APPENDIX I. UNDERWAY DATA BY GRAVIMETER AND PROTON MAGNETOMETER FROM OFF JAPAN TO CENTRAL PACIFIC BASIN

Masato Joshima and Fumitoshi Murakami

Gravity survey

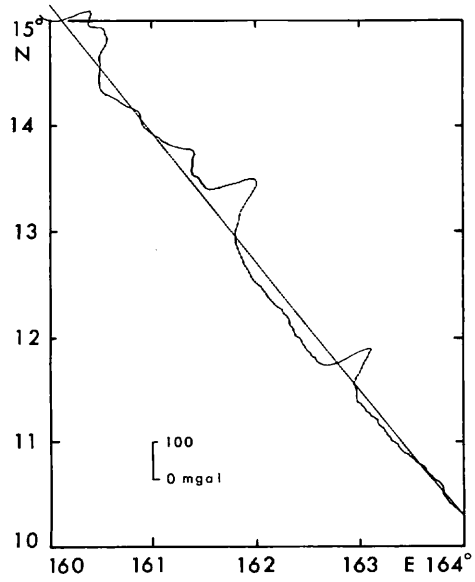
Gravity survey was carried out continuously from Funabashi berth to the survey area and back to Funabashi, so the data from Japan to Central Pacific Basin were obtained. Marked anomalies appear at Japan Trench (−320 milligal at the peak), and broad and positive anomalies whose values are 30 to 50 milligal appear out of Japan Trench and continue as far as 450 km length. All the data of other position show −30 to zero milligal and they are generally very broad, except the area around sea mountains where highest value is more than 120 milligal. These small and broad anomalies may reflect the thickness of the sediment layers.

Magnetic survey

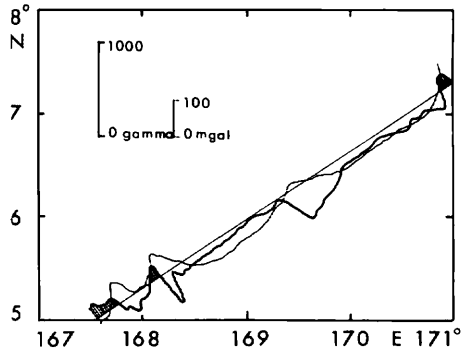
Magnetic survey was done from Majuro to Central Pacific Basin and from survey area back to Japan. Magnetic anomalies of several tens killometer wave length common in the case of lineated anomalies appear both near the survey area and near Japan Trench. Magnetic anomalies near Japan Trench are called the Mesozoic sequence and their amplitudes decrease and vanish in the negative gravity anomaly zone of Japan Trench as coming near to Japan. Other magnetic anomalies are caused by sea mountains and usually show negative values in the case that they are near the equator because of the normal magnetization of the sea mountains.

Profiles of gravity anomaly and magnetic anomaly are plotted in the charts shown in Fig. AI–1.

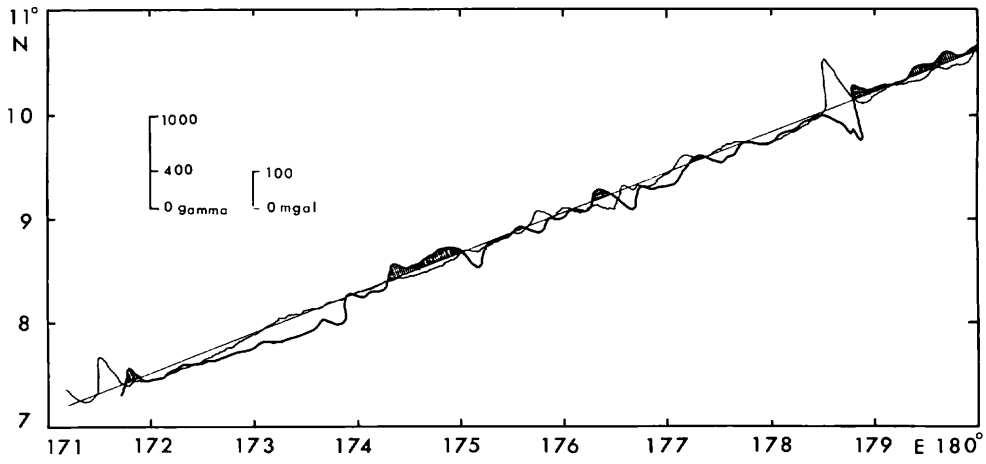
Fig. AI-1(1-9) Profiles of gravity anomaly and geomagnetic anomaly. Upper part of the traverse shows positive anomaly. Geomagnetic anomaly is shown by thick solid line and free air gravity anomaly is shown by thin solid line.



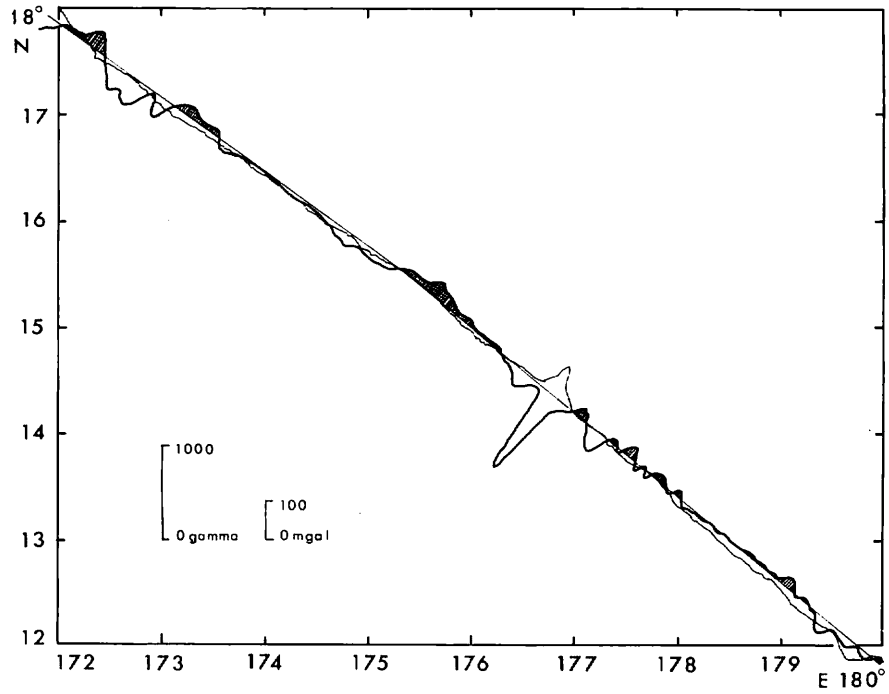
(1)



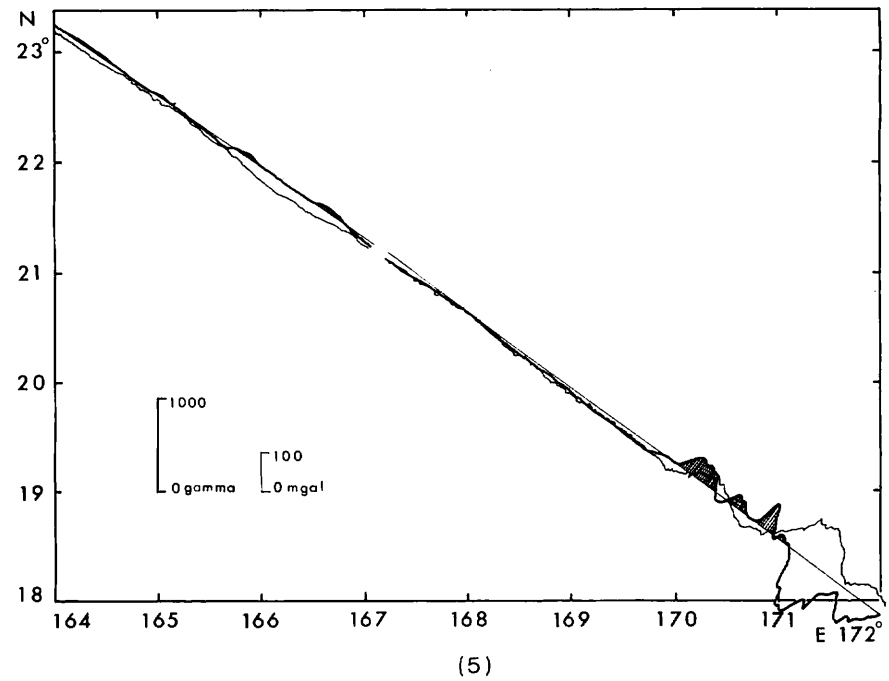
(2)



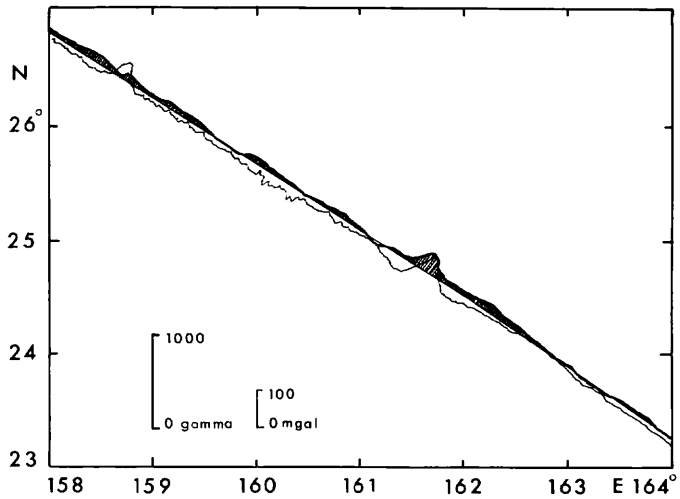
(3)


18°
N
17
16
15
14
13
12
1000
0 gamma
100
0 mgal
172
173
174
175
176
177
178
179
E 180°

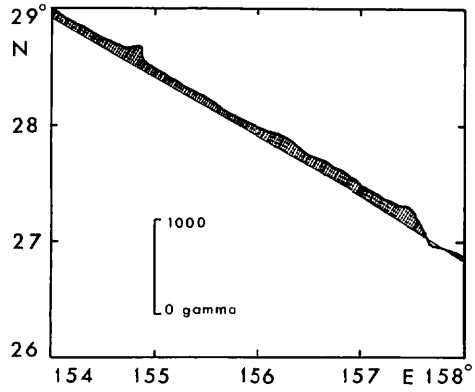
(4)


N
23°
22
21
20
19
18
1000
0 gamma
100
0 mgal
164
165
166
167
168
169
170
171
E 172°

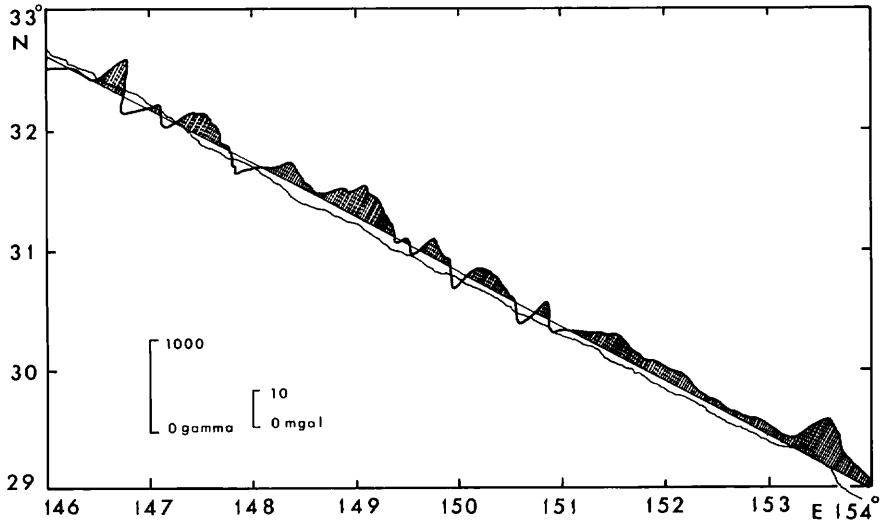
(5)


N
26°
25
24
23
158
159
160
161
162
163
E 164°
1000
0 gamma
100
0 mgal

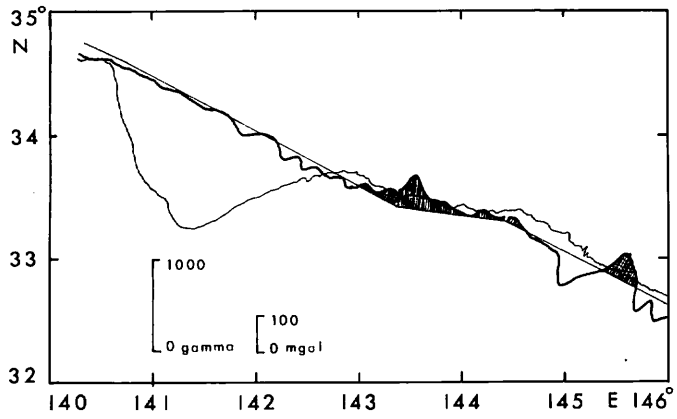
(6)


29°
N
28
27
26
154
155
156
157
E 158°
1000
0 gamma

(7)


33°
N
32
31
30
29
1000
0 gamma
10
0 mgal
146
147
148
149
150
151
152
153
E 154°

(8)


35°
N
34
33
32
1000
0 gamma
100
0 mgal
140
141
142
143
144
145
E 146°

(9)