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MORUPULE POWER STATION

WATER SUPPLY

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WATER SUPPLY

This report is prepared for

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## CHAPTER 1

## INTRODUCTION

In 1980 an exploration programme to locate a groundwater source for the proposed Morupule Power Station was carried out over a 4000 km<sup>2</sup> area on the north-eastern edge of the Kalahari Plateau, 12 km to the north of Serowe. Exploration was concentrated in the Cave Sandstone aquifer, which in this region is overlain by a thick sequence of basalt. The results of the investigation are contained in the report 'Morupule Power Station Groundwater Studies.'<sup>1</sup> The report proposed three wellfields to supply a yield of 19500 m<sup>3</sup>/day. Since this time, however, the decision to change from wet to dry cooling has reduced the requirements from 19500 m<sup>3</sup>/day to 1500 m<sup>3</sup>/day. With this lower demand development of only part of the original wellfield design is needed.

In November 1981 the Institute of Hydrology, at the request of Watermeyer, Legge, Piesold and Uhlmann carried out a magnetometer survey of a 66 km<sup>2</sup> area in order to position production boreholes to provide the reduced supply. The chosen survey area was wellfield IIB of the exploration report<sup>1</sup>, this being the nearest of the three proposed wellfields to the power station site.

Here we present the results of the survey and subsequent location of the ten production and two exploration wells needed to provide the required 1500 m<sup>3</sup>/day supply. In addition the location of four borehole sites in the vicinity of the proposed power station site near Palapye, to provide a temporary supply for the contractors, is given.

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1. *'Morupule Groundwater Studies', December 1980.*  
*Report prepared for Sir Alexander Gibb and Partners by*  
*the Institute of Hydrology.*

## CHAPTER 2

## LOCATION OF MORUPULE POWER STATION WELLS

The site of the proposed wellfield is on the eastern edge of the Kalahari Plateau, north of Serowe. It is a flat sand-veld at an elevation of around 1250 m AOD. To the east of the wellfield area is an escarpment which drops by about 100 m to lower lying ground in the east. The aquifer, the Cave Sandstone, is exposed along the foot of the escarpment and dips north-westwards beneath the plateau where it is overlain by volcanic basalts and a cover of sand and calcretes.

The geological sequence of the area is comparatively simple:

Kalahari Beds	-	sand, calcrete and silcrete
		unconformity
Drakensberg Lavas	-	basalt
		unconformity
Cave Sandstone	-	sandstone with minor silty sandstones
		unconformity
Ecca Series	-	mudstone and siltstone

Although the geological sequence is simple the geological structure of the wellfield and adjacent areas is very complicated. Previous work<sup>1</sup> has indicated the presence of numerous faults, orientated roughly west-north-west and having throws of up to 40 m, extending over short distances, paralleling larger, persistent structures with throws of up to 150 m affecting both the basalts and the Cave Sandstone. Both formations are intruded by occasional large dykes and numerous smaller dyke swarms.

The proposed wellfield area lies astride one of the major structural elements of the region, the Photsane uplifted block, with the base of the basalts dipping off this axis to the north and south. Immediately to the north of the area occurs the major Shashane fault down throwing to the south, which is intruded by dykes and acts as a barrier to groundwater flow.

### Survey Strategy

The wellfield area is relatively small and there are unlikely to be

major sedimentological variations within the Cave Sandstone. However, the aquifer thickness may vary from site to site but, provided a sufficient thickness of the aquifer can be dewatered, this is not critical. The low transmissivity and specific yield of the aquifer results in a distance of at least 1300 m between abstraction wells being required to minimise interference effects, as described in the report of exploratory work in the area<sup>1</sup>.

None of the preceding factors place major limitations on the selection of sites for boreholes. It is the geological structure which constrains site selection as abstraction wells should be located as far as possible from dykes and major faults to minimise long term barrier effects. In addition the cost of drilling can be reduced by selecting sites where the depth to the base of the basalt is least, although a corollary is that the water table should be above the base of the basalts.

Given these requirements we recommended a ground magnetic survey on a detailed grid to provide a drilling strategy. In view of the limited time available, the proven value of ground magnetics for dyke location and the additional cost to include other methods, the use of gravity, resistivity or airborne magnetics could not be justified.

The ground magnetics survey was carried out on a grid aligned roughly north-south, figure 1, perpendicular to the major structural elements. Thirteen traverses were carried out separated by roughly 750 m to ensure correlations between adjacent traverses could be made. An additional traverse was carried out linking the southern ends of the other traverses. The station spacing of 25 m was selected from previous work as being adequate to define the magnetic anomalies.

### Survey Results

A detailed description of the survey methods as well as the data analysis and interpretation is given in the Appendix followed by a listing of the corrected data which are drawn in figures 2 to 8 inclusive.

The only rocks having significant magnetic susceptibilities which are known to occur in the area, other than the basement complex, are the basaltic lavas and dolerite dykes. Thus the variations in the



Figure 1 Location map of ground magnetics survey

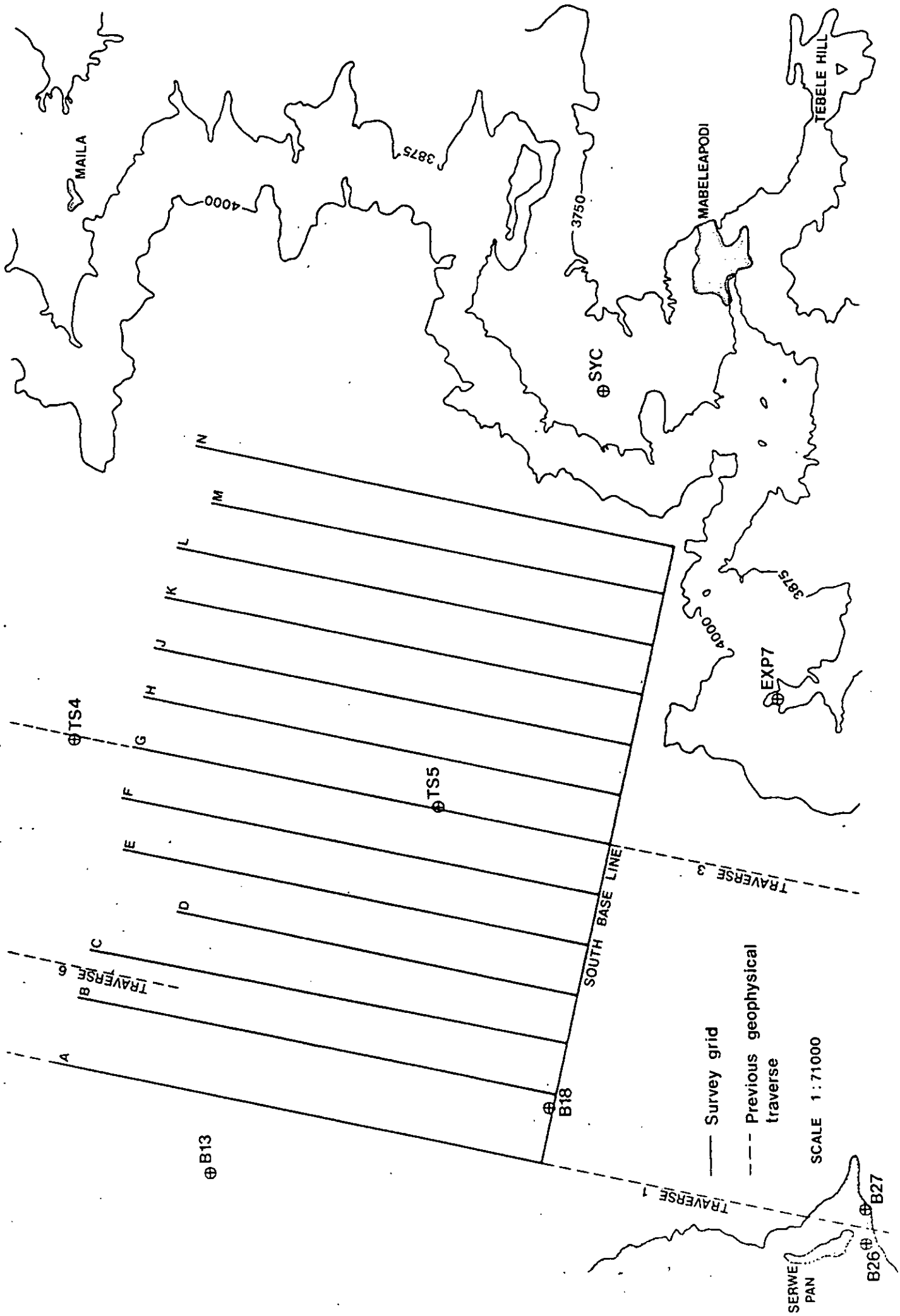


Figure 2 Magnetic traverses A and B

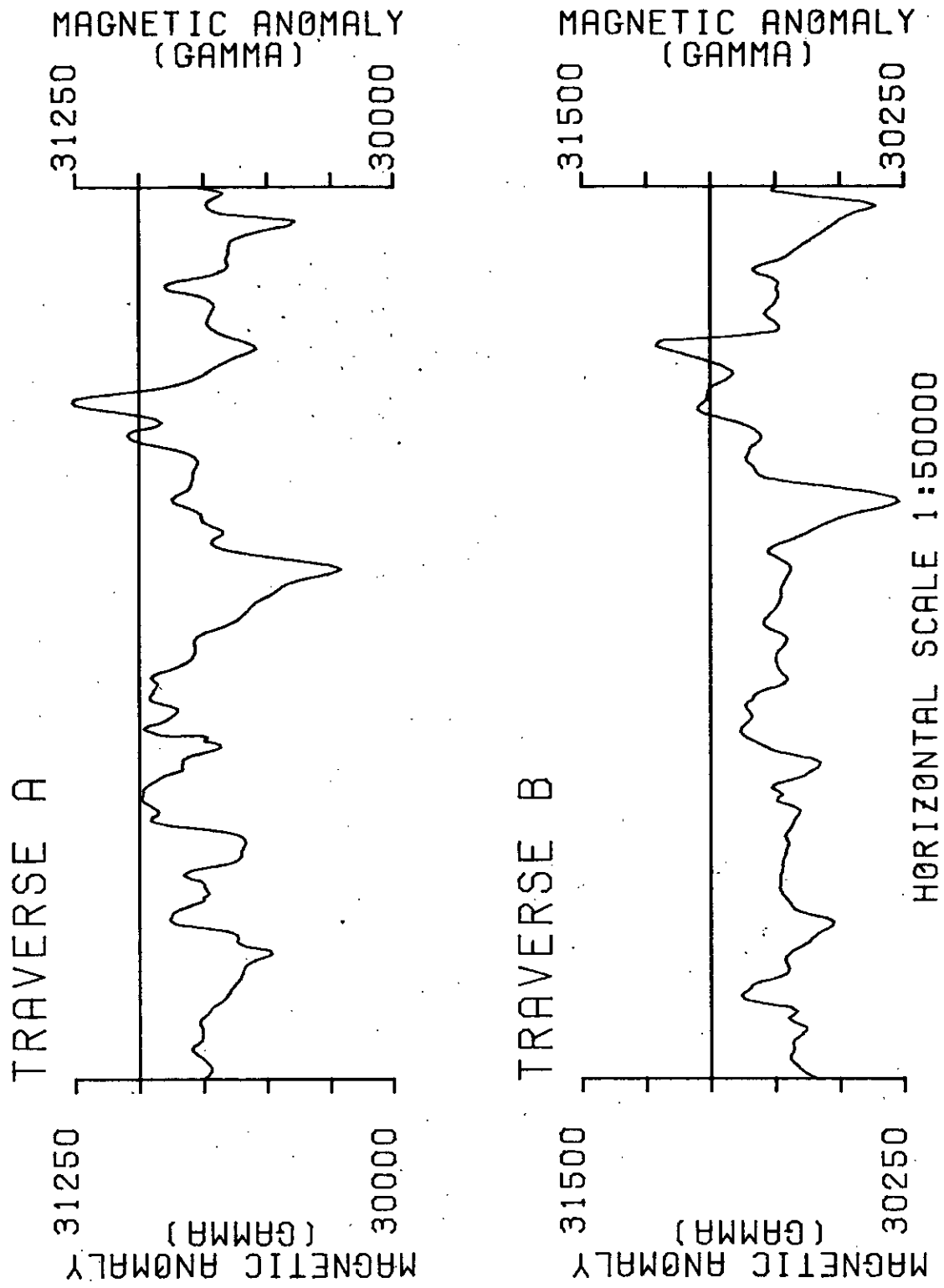


Figure 3 Magnetic traverses C and D

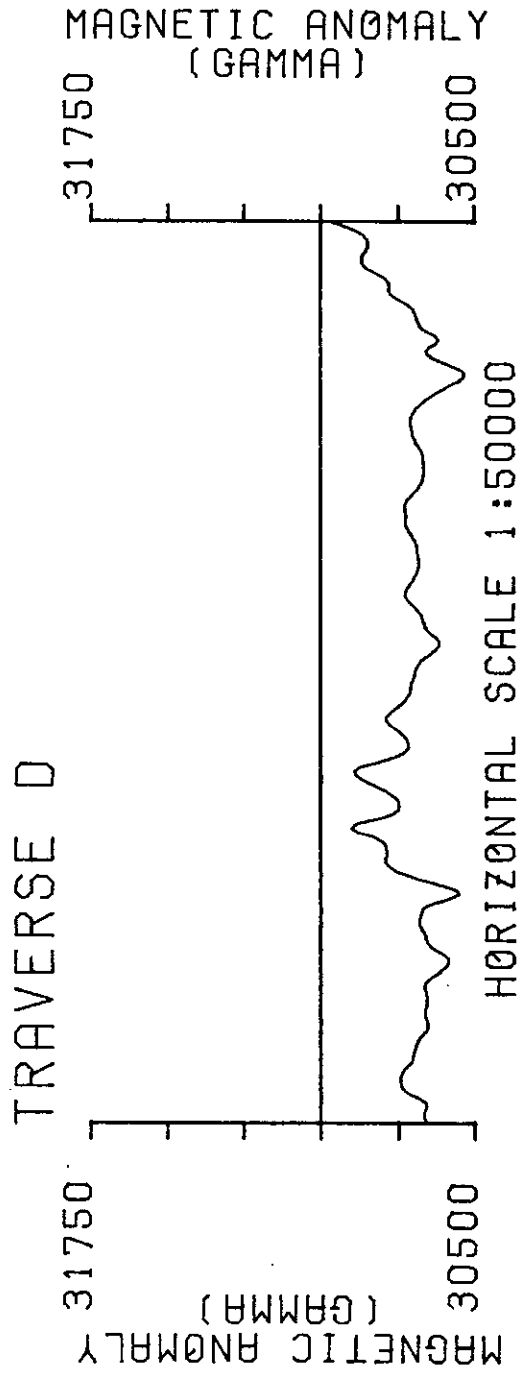
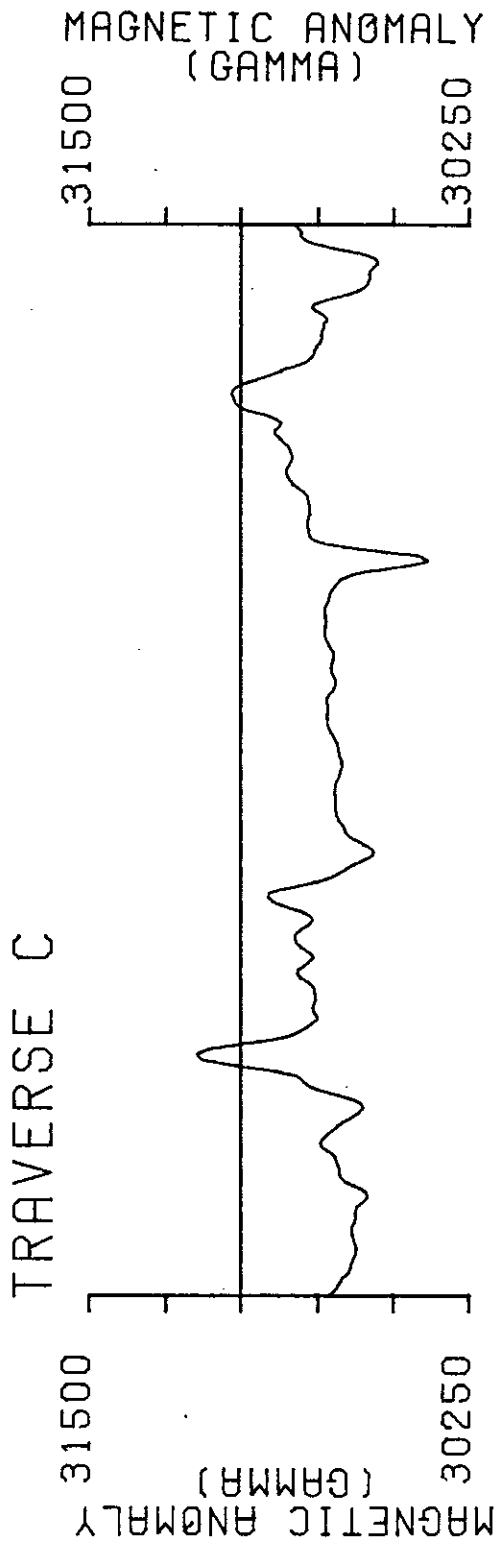
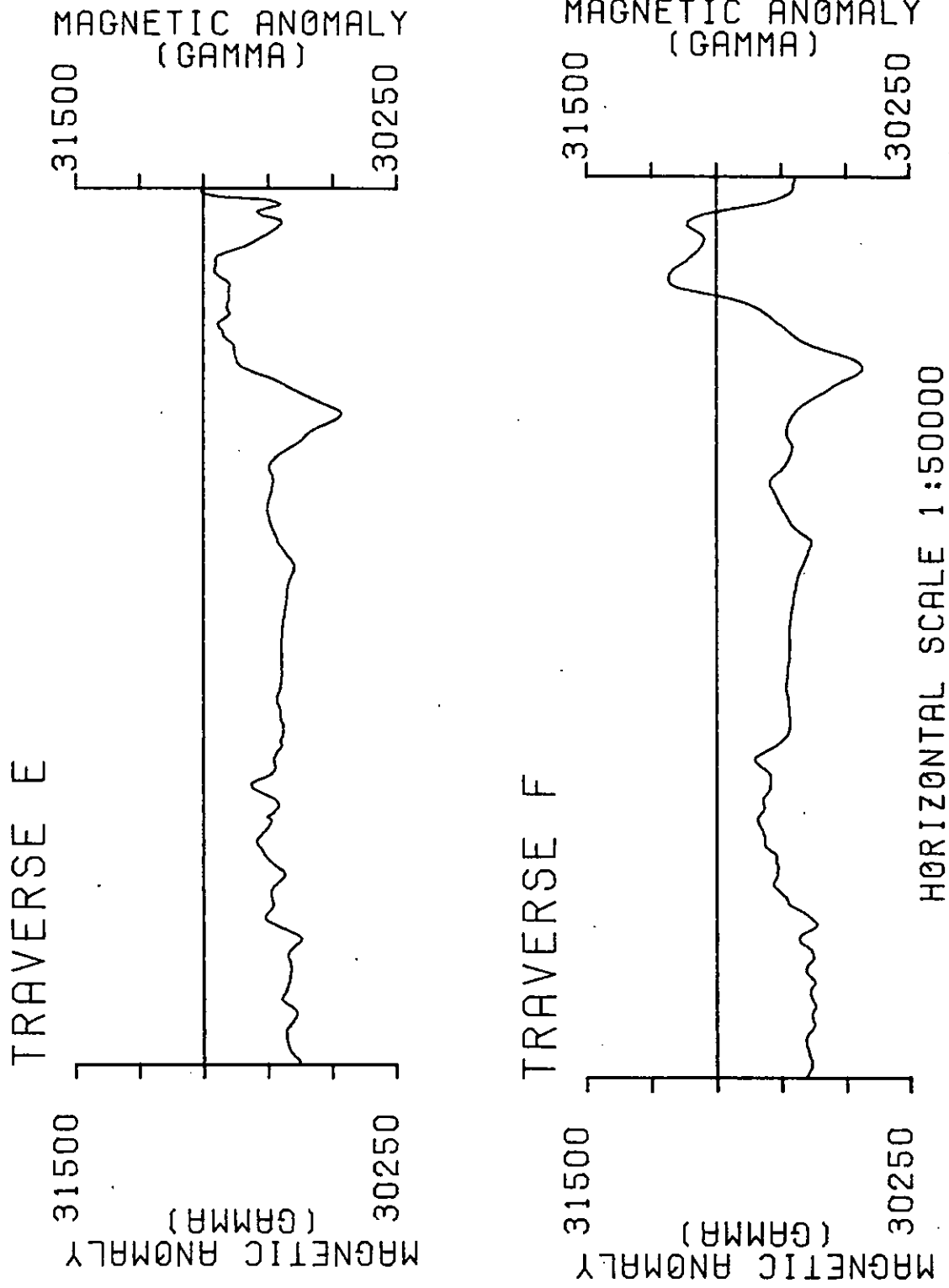


Figure 4 Magnetic traverses E and F



Magnetic traverses G and H

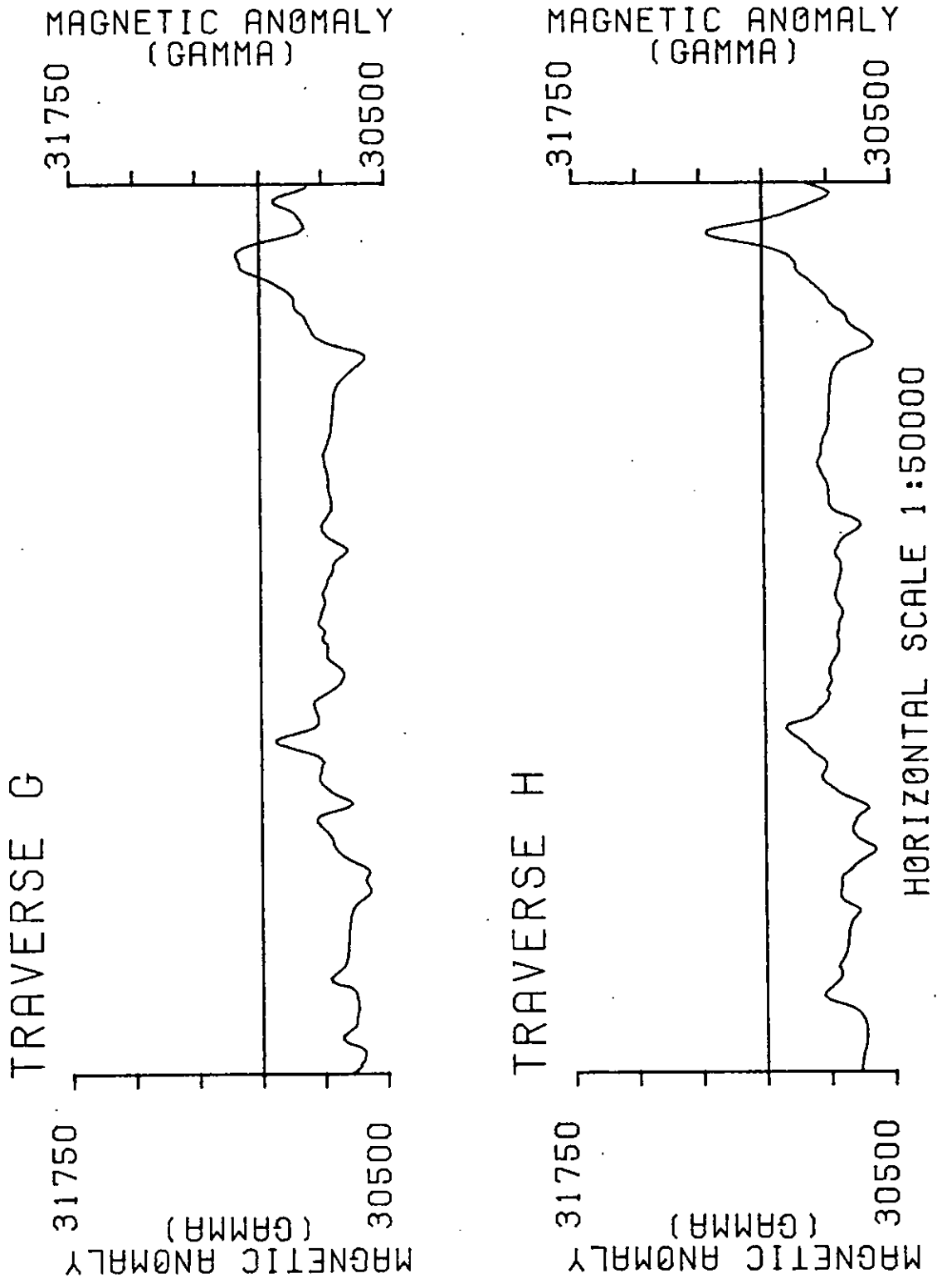


Figure 5

Figure 6

Magnetic traverses J and K

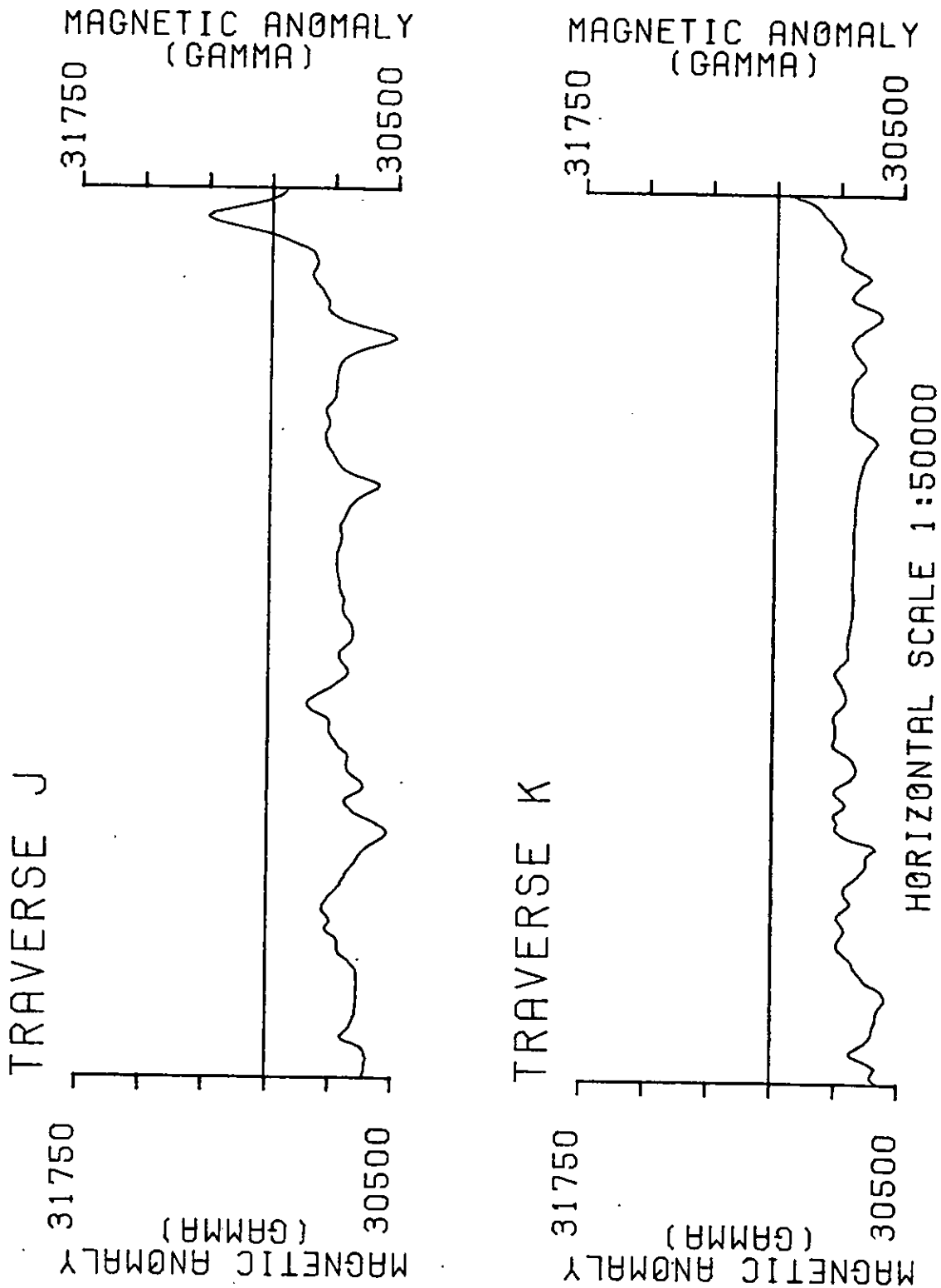


Figure 7  
Magnetic traverses L and M

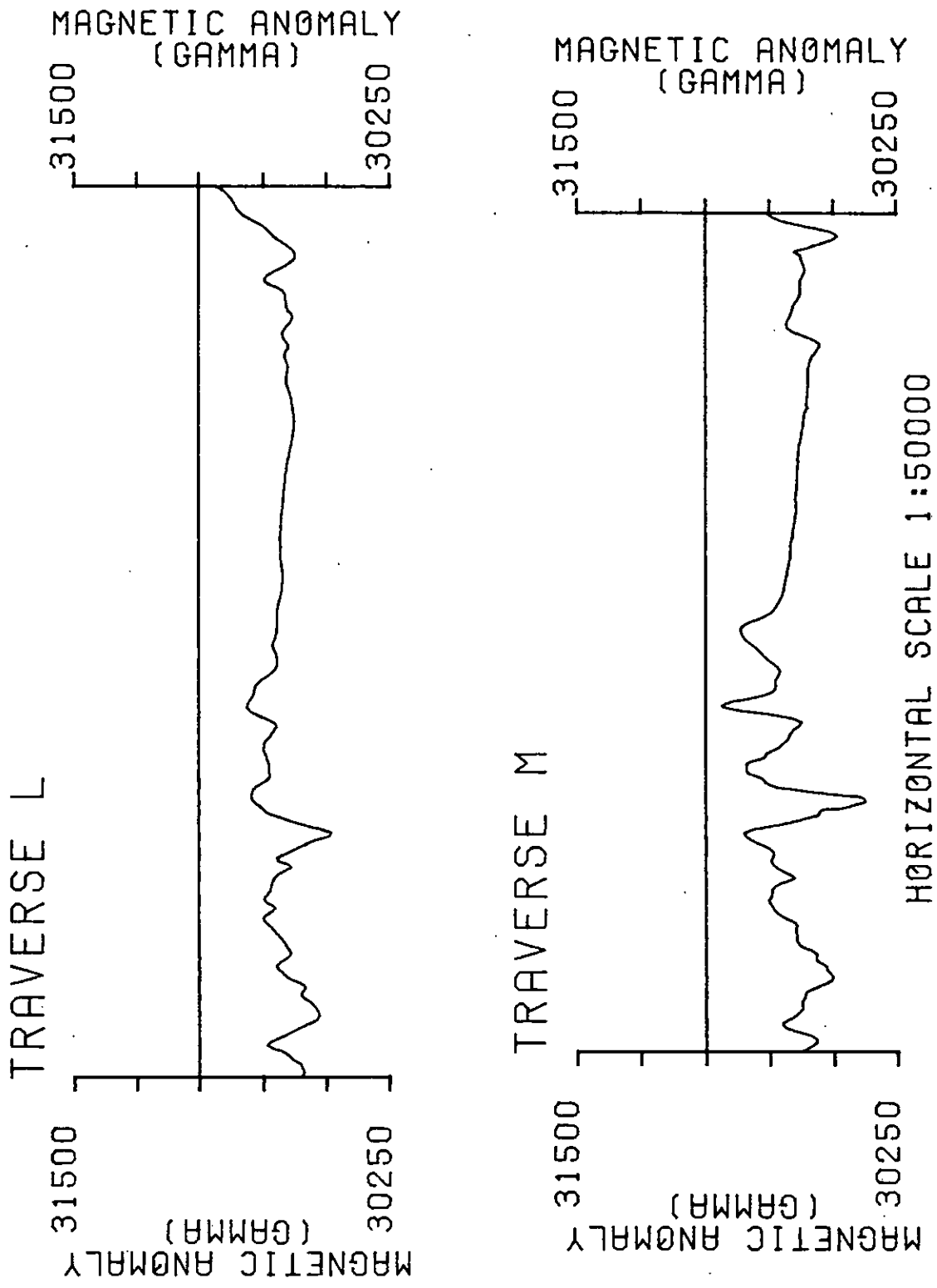


Figure 8 Magnetic traverses N and South base line

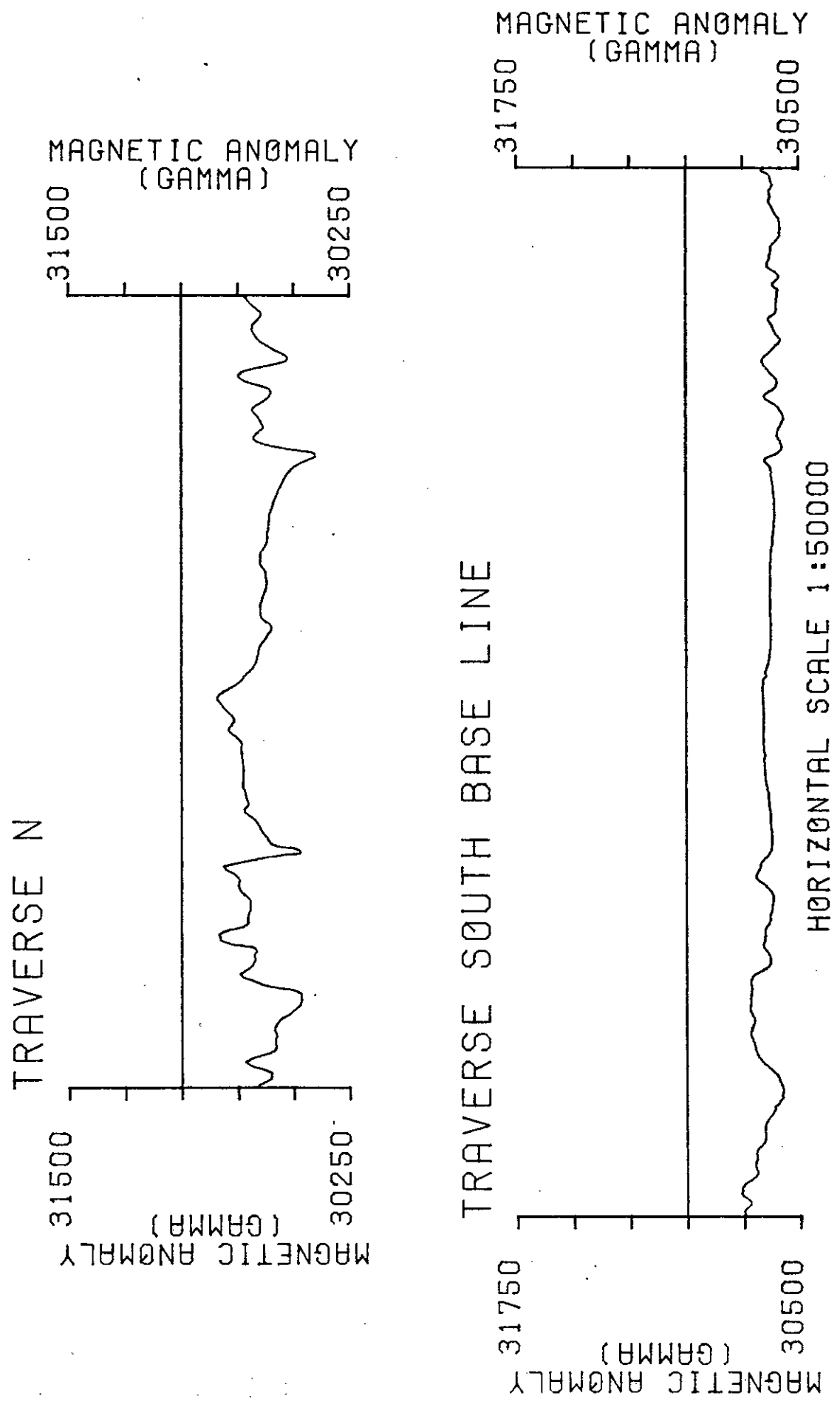




Figure 9 Comparison of magnetic traverse A and traverse 1

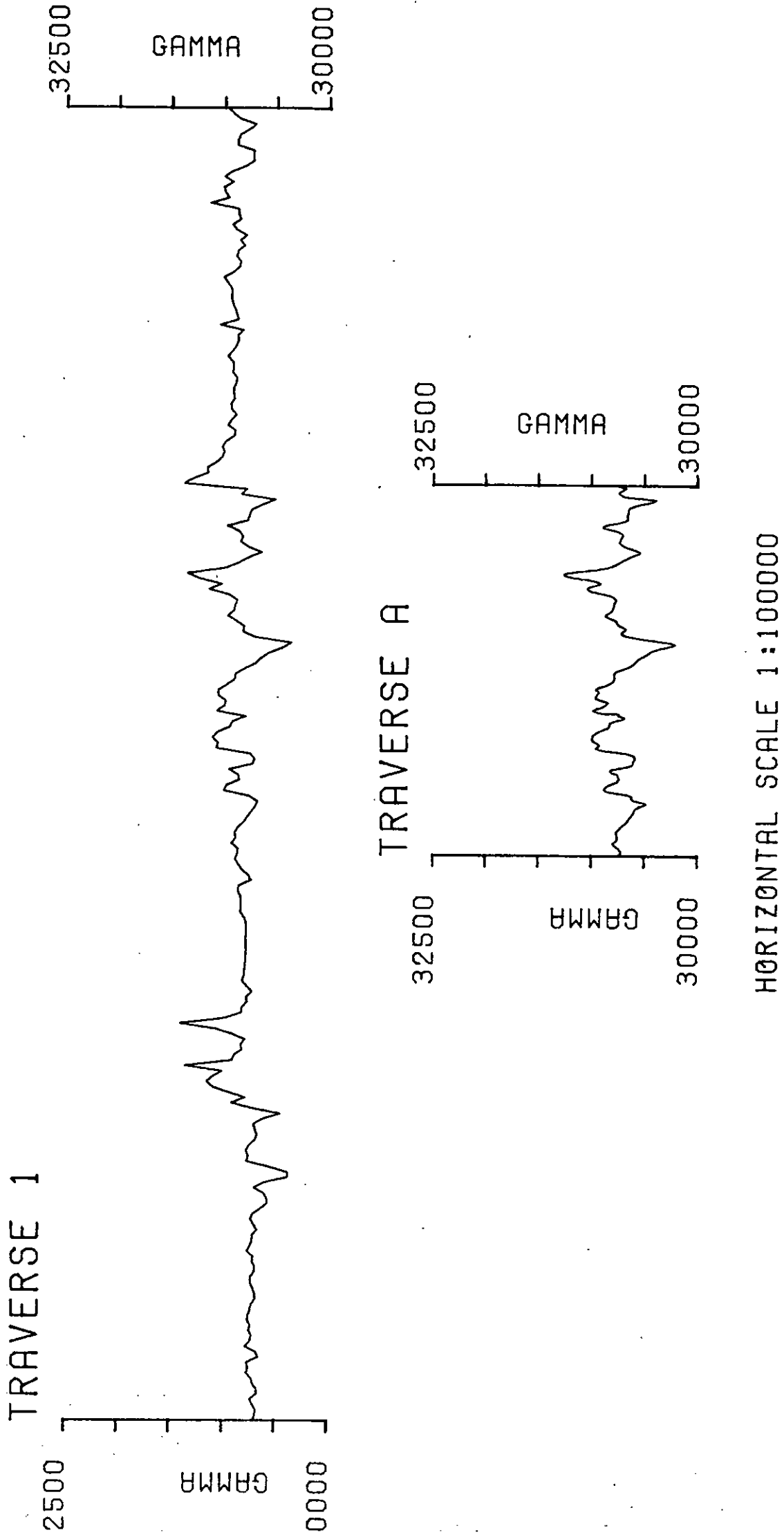
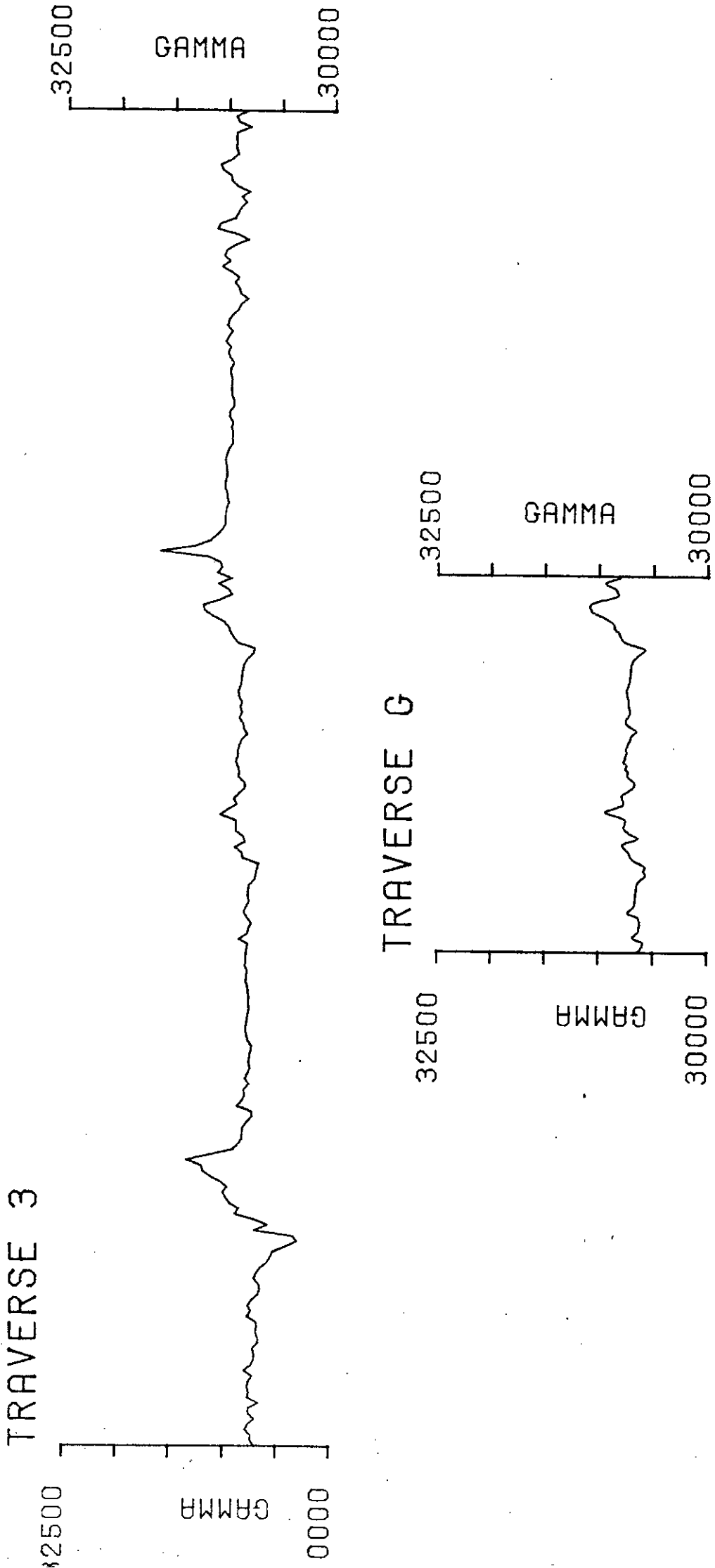


Figure 10 Comparison of magnetic traverses G and 3



HORIZONTAL SCALE 1:100000

magnetic field along the traverses is a representation of the occurrence of dolerite dykes and variations in the topography of the upper and lower surfaces of the basalts. Pronounced minima on the magnetic traverses, such as occurs on traverse A near the middle, shown in figure 2, can be confidently ascribed to a fault in the basalts down throwing to the north. Pronounced maxima, such as occur in the middle of the northern half of traverse A can be interpreted either as a dyke or as a fault downthrowing the basalts to the south. It is difficult to decide between these two models if the anomaly is overlapped by other anomalies. However control is available in the form of gravity data from previous work on traverses A and G and this has allowed us to distinguish between faults and dykes on these traverses and the results have then been extrapolated on to the other traverses. Some measure of control is provided at the eastern side by outcrops along the escarpment. We have not been able to carry out quantitative interpretations of the majority of anomalies because they frequently overlap each other and thus the full anomaly cannot be recognised. However, we do not consider this a serious deficiency as a qualitative interpretation of the data has allowed us to deduce the structure of the area.

We have been able to correlate our data with the magnetic data previously obtained along traverses 1 and 3, corresponding to traverses A and G of this survey. The correlations are shown in figure 9 and 10 and correlation coefficients were 0.95 and 0.97 respectively.

Features can be correlated between adjacent traverses of our survey as can be seen from the magnetic profile map, figure 11. Some features such as the minima occurring near the centre of the area, can be correlated over the entire east-west extent of the area whilst others, such as in the south-east of the area can only be correlated over very short distances. This confirms the conclusions of our 1980 report which suggested the presence of a few large, persistent features paralleled by numerous, small impersistent features.

We have interpreted the magnetic profile map to produce a picture of the geological structure of the wellfield area, figure 12. The dominant feature is the Photsane upthrown block which extends through the centre of the area, though it is losing its dominance at the western

GROUND SCALE 1:50000  
MAGNETIC SCALE 500.0 GAMMAS/CM.

Magnetic profile map

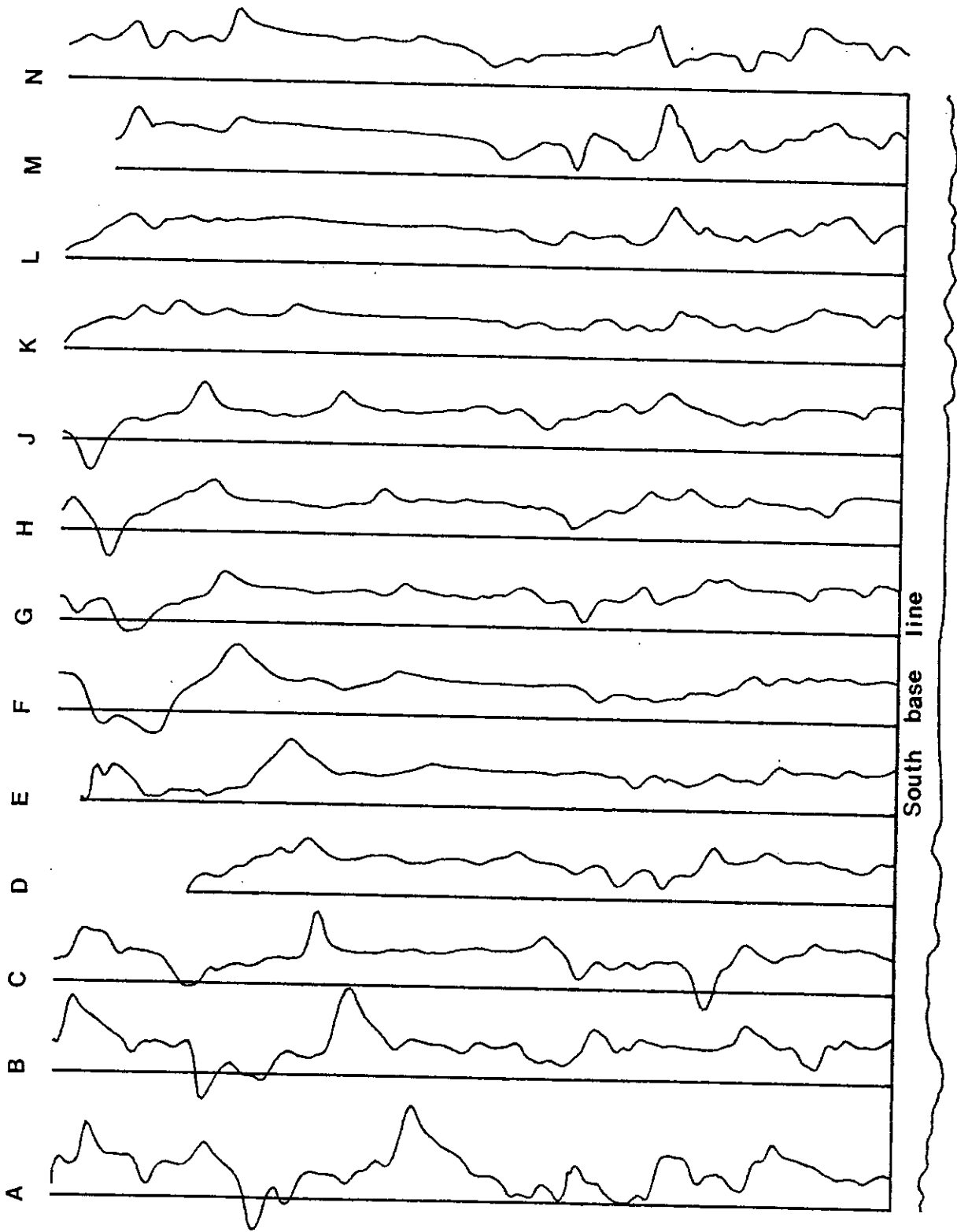


Figure 11

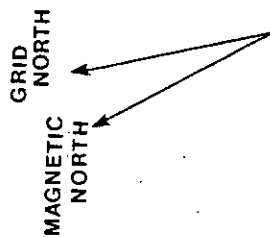
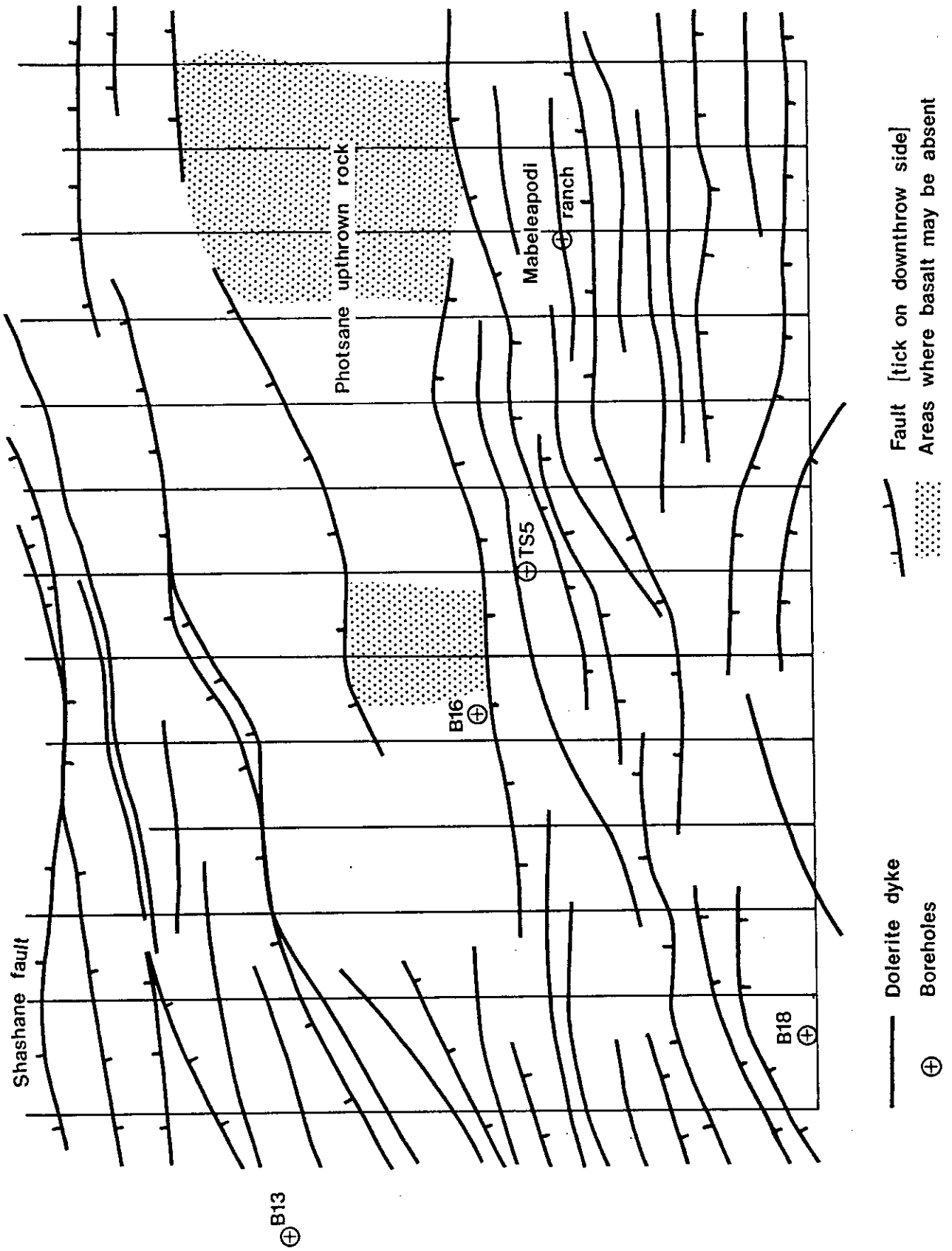


Figure 12

Map of geological structure



end of the area. Two faults, between one and two kilometres apart, occur on the north side of the central block. The more southerly of these faults has a throw of up to 40 m but the throw on the more northerly fault can exceed 80 m and thus it must be considered a major structural feature. Such dominant faults do not occur on the southern side of the block where it would appear that the uplift is contributed by several faults. This can be seen in figure 13 which shows some diagrammatic sections through the area. The central area of the Photsane upthrown block is characterised by a magnetically smooth zone which indicates that the basalt may be very thin or even absent in this area. Recharge of the aquifer in this area may therefore be greater than had previously been thought as there is little basalt to block the passage of groundwater percolating downwards.

As opposed to the simple structure in the central part of the area, the south-eastern corner and the western end of the area are very complex with dykes and/or faults separated by only a few hundred metres. In the northern-eastern corner, the edge of the Shashane faulting passes through the wellfield area, shown by a complex zone of faulting and dyke intrusion.

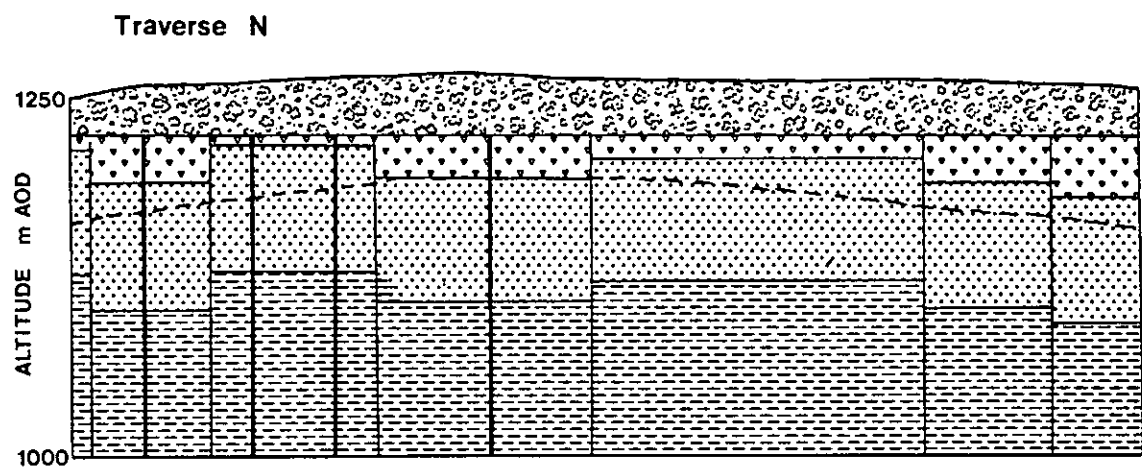
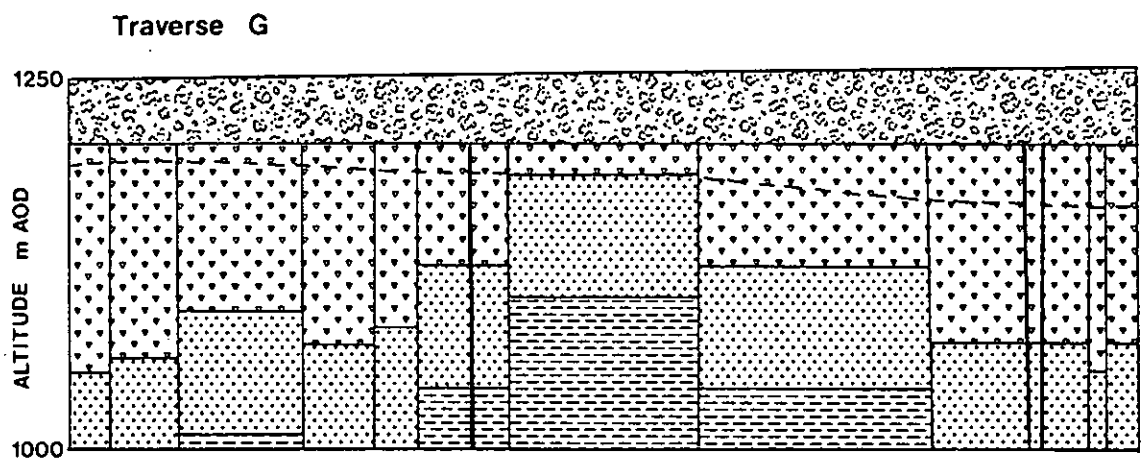
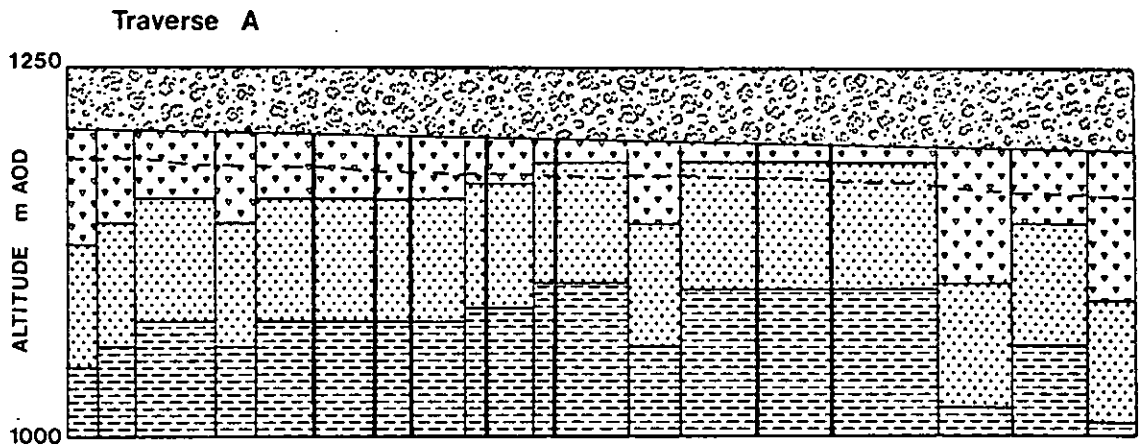
We consider that dykes are less common in the area than had previously been thought. Dykes are common in the south-eastern corner of the area and in the extreme west but are absent from the Photsane upthrown block. The absence of dykes in the central part of the area and the comparative rarity of dykes outcropping along the escarpment to the east supports our interpretation of the majority of the magnetic anomalies as faults rather than dykes. Thus there may be fewer barriers to groundwater flow than we had previously thought.







#### Selection of Drilling Sites

In selecting the drilling sites we have had to conform to three criteria:

- (a) to avoid proximity of obvious barriers to flow such as dykes and major faults
- (b) the sites should be separated by an adequate distance, at least 1300 m to ensure interference effects are minimised.

Figure 13 Diagrammatic geological sections of traverses A, G & N



- |   |                   |   |                                |
|---|-------------------|---|--------------------------------|
|  | KALAHARI BEDS     |  | CAVE SANDSTONE                 |
|  | DRAKENSBERG LAVAS |  | TRANSITION BEDS & OLDER STRATA |
|  | DOLERITE DYKE     |  | INTERPOLATED WATER TABLE       |

HORIZONTAL SCALE 1:50,000

- (c) to ensure that there is an adequate saturated thickness of aquifer to support abstractions over the period of operation of the wellfield.

These criteria result in the entire south-eastern corner and the western edge of the area being unsuitable for siting boreholes as the distance between barriers is relatively small, usually a few hundred metres.

We have concentrated the abstractions in the centre of the area, on the Photsane upthrown block, by placing six of the borehole sites, MPS 2, 4, 7, 8, 9 and 10, here. This block is structurally simple with few, if any barriers to flow and there is sufficient space to allow the boreholes to be sited with an adequate separation to minimise interference effects as is shown in figure 14. In addition, if the basalt is thin or absent, the depth of drilling will be minimised as will pumping heads, thus reducing the cost of the wellfield. It is possible that, if the basalt is absent, the thickness of the Cave Sandstone may be reduced. If this is the case then there may be an insufficient thickness of the aquifer to support abstractions over the projected life of the wellfield. We have considered this in formulating our drilling strategy so that it will be possible to verify the presence of an adequate saturated thickness at the beginning of the drilling programme. The wellfield strategy will have to be reconsidered if the saturated thickness of the aquifer is found to be inadequate.

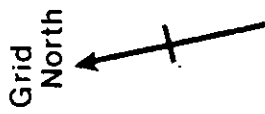
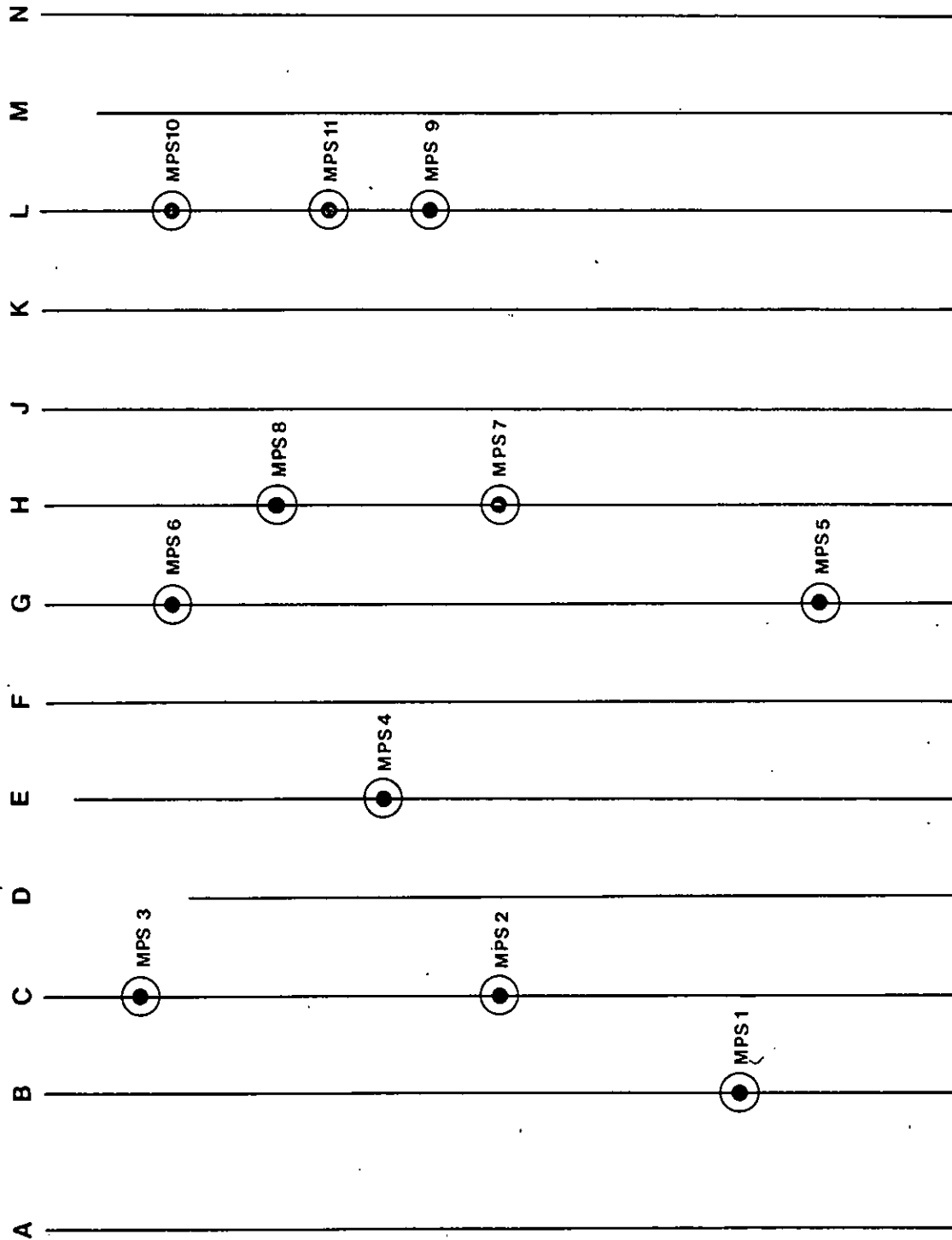
Of the remaining four sites, two are in the south, MPS 1 and 5, and two are in the north of the area, MPS 3 and 6. These sites have possible barriers, at a distance of between 300 and 500 m, both to the north and to the south, which will significantly increase the drawdown in these wells during pumping. The two northern sites have been placed to exploit the resources of two separate blocks of aquifer. Both sites have a dyke on one side and a fault on the other. The two southern sites have been sited in gaps where one set of structures has died out but before another set has become established. MPS1 is bounded by a fault to the south and a dyke to the north, whilst MPS 5 is bounded by two faults.

All the sites have been chosen to be in magnetically 'quiet' zones. Table I is a list of sites with predicted depths to the base of the basalts and the Kalahari Beds and the rest water level.



Figure 14

Location plan of proposed boreholes



		Predicted Depths			
Traverse	Distance from S. End (m)	Base of Kalahari Beds	Base of Basalts	Rest Water Level	
PRODUCTION BOREHOLES:					
MPS 1	B	1675	40	75	65
MPS 2	C	3500	50	55	75
MPS 3	C	6250	55	120	80
MPS 4	E	4375	45	75	80
MPS 5	G	1050	30	160	60
MPS 6	G	6000	45	180	90
MPS 7	H	3500	35	65	70
MPS 8	H	5200	35	120	80
MPS 9	L	4000	30	50	65
MPS 10	L	6000	25	65	75

## EXPLORATION BOREHOLES:

MPS 11	L	4800	30	50	65
MPS 12					

Table I.

Drilling Strategy

Because of structural complexity and uncertainties inherent in the geophysical interpretation we have decided to adopt a drilling strategy that will quickly establish the validity or otherwise of our model and at the same time be sufficiently flexible to allow us at an early stage to redirect the programme as necessary. For this reason it is important that the order of drilling outlined here is strictly observed.

The location of the 10 production wells and one of the two exploration wells are shown in Figure 14. Provided our structural interpretation is validated by drilling these sites are to be drilled in the following order:-

MPS 11 (Exploration well) 7, 8, 9, 10, 4, 2, 1, 5, 6 and 3.

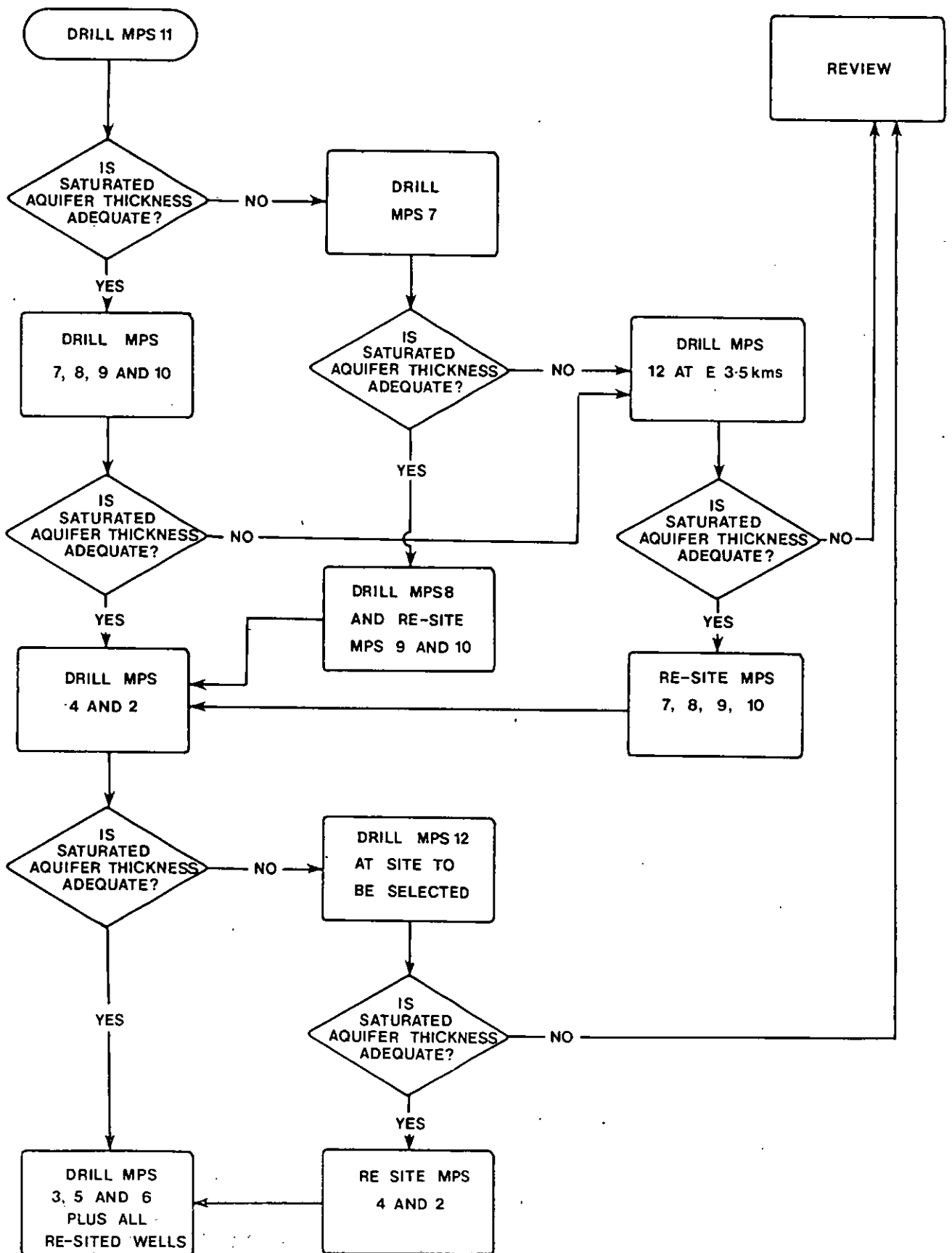
The location of the second exploration well MPS 12 will be determined by the results of the production borehole drilling. At all sites drilling is to be continued through the base of the Cave Sandstone aquifer for a minimum of 10 m into the underlying Transition Beds, in order to be certain that the full aquifer thickness has been penetrated. Table 1 lists all borehole locations and expected depth to the base of the Kalahari Beds, basalt and to the water table. The base of the basalt ranges from a depth of 50 m to over 180 m and provides a good indication of the structural complexity of the region.

In the unlikely event that our structural interpretation is not validated by drilling results, some problems may arise in those areas interpreted by our model as being marginal in terms of groundwater potential. Such areas are to be found along the upthrown block of aquifer extending east-west through the central part of the region and designated the Photsane upthrown block (Figure 12). Here our model indicates that in places the basalt may be absent and water levels lie at or even below the top of the Cave Sandstone aquifer. (Table I). In particular sites 2, 4, 7, 9 and 10 are affected. Under these conditions part of the aquifer will be unsaturated and the remaining saturated thickness may be inadequate to sustain the required yield for an acceptable length of time.

Our drilling strategy is designed such that the suitability or otherwise of these marginal conditions on the upthrown block are determined at an early stage. The strategy requires that exploration well MPS 11 is drilled first, at the eastern end of the block, to prove the total saturated thickness of Cave Sandstone aquifer. The results will determine the future course of the remainder of the drilling programme in a way that can best be explained in terms of a flow diagram, which is shown in Figure 15. Although at first glance the process seems complex the logic behind the strategy is quite simple. By first drilling sites on the upthrown block and proving that the saturated thickness of Cave Sandstone is adequate the programme can proceed as planned. On the other hand if the saturated thickness proves to be inadequate throughout the upthrown block then a review of the overall strategy and possible movement of the wellfield outside the area may be necessary. This arises because by losing the upthrown block, up to a third of the resource of the study area is lost. Should only part of the block be unsuitable the resiting of selected wells within the study area as shown in the flow diagram would be necessary. The definition of an 'adequate' thickness of

Figure 15

Drilling strategy



saturated aquifer in this instance is to be left to the discretion of the hydrogeologist on site.

Upon completion the two exploration wells MPS 11 and MPS 12 can be used as observation wells in the wellfield. In the same way we recommend that test sites drilled during the exploration programme within or close to the study area i.e. TS4, 5 and SYB are monitored regularly either by fitting water level recorders or by manual readings. Finally if watering points are to be provided to ranches in the wellfield area than the existing boreholes in the Serwe Farmers Brigade and Mabeleapodi ranches can be incorporated into a monitoring network.

## CHAPTER 3

LOCATION OF BOREHOLE SITES  
AT MORUPULE MINEPurpose of Boreholes

For the construction of the Morupule Power Station the contractors require a water supply of 400 m<sup>3</sup>/day. The existing borehole supplies within a radius of 10 km from the site are unable to provide this amount of water. Consequently new borehole sources are required. This section describes the location of 4 potential sites and outlines the reasons for their selection.

Geology of the Area

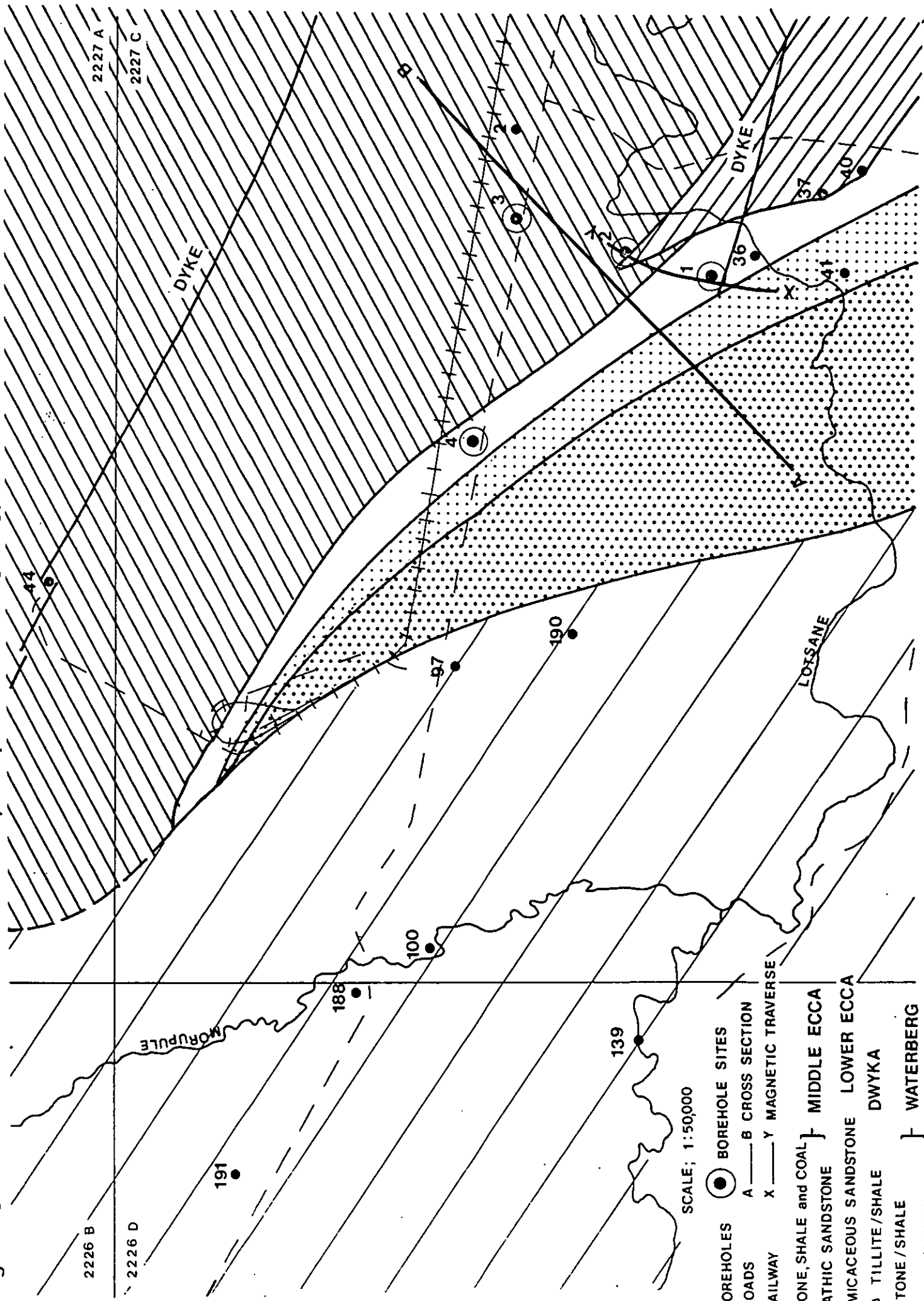
The study area (Figure 16) is underlain by rocks of Eccca, Dwyka and Waterberg age. The youngest formation, the Eccca, crops out over the western half of the area. Here the upper part of the formation comprises a thick succession of mudstone, shale and coal which unconformably overlies a dominantly arenaceous sequence of feldspathic sandstones and grits. These Eccca deposits dip gently to the south west and form part of the north eastern limb of a north west - south east trending syncline which plunges to the north west. Preserved in the same syncline and lying unconformably beneath the Eccca are mudstones shales and conglomerates of Dwyka age, which are generally less than 20 m thick. These crop out along a narrow north west-south east trending strip in the south central part of the area.

The Eccca and Dwyka formations rest with a pronounced unconformity upon Waterberg rocks, which crop out over most of the eastern part of the area. The upper part of this formation has an extensive outcrop and comprises a series of flagstones and shales known as the Lotsani shale formation. Below this and having a limited outcrop confined to the extreme south east of the study area is a quartzite sequence known as the Palapye sandstone formation. The structural relationships between these various formations are shown diagrammatically in Figure 17.

Ground Water Potential

Although many exploration boreholes have been drilled in this area,

Figure 16 Morupule power station geology



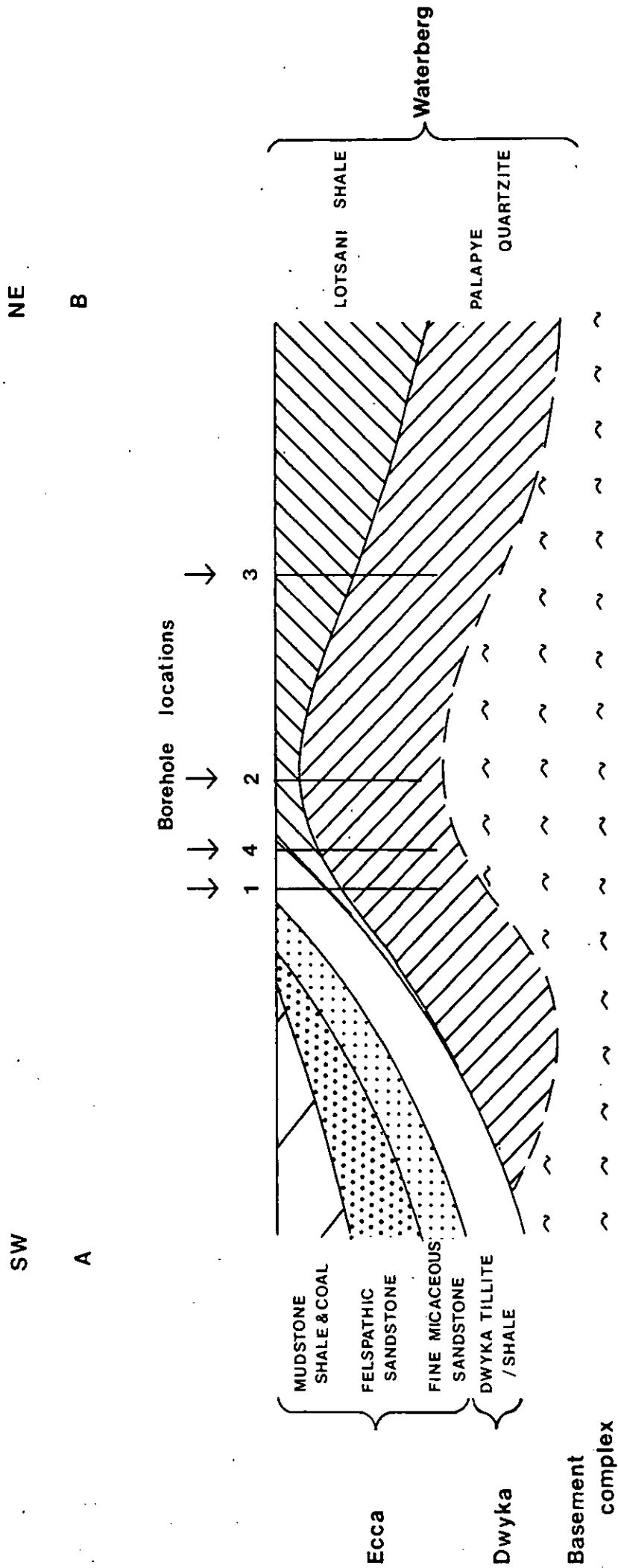
KEY: SCALE: 1:50,000

- BOREHOLES
- BOREHOLE SITES
- ROADS
- A --- B CROSS SECTION
- X --- Y MAGNETIC TRAVERSE
- ++++ RAILWAY
- ▨ MUDSTONE, SHALE and COAL
- ▩ FELSPATHIC SANDSTONE
- ▧ FINE MICACEOUS SANDSTONE
- ▦ Dwyka TILLITE/SHALE
- ▥ Dwyka FLAGSTONE/SHALE
- ▤ SANDSTONE/QUARTZITE
- ▣ MIDDLE ECCA
- ▢ LOWER ECCA
- DWYKA
- WATERBERG

Figure 17

Structural relationships in study area

[ See figure 16 for line of section ]





particularly in the Eccca, there have been relatively few successful water boreholes. The records of the few that exist are presented in Table II.

These reveal that the Eccca, despite the presence of sandstone and conglomerate horizons within the dominantly shale and mudstone sequence, is a poor aquifer. Of the six recorded boreholes one was dry and the other four produced low yields ranging from 0.68 to 2.7 m<sup>3</sup>/hour. In addition it is known that water quality within this formation is variable and can be very poor. Overall the potential of the formation to provide a sustained supply is poor.

The Lotsane shale formation supports one borehole which provides the mine village with most of its water. This borehole is 366 m deep and is located on a fault where it cuts a north west - south east trending dolerite dyke (Figure 16). Initially the yield was 5.1 m<sup>3</sup>/hour but it now produces considerably less. Because this formation is dominantly mudstone and shale primary permeability is low and substantial supplies can only be expected where isolated fissures and faults have locally enhanced permeability. Even where faults are present, however, the incompetent nature of the shale and mudstone make it unlikely that secondary permeability is sufficiently well developed to provide substantial long term supplies.

The underlying Palapye sandstones support 5 boreholes of which 3 have adequate records. (Table II). These have yields ranging between 4.4 and 9.1 m<sup>3</sup>/hour and are the most productive boreholes in the area. Although the sandstones and quartzites of this formation have low primary permeability they are sufficiently competent and brittle to develop extensive zones of secondary permeability in the vicinity of faults and fissures. This together with the fact that they have potential for recharge along the length of its outcrop on the Tswapong Hills to the south of Palapye, makes this formation the most promising aquifer in the area. The outcrop within the study area is limited but existing boreholes (Nos. 97, 108 and 2, Figure 16) prove the sandstones and quartzites lie at an accessible depth for up to 5 km to the north and north west of the outcrop in the vicinity of the power station site.

#### Location of Borehole Sites

On the basis of geology and existing borehole yields the Palapye sandstone appears to offer the greatest aquifer potential in the study

area. Supplies in this formation derive from fracturing and faulting of the brittle, competent quartzites and sandstones so that borehole sites require to be located on fault or fracture zones. The four sites selected have been positioned to penetrate the formation near the crest of a NW-SE trending anticline where fissuring and fracturing might be expected to be developed (Figure 17).

### Site 1

This is located 2 km to the south of the Palapye - Serowe road and lies 500m to the west of the sandstone outcrop. It is positioned to the north of a west north west - east south east trending dolerite dyke which is visible on aerial photographs. The exact location of the dyke on the ground was determined by a north-south magnetometer traverse (Fig 18). The site is located on the north flank of the dyke with the object of intercepting any fracture zone that may be associated with the dyke emplacement. To the south of the dyke the resource is already commanded by 4 existing boreholes (Fig 16).

The borehole is to be drilled to a depth of between 120 - 150 m since records indicate that a minimum quartzite thickness of 90 m and a 30 m Kalahari and Dwyka overburden can be expected. Rest water levels are likely to be less than 10 m below ground level.

### Site 2

This lies 1 km to the north of site 1 and is positioned just off the sandstone outcrop. It is located over a fault detected by the magnetometer traverse shown in Figure 18. Because of its close position to the outcrop the maximum borehole depth can be limited to 120 m. Rest water levels are again likely to be less than 10 m below ground level.

### Site 3

This third site is situated 4.8 km to the east of the Moruple Coal Mine entrance, immediately to the north of the Palapye - Serowe road. It is positioned along a major north-south fracture which is picked out by the course of the Lotsane river to the south of the main road. At this site the Palapye sandstones are overlain by 50 m of Lotsane shale and Kalahari Beds and drilled depths of between 120 - 150 m will be required.

Figure 18

Magnetic traverse near Morupule coal mine  
on north west bank of Lotsane

- 07150 m Y  
+ 94000 m X

- 07600 m Y  
+ 946 0 m X

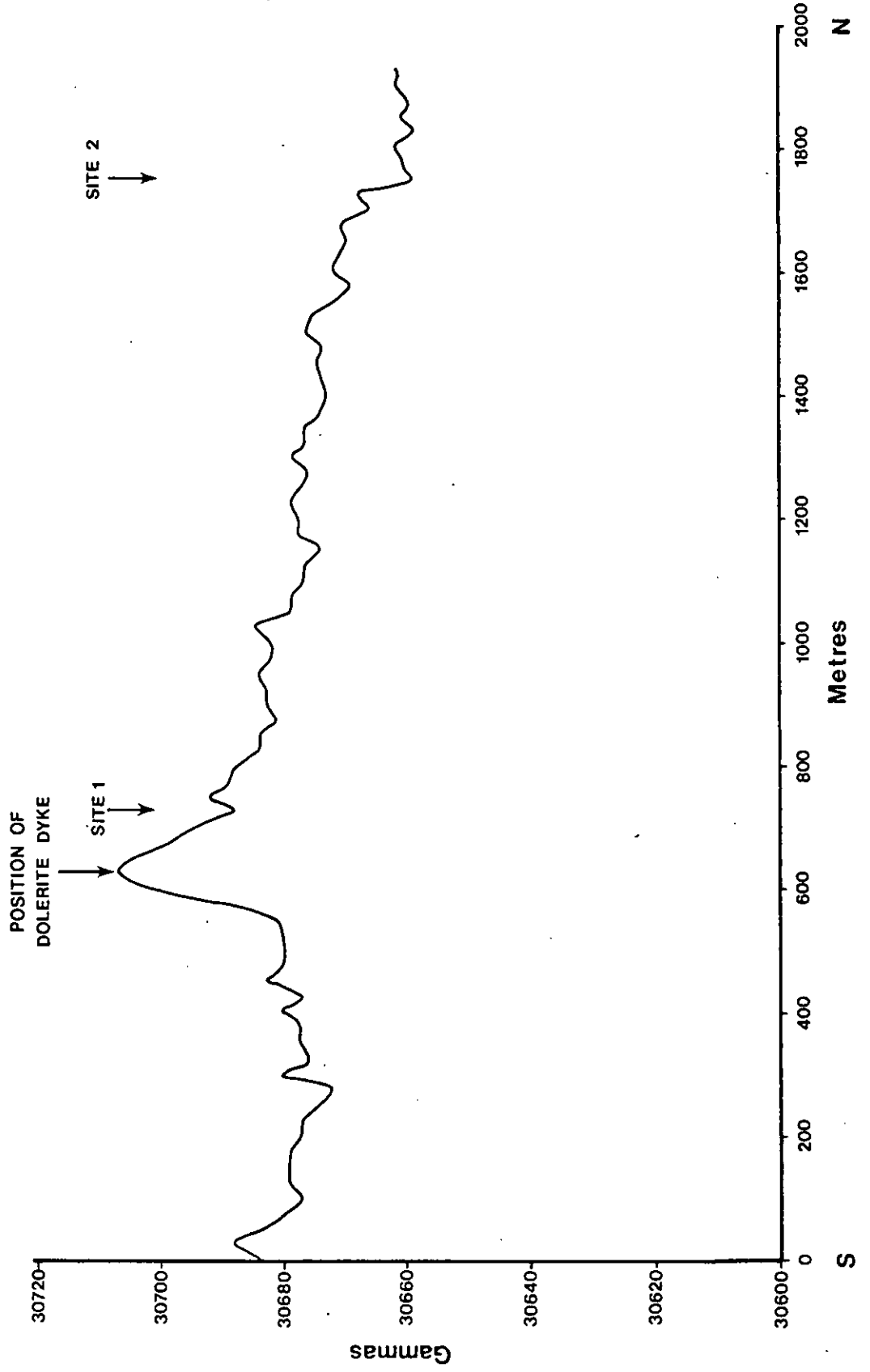


TABLE II

BOREHOLE RECORDSECCA

<u>Map No.</u>	<u>Survey No.</u>	<u>Depth (m)</u>	<u>Yield (m /hr)</u>	<u>Water Struck (m)</u>	<u>Water Level (m)</u>
2226D	190	280	-	130	71
2226D	188	221	2.7	46/69	32
2226D	191	136	1.2	68	46
2226D	139	85	1.3	51	30
2226B	56	47	DRY	-	-
2227C	100	122	0.68	-	61

WATERBERG (Lotsani Shale)

2227A	44	366	5.1	-	-
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WATERBERG (Palapye Sandstone)

2227C	37	93.3	5.9	57.6	14
2227C	40	86.3	4.4	62.5	15.2
2227C	41	120	9.1	50/118.9	1.5

Rest water levels are likely to be less than 20 m below ground level.

#### Site 4

This final site is located 2.4 km to the east of the Morupule Coal Mine entrance and lies immediately to the north of the Palapye - Serowe road. The site is positioned on the Dwyka outcrop and is intended to penetrate into the Palapye sandstone near to the crest of the north west - south east trending anticline. With a 30 m cover of Kalahari Dwyka the depth of the hole is to be between 120 - 150 m, with rest water levels being less than 20 m below ground level.

All sites have been marked in the field with pegs and ribbon.

## APPENDIX

### The Ground Magnetism Survey

The survey was carried out between 10th and 29th November 1981. It consisted of 13 lines, approximately 7000 m long, orientated  $11\frac{1}{2}^{\circ}$  east of grid north. Another line, 9275 m long, and orientated almost east-west linked the southern ends of the lines. Originally a line linking the northern ends of the lines had been planned but this was not carried out due to lack of time as the survey was delayed by a bush fire. Lines A and G of our survey correspond to traverses 1 and 3 of a previous exploratory geophysical survey.

The bush was cleared along the lines and the stations marked by wooden pegs at 25 m intervals. This station spacing was chosen on the basis of previous magnetic surveys carried out in the area. The spacing is small enough to define the magnetic anomalies for a quantified interpretation to be made yet large enough for the survey to be carried out in a reasonable time. The stations were not levelled in as elevation corrections are not usually made to magnetic data.

A Geometrics G.826 portable proton magnetometer having a 1 gamma sensitivity and repeatability, was used for the field survey. Diurnal variations in the geomagnetic field were monitored using a Geometrics G-826A base station proton magnetometer which was sited near the centre of the southern base line. This instrument has a sensitivity and repeatability of 1 gamma and readings were recorded at 1 minute intervals. During the period of the survey the geomagnetic field varied by 70 gammas, however, the daily variation was usually about 10 gammas over 6 hours. Exceptions to this occurred on 14th and 25th November. On the latter occasion the field fluctuated by 40 gammas over a period of 30 minutes on several occasions.

The field data was corrected for diurnal variations in the geomagnetic field by a computer program which fitted a cubic spline to the base station data for interpolation and then corrected the field data relative to a datum of 30630 gammas. A listing of the corrected data is given at the end of this appendix. The computer program also plotted the corrected data on a graph plotter to produce figures 2 to 11 inclusive of this report. In addition the power spectrum of each traverse was calculated and the cross correlation functions between traverses A and G and traverses 1 and 3 respectively from the previous geophysical survey.

The only rocks with significant magnetic susceptibilities known to occur in the area, other than the basement, are the Drakensberg basaltic lavas and dolerite dykes. Thus the magnetic survey is a record of either the structure of the basalts or the occurrence of dolerite dykes. A fault affects the basalts and downthrowing to the north results in a magnetic anomaly which is characterised by a distinct low. However a magnetic anomaly characterised by a high peak may be produced either by a dyke or a fault downthrowing the basalts to the north. It is very difficult to distinguish between these two models solely on the basis of the magnetic data. However by using evidence from the outcrop plus the gravity data on traverses 1 and 3 (traverses A and G of this survey) it was possible to usually distinguish between the two.

In general the interpretation of the data has been qualitative. The anomalies often overlap each other and it is difficult to recognise a single anomaly to interpret. However, some anomalies have been quantitatively interpreted using an interactive modelling computer program for faults and dykes. Remnant magnetisation and demagnetisation effects have been ignored in these interpretations as there is no relevant data on the former and the effect of the latter is less than errors introduced by other uncertainties in the data. The fault planes have been assumed to be vertical and the tops of dykes horizontal. A magnetic susceptibility contrast of around 0.004 c.g.s. units was found to be necessary to model the anomalies.

TRAVERSE: A

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STATION	MAGNETIC ANOMALY (GAMMA)
0	30746.4
25	30731.1
50	30721.1
75	30717.8
100	30724.4
125	30735.9
150	30749.0
175	30764.5
200	30782.4
225	30795.4
250	30790.3
275	30771.1
300	30758.1
325	30754.8
350	30752.8
375	30754.4
400	30757.9
425	30763.9
450	30765.3
475	30755.8
500	30737.1
525	30727.6
550	30718.5
575	30702.3
600	30682.2
625	30667.5
650	30655.8
675	30647.8
700	30641.6
725	30633.1
750	30621.9
775	30611.5
800	30604.3
825	30597.2
850	30593.2
875	30588.2
900	30575.9
925	30551.4
950	30516.9
975	30483.9
1000	30485.9
1025	30543.9
1050	30599.7
1075	30620.1
1100	30617.4
1125	30619.4
1150	30643.2
1175	30713.1
1200	30799.1
1225	30860.5
1250	30876.7
1275	30869.2
1300	30862.1
1325	30842.8



TRAVERSE: A

-----

STATION	MAGNETIC ANOMALY (GAMMA)
1350	30813.8
1375	30780.7
1400	30749.1
1425	30749.5
1450	30728.8
1475	30736.8
1500	30744.9
1525	30747.1
1550	30759.1
1575	30805.4
1600	30822.8
1625	30808.9
1650	30762.4
1675	30688.0
1700	30633.0
1725	30610.8
1750	30602.3
1775	30602.7
1800	30598.4
1825	30590.9
1850	30585.0
1875	30589.5
1900	30601.5
1925	30637.2
1950	30709.7
1975	30811.0
2000	30903.4
2025	30952.9
2050	30949.9
2075	30924.0
2100	30921.0
2125	30939.8
2150	30959.9
2175	30983.2
2200	30990.8
2225	30986.6
2250	30983.5
2275	30982.4
2300	30966.5
2325	30948.5
2350	30923.2
2375	30900.7
2400	30865.5
2425	30829.3
2450	30829.1
2475	30826.1
2500	30826.0
2525	30811.0
2550	30769.5
2575	30719.6
2600	30682.1
2625	30684.6
2650	30748.6
2675	30739.1
2700	30909.0

TRAVERSE: A

-----

STATION	MAGNETIC ANOMALY (GAMMA)
2725	30956.4
2750	30983.1
2775	30957.3
2800	30907.3
2825	30882.7
2850	30866.2
2875	30846.9
2900	30842.7
2925	30869.7
2950	30917.2
2975	30954.5
3000	30957.0
3025	30946.8
3050	30941.9
3075	30931.7
3100	30925.6
3125	30940.6
3150	30954.0
3175	30936.0
3200	30893.2
3225	30855.8
3250	30827.1
3275	30806.1
3300	30793.0
3325	30785.9
3350	30780.4
3375	30781.3
3400	30782.8
3425	30785.6
3450	30781.1
3475	30770.0
3500	30747.5
3525	30704.3
3550	30669.5
3575	30641.0
3600	30619.0
3625	30602.5
3650	30588.5
3675	30576.3
3700	30564.8
3725	30550.1
3750	30535.8
3775	30509.3
3800	30485.0
3825	30465.1
3850	30448.8
3875	30429.3
3900	30393.0
3925	30348.3
3950	30286.5
3975	30236.1
4000	30207.6
4025	30237.8
4050	30312.1
4075	30408.1

TRAVERSE: A

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STATION	MAGNETIC ANOMALY (GAMMA)
4100	30499.8
4125	30585.6
4150	30653.1
4175	30696.9
4200	30718.0
4225	30715.3
4250	30695.8
4275	30674.3
4300	30672.9
4325	30698.7
4350	30731.6
4375	30752.6
4400	30758.9
4425	30758.8
4450	30772.1
4475	30797.6
4500	30828.9
4525	30858.8
4550	30866.8
4575	30853.1
4600	30826.0
4625	30805.0
4650	30796.9
4675	30793.8
4700	30789.5
4725	30788.3
4750	30787.2
4775	30785.2
4800	30777.6
4825	30770.8
4850	30771.3
4875	30781.5
4900	30800.1
4925	30830.6
4950	30881.5
4975	30944.0
5000	31001.2
5025	31031.4
5050	31042.4
5075	31031.1
5100	30980.1
5125	30926.1
5150	30906.7
5175	30930.5
5200	30981.5
5225	31060.2
5250	31148.9
5275	31220.9
5300	31258.6
5325	31259.3
5350	31202.4
5375	31092.4
5400	30980.4
5425	30897.4
5450	30839.0

TRAVERSE: A

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STATION	MAGNETIC ANOMALY (GAMMA)
5475	30800.4
5500	30772.1
5525	30747.5
5550	30729.3
5575	30708.3
5600	30685.9
5625	30659.6
5650	30636.2
5675	30603.6
5700	30567.4
5725	30542.2
5750	30548.3
5775	30577.8
5800	30616.0
5825	30654.7
5850	30685.7
5875	30707.7
5900	30726.7
5925	30736.0
5950	30732.7
5975	30728.2
6000	30720.6
6025	30715.7
6050	30708.2
6075	30708.3
6100	30722.2
6125	30742.9
6150	30777.7
6175	30838.6
6200	30888.1
6225	30893.7
6250	30859.9
6275	30795.9
6300	30730.4
6325	30688.4
6350	30663.4
6375	30653.0
6400	30656.5
6425	30660.5
6450	30656.4
6475	30649.9
6500	30651.1
6525	30648.8
6550	30646.8
6575	30639.6
6600	30611.1
6625	30573.8
6650	30524.8
6675	30465.3
6700	30407.0
6725	30390.6
6750	30469.6
6775	30605.6
6800	30697.2
6825	30726.1

TRAVERSE: A  
-----

STATION	MAGNETIC ANOMALY (GAMMA)
6850	30737.1
6875	30736.1
6900	30718.7
6925	30688.5
6950	30671.4
6975	30715.4
7000	30900.1

TRAVERSE: B

-----

STATION	MAGNETIC ANOMALY (GAMMA)
0	30592.0
25	30620.7
50	30640.8
75	30657.4
100	30667.4
125	30683.5
150	30692.5
175	30692.0
200	30683.6
225	30679.1
250	30681.7
275	30684.7
300	30677.7
325	30660.0
350	30646.4
375	30630.9
400	30630.9
425	30660.5
450	30686.5
475	30701.0
500	30680.6
525	30667.6
550	30684.1
575	30755.7
600	30818.7
625	30870.4
650	30881.7
675	30866.8
700	30849.3
725	30840.8
750	30820.1
775	30765.8
800	30729.2
825	30703.4
850	30697.4
875	30699.9
900	30706.2
925	30712.4
950	30709.9
975	30695.6
1000	30682.3
1025	30659.5
1050	30636.0
1075	30616.0
1100	30605.0
1125	30589.0
1150	30571.5
1175	30545.0
1200	30528.5
1225	30522.5
1250	30542.5
1275	30593.7
1300	30643.0
1325	30675.5

TRAVERSE: B

-----

STATION	MAGNETIC ANOMALY (GAMMA)
1350	30686.5
1375	30692.6
1400	30702.1
1425	30713.6
1450	30724.1
1475	30730.6
1500	30732.6
1525	30731.6
1550	30731.6
1575	30729.6
1600	30728.6
1625	30723.6
1650	30722.1
1675	30722.1
1700	30720.7
1725	30717.6
1750	30711.6
1775	30710.1
1800	30706.1
1825	30701.6
1850	30699.4
1875	30706.0
1900	30712.5
1925	30706.5
1950	30696.5
1975	30687.0
2000	30681.5
2025	30677.5
2050	30668.5
2075	30658.7
2100	30654.5
2125	30672.0
2150	30704.0
2175	30743.0
2200	30740.0
2225	30722.5
2250	30734.5
2275	30762.0
2300	30757.0
2325	30718.0
2350	30676.5
2375	30638.0
2400	30620.5
2425	30596.5
2450	30579.6
2475	30574.9
2500	30593.9
2525	30653.6
2550	30706.9
2575	30759.9
2600	30784.9
2625	30810.4
2650	30833.4
2675	30858.9
2700	30875.6

TRAVERSE: B

-----

STATION	MAGNETIC ANOMALY (GAMMA)
2725	30885.4
2750	30879.9
2775	30866.4
2800	30852.4
2825	30841.6
2850	30840.4
2875	30848.4
2900	30858.9
2925	30863.6
2950	30857.4
2975	30836.6
3000	30832.9
3025	30817.6
3050	30790.4
3075	30742.4
3100	30714.9
3125	30702.3
3150	30706.0
3175	30721.0
3200	30731.5
3225	30740.0
3250	30742.0
3275	30746.1
3300	30747.1
3325	30744.6
3350	30738.7
3375	30725.1
3400	30714.6
3425	30706.1
3450	30704.2
3475	30714.7
3500	30735.7
3525	30769.2
3550	30789.7
3575	30795.3
3600	30791.3
3625	30777.3
3650	30766.4
3675	30753.4
3700	30743.9
3725	30736.1
3750	30730.9
3775	30726.5
3800	30726.5
3825	30727.0
3850	30724.6
3875	30718.6
3900	30713.6
3925	30706.2
3950	30700.2
3975	30692.0
4000	30687.2
4025	30693.2
4050	30707.3
4075	30730.3



TRAVERSE: B

-----

STATION	MAGNETIC ANOMALY (GAMMA)
4100	30750.3
4125	30773.8
4150	30776.9
4175	30756.4
4200	30726.9
4225	30689.9
4250	30662.4
4275	30631.5
4300	30608.5
4325	30582.5
4350	30559.4
4375	30528.0
4400	30499.1
4425	30453.4
4450	30407.6
4475	30345.6
4500	30299.1
4525	30269.1
4550	30277.1
4575	30319.6
4600	30371.2
4625	30466.7
4650	30557.2
4675	30673.2
4700	30747.2
4725	30801.7
4750	30819.2
4775	30826.7
4800	30832.7
4825	30846.2
4850	30859.9
4875	30861.2
4900	30853.2
4925	30848.7
4950	30845.7
4975	30826.7
5000	30811.7
5025	30804.2
5050	30806.2
5075	30818.7
5100	30834.2
5125	30861.2
5150	30893.7
5175	30941.7
5200	30984.2
5225	31028.1
5250	31048.1
5275	31045.6
5300	31030.6
5325	31015.1
5350	31012.6
5375	31010.6
5400	31007.5
5425	30995.0
5450	30977.0

TRAVERSE: B

-----

STATION	MAGNETIC ANOMALY (GAMMA)
5475	30946.9
5500	30926.9
5525	30911.2
5550	30914.4
5575	30936.9
5600	30959.3
5625	30998.3
5650	31034.8
5675	31081.3
5700	31121.7
5725	31171.7
5750	31210.7
5775	31201.3
5800	31105.9
5825	30920.0
5850	30799.5
5875	30736.0
5900	30732.4
5925	30743.8
5950	30758.3
5975	30779.8
6000	30790.8
6025	30784.2
6050	30769.2
6075	30754.1
6100	30747.1
6125	30739.0
6150	30735.9
6175	30738.4
6200	30746.9
6225	30738.4
6250	30738.8
6275	30754.2
6300	30782.7
6325	30824.1
6350	30836.1
6375	30815.5
6400	30776.4
6425	30731.4
6450	30707.8
6475	30688.8
6500	30674.7
6525	30655.6
6550	30638.4
6575	30616.5
6600	30599.0
6625	30577.4
6650	30560.3
6675	30542.7
6700	30523.2
6725	30509.1
6750	30490.5
6775	30464.0
6800	30432.8
6825	30386.3

TRAVERSE: B  
-----

STATION	MAGNETIC ANOMALY (GAMMA)
6850	30357.7
6875	30394.6
6900	30485.6
6925	30611.5
6950	30700.5
6975	30762.9
7000	30743.8

TRAVERSE: C

-----

STATION	MAGNETIC ANOMALY (GAMMA)
0	30712.0
25	30699.5
50	30687.6
75	30681.7
100	30674.2
125	30664.8
150	30650.3
175	30643.5
200	30640.8
225	30636.1
250	30630.2
275	30623.7
300	30622.9
325	30625.4
350	30630.3
375	30634.3
400	30637.9
425	30639.4
450	30636.7
475	30630.2
500	30625.8
525	30624.7
550	30624.2
575	30621.7
600	30606.7
625	30591.6
650	30583.6
675	30589.6
700	30609.6
725	30641.6
750	30665.1
775	30676.5
800	30679.5
825	30680.1
850	30685.3
875	30690.3
900	30692.0
925	30704.0
950	30723.1
975	30740.6
1000	30741.5
1025	30732.1
1050	30718.6
1075	30703.3
1100	30687.3
1125	30671.4
1150	30650.9
1175	30628.0
1200	30609.5
1225	30599.8
1250	30603.3
1275	30628.1
1300	30669.1
1325	30713.8

TRAVERSE: C

-----

STATION	MAGNETIC ANOMALY (GAMMA)
1350	30755.5
1375	30784.5
1400	30800.5
1425	30812.0
1450	30854.4
1475	30921.4
1500	31014.7
1525	31083.2
1550	31136.7
1575	31144.3
1600	31117.0
1625	31049.5
1650	30969.8
1675	30886.4
1700	30836.6
1725	30808.1
1750	30788.7
1775	30768.2
1800	30752.7
1825	30753.4
1850	30761.9
1875	30765.6
1900	30762.4
1925	30756.9
1950	30759.1
1975	30760.8
2000	30761.8
2025	30769.0
2050	30784.5
2075	30807.5
2100	30818.0
2125	30815.4
2150	30797.9
2175	30781.7
2200	30767.7
2225	30768.4
2250	30786.9
2275	30805.7
2300	30818.7
2325	30825.5
2350	30826.5
2375	30815.5
2400	30798.7
2425	30777.6
2450	30767.7
2475	30772.2
2500	30796.5
2525	30831.5
2550	30868.7
2575	30900.0
2600	30914.0
2625	30911.2
2650	30872.8
2675	30812.4
2700	30756.1

TRAVERSE: C

-----

STATION	MAGNETIC ANOMALY (GAMMA)
2725	30715.8
2750	30687.8
2775	30665.4
2800	30644.4
2825	30618.6
2850	30590.2
2875	30569.2
2900	30564.8
2925	30577.9
2950	30599.4
2975	30624.6
3000	30648.6
3025	30659.7
3050	30663.7
3075	30671.2
3100	30680.7
3125	30687.3
3150	30690.8
3175	30692.4
3200	30692.4
3225	30693.3
3250	30693.5
3275	30694.5
3300	30695.0
3325	30693.6
3350	30690.1
3375	30683.7
3400	30678.2
3425	30675.7
3450	30672.8
3475	30671.8
3500	30674.3
3525	30678.8
3550	30682.8
3575	30685.3
3600	30687.8
3625	30692.3
3650	30698.3
3675	30707.7
3700	30713.6
3725	30718.6
3750	30720.4
3775	30720.4
3800	30720.1
3825	30718.6
3850	30719.4
3875	30721.7
3900	30720.7
3925	30713.5
3950	30702.5
3975	30694.4
4000	30691.4
4025	30694.4
4050	30699.8
4075	30705.8

TRAVERSE: C  
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STATION	MAGNETIC ANOMALY (GAMMA)
4100	30707.4
4125	30705.4
4150	30701.4
4175	30698.9
4200	30699.5
4225	30707.5
4250	30715.2
4275	30721.5
4300	30726.8
4325	30728.8
4350	30727.0
4375	30724.5
4400	30723.4
4425	30725.9
4450	30727.9
4475	30728.7
4500	30724.5
4525	30718.9
4550	30713.9
4575	30711.6
4600	30707.6
4625	30698.7
4650	30688.7
4675	30676.9
4700	30649.0
4725	30602.0
4750	30518.4
4775	30437.7
4800	30387.7
4825	30405.2
4850	30490.2
4875	30599.2
4900	30691.2
4925	30750.7
4950	30774.7
4975	30781.7
5000	30780.1
5025	30784.6
5050	30787.6
5075	30782.5
5100	30777.5
5125	30776.0
5150	30778.5
5175	30780.9
5200	30783.9
5225	30787.9
5250	30800.4
5275	30817.9
5300	30831.9
5325	30841.9
5350	30850.4
5375	30855.5
5400	30854.0
5425	30845.6
5450	30838.7

TRAVERSE: C

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STATION	MAGNETIC ANOMALY (GAMMA)
5475	30835.2
5500	30837.8
5525	30843.0
5550	30849.1
5575	30864.4
5600	30876.0
5625	30891.0
5650	30893.8
5675	30878.8
5700	30870.9
5725	30888.9
5750	30918.7
5775	30965.7
5800	30996.8
5825	31014.5
5850	31022.0
5875	31026.4
5900	31030.4
5925	31022.4
5950	30998.4
5975	30966.0
6000	30930.3
6025	30894.3
6050	30863.5
6075	30822.5
6100	30791.8
6125	30774.2
6150	30764.2
6175	30759.7
6200	30754.5
6225	30745.3
6250	30738.8
6275	30740.1
6300	30736.7
6325	30733.1
6350	30731.8
6375	30722.3
6400	30728.8
6425	30746.3
6450	30769.2
6475	30765.2
6500	30732.9
6525	30686.6
6550	30641.3
6575	30608.2
6600	30590.5
6625	30582.6
6650	30579.1
6675	30581.1
6700	30577.2
6725	30564.9
6750	30553.5
6775	30558.2
6800	30585.8
6825	30642.3



TRAVERSE: C  
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STATION	MAGNETIC ANOMALY (GAMMA)
6850	30707.3
6875	30758.7
6900	30794.9
6925	30808.4
6950	30808.0
6975	30816.8
7000	30824.3

TRAVERSE: D  
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STATION	MAGNETIC ANOMALY (GAMMA)
0	30654.9
25	30662.6
50	30666.1
75	30664.2
100	30657.2
125	30656.8
150	30669.5
175	30695.0
200	30720.6
225	30735.1
250	30739.7
275	30741.8
300	30740.8
325	30736.5
350	30730.0
375	30718.6
400	30705.6
425	30700.7
450	30699.2
475	30696.8
500	30691.8
525	30687.9
550	30682.0
575	30672.5
600	30659.6
625	30652.1
650	30653.2
675	30655.7
700	30660.7
725	30661.3
750	30660.5
775	30656.4
800	30656.4
825	30654.9
850	30656.9
875	30661.5
900	30664.5
925	30658.0
950	30643.1
975	30623.1
1000	30607.6
1025	30594.1
1050	30585.2
1075	30585.2
1100	30597.7
1125	30618.7
1150	30641.7
1175	30652.2
1200	30659.2
1225	30659.7
1250	30666.7
1275	30673.7
1300	30679.7
1325	30679.7

TRAVERSE: D

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STATION	MAGNETIC ANOMALY (GAMMA)
1350	30676.7
1375	30673.7
1400	30668.2
1425	30650.7
1450	30610.7
1475	30576.1
1500	30549.1
1525	30558.6
1550	30597.6
1575	30639.1
1600	30688.6
1625	30723.1
1650	30756.1
1675	30775.1
1700	30788.1
1725	30790.6
1750	30786.0
1775	30785.5
1800	30787.0
1825	30791.0
1850	30807.0
1875	30831.5
1900	30876.5
1925	30899.3
1950	30887.5
1975	30848.3
2000	30794.0
2025	30763.5
2050	30747.5
2075	30744.5
2100	30745.7
2125	30754.0
2150	30772.5
2175	30790.6
2200	30820.1
2225	30844.1
2250	30868.1
2275	30884.6
2300	30889.6
2325	30874.5
2350	30831.7
2375	30789.8
2400	30750.7
2425	30728.7
2450	30717.7
2475	30715.2
2500	30717.8
2525	30724.8
2550	30738.8
2575	30753.3
2600	30772.4
2625	30784.9
2650	30788.9
2675	30778.5
2700	30763.5

TRAVERSE: D  
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STATION	MAGNETIC ANOMALY (GAMMA)
2725	30747.5
2750	30732.5
2775	30723.1
2800	30714.1
2825	30709.6
2850	30707.0
2875	30706.2
2900	30700.7
2925	30696.3
2950	30693.8
2975	30689.8
3000	30682.4
3025	30673.4
3050	30657.4
3075	30639.4
3100	30626.5
3125	30615.5
3150	30615.6
3175	30624.1
3200	30642.6
3225	30654.7
3250	30662.2
3275	30666.7
3300	30669.8
3325	30674.3
3350	30684.3
3375	30694.7
3400	30707.9
3425	30718.9
3450	30726.4
3475	30725.4
3500	30718.0
3525	30710.0
3550	30700.5
3575	30695.1
3600	30687.6
3625	30684.1
3650	30681.6
3675	30683.0
3700	30684.2
3725	30686.2
3750	30687.7
3775	30689.3
3800	30692.8
3825	30698.3
3850	30706.4
3875	30713.9
3900	30720.9
3925	30724.4
3950	30723.6
3975	30723.5
4000	30726.0
4025	30728.0
4050	30726.0
4075	30720.0

TRAVERSE: D

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STATION	MAGNETIC ANOMALY (GAMMA)
4100	30709.0
4125	30697.0
4150	30684.5
4175	30677.0
4200	30670.0
4225	30667.5
4250	30664.5
4275	30664.5
4300	30666.0
4325	30666.5
4350	30668.0
4375	30669.6
4400	30673.4
4425	30682.9
4450	30690.9
4475	30696.4
4500	30702.4
4525	30703.4
4550	30705.8
4575	30708.3
4600	30709.3
4625	30706.8
4650	30699.3
4675	30690.7
4700	30678.2
4725	30664.2
4750	30645.3
4775	30627.1
4800	30605.5
4825	30585.0
4850	30558.0
4875	30539.0
4900	30532.5
4925	30541.5
4950	30567.9
4975	30596.4
5000	30628.8
5025	30651.8
5050	30659.3
5075	30650.2
5100	30628.2
5125	30617.7
5150	30626.2
5175	30648.5
5200	30672.1
5225	30681.6
5250	30688.0
5275	30691.0
5300	30694.9
5325	30700.9
5350	30713.9
5375	30731.8
5400	30755.8
5425	30772.8
5450	30778.8

TRAVERSE: D

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STATION	MAGNETIC ANOMALY (GAMMA)
5475	30777.2
5500	30780.2
5525	30789.2
5550	30811.2
5575	30834.1
5600	30856.0
5625	30865.5
5650	30867.5
5675	30864.5
5700	30856.4
5725	30849.3
5750	30845.8
5775	30848.3
5800	30856.2
5825	30871.2
5850	30897.7
5875	30929.2
5900	30977.7

TRAVERSE: E  
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STATION	MAGNETIC ANOMALY (GAMMA)
0	30626.5
25	30624.7
50	30636.7
75	30653.0
100	30661.8
125	30666.5
150	30671.6
175	30675.6
200	30676.2
225	30676.2
250	30678.8
275	30675.3
300	30665.5
325	30653.6
350	30646.1
375	30638.5
400	30636.2
425	30643.3
450	30656.9
475	30680.9
500	30695.0
525	30693.0
550	30684.1
575	30676.7
600	30672.2
625	30668.2
650	30665.2
675	30663.3
700	30662.3
725	30659.9
750	30660.4
775	30661.9
800	30665.5
825	30670.5
850	30671.5
875	30666.0
900	30655.0
925	30641.0
950	30624.1
975	30617.0
1000	30628.5
1025	30654.5
1050	30683.0
1075	30713.5
1100	30738.0
1125	30759.4
1150	30762.4
1175	30752.4
1200	30740.2
1225	30732.3
1250	30729.8
1275	30734.7
1300	30737.6
1325	30739.6

TRAVERSE: E

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STATION	MAGNETIC ANOMALY (GAMMA)
1350	30737.1
1375	30729.6
1400	30718.0
1425	30702.7
1450	30690.4
1475	30683.8
1500	30690.2
1525	30708.7
1550	30726.1
1575	30741.1
1600	30754.0
1625	30765.2
1650	30771.3
1675	30779.2
1700	30788.7
1725	30795.1
1750	30791.5
1775	30780.5
1800	30768.5
1825	30757.9
1850	30747.7
1875	30740.8
1900	30736.2
1925	30757.6
1950	30730.4
1975	30721.1
2000	30708.5
2025	30709.0
2050	30719.0
2075	30738.0
2100	30766.5
2125	30792.0
2150	30811.5
2175	30816.6
2200	30799.6
2225	30769.6
2250	30741.7
2275	30727.2
2300	30722.7
2325	30724.7
2350	30727.3
2375	30727.3
2400	30723.1
2425	30716.0
2450	30705.1
2475	30696.6
2500	30701.2
2525	30699.8
2550	30693.8
2575	30691.0
2600	30690.6
2625	30693.1
2650	30694.1
2675	30699.7
2700	30702.9



TRAVERSE: E  
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STATION	MAGNETIC ANOMALY (GAMMA)
2725	30703.4
2750	30703.5
2775	30705.9
2800	30712.7
2825	30717.8
2850	30717.5
2875	30711.8
2900	30706.8
2925	30703.0
2950	30700.9
2975	30698.9
3000	30697.4
3025	30695.7
3050	30696.9
3075	30699.4
3100	30698.0
3125	30697.6
3150	30698.1
3175	30699.3
3200	30697.3
3225	30698.2
3250	30698.9
3275	30697.0
3300	30698.2
3325	30695.3
3350	30696.3
3375	30696.1
3400	30693.4
3425	30692.1
3450	30691.3
3475	30687.3
3500	30685.9
3525	30683.5
3550	30681.5
3575	30678.7
3600	30677.6
3625	30677.7
3650	30675.8
3675	30675.9
3700	30673.4
3725	30670.5
3750	30667.1
3775	30663.1
3800	30657.2
3825	30651.8
3850	30648.9
3875	30647.9
3900	30654.5
3925	30663.1
3950	30675.1
3975	30683.5
4000	30692.9
4025	30700.8
4050	30710.8
4075	30714.8

TRAVERSE: E

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STATION	MAGNETIC ANOMALY (GAMMA)
4100	30720.4
4125	30726.5
4150	30733.0
4175	30738.0
4200	30742.5
4225	30747.6
4250	30748.2
4275	30752.7
4300	30755.2
4325	30753.8
4350	30751.8
4375	30749.4
4400	30744.9
4425	30741.4
4450	30737.5
4475	30736.1
4500	30733.6
4525	30730.2
4550	30733.7
4575	30735.7
4600	30742.8
4625	30746.9
4650	30746.4
4675	30739.5
4700	30728.0
4725	30713.0
4750	30694.5
4775	30675.1
4800	30654.7
4825	30634.2
4850	30616.8
4875	30606.0
4900	30592.0
4925	30573.6
4950	30548.6
4975	30518.7
5000	30491.3
5025	30472.2
5050	30461.0
5075	30469.1
5100	30495.6
5125	30527.3
5150	30553.4
5175	30583.4
5200	30610.5
5225	30635.0
5250	30661.2
5275	30683.8
5300	30707.5
5325	30734.5
5350	30770.7
5375	30807.2
5400	30835.8
5425	30859.5
5450	30869.5

TRAVERSE: E

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STATION	MAGNETIC ANOMALY (GAMMA)
5475	30873.2
5500	30877.8
5525	30880.3
5550	30882.3
5575	30881.0
5600	30890.2
5625	30908.4
5650	30922.4
5675	30926.0
5700	30929.4
5725	30941.1
5750	30945.3
5775	30933.3
5800	30912.0
5825	30898.5
5850	30904.7
5875	30911.7
5900	30909.9
5925	30904.0
5950	30902.9
5975	30903.2
6000	30903.9
6025	30900.9
6050	30900.6
6075	30905.8
6100	30925.8
6125	30943.5
6150	30957.6
6175	30958.1
6200	30954.3
6225	30953.0
6250	30955.1
6275	30947.1
6300	30917.8
6325	30879.3
6350	30839.9
6375	30814.1
6400	30792.2
6425	30771.4
6450	30747.7
6475	30728.5
6500	30710.0
6525	30696.1
6550	30698.7
6575	30735.2
6600	30782.8
6625	30792.4
6650	30745.9
6675	30701.0
6700	30729.5
6725	30845.5
6750	30972.0
6775	31006.6
6800	30973.6

TRAVERSE: F  
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STATION.	MAGNETIC ANOMALY (GAMMA)
0	30657.2
25	30650.5
50	30643.4
75	30637.5
100	30633.5
125	30634.0
150	30638.5
175	30643.5
200	30647.0
225	30650.5
250	30654.5
275	30658.0
300	30658.3
325	30654.0
350	30645.5
375	30633.5
400	30625.5
425	30622.0
450	30630.0
475	30632.0
500	30632.0
525	30626.5
550	30620.5
575	30621.0
600	30628.6
625	30635.6
650	30640.1
675	30641.6
700	30636.2
725	30624.7
750	30621.7
775	30632.7
800	30647.8
825	30657.8
850	30657.9
875	30652.9
900	30639.9
925	30628.1
950	30627.7
975	30630.8
1000	30637.8
1025	30656.3
1050	30676.9
1075	30683.9
1100	30681.0
1125	30665.5
1150	30640.6
1175	30617.7
1200	30614.2
1225	30627.3
1250	30642.9
1275	30658.4
1300	30676.5
1325	30702.0

TRAVERSE: F

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STATION	MAGNETIC ANOMALY (GAMMA)
1350	30722.1
1375	30727.7
1400	30732.2
1425	30745.3
1450	30759.3
1475	30772.4
1500	30782.4
1525	30779.0
1550	30770.6
1575	30764.6
1600	30765.7
1625	30762.6
1650	30765.4
1675	30769.9
1700	30768.5
1725	30766.1
1750	30776.9
1775	30799.7
1800	30813.8
1825	30815.8
1850	30816.3
1875	30815.9
1900	30820.7
1925	30823.7
1950	30830.8
1975	30837.8
2000	30842.3
2025	30842.3
2050	30831.9
2075	30822.5
2100	30818.0
2125	30820.6
2150	30822.6
2175	30823.1
2200	30812.7
2225	30801.0
2250	30793.2
2275	30792.7
2300	30792.3
2325	30792.3
2350	30792.8
2375	30800.9
2400	30815.4
2425	30833.9
2450	30847.5
2475	30855.5
2500	30848.5
2525	30826.5
2550	30801.5
2575	30778.1
2600	30760.1
2625	30747.1
2650	30735.1
2675	30725.6
2700	30721.8

TRAVERSE: F

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STATION	MAGNETIC ANOMALY (GAMMA)
2725	30717.8
2750	30716.7
2775	30716.7
2800	30717.7
2825	30720.7
2850	30721.6
2875	30721.8
2900	30723.8
2925	30723.8
2950	30725.3
2975	30727.4
3000	30730.0
3025	30732.4
3050	30732.9
3075	30729.4
3100	30727.5
3125	30727.5
3150	30726.8
3175	30726.0
3200	30725.5
3225	30722.6
3250	30721.7
3275	30719.7
3300	30719.7
3325	30718.7
3350	30718.8
3375	30718.9
3400	30718.9
3425	30719.6
3450	30719.6
3475	30719.7
3500	30718.7
3525	30715.8
3550	30715.4
3575	30713.7
3600	30713.2
3625	30711.2
3650	30709.8
3675	30706.8
3700	30703.9
3725	30703.8
3750	30701.6
3775	30698.3
3800	30695.3
3825	30693.5
3850	30691.5
3875	30688.2
3900	30685.4
3925	30680.4
3950	30676.1
3975	30670.5
4000	30663.8
4025	30660.0
4050	30654.8
4075	30650.3

TRAVERSE: F

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STATION	MAGNETIC ANOMALY (GAMMA)
4100	30646.0
4125	30640.0
4150	30634.2
4175	30634.6
4200	30647.6
4225	30667.2
4250	30685.4
4275	30698.9
4300	30711.2
4325	30719.2
4350	30725.4
4375	30731.2
4400	30739.7
4425	30748.0
4450	30752.0
4475	30759.7
4500	30765.0
4525	30769.5
4550	30776.3
4575	30783.8
4600	30792.0
4625	30795.8
4650	30791.5
4675	30780.1
4700	30763.3
4725	30748.8
4750	30737.6
4775	30730.6
4800	30724.4
4825	30718.4
4850	30713.1
4875	30708.3
4900	30706.3
4925	30709.1
4950	30718.3
4975	30725.8
5000	30728.5
5025	30728.7
5050	30727.2
5075	30724.9
5100	30719.4
5125	30712.1
5150	30706.3
5175	30696.8
5200	30684.1
5225	30669.6
5250	30651.6
5275	30630.3
5300	30608.4
5325	30585.9
5350	30566.0
5375	30547.7
5400	30525.6
5425	30500.2
5450	30470.8

TRAVERSE: F

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STATION	MAGNETIC ANOMALY (GAMMA)
5475	30447.3
5500	30433.3
5525	30432.4
5550	30440.0
5575	30458.9
5600	30488.8
5625	30527.4
5650	30569.0
5675	30608.5
5700	30643.5
5725	30670.4
5750	30690.4
5775	30706.4
5800	30719.9
5825	30733.9
5850	30749.9
5875	30768.9
5900	30782.3
5925	30798.8
5950	30816.3
5975	30834.3
6000	30860.7
6025	30891.2
6050	30933.2
6075	30988.6
6100	31050.6
6125	31110.1
6150	31158.1
6175	31177.6
6200	31182.0
6225	31182.5
6250	31179.7
6275	31170.5
6300	31154.5
6325	31135.5
6350	31115.5
6375	31102.0
6400	31086.5
6425	31072.0
6450	31061.5
6475	31052.4
6500	31047.0
6525	31044.5
6550	31055.0
6575	31072.0
6600	31094.0
6625	31109.5
6650	31109.5
6675	31093.5
6700	31063.5
6725	31014.5
6750	30945.5
6775	30875.5
6800	30810.0
6825	30768.5



TRAVERSE: F  
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STATION	MAGNETIC ANOMALY (GAMMA)
6850	30738.5
6875	30715.0
6900	30704.4
6925	30702.7
6950	30702.4
6975	30696.4
7000	30697.6

TRAVERSE: G

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STATION	MAGNETIC ANOMALY (GAMMA)
0	30640.8
25	30623.3
50	30610.1
75	30608.1
100	30596.2
125	30593.7
150	30589.8
175	30591.2
200	30603.7
225	30634.5
250	30666.5
275	30679.3
300	30678.6
325	30660.1
350	30646.4
375	30629.4
400	30625.1
425	30625.9
450	30621.9
475	30622.8
500	30617.8
525	30618.2
550	30619.4
575	30618.4
600	30624.1
625	30625.1
650	30630.9
675	30645.3
700	30694.5
725	30720.7
750	30727.8
775	30714.1
800	30698.1
825	30683.1
850	30671.8
875	30664.6
900	30662.6
925	30658.8
950	30659.3
975	30656.8
1000	30656.1
1025	30655.6
1050	30654.3
1075	30654.3
1100	30653.3
1125	30652.7
1150	30649.6
1175	30650.1
1200	30647.8
1225	30646.8
1250	30644.1
1275	30640.6
1300	30634.6
1325	30625.1

TRAVERSE: G

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STATION	MAGNETIC ANOMALY (GAMMA)
1350	30612.1
1375	30594.7
1400	30577.8
1425	30564.8
1450	30563.8
1475	30571.8
1500	30580.3
1525	30584.1
1550	30577.8
1575	30568.3
1600	30570.2
1625	30588.1
1650	30613.6
1675	30640.8
1700	30664.0
1725	30682.0
1750	30694.6
1775	30705.6
1800	30711.1
1825	30713.6
1850	30717.6
1875	30727.2
1900	30739.2
1925	30752.2
1950	30765.2
1975	30776.3
2000	30780.3
2025	30769.0
2050	30735.5
2075	30688.1
2100	30650.4
2125	30636.2
2150	30649.1
2175	30681.6
2200	30706.9
2225	30725.8
2250	30742.2
2275	30756.7
2300	30765.6
2325	30769.0
2350	30764.5
2375	30760.5
2400	30758.5
2425	30756.0
2450	30750.5
2475	30760.6
2500	30776.5
2525	30818.1
2550	30861.6
2575	30903.9
2600	30938.6
2625	30941.6
2650	30907.4
2675	30860.8
2700	30818.2

TRAVERSE: G

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STATION	MAGNETIC ANOMALY (GAMMA)
2725	30784.6
2750	30772.1
2775	30769.4
2800	30771.2
2825	30775.7
2850	30781.4
2875	30786.1
2900	30790.3
2925	30787.4
2950	30773.0
2975	30750.0
3000	30727.6
3025	30708.1
3050	30691.1
3075	30680.1
3100	30672.1
3125	30668.0
3150	30669.0
3175	30674.4
3200	30688.8
3225	30705.8
3250	30723.6
3275	30734.4
3300	30735.9
3325	30733.7
3350	30731.5
3375	30735.5
3400	30749.8
3425	30754.1
3450	30746.9
3475	30742.8
3500	30752.3
3525	30767.7
3550	30769.7
3575	30764.1
3600	30760.0
3625	30756.5
3650	30751.5
3675	30746.5
3700	30743.0
3725	30743.1
3750	30748.1
3775	30750.8
3800	30747.3
3825	30740.5
3850	30734.4
3875	30731.2
3900	30726.0
3925	30716.5
3950	30710.3
3975	30707.8
4000	30707.1
4025	30700.4
4050	30687.0
4075	30669.3

TRAVERSE: G

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STATION	MAGNETIC ANOMALY (GAMMA)
4100	30655.2
4125	30651.7
4150	30667.1
4175	30692.1
4200	30714.6
4225	30733.5
4250	30745.5
4275	30753.4
4300	30755.9
4325	30751.4
4350	30742.8
4375	30732.8
4400	30724.7
4425	30717.2
4450	30714.6
4475	30714.0
4500	30714.0
4525	30717.9
4550	30721.7
4575	30725.2
4600	30728.1
4625	30727.1
4650	30727.4
4675	30729.1
4700	30728.6
4725	30731.5
4750	30735.5
4775	30741.0
4800	30743.7
4825	30744.7
4850	30745.8
4875	30746.3
4900	30741.3
4925	30734.8
4950	30729.3
4975	30725.8
5000	30721.3
5025	30718.3
5050	30715.3
5075	30714.2
5100	30712.6
5125	30710.6
5150	30710.0
5175	30708.4
5200	30706.9
5225	30705.7
5250	30705.1
5275	30704.6
5300	30703.4
5325	30702.2
5350	30701.8
5375	30696.1
5400	30691.9
5425	30684.9
5450	30674.7

TRAVERSE: G  
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STATION	MAGNETIC ANOMALY (GAMMA)
5475	30663.0
5500	30649.5
5525	30636.3
5550	30621.1
5575	30603.1
5600	30588.0
5625	30577.3
5650	30579.3
5675	30602.9
5700	30647.6
5725	30695.6
5750	30734.0
5775	30761.0
5800	30780.5
5825	30789.0
5850	30794.0
5875	30801.5
5900	30809.5
5925	30815.5
5950	30819.6
5975	30831.6
6000	30849.7
6025	30860.2
6050	30860.8
6075	30859.9
6100	30861.9
6125	30872.1
6150	30886.6
6175	30906.7
6200	30927.9
6225	30946.9
6250	30973.6
6275	31005.1
6300	31040.5
6325	31066.7
6350	31077.7
6375	31077.9
6400	31082.6
6425	31089.1
6450	31090.8
6475	31082.0
6500	31059.5
6525	31024.7
6550	30976.4
6575	30920.4
6600	30869.6
6625	30835.6
6650	30821.8
6675	30822.5
6700	30830.0
6725	30838.7
6750	30846.1
6775	30858.5
6800	30880.2
6825	30913.8

TRAVERSE: G  
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STATION	MAGNETIC ANOMALY (GAMMA)
6850	30939.7
6875	30944.0
6900	30923.0
6925	30883.5
6950	30841.1
6975	30810.1
7000	30809.6

TRAVERSE: H

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STATION	MAGNETIC ANOMALY (GAMMA)
0	30630.8
25	30631.8
50	30629.9
75	30628.6
100	30626.1
125	30623.7
150	30622.2
175	30619.3
200	30615.2
225	30613.8
250	30613.3
275	30609.8
300	30610.9
325	30609.9
350	30612.1
375	30613.3
400	30617.7
425	30622.4
450	30629.4
475	30640.5
500	30657.7
525	30688.7
550	30728.8
575	30761.8
600	30774.9
625	30771.9
650	30757.1
675	30741.0
700	30727.7
725	30716.3
750	30708.4
775	30705.9
800	30709.0
825	30716.0
850	30713.6
875	30704.7
900	30698.2
925	30692.3
950	30687.4
975	30684.9
1000	30682.8
1025	30681.0
1050	30680.0
1075	30680.1
1100	30678.1
1125	30676.1
1150	30671.7
1175	30668.2
1200	30662.2
1225	30650.2
1250	30638.5
1275	30632.8
1300	30649.3
1325	30677.4



TRAVERSE: H

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STATION	MAGNETIC ANOMALY (GAMMA)
1350	30698.2
1375	30706.9
1400	30710.4
1425	30706.9
1450	30705.0
1475	30703.5
1500	30706.6
1525	30705.0
1550	30698.0
1575	30681.5
1600	30664.5
1625	30653.5
1650	30638.0
1675	30620.5
1700	30600.0
1725	30579.4
1750	30568.5
1775	30576.5
1800	30601.5
1825	30626.5
1850	30645.0
1875	30654.0
1900	30660.9
1925	30659.6
1950	30653.9
1975	30647.4
2000	30643.2
2025	30631.3
2050	30611.8
2075	30595.8
2100	30604.8
2125	30629.7
2150	30658.7
2175	30689.7
2200	30713.7
2225	30729.1
2250	30745.0
2275	30762.5
2300	30774.0
2325	30779.5
2350	30772.4
2375	30764.3
2400	30759.8
2425	30757.8
2450	30765.8
2475	30781.7
2500	30801.2
2525	30817.1
2550	30828.0
2575	30837.5
2600	30853.4
2625	30871.4
2650	30889.5
2675	30905.2
2700	30915.7

TRAVERSE: H

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STATION	MAGNETIC ANOMALY (GAMMA)
2725	30914.1
2750	30880.0
2775	30837.2
2800	30809.9
2825	30797.9
2850	30789.2
2875	30775.2
2900	30762.6
2925	30752.6
2950	30750.5
2975	30745.5
3000	30756.3
3025	30751.6
3050	30743.9
3075	30738.4
3100	30740.4
3125	30745.6
3150	30746.4
3175	30745.9
3200	30740.4
3225	30733.4
3250	30726.4
3275	30718.0
3300	30710.0
3325	30710.5
3350	30707.5
3375	30708.6
3400	30710.6
3425	30713.7
3450	30713.8
3475	30708.8
3500	30707.5
3525	30707.5
3550	30704.1
3575	30697.8
3600	30693.3
3625	30693.1
3650	30698.1
3675	30707.3
3700	30714.8
3725	30720.1
3750	30719.9
3775	30719.9
3800	30715.6
3825	30712.2
3850	30708.4
3875	30705.3
3900	30702.0
3925	30700.2
3950	30698.0
3975	30699.5
4000	30699.4
4025	30702.7
4050	30714.7
4075	30721.1

TRAVERSE: H

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STATION	MAGNETIC ANOMALY (GAMMA)
4100	30719.9
4125	30711.2
4150	30706.4
4175	30699.4
4200	30690.5
4225	30672.2
4250	30650.9
4275	30631.1
4300	30620.6
4325	30624.3
4350	30642.8
4375	30672.9
4400	30707.0
4425	30730.5
4450	30739.4
4475	30744.0
4500	30744.5
4525	30745.5
4550	30747.0
4575	30745.4
4600	30747.1
4625	30750.8
4650	30754.6
4675	30762.5
4700	30770.0
4725	30776.4
4750	30781.0
4775	30786.2
4800	30788.2
4825	30783.4
4850	30776.3
4875	30774.0
4900	30773.8
4925	30775.3
4950	30769.4
4975	30766.6
5000	30762.9
5025	30756.4
5050	30750.9
5075	30746.3
5100	30743.3
5125	30742.5
5150	30743.0
5175	30743.3
5200	30740.9
5225	30740.7
5250	30740.2
5275	30739.8
5300	30739.8
5325	30740.6
5350	30736.7
5375	30736.2
5400	30735.7
5425	30733.6
5450	30732.6

TRAVERSE: H

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STATION	MAGNETIC ANOMALY (GAMMA)
5475	30729.9
5500	30727.4
5525	30720.7
5550	30713.8
5575	30706.2
5600	30693.2
5625	30673.8
5650	30646.8
5675	30612.7
5700	30583.3
5725	30569.3
5750	30569.2
5775	30579.8
5800	30592.8
5825	30611.4
5850	30632.1
5875	30651.1
5900	30664.8
5925	30670.6
5950	30673.1
5975	30682.9
6000	30699.8
6025	30721.3
6050	30734.7
6075	30740.6
6100	30747.6
6125	30759.1
6150	30771.6
6175	30785.6
6200	30798.1
6225	30813.6
6250	30828.1
6275	30848.6
6300	30863.6
6325	30870.1
6350	30869.1
6375	30871.1
6400	30882.6
6425	30894.6
6450	30919.1
6475	30953.5
6500	31000.5
6525	31058.5
6550	31126.4
6575	31188.4
6600	31220.3
6625	31213.3
6650	31169.1
6675	31097.1
6700	31025.0
6725	30969.5
6750	30925.3
6775	30892.2
6800	30859.2
6825	30827.5

TRAVERSE: J

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STATION	MAGNETIC ANOMALY (GAMMA)
0	30612.1
25	30609.5
50	30605.0
75	30603.3
100	30601.4
125	30601.9
150	30595.3
175	30603.1
200	30605.3
225	30611.2
250	30627.2
275	30654.2
300	30691.6
325	30702.1
350	30690.0
375	30675.7
400	30664.3
425	30657.2
450	30652.2
475	30648.2
500	30644.3
525	30642.8
550	30639.4
575	30638.9
600	30638.9
625	30637.0
650	30637.6
675	30638.1
700	30636.7
725	30636.8
750	30636.3
775	30638.4
800	30637.8
825	30639.6
850	30640.6
875	30650.2
900	30661.8
925	30674.3
950	30690.3
975	30707.5
1000	30715.5
1025	30716.6
1050	30716.3
1075	30715.8
1100	30722.0
1125	30738.7
1150	30759.7
1175	30767.0
1200	30759.0
1225	30749.2
1250	30749.6
1275	30759.2
1300	30772.7
1325	30778.4

TRAVERSE: J  
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STATION	MAGNETIC ANOMALY (GAMMA)
1350	30776.4
1375	30770.2
1400	30760.3
1425	30752.0
1450	30739.8
1475	30727.8
1500	30716.1
1525	30705.9
1550	30699.8
1575	30691.8
1600	30687.1
1625	30679.6
1650	30668.6
1675	30656.8
1700	30647.2
1725	30640.2
1750	30634.1
1775	30624.0
1800	30610.5
1825	30593.8
1850	30574.3
1875	30553.2
1900	30534.3
1925	30524.4
1950	30525.8
1975	30540.3
2000	30562.1
2025	30585.1
2050	30615.9
2075	30643.4
2100	30663.2
2125	30675.1
2150	30687.1
2175	30695.3
2200	30685.7
2225	30662.7
2250	30638.1
2275	30622.4
2300	30618.9
2325	30626.1
2350	30640.1
2375	30659.9
2400	30675.9
2425	30685.1
2450	30685.9
2475	30684.9
2500	30682.1
2525	30681.6
2550	30685.3
2575	30698.8
2600	30716.4
2625	30726.6
2650	30731.6
2675	30742.4
2700	30751.7

TRAVERSE: J

-----

STATION	MAGNETIC ANOMALY (GAMMA)
2725	30757.3
2750	30756.4
2775	30754.4
2800	30754.9
2825	30761.9
2850	30781.0
2875	30808.5
2900	30831.6
2925	30845.6
2950	30846.1
2975	30834.1
3000	30814.0
3025	30792.5
3050	30770.5
3075	30747.0
3100	30729.4
3125	30712.8
3150	30696.2
3175	30685.6
3200	30682.6
3225	30688.0
3250	30697.5
3275	30708.4
3300	30715.8
3325	30719.7
3350	30717.2
3375	30706.6
3400	30691.5
3425	30677.0
3450	30666.9
3475	30663.9
3500	30663.8
3525	30666.2
3550	30668.6
3575	30672.6
3600	30680.0
3625	30691.0
3650	30700.0
3675	30705.0
3700	30705.5
3725	30703.6
3750	30701.2
3775	30702.2
3800	30707.1
3825	30713.8
3850	30718.8
3875	30720.5
3900	30720.3
3925	30722.9
3950	30725.7
3975	30728.7
4000	30731.7
4025	30731.7
4050	30732.3
4075	30730.8

TRAVERSE: J

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STATION	MAGNETIC ANOMALY (GAMMA)
4100	30729.8
4125	30729.4
4150	30726.4
4175	30723.0
4200	30717.0
4225	30712.6
4250	30714.2
4275	30712.7
4300	30715.8
4325	30718.8
4350	30718.3
4375	30711.9
4400	30703.4
4425	30696.3
4450	30690.8
4475	30685.8
4500	30680.2
4525	30669.2
4550	30655.6
4575	30638.1
4600	30616.9
4625	30590.7
4650	30567.2
4675	30565.9
4700	30591.9
4725	30633.1
4750	30668.0
4775	30695.7
4800	30712.3
4825	30724.3
4850	30733.4
4875	30739.9
4900	30747.5
4925	30755.6
4950	30764.6
4975	30772.6
5000	30777.2
5025	30778.7
5050	30780.2
5075	30780.3
5100	30775.3
5125	30767.8
5150	30763.4
5175	30765.9
5200	30772.0
5225	30778.5
5250	30780.5
5275	30776.1
5300	30763.2
5325	30752.3
5350	30743.4
5375	30739.9
5400	30739.9
5425	30737.5
5450	30738.7



TRAVERSE: J

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STATION	MAGNETIC ANOMALY (GAMMA)
5475	30737.7
5500	30736.4
5525	30734.6
5550	30734.1
5575	30730.8
5600	30727.8
5625	30722.0
5650	30712.3
5675	30696.8
5700	30676.1
5725	30646.8
5750	30609.5
5775	30566.6
5800	30524.4
5825	30503.2
5850	30514.7
5875	30551.7
5900	30598.4
5925	30648.4
5950	30691.7
5975	30723.2
6000	30745.6
6025	30762.1
6050	30773.4
6075	30772.4
6100	30771.8
6125	30774.1
6150	30783.1
6175	30790.0
6200	30794.5
6225	30806.4
6250	30818.4
6275	30827.7
6300	30836.1
6325	30838.6
6350	30834.9
6375	30824.9
6400	30818.3
6425	30816.1
6450	30821.6
6475	30827.0
6500	30834.0
6525	30853.8
6550	30884.3
6575	30917.1
6600	30945.9
6625	30978.4
6650	31021.8
6675	31076.0
6700	31134.3
6725	31189.0
6750	31234.0
6775	31253.3
6800	31238.0
6825	31193.5

TRAVERSE: J  
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STATION	MAGNETIC ANOMALY (GAMMA)
6850	31136.2
6875	31075.7
6900	31023.9
6925	30985.5
6950	30960.5
6975	30948.7
7000	30941.7

TRAVERSE: K

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STATION	MAGNETIC ANOMALY (GAMMA)
0	30577.1
25	30596.7
50	30605.7
75	30602.7
100	30593.7
125	30588.2
150	30604.7
175	30627.7
200	30657.8
225	30685.3
250	30687.3
275	30668.9
300	30645.9
325	30627.4
350	30614.9
375	30604.5
400	30600.0
425	30599.6
450	30597.1
475	30591.6
500	30586.7
525	30584.7
550	30581.3
575	30578.4
600	30571.4
625	30561.5
650	30551.5
675	30548.1
700	30554.8
725	30562.3
750	30576.9
775	30604.4
800	30629.0
825	30637.7
850	30647.2
875	30658.8
900	30668.5
925	30677.0
950	30680.6
975	30688.8
1000	30703.4
1025	30717.1
1050	30731.9
1075	30740.2
1100	30741.2
1125	30735.3
1150	30728.5
1175	30719.0
1200	30713.1
1225	30713.2
1250	30720.7
1275	30730.9
1300	30739.9
1325	30740.0

TRAVERSE: K

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STATION	MAGNETIC ANOMALY (GAMMA)
1350	30729.1
1375	30712.6
1400	30695.3
1425	30689.8
1450	30696.8
1475	30709.3
1500	30715.3
1525	30715.9
1550	30711.4
1575	30698.9
1600	30680.0
1625	30666.0
1650	30654.0
1675	30642.0
1700	30633.0
1725	30627.5
1750	30629.9
1775	30630.9
1800	30624.8
1825	30609.3
1850	30592.3
1875	30601.2
1900	30644.0
1925	30691.0
1950	30717.4
1975	30735.9
2000	30751.3
2025	30750.2
2050	30743.7
2075	30748.6
2100	30758.9
2125	30754.4
2150	30736.1
2175	30718.8
2200	30712.7
2225	30719.1
2250	30733.5
2275	30749.5
2300	30756.9
2325	30751.8
2350	30734.8
2375	30711.7
2400	30692.1
2425	30679.6
2450	30671.6
2475	30670.6
2500	30672.0
2525	30677.5
2550	30685.0
2575	30696.5
2600	30714.5
2625	30737.5
2650	30758.5
2675	30765.5
2700	30759.5

TRAVERSE: K  
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STATION	MAGNETIC ANOMALY (GAMMA)
2725	30754.6
2750	30753.2
2775	30754.2
2800	30753.8
2825	30756.3
2850	30760.0
2875	30763.0
2900	30759.1
2925	30750.6
2950	30736.3
2975	30723.4
3000	30714.9
3025	30711.1
3050	30711.6
3075	30714.8
3100	30719.9
3125	30726.4
3150	30731.1
3175	30742.8
3200	30751.3
3225	30756.5
3250	30756.2
3275	30744.2
3300	30731.9
3325	30716.4
3350	30708.1
3375	30704.3
3400	30705.8
3425	30706.4
3450	30707.4
3475	30706.1
3500	30705.6
3525	30703.3
3550	30700.4
3575	30698.4
3600	30696.6
3625	30693.2
3650	30692.7
3675	30690.4
3700	30688.9
3725	30688.5
3750	30687.6
3775	30687.1
3800	30687.3
3825	30686.8
3850	30687.9
3875	30689.4
3900	30690.9
3925	30690.0
3950	30690.5
3975	30689.0
4000	30688.5
4025	30687.5
4050	30687.5
4075	30687.0

TRAVERSE: K

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STATION	MAGNETIC ANOMALY (GAMMA)
4100	30687.5
4125	30688.0
4150	30688.1
4175	30688.1
4200	30687.1
4225	30685.1
4250	30685.1
4275	30687.1
4300	30687.1
4325	30687.1
4350	30688.1
4375	30685.6
4400	30684.6
4425	30683.1
4450	30681.1
4475	30682.1
4500	30681.6
4525	30681.7
4550	30680.7
4575	30679.2
4600	30677.2
4625	30676.2
4650	30674.8
4675	30673.8
4700	30670.3
4725	30668.9
4750	30666.5
4775	30665.0
4800	30662.1
4825	30658.7
4850	30655.2
4875	30652.3
4900	30647.8
4925	30641.9
4950	30635.4
4975	30624.6
5000	30617.2
5025	30606.2
5050	30597.8
5075	30602.3
5100	30615.5
5125	30639.6
5150	30657.6
5175	30678.2
5200	30687.2
5225	30696.4
5250	30698.0
5275	30699.0
5300	30699.6
5325	30698.2
5350	30697.3
5375	30698.3
5400	30697.3
5425	30696.8
5450	30697.8

TRAVERSE: K  
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STATION	MAGNETIC ANOMALY (GAMMA)
5475	30698.4
5500	30695.9
5525	30690.4
5550	30683.4
5575	30670.9
5600	30660.9
5625	30648.9
5650	30644.9
5675	30650.8
5700	30660.7
5725	30673.7
5750	30681.9
5775	30690.6
5800	30695.4
5825	30699.2
5850	30697.2
5875	30688.0
5900	30677.0
5925	30659.3
5950	30644.8
5975	30622.5
6000	30605.7
6025	30589.2
6050	30582.5
6075	30588.5
6100	30605.1
6125	30639.2
6150	30668.7
6175	30694.2
6200	30700.7
6225	30694.7
6250	30686.8
6275	30675.0
6300	30663.0
6325	30640.0
6350	30628.0
6375	30638.1
6400	30662.1
6425	30690.4
6450	30708.3
6475	30730.3
6500	30743.8
6525	30747.2
6550	30744.2
6575	30736.5
6600	30732.0
6625	30735.1
6650	30738.6
6675	30743.1
6700	30749.4
6725	30760.9
6750	30771.5
6775	30780.7
6800	30791.7
6825	30806.7

TRAVERSE: K

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STATION	MAGNETIC ANOMALY (GAMMA)
6850	30816.5
6875	30826.2
6900	30834.5
6925	30852.0
6950	30872.5
6975	30909.0
7000	30946.0



TRAVERSE: L

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STATION	MAGNETIC ANOMALY (GAMMA)
0	30596.7
25	30589.8
50	30588.3
75	30596.3
100	30599.8
125	30622.8
150	30640.8
175	30652.8
200	30674.3
225	30713.3
250	30736.8
275	30723.2
300	30695.7
325	30666.7
350	30639.6
375	30617.5
400	30591.0
425	30562.8
450	30538.7
475	30529.9
500	30530.8
525	30536.1
550	30544.6
575	30555.5
600	30570.5
625	30589.4
650	30600.8
675	30592.8
700	30581.1
725	30589.0
750	30616.0
775	30646.4
800	30661.9
825	30673.3
850	30692.7
875	30698.7
900	30683.6
925	30665.5
950	30646.4
975	30641.3
1000	30647.3
1025	30657.7
1050	30663.2
1075	30672.6
1100	30684.1
1125	30694.5
1150	30707.0
1175	30718.0
1200	30731.9
1225	30745.4
1250	30751.4
1275	30738.2
1300	30717.2
1325	30702.2

TRAVERSE: L

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STATION	MAGNETIC ANOMALY (GAMMA)
1350	30714.2
1375	30740.1
1400	30747.2
1425	30738.8
1450	30727.3
1475	30720.3
1500	30717.3
1525	30714.8
1550	30710.4
1575	30701.0
1600	30686.0
1625	30661.1
1650	30638.6
1675	30650.7
1700	30690.7
1725	30695.8
1750	30669.9
1775	30642.9
1800	30617.5
1825	30590.5
1850	30563.7
1875	30527.4
1900	30486.0
1925	30480.0
1950	30519.7
1975	30572.2
2000	30617.4
2025	30657.9
2050	30693.7
2075	30730.9
2100	30749.5
2125	30760.5
2150	30778.3
2175	30791.3
2200	30796.1
2225	30794.4
2250	30790.6
2275	30783.6
2300	30766.4
2325	30745.7
2350	30728.2
2375	30723.0
2400	30728.0
2425	30728.7
2450	30727.4
2475	30731.4
2500	30736.1
2525	30740.1
2550	30745.2
2575	30750.2
2600	30747.9
2625	30745.9
2650	30737.4
2675	30724.0
2700	30718.1

TRAVERSE: L

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STATION	MAGNETIC ANOMALY (GAMMA)
2725	30708.1
2750	30699.1
2775	30700.1
2800	30719.6
2825	30746.6
2850	30775.6
2875	30800.0
2900	30812.0
2925	30811.0
2950	30806.0
2975	30797.9
3000	30789.4
3025	30785.4
3050	30782.8
3075	30778.2
3100	30769.7
3125	30755.1
3150	30736.1
3175	30718.1
3200	30705.5
3225	30697.0
3250	30694.0
3275	30693.5
3300	30695.9
3325	30698.9
3350	30704.9
3375	30710.8
3400	30712.3
3425	30707.3
3450	30702.3
3475	30698.8
3500	30696.8
3525	30695.9
3550	30693.4
3575	30693.4
3600	30693.4
3625	30693.5
3650	30693.5
3675	30693.1
3700	30690.6
3725	30687.3
3750	30683.3
3775	30679.4
3800	30677.6
3825	30675.1
3850	30674.8
3875	30673.3
3900	30671.5
3925	30671.9
3950	30672.8
3975	30674.0
4000	30675.5
4025	30677.4
4050	30679.3
4075	30681.0

TRAVERSE: L  
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STATION	MAGNETIC ANOMALY (GAMMA)
4100	30680.5
4125	30681.8
4150	30680.8
4175	30681.6
4200	30682.1
4225	30681.9
4250	30682.4
4275	30681.7
4300	30680.2
4325	30680.5
4350	30679.0
4375	30677.8
4400	30675.8
4425	30674.6
4450	30673.9
4475	30672.9
4500	30671.7
4525	30669.2
4550	30668.5
4575	30667.0
4600	30667.3
4625	30664.8
4650	30664.6
4675	30662.8
4700	30660.8
4725	30662.1
4750	30658.4
4775	30656.6
4800	30654.6
4825	30652.3
4850	30649.5
4875	30647.5
4900	30645.0
4925	30641.7
4950	30640.2
4975	30636.4
5000	30635.1
5025	30633.1
5050	30631.2
5075	30628.2
5100	30627.9
5125	30626.9
5150	30626.5
5175	30627.5
5200	30629.1
5225	30630.6
5250	30632.7
5275	30633.7
5300	30635.8
5325	30637.8
5350	30639.9
5375	30644.0
5400	30648.5
5425	30653.1
5450	30657.1

TRAVERSE: L

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STATION	MAGNETIC ANOMALY (GAMMA)
5475	30657.2
5500	30656.7
5525	30653.3
5550	30652.4
5575	30650.4
5600	30651.9
5625	30656.9
5650	30663.0
5675	30665.5
5700	30660.2
5725	30651.2
5750	30649.3
5775	30657.8
5800	30667.4
5825	30673.9
5850	30673.5
5875	30665.0
5900	30656.6
5925	30643.6
5950	30635.7
5975	30632.2
6000	30636.3
6025	30650.3
6050	30657.9
6075	30658.4
6100	30659.4
6125	30662.7
6150	30662.0
6175	30668.6
6200	30686.1
6225	30717.6
6250	30739.6
6275	30745.6
6300	30735.1
6325	30712.6
6350	30689.8
6375	30662.1
6400	30645.1
6425	30626.6
6450	30622.1
6475	30623.8
6500	30631.6
6525	30647.1
6550	30664.1
6575	30685.6
6600	30701.1
6625	30718.0
6650	30727.5
6675	30742.0
6700	30756.4
6725	30782.9
6750	30802.4
6775	30825.8
6800	30839.8
6825	30852.3

TRAVERSE: L  
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STATION	MAGNETIC ANOMALY (GAMMA)
6850	30858.8
6875	30865.7
6900	30873.4
6925	30883.7
6950	30895.1
6975	30910.0
7000	30932.5

TRAVERSE: 4  
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STATION	MAGNETIC ANOMALY (GAMMA)
0	30623.3
25	30606.8
50	30582.1
75	30567.1
100	30568.4
125	30589.7
150	30629.2
175	30669.0
200	30696.9
225	30703.4
250	30679.7
275	30657.0
300	30643.5
325	30628.3
350	30619.8
375	30623.6
400	30624.4
425	30615.9
450	30612.7
475	30608.2
500	30583.0
525	30549.5
550	30524.3
575	30506.1
600	30503.6
625	30515.3
650	30527.1
675	30528.9
700	30545.9
725	30568.1
750	30569.3
775	30567.3
800	30583.5
825	30617.3
850	30637.8
875	30644.0
900	30645.6
925	30645.1
950	30648.8
975	30648.0
1000	30643.5
1025	30655.1
1050	30683.2
1075	30707.4
1100	30722.4
1125	30733.4
1150	30739.5
1175	30749.6
1200	30754.6
1225	30744.7
1250	30740.8
1275	30740.8
1300	30732.3
1325	30713.4

TRAVERSE: M

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STATION	MAGNETIC ANOMALY (GAMMA)
1350	30677.9
1375	30656.0
1400	30670.5
1425	30699.0
1450	30720.0
1475	30736.1
1500	30745.1
1525	30742.6
1550	30735.7
1575	30735.7
1600	30749.7
1625	30771.2
1650	30801.3
1675	30822.8
1700	30842.3
1725	30848.3
1750	30823.2
1775	30762.9
1800	30695.4
1825	30643.0
1850	30599.0
1875	30557.0
1900	30553.5
1925	30466.5
1950	30419.1
1975	30376.6
2000	30381.6
2025	30460.7
2050	30580.2
2075	30673.7
2100	30742.7
2125	30766.8
2150	30776.7
2175	30801.3
2200	30835.9
2225	30841.4
2250	30836.9
2275	30841.5
2300	30806.5
2325	30767.5
2350	30764.5
2375	30741.6
2400	30713.6
2425	30702.1
2450	30687.2
2475	30676.7
2500	30670.7
2525	30662.2
2550	30650.8
2575	30632.3
2600	30626.3
2625	30656.8
2650	30714.9
2675	30798.2
2700	30889.9



TRAVERSE: M

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STATION	MAGNETIC ANOMALY (GAMMA)
2725	30936.9
2750	30911.4
2775	30852.4
2800	30794.5
2825	30753.5
2850	30731.5
2875	30725.0
2900	30726.0
2925	30728.0
2950	30719.0
2975	30712.5
3000	30710.0
3025	30716.0
3050	30730.0
3075	30748.0
3100	30762.5
3125	30775.5
3150	30786.5
3175	30798.5
3200	30813.5
3225	30831.0
3250	30845.0
3275	30853.0
3300	30858.0
3325	30861.0
3350	30856.0
3375	30835.5
3400	30804.0
3425	30772.5
3450	30750.5
3475	30734.5
3500	30725.0
3525	30717.5
3550	30710.5
3575	30704.0
3600	30699.0
3625	30695.5
3650	30692.6
3675	30689.6
3700	30687.0
3725	30685.5
3750	30681.5
3775	30679.5
3800	30678.0
3825	30674.5
3850	30672.5
3875	30670.6
3900	30668.1
3925	30667.6
3950	30666.8
3975	30666.7
4000	30665.9
4025	30664.2
4050	30660.3
4075	30658.3

TRAVERSE: M

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STATION	MAGNETIC ANOMALY (GAMMA)
4100	30656.8
4125	30654.4
4150	30652.4
4175	30650.5
4200	30648.5
4225	30647.0
4250	30645.1
4275	30646.7
4300	30646.2
4325	30646.8
4350	30646.9
4375	30646.4
4400	30645.5
4425	30643.0
4450	30642.1
4475	30641.7
4500	30641.2
4525	30639.8
4550	30641.0
4575	30638.5
4600	30638.6
4625	30638.2
4650	30637.7
4675	30637.6
4700	30635.5
4725	30636.2
4750	30634.4
4775	30631.9
4800	30629.6
4825	30627.1
4850	30624.7
4875	30622.4
4900	30619.4
4925	30617.6
4950	30616.8
4975	30614.7
5000	30614.0
5025	30612.2
5050	30607.2
5075	30600.4
5100	30605.4
5125	30602.6
5150	30601.1
5175	30599.8
5200	30599.5
5225	30599.0
5250	30596.6
5275	30597.5
5300	30597.5
5325	30599.2
5350	30596.9
5375	30597.4
5400	30594.1
5425	30591.6
5450	30587.3

TRAVERSE: M

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STATION	MAGNETIC ANOMALY (GAMMA)
5475	30581.0
5500	30571.7
5525	30561.7
5550	30553.4
5575	30554.1
5600	30570.6
5625	30600.8
5650	30635.5
5675	30663.0
5700	30678.4
5725	30682.9
5750	30680.0
5775	30672.7
5800	30666.2
5825	30662.4
5850	30659.2
5875	30654.5
5900	30646.2
5925	30637.7
5950	30630.8
5975	30627.5
6000	30629.0
6025	30630.6
6050	30631.9
6075	30628.2
6100	30621.8
6125	30613.9
6150	30609.9
6175	30612.0
6200	30617.0
6225	30622.1
6250	30627.2
6275	30628.7
6300	30653.3
6325	30605.3
6350	30568.9
6375	30529.9
6400	30496.4
6425	30482.5
6450	30499.5
6475	30547.0
6500	30611.0
6525	30670.0
6550	30714.0
6575	30741.5
6600	30754.5

TRAVERSE: N

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STATION	MAGNETIC ANOMALY (GAMMA)
0	30659.7
25	30652.4
50	30627.9
75	30604.1
100	30599.6
125	30600.2
150	30622.2
175	30662.9
200	30700.4
225	30714.6
250	30695.2
275	30658.7
300	30616.5
325	30589.0
350	30578.6
375	30581.1
400	30583.7
425	30582.9
450	30577.9
475	30580.5
500	30587.5
525	30586.1
550	30579.6
575	30571.2
600	30560.3
625	30539.3
650	30516.8
675	30502.3
700	30487.4
725	30474.4
750	30469.5
775	30467.0
800	30470.5
825	30467.6
850	30488.1
875	30562.1
900	30629.1
925	30661.1
950	30693.6
975	30731.1
1000	30739.6
1025	30721.4
1050	30700.1
1075	30686.6
1100	30678.1
1125	30671.6
1150	30674.5
1175	30673.5
1200	30665.0
1225	30671.5
1250	30727.2
1275	30799.3
1300	30828.5
1325	30828.3

TRAVERSE: N

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STATION	MAGNETIC ANOMALY (GAMMA)
1350	30835.8
1375	30813.7
1400	30765.6
1425	30721.6
1450	30705.5
1475	30706.0
1500	30706.9
1525	30704.4
1550	30699.3
1575	30693.3
1600	30693.2
1625	30693.2
1650	30695.0
1675	30706.0
1700	30721.9
1725	30735.8
1750	30743.8
1775	30747.2
1800	30746.2
1825	30743.6
1850	30750.6
1875	30763.5
1900	30782.4
1925	30806.8
1950	30812.3
1975	30762.2
2000	30697.7
2025	30632.2
2050	30547.6
2075	30469.6
2100	30485.1
2125	30567.1
2150	30603.0
2175	30611.5
2200	30619.0
2225	30627.0
2250	30637.0
2275	30645.6
2300	30653.0
2325	30658.5
2350	30669.0
2375	30681.5
2400	30699.6
2425	30718.1
2450	30722.6
2475	30711.2
2500	30702.7
2525	30705.8
2550	30710.8
2575	30715.4
2600	30717.0
2625	30721.0
2650	30727.7
2675	30727.0
2700	30726.3

TRAVERSE: N

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STATION	MAGNETIC ANOMALY (GAMMA)
2725	30725.5
2750	30725.5
2775	30725.1
2800	30724.1
2825	30726.8
2850	30727.8
2875	30728.8
2900	30731.5
2925	30732.2
2950	30732.7
2975	30735.4
3000	30733.9
3025	30732.5
3050	30736.5
3075	30748.2
3100	30763.3
3125	30779.4
3150	30792.1
3175	30789.1
3200	30777.8
3225	30770.0
3250	30769.0
3275	30774.7
3300	30786.7
3325	30800.5
3350	30812.3
3375	30821.0
3400	30830.6
3425	30841.3
3450	30841.8
3475	30828.4
3500	30807.9
3525	30785.6
3550	30763.6
3575	30744.7
3600	30730.3
3625	30723.3
3650	30713.4
3675	30697.4
3700	30682.1
3725	30675.2
3750	30667.7
3775	30663.8
3800	30660.9
3825	30657.9
3850	30655.5
3875	30652.1
3900	30647.1
3925	30638.1
3950	30628.7
3975	30620.2
4000	30613.3
4025	30604.3
4050	30599.3
4075	30600.8

TRAVERSE: N

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STATION	MAGNETIC ANOMALY (GAMMA)
5475	30501.8
5500	30483.7
5525	30458.9
5550	30427.0
5575	30400.6
5600	30406.6
5625	30469.7
5650	30553.8
5675	30615.3
5700	30656.2
5725	30677.3
5750	30676.8
5775	30666.0
5800	30649.6
5825	30635.1
5850	30635.2
5875	30644.3
5900	30649.8
5925	30657.0
5950	30671.1
5975	30682.1
6000	30680.7
6025	30664.9
6050	30644.4
6075	30624.0
6100	30610.0
6125	30602.6
6150	30599.6
6175	30609.7
6200	30644.2
6225	30695.3
6250	30727.4
6275	30744.4
6300	30746.0
6325	30727.5
6350	30681.5
6375	30623.1
6400	30566.7
6425	30530.2
6450	30525.2
6475	30540.2
6500	30564.8
6525	30591.8
6550	30612.8
6575	30631.7
6600	30651.3
6625	30663.8
6650	30672.9
6675	30681.9
6700	30685.9
6725	30684.4
6750	30677.4
6775	30664.4
6800	30650.7
6825	30642.4

TRAVERSE: 4  
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STATION	MAGNETIC ANOMALY (GAMMA).
6850	30643.9
6875	30658.3
6900	30675.3
6925	30692.8
6950	30703.3
6975	30709.8
7000	30724.3



TRAVERSE: SOUTH BASE LINE

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STATION	MAGNETIC ANOMALY (GAMMA)
0	30745.8
25	30749.3
50	30752.7
75	30740.5
100	30725.9
125	30722.9
150	30734.2
175	30754.0
200	30764.8
225	30761.3
250	30760.6
275	30753.5
300	30739.4
325	30718.9
350	30701.9
375	30693.4
400	30694.1
425	30698.8
450	30702.8
475	30701.0
500	30696.0
525	30694.3
550	30697.3
575	30697.1
600	30689.6
625	30675.1
650	30664.8
675	30659.8
700	30659.5
725	30659.1
750	30660.3
775	30659.8
800	30659.0
825	30654.5
850	30649.1
875	30640.2
900	30629.2
925	30619.7
950	30615.0
975	30614.9
1000	30598.1
1025	30590.8
1050	30580.6
1075	30582.6
1100	30578.8
1125	30578.1
1150	30581.9
1175	30587.1
1200	30593.6
1225	30598.0
1250	30605.0
1275	30618.4
1300	30634.3
1325	30646.6

TRAVERSE: SOUTH BASE LINE

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STATION	MAGNETIC ANOMALY (GAMMA)
1350	30661.4
1375	30673.6
1400	30683.1
1425	30690.5
1450	30696.5
1475	30700.6
1500	30702.9
1525	30704.8
1550	30709.8
1575	30716.8
1600	30720.7
1625	30720.7
1650	30716.7
1675	30711.2
1700	30704.6
1725	30702.6
1750	30705.0
1775	30712.7
1800	30720.2
1825	30724.3
1850	30722.4
1875	30720.5
1900	30720.5
1925	30721.7
1950	30719.1
1975	30715.9
2000	30715.7
2025	30717.2
2050	30720.5
2075	30718.3
2100	30714.8
2125	30707.3
2150	30688.5
2175	30663.3
2200	30644.3
2225	30635.1
2250	30633.6
2275	30634.4
2300	30636.6
2325	30644.1
2350	30652.9
2375	30662.1
2400	30664.6
2425	30660.3
2450	30657.0
2475	30655.7
2500	30655.7
2525	30655.8
2550	30651.8
2575	30642.3
2600	30634.9
2625	30633.9
2650	30634.9
2675	30630.8
2700	30626.3

TRAVERSE: SOUTH BASE LINE

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STATION	MAGNETIC ANOMALY (GAMMA)
2725	30623.7
2750	30623.0
2775	30620.0
2800	30618.3
2825	30619.1
2850	30624.1
2875	30632.3
2900	30644.7
2925	30656.9
2950	30673.6
2975	30691.9
3000	30695.4
3025	30691.7
3050	30684.7
3075	30678.0
3100	30675.1
3125	30671.6
3150	30661.6
3175	30647.8
3200	30637.3
3225	30630.1
3250	30626.0
3275	30625.0
3300	30623.9
3325	30624.9
3350	30624.4
3375	30625.8
3400	30626.8
3425	30629.1
3450	30630.3
3475	30631.8
3500	30632.7
3525	30632.0
3550	30633.0
3575	30632.9
3600	30634.4
3625	30635.7
3650	30637.4
3675	30638.5
3700	30640.5
3725	30641.3
3750	30644.3
3775	30645.7
3800	30647.7
3825	30650.3
3850	30653.5
3875	30653.5
3900	30655.5
3925	30656.0
3950	30656.0
3975	30657.6
4000	30657.5
4025	30658.5
4050	30657.5
4075	30654.3

TRAVERSE: SOUTH BASE LINE

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STATION	MAGNETIC ANOMALY (GAMMA)
4100	30658.5
4125	30660.3
4150	30660.6
4175	30662.1
4200	30661.5
4225	30662.0
4250	30662.0
4275	30661.6
4300	30661.6
4325	30661.3
4350	30661.8
4375	30661.0
4400	30660.8
4425	30661.3
4450	30661.1
4475	30662.6
4500	30662.5
4525	30663.5
4550	30664.3
4575	30664.3
4600	30664.6
4625	30665.5
4650	30666.0
4675	30666.3
4700	30663.8
4725	30663.1
4750	30661.6
4775	30648.9
4800	30654.0
4825	30650.0
4850	30646.5
4875	30642.5
4900	30639.0
4925	30636.4
4950	30635.1
4975	30633.6
5000	30633.1
5025	30630.1
5050	30630.1
5075	30629.1
5100	30629.1
5125	30628.6
5150	30628.7
5175	30629.5
5200	30629.7
5225	30629.2
5250	30630.2
5275	30630.7
5300	30630.3
5325	30630.8
5350	30631.3
5375	30631.8
5400	30631.8
5425	30631.9
5450	30631.4

TRAVERSE: SOUTH BASE LINE

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STATION	MAGNETIC ANOMALY (GAMMA)
5475	30632.9
5500	30632.0
5525	30631.0
5550	30631.5
5575	30631.5
5600	30631.6
5625	30631.6
5650	30631.1
5675	30631.7
5700	30631.3
5725	30630.8
5750	30630.9
5775	30631.0
5800	30627.1
5825	30628.6
5850	30627.7
5875	30626.2
5900	30624.8
5925	30622.4
5950	30620.4
5975	30619.7
6000	30620.2
6025	30617.7
6050	30616.8
6075	30614.9
6100	30613.4
6125	30613.4
6150	30612.5
6175	30611.6
6200	30611.0
6225	30611.3
6250	30611.9
6275	30612.0
6300	30612.8
6325	30613.1
6350	30613.7
6375	30614.8
6400	30615.9
6425	30618.4
6450	30619.5
6475	30621.6
6500	30623.2
6525	30624.2
6550	30628.5
6575	30624.4
6600	30628.5
6625	30632.1
6650	30644.1
6675	30656.2
6700	30652.7
6725	30622.3
6750	30594.0
6775	30581.3
6800	30576.9
6825	30579.9

TRAVERSE: SOUTH BASE LINE

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STATION	MAGNETIC ANOMALY (GAMMA)
6850	30584.4
6875	30593.5
6900	30598.5
6925	30598.0
6950	30595.6
6975	30589.1
7000	30583.1
7025	30577.6
7050	30571.0
7075	30572.2
7100	30576.7
7125	30586.2
7150	30593.8
7175	30606.3
7200	30628.8
7225	30651.3
7250	30658.3
7275	30648.9
7300	30627.4
7325	30608.9
7350	30601.4
7375	30598.9
7400	30601.4
7425	30614.0
7450	30627.0
7475	30637.0
7500	30649.6
7525	30659.6
7550	30666.6
7575	30666.6
7600	30655.8
7625	30640.6
7650	30627.7
7675	30617.6
7700	30605.8
7725	30588.3
7750	30582.9
7775	30591.4
7800	30604.4
7825	30610.4
7850	30618.0
7875	30621.0
7900	30628.6
7925	30639.1
7950	30635.6
7975	30614.1
8000	30603.2
8025	30601.7
8050	30602.5
8075	30600.9
8100	30599.4
8125	30600.4
8150	30597.9
8175	30596.0
8200	30594.5



TRAVERSE: SOUTH BASE LINE  
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STATION	MAGNETIC ANOMALY (GAMMA)
8225	30614.5
8250	30619.6
8275	30602.4
8300	30589.7
8325	30591.3
8350	30602.6
8375	30625.3
8400	30642.7
8425	30642.7
8450	30638.2
8475	30633.6
8500	30632.6
8525	30628.1
8550	30626.5
8575	30626.4
8600	30618.8
8625	30605.3
8650	30594.3
8675	30585.1
8700	30585.7
8725	30584.9
8750	30585.4
8775	30585.1
8800	30587.3
8825	30589.3
8850	30599.5
8875	30609.5
8900	30615.1
8925	30621.7
8950	30628.4
8975	30637.1
9000	30634.1
9025	30628.2
9050	30634.2
9075	30634.7
9100	30624.9
9125	30619.9
9150	30624.1
9175	30628.6
9200	30629.7
9225	30639.2
9250	30670.2
9275	30657.3



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