

VI. MAGNETIC ANOMALY OVER SEAMOUNTS NEAR THE CENTRAL PROVINCE OF THE LINE ISLANDS CHAIN

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There are many seamounts in the survey area near the Mid-Pacific Mountains and the Line Islands chain with the Cross Trend. Cross survey with a precession proton magnetometer was carried out at three areas in the east of the survey area (A1, A2, and A3 in Fig. IV-1). A seamount in the area A1 lies slightly apart from the Line Island chain and its top is 2100 m deep. In the area A2, there are two seamounts, one of which is the Kapsitotwa Seamount. Seamounts in the area A3 are in the Cross Trend chain.

Figure VI-1 shows magnetic anomaly maps of the areas A1, A2 and A3. The peak of the magnetic anomaly lies near the tops of the seamounts. The seamount in A1 has a positive magnetic anomaly, while seamounts in A2 and A3 have a negative one. Under the assumption that those were wholly magnetized near the equator, this means that the magnetization of the seamount in A1 is reverse, and that of the seamounts in A2 and A3 is normal to the present earth field.

The intensity of natural remnant magnetization (NRM) was measured on basaltic rocks dredged from a seamount in the Cross Trend chain (D315 at Station 1486). The sample from the basaltic rock has an NRM intensity of 1.86×10^{-3} emu/cm³.

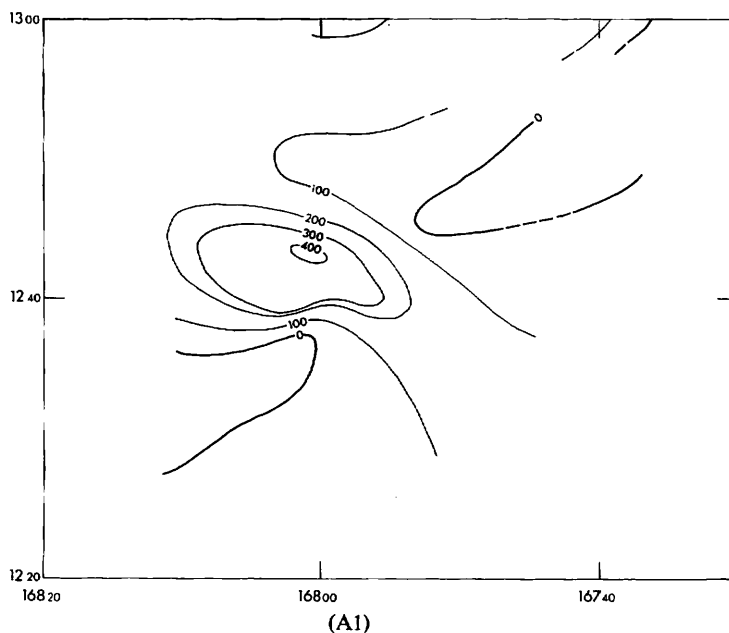
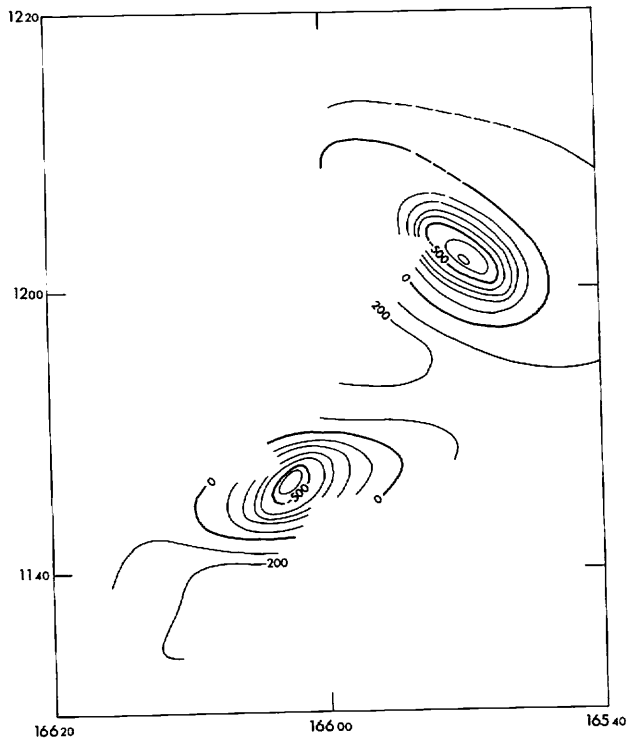
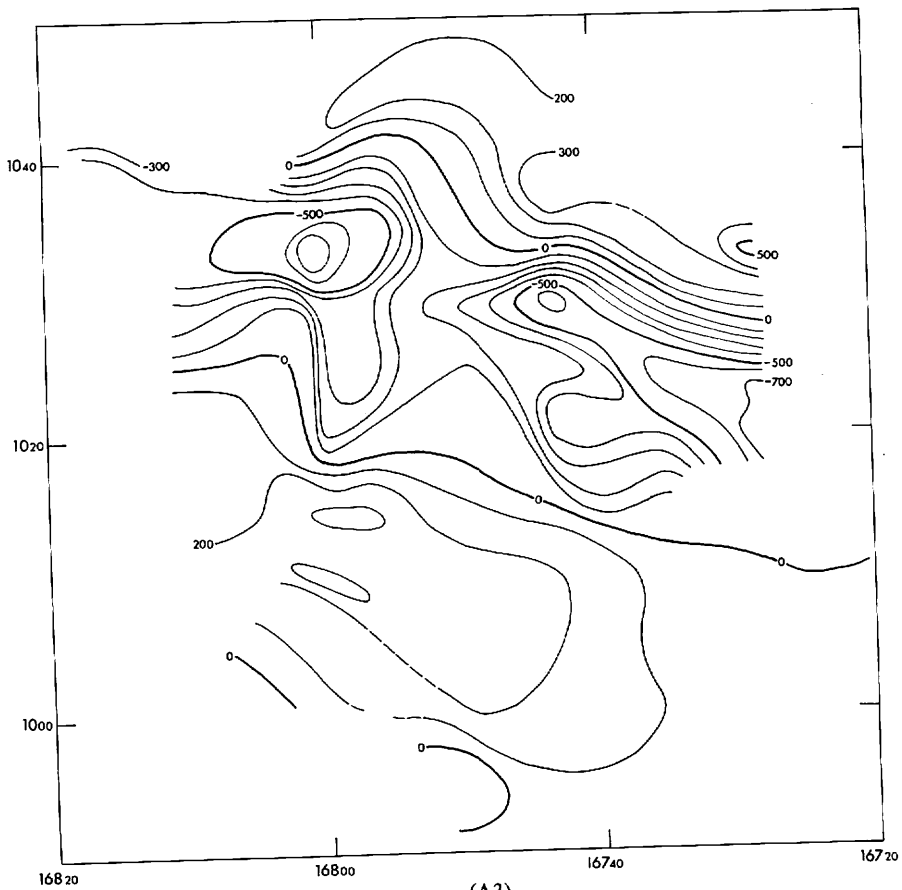


Fig. VI-1 Magnetic anomaly map in the areas A1, A2, and A3 (see Fig. IV-1). Contour interval is 100 gammas.



(A2)



(A3)