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# MAGNETOTELLURIC SOUNDINGS ACROSS THE BOUNDARY OF THE PRECAMBRIAN WILLYAMA COMPLEX AND THE CAINOZOIC MURRAY BASIN, SOUTHEASTERN AUSTRALIA

by

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## ABSTRACT

As an aid to regional mapping of the Proterozoic Willyama Complex, of which the eastern limits are obscured by sedimentary cover in the Murray/Darling Basins, magnetotelluric data were obtained at 14 sites in a traverse east of Broken Hill.

Apparent resistivities presented as pseudosections reflect the major structural units identified from surface geology. Continuity between sites is indicated by similar apparent resistivities, and lateral changes are generally gradational. Characteristic divergences in orthogonal resistivity components have been generated using 2D models. The foliated Precambrian complex can be represented using a succession of steeply dipping beds generating the required anisotropy at depths from 15-35 km. On this assumption the Precambrian basement appears to extend at least as far east as Menindee, where regional structural control may be effected by the Darling River Lineament.

# INTRODUCTION

The Willyama Complex (Fig. 1) is considered to form the easternmost part of a continuous Precambrian basement which extends eastward from the outcropping Gawler Craton in South Australia to Cobar in New South Wales (Scheibner, 1973). However, Glen & others (1977) have argued that an active continental margin lay farther east. Its precise location may be crucial in formulating models of crustal evolution for the Lachlan Fold Belt.

The eastern boundaries are concealed by sedimentary rocks in the Murray/ Darling Basins. These rocks are deformed into broad open folds, generally with moderate dips, in which the structural trends are north-northwesterly but swing to a more northerly direction in the northwest. A major contrast in electrical conductivity can be anticipated at the base of the sediments, and consequently basement depths may be mapped using magnetotelluric (MT) techniques (Vozoff & others, 1975).

Accordingly, BMR formulated an MT survey of which the primary objectives were to clarify the nature of the Precambrian boundary and to indicate any major structures concealed to the east of Broken Hill. Data were recorded at 14 sites on a single traverse. Continuity was established, and resistivity profiles have been constructed. The data have been used for qualitative extrapolation of surface geology and for quantitative estimates of crustal structure.

# GEOLOGICAL ENVIRONMENT

## Willyama Complex

The Willyama Complex in New South Wales and South Australia comprises deformed high-grade Proterozoic metamorphic rocks, possibly overlying Archaean basement of reworked feldspathic gneisses. The Proterozoic rocks are thrust-faulted and folded into recumbent nappes, and show evidence of at least three overthrust slabs each 1-5 km thick. These large early structures are refolded by upright folds which, though tight, in general do not overturn the sequence. The total thickness of the nappe pile is unknown.

There is some evidence that the basement to the Willyama Complex is represented by quartzofeldspathic gneisses which occur as several slivers in the Willyama Complex, one of which lies between the Broken Hill Block and the edge of the Murray Basin (Fig. 1).

The Willyama Complex on its southeastern margin is adjacent to a poorly outcropping zone of variably magnetic feldspathic gneisses of uncertain affinity which are dissimilar in general to the Willyama sequence. These have been termed the Redan Gneiss. On their southeastern margin these rocks are obscured by recent cover which extends eastward across the Murray Basin.

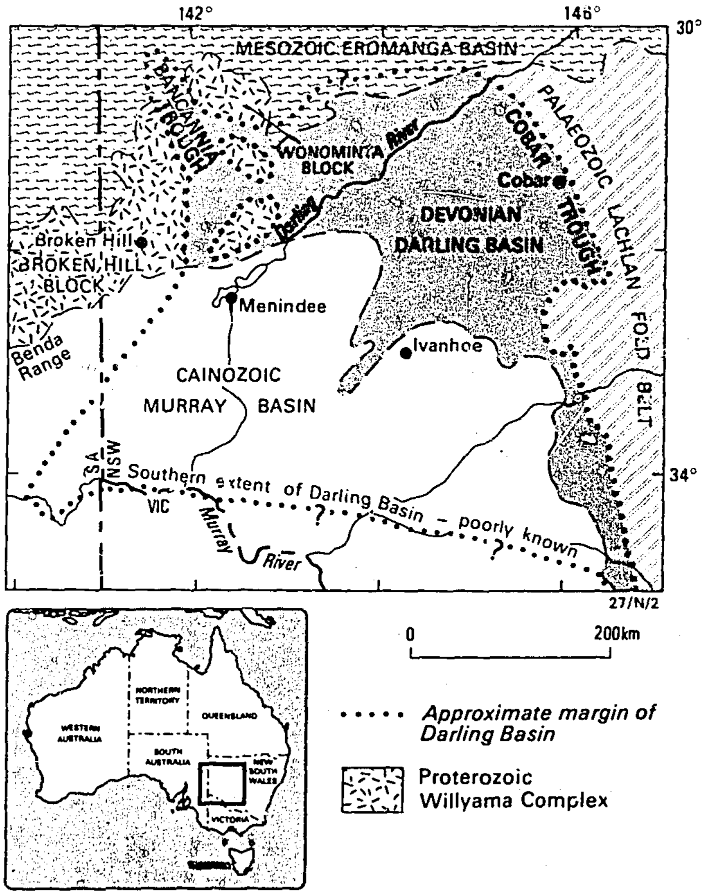



Fig.I Survey location and major structural elements

Magnetic and gravity patterns show marked changes across the above boundaries (McIntyre & Wyatt, 1978). The changes overall are, from northwest to southeast, from intensely disturbed to flat magnetics, and from variable Bouguer patterns (with anomaly widths of 5-15 km) to broad gravity features with widths of 50-100 km (Figs. 2,3). The changes are not coincident: the major magnetic change is across the inferred Redan Fault, and the major Bouguer gravity change is across the prominent gradient herein called the Kudgee Gradient, which is 35-50 km southeast of the Redan Fault. These two regional linear features are parallel to the boundary - herein termed the Huonville Magnetic Boundary - between the Redan Gneiss and the Willyama Complex. This boundary coincides with the change from the Willyama magnetic pattern of intense linear anomalies in low magnetic background characteristic of the Huonville Zone to the Redan magnetic pattern of disturbed magnetics with complex anomalies.

Murray and Darling Basins

The boundary of the Willyama Block and the Murray Basin is an ill-defined zone covered by recent sediments. Aeromagnetic and gravity surveys suggest a step-faulted boundary zone comprising several adjacent linear graben structures filled by Tertiary sediments that possibly overlie Palaeozoic and/or Adelaidean sedimentary rocks and/or metamorphic rocks of the Willyama Complex.

The horizontal Tertiary sedimentary sequence near the Broken Hill region of the Murray Basin is up to 1.3 km thick. It overlies folded Devonian and possibly older Palaeozoic sediments. Total thickness of the sedimentary cover is up to 6 km.

The southern margin of the basin in Victoria appears to have formed not by faulting but by broad downwarping. The northern margin from the Benda Range through Broken Hill to east of Menindee is interpreted as largely a faulted boundary (e.g., Brown & others, 1982).

Bauer & others (1979) postulated that in the western region of the Darling Basin the shoreline margin may have remained relatively fixed for long periods, and that its depositional history may be such that there are good prospects for the existence of porous zones formed by nearshore facies. These may be extensive enough to form potential reservoir rocks. Further assessment of the hydrocarbon potential of the western Darling Basin hinges on the clarification of relations between the grabens, in particular the Blantyre and Menindee Troughs, and their bounding highs (Fig. 3). Reflection seismic traverses proposed to investigate these structures have not yet been conducted; MT profiling can provide an adequate low-cost alternative.

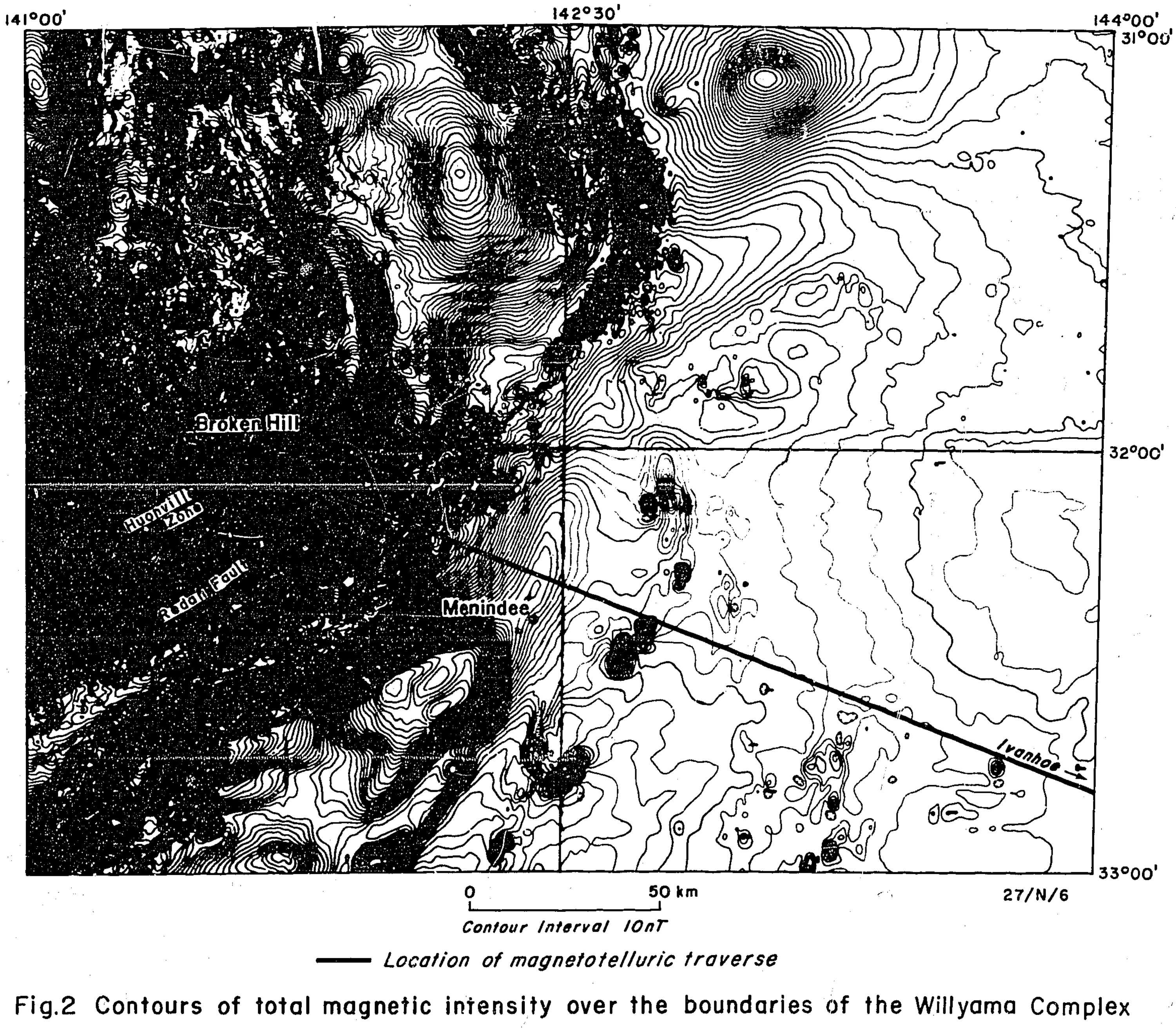



Fig.2 Contours of total magnetic intensity over the boundaries of the Willyama Complex

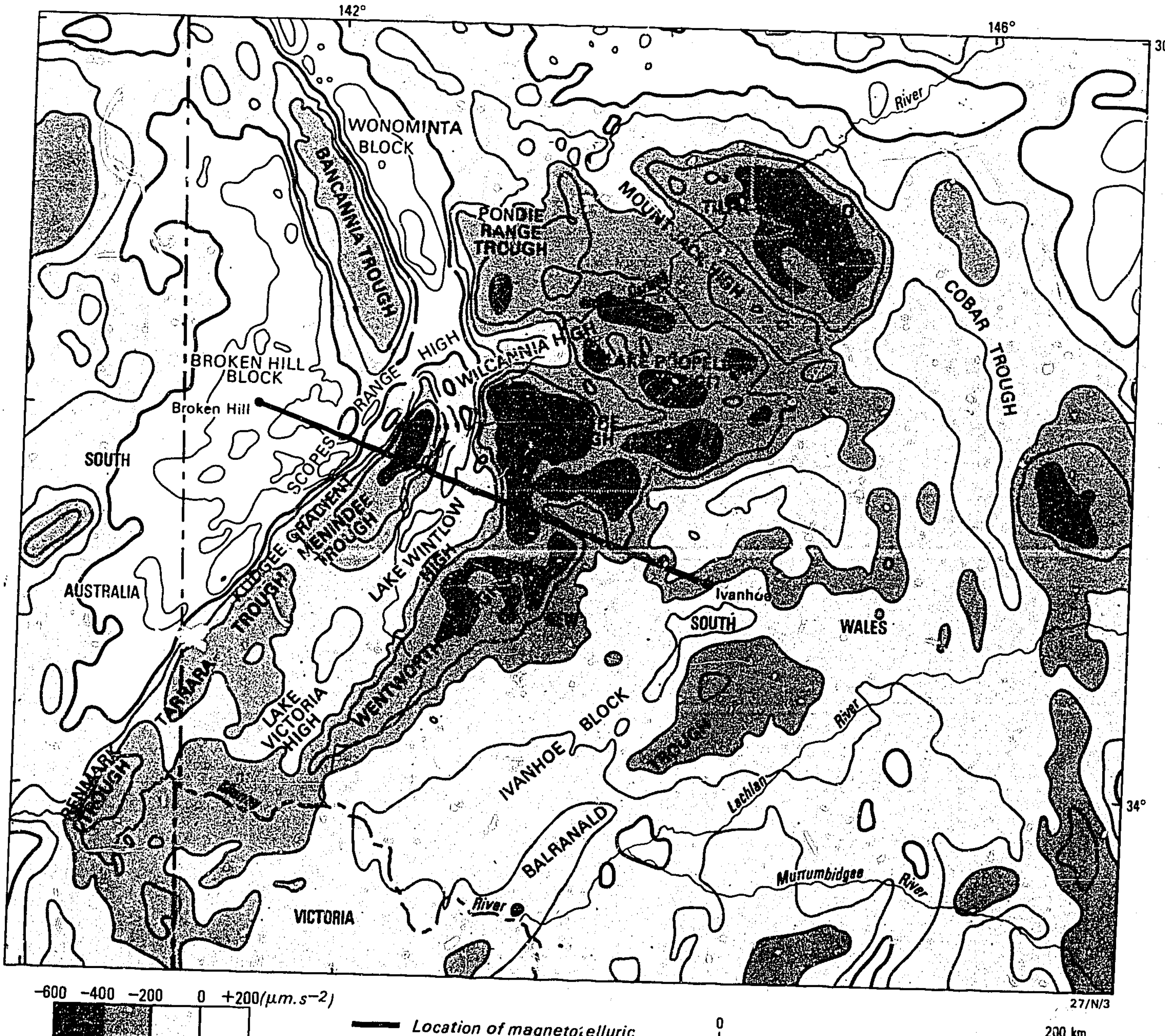



Fig.3 Structural elements indicated by Bouguer gravity anomalies

## Deep crust

Finlayson & others (1979) have noted seismic velocity inversions in the Lachlan Fold Belt at mid-crustal depths between 16 and 35 km, where it is envisaged that Palaeozoic granitic partial melts were formed (Clemens & Wall, 1979). These inversions may represent a depth at which plastic flow is more likely than brittle fracture. It is assumed that Palaeozoic geochemical differentiation associated with the widespread emplacement of granitoids was responsible for a compositional anomaly which is detected as a velocity inversion.

Similarly Wass (1979) suggested that the geochemistry of Cainozoic alkali basalts in southeastern Australia indicates large-scale inhomogeneities in the upper mantle It is not unreasonable to assume that inhomogeneities should persist in the crust and as at the surface as well. Consequently MT soundings may indicate a gradational change in electrical response from west to east.

Deep seismic reflection surveys (Branson & others, 1976) indicate crustal thinning from 36 km at Broken Hill, outside the margin of the Murray Basin to 31 km at Mildura, in the centre of the basin. Because no comparable discontinuities were detected in MT data recorded in early reconnaisance surveys (Vozoff & others 1975), the crustal thinning probably reflects lateral gradation.

## THE MAGNETOTELLURIC METHOD

The magnetotelluric method is a geophysical technique for mapping subsurface electrical resistivity. Observations of the natural transient magnetic field (H) are related to associated perturbations in the observed electric field (E). A detailed description is given by Vozoff (1972), and the basic principles of the BMR system are described by Cull & others (1981).

Penetration of an MT signal is determined by the frequency of oscillation and the resistivity of the medium encountered; these together cause energy loss due to eddy current effects. High frequencies are readily absorbed and only give information on the near-surface layers, but the lower frequencies penetrate to great depth and are affected by all layers in the section. The BMR system is used to record data with periods in the range 0.02-1000 s, representing penetration depths typically from 200 m to 50 km.

The MT system is computer-based, since statistical reductions are required to define the electric and magnetic fields at various frequencies Apparent resistivities are then calculated from the ratio of electric to magnetic field as a function of frequency (or period) and consequently of depth. In practice, two resistivity sections are computed for each site. One component shows the resistivity in the direction of easiest current flow, while a second, orthogonal (or perpendicular) component is used for data in the direction of greatest resistance. For a horizontally layered and isotropic earth these values are identical. However, when data are obtained near lateral discontinuities (e.g., a fault), or when electrical properties are anisotropic, these orthogonal components are highly divergent.

The principal axes can be readily determined by tensor rotation rather than by physical rotation of the measurement system. Equivalent values of apparent resistivity and phase can be generated for the maximum and minimum orthogonal components. The magnitude of the necessary rotation is then used to define the regional strike. Data rotated for strike are presented in Appendix 1, averaged to 10 points per decade in non-overlapping bands. Final data sets were screened statistically (Moore, 1977), and the averaged values were adopted for all subsequent interpretations.

## Field operations

The fieldwork was carried out over a five-week period in July-August in 1982. The weather was generally dry, cool, and sometimes windy, but noise levels were largely unaffected since vegetation was extremely sparse. The field party consisted of four persons: two engaged on site installation, one on recording, and one on reconnaissance. Four vehicles were used on the survey: the recording system was housed in a Bedford 3-tonne truck; the site-installation vehicle was an International 1.5-tonne utility; the reconnaissance vehicle was a Land Rover station wagon; and the general transport vehicle for spares, camping gear, etc. was a Leyland 3-tonne truck. Ancillary equipment included one 2-wheel trailer, two diesel-driven 4kVA generators, and four transceivers.

Fourteen sites were occupied in a linear traverse from Broken Hill to Ivanhoe (Fig. 4, Table 1). Two of these were to the northwest and north of Broken Hill, and were located in areas where deep resistivity soundings had been made by the Australian National University (ANU). The remaining twelve sites were positioned roughly on the line joining Broken Hill, Menindee, and Ivanhoe. The total traverse length was about 320 km. Sites were spaced with an average separation of 15 km from Broken Hill to Menindee; the spacing was extended to 20 km and then to 40 km over the Menindee-Ivanhoe section.

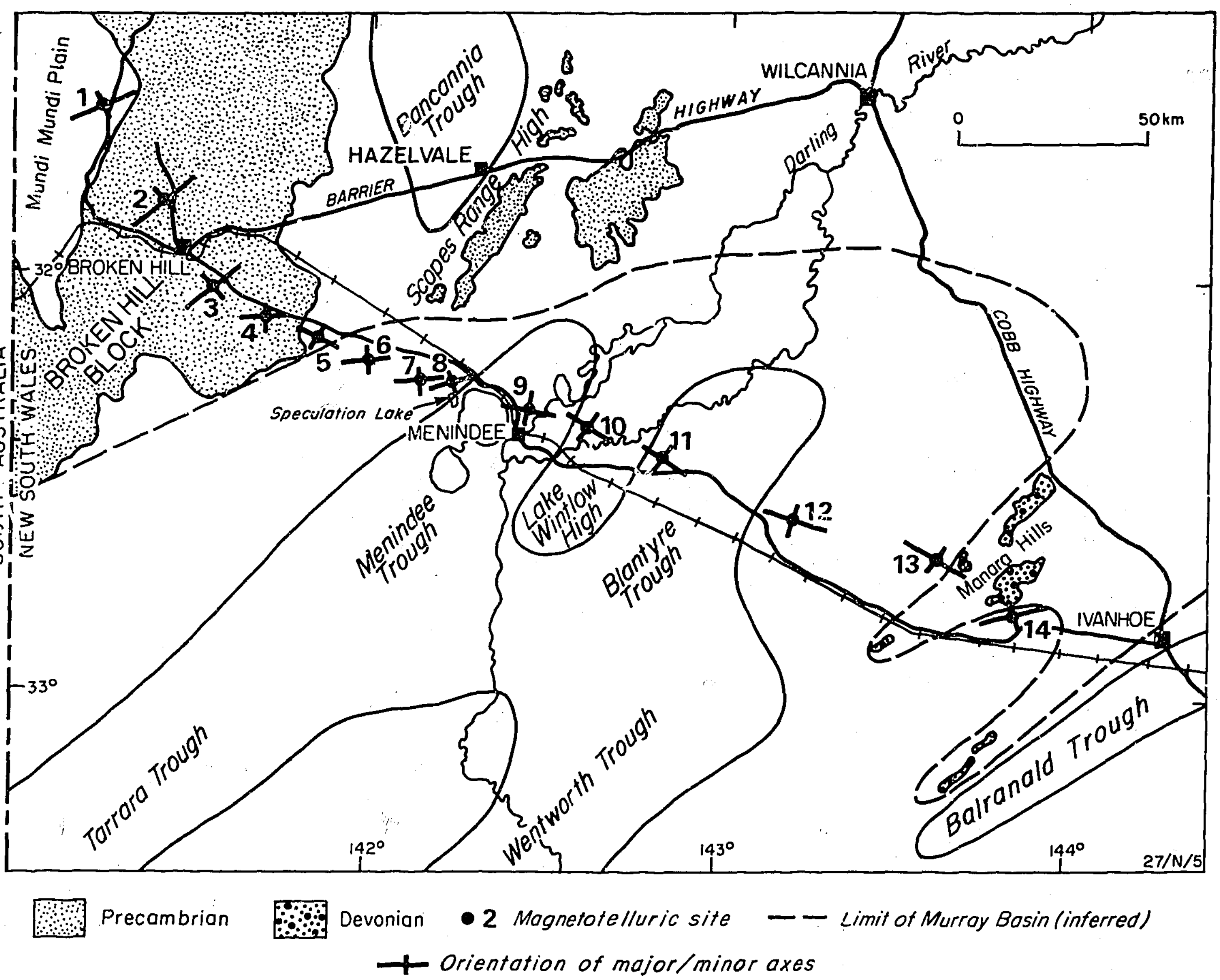



Fig.4 Location and orientation of magnetotelluric recording sites

TABLE 1. MAGNETOTELLURIC SITE LOCATIONS

| Site | Map(1) | Latitude (°S) | Longitude (°E) | Orientations(2) |
|---|---|---|---|---|
| 1 | Broken Hill | 31.615 | 141.250 | 359 |
| 2 | Broken Hill | 31.820 | 141.430 | 14 |
| 3 | Redan | 32.015 | 141.573 | 39 |
| 4 | Redan | 32.095 | 141.701 | 6 |
| 5 | Redan | 32.145 | 141.859 | 323 |
| 6 | Menindee | 32.213 | 142.014 | 18 |
| 7 | Menindee | 32.269 | 142.146 | 11 |
| 8 | Menindee | 32.275 | 142.240 | 326 |
| 9 | Menindee | 32.337 | 142.441 | 18 |
| 10 | Nartooka | 32.373 | 142.601 | 352 |
| 11 | Nartooka | 32.456 | 142.815 | 11 |
| 12 | Boolaboolka | 32.579 | 143.195 | 52 |
| 13 | Darnick | 32.677 | 143.633 | 8 |
| 14 | Darnick | 32.815 | 143.853 | 27 |

(1) Map refers to the name of 1:100 000 sheet published by the Central Mapping Authority of NSW.
(2) Orientation refers to the magnetic azimuth of the x-coordinate of the original survey axes.

Equipment used in the MT data acquisition and processing systems on the survey differs from that described elsewhere (e.g., by Cull & others, 1981) by the replacement of the HP21MX with the HP E-1000 central processor, and the subsequent conversion from the RTE II to the RTE IV software operating system. Changes have also been made to some of the processing and plotting programs. The most important of these concerned the derivation of the rotation angle; a facility was provided to allow the rotation angle to be specified following an inspection of the overall strike pattern. Other software changes were mainly to ensure a standard procedure in selecting process options.

The BMR system records data in 7 overlapping frequency bands covering the spectrum from 40 to 0.001 Hz. The limits of these bands, together with the number of samples acquired and the sampling intervals used for each band, are set out in Table 2. During the survey a change was made in the number of samples acquired in the low-frequency band (0.001-0.012 Hz) by reducing it from 4096 to 2048.

Satisfactory data sets were obtained on all sites, though less than the usual quota of files was obtained on site 5 owing to failure of the disc. Some interference was caused by an electrical storm during recording at site 11, and other sites were occasionally disturbed by high winds. Short-term delays were experienced at most sites because of disc 'drop-out' due to power surges in the generator following any sudden changes in power consumption.

TABLE 2. BMR RECORDING BANDS FOR MT SIGNALS

| Frequency band (Hz) | Number of samples | Sampling interval (millisecs) |
|---|---|---|
| 0.001-0.012 | 2048 | 5000 |
| 0.01 -0.033 | 1024 | 2000 |
| 0.03 -0.12 | 1024 | 1000 |
| 0.1 -0.55 | 1024 | 250 |
| 0.5 -2.5 | 1024 | 50 |
| 2.5 -12.5 | 1024 | 10 |
| 10.0 -40.0 | 1024 | 4 |

Processing of data in the field was completed to the extent of producing plots of rotated apparent resistivity versus period. This enabled the operator to check that the data were of acceptable quality and that the frequency spectrum was adequately covered before moving to the next site. Some processing for interpretation purposes was also done as time permitted - such as the plotting of rotation angle versus period, in order to observe the behaviour of electrical strike with depth. At the conclusion of recording at each site, the data were transferred from disc to magnetic tape (using the BMR program ARCH2).

## Regional strike

Several major lineaments considered to be associated with the evolution of the Willyama Complex have been identified by Katz (1976). South of Broken Hill the dominant trends are aligned to the northeast, suggesting regional control based on the Darling River Lineament. However a conjugate set with northwesterly trend is associated with structure in the north. Similar trends are evident in the gravity data (Fig. 3), in which a transitional zone defines the northern margin of the Darling Basin (e.g., Brown & others, 1982).

Most of the MT sites established by BMR were located on a traverse dominated by the northeasterly trends in the Murray Basin. Consequently the Menindee and Blantyre Troughs could be considered to be the major factors controlling the apparent resistivities. Bedding and foliation in the Willyama Complex are of similar strike, and comparable anisotropy could be anticipated. However, the results are complicated by departures from 2D geometry.

The ambiguities generated in MT data near 3D structure have been emphasised by Gamble & others (1982). Directions calculated for the maximum and minimum tensor elements vary according to noise levels at all periods. Furthermore, each estimate may be rotated arbitrarily by 90 degrees. Some of the ambiguity can be eliminated by using the vertical component (Tipper) to calculate the directions of maximum translational invariance (as defined by Gamble & others, 1982), but large scatter remains where structure is ill-defined at shallow depth. The statistics of any weighting function must remain uncertain in these circumstances, and geological controls must be adopted to define the regional strike.

To ensure consistency in estimates of strike, the original co-ordinate systems at each site were first rotated to give a single frame of reference. All rotation angles were then calculated relative to true north using the analytical technique described by Vozoff (1972). The results were verified using a method of manual increments fully describing the tensor amplitudes (Hermance, 1973).

Large scatter for short-period data was assumed to indicate a zone of undefined rotations corresponding to known sequences of essentially homogeneous sediments. For most sites, rotation angles become well defined at periods near 10 s, indicating skin depths of about 3 km. After visual inspection of each data set a representative value was obtained for well defined rotation angles at each site. These values were then adopted for estimates of apparent resistivity at all periods.

The major and minor axes for each site (Fig. 4) indicate that the strike changes apparently systematically between each site. Structural margins in close alignment with the indicated axes can be identified at most sites. Because rotation angles in the basin sequences are largely undefined, this result may indicate continuation of the controlling structures deep into the upper crust.

## LATERAL CONTINUITY

Major constraints can be imposed on crustal models from direct observation of apparent resistivities. It can be concluded that crustal structure is invariant where resistivity curves are replicated between sites. Uniformity is most obvious for sites 4-8 (Table 3). At each of these sites the character of the curves remains unchanged, and orthogonal components diverge markedly at periods greater than 10 s.

Continuity between sites can be readily demonstrated by presenting the data in terms of a pseudosection. Regions of similar apparent resistivity are indicated using common contours and major structural boundaries can be identified immediately (Figs. 5,6) This type of mapping function can be partly extended using data presented by Vozoff & others (1975), who obtained partial data sets for widely spaced sites constituting a north-south reconnaissance traverse. They made one sounding at Speculation Lake near site 8, and a second near Hazelvale, 60 km to the north. Both sets of data are consistent with observations at sites 4-8.

Of particular significance is the fact that both components at Hazelvale diverge in a fashion similar to those in the south (Fig. 7). Such divergence usually indicates the proximity of a major lateral discontinuity (Vozoff, 1972; Cull, 1982). However, any such discontinuity must be equidistant from all stations showing an identical response.

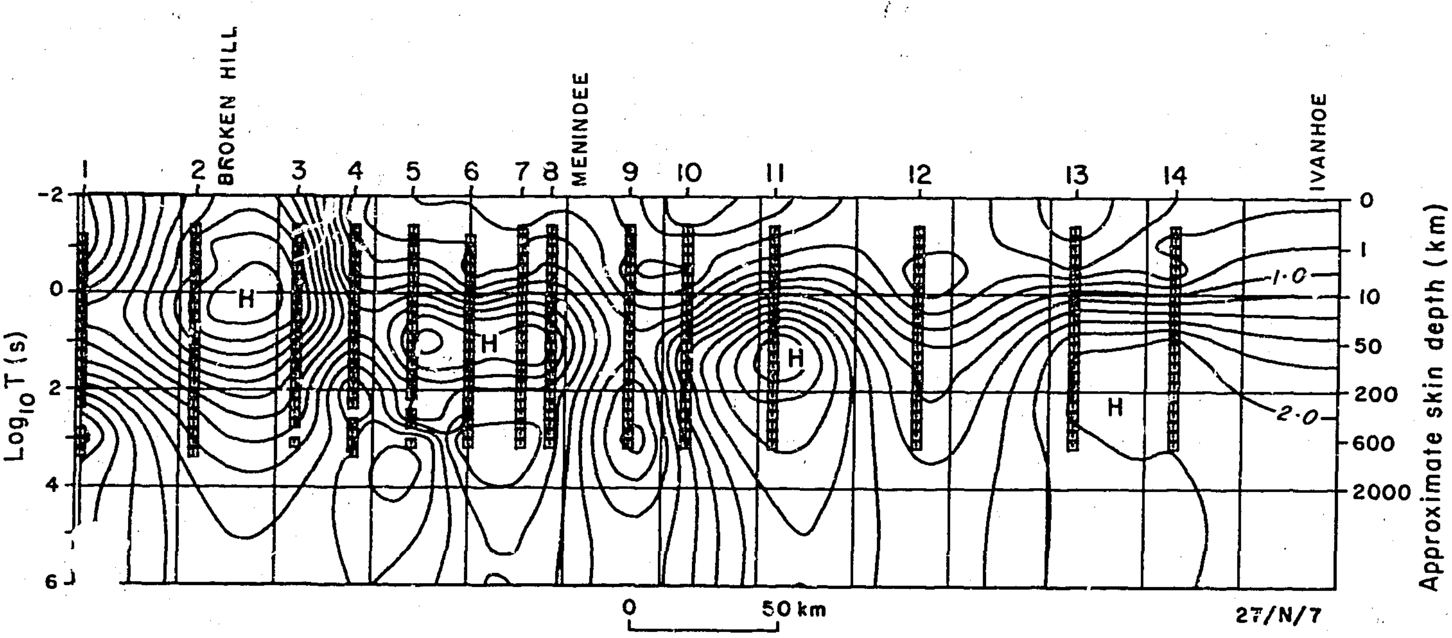
Except for the northern margin of the Murray Basin there is no obvious surface structure consistent with the anisotropy at sites 4-8. Furthermore, any east-west orientation is eliminated by the response of the Hazelvale site, which indicates a broad-source anomaly. It is concluded therefore that the basement is highly anisotropic. The variations in resistivity appear to be more pronounced than is indicated for Precambrian outcrop at sites 2 and 3. However, the nappe structure at Broken Hill is highly variable, and some variation in anisotropy can be anticipated.

Consequently it is reasonable to assume that an anisotropic Precambrian basement extends at least as far east as Menindee.

## RESISTIVITY ESTIMATES

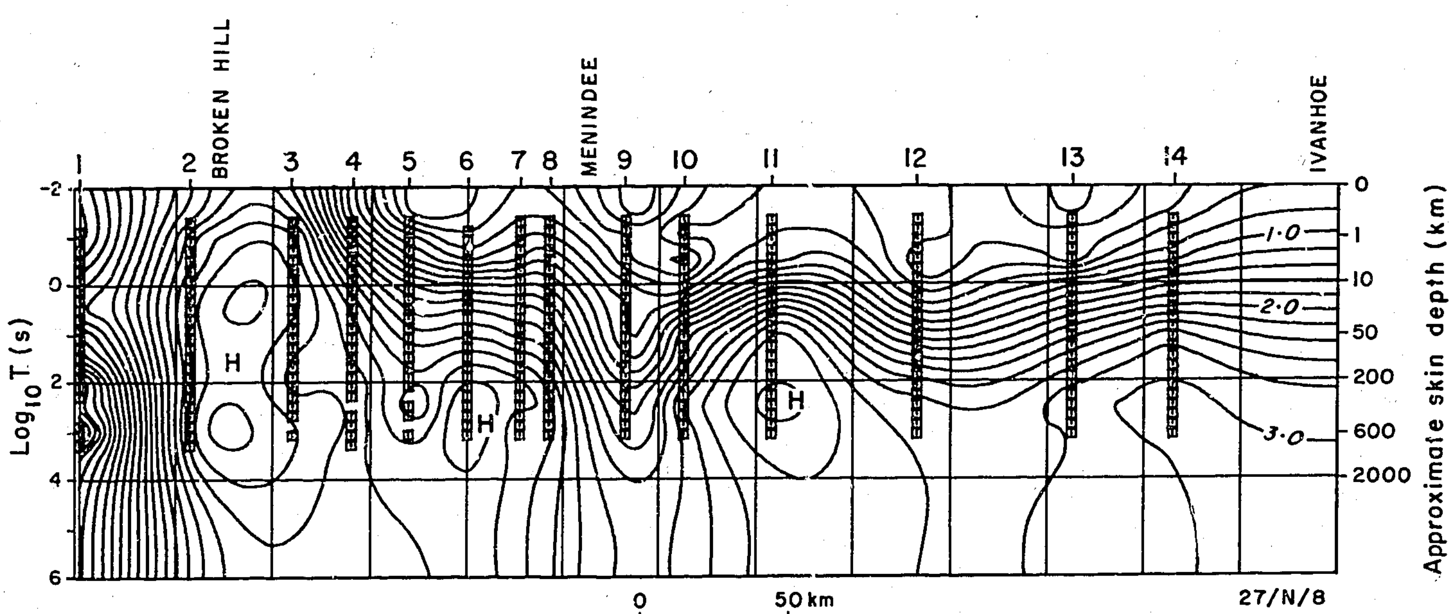
Before any numerical interpretation proceeds, the major structural units must be identified, in order to assign appropriate electrical parameters. Mathematical modelling can then be used to calculate MT profiles to approximate the observed response. Because no laboratory data are available to indicate appropriate values for the resistivity of the major rock types in the survey area, representative values must be extracted from borehole logs or from MT field records obtained over known outcrop.

Vozoff & others (1975) listed six boreholes in the survey area; five of these bottomed in clastic sedimentary rocks of inferred Palaeozoic age, and the other bottomed in granodiorite. None were interpreted as metamorphic basement. Except for the Devonian volcanics, resistivities were confined to the range 1-20 ohm-m.




*(contours represent $Log_{10}R$ at 0·2 increments)*

Fig.5 Resistivity pseudosection component 1 (ExHy)




*(contours represent $Log_{10}R$ at 0·2 increments)*

Fig.6 Resistivity pseudosection component 2 (EyHx)

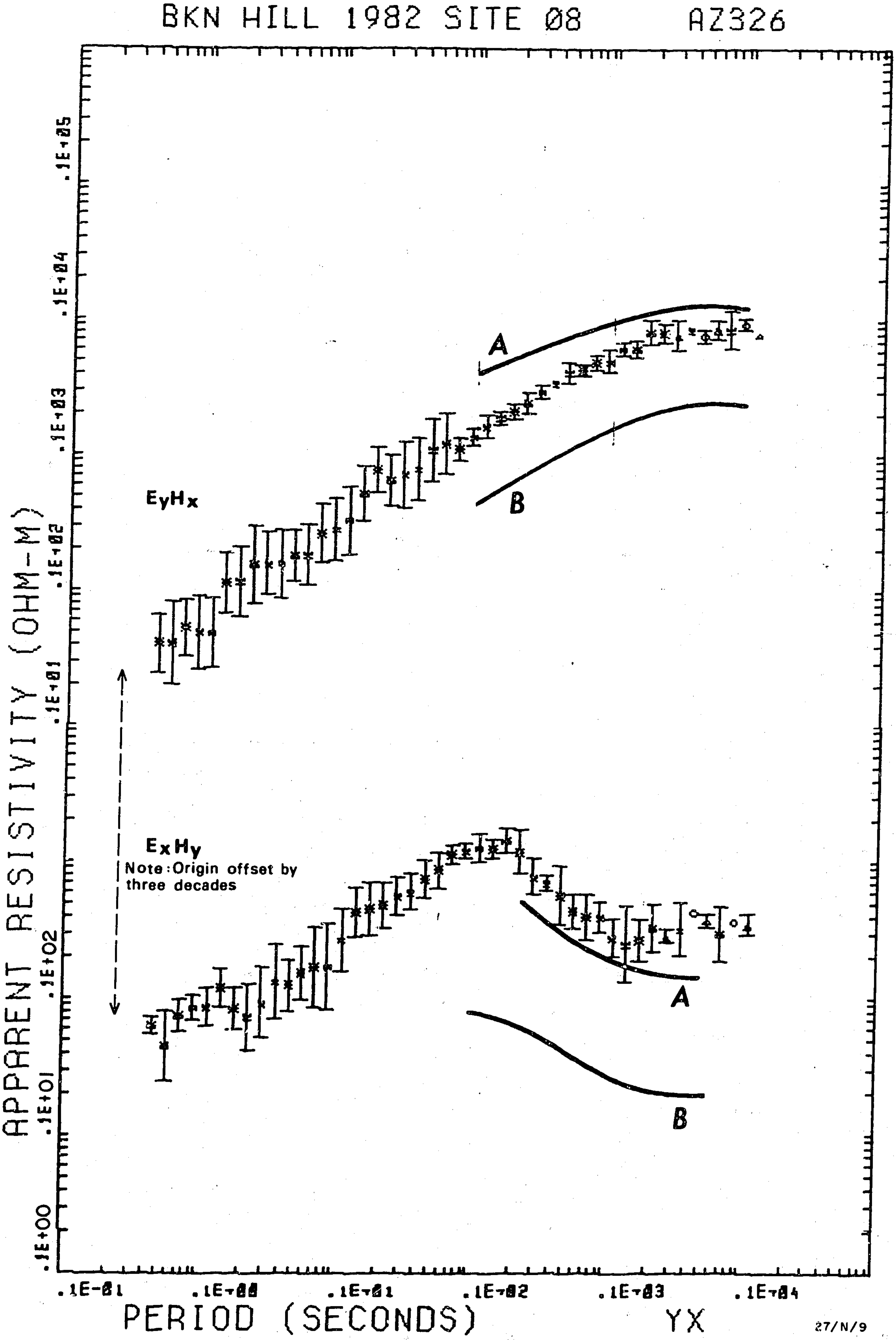



Fig.7 Comparison of data from site 8 with resistivity curves from Speculation Lake (A) and Hazelvale (B) obtained by Vozoff & others (1975)

Highly conductive surface layers have also been encountered during MT surveys of the Wentworth Trough, east Officer Basin and Cooper Basin (Vozoff & Cull, 1981). Resistivities are typically 1-2 ohm-m, and thicknesses are some hundreds of metres. Similar values have now been obtained east of Broken Hill. Short-period data are readily extrapolated indicating values from 2-4 ohm-m at sites 5-9. Values at site 9 are largely constant at periods less than 10 seconds, indicating a significant thickness of sediment consistent with the presence of the Menindee Trough.

Significant Devonian deposits extending from the surface to depths of 5-6 km have been noted near sites 13 and 14. However, both sites are close to major structural boundaries, and apparent resistivities may be complicated by the effects of 2D structure. Short period-values are close to 1 ohm-m, and brackish aquifers are common.

Ordovician and older rocks are confined to the basement east of Menindee, and consequently direct indications of resistivity are impossible. However, estimates can be made from the trend in apparent resistivities at periods near 10 seconds. Values in the range 500-2000 ohm-m seem to be appropriate, and a representative value of 1000 ohm-m can be adopted for purposes of modelling.

Precambrian rocks are exposed only near sites 2 and 3. Values of resistivity are uniformly high, but considerable anisotropy is apparent. Foliations are observed on surface outcrops, and resistivities are close to 600 and 2000 ohm-m for parallel and normal components respectively. Resistivities for each of these major groups are summarised in Table 3.

## Representative structure

The general validity of these resistivity estimates can be verified for all sites by constructing 1D forward models. Any major characteristics in the observed data should be duplicated in the calculated response provided that appropriate depths are assumed. At the same time abrupt lateral changes between sites should be rare.

A cross-section capable of generating the primary characteristics at each site is presented in Figure 8. The major elements correspond to the pseudosection contouring, and are consistent with regional structures proposed from surface geological mapping. The only major discrepancies concern data at periods greater than 10 s. Two completely different resistivities must be assumed to represent orthogonal components at depths greater than 30 km. The required crystalline micro-anisotropy is considered to be unlikely, and consequently 2D structures can be implied (Vozoff, 1972).

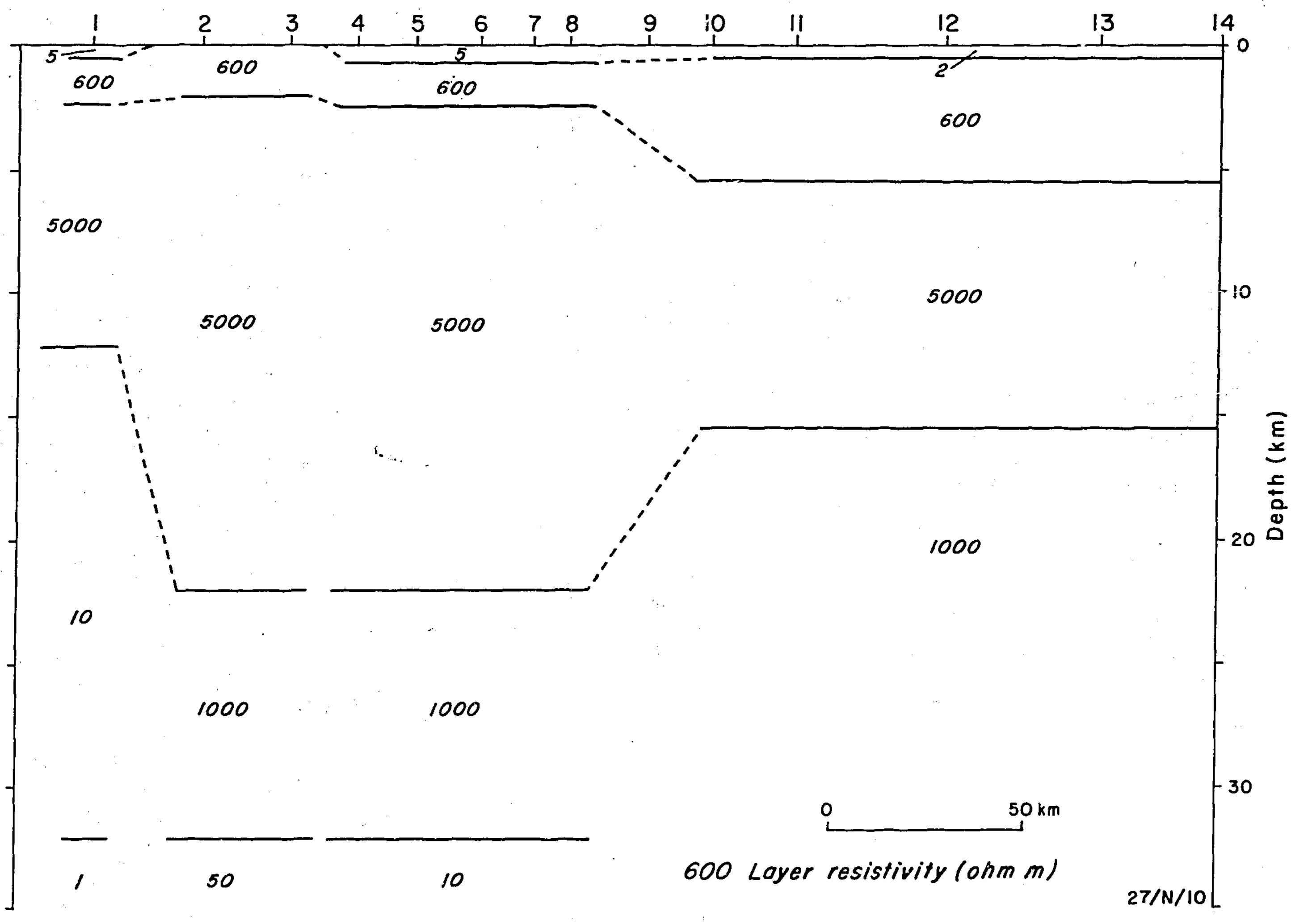



Fig.8 Composite 1D section producing principal features of apparent resistivity at each site

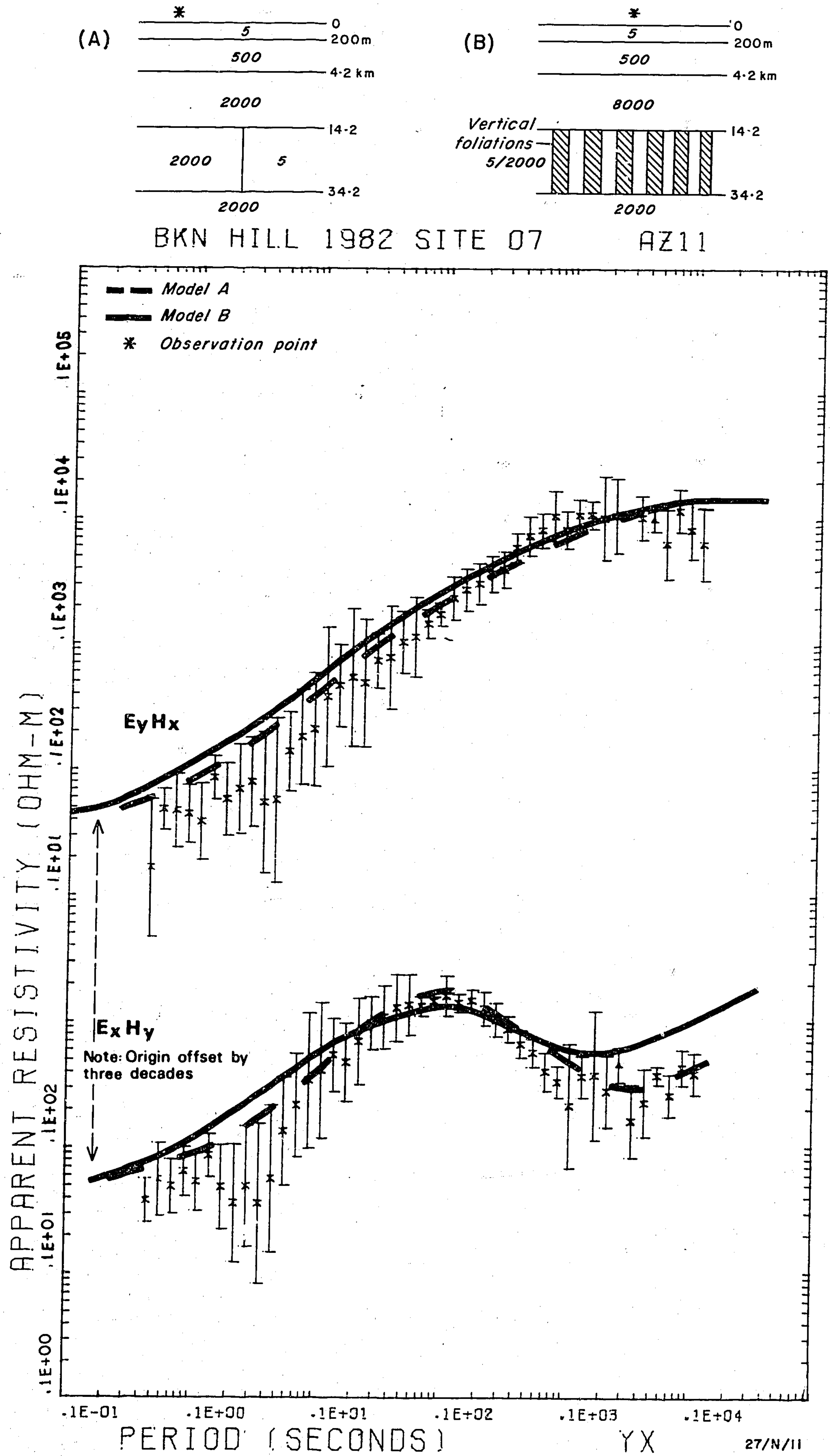



Fig.9 2 D models producing characteristic divergence in orthogonal components of apparent resistivity

Alternative 2D structural models generating sufficient anisotropy are indicated in Figure 9. More than 14 km of homogeneous cover is required close to the surface to ensure that the orthogonal components are similar at periods less than 10 s. However, several types of structure can be proposed to generate the observed divergence at greater periods. Some support can be gained for model A from the observations of lateral continuity between sites 4-8, but data at Hazelvale appear to support the alternative (model B) which generates a regional anisotropy. A dominant east-west strike is implied for model A contrary to indications from surface geology.

The prefered model (model B) indicates a significant eastward extension to the Willyama Complex. Foliation appears to persist within basement layers at least as far east as Menindee. The characteristic divergence in orthogonal components of resistivity can also be observed in reconnaissence data obtained farther north (Hazelvale). The nature of the basement farther east in the Murray/Darling Basin remains contentious: shielding by highly conductive surface layers consisting of uniform sediments becomes more pronounced and rates of divergence are diminished. However, the survey data provide some support for the concept of regional structural control at the Darling River Lineament (Katz,1976).

## ACKNOWLEDGEMENTS

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TABLE 3. APPARENT RESISTIVITIES AND PHASE DELAY EXPRESSED IN BAND AVERAGES FOR ORTHOGONAL COMPONENTS AT EACH SITE IN TABLE 1.

BROKEN HILL 1982 SITE 01 AZ359
ROTATION : 55 STRIKE : 54 M

COMPONENT : 1

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 2 | 1 | .1995E-01 | 2 | 5.150 | .2558E-01 | -20.50 | 4.500 |
| 4 | 2 | .5012E-01 | 13 | 6.508 | .1406 | -22.00 | 19.98 |
| 5 | 3 | .7943E-01 | 21 | 9.200 | .1138 | -19.28 | 16.08 |
| 6 | 4 | .1259 | 104 | 14.05 | .1609 | -20.14 | 11.03 |
| 7 | 5 | .1995 | 55 | 10.71 | .3046 | -35.65 | 23.57 |
| 8 | 6 | .3162 | 49 | 17.30 | .4880 | -34.44 | 20.66 |
| 9 | 7 | .5012 | 52 | 31.86 | .3244 | -39.71 | 16.06 |
| 10 | 8 | .7943 | 41 | 33.09 | .4772 | -41.90 | 23.40 |
| 11 | 9 | 1.258 | 50 | 47.27 | .4306 | -47.28 | 16.60 |
| 12 | 10 | 1.995 | 23 | 87.84 | .4412 | -42.78 | 16.77 |
| 13 | 11 | 3.162 | 43 | 69.87 | .4081 | -48.50 | 18.41 |
| 14 | 12 | 5.011 | 62 | 54.63 | .5236 | -56.87 | 18.05 |
| 15 | 13 | 7.943 | 25 | 41.10 | .1995 | -58.80 | 17.63 |
| 16 | 14 | 12.58 | 34 | 39.07 | .4780 | -58.88 | 18.10 |
| 17 | 15 | 19.95 | 60 | 21.67 | .2228 | -61.44 | 18.31 |
| 18 | 16 | 31.62 | 22 | 22.81 | .4471 | -61.90 | 16.58 |
| 19 | 17 | 50.11 | 6 | 22.13 | .3524 | -51.48 | 25.52 |
| 20 | 18 | 79.43 | 6 | 8.601 | .1041 | -65.50 | 10.51 |
| 21 | 19 | 125.8 | 5 | 6.621 | .9612E-01 | -58.20 | 23.53 |
| 22 | 20 | 199.5 | 1 | 3.430 | 0.000 | -54.00 | 0.000 |
| 25 | 21 | 794.3 | 1 | 2.050 | 0.000 | -86.00 | 0.000 |
| 26 | 22 | 1258. | 2 | .7809 | .5561 | -41.00 | 32.00 |
| 27 | 23 | 1995. | 3 | 2.455 | .8612 | -58.66 | 21.63 |

COMPONENT : 2

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 2 | 1 | .1995E-01 | 2 | 1.766 | .5508 | -16.65 | 8.050 |
| 4 | 2 | .5012E-01 | 13 | 4.119 | .2017 | -12.35 | 7.702 |
| 5 | 3 | .7943E-01 | 21 | 6.349 | .1694 | -16.86 | 10.93 |
| 6 | 4 | .1259 | 104 | 11.66 | .1996 | -22.51 | 12.62 |
| 7 | 5 | .1995 | 55 | 12.97 | .2537 | -26.35 | 14.96 |
| 8 | 6 | .3162 | 49 | 15.41 | .5934 | -40.89 | 20.22 |
| 9 | 7 | .5012 | 52 | 24.72 | .2981 | -42.56 | 17.79 |
| 10 | 8 | .7943 | 41 | 29.74 | .4345 | -43.09 | 21.44 |
| 11 | 9 | 1.258 | 50 | 41.38 | .4610 | -56.92 | 18.86 |
| 12 | 10 | 1.995 | 23 | 55.33 | .6407 | -53.48 | 27.69 |
| 13 | 11 | 3.162 | 43 | 54.45 | .7200 | -54.35 | 29.71 |
| 14 | 12 | 5.011 | 62 | 59.43 | .7562 | -53.74 | 28.81 |
| 15 | 13 | 7.943 | 25 | 15.85 | .3639 | -64.24 | 31.88 |
| 16 | 14 | 12.58 | 34 | 18.46 | .7830 | -61.90 | 28.86 |
| 17 | 15 | 19.95 | 60 | 7.576 | .4777 | -46.99 | 32.09 |
| 18 | 16 | 31.62 | 22 | 11.28 | .6385 | -54.50 | 30.93 |
| 19 | 17 | 50.11 | 6 | 4.374 | .7879 | -60.38 | 27.88 |
| 20 | 18 | 79.43 | 6 | 1.881 | .4074 | -72.30 | 23.10 |
| 21 | 19 | 125.8 | 5 | .6685 | .3735 | -58.64 | 33.25 |
| 22 | 20 | 199.5 | 1 | 2.310 | 0.000 | -82.10 | 0.000 |
| 25 | 21 | 794.3 | 1 | .1490 | 0.000 | -76.20 | 0.000 |
| 26 | 22 | 1258. | 2 | .5914 | .4687 | -34.97 | 32.03 |
| 27 | 23 | 1995. | 3 | 1.237 | 1.186 | -70.66 | 12.17 |

TABLE 3 (continued)

BROKEN HILL 1982 SITE 02 AZ14
ROTATION : 25 STRIKE : 39 M

COMPONENT : 1

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 2 | .5012E-01 | 6 | 226.8 | .2681 | -39.50 | 27.49 |
| 5 | 3 | .7943E-01 | 6 | 488.5 | .8680E-01 | -30.66 | 9.428 |
| 6 | 4 | .1259 | 67 | 620.0 | .2710 | -33.64 | 12.98 |
| 7 | 5 | .1995 | 34 | 283.0 | .3841 | -41.29 | 22.82 |
| 8 | 6 | .3162 | 42 | 322.3 | .6264 | -42.29 | 21.61 |
| 9 | 7 | .5012 | 57 | 325.4 | .5035 | -49.10 | 21.67 |
| 10 | 8 | .7943 | 45 | 754.8 | .6585 | -56.28 | 21.31 |
| 11 | 9 | 1.258 | 34 | 763.2 | .4652 | -52.26 | 21.40 |
| 12 | 10 | 1.995 | 26 | 787.1 | .3492 | -62.26 | 17.58 |
| 13 | 11 | 3.162 | 29 | 945.0 | .5513 | -46.82 | 22.60 |
| 14 | 12 | 5.011 | 42 | 669.1 | .4819 | -56.69 | 22.23 |
| 15 | 13 | 7.943 | 24 | 535.1 | .3537 | -62.37 | 28.10 |
| 16 | 14 | 12.58 | 68 | 323.8 | .2460 | -66.89 | 20.10 |
| 17 | 15 | 19.95 | 62 | 248.6 | .2789 | -68.53 | 19.52 |
| 18 | 16 | 31.62 | 37 | 202.5 | .1986 | -67.56 | 19.02 |
| 19 | 17 | 50.11 | 17 | 107.2 | .1452 | -67.23 | 16.51 |
| 20 | 18 | 79.43 | 17 | 100.5 | .2048 | -58.17 | 18.98 |
| 21 | 19 | 125.8 | 16 | 47.91 | .3801 | -56.18 | 11.99 |
| 22 | 20 | 199.5 | 13 | 32.52 | .3116 | -53.61 | 13.47 |
| 23 | 21 | 316.2 | 5 | 37.67 | .2861E-01 | -61.00 | 3.098 |
| 24 | 22 | 501.1 | 4 | 33.26 | .5619E-01 | -59.75 | 2.487 |
| 25 | 23 | 794.3 | 4 | 33.26 | .4211E-01 | -61.50 | 2.061 |
| 26 | 24 | 1258. | 6 | 22.74 | .8171E-01 | -60.83 | 2.477 |
| 27 | 25 | 1995. | 7 | 20.26 | .1424 | -52.28 | 12.31 |

COMPONENT : 2

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 2 | .5012E-01 | 6 | 493.8 | .3338 | -23.58 | 26.47 |
| 5 | 3 | .7943E-01 | 6 | 1281. | .1530 | -35.57 | 25.90 |
| 6 | 4 | .1259 | 67 | 1661. | .1833 | -30.26 | 9.739 |
| 7 | 5 | .1995 | 34 | 1015. | .2921 | -37.88 | 17.78 |
| 8 | 6 | .3162 | 42 | 1471. | .4044 | -45.87 | 21.61 |
| 9 | 7 | .5012 | 57 | 1885. | .3477 | -38.16 | 14.95 |
| 10 | 8 | .7943 | 45 | 2012. | .4541 | -38.10 | 19.34 |
| 11 | 9 | 1.258 | 34 | 3092. | .4713 | -42.08 | 16.92 |
| 12 | 10 | 1.995 | 26 | 3042. | .2016 | -49.30 | 14.41 |
| 13 | 11 | 3.162 | 29 | 3229. | .2541 | -53.00 | 20.82 |
| 14 | 12 | 5.011 | 42 | 3636. | .3218 | -51.68 | 18.23 |
| 15 | 13 | 7.943 | 24 | 2780. | .1836 | -49.47 | 12.49 |
| 16 | 14 | 12.58 | 68 | 2856. | .1165 | -52.06 | 6.788 |
| 17 | 15 | 19.95 | 62 | 2363. | .9721E-01 | -49.67 | 7.027 |
| 18 | 16 | 31.62 | 37 | 2403. | .9777E-01 | -48.33 | 5.451 |
| 19 | 17 | 50.11 | 17 | 2554. | .7401E-01 | -46.80 | 3.774 |
| 20 | 18 | 79.43 | 17 | 2085. | .1601 | -39.80 | 8.957 |
| 21 | 19 | 125.8 | 16 | 2392. | .8453E-01 | -45.78 | 8.530 |
| 22 | 20 | 199.5 | 13 | 2741. | .9256E-01 | -40.96 | 5.572 |
| 23 | 21 | 316.2 | 5 | 3044. | .4315E-01 | -42.54 | 1.167 |
| 24 | 22 | 501.1 | 4 | 3312. | .2897E-01 | -43.35 | .3563 |
| 25 | 23 | 794.3 | 4 | 3520. | .1538E-01 | -46.85 | 1.289 |
| 26 | 24 | 1258. | 6 | 3257. | .7697E-01 | -51.28 | 3.590 |
| 27 | 25 | 1995. | 7 | 2961. | .1085 | -58.78 | 10.45 |

TABLE 3 (continued)

BROKEN HILL 1982 SITE 04 AZ6 (FIELD LOCATION 3)
ROTATION : 78 STRIKE : 84 M

COMPONENT : 1

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 13 | 6.838 | .7649E-01 | -21.84 | 19.21 |
| 5 | 2 | .7943E-01 | 30 | 11.82 | .1308 | -25.56 | 16.20 |
| 6 | 3 | .1259 | 51 | 14.47 | .1648 | -25.51 | 8.828 |
| 7 | 4 | .1995 | 32 | 9.017 | .2545 | -26.78 | 21.69 |
| 8 | 5 | .3162 | 16 | 13.40 | .2861 | -36.06 | 23.80 |
| 9 | 6 | .5012 | 27 | 16.27 | .3571 | -41.77 | 21.57 |
| 10 | 7 | .7943 | 19 | 21.59 | .3173 | -37.26 | 24.46 |
| 11 | 8 | 1.258 | 23 | 44.87 | .3083 | -45.17 | 19.14 |
| 12 | 9 | 1.995 | 23 | 47.92 | .2430 | -50.95 | 17.14 |
| 13 | 10 | 3.162 | 28 | 44.48 | .3309 | -46.46 | 23.56 |
| 14 | 11 | 5.011 | 40 | 43.61 | .2806 | -58.29 | 19.20 |
| 15 | 12 | 7.943 | 34 | 35.55 | .1446 | -59.14 | 17.05 |
| 16 | 13 | 12.58 | 60 | 33.04 | .1402 | -69.25 | 13.68 |
| 17 | 14 | 19.95 | 50 | 19.60 | .1916 | -66.16 | 18.80 |
| 18 | 15 | 31.62 | 36 | 16.61 | .1509 | -71.22 | 16.33 |
| 19 | 16 | 50.11 | 15 | 9.729 | .1386 | -68.89 | 12.78 |
| 20 | 17 | 79.43 | 13 | 8.233 | .2747 | -53.61 | 16.99 |
| 21 | 18 | 125.8 | 11 | 6.505 | .2465 | -52.54 | 18.12 |
| 22 | 19 | 199.5 | 8 | 8.175 | .1532 | -43.37 | 14.10 |
| 24 | 20 | 501.1 | 1 | 9.880 | 0.000 | -49.00 | 0.000 |
| 25 | 21 | 794.3 | 3 | 12.92 | .2159 | -50.00 | 2.160 |
| 26 | 22 | 1258. | 4 | 10.18 | .9591E-01 | -71.00 | 9.219 |
| 27 | 23 | 1995. | 4 | 8.733 | .3593 | -61.25 | 7.693 |

COMPONENT : 2

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 13 | 24.45 | .1545 | -38.67 | 37.02 |
| 5 | 2 | .7943E-01 | 30 | 39.85 | .2064 | -60.16 | 34.03 |
| 6 | 3 | .1259 | 51 | 86.03 | .1655 | -53.31 | 37.19 |
| 7 | 4 | .1995 | 32 | 107.5 | .1934 | -53.63 | 34.07 |
| 8 | 5 | .3162 | 19 | 183.1 | .2599 | -39.96 | 33.18 |
| 9 | 6 | .5012 | 29 | 374.2 | .2169 | -33.23 | 31.92 |
| 10 | 7 | .7943 | 23 | 392.8 | .2974 | -28.34 | 27.50 |
| 11 | 8 | 1.258 | 31 | 580.7 | .2335 | -25.69 | 19.88 |
| 12 | 9 | 1.995 | 26 | 825.6 | .1946 | -27.37 | 14.37 |
| 13 | 10 | 3.162 | 31 | 1106. | .2177 | -31.24 | 18.22 |
| 14 | 11 | 5.011 | 43 | 956.6 | .2394 | -30.19 | 17.56 |
| 15 | 12 | 7.943 | 34 | 1238. | .2287 | -29.42 | 7.573 |
| 16 | 13 | 12.58 | 61 | 1293. | .1913 | -33.62 | 7.260 |
| 17 | 14 | 19.95 | 50 | 1417. | .2156 | -34.94 | 7.366 |
| 18 | 15 | 31.62 | 36 | 1345. | .2001 | -34.34 | 7.474 |
| 19 | 16 | 50.11 | 15 | 1858. | .2191 | -33.29 | 3.849 |
| 20 | 17 | 79.43 | 14 | 2750. | .2538 | -34.18 | 9.632 |
| 21 | 18 | 125.8 | 12 | 2099. | .1334 | -41.33 | 8.112 |
| 22 | 19 | 199.5 | 8 | 1966. | .2124 | -42.53 | 7.495 |
| 24 | 21 | 501.1 | 1 | 2480. | 0.000 | -50.20 | 0.000 |
| 25 | 22 | 794.3 | 3 | 2215. | .2870E-01 | -43.76 | 7.118 |
| 26 | 23 | 1258. | 4 | 2202. | .1055 | -51.67 | 1.789 |
| 27 | 24 | 1995. | 4 | 1838. | .8759E-01 | -48.75 | 7.108 |

TABLE 3 (continued)

BROKEN HILL 1982 SITE 03 AZ39 (FIELD LOCATION 4)
ROTATION : 1 STRIKE : 40 M

COMPONENT : 1

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 10 | 264.0 | .1732 | -21.60 | 14.60 |
| 5 | 2 | .7943E-01 | 15 | 264.8 | .3218 | -33.46 | 17.31 |
| 6 | 3 | .1259 | 62 | 577.7 | .2107 | -28.98 | 11.59 |
| 7 | 4 | .1995 | 29 | 405.3 | .2167 | -44.72 | 20.01 |
| 8 | 5 | .3162 | 23 | 469.3 | .2963 | -40.19 | 20.46 |
| 9 | 6 | .5012 | 36 | 769.8 | .2707 | -42.50 | 15.45 |
| 10 | 7 | .7943 | 24 | 685.7 | .3314 | -38.33 | 17.85 |
| 11 | 8 | 1.258 | 49 | 644.3 | .2481 | -47.91 | 15.54 |
| 12 | 9 | 1.995 | 49 | 960.8 | .2563 | -52.95 | 20.55 |
| 13 | 10 | 3.162 | 48 | 684.5 | .3465 | -51.07 | 18.31 |
| 14 | 11 | 5.011 | 70 | 435.7 | .2801 | -57.98 | 18.53 |
| 15 | 12 | 7.943 | 68 | 282.9 | .1335 | -67.45 | 6.160 |
| 16 | 13 | 12.58 | 80 | 225.4 | .1282 | -69.46 | 8.589 |
| 17 | 14 | 19.95 | 71 | 156.3 | .1880 | -69.63 | 12.89 |
| 18 | 15 | 31.62 | 38 | 102.0 | .2038 | -65.73 | 16.97 |
| 19 | 16 | 50.11 | 11 | 77.19 | .9984E-01 | -68.09 | 3.679 |
| 20 | 17 | 79.43 | 13 | 77.76 | .1691 | -56.45 | 18.24 |
| 21 | 18 | 125.8 | 10 | 55.84 | .6495E-01 | -58.40 | 4.409 |
| 22 | 19 | 199.5 | 4 | 54.85 | .4316E-01 | -59.75 | 3.766 |
| 23 | 20 | 316.2 | 2 | 59.73 | .5114E-01 | -58.00 | 0.000 |
| 24 | 21 | 501.1 | 1 | 44.20 | 0.000 | -60.00 | 0.000 |
| 26 | 22 | 1258. | 4 | 28.56 | .1459 | -56.50 | 2.692 |

COMPONENT : 2

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 11 | 1456. | .1624 | -15.66 | 8.118 |
| 5 | 2 | .7943E-01 | 16 | 2127. | .1196 | -24.16 | 10.96 |
| 6 | 3 | .1259 | 60 | 3558. | .1644 | -36.66 | 12.37 |
| 7 | 4 | .1995 | 29 | 3008. | .2944 | -44.27 | 17.00 |
| 8 | 5 | .3162 | 25 | 2796. | .2984 | -35.90 | 20.56 |
| 9 | 6 | .5012 | 36 | 3661. | .2573 | -52.10 | 19.68 |
| 10 | 7 | .7943 | 28 | 4380. | .2889 | -48.68 | 17.48 |
| 11 | 8 | 1.258 | 48 | 4417. | .2415 | -50.63 | 14.50 |
| 12 | 9 | 1.995 | 51 | 3924. | .1871 | -60.05 | 15.22 |
| 13 | 10 | 3.162 | 56 | 4608. | .1640 | -56.37 | 17.04 |
| 14 | 11 | 5.011 | 79 | 4273. | .2064 | -54.78 | 13.72 |
| 15 | 12 | 7.943 | 69 | 3581. | .7837E-01 | -57.03 | 3.671 |
| 16 | 13 | 12.58 | 82 | 3010. | .1236 | -56.34 | 5.354 |
| 17 | 14 | 19.95 | 72 | 2602. | .8309E-01 | -52.57 | 7.438 |
| 18 | 15 | 31.62 | 39 | 2358. | .6193E-01 | -50.93 | 4.135 |
| 19 | 16 | 50.11 | 13 | 2410. | .2404E-01 | -47.21 | 2.828 |
| 20 | 17 | 79.43 | 13 | 2043. | .1103 | -42.73 | 7.432 |
| 21 | 18 | 125.8 | 10 | 2184. | .8253E-01 | -45.76 | 8.479 |
| 22 | 19 | 199.5 | 4 | 2796. | .4770E-01 | -38.45 | 4.729 |
| 23 | 20 | 316.2 | 2 | 3356. | .2072E-01 | -42.95 | 1.549 |
| 24 | 21 | 501.1 | 1 | 3980. | 0.000 | -42.10 | 0.000 |
| 26 | 22 | 1258. | 4 | 4283. | .8620E-01 | -52.00 | 2.484 |

TABLE 3 (continued)

BROKEN HILL 1982 SITE 05 AZ323
ROTATION : 120 STRIKE : 83 M

COMPONENT : 1

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 12 | 4.905 | .2180 | -36.25 | 5.198 |
| 5 | 2 | .7943E-01 | 38 | 6.899 | .1521 | -33.60 | 7.310 |
| 6 | 3 | .1259 | 64 | 8.229 | .2106 | -23.76 | 8.065 |
| 7 | 4 | .1995 | 29 | 8.726 | .2549 | -26.82 | 21.22 |
| 8 | 5 | .3162 | 22 | 15.06 | .4486 | -40.06 | 30.49 |
| 9 | 6 | .5012 | 40 | 20.46 | .5522 | -32.18 | 23.55 |
| 10 | 7 | .7943 | 39 | 32.17 | .3663 | -35.61 | 25.73 |
| 11 | 8 | 1.258 | 31 | 43.86 | .4438 | -33.09 | 18.66 |
| 12 | 9 | 1.995 | 21 | 93.25 | .1701 | -31.42 | 13.02 |
| 13 | 10 | 3.162 | 27 | 108.6 | .3075 | -37.55 | 17.92 |
| 14 | 11 | 5.011 | 38 | 113.5 | .3045 | -40.71 | 15.72 |
| 15 | 12 | 7.943 | 15 | 160.2 | .1168 | -39.00 | 8.230 |
| 16 | 13 | 12.58 | 28 | 189.9 | .2903 | -50.77 | 10.72 |
| 17 | 14 | 19.95 | 27 | 167.7 | .1937 | -65.37 | 8.376 |
| 18 | 15 | 31.62 | 9 | 112.9 | .2369 | -67.55 | 24.87 |
| 19 | 16 | 50.11 | 3 | 44.71 | .1098 | -76.66 | 3.858 |
| 20 | 17 | 79.43 | 6 | 19.70 | .5708 | -64.16 | 24.86 |
| 21 | 18 | 125.8 | 3 | 46.34 | .4252 | -60.66 | 6.944 |
| 23 | 19 | 316.2 | 1 | 104.0 | 0.000 | -30.00 | 0.000 |
| 24 | 20 | 501.1 | 2 | 80.55 | .2462 | -49.50 | 19.50 |
| 26 | 21 | 1258. | 1 | 2.400 | 0.000 | -67.20 | 0.000 |

COMPONENT : 2

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 12 | 1.431 | .5558 | -44.50 | 12.67 |
| 5 | 2 | .7943E-01 | 38 | 6.673 | .2645 | -35.17 | 10.40 |
| 6 | 3 | .1259 | 64 | 12.01 | .2624 | -26.06 | 14.20 |
| 7 | 4 | .1995 | 29 | 16.64 | .2222 | -24.55 | 19.00 |
| 8 | 5 | .3162 | 22 | 14.77 | .4775 | -40.33 | 31.84 |
| 9 | 6 | .5012 | 40 | 20.77 | .6531 | -30.21 | 24.81 |
| 10 | 7 | .7943 | 39 | 59.17 | .2916 | -27.34 | 25.09 |
| 11 | 8 | 1.258 | 31 | 85.31 | .3642 | -36.30 | 26.32 |
| 12 | 9 | 1.995 | 21 | 120.3 | .2669 | -23.62 | 18.72 |
| 13 | 10 | 3.162 | 27 | 141.1 | .4073 | -28.61 | 24.23 |
| 14 | 11 | 5.011 | 38 | 181.1 | .3201 | -22.17 | 16.55 |
| 15 | 12 | 7.943 | 15 | 230.4 | .8910E-01 | -17.90 | 7.143 |
| 16 | 13 | 12.58 | 28 | 367.0 | .1540 | -18.97 | 11.53 |
| 17 | 14 | 19.95 | 27 | 443.8 | .1042 | -18.76 | 5.343 |
| 18 | 15 | 31.62 | 9 | 512.5 | .1092 | -31.06 | 17.05 |
| 19 | 16 | 50.11 | 3 | 776.9 | .4622E-01 | -25.93 | 1.915 |
| 20 | 17 | 79.43 | 6 | 858.1 | .6072E-01 | -28.41 | 2.384 |
| 21 | 18 | 125.8 | 3 | 485.6 | .2324 | -46.20 | 25.77 |
| 23 | 19 | 316.2 | 1 | 115.0 | 0.000 | -59.20 | 0.000 |
| 24 | 20 | 501.1 | 2 | 1184. | .5349E-02 | -46.30 | 1.399 |
| 26 | 21 | 1258. | 1 | 934.0 | 0.000 | -50.40 | 0.000 |

TABLE 3 (continued)

BROKEN HILL 1982 SITE 06 AZ18
ROTATION : 60 STRIKE : 78 M

COMPONENT : 1

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 2 | 6.065 | .4966E-01 | -36.00 | 3.000 |
| 5 | 2 | .7943E-01 | 48 | 6.417 | .1031 | -34.54 | 7.591 |
| 6 | 3 | .1259 | 58 | 8.233 | .1101 | -30.08 | 7.175 |
| 7 | 4 | .1995 | 24 | 6.862 | .2753 | -30.79 | 17.00 |
| 8 | 5 | .3162 | 21 | 2.921 | .3070 | -36.91 | 27.34 |
| 9 | 6 | .5012 | 27 | 8.298 | .3449 | -36.50 | 22.71 |
| 10 | 7 | .7943 | 45 | 19.55 | .3018 | -31.68 | 26.57 |
| 11 | 8 | 1.258 | 72 | 50.01 | .2497 | -25.86 | 18.43 |
| 12 | 9 | 1.995 | 61 | 65.01 | .2073 | -25.31 | 13.57 |
| 13 | 10 | 3.162 | 62 | 78.29 | .2504 | -30.03 | 18.91 |
| 14 | 11 | 5.011 | 90 | 99.96 | .2016 | -35.72 | 16.51 |
| 15 | 12 | 7.943 | 49 | 126.0 | .6975E-01 | -40.06 | 5.234 |
| 16 | 13 | 12.58 | 68 | 127.8 | .8736E-01 | -54.30 | 5.680 |
| 17 | 14 | 19.95 | 72 | 111.5 | .9659E-01 | -66.51 | 6.202 |
| 18 | 15 | 31.62 | 44 | 66.38 | .1364 | -69.81 | 18.84 |
| 19 | 16 | 50.11 | 20 | 41.45 | .2090 | -71.00 | 19.44 |
| 20 | 17 | 79.43 | 18 | 32.00 | .2349 | -60.88 | 28.41 |
| 21 | 18 | 125.8 | 14 | 24.02 | .2389 | -58.71 | 25.57 |
| 22 | 19 | 199.5 | 11 | 19.67 | .1792 | -59.90 | 15.79 |
| 24 | 20 | 501.1 | 5 | 31.84 | .2209 | -45.40 | 18.38 |
| 25 | 21 | 794.3 | 6 | 18.82 | .2055 | -70.33 | 7.408 |
| 26 | 22 | 1258. | 1 | 185.0 | 0.000 | -46.00 | 0.000 |

COMPONENT : 2

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 5 | 1 | .7943E-01 | 44 | 2.126 | .2883 | -33.69 | 14.30 |
| 6 | 2 | .1259 | 53 | 3.787 | .2214 | -27.08 | 10.69 |
| 7 | 3 | .1995 | 20 | 3.213 | .3523 | -35.08 | 26.49 |
| 8 | 4 | .3162 | 16 | 7.153 | .3276 | -47.58 | 33.07 |
| 9 | 5 | .5012 | 23 | 12.01 | .3372 | -40.42 | 29.89 |
| 10 | 6 | .7943 | 38 | 24.46 | .2005 | -35.72 | 27.31 |
| 11 | 7 | 1.258 | 64 | 71.98 | .3413 | -27.92 | 29.69 |
| 12 | 8 | 1.995 | 49 | 88.93 | .2139 | -31.22 | 32.53 |
| 13 | 9 | 3.162 | 61 | 170.4 | .3053 | -27.53 | 29.47 |
| 14 | 10 | 5.011 | 76 | 224.7 | .2350 | -30.15 | 33.40 |
| 15 | 11 | 7.943 | 50 | 284.8 | .1170 | -16.41 | 24.08 |
| 16 | 12 | 12.58 | 69 | 407.9 | .5967E-01 | -10.65 | 3.450 |
| 17 | 13 | 19.95 | 72 | 585.8 | .7628E-01 | -14.00 | 3.192 |
| 18 | 14 | 31.62 | 44 | 774.8 | .8559E-01 | -15.43 | 4.119 |
| 19 | 15 | 50.11 | 21 | 1097. | .9111E-01 | -18.72 | 4.762 |
| 20 | 16 | 79.43 | 21 | 1362. | .8410E-01 | -25.09 | 12.85 |
| 21 | 17 | 125.8 | 15 | 1707. | .1115 | -29.90 | 9.051 |
| 22 | 18 | 199.5 | 11 | 2502. | .7379E-01 | -32.27 | 3.977 |
| 23 | 19 | 316.2 | 1 | 2580. | 0.000 | -36.10 | 0.000 |
| 24 | 20 | 501.1 | 7 | 2392. | .8611E-01 | -42.32 | 2.982 |
| 25 | 21 | 794.3 | 7 | 2421. | .5108E-01 | -40.95 | 3.559 |
| 26 | 22 | 1258. | 3 | 2391. | .4317E-01 | -47.13 | 5.511 |

TABLE 3 (continued)

BROKEN HILL 1982 SITE 07 AZ11
ROTATION : 70 STRIKE : 81 M

COMPONENT : 1

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 11 | 3.387 | .2002 | -20.63 | 9.584 |
| 5 | 2 | .7943E-01 | 64 | 5.654 | .1429 | -29.65 | 10.80 |
| 6 | 3 | .1259 | 137 | 6.605 | .1571 | -29.07 | 8.802 |
| 7 | 4 | .1995 | 80 | 5.214 | .2430 | -30.40 | 17.71 |
| 8 | 5 | .3162 | 65 | 6.052 | .2761 | -33.67 | 22.42 |
| 9 | 6 | .5012 | 75 | 8.983 | .2948 | -29.62 | 23.71 |
| 10 | 7 | .7943 | 108 | 17.89 | .2659 | -32.20 | 25.37 |
| 11 | 8 | 1.258 | 112 | 36.26 | .2292 | -28.56 | 20.91 |
| 12 | 9 | 1.995 | 85 | 52.38 | .1848 | -27.61 | 16.69 |
| 13 | 10 | 3.162 | 117 | 76.77 | .1288 | -26.82 | 9.972 |
| 14 | 11 | 5.011 | 135 | 102.8 | .1021 | -30.97 | 8.557 |
| 15 | 12 | 7.943 | 82 | 132.7 | .5313E-01 | -37.64 | 3.303 |
| 16 | 13 | 12.58 | 85 | 137.5 | .7282E-01 | -50.25 | 4.630 |
| 17 | 14 | 19.95 | 82 | 129.3 | .1306 | -60.22 | 9.155 |
| 18 | 15 | 31.62 | 42 | 96.79 | .1371 | -65.71 | 9.943 |
| 19 | 16 | 50.11 | 14 | 64.17 | .9823E-01 | -67.50 | 5.704 |
| 20 | 17 | 79.43 | 12 | 43.93 | .1900 | -56.75 | 11.06 |
| 21 | 18 | 125.8 | 9 | 30.66 | .1165 | -45.55 | 17.16 |
| 22 | 19 | 199.5 | 11 | 27.60 | .2197 | -36.18 | 14.05 |
| 23 | 20 | 316.2 | 5 | 37.54 | .3003 | -41.60 | 6.468 |
| 24 | 21 | 501.1 | 7 | 42.07 | .7214E-01 | -42.00 | 10.32 |
| 25 | 22 | 794.3 | 7 | 42.24 | .1806 | -50.42 | 7.384 |
| 26 | 23 | 1258. | 4 | 61.33 | .6431E-01 | -33.25 | 20.76 |

COMPONENT : 2

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 10 | 4.207 | .2165 | -38.03 | 22.17 |
| 5 | 2 | .7943E-01 | 59 | 4.766 | .2293 | -32.35 | 13.09 |
| 6 | 3 | .1259 | 128 | 7.257 | .2273 | -28.56 | 16.09 |
| 7 | 4 | .1995 | 81 | 7.177 | .2257 | -29.60 | 20.34 |
| 8 | 5 | .3162 | 70 | 8.982 | .2889 | -29.03 | 23.74 |
| 9 | 6 | .5012 | 83 | 15.61 | .2793 | -26.82 | 26.28 |
| 10 | 7 | .7943 | 111 | 28.64 | .2476 | -26.53 | 27.85 |
| 11 | 8 | 1.258 | 115 | 53.48 | .2493 | -24.69 | 26.26 |
| 12 | 9 | 1.995 | 90 | 77.31 | .2271 | -25.88 | 26.32 |
| 13 | 10 | 3.162 | 118 | 111.6 | .2054 | -18.27 | 18.64 |
| 14 | 11 | 5.011 | 134 | 157.6 | .2342 | -17.27 | 17.48 |
| 15 | 12 | 7.943 | 82 | 167.6 | .1171 | -12.86 | 3.493 |
| 16 | 13 | 12.58 | 85 | 248.1 | .1392 | -16.00 | 6.767 |
| 17 | 14 | 19.95 | 82 | 333.8 | .1469 | -18.48 | 4.868 |
| 18 | 15 | 31.62 | 41 | 433.2 | .1728 | -20.41 | 5.326 |
| 19 | 16 | 50.11 | 14 | 744.1 | .1653 | -24.13 | 7.536 |
| 20 | 17 | 79.43 | 12 | 905.7 | .2550 | -31.78 | 16.09 |
| 21 | 18 | 125.8 | 9 | 1233. | .1415 | -32.42 | 9.890 |
| 22 | 19 | 199.5 | 11 | 1440. | .2340 | -34.62 | 8.304 |
| 23 | 20 | 316.2 | 5 | 894.0 | .1498 | -39.46 | 8.931 |
| 24 | 21 | 501.1 | 7 | 729.4 | .2717 | -45.68 | 6.069 |
| 25 | 22 | 794.3 | 8 | 787.0 | .2710 | -43.75 | 6.518 |
| 26 | 23 | 1258. | 3 | 634.4 | .1425 | -54.30 | 7.359 |

TABLE 3 (continued)

BROKEN HILL 1982 SITE 08 AZ326
ROTATION : 100 STRIKE : 66 M

COMPONENT : 1

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 11 | 5.002 | .2220 | -16.36 | 6.034 |
| 5 | 2 | .7943E-01 | 54 | 7.874 | .1117 | -22.22 | 12.24 |
| 6 | 3 | .1259 | 96 | 10.31 | .1527 | -26.66 | 8.635 |
| 7 | 4 | .1995 | 54 | 7.696 | .2074 | -27.01 | 16.67 |
| 8 | 5 | .3162 | 39 | 10.73 | .2747 | -36.15 | 20.13 |
| 9 | 6 | .5012 | 75 | 13.74 | .1937 | -33.34 | 17.56 |
| 10 | 7 | .7943 | 87 | 16.39 | .3044 | -30.58 | 16.82 |
| 11 | 8 | 1.258 | 91 | 32.16 | .2356 | -31.33 | 15.92 |
| 12 | 9 | 1.995 | 69 | 46.52 | .1759 | -30.40 | 11.88 |
| 13 | 10 | 3.162 | 87 | 58.59 | .1374 | -31.41 | 11.97 |
| 14 | 11 | 5.011 | 103 | 81.59 | .1489 | -33.63 | 9.324 |
| 15 | 12 | 7.943 | 64 | 117.9 | .6245E-01 | -39.39 | 4.095 |
| 16 | 13 | 12.58 | 88 | 125.5 | .9057E-01 | -50.30 | 4.556 |
| 17 | 14 | 19.95 | 63 | 133.7 | .1281 | -57.76 | 7.300 |
| 18 | 15 | 31.62 | 42 | 78.47 | .1382 | -68.50 | 10.91 |
| 19 | 16 | 50.11 | 16 | 53.70 | .2164 | -62.06 | 20.97 |
| 20 | 17 | 79.43 | 18 | 37.29 | .1990 | -60.05 | 19.72 |
| 21 | 18 | 125.8 | 12 | 23.78 | .2572 | -56.50 | 19.50 |
| 22 | 19 | 199.5 | 12 | 30.84 | .1683 | -48.25 | 8.267 |
| 23 | 20 | 316.2 | 7 | 30.83 | .1532 | -44.00 | 6.928 |
| 24 | 21 | 501.1 | 5 | 39.53 | .4673E-01 | -51.00 | 3.224 |
| 25 | 22 | 794.3 | 6 | 32.09 | .1735 | -50.00 | 12.66 |
| 26 | 23 | 1258. | 3 | 35.13 | .7583E-01 | -52.00 | 1.632 |

COMPONENT : 2

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 11 | 4.071 | .2761 | -32.69 | 27.31 |
| 5 | 2 | .7943E-01 | 53 | 5.066 | .2427 | -26.00 | 20.25 |
| 6 | 3 | .1259 | 92 | 8.395 | .2952 | -25.83 | 14.90 |
| 7 | 4 | .1995 | 56 | 13.41 | .2790 | -31.15 | 15.97 |
| 8 | 5 | .3162 | 37 | 15.32 | .2442 | -28.95 | 20.70 |
| 9 | 6 | .5012 | 78 | 18.06 | .2040 | -28.48 | 16.65 |
| 10 | 7 | .7943 | 93 | 27.21 | .2236 | -27.27 | 19.98 |
| 11 | 8 | 1.258 | 95 | 39.86 | .2627 | -24.46 | 19.05 |
| 12 | 9 | 1.995 | 69 | 68.79 | .1812 | -21.60 | 12.76 |
| 13 | 10 | 3.162 | 88 | 75.78 | .2383 | -20.84 | 16.29 |
| 14 | 11 | 5.011 | 104 | 116.6 | .2346 | -23.50 | 19.32 |
| 15 | 12 | 7.943 | 64 | 122.3 | .8315E-01 | -16.82 | 10.12 |
| 16 | 13 | 12.58 | 87 | 174.4 | .7517E-01 | -17.76 | 7.308 |
| 17 | 14 | 19.95 | 63 | 220.6 | .6995E-01 | -17.74 | 3.576 |
| 18 | 15 | 31.62 | 42 | 297.8 | .5352E-01 | -19.25 | 5.754 |
| 19 | 16 | 50.11 | 16 | 412.6 | .6565E-01 | -23.21 | 2.857 |
| 20 | 17 | 79.43 | 19 | 479.8 | .6907E-01 | -28.41 | 6.016 |
| 21 | 18 | 125.8 | 13 | 607.1 | .5888E-01 | -31.48 | 5.008 |
| 22 | 19 | 199.5 | 13 | 803.5 | .7273E-01 | -32.45 | 8.577 |
| 23 | 20 | 316.2 | 7 | 822.0 | .8132E-01 | -44.20 | 7.639 |
| 24 | 21 | 501.1 | 5 | 816.9 | .6989E-01 | -41.82 | 2.393 |
| 25 | 22 | 794.3 | 6 | 867.7 | .1175 | -47.31 | 10.16 |
| 26 | 23 | 1258. | 3 | 787.4 | .2076E-01 | -50.70 | 3.023 |

TABLE 3 (continued)

BROKEN HILL 1982 SITE 09 AZ18
ROTATION : -10 STRIKE : 8 M

COMPONENT : 1

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 2 | .5012E-01 | 11 | 2.262 | .1564 | -35.10 | 9.531 |
| 5 | 3 | .7943E-01 | 86 | 2.776 | .1407 | -43.06 | 7.672 |
| 6 | 4 | .1259 | 129 | 2.938 | .1303 | -46.53 | 9.309 |
| 7 | 5 | .1995 | 23 | 1.293 | .3398 | -48.11 | 23.26 |
| 8 | 6 | .3162 | 33 | 1.232 | .6623 | -48.43 | 24.17 |
| 9 | 7 | .5012 | 32 | 1.794 | .3821 | -49.51 | 20.99 |
| 10 | 8 | .7943 | 60 | 2.419 | .2852 | -45.66 | 18.27 |
| 11 | 9 | 1.258 | 85 | 4.288 | .4022 | -47.06 | 13.61 |
| 12 | 10 | 1.995 | 66 | 5.726 | .3296 | -51.10 | 13.53 |
| 13 | 11 | 3.162 | 78 | 6.719 | .3369 | -50.86 | 16.15 |
| 14 | 12 | 5.011 | 82 | 5.801 | .4834 | -50.60 | 13.82 |
| 15 | 13 | 7.943 | 79 | 6.298 | .2542 | -49.46 | 9.644 |
| 16 | 14 | 12.58 | 81 | 6.102 | .2964 | -46.41 | 7.120 |
| 17 | 15 | 19.95 | 83 | 5.725 | .1637 | -44.12 | 5.035 |
| 18 | 16 | 31.62 | 51 | 6.154 | .1685 | -46.40 | 6.422 |
| 19 | 17 | 50.11 | 21 | 4.925 | .3293 | -55.65 | 15.46 |
| 20 | 18 | 79.43 | 19 | 2.527 | .6031 | -61.62 | 14.58 |
| 21 | 19 | 125.8 | 9 | 3.121 | .8771E-01 | -54.28 | 9.200 |
| 22 | 20 | 199.5 | 12 | 3.347 | .5948 | -53.70 | 18.59 |
| 23 | 21 | 316.2 | 4 | 2.887 | .1047 | -60.02 | 7.523 |
| 24 | 22 | 501.1 | 4 | 2.679 | .9671E-01 | -65.12 | 13.89 |
| 25 | 23 | 794.3 | 5 | 1.287 | .3737 | -61.98 | 11.24 |
| 26 | 24 | 1258. | 4 | 2.819 | .2122E-01 | -53.95 | 15.03 |

COMPONENT : 2

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 2 | .5012E-01 | 11 | .4617 | .4330 | -45.00 | 18.55 |
| 5 | 3 | .7943E-01 | 86 | 1.750 | .3037 | -41.72 | 16.95 |
| 6 | 4 | .1259 | 129 | 2.533 | .2710 | -42.55 | 13.08 |
| 7 | 5 | .1995 | 23 | 1.023 | .5508 | -40.73 | 20.20 |
| 8 | 6 | .3162 | 33 | 1.393 | .9173 | -46.41 | 21.75 |
| 9 | 7 | .5012 | 32 | 2.384 | .4270 | -40.77 | 23.13 |
| 10 | 8 | .7943 | 60 | 3.923 | .4048 | -45.81 | 18.26 |
| 11 | 9 | 1.258 | 85 | 5.281 | .4560 | -44.69 | 13.69 |
| 12 | 10 | 1.995 | 66 | 7.209 | .4394 | -44.68 | 12.87 |
| 13 | 11 | 3.162 | 78 | 6.957 | .4725 | -47.94 | 15.11 |
| 14 | 12 | 5.011 | 82 | 4.877 | .5597 | -45.97 | 15.19 |
| 15 | 13 | 7.943 | 79 | 4.651 | .4133 | -34.13 | 7.902 |
| 16 | 14 | 12.58 | 81 | 6.053 | .4247 | -22.71 | 8.066 |
| 17 | 15 | 19.95 | 83 | 7.134 | .2854 | -17.81 | 8.992 |
| 18 | 16 | 31.62 | 51 | 10.03 | .3655 | -16.25 | 4.668 |
| 19 | 17 | 50.11 | 21 | 12.14 | .7302E-01 | -13.23 | 2.958 |
| 20 | 18 | 79.43 | 19 | 17.79 | .7671E-01 | -13.89 | 4.778 |
| 21 | 19 | 125.8 | 9 | 26.54 | .4322E-01 | -19.44 | 4.573 |
| 22 | 20 | 199.5 | 12 | 34.02 | .1336 | -25.91 | 6.383 |
| 23 | 21 | 316.2 | 4 | 31.17 | .2038 | -29.00 | 8.154 |
| 24 | 22 | 501.1 | 4 | 49.55 | .5865E-01 | -32.50 | 3.201 |
| 25 | 23 | 794.3 | 5 | 49.30 | .4952E-01 | -40.00 | 1.549 |
| 26 | 24 | 1258. | 4 | 39.64 | .5167E-01 | -50.75 | 6.647 |

TABLE 3 (continued)

BROKEN HILL 1982 SITE 10 AZ352
ROTATION : 35 STRIKE : 27 M

COMPONENT : 1

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 11 | .8110 | .4475 | -37.57 | 19.89 |
| 5 | 2 | .7943E-01 | 71 | 2.426 | .2482 | -44.62 | 12.12 |
| 6 | 3 | .1259 | 123 | 2.641 | .2443 | -45.96 | 12.26 |
| 7 | 4 | .1995 | 75 | 1.778 | .4267 | -45.11 | 18.95 |
| 8 | 5 | .3162 | 61 | 1.443 | .5954 | -44.73 | 18.45 |
| 9 | 6 | .5012 | 76 | 1.661 | .4086 | -40.32 | 23.09 |
| 10 | 7 | .7943 | 83 | 2.377 | .4692 | -35.98 | 22.03 |
| 11 | 8 | 1.258 | 114 | 4.098 | .3349 | -33.04 | 19.25 |
| 12 | 9 | 1.995 | 89 | 4.928 | .2441 | -31.93 | 23.11 |
| 13 | 10 | 3.162 | 119 | 7.567 | .3711 | -27.52 | 18.37 |
| 14 | 11 | 5.011 | 128 | 13.42 | .3439 | -31.83 | 22.18 |
| 15 | 12 | 7.943 | 88 | 25.74 | .1906 | -24.15 | 9.481 |
| 16 | 13 | 12.58 | 98 | 33.60 | .2371 | -29.84 | 11.12 |
| 17 | 14 | 19.95 | 104 | 41.64 | .2077 | -35.80 | 11.31 |
| 18 | 15 | 31.62 | 64 | 40.19 | .1838 | -40.94 | 10.17 |
| 19 | 16 | 50.11 | 27 | 38.22 | .2157 | -52.06 | 9.045 |
| 20 | 17 | 79.43 | 32 | 29.95 | .1561 | -54.94 | 11.17 |
| 21 | 18 | 125.8 | 26 | 25.80 | .1663 | -52.64 | 8.357 |
| 22 | 19 | 199.5 | 19 | 23.69 | .1788 | -52.25 | 6.532 |
| 23 | 20 | 316.2 | 8 | 24.71 | .1567 | -58.28 | 5.054 |
| 24 | 21 | 501.1 | 8 | 23.15 | .1915 | -55.47 | 8.544 |
| 25 | 22 | 794.3 | 8 | 20.03 | .1229 | -63.30 | 12.73 |
| 26 | 23 | 1258. | 4 | 12.29 | .3923 | -45.87 | 25.57 |

COMPONENT : 2

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 11 | 1.730 | .3088 | -46.18 | 16.45 |
| 5 | 2 | .7943E-01 | 71 | 2.659 | .2433 | -46.97 | 13.13 |
| 6 | 3 | .1259 | 123 | 2.941 | .2724 | -46.32 | 14.05 |
| 7 | 4 | .1995 | 75 | 1.341 | .4546 | -43.90 | 22.27 |
| 8 | 5 | .3162 | 61 | .7982 | .5534 | -44.96 | 25.32 |
| 9 | 6 | .5012 | 76 | .8497 | .5301 | -42.35 | 22.20 |
| 10 | 7 | .7943 | 83 | 1.891 | .5081 | -37.85 | 25.00 |
| 11 | 8 | 1.258 | 114 | 3.801 | .5923 | -33.19 | 19.05 |
| 12 | 9 | 1.995 | 89 | 6.419 | .3498 | -27.94 | 17.58 |
| 13 | 10 | 3.162 | 119 | 11.40 | .3945 | -29.06 | 20.72 |
| 14 | 11 | 5.011 | 128 | 17.80 | .4444 | -28.16 | 20.25 |
| 15 | 12 | 7.943 | 88 | 39.33 | .2297 | -19.95 | 6.726 |
| 16 | 13 | 12.58 | 98 | 51.09 | .2420 | -21.67 | 6.831 |
| 17 | 14 | 19.95 | 104 | 61.92 | .2393 | -26.15 | 8.373 |
| 18 | 15 | 31.62 | 64 | 59.44 | .2548 | -25.07 | 7.782 |
| 19 | 16 | 50.11 | 27 | 80.49 | .2083 | -23.70 | 4.353 |
| 20 | 17 | 79.43 | 32 | 117.5 | .2069 | -28.71 | 5.890 |
| 21 | 18 | 125.8 | 26 | 155.4 | .1871 | -30.23 | 6.851 |
| 22 | 19 | 199.5 | 19 | 212.7 | .6777E-01 | -38.84 | 7.464 |
| 23 | 20 | 316.2 | 8 | 262.8 | .6056E-01 | -42.12 | 1.899 |
| 24 | 21 | 501.1 | 8 | 256.1 | .4322E-01 | -49.62 | 1.798 |
| 25 | 22 | 794.3 | 8 | 215.0 | .7847E-01 | -52.62 | 2.869 |
| 26 | 23 | 1258. | 4 | 154.5 | .1735 | -56.25 | 5.261 |

TABLE 3 (continued)

BROKEN HILL 1982 SITE 11 AZ11
ROTATION : 30 STRIKE : 41 M

COMPONENT : 1

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 2 | 1.868 | .2896 | -36.90 | 1.799 |
| 5 | 2 | .7943E-01 | 37 | 2.945 | .2489 | -39.65 | 8.644 |
| 6 | 3 | .1259 | 95 | 4.278 | .1669 | -32.37 | 10.20 |
| 7 | 4 | .1995 | 43 | 3.633 | .3339 | -36.39 | 22.53 |
| 8 | 5 | .3162 | 52 | 3.505 | .4885 | -31.55 | 20.14 |
| 9 | 6 | .5012 | 65 | 8.257 | .4698 | -28.18 | 23.46 |
| 10 | 7 | .7943 | 103 | 15.01 | .3266 | -29.65 | 26.09 |
| 11 | 8 | 1.258 | 116 | 41.11 | .5250 | -24.98 | 19.75 |
| 12 | 9 | 1.995 | 83 | 71.92 | .3772 | -25.84 | 21.77 |
| 13 | 10 | 3.162 | 100 | 118.0 | .3954 | -27.71 | 21.48 |
| 14 | 11 | 5.011 | 68 | 112.2 | .6018 | -35.66 | 23.47 |
| 15 | 12 | 7.943 | 41 | 397.8 | .3051 | -30.22 | 15.49 |
| 16 | 13 | 12.58 | 52 | 323.0 | .3485 | -33.07 | 16.46 |
| 17 | 14 | 19.95 | 100 | 516.8 | .3201 | -37.81 | 13.76 |
| 18 | 15 | 31.62 | 71 | 403.1 | .2839 | -44.25 | 12.50 |
| 19 | 16 | 50.11 | 38 | 263.0 | .2228 | -52.03 | 8.260 |
| 20 | 17 | 79.43 | 33 | 180.6 | .3159 | -49.58 | 21.02 |
| 21 | 18 | 125.8 | 22 | 130.5 | .3403 | -50.78 | 18.39 |
| 22 | 19 | 199.5 | 11 | 153.8 | .2890 | -52.53 | 18.89 |
| 23 | 20 | 316.2 | 7 | 134.5 | .1518 | -67.14 | 11.52 |
| 24 | 21 | 501.1 | 6 | 135.7 | .1246 | -57.53 | 3.508 |
| 25 | 22 | 794.3 | 7 | 99.28 | .2067 | -62.28 | 11.14 |
| 26 | 23 | 1258. | 3 | 128.4 | .2483 | -68.43 | 6.718 |

COMPONENT : 2

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 2 | 3.088 | .2345 | -57.00 | 14.00 |
| 5 | 2 | .7943E-01 | 37 | 3.681 | .2407 | -43.78 | 11.11 |
| 6 | 3 | .1259 | 95 | 5.090 | .2003 | -34.25 | 12.24 |
| 7 | 4 | .1995 | 43 | 2.876 | .3387 | -38.08 | 20.99 |
| 8 | 5 | .3162 | 52 | 3.551 | .6401 | -36.33 | 25.06 |
| 9 | 6 | .5012 | 65 | 8.469 | .4372 | -30.81 | 24.59 |
| 10 | 7 | .7943 | 103 | 13.99 | .4946 | -30.56 | 27.35 |
| 11 | 8 | 1.258 | 116 | 60.63 | .6560 | -34.08 | 26.08 |
| 12 | 9 | 1.995 | 83 | 106.5 | .4947 | -29.24 | 22.87 |
| 13 | 10 | 3.162 | 100 | 195.5 | .4681 | -24.48 | 23.30 |
| 14 | 11 | 5.011 | 68 | 231.7 | .6548 | -27.64 | 26.88 |
| 15 | 12 | 7.943 | 41 | 513.4 | .4057 | -29.48 | 28.04 |
| 16 | 13 | 12.58 | 52 | 686.7 | .4182 | -24.59 | 17.40 |
| 17 | 14 | 19.95 | 100 | 1090. | .4319 | -26.12 | 14.33 |
| 18 | 15 | 31.62 | 71 | 954.9 | .3807 | -27.64 | 14.95 |
| 19 | 16 | 50.11 | 38 | 708.4 | .3408 | -23.78 | 7.388 |
| 20 | 17 | 79.43 | 33 | 846.3 | .3944 | -32.18 | 12.24 |
| 21 | 18 | 125.8 | 22 | 876.4 | .3295 | -35.31 | 14.60 |
| 22 | 19 | 199.5 | 11 | 1040. | .2896 | -45.63 | 15.21 |
| 23 | 20 | 316.2 | 7 | 1559. | .1676 | -45.42 | 3.539 |
| 24 | 21 | 501.1 | 6 | 1315. | .1758 | -51.83 | 8.952 |
| 25 | 22 | 794.3 | 7 | 972.8 | .1785 | -53.85 | 11.12 |
| 26 | 23 | 1258. | 3 | 688.2 | .2419 | -58.33 | 8.956 |

TABLE 3 (continued)

BROKEN HILL 1982 SITE 12 AZ52
ROTATION : -40 STRIKE : 12 M

COMPONENT : 1

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 3 | 3.743 | .1180 | -47.66 | 5.619 |
| 5 | 2 | .7943E-01 | 12 | 3.270 | .9147E-01 | -48.56 | 9.418 |
| 6 | 3 | .1259 | 63 | 3.250 | .1099 | -52.13 | 7.001 |
| 7 | 4 | .1995 | 27 | 2.219 | .3545 | -42.46 | 17.09 |
| 8 | 5 | .3162 | 35 | 1.175 | .5428 | -50.09 | 23.31 |
| 9 | 6 | .5012 | 25 | 1.306 | .3690 | -45.73 | 23.04 |
| 10 | 7 | .7943 | 49 | 1.703 | .5577 | -39.76 | 22.96 |
| 11 | 8 | 1.258 | 32 | 3.709 | .3269 | -34.70 | 14.55 |
| 12 | 9 | 1.995 | 35 | 4.254 | .2899 | -34.66 | 17.77 |
| 13 | 10 | 3.162 | 67 | 4.647 | .4280 | -33.96 | 16.16 |
| 14 | 11 | 5.011 | 77 | 6.813 | .2755 | -31.25 | 16.40 |
| 15 | 12 | 7.943 | 65 | 9.115 | .1415 | -32.17 | 7.370 |
| 16 | 13 | 12.58 | 76 | 11.75 | .1582 | -34.97 | 9.191 |
| 17 | 14 | 19.95 | 85 | 13.91 | .1127 | -33.65 | 7.572 |
| 18 | 15 | 31.62 | 55 | 16.41 | .1401 | -38.70 | 9.134 |
| 19 | 16 | 50.11 | 25 | 17.01 | .1734 | -45.13 | 13.68 |
| 20 | 17 | 79.43 | 30 | 14.45 | .2318 | -43.34 | 16.82 |
| 21 | 18 | 125.8 | 21 | 15.40 | .4015 | -43.86 | 8.215 |
| 22 | 19 | 199.5 | 16 | 18.33 | .2429 | -48.61 | 13.45 |
| 23 | 20 | 316.2 | 6 | 18.15 | .7762E-01 | -53.88 | 11.87 |
| 24 | 21 | 501.1 | 5 | 21.17 | .2194 | -52.10 | 4.977 |
| 25 | 22 | 794.3 | 8 | 19.56 | .2736 | -45.00 | 17.89 |
| 26 | 23 | 1258. | 4 | 25.76 | .3240 | -51.10 | 7.449 |

COMPONENT : 2

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 3 | 1.781 | .1301 | -34.33 | 7.363 |
| 5 | 2 | .7943E-01 | 12 | 1.910 | .2313 | -51.25 | 11.55 |
| 6 | 3 | .1259 | 63 | 2.270 | .2373 | -53.23 | 12.84 |
| 7 | 4 | .1995 | 27 | 1.212 | .3412 | -53.03 | 21.66 |
| 8 | 5 | .3162 | 35 | .8201 | .6528 | -43.69 | 25.01 |
| 9 | 6 | .5012 | 25 | .8897 | .6287 | -45.84 | 21.86 |
| 10 | 7 | .7943 | 49 | 1.542 | .4170 | -45.24 | 19.32 |
| 11 | 8 | 1.258 | 32 | 2.835 | .2932 | -36.03 | 15.85 |
| 12 | 9 | 1.995 | 35 | 4.023 | .2873 | -33.91 | 20.05 |
| 13 | 10 | 3.162 | 67 | 4.662 | .2816 | -30.38 | 22.37 |
| 14 | 11 | 5.011 | 77 | 7.798 | .3723 | -27.38 | 27.75 |
| 15 | 12 | 7.943 | 65 | 14.28 | .1202 | -18.98 | 26.13 |
| 16 | 13 | 12.58 | 76 | 25.01 | .8326E-01 | -9.434 | 13.80 |
| 17 | 14 | 19.95 | 85 | 41.80 | .9517E-01 | -11.04 | 14.84 |
| 18 | 15 | 31.62 | 55 | 51.85 | .3756 | -14.90 | 17.85 |
| 19 | 16 | 50.11 | 25 | 117.2 | .1265 | -14.76 | 6.795 |
| 20 | 17 | 79.43 | 30 | 172.9 | .1458 | -24.60 | 13.81 |
| 21 | 18 | 125.8 | 21 | 192.8 | .1980 | -26.76 | 12.68 |
| 22 | 19 | 199.5 | 16 | 231.7 | .2899 | -37.12 | 13.52 |
| 23 | 20 | 316.2 | 6 | 310.7 | .3621E-01 | -39.16 | 3.236 |
| 24 | 21 | 501.1 | 5 | 327.9 | .7472E-01 | -40.80 | 3.544 |
| 25 | 22 | 794.3 | 8 | 308.8 | .8819E-01 | -54.37 | 13.68 |
| 26 | 23 | 1258. | 4 | 382.0 | .2542 | -59.75 | 12.33 |

TABLE 3 (continued)

BROKEN HILL 1982 SITE 13 AZ8
ROTATION : 10 STRIKE : 18 M

COMPONENT : 1

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 31 | 1.558 | .1753 | -27.12 | 7.782 |
| 5 | 2 | .7943E-01 | 108 | 1.575 | .1284 | -27.19 | 8.936 |
| 6 | 3 | .1259 | 136 | 1.930 | .1959 | -28.94 | 10.62 |
| 7 | 4 | .1995 | 57 | 1.650 | .2946 | -32.04 | 23.97 |
| 8 | 5 | .3162 | 45 | 2.434 | .4140 | -38.40 | 28.65 |
| 9 | 6 | .5012 | 83 | 4.427 | .4409 | -33.06 | 24.46 |
| 10 | 7 | .7943 | 71 | 10.11 | .4294 | -38.15 | 27.71 |
| 11 | 8 | 1.258 | 108 | 14.85 | .3949 | -28.73 | 25.33 |
| 12 | 9 | 1.995 | 72 | 27.54 | .1740 | -19.97 | 14.56 |
| 13 | 10 | 3.162 | 90 | 31.86 | .2570 | -26.28 | 15.59 |
| 14 | 11 | 5.011 | 114 | 46.83 | .2167 | -26.31 | 11.42 |
| 15 | 12 | 7.943 | 76 | 75.14 | .9446E-01 | -25.46 | 5.714 |
| 16 | 13 | 12.58 | 101 | 90.19 | .2216 | -30.88 | 11.07 |
| 17 | 14 | 19.95 | 105 | 96.59 | .9940E-01 | -32.84 | 8.824 |
| 18 | 15 | 31.62 | 70 | 111.9 | .1067 | -37.58 | 8.155 |
| 19 | 16 | 50.11 | 37 | 104.5 | .9040E-01 | -43.51 | 5.775 |
| 20 | 17 | 79.43 | 37 | 104.0 | .8998E-01 | -45.75 | 5.631 |
| 21 | 18 | 125.8 | 30 | 100.0 | .1172 | -49.19 | 6.951 |
| 22 | 19 | 199.5 | 22 | 92.65 | .1843 | -51.30 | 6.506 |
| 23 | 20 | 316.2 | 5 | 114.2 | .4006E-01 | -55.96 | 1.828 |
| 24 | 21 | 501.1 | 6 | 107.9 | .4212E-01 | -56.61 | 2.807 |
| 25 | 22 | 794.3 | 5 | 90.50 | .2535E-01 | -60.72 | 3.915 |
| 26 | 23 | 1258. | 3 | 73.55 | .1080 | -57.33 | 7.278 |

COMPONENT : 2

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 31 | .6298 | .4152 | -37.77 | 19.20 |
| 5 | 2 | .7943E-01 | 108 | .8253 | .4195 | -35.55 | 14.84 |
| 6 | 3 | .1259 | 136 | 1.849 | .3155 | -28.87 | 15.45 |
| 7 | 4 | .1995 | 57 | 1.244 | .4134 | -35.32 | 22.42 |
| 8 | 5 | .3162 | 45 | .6322 | .7157 | -44.93 | 25.89 |
| 9 | 6 | .5012 | 83 | 2.432 | .5563 | -36.03 | 28.58 |
| 10 | 7 | .7943 | 71 | 5.802 | .4617 | -38.68 | 27.25 |
| 11 | 8 | 1.258 | 108 | 12.14 | .4824 | -25.49 | 22.85 |
| 12 | 9 | 1.995 | 72 | 20.52 | .2691 | -26.45 | 23.30 |
| 13 | 10 | 3.162 | 90 | 24.96 | .3280 | -32.04 | 26.87 |
| 14 | 11 | 5.011 | 114 | 36.92 | .3191 | -31.68 | 27.64 |
| 15 | 12 | 7.943 | 76 | 63.00 | .1909 | -15.84 | 12.71 |
| 16 | 13 | 12.58 | 101 | 101.8 | .2479 | -16.12 | 11.51 |
| 17 | 14 | 19.95 | 105 | 141.6 | .1978 | -19.21 | 10.33 |
| 18 | 15 | 31.62 | 70 | 170.2 | .1920 | -22.37 | 14.30 |
| 19 | 16 | 50.11 | 37 | 245.2 | .1491 | -24.56 | 6.524 |
| 20 | 17 | 79.43 | 37 | 308.7 | .2355 | -31.86 | 7.774 |
| 21 | 18 | 125.8 | 30 | 362.6 | .1928 | -39.73 | 10.03 |
| 22 | 19 | 199.5 | 22 | 449.5 | .2225 | -48.13 | 10.46 |
| 23 | 20 | 316.2 | 5 | 759.3 | .7171E-01 | -48.60 | 2.059 |
| 24 | 21 | 501.1 | 6 | 587.6 | .8166E-01 | -53.16 | 5.079 |
| 25 | 22 | 794.3 | 5 | 482.6 | .7111E-01 | -62.40 | 4.630 |
| 26 | 23 | 1258. | 3 | 358.8 | .1854 | -55.33 | 4.496 |

TABLE 3 (continued)

BROKEN HILL 1982 SITE14 AZ27
ROTATION : 40 STRIKE : 67 M

COMPONENT : 1

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 3 | 2.992 | .1704 | -34.33 | 6.944 |
| 5 | 2 | .7943E-01 | 50 | 4.732 | .1840 | -31.62 | 11.35 |
| 6 | 3 | .1259 | 95 | 6.517 | .1705 | -28.55 | 11.03 |
| 7 | 4 | .1995 | 55 | 3.011 | .3490 | -31.38 | 21.31 |
| 8 | 5 | .3162 | 43 | 1.616 | .6389 | -43.61 | 23.06 |
| 9 | 6 | .5012 | 71 | 3.663 | .3992 | -40.17 | 25.65 |
| 10 | 7 | .7943 | 77 | 7.398 | .4191 | -39.11 | 28.67 |
| 11 | 8 | 1.258 | 86 | 16.10 | .3291 | -30.24 | 22.78 |
| 12 | 9 | 1.995 | 65 | 21.62 | .4726 | -34.27 | 27.47 |
| 13 | 10 | 3.162 | 93 | 35.32 | .4192 | -27.78 | 14.96 |
| 14 | 11 | 5.011 | 104 | 55.49 | .4125 | -30.80 | 19.76 |
| 15 | 12 | 7.943 | 59 | 119.5 | .1365 | -28.05 | 8.076 |
| 16 | 13 | 12.58 | 84 | 134.7 | .1378 | -29.40 | 9.372 |
| 17 | 14 | 19.95 | 92 | 136.4 | .1603 | -29.70 | 6.835 |
| 18 | 15 | 31.62 | 55 | 153.9 | .2148 | -34.76 | 8.792 |
| 19 | 16 | 50.11 | 21 | 121.0 | .7578E-01 | -43.04 | 10.82 |
| 20 | 17 | 79.43 | 29 | 101.4 | .1722 | -44.13 | 9.027 |
| 21 | 18 | 125.8 | 22 | 118.3 | .1117 | -49.31 | 5.771 |
| 22 | 19 | 199.5 | 16 | 130.1 | .7925E-01 | -49.00 | 11.31 |
| 23 | 20 | 316.2 | 8 | 136.9 | .1582 | -50.62 | 5.072 |
| 24 | 21 | 501.1 | 6 | 125.3 | .1111 | -52.83 | 2.793 |
| 25 | 22 | 794.3 | 5 | 118.4 | .1479 | -54.40 | 5.388 |
| 26 | 23 | 1258. | 3 | 87.46 | .9881E-01 | -61.66 | 7.717 |

COMPONENT : 2

| BAND | POINT | PERIOD | N | AP.RES. | SDLM | PHASE | SD |
|---|---|---|---|---|---|---|---|
| 4 | 1 | .5012E-01 | 3 | 1.812 | .3175 | -23.00 | 13.50 |
| 5 | 2 | .7943E-01 | 50 | 2.630 | .2159 | -31.89 | 15.58 |
| 6 | 3 | .1259 | 95 | 3.977 | .2208 | -27.65 | 12.00 |
| 7 | 4 | .1995 | 55 | 4.161 | .2316 | -33.72 | 24.57 |
| 8 | 5 | .3162 | 43 | 4.363 | .4618 | -39.77 | 28.32 |
| 9 | 6 | .5012 | 71 | 7.422 | .4287 | -30.88 | 27.39 |
| 10 | 7 | .7943 | 77 | 17.36 | .2943 | -26.16 | 27.04 |
| 11 | 8 | 1.258 | 86 | 31.87 | .2329 | -23.43 | 24.53 |
| 12 | 9 | 1.995 | 65 | 45.35 | .1883 | -22.05 | 22.98 |
| 13 | 10 | 3.162 | 93 | 67.39 | .3142 | -25.53 | 25.98 |
| 14 | 11 | 5.011 | 104 | 83.39 | .3678 | -24.20 | 24.62 |
| 15 | 12 | 7.943 | 59 | 228.3 | .1432 | -12.32 | 10.30 |
| 16 | 13 | 12.58 | 84 | 324.8 | .1893 | -15.55 | 8.654 |
| 17 | 14 | 19.95 | 92 | 416.9 | .1468 | -17.66 | 5.373 |
| 18 | 15 | 31.62 | 55 | 452.9 | .1578 | -23.04 | 10.38 |
| 19 | 16 | 50.11 | 21 | 552.2 | .1646 | -30.81 | 9.097 |
| 20 | 17 | 79.43 | 29 | 614.0 | .1485 | -34.15 | 8.799 |
| 21 | 18 | 125.8 | 22 | 612.9 | .1634 | -42.09 | 8.169 |
| 22 | 19 | 199.5 | 16 | 670.3 | .1479 | -46.35 | 4.602 |
| 23 | 20 | 316.2 | 8 | 828.4 | .1469 | -48.53 | 1.214 |
| 24 | 21 | 501.1 | 6 | 807.4 | .1346 | -53.28 | 2.373 |
| 25 | 22 | 794.3 | 5 | 705.9 | .1545 | -57.28 | 3.764 |
| 26 | 23 | 1258. | 3 | 616.2 | .1598 | -56.46 | 3.612 |