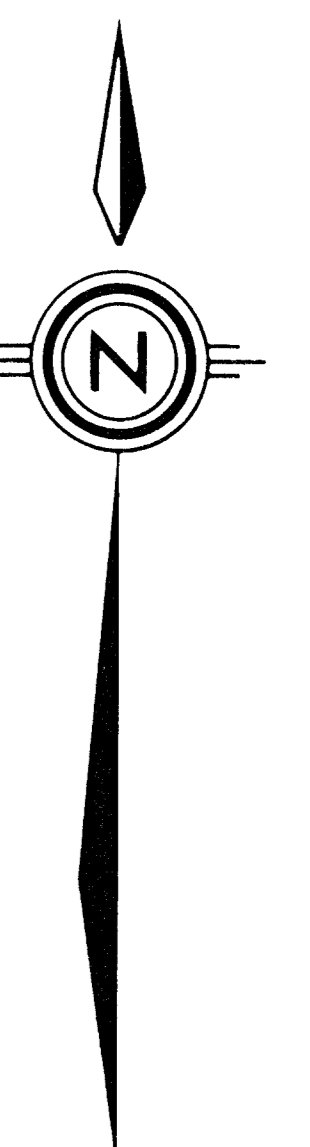
FIGURE 6

<b>CARDINAL MINERAL CORP.</b>	
MARINER CLAIM GROUP KAMLOOPS M.D. NTS.921/14W	
<b>GEOLOGICAL SKETCH MAP</b>	
To accompany a report by: M. Johnson, M.Sc.	Date: March 1967
Drawn by: GT	

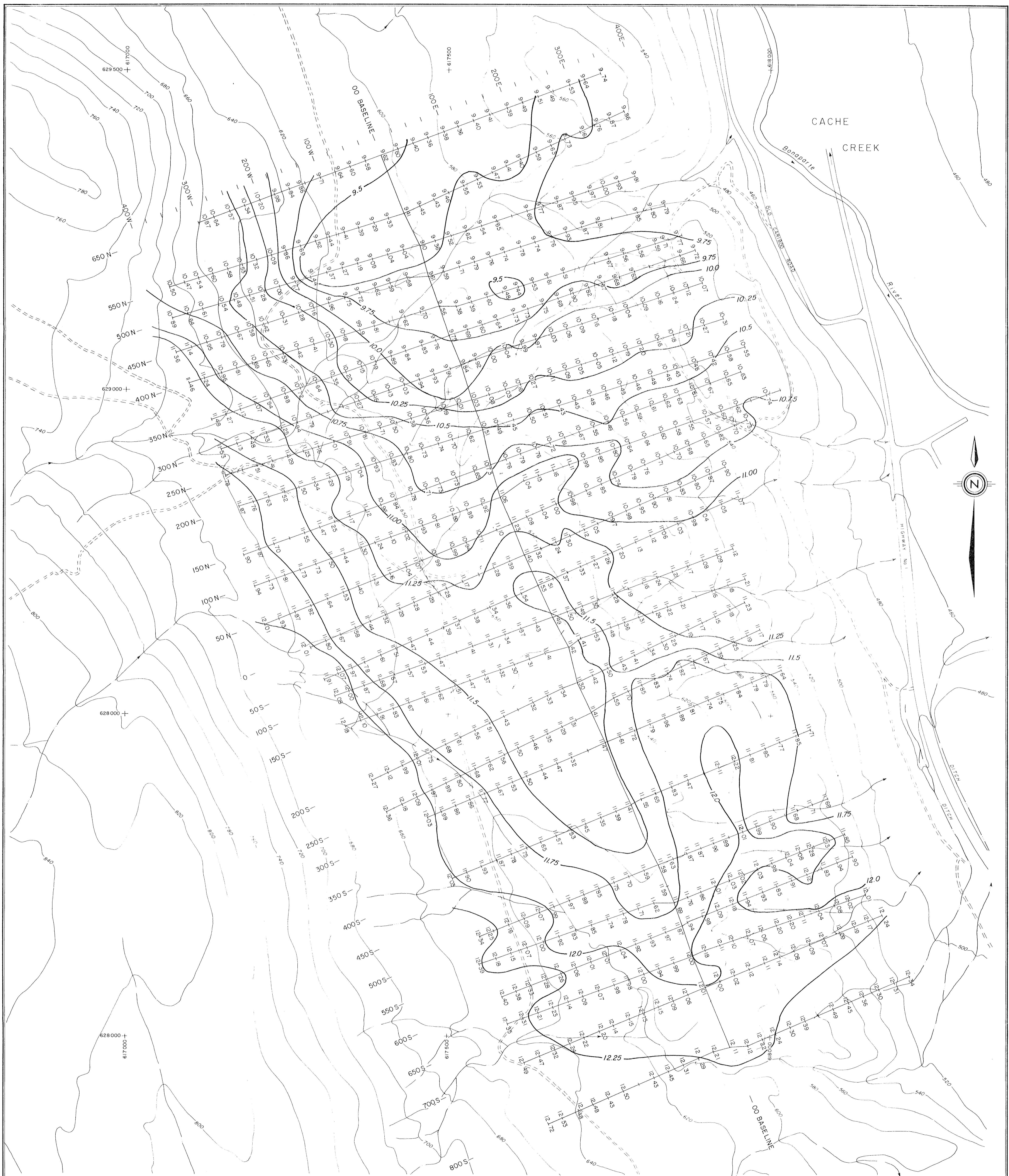
To accompany a report by:  
M. Johnson, M.Sc.  
Drawn by: MJ/GT Date: March, 1987  
STRATON ENGINEERING LTD.

FIGURE 4

- 431 — TOTAL FIELD MAGNETOMETER READINGS IN GAMMAS - DATUM 56000 gammas
- 1000 — MAGNETIC FIELD STRENGTH CONTOURS IN GAMMAS. CONTOUR INTERVAL 250 gammas
- — — — — POWER LINE
- — — — — DRAINAGE GULLY
- X TRENCH
- — — — — ROAD

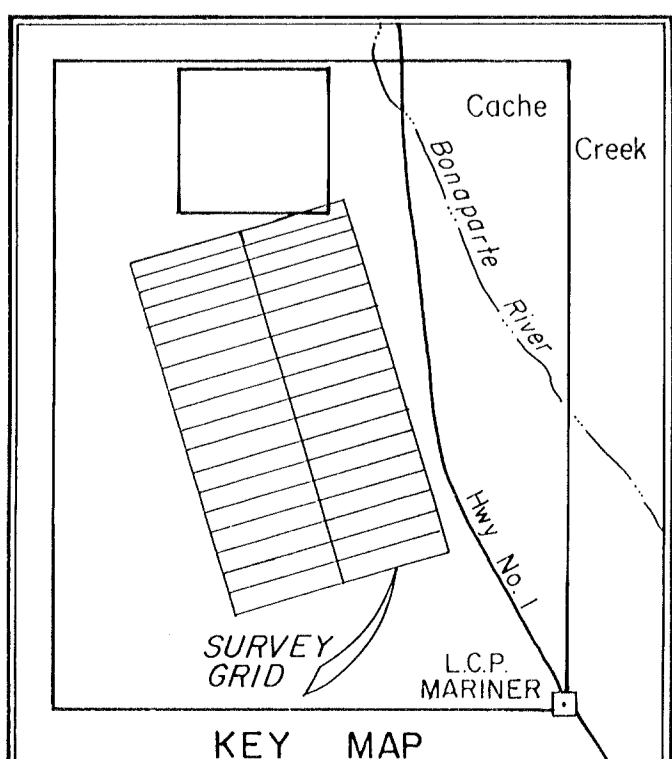






SCALE 1:2500  
0 50 100 150 200 250 Metres

FIGURE 5



**Legend**

- CREEK
- ===== ROAD

**Notes:**

Instrument: La Coste Rhomberg Gravity Meter  
Serial No. G199  
Contour Interval: -0.25 m.gal  
- DATUM 4300 m.gal.

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**16,050**

CARDINAL MINERAL CORP.	
MARINER CLAIM GROUP KAMLOOPS M.D. NTS 92 I/14 W	
<b>COMPLETE BOUGUER GRAVITY</b>	
To accompany a report by: M. Johnson, M.Sc.	
Drawn by AH/GT	Date March, 1987

