

### APPENDIX III. MAGNETIC AND GRAVITY DATA BETWEEN JAPAN AND SURVEY AREA, AND BETWEEN SURVEY AREA AND FIJI ISLANDS IN THE GH78-1 CRUISE

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Gravity measurement was conducted also between Japan and the survey area. Free air anomaly profiles are shown in Fig. AIII-1 and in Fig. AIII-2. Prominent features near Japan are negative anomalies as low as  $-300$  mgal over the Izu-Ogasawara trench near the junction with the Japan trench and broad positive anomalies as high as  $50$  mgal seaward of the trench (SEGAWA and BOWIN, 1976 and WATTS and TALWANI, 1974). There are many seamounts in the south of  $25^{\circ}\text{N}$  along the tracks, and they are accompanied by positive anomalies as high as  $150$ – $200$  mgal. The tracks did not cross the tops of them and anomalies on the tops of them are probably higher than the observed values. Free air anomalies in this region apart from seamounts are generally slightly negative as low as  $-10$ – $-30$  mgal.

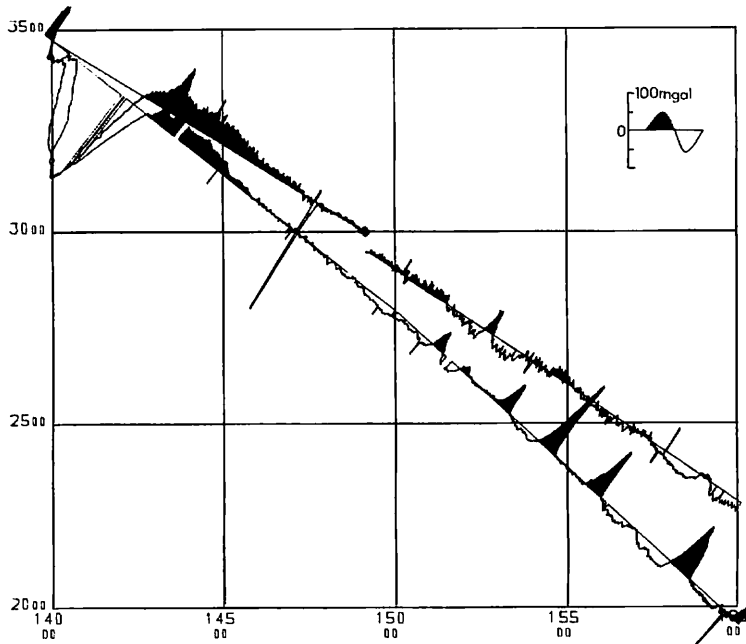


Fig. AIII-1 Free air anomaly profiles between Japan and the GH78-1 area (northern half).

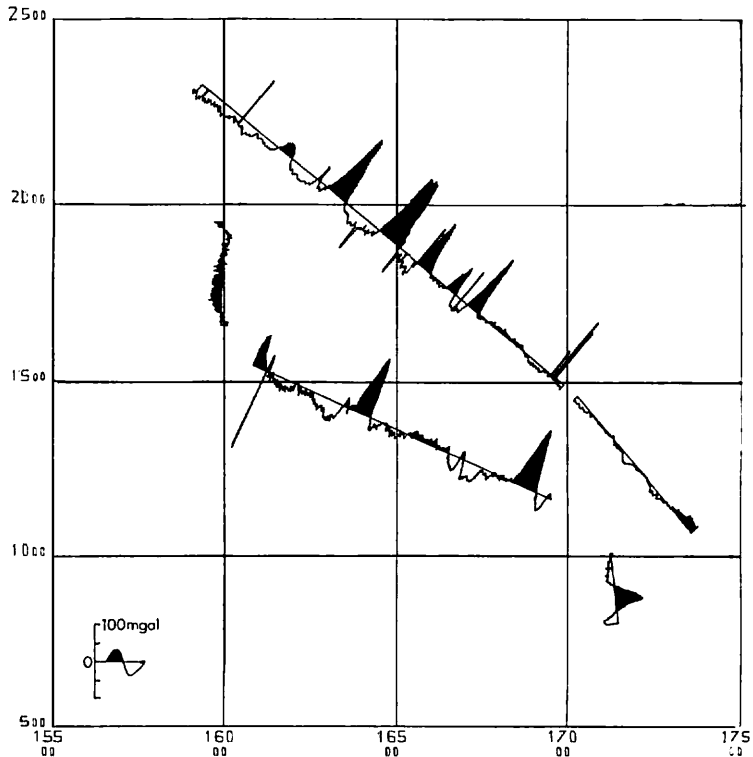


Fig. AIII-2 Free air anomaly profiles between Japan and the GH78-1 area (southern half).

Gravity and total magnetic force measurement was conducted between the survey area and Fiji Islands. Free air anomaly profiles are shown in Fig. AIII-3. Fiji plateau area is characterized by positive anomalies as high as 50 mgal except near Fiji Islands. At the boundary of the Fiji plateau and the Pacific plate there is not such large amplitude low anomalies as is observed over the Izu-Ogasawara trench. Free air anomalies over the Pacific plate in the north of the Fiji plateau are generally slightly negative or close to 0 mgal.

Magnetic anomaly profiles along the tracks between the survey area and Fiji Islands are shown in Fig. AIII-4. Lineated anomalies which form part of the Phoenix lineation are observed north of the two tracks and they have amplitude of 500–1,000 nT peak to peak (LARSON *et al.*, 1972). The Fiji plateau area is characterized by irregular anomalies with amplitude of 1,000 nT or more.

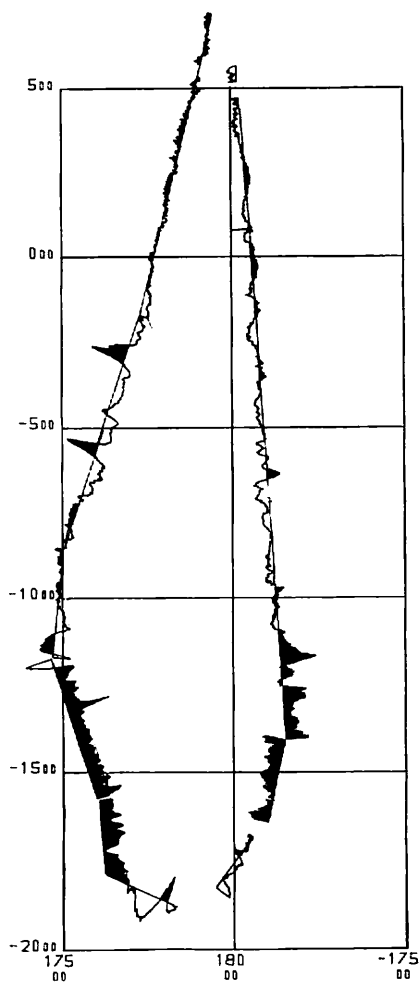


Fig. AIII-3 Free air anomaly profiles between the GH78-1 area and Fiji Islands.

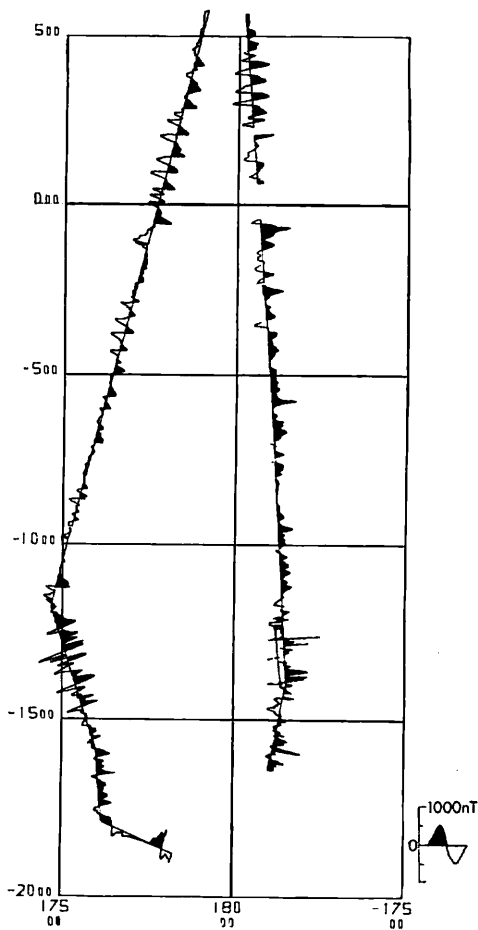


Fig. AIII-4 Magnetic anomaly profiles between the GH78-1 area and Fiji Islands.

### References

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