V. GEOMAGNETIC SURVEY

Teruki Miyazaki, Kensaku Tamaki, and Fumitoshi Murakami

Total magnetic force measurement was made with a proton free procession magnetometer, model G801 (Geo Metrics Co.) along all survey lines except N101, N102 and N103. The sensor was towed about 200 m astern in order to be free of the ship's magnetic effect. Observed total field was recorded on rolls with a pen recorder and also on magnetic tapes with a data logger system of NNSS.

Magnetic anomalies were calculated by subtracting IGRF 1975.0 from observed field. IGRF was used by reason that it is a reasonable reference field as a worldwide standard, though it does not represent a good reference in this areas and especially in the north part of the survey area. Fig. V-1 shows magnetic anomaly profiles plotted at right angles to ship's tracks.

Result

There are many magnetic anomalies with short wavelength on the Yamato Bank and a few on the Kita-Yamato Bank. In the Yamato Basin, magnetic anomalies with short wavelength are superimposed on anomalies with long wavelength.

Profiles across the Oki Ridge show anomalies with short wavelength, and positive anomalies with rather long wavelength are dominant north off the Wakasa Bay. On the continental Shelf in Wakasa Bay and off the Noto Peninsular, magnetic anomalies with an amplitude of several hundred gammas and with short wavelength are found, and the trends of these anomalies are in NE–SW direction.

Magnetic anomalies around the Sado Ridge are not so irregular but almost −200 gammas. Remarkable anomalies with short wavelength are found to the south and the north of the Oga Peninsular, the west of the Tsugaru and the Oshima Peninsulars and also around the Shakotan Peninsular. In the Japan Basin, anomalies with long wavelength are dominant.

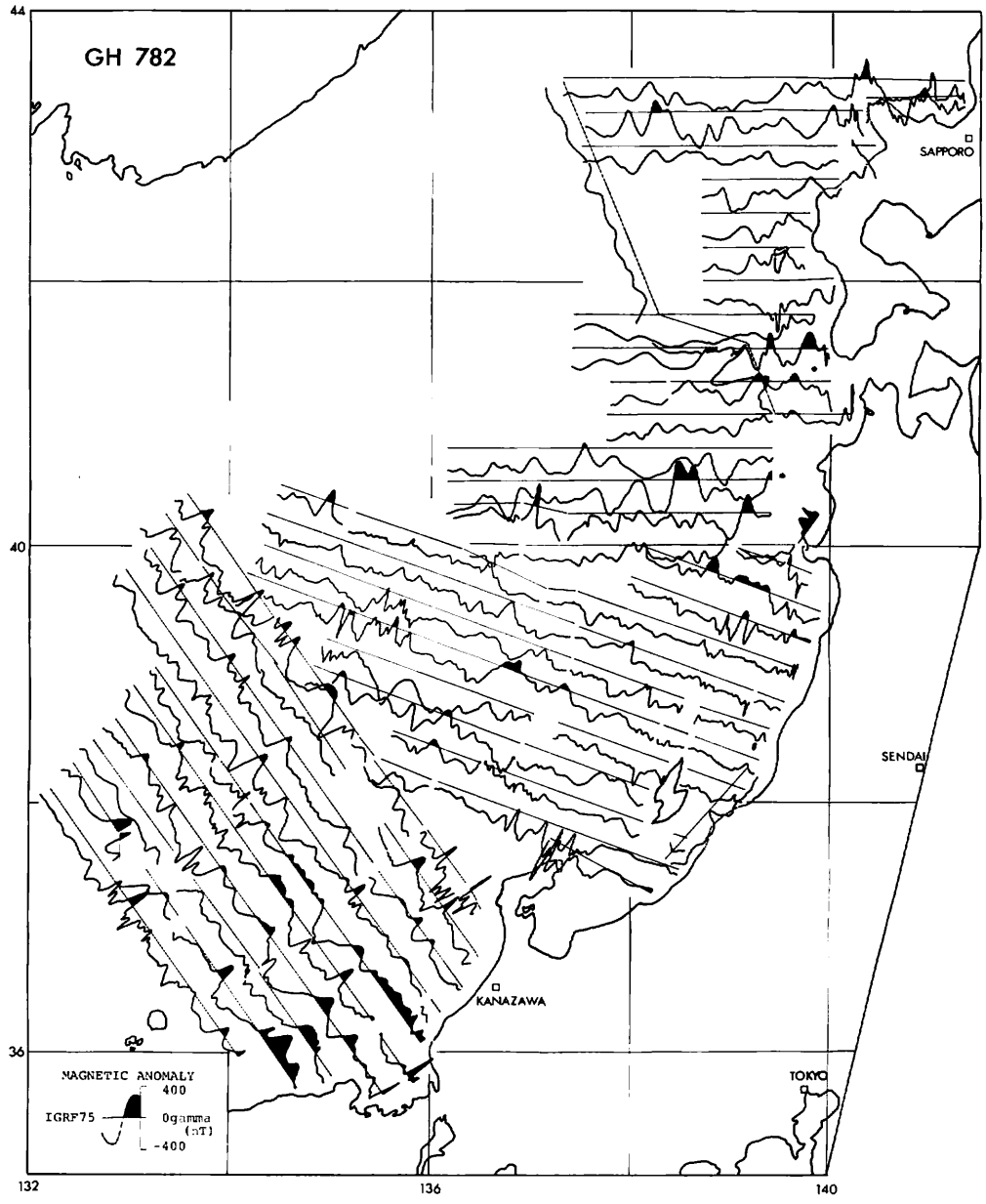

Fig. V-1 Profiles of magnetic anomalies plotted on map.