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# REVISED ESTIMATION OF 550-KM $\times$ 550-KM MEAN GRAVITY ANOMALIES

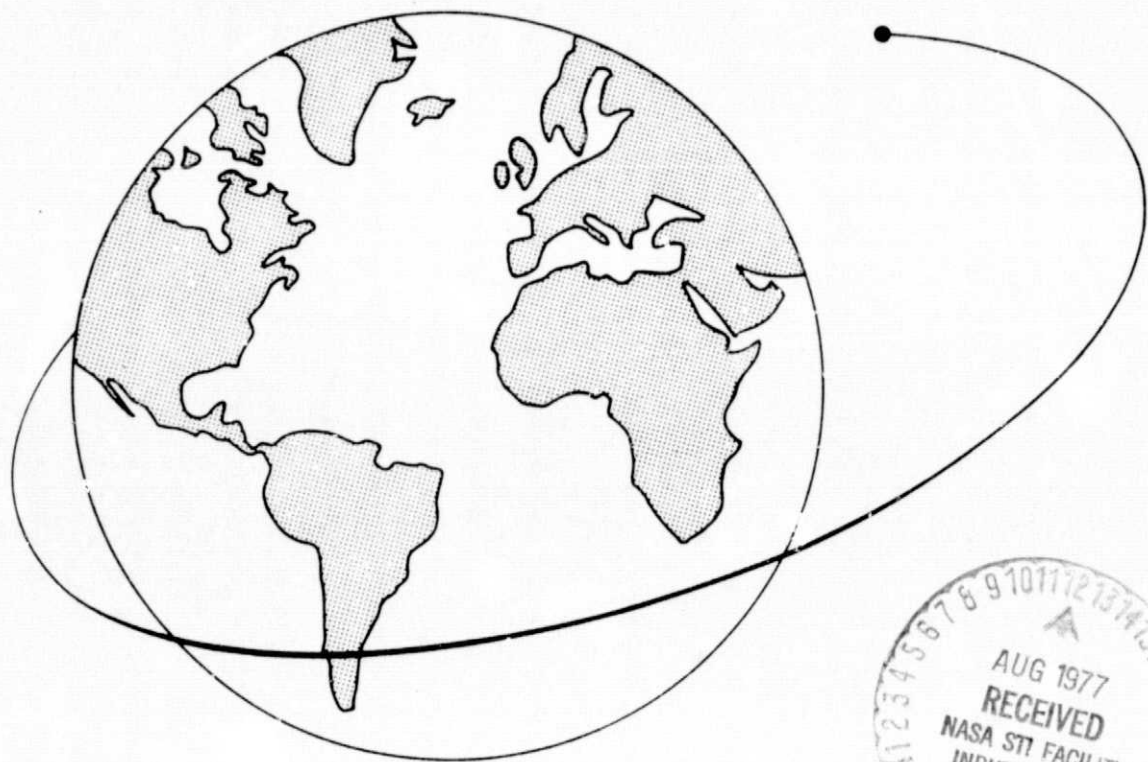
M. R. WILLIAMSON

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REVISED ESTIMATION OF 550-KM  $\times$  550-KM  
MEAN GRAVITY ANOMALIES

M. R. Williamson

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Smithsonian Institution  
Astrophysical Observatory  
Cambridge, Massachusetts 02138

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## ABSTRACT

The calculation of 550-km  $\times$  550-km mean gravity anomalies from  $1^\circ \times 1^\circ$  mean free-air gravimetry data is discussed. The block estimate procedure developed by Kaula is used to obtain 1504 of the 1654 possible mean block anomalies. The estimated block anomalies calculated from  $1^\circ \times 1^\circ$  mean anomalies referred to the 1967 reference ellipsoid and from  $1^\circ \times 1^\circ$  mean anomalies referred to a 24th-degree-and-order field are compared.

REVISED ESTIMATION OF 550-KM  $\times$  550-KM  
MEAN GRAVITY ANOMALIES

M. R. Williamson<sup>\*</sup>

1. THE BLOCK COVARIANCE METHOD

To obtain estimates of mean gravity anomalies for 550-km  $\times$  550-km regions from an incomplete set of  $1^\circ \times 1^\circ$  mean free-air gravity anomalies, we have employed an estimation procedure based on the covariance analysis developed by Wiener (1966), Kolmogoroff, and Kaula (1967). A description and evaluation of the procedure are given in Williamson and Gaposchkin (1973).

For this analysis, the earth is divided into blocks of approximately equal area, with their boundaries adjusted to lie on integral degrees of latitude and longitude. Each block is subdivided into 25 units, the boundaries of which are also adjusted to lie on integral degrees of latitude and longitude. There are 1654 blocks of approximately 550 km  $\times$  550 km. At the equator, a block is  $5^\circ \times 5^\circ$  and a unit is  $1^\circ \times 1^\circ$ .

In order to derive the mean gravity anomaly for a 550-km  $\times$  550-km block, estimates of all unit mean gravity anomalies in that block are needed. For units where measurements of  $1^\circ \times 1^\circ$  mean gravity anomalies are available, the unit mean anomalies are taken to be the average of the  $1^\circ \times 1^\circ$  mean anomalies within the unit. The other unit mean anomalies  $\hat{g}$  are estimated from the measured unit anomalies  $g$  in the same block. The linear estimate that minimizes the mean square error is

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\* Currently on the staff at Massachusetts Institute of Technology Lincoln Laboratory, Lexington, Massachusetts.

$$\hat{g}_i = \sum_{j=1}^N \left( \sum_k K_{ik} K_{jk}^{-1} \right) g_j , \quad (1)$$

where  $K_{jk}$  are elements of the block covariance matrix, given by

$$K_{jk} = K(g, \tau_{jk}) ;$$

$K$  is the intrablock covariance function of the unit anomalies  $g$ , and  $\tau_{jk}$  is the distance between the  $j$ th and the  $k$ th units. Approximate values of the covariance function are calculated from

$$K(g, \tau) = \frac{1}{N_{jk}} \sum_{jk} g_j g_k , \quad (2)$$

where the sum includes  $N_{jk}$  pairs of measurements with

$$\tau - \frac{\Delta\tau}{2} < \tau_{jk} < \tau + \frac{\Delta\tau}{2} .$$

The block anomalies are then obtained by averaging the unit anomalies. Of course, the mean anomalies for blocks that include no measured  $1^\circ \times 1^\circ$  mean anomalies cannot be estimated by this procedure.

The  $1^\circ \times 1^\circ$  mean free-air anomalies are defined with respect to a reference ellipsoid. However, another, more detailed reference field may be used. In that case, residual anomalies  $g^R$  are defined by

$$g^R = g - \gamma \sum_{\ell=2}^{\ell_{\max}} \sum_{m=0}^{\ell} (\ell-1) \left(\frac{a}{r}\right)^\ell (\bar{C}_{\ell m} \cos m\lambda + \bar{S}_{\ell m} \sin m\lambda) \bar{P}_{\ell m}(\sin \phi) , \quad (3)$$



where  $\overline{C}_{\ell m}$  and  $\overline{S}_{\ell m}$  are normalized harmonics coefficients of the earth's potential,  $\overline{P}_{\ell m}$  are normalized associated Legendre functions,  $a$  is the equatorial radius of the earth,  $\gamma$  is the value of gravity at the equator, and  $\phi$ ,  $\lambda$ , and  $r$  are geocentric coordinates. Estimates of residual unit anomalies  $\hat{g}^R$  are obtained from equation (1) by using the block covariance function for residual anomalies  $K(g^R, \tau_{jk})$ . By reversing equation (3), we can then calculate the estimated anomalies  $\hat{g}$ .

## 2. THE 1° × 1° DATA

We obtained the five sets of 1° × 1° mean free-air gravity anomalies described in Table 1. The worldwide compilation of data from the Defense Mapping Agency Aerospace Center (DMAAC) was augmented by further data sent by DMAAC to us in 1974. DMAAC compiled the data using the Geodetic Reference System 1967 (International Union of Geodesy and Geophysics, 1967) and the 1971 international gravity standardization network (Morelli and Gantar, 1974). All the other data, however, are referred to the 1930 international gravity system and the Potsdam network; we converted them to the 1967 system by adding the correction  $\Delta$ , which, to an accuracy of 0.1 mgal, is

$$\Delta = 3.14 - 13.58 \sin^2 \phi + 0.02 \sin^2 2\phi \text{ mgal} .$$

Table 1. Summary of available 1° × 1° data.

| Coverage                             | Source                                | Number of points |
|--------------------------------------|---------------------------------------|------------------|
| Australia                            | Mather (1970)                         | 1454             |
| North America and the North Atlantic | Talwani, Poppe, and Rabinowitz (1972) | 4250             |
| Indian Ocean                         | Kahle and Talwani (1973)              | 3944             |
| Central Pacific                      | Watts (1976)                          | 685              |
| Worldwide                            | DMAAC, March 1976; augmented          | 36867            |

In combining the data, we used the first four sets from Table 1 wherever possible. The combined set has measured values for 37,415 out of the possible 64,800 1° × 1° areas and gives 28,046 out of 41,350 unit anomalies. The map in Figure 1 shows the distribution of the data. The DMAAC data are compared in Table 2 with the other sets of data and with the previous compilation sent to us in 1974 at common points. When the

combined set was also compared to a previous combined set (Williamson and Gaposchkin, 1975), which had 31,654  $1^\circ \times 1^\circ$  mean anomalies, the mean difference was 0.04 mgal and the root-mean-square (rms) difference, 16.54 mgal.

Table 2. Comparison of  $1^\circ \times 1^\circ$  gravity anomalies with DMAAC data (March 1976).

| Data  | Number of points compared | Mean difference (mgal) | rms (mgal) |
|---|---------------------------|------------------------|------------|
| Australia (Mather, 1970)                                    | 1398                      | -0.25                  | 20.41      |
| North America and the North Atlantic (Talwani et al., 1972) | 3275                      | -0.14                  | 13.41      |
| Indian Ocean (Kahle and Talwani, 1973)                      | 3905                      | 1.23                   | 16.52      |
| Central Pacific (Watts, 1976)                               | 534                       | 0.61                   | 31.66      |
| Worldwide DMAAC, December 1974 (DMAAC, 1973)                | 30296                     | -0.12                  | 8.05       |

A complete data set of  $1^\circ \times 1^\circ$  mean topographic heights, obtained from Kaula and Lee (1967), was used to define oceanic and continental areas, where a 1-km depth was taken as the ocean-continent boundary. The combined data set of gravity anomalies has 17,602 of 36,199  $1^\circ \times 1^\circ$  measurements in oceanic areas and 19,813 of 28,601  $1^\circ \times 1^\circ$  measurements in continental areas.



Figure 1. Distribution of  $1^\circ \times 1^\circ$  mean surface-gravity data.

### 3. THE REFERENCE FIELD

A reference field complete to degree and order 24 was used to obtain the residual gravity anomalies. This field is defined by the zonal-harmonics coefficients from the 1973 Smithsonian Standard Earth (III) (Gaposchkin, Williamson, Kozai, and Mendes, 1973) and the tesseral-harmonics coefficients from the second iteration of the Smithsonian Standard Earth IV (unpublished).

#### 4. THE BLOCK COVARIANCE ESTIMATES

The covariance functions of the  $1^\circ \times 1^\circ$  gravity anomalies and the  $1^\circ \times 1^\circ$  residual gravity anomalies were calculated by using all the data, only the data in oceanic areas, and only the data in continental areas. In each case, the mean, given in Table 3, was first subtracted from the data. These functions were evaluated from equation (2) for  $\tau_i = 0.75, 0.125, \dots, 5.75$  and  $\Delta\tau = 0.5$ , and the results are given in Tables 4 and 5 and Figures 2 and 3. Figure 2 indicates that the data are not stationary. However, the nonstationarity differs in character and degree from previous results (Williamson and Gaposchkin, 1973); here, we have used both a better fitting reference ellipsoid and new data.

Block estimates calculated for 1504 of 1654 block anomalies, both from estimated  $1^\circ \times 1^\circ$  anomalies and from estimated  $1^\circ \times 1^\circ$  residual anomalies, are given in Table 6.\* The rms of the block anomalies is 17 mgal, while the mean and the rms differences between the two sets are 0.02 and 4.6 mgal, respectively.

Table 3. Average values of  $1^\circ \times 1^\circ$  mean gravity anomalies (in mgal).

| Type of anomaly                              | Oceanic data | Continental data | Total |
|--|--------------|------------------|-------|
| Gravity anomalies                            | -4           | 3                | 0     |
| Residual gravity anomalies                   | -3           | 2                | 0     |
| Number of $1^\circ \times 1^\circ$ anomalies | 17602        | 19813            | 37415 |

\* Punched cards of the block anomalies are available from the Analytical Satellite Geophysics Department, Smithsonian Astrophysical Observatory, 60 Garden Street, Cambridge, Massachusetts 02138.

Table 4. Block covariance functions of unit gravity anomalies.

| Average angular distance | Covariance function |             |       |
|--------------------------|---------------------|-------------|-------|
|                          | Oceanic             | Continental | Total |
| 0°                       | 802                 | 904         | 870   |
| 0.9                      | 465                 | 556         | 534   |
| 1.2                      | 363                 | 470         | 417   |
| 1.8                      | 327                 | 405         | 358   |
| 2.2                      | 268                 | 337         | 284   |
| 2.8                      | 271                 | 294         | 262   |
| 3.2                      | 252                 | 270         | 233   |
| 3.7                      | 252                 | 260         | 235   |
| 4.2                      | 254                 | 248         | 222   |
| 4.8                      | 228                 | 218         | 193   |
| 5.2                      | 211                 | 238         | 191   |
| 5.7                      | 209                 | 190         | 172   |

Table 5. Block covariance functions of residual unit gravity anomalies.

| Average angular distance | Covariance function |             |       |
|--------------------------|---------------------|-------------|-------|
|                          | Oceanic             | Continental | Total |
| 0°                       | 613                 | 613         | 620   |
| 0.9                      | 255                 | 274         | 273   |
| 1.2                      | 155                 | 189         | 161   |
| 1.8                      | 108                 | 122         | 95    |
| 2.2                      | 46                  | 66          | 31    |
| 2.8                      | 43                  | 42          | 16    |
| 3.2                      | 26                  | 15          | -10   |
| 3.7                      | 25                  | 13          | -2    |
| 4.2                      | 8                   | 2           | -19   |
| 4.8                      | -1                  | -25         | -24   |
| 5.2                      | -2                  | 5           | -17   |
| 5.7                      | -21                 | -28         | -29   |

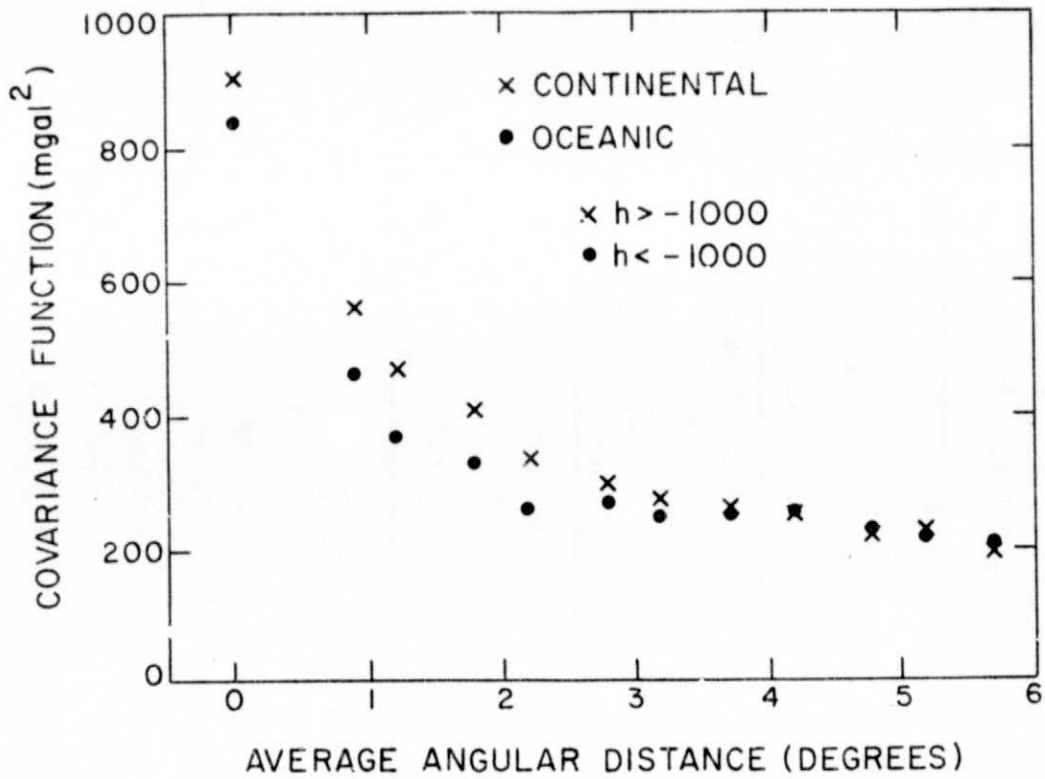


Figure 2. The block covariance functions of unit gravity anomalies.

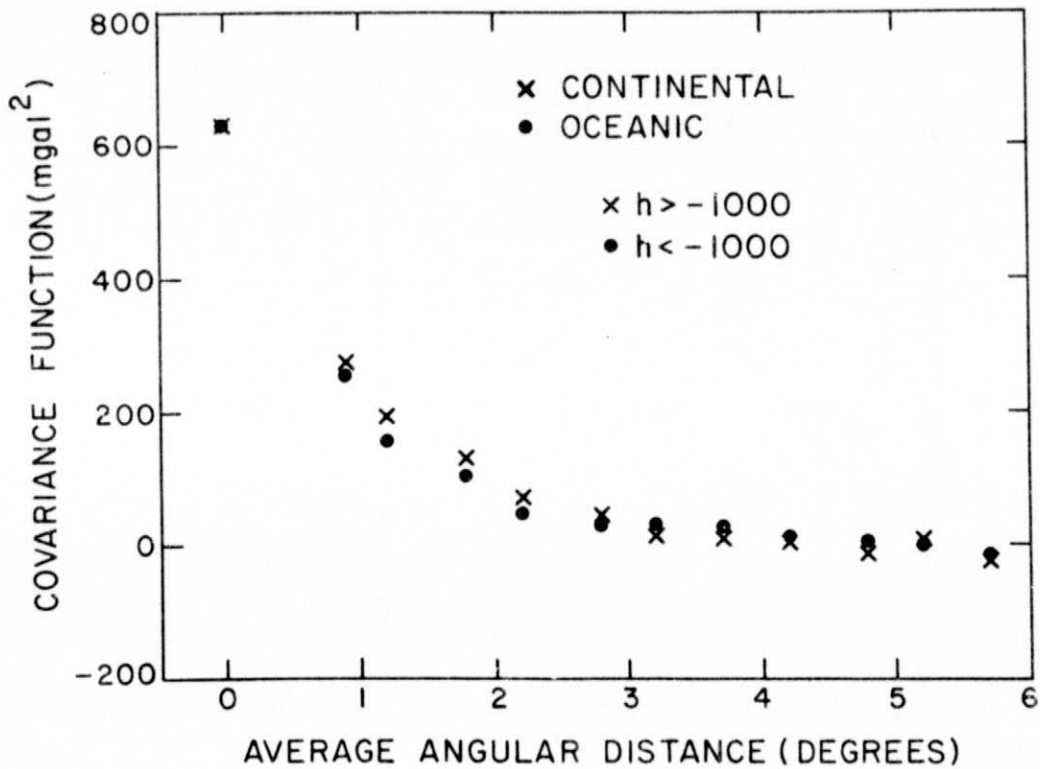


Figure 3. The block covariance functions of residual unit gravity anomalies.



Table 6. Estimated block gravity anomalies.

| Lat. (deg.) | Long. (deg.) | Block estimates* (mgal) |         |    | No. of obs. | Lat. (deg.) | Long. (deg.) | Block estimates* (mgal) |    |      | No. of obs. | Lat. (deg.) | Long. (deg.) | Block estimates* (mgal) |    | No. of obs. |
|-------------|--------------|-------------------------|---------|----|-------------|-------------|--------------|-------------------------|----|------|-------------|-------------|--------------|-------------------------|----|-------------|
|             |              | I                       | II      |    |             |             |              | I                       | II |      |             |             |              | I                       | II |             |
| 07.5        | 60.0         | 3.459                   | 11.993  | 3  | 67.5        | 135.0       | 5.567        | 5.567                   | 25 | 57.5 | 69.5        | -16.360     | -16.360      | 25                      |    |             |
| 07.5        | 180.0        | 1.011                   | 3.868   | 14 | 67.5        | 147.5       | 9.987        | 9.987                   | 25 | 57.5 | 78.5        | -16.280     | -16.280      | 25                      |    |             |
| 07.5        | 300.0        | 10.947                  | 10.967  | 20 | 67.5        | 160.5       | 15.113       | 15.113                  | 25 | 57.5 | 87.5        | -15.360     | -15.360      | 25                      |    |             |
| 02.5        | 20.0         | 10.839                  | 10.759  | 9  | 67.5        | 173.5       | 20.420       | 20.380                  | 25 | 57.5 | 97.0        | -28.680     | -28.680      | 25                      |    |             |
| 02.5        | 60.0         | 32.092                  | 22.966  | 2  | 67.5        | 186.5       | 3.600        | 3.600                   | 25 | 57.5 | 106.5       | -15.820     | -15.820      | 25                      |    |             |
| 02.5        | 180.0        | -1.135                  | -1.128  | 23 | 67.5        | 199.5       | .380         | .380                    | 25 | 57.5 | 115.5       | -36.160     | -36.160      | 25                      |    |             |
| 02.5        | 220.0        | 7.214                   | 9.751   | 20 | 67.5        | 212.5       | 20.820       | 20.820                  | 25 | 57.5 | 124.5       | -37.340     | -37.340      | 25                      |    |             |
| 02.5        | 260.0        | 6.527                   | 4.311   | 7  | 67.5        | 225.0       | 5.350        | 6.216                   | 21 | 57.5 | 133.5       | -9.360      | -9.360       | 25                      |    |             |
| 02.5        | 300.0        | 4.165                   | 4.596   | 18 | 67.5        | 237.5       | -2.327       | -2.327                  | 25 | 57.5 | 143.0       | 4.487       | 19.593       | 5                       |    |             |
| 02.5        | 340.0        | 17.243                  | 16.304  | 18 | 67.5        | 250.5       | -22.867      | -22.867                 | 25 | 57.5 | 152.5       | 18.773      | 28.275       | 3                       |    |             |
| 77.5        | 11.5         | 29.140                  | 29.120  | 25 | 67.5        | 263.5       | -30.608      | -29.565                 | 12 | 57.5 | 161.5       | 31.129      | 30.712       | 20                      |    |             |
| 77.5        | 34.0         | 4.513                   | 4.398   | 5  | 67.5        | 276.5       | -39.483      | -35.508                 | 9  | 57.5 | 170.5       | 12.276      | 11.755       | 8                       |    |             |
| 77.5        | 56.5         | -7.198                  | -6.614  | 13 | 67.5        | 289.5       | -23.113      | -23.133                 | 25 | 57.5 | 180.0       | -12.225     | -11.893      | 18                      |    |             |
| 77.5        | 79.0         | -12.092                 | -11.870 | 6  | 67.5        | 302.5       | 19.100       | 19.077                  | 22 | 57.5 | 189.5       | 19.520      | 19.520       | 25                      |    |             |
| 77.5        | 101.5        | -7.807                  | -6.950  | 11 | 67.5        | 315.0       | 27.127       | 27.127                  | 25 | 57.5 | 198.5       | 25.340      | 25.340       | 25                      |    |             |
| 77.5        | 124.0        | -6.838                  | -5.562  | 2  | 67.5        | 327.5       | 38.485       | 30.531                  | 23 | 57.5 | 207.5       | 19.540      | 19.540       | 25                      |    |             |
| 77.5        | 146.5        | -30.593                 | -1.608  | 1  | 67.5        | 340.5       | 38.389       | 38.336                  | 24 | 57.5 | 217.0       | 8.240       | 8.240        | 25                      |    |             |
| 77.5        | 169.0        | -6.095                  | -6.304  | 7  | 67.5        | 353.5       | 18.110       | 18.088                  | 24 | 57.5 | 226.5       | 15.245      | 15.737       | 20                      |    |             |
| 77.5        | 191.5        | 5.437                   | 5.115   | 24 | 62.5        | 5.5         | 14.420       | 14.420                  | 25 | 57.5 | 235.5       | 11.029      | 11.829       | 19                      |    |             |
| 77.5        | 214.0        | -11.764                 | -11.764 | 25 | 62.5        | 16.5        | -9.660       | -9.660                  | 25 | 57.5 | 244.5       | -4.380      | -4.380       | 25                      |    |             |
| 77.5        | 236.5        | -2.012                  | -2.020  | 25 | 62.5        | 27.5        | -7.240       | -7.240                  | 25 | 57.5 | 253.5       | -12.840     | -12.840      | 25                      |    |             |
| 77.5        | 259.0        | -10.418                 | -10.463 | 25 | 62.5        | 38.5        | 5.273        | 5.273                   | 25 | 57.5 | 263.0       | -26.860     | -26.760      | 25                      |    |             |
| 77.5        | 281.5        | 6.189                   | 6.967   | 18 | 62.5        | 49.5        | 2.300        | 2.300                   | 25 | 57.5 | 272.5       | -39.980     | -39.740      | 25                      |    |             |
| 77.5        | 304.0        | 36.336                  | 36.342  | 25 | 62.5        | 60.0        | 6.020        | 6.020                   | 25 | 57.5 | 281.5       | -35.440     | -35.280      | 25                      |    |             |
| 77.5        | 326.5        | 26.964                  | 26.964  | 25 | 62.5        | 70.5        | -22.467      | -22.467                 | 25 | 57.5 | 290.5       | -29.180     | -29.020      | 25                      |    |             |
| 77.5        | 349.0        | 18.337                  | 17.726  | 18 | 62.5        | 81.5        | -18.873      | -18.873                 | 25 | 57.5 | 300.0       | -13.100     | -13.120      | 25                      |    |             |
| 72.5        | 8.0          | 30.557                  | 30.520  | 25 | 62.5        | 92.5        | -29.293      | -29.293                 | 25 | 57.5 | 309.5       | 12.600      | 12.840       | 25                      |    |             |
| 72.5        | 24.5         | .889                    | .926    | 24 | 62.5        | 103.5       | -37.000      | -37.000                 | 25 | 57.5 | 318.5       | 23.100      | 23.200       | 25                      |    |             |
| 72.5        | 41.0         | 4.566                   | .387    | 6  | 62.5        | 114.5       | -25.607      | -25.607                 | 25 | 57.5 | 327.5       | 32.807      | 32.881       | 23                      |    |             |
| 72.5        | 57.0         | -4.357                  | -4.283  | 25 | 62.5        | 125.5       | -23.353      | -23.353                 | 25 | 57.5 | 337.0       | 16.498      | 18.491       | 17                      |    |             |
| 72.5        | 73.5         | -17.214                 | -17.956 | 17 | 62.5        | 136.5       | .960         | .960                    | 25 | 57.5 | 346.5       | 11.008      | 11.045       | 21                      |    |             |
| 72.5        | 90.0         | -11.673                 | -11.810 | 24 | 62.5        | 147.5       | 21.020       | 21.020                  | 25 | 57.5 | 355.5       | 18.400      | 18.400       | 25                      |    |             |
| 72.5        | 106.5        | -11.220                 | -11.220 | 25 | 62.5        | 158.5       | 18.297       | 18.352                  | 24 | 52.5 | 4.0         | -6.180      | -6.180       | 25                      |    |             |
| 72.5        | 123.0        | 7.428                   | 7.485   | 25 | 62.5        | 169.5       | 28.181       | 24.942                  | 22 | 52.5 | 12.0        | 9.320       | 9.320        | 25                      |    |             |
| 72.5        | 140.0        | -2.006                  | -1.720  | 1  | 62.5        | 180.0       | 11.020       | 8.160                   | 11 | 52.5 | 20.5        | 1.560       | 1.560        | 25                      |    |             |
| 72.5        | 158.0        | -5.432                  | -9.010  | 20 | 62.5        | 190.5       | -.450        | -.354                   | 24 | 52.5 | 29.0        | 4.360       | 4.360        | 25                      |    |             |
| 72.5        | 204.5        | -14.370                 | -14.370 | 25 | 62.5        | 201.5       | 12.633       | 13.633                  | 25 | 52.5 | 37.0        | 2.960       | 2.960        | 25                      |    |             |
| 72.5        | 221.0        | -6.700                  | -6.700  | 25 | 62.5        | 212.5       | 27.153       | 27.153                  | 25 | 52.5 | 45.0        | .840        | .840         | 25                      |    |             |
| 72.5        | 237.0        | -10.787                 | -18.034 | 17 | 62.5        | 223.5       | 36.039       | 29.845                  | 14 | 52.5 | 53.0        | -4.260      | -4.260       | 25                      |    |             |
| 72.5        | 253.5        | -18.662                 | -12.914 | 13 | 62.5        | 234.5       | 11.788       | 13.909                  | 18 | 52.5 | 61.0        | 6.200       | 6.200        | 25                      |    |             |
| 72.5        | 270.0        | -7.575                  | -7.871  | 23 | 62.5        | 245.5       | -17.900      | -17.900                 | 25 | 52.5 | 69.5        | -5.700      | -5.780       | 25                      |    |             |
| 72.5        | 286.5        | 6.437                   | 6.443   | 25 | 62.5        | 256.5       | -31.593      | -31.593                 | 25 | 52.5 | 78.0        | -20.700     | -20.700      | 25                      |    |             |
| 72.5        | 303.0        | 18.089                  | 18.070  | 23 | 62.5        | 267.5       | -4.063       | -4.240                  | 21 | 52.5 | 86.0        | -10.020     | -10.020      | 25                      |    |             |
| 72.5        | 319.0        | 22.373                  | 22.373  | 25 | 62.5        | 278.5       | -32.966      | -33.933                 | 16 | 52.5 | 94.0        | -21.420     | -21.420      | 25                      |    |             |
| 72.5        | 335.5        | 31.306                  | 31.204  | 24 | 62.5        | 289.5       | -20.216      | -19.954                 | 22 | 52.5 | 102.0       | -32.640     | -32.640      | 25                      |    |             |
| 72.5        | 352.0        | 32.786                  | 32.408  | 22 | 62.5        | 300.0       | -7.184       | -5.725                  | 14 | 52.5 | 110.5       | -8.520      | -8.520       | 25                      |    |             |
| 67.5        | 6.5          | 12.627                  | 12.627  | 25 | 62.5        | 310.5       | 10.815       | 10.666                  | 23 | 52.5 | 119.0       | -4.520      | -4.520       | 25                      |    |             |
| 67.5        | 19.5         | 1.540                   | 1.540   | 25 | 62.5        | 321.5       | 24.995       | 25.486                  | 19 | 52.5 | 127.0       | 5.900       | 5.900        | 25                      |    |             |
| 67.5        | 32.5         | 2.873                   | 2.873   | 25 | 62.5        | 332.5       | 36.953       | 36.953                  | 25 | 52.5 | 135.0       | 26.520      | 26.520       | 25                      |    |             |
| 67.5        | 45.0         | 2.727                   | 2.727   | 25 | 62.5        | 343.5       | 31.193       | 31.166                  | 24 | 52.5 | 143.0       | 24.833      | 26.166       | 15                      |    |             |
| 67.5        | 57.5         | .400                    | .400    | 25 | 62.5        | 354.5       | 16.060       | 16.060                  | 25 | 52.5 | 159.5       | 29.678      | 28.253       | 15                      |    |             |
| 67.5        | 70.5         | -19.293                 | -19.293 | 25 | 57.5        | 4.5         | 1.920        | 1.920                   | 25 | 52.5 | 168.0       | 13.683      | 16.545       | 4                       |    |             |
| 67.5        | 83.5         | -12.167                 | -12.167 | 25 | 57.5        | 13.5        | -.220        | -.220                   | 25 | 52.5 | 176.0       | 12.986      | 11.397       | 16                      |    |             |
| 67.5        | 96.5         | -14.007                 | -14.007 | 25 | 57.5        | 23.0        | -18.420      | -18.420                 | 25 | 52.5 | 184.0       | -19.936     | -19.733      | 24                      |    |             |
| 67.5        | 109.5        | -21.520                 | -21.520 | 25 | 57.5        | 32.5        | 3.220        | 3.220                   | 25 | 52.5 | 192.0       | 4.900       | 4.900        | 25                      |    |             |
| 67.5        | 122.5        | -19.247                 | -19.247 | 25 | 57.5        | 41.5        | 3.800        | 3.800                   | 25 | 52.5 | 200.5       | 18.180      | 18.180       | 25                      |    |             |
|             |              |                         |         |    | 57.5        | 50.5        | 1.820        | 1.820                   | 25 | 52.5 | 209.0       | 21.804      | 21.841       | 23                      |    |             |
|             |              |                         |         |    | 57.5        | 60.0        | 8.320        | 8.320                   | 25 | 52.5 | 217.0       | 14.484      | 14.437       | 24                      |    |             |
|             |              |                         |         |    |             |             |              |                         |    | 52.5 | 225.0       | -1.520      | -1.520       | 25                      |    |             |

I: From estimated 1° X 1° anomalies.  
 II: From estimated 1° X 1° residual anomalies.

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

Table 6. (Cont.)

| Lat.<br>(deg.) | Long.<br>(deg.) | Block estimates* |         |                | Lat.<br>(deg.) | Long.<br>(deg.) | Block estimates* |         |                | Lat.<br>(deg.) | Long.<br>(deg.) | Block estimates* |         |                |
|----------------|-----------------|------------------|---------|----------------|----------------|-----------------|------------------|---------|----------------|----------------|-----------------|------------------|---------|----------------|
|                |                 | I                | II      | No. of<br>obs. |                |                 | I                | II      | No. of<br>obs. |                |                 | I                | II      | No. of<br>obs. |
| 52.5           | 233.0           | .433             | .437    | 24             | 47.5           | 319.5           | 11.800           | 11.700  | 25             |                |                 |                  |         |                |
| 52.5           | 241.0           | -.888            | -.825   | 23             | 47.5           | 327.0           | 24.934           | 25.028  | 24             | 37.5           | 3.0             | 9.280            | 9.280   | 25             |
| 52.5           | 249.5           | 0.000            | .080    | 25             | 47.5           | 334.5           | 35.199           | 35.005  | 19             | 37.5           | 9.5             | 17.120           | 17.120  | 25             |
| 52.5           | 258.0           | -.240            | -.240   | 25             | 47.5           | 341.5           | 19.823           | 19.916  | 24             | 37.5           | 16.0            | 9.026            | 9.113   | 24             |
| 52.5           | 266.0           | -9.940           | -9.840  | 25             | 47.5           | 349.0           | 2.400            | 2.400   | 25             | 37.5           | 22.0            | -11.919          | -11.658 | 18             |
| 52.5           | 274.0           | -23.860          | -23.980 | 25             | 47.5           | 356.5           | .080             | .080    | 25             | 37.5           | 28.5            | 16.883           | 16.056  | 19             |
| 52.5           | 282.0           | -31.040          | -30.940 | 25             |                |                 |                  |         |                | 37.5           | 35.0            | 35.314           | 33.142  | 14             |
| 52.5           | 290.5           | -16.460          | -16.520 | 25             | 42.5           | 3.5             | 11.200           | 11.200  | 25             | 37.5           | 41.0            | 28.119           | 30.673  | 15             |
| 52.5           | 299.0           | -15.420          | -15.380 | 25             | 42.5           | 10.5            | 7.520            | 7.520   | 25             | 37.5           | 47.5            | 47.209           | 46.499  | 22             |
| 52.5           | 307.0           | 13.500           | 13.500  | 25             | 42.5           | 17.0            | 24.092           | 24.152  | 23             | 37.5           | 54.0            | 6.377            | 8.437   | 18             |
| 52.5           | 315.0           | 22.100           | 22.040  | 25             | 42.5           | 23.5            | 24.873           | 24.691  | 21             | 37.5           | 60.0            | -11.560          | -11.560 | 25             |
| 52.5           | 323.0           | 31.460           | 31.063  | 23             | 42.5           | 30.5            | 5.180            | 5.160   | 25             | 37.5           | 66.0            | -24.500          | -24.500 | 25             |
| 52.5           | 331.0           | 27.757           | 27.927  | 18             | 42.5           | 37.5            | -5.380           | -5.380  | 25             | 37.5           | 72.5            | 2.260            | 2.260   | 25             |
| 52.5           | 339.5           | 14.759           | 15.318  | 21             | 42.5           | 44.5            | 18.640           | 18.640  | 25             | 37.5           | 79.0            | -8.480           | -8.480  | 25             |
| 52.5           | 348.0           | 20.320           | 20.300  | 25             | 42.5           | 51.0            | -17.600          | -17.600 | 25             | 37.5           | 85.0            | -4.980           | -4.980  | 25             |
| 52.5           | 356.0           | 14.200           | 14.200  | 25             | 42.5           | 57.5            | -7.060           | -7.060  | 25             | 37.5           | 91.5            | 10.960           | 10.960  | 25             |
|                |                 |                  |         |                | 42.5           | 64.5            | -18.940          | -18.940 | 25             | 37.5           | 98.0            | 13.360           | 13.360  | 25             |
| 47.5           | 3.5             | 6.340            | 6.340   | 25             | 42.5           | 71.5            | -31.440          | -31.440 | 25             | 37.5           | 104.0           | -14.620          | -14.620 | 25             |
| 47.5           | 11.0            | 13.080           | 13.080  | 25             | 42.5           | 78.5            | -6.680           | -6.680  | 25             | 37.5           | 110.5           | -34.680          | -34.680 | 25             |
| 47.5           | 18.5            | 21.040           | 21.040  | 25             | 42.5           | 85.0            | -18.500          | -18.500 | 25             | 37.5           | 117.0           | -18.380          | -18.380 | 25             |
| 47.5           | 25.5            | 17.660           | 17.660  | 25             | 42.5           | 91.5            | -30.900          | -30.900 | 25             | 37.5           | 123.0           | 11.856           | 12.352  | 18             |
| 47.5           | 33.0            | 9.920            | 9.920   | 25             | 42.5           | 98.5            | -3.420           | -3.420  | 25             | 37.5           | 129.5           | 16.534           | 16.534  | 21             |
| 47.5           | 40.5            | -2.220           | -2.220  | 25             | 42.5           | 105.5           | 1.460            | 1.460   | 25             | 37.5           | 136.0           | 24.463           | 24.585  | 23             |
| 47.5           | 47.5            | -18.180          | -18.180 | 25             | 42.5           | 112.0           | 5.540            | 5.540   | 25             | 37.5           | 142.0           | 9.660            | 9.660   | 25             |
| 47.5           | 55.0            | -21.480          | -21.480 | 25             | 42.5           | 118.5           | 9.780            | 9.780   | 25             | 37.5           | 148.5           | -5.332           | -6.810  | 21             |
| 47.5           | 62.5            | -9.640           | -9.640  | 25             | 42.5           | 125.5           | 23.660           | 23.660  | 25             | 37.5           | 155.0           | -6.754           | -7.198  | 11             |
| 47.5           | 69.5            | -13.680          | -13.680 | 25             | 42.5           | 132.5           | 20.200           | 20.180  | 25             | 37.5           | 161.0           | -6.987           | -7.145  | 16             |
| 47.5           | 77.0            | -25.400          | -25.400 | 25             | 42.5           | 139.5           | 19.559           | 22.105  | 19             | 37.5           | 167.5           | -1.834           | -5.669  | 8              |
| 47.5           | 84.5            | -35.100          | -35.100 | 25             | 42.5           | 146.0           | -22.561          | -23.629 | 17             | 37.5           | 174.0           | 6.591            | -6.152  | 7              |
| 47.5           | 92.0            | -15.680          | -15.680 | 25             | 42.5           | 152.5           | -12.992          | -25.563 | 4              | 37.5           | 180.0           | -8.667           | -10.160 | 18             |
| 47.5           | 99.5            | -18.860          | -18.860 | 25             | 42.5           | 159.5           | .385             | -4.774  | 10             | 37.5           | 186.0           | -6.560           | -6.640  | 25             |
| 47.5           | 106.5           | -.980            | -.980   | 25             | 42.5           | 166.5           | -1.757           | -6.155  | 3              | 37.5           | 192.5           | -16.155          | -16.327 | 24             |
| 47.5           | 114.0           | -2.520           | -2.520  | 25             | 42.5           | 173.5           | 5.913            | -1.725  | 7              | 37.5           | 199.0           | -13.440          | -13.520 | 25             |
| 47.5           | 121.5           | 6.420            | 6.420   | 25             | 42.5           | 180.5           | -7.266           | -7.066  | 15             | 37.5           | 205.0           | -6.120           | -6.160  | 25             |
| 47.5           | 128.5           | 19.120           | 19.120  | 25             | 42.5           | 186.5           | -3.630           | -2.970  | 24             | 37.5           | 211.5           | -9.100           | -9.100  | 25             |
| 47.5           | 136.0           | 32.324           | 32.361  | 24             | 42.5           | 193.5           | -7.863           | -7.799  | 24             | 37.5           | 218.0           | -17.200          | -17.240 | 25             |
| 47.5           | 143.5           | 28.613           | 22.943  | 12             | 42.5           | 200.5           | -2.840           | -2.820  | 25             | 37.5           | 224.0           | -21.460          | -21.460 | 25             |
| 47.5           | 150.5           | -65.529          | -44.813 | 2              | 42.5           | 207.5           | -5.500           | -5.400  | 25             | 37.5           | 230.5           | -23.540          | -23.540 | 25             |
| 47.5           | 158.0           | 25.927           | 14.672  | 8              | 42.5           | 214.0           | -6.780           | -6.780  | 25             | 37.5           | 237.0           | -15.220          | -15.220 | 25             |
| 47.5           | 165.5           | 7.845            | 7.144   | 9              | 42.5           | 220.5           | -8.655           | -8.843  | 24             | 37.5           | 243.0           | 3.060            | 2.760   | 25             |
| 47.5           | 172.5           | 13.672           | 8.107   | 5              | 42.5           | 227.5           | -9.780           | -9.780  | 25             | 37.5           | 249.5           | 5.380            | 5.260   | 25             |
| 47.5           | 180.0           | 12.410           | 9.677   | 12             | 42.5           | 234.5           | -10.500          | -10.500 | 25             | 37.5           | 256.0           | 10.600           | 10.400  | 25             |
| 47.5           | 187.5           | 19.686           | 19.753  | 21             | 42.5           | 241.5           | 10.900           | 11.060  | 25             | 37.5           | 262.0           | -10.640          | -10.640 | 25             |
| 47.5           | 194.5           | 14.235           | 14.327  | 23             | 42.5           | 248.0           | 19.040           | 19.160  | 25             | 37.5           | 268.5           | -3.720           | -3.760  | 25             |
| 47.5           | 202.0           | 7.736            | 7.815   | 24             | 42.5           | 254.5           | 14.980           | 15.180  | 25             | 37.5           | 275.0           | -3.800           | -3.960  | 25             |
| 47.5           | 209.5           | -18.544          | -17.429 | 20             | 42.5           | 261.5           | -.500            | -.220   | 25             | 37.5           | 281.0           | 1.540            | 1.300   | 25             |
| 47.5           | 216.5           | -18.302          | -17.530 | 22             | 42.5           | 268.5           | -9.320           | -9.020  | 25             | 37.5           | 287.5           | -19.680          | -19.780 | 25             |
| 47.5           | 224.0           | -20.940          | -20.940 | 25             | 42.5           | 275.0           | -4.260           | -4.020  | 25             | 37.5           | 294.0           | -22.960          | -22.980 | 25             |
| 47.5           | 231.5           | -9.880           | -9.880  | 25             | 42.5           | 281.5           | -7.580           | -7.360  | 25             | 37.5           | 300.0           | -17.800          | -18.000 | 25             |
| 47.5           | 238.5           | -6.980           | -6.980  | 25             | 42.5           | 288.5           | 2.040            | 2.180   | 25             | 37.5           | 306.0           | -11.340          | -11.340 | 25             |
| 47.5           | 246.0           | 9.700            | 9.620   | 25             | 42.5           | 295.5           | -5.160           | -4.960  | 25             | 37.5           | 312.5           | -6.400           | -6.540  | 25             |
| 47.5           | 253.5           | 17.620           | 17.460  | 25             | 42.5           | 302.5           | -18.480          | -18.340 | 25             | 37.5           | 319.0           | 7.140            | 7.040   | 25             |
| 47.5           | 260.5           | 10.040           | 10.140  | 25             | 42.5           | 309.0           | 7.860            | 8.020   | 25             | 37.5           | 325.0           | 33.160           | 33.120  | 25             |
| 47.5           | 268.0           | 1.980            | 2.020   | 25             | 42.5           | 315.5           | -.520            | -.460   | 25             | 37.5           | 331.5           | 50.200           | 50.200  | 25             |
| 47.5           | 275.5           | -7.880           | -7.960  | 25             | 42.5           | 322.5           | 12.680           | 12.720  | 25             | 37.5           | 338.0           | 4.925            | 5.239   | 23             |
| 47.5           | 283.0           | -16.300          | -16.260 | 25             | 42.5           | 329.5           | 29.520           | 29.520  | 25             | 37.5           | 344.0           | 7.453            | 7.502   | 24             |
| 47.5           | 290.5           | -10.400          | -10.340 | 25             | 42.5           | 336.5           | 24.420           | 24.420  | 25             | 37.5           | 350.5           | 6.380            | 6.380   | 25             |
| 47.5           | 297.5           | -9.910           | -10.020 | 25             | 42.5           | 343.0           | 1.060            | 1.060   | 25             | 37.5           | 357.0           | 10.320           | 10.320  | 25             |
| 47.5           | 305.0           | 4.100            | 4.000   | 25             | 42.5           | 349.5           | 1.520            | 1.480   | 25             |                |                 |                  |         |                |
| 47.5           | 312.5           | 20.060           | 19.960  | 25             | 42.5           | 356.5           | 6.560            | 6.560   | 25             | 32.5           | 3.0             | 4.760            | 4.760   | 25             |

Table 6. (Cont.)

| Lat. (deg.) | Long. (deg.) | Block estimates* (mgal) |         | No. of obs. | Lat. (deg.) | Long. (deg.) | Block estimates* (mgal) |         | No. of obs. | Lat. (deg.) | Long. (deg.) | Block estimates* (mgal) |         | No. of obs. |
|-------------|--------------|-------------------------|---------|-------------|-------------|--------------|-------------------------|---------|-------------|-------------|--------------|-------------------------|---------|-------------|
|             |              | I                       | II      |             |             |              | I                       | II      |             |             |              | I                       | II      |             |
| 32.5        | 9.0          | -10.390                 | -10.352 | 22          | 27.5        | 3.0          | -10.460                 | -10.460 | 25          | 27.5        | 335.0        | -3.000                  | -3.000  | 25          |
| 32.5        | 15.0         | .349                    | .237    | 23          | 27.5        | 8.5          | 3.602                   | 3.631   | 23          | 27.5        | 340.5        | 12.120                  | 12.120  | 25          |
| 32.5        | 21.0         | -2.252                  | -2.079  | 23          | 27.5        | 14.0         | 4.031                   | 4.029   | 12          | 27.5        | 346.0        | 9.977                   | 10.351  | 23          |
| 32.5        | 27.0         | -36.800                 | -36.800 | 25          | 27.5        | 20.0         | 5.433                   | 4.481   | 18          | 27.5        | 351.5        | 4.113                   | 4.013   | 24          |
| 32.5        | 32.5         | -12.397                 | -12.187 | 24          | 27.5        | 25.5         | 1.460                   | -2.630  | 13          | 27.5        | 357.0        | -3.062                  | -3.633  | 17          |
| 32.5        | 38.0         | 27.433                  | 28.738  | 17          | 27.5        | 31.0         | .243                    | -2.564  | 13          | 22.5        | 2.5          | 20.720                  | 20.720  | 25          |
| 32.5        | 44.0         | -11.726                 | -5.694  | 13          | 27.5        | 36.5         | -5.610                  | -2.706  | 15          | 22.5        | 8.0          | 30.880                  | 30.880  | 25          |
| 32.5        | 50.0         | 7.920                   | 7.920   | 25          | 27.5        | 42.0         | 19.535                  | 20.017  | 18          | 22.5        | 13.5         | 7.120                   | 7.120   | 25          |
| 32.5        | 56.0         | 19.780                  | 19.780  | 25          | 27.5        | 48.0         | -16.600                 | -16.560 | 25          | 22.5        | 18.5         | 8.560                   | 8.560   | 25          |
| 32.5        | 62.0         | 24.580                  | 24.580  | 25          | 27.5        | 53.5         | -26.840                 | -26.760 | 25          | 22.5        | 24.0         | -18.313                 | -16.300 | 15          |
| 32.5        | 68.0         | 9.160                   | 9.160   | 25          | 27.5        | 59.0         | 27.540                  | 27.500  | 25          | 22.5        | 29.5         | 11.831                  | -1.291  | 5           |
| 32.5        | 74.0         | -36.160                 | -36.160 | 25          | 27.5        | 65.0         | 16.020                  | 16.020  | 25          | 22.5        | 35.0         | 4.537                   | 4.136   | 22          |
| 32.5        | 80.0         | 30.080                  | 30.080  | 25          | 27.5        | 70.5         | -8.960                  | -9.000  | 25          | 22.5        | 40.5         | 24.036                  | 24.619  | 22          |
| 32.5        | 86.0         | 25.280                  | 25.280  | 25          | 27.5        | 76.0         | -15.480                 | -15.480 | 25          | 22.5        | 45.5         | 1.000                   | 1.000   | 25          |
| 32.5        | 91.5         | 10.640                  | 10.640  | 25          | 27.5        | 81.5         | -60.480                 | -60.520 | 25          | 22.5        | 51.0         | -30.298                 | -30.309 | 22          |
| 32.5        | 97.0         | 12.280                  | 12.280  | 25          | 27.5        | 87.0         | 1.580                   | 1.640   | 25          | 22.5        | 56.5         | -5.843                  | -6.683  | 18          |
| 32.5        | 103.0        | -16.300                 | -16.300 | 25          | 27.5        | 93.0         | -9.140                  | -9.140  | 25          | 22.5        | 61.5         | -23.163                 | -22.582 | 22          |
| 32.5        | 109.0        | -38.260                 | -38.260 | 25          | 27.5        | 98.5         | -8.720                  | -8.720  | 25          | 22.5        | 67.0         | -7.280                  | -7.080  | 25          |
| 32.5        | 115.0        | -18.520                 | -18.520 | 25          | 27.5        | 104.0        | -26.460                 | -26.460 | 25          | 22.5        | 72.5         | 5.000                   | 5.000   | 25          |
| 32.5        | 121.0        | -.059                   | 2.601   | 18          | 27.5        | 110.0        | -25.520                 | -25.520 | 25          | 22.5        | 78.0         | 7.260                   | 7.360   | 25          |
| 32.5        | 127.0        | 18.172                  | 18.273  | 21          | 27.5        | 115.5        | -9.720                  | -9.720  | 25          | 22.5        | 83.5         | 4.560                   | 4.720   | 25          |
| 32.5        | 133.0        | 11.220                  | 11.220  | 25          | 27.5        | 121.0        | 6.582                   | 7.303   | 21          | 22.5        | 88.5         | -14.635                 | -14.629 | 23          |
| 32.5        | 139.0        | 10.320                  | 10.320  | 25          | 27.5        | 126.5        | 24.546                  | 24.592  | 21          | 22.5        | 94.0         | -20.005                 | -20.053 | 24          |
| 32.5        | 145.0        | -16.220                 | -16.065 | 24          | 27.5        | 132.0        | -5.910                  | -4.856  | 22          | 22.5        | 99.5         | -23.760                 | -23.760 | 25          |
| 32.5        | 150.5        | -6.888                  | -7.772  | 17          | 27.5        | 138.0        | 25.019                  | 25.825  | 22          | 22.5        | 104.5        | -19.600                 | -19.600 | 25          |
| 32.5        | 156.0        | -5.882                  | -6.477  | 18          | 27.5        | 143.5        | 14.240                  | 14.240  | 25          | 22.5        | 110.0        | -7.738                  | -7.827  | 24          |
| 32.5        | 162.0        | -14.715                 | -14.207 | 17          | 27.5        | 149.0        | -.412                   | -.520   | 24          | 22.5        | 115.5        | -6.927                  | -7.239  | 14          |
| 32.5        | 168.0        | -23.611                 | -22.336 | 14          | 27.5        | 155.0        | -13.853                 | -13.970 | 20          | 22.5        | 121.0        | -7.090                  | -7.507  | 16          |
| 32.5        | 174.0        | -23.595                 | -23.551 | 15          | 27.5        | 160.5        | -20.957                 | -20.283 | 21          | 22.5        | 126.5        | 4.536                   | 4.303   | 23          |
| 32.5        | 180.0        | -8.439                  | -8.825  | 21          | 27.5        | 166.0        | -13.616                 | -13.589 | 21          | 22.5        | 131.5        | 7.090                   | 6.597   | 22          |
| 32.5        | 186.0        | -14.260                 | -14.300 | 25          | 27.5        | 171.5        | -18.720                 | -18.720 | 25          | 22.5        | 137.0        | 8.848                   | 9.495   | 20          |
| 32.5        | 192.0        | -7.977                  | -7.927  | 24          | 27.5        | 177.0        | -15.800                 | -15.820 | 25          | 22.5        | 142.5        | 18.842                  | 20.284  | 20          |
| 32.5        | 198.0        | -10.740                 | -10.680 | 25          | 27.5        | 183.0        | -6.940                  | -6.940  | 25          | 22.5        | 147.5        | 8.104                   | 12.560  | 15          |
| 32.5        | 204.0        | -8.720                  | -8.700  | 25          | 27.5        | 188.5        | 2.640                   | 2.760   | 25          | 22.5        | 153.0        | 2.203                   | 2.804   | 16          |
| 32.5        | 209.5        | -6.680                  | -6.760  | 25          | 27.5        | 194.0        | 16.200                  | 16.120  | 25          | 22.5        | 158.5        | -16.845                 | -16.625 | 19          |
| 32.5        | 215.0        | -12.700                 | -12.740 | 25          | 27.5        | 200.0        | 7.800                   | 7.780   | 25          | 22.5        | 164.0        | -26.273                 | -26.032 | 22          |
| 32.5        | 221.0        | -5.200                  | -5.200  | 25          | 27.5        | 205.5        | .280                    | .480    | 25          | 22.5        | 169.5        | -12.165                 | -12.172 | 24          |
| 32.5        | 227.0        | -8.400                  | -8.400  | 25          | 27.5        | 211.0        | -3.280                  | -3.180  | 25          | 22.5        | 174.5        | -6.462                  | -6.513  | 24          |
| 32.5        | 233.0        | -16.425                 | -16.485 | 24          | 27.5        | 216.5        | 4.834                   | 4.686   | 23          | 22.5        | 180.0        | -6.637                  | -6.777  | 22          |
| 32.5        | 239.0        | -20.577                 | -20.599 | 24          | 27.5        | 222.0        | -3.235                  | -3.286  | 20          | 22.5        | 185.5        | -1.640                  | -1.560  | 25          |
| 32.5        | 245.0        | -11.600                 | -11.460 | 25          | 27.5        | 228.0        | -18.282                 | -18.181 | 22          | 22.5        | 190.5        | 15.680                  | 15.760  | 25          |
| 32.5        | 251.0        | 2.160                   | 2.280   | 25          | 27.5        | 233.5        | -22.560                 | -22.560 | 25          | 22.5        | 196.0        | 11.180                  | 11.160  | 25          |
| 32.5        | 257.0        | .360                    | .400    | 25          | 27.5        | 239.0        | -18.760                 | -18.720 | 25          | 22.5        | 201.5        | 14.560                  | 14.680  | 25          |
| 32.5        | 263.0        | -9.280                  | -9.360  | 25          | 27.5        | 245.0        | -20.440                 | -20.440 | 25          | 22.5        | 207.0        | 13.900                  | 14.020  | 25          |
| 32.5        | 268.5        | .120                    | .240    | 25          | 27.5        | 250.5        | -5.960                  | -6.000  | 25          | 22.5        | 212.5        | -2.911                  | -2.804  | 17          |
| 32.5        | 274.0        | .700                    | .780    | 25          | 27.5        | 256.0        | 16.340                  | 16.380  | 25          | 22.5        | 217.5        | -4.931                  | -5.012  | 21          |
| 32.5        | 280.0        | -6.000                  | -6.060  | 25          | 27.5        | 261.5        | -3.760                  | -3.600  | 25          | 22.5        | 223.0        | -12.038                 | -12.154 | 15          |
| 32.5        | 286.0        | -37.060                 | -36.920 | 25          | 27.5        | 267.0        | -15.020                 | -15.000 | 25          | 22.5        | 228.5        | -12.570                 | -12.704 | 14          |
| 32.5        | 292.0        | -25.560                 | -25.560 | 25          | 27.5        | 273.0        | -5.640                  | -5.620  | 25          | 22.5        | 233.5        | -15.697                 | -15.213 | 11          |
| 32.5        | 298.0        | -10.500                 | -10.480 | 25          | 27.5        | 278.5        | 2.240                   | 2.400   | 25          | 22.5        | 239.0        | -20.161                 | -18.256 | 13          |
| 32.5        | 304.0        | -9.160                  | -9.200  | 25          | 27.5        | 284.0        | -16.780                 | -16.640 | 25          | 22.5        | 244.5        | -13.400                 | -13.280 | 25          |
| 32.5        | 310.0        | -.080                   | 0.000   | 25          | 27.5        | 290.0        | -31.960                 | -31.920 | 25          | 22.5        | 250.0        | -7.280                  | -7.160  | 25          |
| 32.5        | 316.0        | 13.240                  | 13.480  | 25          | 27.5        | 295.5        | -21.280                 | -21.280 | 25          | 22.5        | 255.5        | 4.600                   | 4.680   | 25          |
| 32.5        | 322.0        | 24.200                  | 24.260  | 25          | 27.5        | 301.0        | -29.900                 | -29.860 | 25          | 22.5        | 260.5        | 19.760                  | 19.880  | 25          |
| 32.5        | 327.5        | 14.942                  | 15.961  | 18          | 27.5        | 306.5        | -21.160                 | -21.160 | 25          | 22.5        | 266.0        | -24.720                 | -24.640 | 25          |
| 32.5        | 333.0        | 19.657                  | 19.748  | 19          | 27.5        | 312.0        | -2.760                  | -2.740  | 25          | 22.5        | 271.5        | 13.280                  | 13.440  | 25          |
| 32.5        | 339.0        | 2.614                   | 2.823   | 22          | 27.5        | 318.0        | 19.400                  | 19.380  | 25          | 22.5        | 276.5        | -17.560                 | -17.480 | 25          |
| 32.5        | 345.0        | 16.000                  | 15.940  | 25          | 27.5        | 323.5        | .800                    | .920    | 25          | 22.5        | 282.0        | -7.720                  | -7.540  | 25          |
| 32.5        | 351.0        | 26.280                  | 20.280  | 25          | 27.5        | 329.0        | 6.120                   | 6.120   | 25          | 22.5        | 287.5        | -54.440                 | -55.320 | 25          |
| 32.5        | 357.0        | 38.486                  | 38.980  | 25          |             |              |                         |         |             |             |              |                         |         |             |

Table 6. (Cont.)

| Lat.<br>(deg.) | Long.<br>(deg.) | Block estimates*<br>(mgal) |         | No. of<br>obs. | Lat.<br>(deg.) | Long.<br>(deg.) | Block estimates*<br>(mgal) |         | No. of<br>obs. | Lat.<br>(deg.) | Long.<br>(deg.) | Block estimates*<br>(mgal) |         | No. of<br>obs. |
|----------------|-----------------|----------------------------|---------|----------------|----------------|-----------------|----------------------------|---------|----------------|----------------|-----------------|----------------------------|---------|----------------|
|                |                 | I                          | II      |                |                |                 | I                          | II      |                |                |                 | I                          | II      |                |
| 22.5           | 293.0           | -30,120                    | -30,120 | 25             | 17.5           | 242.5           | -18,080                    | -78,120 | 25             | 12.5           | 187.5           | -5,046                     | -5,469  | 17             |
| 22.5           | 298.5           | -23,560                    | -23,480 | 25             | 17.5           | 247.5           | -12,160                    | -72,320 | 25             | 12.5           | 192.5           | 4,680                      | 4,560   | 25             |
| 22.5           | 303.5           | -25,240                    | -25,200 | 25             | 17.5           | 253.0           | -10,300                    | -70,460 | 25             | 12.5           | 198.0           | 2,567                      | 2,392   | 22             |
| 22.5           | 309.0           | -23,220                    | -23,220 | 25             | 17.5           | 258.5           | -7,160                     | -7,400  | 25             | 12.5           | 203.5           | -1,959                     | -2,322  | 12             |
| 22.5           | 314.5           | -2,280                     | -2,240  | 25             | 17.5           | 263.5           | 14,320                     | 14,280  | 25             | 12.5           | 208.5           | -5,035                     | -5,281  | 23             |
| 22.5           | 319.5           | -3,200                     | 3,000   | 25             | 17.5           | 268.5           | 15,720                     | 15,760  | 25             | 12.5           | 213.5           | 5,49                       | 5,868   | 15             |
| 22.5           | 325.0           | -600                       | 0       | 25             | 17.5           | 274.0           | 9,040                      | 8,900   | 25             | 12.5           | 218.5           | -2,239                     | -2,040  | 20             |
| 22.5           | 330.5           | 4,760                      | 4,000   | 25             | 17.5           | 279.5           | 10,000                     | 9,880   | 25             | 12.5           | 223.5           | -8,403                     | -7,556  | 12             |
| 22.5           | 336.0           | 2,380                      | -2,380  | 25             | 17.5           | 284.5           | -6,920                     | -7,040  | 25             | 12.5           | 228.5           | -8,569                     | -12,164 | 6              |
| 22.5           | 341.5           | 2,800                      | 2,800   | 25             | 17.5           | 289.5           | -3,800                     | -3,920  | 25             | 12.5           | 234.0           | -8,765                     | -19,059 | 3              |
| 22.5           | 346.5           | 2,151                      | 2,030   | 22             | 17.5           | 294.5           | -44,480                    | -44,560 | 25             | 12.5           | 239.5           | -17,903                    | -21,607 | 10             |
| 22.5           | 352.0           | -13,744                    | -14,815 | 17             | 17.5           | 300.0           | -27,500                    | -27,580 | 25             | 12.5           | 244.5           | -20,800                    | -20,720 | 25             |
| 22.5           | 357.5           | -5,360                     | -7,125  | 10             | 17.5           | 305.5           | -18,480                    | -18,560 | 25             | 12.5           | 249.5           | -11,400                    | -11,480 | 25             |
| 17.5           | 2.5             | 9,480                      | 9,480   | 25             | 17.5           | 310.5           | -21,320                    | -21,320 | 25             | 12.5           | 254.5           | -6,680                     | -5,560  | 25             |
| 17.5           | 7.5             | 6,600                      | 6,600   | 25             | 17.5           | 315.5           | -10,400                    | -10,400 | 25             | 12.5           | 259.5           | 12,840                     | 12,680  | 25             |
| 17.5           | 13.0            | -2,560                     | -2,560  | 25             | 17.5           | 320.5           | -14,800                    | -15,000 | 25             | 12.5           | 264.5           | 3,360                      | 3,360   | 25             |
| 17.5           | 18.5            | -7,400                     | -7,400  | 25             | 17.5           | 326.0           | 0                          | 0       | 21             | 12.5           | 270.0           | 1,200                      | 1,140   | 25             |
| 17.5           | 23.5            | 6,000                      | 6,000   | 25             | 17.5           | 331.5           | 13,741                     | 13,701  | 24             | 12.5           | 275.5           | 31,280                     | 31,320  | 25             |
| 17.5           | 28.5            | 10,640                     | 10,640  | 25             | 17.5           | 336.5           | 22,520                     | 22,520  | 25             | 12.5           | 280.5           | 3,800                      | 3,680   | 25             |
| 17.5           | 34.0            | 18,198                     | 18,177  | 24             | 17.5           | 341.5           | 2,304                      | 2,289   | 24             | 12.5           | 285.5           | -21,440                    | -21,480 | 25             |
| 17.5           | 39.5            | 5,689                      | 6,962   | 20             | 17.5           | 347.0           | 13,697                     | 11,960  | 22             | 12.5           | 290.5           | -17,760                    | -17,880 | 25             |
| 17.5           | 44.5            | 11,138                     | 12,105  | 19             | 17.5           | 352.5           | 2,863                      | -3,628  | 11             | 12.5           | 295.5           | -6,760                     | -6,880  | 25             |
| 17.5           | 49.5            | -7,117                     | -7,192  | 19             | 17.5           | 357.5           | 8,394                      | 6,985   | 21             | 12.5           | 300.5           | -32,000                    | -32,160 | 25             |
| 17.5           | 54.5            | -2,354                     | -2,463  | 23             | 12.5           | 2.5             | 2,194                      | 2,139   | 22             | 12.5           | 305.0           | -35,000                    | -35,060 | 25             |
| 17.5           | 60.0            | -21,940                    | -21,980 | 25             | 12.5           | 7.5             | 9,644                      | 8,865   | 15             | 12.5           | 311.5           | -27,240                    | -27,400 | 25             |
| 17.5           | 65.5            | -14,800                    | -14,840 | 25             | 12.5           | 12.5            | 10,341                     | 10,271  | 22             | 12.5           | 316.5           | -25,600                    | -25,760 | 25             |
| 17.5           | 70.5            | -30,800                    | -30,920 | 25             | 12.5           | 18.0            | -1,160                     | -1,160  | 25             | 12.5           | 321.5           | -25,000                    | -25,160 | 25             |
| 17.5           | 75.5            | -13,760                    | -13,779 | 24             | 12.5           | 23.5            | 8,861                      | 8,797   | 24             | 12.5           | 326.5           | -10,834                    | -9,451  | 17             |
| 17.5           | 80.5            | -2,490                     | -3,135  | 24             | 12.5           | 28.5            | 13,200                     | 13,200  | 25             | 12.5           | 331.5           | 5,162                      | 5,166   | 16             |
| 17.5           | 86.0            | -23,766                    | -24,043 | 23             | 12.5           | 33.5            | 17,000                     | 17,000  | 25             | 12.5           | 336.5           | -3,109                     | -2,949  | 22             |
| 17.5           | 91.5            | -9,200                     | -9,280  | 25             | 12.5           | 38.5            | 26,360                     | 26,360  | 25             | 12.5           | 342.0           | 3,083                      | 3,140   | 20             |
| 17.5           | 96.5            | -7,560                     | -7,520  | 25             | 12.5           | 43.5            | -1,856                     | -2,246  | 21             | 12.5           | 347.5           | 12,432                     | 14,629  | 15             |
| 17.5           | 101.5           | -12,760                    | -12,760 | 25             | 12.5           | 48.5            | 8,080                      | 8,000   | 25             | 12.5           | 352.5           | 12,332                     | 12,529  | 23             |
| 17.5           | 107.0           | -5,430                     | -5,378  | 21             | 12.5           | 54.0            | -7,040                     | -6,980  | 25             | 12.5           | 357.5           | 4,440                      | 4,440   | 25             |
| 17.5           | 112.5           | 0,380                      | 0,389   | 3              | 12.5           | 59.5            | -18,960                    | -18,960 | 25             | 7.5            | 2.5             | 11,464                     | 11,736  | 19             |
| 17.5           | 117.5           | 10,955                     | 8,929   | 14             | 12.5           | 64.5            | -22,200                    | -22,400 | 25             | 7.5            | 7.5             | 31,595                     | 29,218  | 17             |
| 17.5           | 122.5           | 33,830                     | 31,017  | 15             | 12.5           | 69.5            | -37,240                    | -37,240 | 25             | 7.5            | 12.5            | 20,350                     | 20,350  | 25             |
| 17.5           | 127.5           | -23,368                    | -15,282 | 9              | 12.5           | 74.5            | -24,257                    | -24,567 | 24             | 7.5            | 17.5            | 4,240                      | 4,240   | 25             |
| 17.5           | 133.0           | 1,126                      | 1,264   | 21             | 12.5           | 79.5            | -33,605                    | -33,763 | 24             | 7.5            | 22.5            | 7,540                      | 7,640   | 25             |
| 17.5           | 138.5           | 12,970                     | 13,281  | 22             | 12.5           | 84.5            | -35,127                    | -35,347 | 24             | 7.5            | 27.5            | 13,560                     | 13,560  | 25             |
| 17.5           | 143.5           | 29,281                     | 27,448  | 12             | 12.5           | 90.0            | -15,780                    | -15,900 | 25             | 7.5            | 32.5            | 14,120                     | 14,120  | 25             |
| 17.5           | 148.5           | 18,007                     | 16,643  | 15             | 12.5           | 95.5            | -6,240                     | -6,400  | 25             | 7.5            | 38.0            | 31,659                     | 31,625  | 24             |
| 17.5           | 154.0           | 7,852                      | 6,801   | 17             | 12.5           | 100.5           | -5,727                     | -4,801  | 19             | 7.5            | 43.5            | 10,708                     | 10,743  | 10             |
| 17.5           | 159.5           | -11,298                    | -11,256 | 22             | 12.5           | 105.5           | -7,520                     | -7,520  | 25             | 7.5            | 48.5            | -15,457                    | -16,593 | 10             |
| 17.5           | 164.5           | 4,600                      | 4,600   | 25             | 12.5           | 110.5           | -1,136                     | 4,487   | 14             | 7.5            | 53.5            | -39,000                    | -39,080 | 25             |
| 17.5           | 169.5           | 2,278                      | 2,341   | 24             | 12.5           | 115.5           | 9,815                      | 12,127  | 15             | 7.5            | 58.5            | -6,160                     | -6,160  | 25             |
| 17.5           | 174.5           | -4,226                     | -4,220  | 23             | 12.5           | 120.5           | 31,601                     | 31,911  | 23             | 7.5            | 63.5            | -25,920                    | -25,960 | 25             |
| 17.5           | 180.0           | -6,267                     | -6,550  | 20             | 12.5           | 126.0           | 35,974                     | 35,343  | 20             | 7.5            | 68.5            | -40,040                    | -40,080 | 25             |
| 17.5           | 185.5           | 2,687                      | -1,128  | 15             | 12.5           | 131.5           | 7,040                      | 7,313   | 20             | 7.5            | 73.5            | -39,800                    | -39,840 | 25             |
| 17.5           | 190.5           | 1,605                      | 445     | 17             | 12.5           | 136.5           | 4,694                      | 4,937   | 18             | 7.5            | 78.5            | -33,400                    | -33,440 | 25             |
| 17.5           | 195.5           | -3,370                     | -4,13   | 24             | 12.5           | 141.5           | -21,771                    | -20,091 | 20             | 7.5            | 83.5            | -45,080                    | -45,120 | 25             |
| 17.5           | 200.5           | 2,280                      | 2,240   | 25             | 12.5           | 146.5           | -25,387                    | -24,840 | 22             | 7.5            | 88.5            | -4,400                     | -5,20   | 25             |
| 17.5           | 206.0           | -3,600                     | -3,780  | 25             | 12.5           | 151.5           | -2,984                     | -2,991  | 19             | 7.5            | 93.5            | -17,280                    | -17,360 | 25             |
| 17.5           | 211.5           | -3,202                     | -3,429  | 17             | 12.5           | 156.5           | 3,310                      | 3,147   | 17             | 7.5            | 98.5            | 10,320                     | 10,280  | 25             |
| 17.5           | 216.5           | -9,780                     | -9,492  | 14             | 12.5           | 162.0           | -6,656                     | 0,026   | 23             | 7.5            | 103.5           | 9,253                      | 10,615  | 16             |
| 17.5           | 221.5           | -10,779                    | -10,123 | 15             | 12.5           | 167.5           | -4,119                     | -5,288  | 21             | 7.5            | 109.0           | 8,881                      | 8,924   | 24             |
| 17.5           | 227.0           | -12,925                    | -11,182 | 3              | 12.5           | 172.5           | 5,434                      | 4,665   | 15             | 7.5            | 114.5           | 12,254                     | 13,998  | 19             |
| 17.5           | 232.5           | -18,350                    | -18,336 | 24             | 12.5           | 177.5           | 13,007                     | 7,783   | 10             | 7.5            | 119.5           | 38,473                     | 38,845  | 20             |
| 17.5           | 237.5           | -22,550                    | -22,137 | 22             | 12.5           | 182.5           | 6,869                      | 3,430   | 13             | 7.5            | 124.5           | 51,613                     | 53,503  | 17             |

Table 6. (Cont.)

| Lat.<br>(deg.) | Long.<br>(deg.) | Block estimates* |         |                | Lat.<br>(deg.) | Long.<br>(deg.) | Block estimates* |         |                | Lat.<br>(deg.) | Long.<br>(deg.) | Block estimates* |         |                |
|----------------|-----------------|------------------|---------|----------------|----------------|-----------------|------------------|---------|----------------|----------------|-----------------|------------------|---------|----------------|
|                |                 | I                | II      | No. of<br>obs. |                |                 | I                | II      | No. of<br>obs. |                |                 | I                | II      | No. of<br>obs. |
| 7.5            | 129.5           | .835             | 15.481  | 13             | 2.5            | 72.5            | -37.320          | -37.240 | 25             | -2.5           | 22.5            | -36.760          | -36.760 | 25             |
| 7.5            | 134.5           | 15.737           | 16.589  | 18             | 2.5            | 77.5            | -47.440          | -47.240 | 25             | -2.5           | 27.5            | -3.880           | -3.880  | 25             |
| 7.5            | 139.5           | 6.496            | 7.279   | 21             | 2.5            | 82.5            | -57.880          | -57.760 | 25             | -2.5           | 32.5            | -.880            | -.880   | 25             |
| 7.5            | 144.5           | 12.208           | 10.210  | 14             | 2.5            | 87.5            | -19.640          | -19.560 | 23             | -2.5           | 37.5            | 7.560            | 7.560   | 25             |
| 7.5            | 149.5           | -5.793           | -6.092  | 17             | 2.5            | 92.5            | .480             | .600    | 25             | -2.5           | 42.5            | -28.637          | -28.167 | 23             |
| 7.5            | 154.5           | 14.215           | 11.153  | 10             | 2.5            | 97.5            | 11.877           | 11.884  | 23             | -2.5           | 47.5            | -26.480          | -26.440 | 25             |
| 7.5            | 159.5           | 15.779           | 15.618  | 17             | 2.5            | 102.5           | 24.558           | 25.113  | 18             | -2.5           | 52.5            | -11.480          | -11.360 | 25             |
| 7.5            | 164.5           | -11.131          | -7.909  | 15             | 2.5            | 107.5           | 26.971           | 27.182  | 24             | -2.5           | 57.5            | -7.360           | -7.160  | 25             |
| 7.5            | 169.5           | 24.263           | 16.849  | 9              | 2.5            | 112.5           | 27.858           | 35.651  | 9              | -2.5           | 62.5            | -19.680          | -19.640 | 25             |
| 7.5            | 180.0           | 7.517            | 2.684   | 5              | 2.5            | 117.5           | 32.209           | 35.888  | 15             | -2.5           | 67.5            | -23.280          | -23.120 | 25             |
| 7.5            | 185.5           | -15.575          | -13.051 | 15             | 2.5            | 122.5           | 25.667           | 26.483  | 20             | -2.5           | 72.5            | -41.440          | -41.360 | 25             |
| 7.5            | 190.5           | -.178            | -.440   | 24             | 2.5            | 127.5           | 17.960           | 18.010  | 24             | -2.5           | 77.5            | -46.000          | -45.800 | 25             |
| 7.5            | 195.5           | 6.307            | 5.864   | 19             | 2.5            | 132.5           | 51.944           | 47.580  | 14             | -2.5           | 82.5            | -46.200          | -46.080 | 25             |
| 7.5            | 200.5           | 17.734           | 16.697  | 14             | 2.5            | 137.5           | 15.032           | 17.018  | 17             | -2.5           | 87.5            | -24.840          | -24.600 | 25             |
| 7.5            | 205.5           | 4.952            | 5.432   | 13             | 2.5            | 142.5           | 9.550            | 10.156  | 23             | -2.5           | 92.5            | -12.440          | -12.280 | 25             |
| 7.5            | 210.5           | 1.027            | .595    | 13             | 2.5            | 147.5           | 10.440           | 10.440  | 25             | -2.5           | 97.5            | 6.920            | 7.040   | 25             |
| 7.5            | 215.5           | -2.415           | -.465   | 11             | 2.5            | 152.5           | 2.886            | 2.877   | 24             | -2.5           | 102.5           | 28.000           | 28.000  | 25             |
| 7.5            | 220.5           | -1.114           | -1.988  | 4              | 2.5            | 157.5           | 11.600           | 10.337  | 15             | -2.5           | 107.5           | 33.402           | 33.598  | 24             |
| 7.5            | 225.5           | -5.910           | -12.403 | 5              | 2.5            | 162.5           | 7.574            | 7.494   | 22             | -2.5           | 112.5           | 31.085           | 34.795  | 15             |
| 7.5            | 230.5           | -14.677          | -14.970 | 5              | 2.5            | 167.5           | -2.771           | -4.196  | 13             | -2.5           | 117.5           | 31.436           | 31.631  | 22             |
| 7.5            | 235.5           | -10.374          | -8.703  | 13             | 2.5            | 172.5           | 1.672            | -6.881  | 1              | -2.5           | 122.5           | 20.674           | 20.620  | 24             |
| 7.5            | 240.5           | -10.581          | -11.077 | 15             | 2.5            | 177.5           | 6.356            | .067    | 5              | -2.5           | 127.5           | 6.920            | -6.920  | 25             |
| 7.5            | 245.5           | -9.544           | -11.563 | 13             | 2.5            | 182.5           | 7.356            | 4.614   | 12             | -2.5           | 132.5           | 19.960           | 19.920  | 25             |
| 7.5            | 251.0           | -.600            | -.944   | 15             | 2.5            | 187.5           | -.295            | -.820   | 16             | -2.5           | 137.5           | 3.683            | 6.338   | 18             |
| 7.5            | 256.5           | 2.753            | 4.751   | 14             | 2.5            | 192.5           | 7.434            | 7.139   | 20             | -2.5           | 142.5           | 29.120           | 29.160  | 25             |
| 7.5            | 261.5           | 4.575            | 5.665   | 15             | 2.5            | 197.5           | 12.216           | 13.557  | 20             | -2.5           | 147.5           | 32.600           | 32.600  | 25             |
| 7.5            | 266.5           | 9.192            | 9.231   | 18             | 2.5            | 202.5           | 26.475           | 27.692  | 13             | -2.5           | 152.5           | 19.352           | 19.416  | 24             |
| 7.5            | 271.5           | 15.254           | 14.887  | 18             | 2.5            | 207.5           | 2.623            | 11.869  | 5              | -2.5           | 157.5           | 25.680           | 25.680  | 25             |
| 7.5            | 276.5           | 25.000           | 25.000  | 25             | 2.5            | 212.5           | 2.623            | 7.860   | 5              | -2.5           | 162.5           | -2.813           | -3.280  | 21             |
| 7.5            | 281.5           | 23.520           | 23.520  | 25             | 2.5            | 217.5           | 3.954            | 7.786   | 4              | -2.5           | 167.5           | -5.439           | -16.387 | 2              |
| 7.5            | 286.5           | 22.480           | 22.480  | 25             | 2.5            | 222.5           | .789             | 3.643   | 3              | -2.5           | 172.5           | -10.959          | -12.446 | 7              |
| 7.5            | 291.5           | 13.080           | 13.080  | 25             | 2.5            | 227.5           | -4.393           | -3.432  | 6              | -2.5           | 177.5           | -6.116           | -5.493  | 14             |
| 7.5            | 296.5           | 1.000            | 1.000   | 25             | 2.5            | 232.5           | -7.252           | -6.797  | 4              | -2.5           | 182.5           | -.612            | -.997   | 18             |
| 7.5            | 301.5           | -5.320           | -5.320  | 25             | 2.5            | 237.5           | -5.664           | -3.942  | 7              | -2.5           | 187.5           | 1.869            | 1.470   | 19             |
| 7.5            | 306.5           | -17.000          | -17.000 | 25             | 2.5            | 242.5           | -6.727           | 1.261   | 7              | -2.5           | 192.5           | 10.746           | 10.637  | 16             |
| 7.5            | 311.5           | 34.706           | -34.738 | 23             | 2.5            | 247.5           | -2.376           | 6.588   | 7              | -2.5           | 197.5           | 7.845            | 9.467   | 14             |
| 7.5            | 316.5           | -21.108          | -21.253 | 24             | 2.5            | 252.5           | 4.239            | 5.127   | 12             | -2.5           | 202.5           | 10.675           | 10.520  | 13             |
| 7.5            | 322.0           | -9.977           | -10.046 | 22             | 2.5            | 257.5           | 5.051            | 4.512   | 19             | -2.5           | 207.5           | 5.537            | 3.673   | 5              |
| 7.5            | 327.5           | 12.826           | 12.778  | 15             | 2.5            | 262.5           | 5.675            | 5.682   | 23             | -2.5           | 212.5           | 6.202            | 3.713   | 6              |
| 7.5            | 332.5           | 7.226            | 7.591   | 21             | 2.5            | 267.5           | 34.440           | 34.440  | 25             | -2.5           | 217.5           | -7.762           | 7.363   | 6              |
| 7.5            | 337.5           | 6.318            | 4.825   | 15             | 2.5            | 272.5           | 14.080           | 14.080  | 25             | -2.5           | 222.5           | 3.753            | 3.619   | 7              |
| 7.5            | 342.5           | 1.170            | 1.082   | 24             | 2.5            | 277.5           | 3.240            | 3.240   | 25             | -2.5           | 227.5           | .048             | .553    | 6              |
| 7.5            | 347.5           | 22.424           | 22.299  | 18             | 2.5            | 282.5           | 8.160            | 8.160   | 25             | -2.5           | 232.5           | 4.974            | 5.898   | 5              |
| 7.5            | 352.5           | 30.040           | 30.040  | 25             | 2.5            | 287.5           | 1.179            | 1.351   | 24             | -2.5           | 237.5           | 6.740            | 1.530   | 2              |
| 7.5            | 357.5           | 16.760           | 16.760  | 25             | 2.5            | 292.5           | -5.600           | -5.600  | 25             | -2.5           | 242.5           | -7.399           | -3.478  | 8              |
| 2.5            | 2.5             | -12.962          | -11.353 | 19             | 2.5            | 297.5           | -8.490           | -8.582  | 23             | -2.5           | 247.5           | -2.980           | -1.141  | 19             |
| 2.5            | 7.5             | 1.808            | 2.296   | 22             | 2.5            | 302.5           | -15.375          | -16.386 | 24             | -2.5           | 252.5           | -7.010           | -7.150  | 24             |
| 2.5            | 12.5            | 14.120           | 14.120  | 25             | 2.5            | 307.5           | 7.599            | 7.475   | 23             | -2.5           | 257.5           | -11.075          | -11.516 | 20             |
| 2.5            | 17.5            | -9.718           | -9.760  | 24             | 2.5            | 312.5           | 9.777            | 9.867   | 21             | -2.5           | 262.5           | -4.046           | -4.220  | 24             |
| 2.5            | 22.5            | -16.320          | -16.320 | 25             | 2.5            | 317.5           | 5.310            | 5.121   | 21             | -2.5           | 267.5           | 25.440           | 25.440  | 25             |
| 2.5            | 27.5            | 6.124            | 5.932   | 23             | 2.5            | 322.5           | .223             | .153    | 22             | -2.5           | 272.5           | 18.600           | 18.600  | 25             |
| 2.5            | 32.5            | 7.160            | 7.160   | 25             | 2.5            | 327.5           | -5.089           | -5.003  | 23             | -2.5           | 277.5           | 10.320           | 10.320  | 25             |
| 2.5            | 37.5            | 8.417            | 8.363   | 23             | 2.5            | 332.5           | -1.942           | -1.949  | 22             | -2.5           | 282.5           | -7.520           | -7.520  | 25             |
| 2.5            | 42.5            | -7.695           | -4.509  | 8              | 2.5            | 337.5           | -1.561           | -1.435  | 18             | -2.5           | 287.5           | -8.280           | -8.280  | 25             |
| 2.5            | 47.5            | -19.310          | -19.547 | 21             | -2.5           | 2.5             | 2.702            | .270    | 11             | -2.5           | 292.5           | -.040            | .040    | 25             |
| 2.5            | 52.5            | -24.680          | -24.600 | 25             | -2.5           | 7.5             | -1.496           | -1.529  | 21             | -2.5           | 297.5           | -17.485          | -11.608 | 24             |
| 2.5            | 57.5            | -14.260          | -14.080 | 25             | -2.5           | 12.5            | -14.960          | -14.960 | 25             | -2.5           | 302.5           | -13.520          | -13.520 | 25             |
| 2.5            | 62.5            | -21.200          | -21.080 | 25             | -2.5           | 17.5            | -22.240          | -22.240 | 25             | -2.5           | 307.5           | -7.941           | -7.740  | 24             |
| 2.5            | 67.5            | -25.560          | -25.400 | 25             | -2.5           |                 |                  |         |                | -2.5           | 312.5           | -1.947           | -1.286  | 23             |
|                |                 |                  |         |                |                |                 |                  |         |                | -2.5           | 317.5           | -5.922           | -6.650  | 22             |

Table 6. (Cont.)

| Lat.<br>(deg.) | Long.<br>(deg.) | Block estimates*<br>(mgal) |         | No. of<br>obs. | Lat.<br>(deg.) | Long.<br>(deg.) | Block estimates*<br>(mgal) |         | No. of<br>obs. | Lat.<br>(deg.) | Long.<br>(deg.) | Block estimates*<br>(mgal) |         | No. of<br>obs. |
|----------------|-----------------|----------------------------|---------|----------------|----------------|-----------------|----------------------------|---------|----------------|----------------|-----------------|----------------------------|---------|----------------|
|                |                 | I                          | II      |                |                |                 | I                          | II      |                |                |                 | I                          | II      |                |
| -2.5           | 337.5           | -10.186                    | -8.385  | 15             | -7.5           | 276.5           | -18.208                    | -78.431 | 20             | -12.5          | 218.5           | -7.367                     | -9.699  | 11             |
| -2.5           | 342.5           | 4.069                      | 4.745   | 22             | -7.5           | 281.5           | 30.090                     | 30.080  | 25             | -12.5          | 223.5           | -3.444                     | -2.556  | 9              |
| -2.5           | 347.5           | 11.009                     | 10.379  | 17             | -7.5           | 286.5           | 16.160                     | 16.160  | 25             | -12.5          | 228.5           | 1.567                      | .955    | 16             |
| -2.5           | 352.5           | 4.376                      | 1.911   | 10             | -7.5           | 291.5           | 27.920                     | 27.920  | 25             | -12.5          | 234.0           | 3.754                      | -.361   | 11             |
| -2.5           | 357.5           | -5.608                     | -6.678  | 9              | -7.5           | 296.5           | 2.840                      | 2.840   | 25             | -12.5          | 239.5           | 5.504                      | 4.209   | 12             |
|                |                 |                            |         |                | -7.5           | 301.5           | -3.680                     | -3.680  | 25             | -12.5          | 244.5           | 8.283                      | 10.871  | 15             |
| -7.5           | 2.5             | -8.948                     | -8.060  | 12             | -7.5           | 306.5           | 3.200                      | 3.200   | 25             | -12.5          | 249.5           | 10.610                     | 10.592  | 21             |
| -7.5           | 7.5             | -7.356                     | -6.098  | 16             | -7.5           | 311.5           | -18.800                    | -18.800 | 25             | -12.5          | 254.5           | 5.217                      | 4.975   | 14             |
| -7.5           | 12.5            | -.760                      | -.760   | 25             | -7.5           | 316.5           | -21.440                    | -21.440 | 25             | -12.5          | 259.5           | -6.321                     | -6.108  | 13             |
| -7.5           | 17.5            | -32.560                    | -32.560 | 25             | -7.5           | 322.0           | 11.780                     | 11.780  | 25             | -12.5          | 264.5           | -14.469                    | -12.192 | 11             |
| -7.5           | 22.5            | -32.880                    | -32.880 | 25             | -7.5           | 327.5           | -15.177                    | -15.243 | 24             | -12.5          | 270.0           | -17.257                    | -11.936 | 11             |
| -7.5           | 27.5            | -9.320                     | -9.320  | 25             | -7.5           | 332.5           | -20.879                    | -23.005 | 12             | -12.5          | 275.5           | -18.063                    | -18.017 | 10             |
| -7.5           | 32.5            | 2.680                      | 2.680   | 25             | -7.5           | 337.5           | -13.670                    | -13.226 | 15             | -12.5          | 280.5           | -38.932                    | -30.779 | 19             |
| -7.5           | 38.0            | -11.820                    | -11.820 | 25             | -7.5           | 342.5           | 5.091                      | 5.191   | 22             | -12.5          | 285.5           | 43.120                     | 43.120  | 25             |
| -7.5           | 43.5            | -32.800                    | -32.800 | 25             | -7.5           | 347.5           | 9.231                      | 9.041   | 23             | -12.5          | 290.5           | 23.840                     | 23.840  | 25             |
| -7.5           | 48.5            | -27.440                    | -27.440 | 25             | -7.5           | 352.5           | -8.561                     | -8.296  | 18             | -12.5          | 295.5           | 22.400                     | 22.400  | 25             |
| -7.5           | 53.5            | -13.360                    | -13.400 | 25             | -7.5           | 357.5           | -7.831                     | -7.139  | 16             | -12.5          | 300.5           | -3.520                     | -3.520  | 25             |
| -7.5           | 58.5            | -1.960                     | -2.000  | 25             |                |                 |                            |         |                | -12.5          | 306.0           | -10.540                    | -10.540 | 25             |
| -7.5           | 63.5            | -13.840                    | -13.920 | 25             | -12.5          | 2.5             | -1.272                     | -1.815  | 13             | -12.5          | 311.5           | -2.600                     | -2.600  | 25             |
| -7.5           | 68.5            | -14.400                    | -14.520 | 25             | -12.5          | 7.5             | -13.118                    | -11.721 | 17             | -12.5          | 316.5           | -10.880                    | -10.880 | 25             |
| -7.5           | 73.5            | -16.720                    | -16.880 | 25             | -12.5          | 12.5            | .680                       | .680    | 25             | -12.5          | 321.5           | -5.574                     | -5.569  | 24             |
| -7.5           | 78.5            | -37.360                    | -37.440 | 25             | -12.5          | 18.0            | -7.880                     | -7.880  | 25             | -12.5          | 326.5           | -17.563                    | -17.373 | 21             |
| -7.5           | 83.5            | -27.800                    | -27.840 | 25             | -12.5          | 23.5            | -12.400                    | -12.400 | 25             | -12.5          | 331.5           | -19.417                    | -19.476 | 16             |
| -7.5           | 88.5            | -27.000                    | -27.120 | 25             | -12.5          | 28.5            | -2.280                     | -2.280  | 25             | -12.5          | 336.5           | -23.533                    | -17.831 | 6              |
| -7.5           | 93.5            | -13.480                    | -13.520 | 25             | -12.5          | 33.5            | -3.600                     | -3.600  | 25             | -12.5          | 342.0           | -11.369                    | -11.250 | 11             |
| -7.5           | 98.5            | 2.640                      | 2.600   | 25             | -12.5          | 38.5            | -11.239                    | -11.349 | 23             | -12.5          | 347.5           | .485                       | .637    | 17             |
| -7.5           | 103.5           | -2.800                     | -2.800  | 25             | -12.5          | 43.5            | -23.760                    | -23.920 | 25             | -12.5          | 352.5           | -7.005                     | 1.287   | 11             |
| -7.5           | 109.0           | 15.640                     | 15.580  | 25             | -12.5          | 48.5            | -12.591                    | -12.729 | 24             | -12.5          | 357.5           | -8.744                     | -3.412  | 16             |
| -7.5           | 114.5           | 22.920                     | 22.920  | 25             | -12.5          | 54.0            | -6.041                     | -4.981  | 17             |                |                 |                            |         |                |
| -7.5           | 119.5           | -.080                      | 0.000   | 25             | -12.5          | 59.5            | -2.910                     | -2.961  | 22             | -17.5          | 2.5             | -8.525                     | -8.610  | 13             |
| -7.5           | 124.5           | -11.960                    | -12.040 | 25             | -12.5          | 64.5            | -5.000                     | -5.200  | 25             | -17.5          | 7.5             | -4.903                     | -4.739  | 19             |
| -7.5           | 129.5           | -26.320                    | -26.480 | 25             | -12.5          | 69.5            | -5.871                     | -6.200  | 22             | -17.5          | 13.0            | 7.600                      | 7.600   | 25             |
| -7.5           | 134.5           | 16.720                     | 16.680  | 25             | -12.5          | 74.5            | -51.400                    | -21.560 | 25             | -17.5          | 18.5            | -3.680                     | -3.680  | 25             |
| -7.5           | 139.5           | 22.920                     | 22.920  | 25             | -12.5          | 79.5            | -23.821                    | -23.877 | 24             | -17.5          | 23.5            | -9.200                     | -9.200  | 25             |
| -7.5           | 144.5           | 29.080                     | 29.160  | 25             | -12.5          | 84.5            | -24.480                    | -24.640 | 25             | -17.5          | 28.5            | 9.800                      | 9.800   | 25             |
| -7.5           | 149.5           | 29.360                     | 29.280  | 25             | -12.5          | 89.0            | -25.880                    | -25.960 | 25             | -17.5          | 34.0            | -1.180                     | -1.180  | 25             |
| -7.5           | 154.5           | 37.160                     | 37.200  | 25             | -12.5          | 95.5            | -25.040                    | -25.120 | 25             | -17.5          | 39.5            | -20.560                    | -20.560 | 25             |
| -7.5           | 159.5           | 19.160                     | 19.120  | 25             | -12.5          | 100.5           | -6.440                     | -6.400  | 25             | -17.5          | 44.5            | -14.162                    | -14.156 | 24             |
| -7.5           | 164.5           | 4.921                      | 3.381   | 19             | -12.5          | 105.5           | 6.480                      | 6.480   | 25             | -17.5          | 49.5            | 19.664                     | 20.384  | 17             |
| -7.5           | 169.5           | -.410                      | -3.218  | 14             | -12.5          | 110.5           | -6.120                     | -6.120  | 25             | -17.5          | 54.5            | -5.174                     | -3.043  | 15             |
| -7.5           | 174.5           | 1.459                      | .799    | 17             | -12.5          | 115.5           | -17.480                    | -17.520 | 25             | -17.5          | 60.0            | 8.828                      | 8.689   | 24             |
| -7.5           | 180.0           | 1.635                      | .280    | 18             | -12.5          | 120.5           | -.690                      | -.690   | 25             | -17.5          | 65.5            | 7.100                      | 7.240   | 25             |
| -7.5           | 185.5           | 7.449                      | 4.835   | 11             | -12.5          | 125.0           | 24.680                     | 23.560  | 25             | -17.5          | 70.5            | -.614                      | -.595   | 22             |
| -7.5           | 190.5           | -.799                      | -.951   | 22             | -12.5          | 131.5           | 27.000                     | 27.080  | 25             | -17.5          | 75.5            | -12.804                    | -12.875 | 24             |
| -7.5           | 195.5           | 3.665                      | 3.234   | 10             | -12.5          | 136.5           | 20.880                     | 20.880  | 25             | -17.5          | 80.5            | -21.666                    | -21.837 | 24             |
| -7.5           | 200.5           | 6.162                      | 5.545   | 15             | -12.5          | 141.5           | 20.760                     | 20.800  | 25             | -17.5          | 86.0            | -18.500                    | -18.580 | 25             |
| -7.5           | 205.5           | .041                       | -4.720  | 9              | -12.5          | 146.5           | 19.880                     | 19.920  | 25             | -17.5          | 91.5            | -30.900                    | -31.040 | 25             |
| -7.5           | 210.5           | 2.318                      | -5.121  | 10             | -12.5          | 151.5           | 18.280                     | 18.400  | 25             | -17.5          | 96.5            | -26.200                    | -26.200 | 25             |
| -7.5           | 215.5           | -12.330                    | -11.152 | 6              | -12.5          | 156.5           | 29.145                     | 29.181  | 24             | -17.5          | 101.5           | -26.200                    | -26.440 | 25             |
| -7.5           | 220.5           | 17.281                     | 14.112  | 2              | -12.5          | 162.0           | 17.600                     | 17.600  | 25             | -17.5          | 107.0           | -22.120                    | -22.200 | 25             |
| -7.5           | 225.5           | -.196                      | 6.411   | 8              | -12.5          | 167.5           | 15.400                     | 15.400  | 25             | -17.5          | 112.5           | -21.000                    | -20.920 | 25             |
| -7.5           | 230.5           | 2.277                      | -2.714  | 5              | -12.5          | 172.5           | 17.204                     | 17.076  | 19             | -17.5          | 117.5           | -8.960                     | -9.000  | 25             |
| -7.5           | 235.5           | .453                       | -5.069  | 7              | -12.5          | 177.5           | 10.917                     | 13.013  | 11             | -17.5          | 122.5           | 14.400                     | 14.280  | 25             |
| -7.5           | 240.5           | -2.770                     | 2.430   | 6              | -12.5          | 182.5           | 18.007                     | 17.523  | 17             | -17.5          | 127.5           | 14.720                     | 14.760  | 25             |
| -7.5           | 245.5           | 4.546                      | 16.854  | 5              | -12.5          | 187.5           | 7.091                      | 7.069   | 22             | -17.5          | 133.0           | 6.740                      | 6.660   | 25             |
| -7.5           | 251.0           | 1.568                      | 7.411   | 10             | -12.5          | 192.5           | 12.040                     | 11.057  | 16             | -17.5          | 138.5           | 11.240                     | 11.240  | 25             |
| -7.5           | 256.5           | -4.257                     | -4.164  | 17             | -12.5          | 198.0           | 8.000                      | 8.286   | 12             | -17.5          | 143.5           | 21.600                     | 21.720  | 25             |
| -7.5           | 261.5           | -7.017                     | -7.003  | 20             | -12.5          | 203.5           | -8.087                     | -7.280  | 15             | -17.5          | 148.5           | 17.560                     | 17.520  | 25             |
| -7.5           | 266.5           | -12.682                    | -12.265 | 18             | -12.5          | 208.5           | 1.838                      | .273    | 19             | -17.5          | 154.0           | 12.320                     | 12.280  | 25             |
| -7.5           | 271.5           | -11.576                    | -12.069 | 19             | -12.5          | 213.5           | -10.096                    | -13.642 | 7              | -17.5          | 159.5           | 2.237                      | 2.653   | 22             |

Table 6. (Cont.)

| Lat. (deg.) | Long. (deg.) | Block estimates* (mgal) |         |             | Lat. (deg.) | Long. (deg.) | Block estimates* (mgal) |         |             | Lat. (deg.) | Long. (deg.) | Block estimates* (mgal) |         |             |
|-------------|--------------|-------------------------|---------|-------------|-------------|--------------|-------------------------|---------|-------------|-------------|--------------|-------------------------|---------|-------------|
|             |              | I                       | II      | No. of obs. |             |              | I                       | II      | No. of obs. |             |              | I                       | II      | No. of obs. |
| -17.5       | 164.5        | 5.284                   | 8.807   | 14          | -22.5       | 115.5        | 8.080                   | 8.080   | 25          | -27.5       | 104.0        | -10.197                 | -19.858 | 10          |
| -17.5       | 169.5        | 43.280                  | 43.280  | 25          | -22.5       | 121.0        | 1.800                   | 1.780   | 25          | -27.5       | 110.0        | -25.524                 | -22.858 | 12          |
| -17.5       | 174.5        | 30.146                  | 31.034  | 22          | -22.5       | 126.5        | -7.800                  | -7.680  | 25          | -27.5       | 115.5        | -7.763                  | -1.741  | 24          |
| -17.5       | 180.0        | 18.468                  | 18.691  | 22          | -22.5       | 131.5        | -7.800                  | -7.720  | 25          | -27.5       | 121.0        | -4.491                  | -4.832  | 20          |
| -17.5       | 185.5        | -1.040                  | 2.128   | 13          | -22.5       | 137.0        | 10.200                  | 10.180  | 25          | -27.5       | 126.5        | -14.851                 | -14.987 | 24          |
| -17.5       | 190.5        | 4.203                   | 4.225   | 20          | -22.5       | 142.5        | 7.480                   | 7.360   | 25          | -27.5       | 132.0        | -13.740                 | -13.620 | 25          |
| -17.5       | 195.5        | -8.827                  | -2.679  | 13          | -22.5       | 147.5        | 24.320                  | 24.400  | 25          | -27.5       | 138.0        | -8.580                  | -8.440  | 25          |
| -17.5       | 200.5        | 8.974                   | 7.279   | 9           | -22.5       | 153.0        | 8.429                   | 12.362  | 14          | -27.5       | 143.5        | -3.120                  | -3.120  | 25          |
| -17.5       | 206.0        | 1.789                   | .801    | 15          | -22.5       | 158.5        | 5.941                   | 13.310  | 9           | -27.5       | 149.0        | 13.380                  | 13.440  | 25          |
| -17.5       | 211.5        | -2.213                  | -2.286  | 24          | -22.5       | 164.0        | 22.295                  | 21.544  | 17          | -27.5       | 155.0        | 9.771                   | 10.612  | 21          |
| -17.5       | 216.5        | -5.368                  | -5.675  | 13          | -22.5       | 169.5        | 28.937                  | 30.064  | 19          | -27.5       | 160.5        | 9.743                   | 9.469   | 10          |
| -17.5       | 221.5        | -6.581                  | -6.716  | 18          | -22.5       | 174.5        | 37.755                  | 43.577  | 11          | -27.5       | 166.0        | 10.676                  | 12.658  | 9           |
| -17.5       | 227.0        | -4.144                  | -5.907  | 16          | -22.5       | 180.0        | 11.990                  | 27.752  | 3           | -27.5       | 171.5        | 8.674                   | 24.196  | 2           |
| -17.5       | 232.5        | -2.712                  | -3.998  | 11          | -22.5       | 185.5        | -1.794                  | -2.159  | 22          | -27.5       | 177.0        | .062                    | 22.275  | 3           |
| -17.5       | 237.5        | -4.584                  | -1.822  | 7           | -22.5       | 190.5        | -18.015                 | -13.095 | 8           | -27.5       | 183.0        | -29.729                 | -26.343 | 14          |
| -17.5       | 242.5        | 4.337                   | 2.304   | 7           | -22.5       | 207.0        | -10.056                 | -8.650  | 5           | -27.5       | 188.5        | -11.683                 | -5.919  | 10          |
| -17.5       | 247.5        | 6.487                   | 5.558   | 15          | -22.5       | 212.5        | -16.041                 | -14.831 | 13          | -27.5       | 211.0        | -1.155                  | -1.081  | 10          |
| -17.5       | 253.0        | -4.178                  | -2.399  | 13          | -22.5       | 217.5        | -8.532                  | -7.966  | 10          | -27.5       | 216.5        | 3.705                   | 3.415   | 10          |
| -17.5       | 258.5        | -5.305                  | -4.674  | 14          | -22.5       | 223.0        | -11.111                 | -14.245 | 11          | -27.5       | 222.0        | -13.638                 | -15.169 | 4           |
| -17.5       | 263.5        | 1.211                   | 2.036   | 6           | -22.5       | 228.5        | 1.366                   | -14.822 | 5           | -27.5       | 228.0        | 6.369                   | -20.204 | 2           |
| -17.5       | 268.5        | .100                    | 7.483   | 7           | -22.5       | 233.5        | 7.839                   | -3.990  | 5           | -27.5       | 245.0        | 1.321                   | 8.852   | 3           |
| -17.5       | 274.0        | -1.955                  | .252    | 7           | -22.5       | 239.0        | 6.747                   | 5.110   | 8           | -27.5       | 250.5        | 6.710                   | 4.901   | 11          |
| -17.5       | 279.5        | -4.456                  | -15.615 | 7           | -22.5       | 244.5        | 9.218                   | 8.057   | 17          | -27.5       | 256.0        | 5.068                   | .491    | 11          |
| -17.5       | 284.5        | -2.906                  | -4.953  | 17          | -22.5       | 250.0        | 3.466                   | 2.213   | 12          | -27.5       | 261.5        | 7.942                   | -3.537  | 3           |
| -17.5       | 289.5        | 52.760                  | 52.760  | 25          | -22.5       | 255.5        | 3.356                   | .770    | 7           | -27.5       | 267.0        | 18.554                  | 11.345  | 1           |
| -17.5       | 294.5        | 50.200                  | 50.200  | 25          | -22.5       | 260.5        | 1.636                   | -2.409  | 4           | -27.5       | 284.0        | 15.544                  | 11.108  | 12          |
| -17.5       | 300.0        | 14.560                  | 14.560  | 25          | -22.5       | 282.0        | -2.587                  | -12.632 | 6           | -27.5       | 290.0        | 42.506                  | 42.691  | 22          |
| -17.5       | 305.5        | -8.080                  | -8.080  | 25          | -22.5       | 287.5        | -7.035                  | -3.990  | 17          | -27.5       | 295.5        | 12.760                  | 12.760  | 25          |
| -17.5       | 310.5        | -19.920                 | -19.920 | 25          | -22.5       | 293.0        | 73.380                  | 73.380  | 25          | -27.5       | 301.0        | 11.240                  | 11.240  | 25          |
| -17.5       | 315.5        | -18.760                 | -18.760 | 25          | -22.5       | 298.5        | 5.627                   | 5.761   | 24          | -27.5       | 306.5        | -9.520                  | -9.520  | 25          |
| -17.5       | 320.5        | -4.320                  | -4.320  | 25          | -22.5       | 303.5        | -2.248                  | -2.240  | 25          | -27.5       | 312.0        | 1.055                   | 1.039   | 24          |
| -17.5       | 326.0        | -15.050                 | -15.121 | 20          | -22.5       | 309.0        | -18.880                 | -18.880 | 25          | -27.5       | 318.0        | -29.875                 | -28.715 | 15          |
| -17.5       | 331.5        | -14.582                 | -14.021 | 19          | -22.5       | 314.5        | -1.151                  | -1.165  | 24          | -27.5       | 323.5        | -15.289                 | -17.762 | 12          |
| -17.5       | 336.5        | -25.393                 | -20.706 | 14          | -22.5       | 319.5        | -14.844                 | -14.991 | 23          | -27.5       | 329.0        | -14.305                 | -14.570 | 20          |
| -17.5       | 341.5        | -15.966                 | .321    | 2           | -22.5       | 325.0        | -24.830                 | -25.158 | 18          | -27.5       | 335.0        | -3.324                  | -.646   | 5           |
| -17.5       | 347.0        | 4.872                   | 5.088   | 11          | -22.5       | 330.5        | -17.475                 | -17.036 | 15          | -27.5       | 340.5        | -4.913                  | -.364   | 10          |
| -17.5       | 352.5        | .325                    | 2.631   | 5           | -22.5       | 336.0        | -21.483                 | -13.413 | 10          | -27.5       | 346.0        | -2.615                  | -1.696  | 14          |
| -17.5       | 357.5        | -2.768                  | -1.170  | 14          | -22.5       | 341.5        | -20.105                 | -12.786 | 10          | -27.5       | 351.5        | -10.445                 | -10.546 | 14          |
| -22.5       | 2.5          | 2.721                   | 1.920   | 18          | -22.5       | 346.5        | -4.667                  | -3.830  | 11          | -27.5       | 357.0        | -6.835                  | -5.422  | 15          |
| -22.5       | 8.0          | 9.257                   | 9.005   | 22          | -22.5       | 352.0        | -6.271                  | -5.693  | 7           | -32.5       | 3.0          | -3.139                  | -2.405  | 21          |
| -22.5       | 13.5         | 20.264                  | 20.276  | 24          | -22.5       | 357.5        | -7.728                  | -7.241  | 19          | -32.5       | 9.0          | -7.781                  | -7.081  | 22          |
| -22.5       | 18.5         | 31.080                  | 31.080  | 25          | -27.5       | 3.0          | -4.160                  | -2.809  | 20          | -32.5       | 15.0         | 2.025                   | 2.014   | 24          |
| -22.5       | 24.0         | -2.220                  | -2.220  | 25          | -27.5       | 8.5          | 4.754                   | 4.921   | 23          | -32.5       | 21.0         | 24.080                  | 24.060  | 25          |
| -22.5       | 29.5         | 9.040                   | 9.040   | 25          | -27.5       | 14.0         | 14.260                  | 14.260  | 25          | -32.5       | 27.0         | 14.920                  | 14.960  | 25          |
| -22.5       | 35.0         | -10.280                 | -10.200 | 25          | -27.5       | 20.0         | 15.220                  | 15.220  | 25          | -32.5       | 32.5         | 4.680                   | 4.760   | 25          |
| -22.5       | 40.5         | -12.640                 | -12.520 | 25          | -27.5       | 25.5         | 19.720                  | 19.720  | 25          | -32.5       | 38.0         | -4.160                  | -4.060  | 25          |
| -22.5       | 45.5         | 19.520                  | 19.840  | 25          | -27.5       | 31.0         | 30.260                  | 30.260  | 25          | -32.5       | 44.0         | 25.120                  | 25.080  | 25          |
| -22.5       | 51.0         | -.652                   | -.208   | 22          | -27.5       | 36.5         | -7.680                  | -7.560  | 25          | -32.5       | 50.0         | 15.540                  | 15.580  | 25          |
| -22.5       | 56.5         | -.280                   | -.120   | 25          | -27.5       | 42.0         | 3.240                   | 3.180   | 25          | -32.5       | 56.0         | 21.540                  | 21.500  | 25          |
| -22.5       | 61.5         | 8.100                   | 8.254   | 20          | -27.5       | 48.0         | 15.840                  | 15.800  | 25          | -32.5       | 62.0         | .621                    | 5.443   | 12          |
| -22.5       | 67.0         | 23.310                  | 23.246  | 23          | -27.5       | 53.5         | -2.040                  | -1.920  | 25          | -32.5       | 68.0         | 8.685                   | 12.838  | 10          |
| -22.5       | 72.5         | 10.460                  | 10.651  | 21          | -27.5       | 59.0         | -3.277                  | -3.452  | 21          | -32.5       | 74.0         | 22.400                  | 20.080  | 8           |
| -22.5       | 78.0         | -5.729                  | -5.066  | 14          | -27.5       | 65.0         | 18.710                  | 17.312  | 17          | -32.5       | 80.0         | 8.593                   | 7.025   | 11          |
| -22.5       | 83.5         | -9.541                  | -2.785  | 5           | -27.5       | 70.5         | 27.663                  | 26.119  | 8           | -32.5       | 86.0         | -5.042                  | -5.840  | 11          |
| -22.5       | 88.5         | -3.983                  | -7.777  | 9           | -27.5       | 76.0         | 12.756                  | 15.361  | 11          | -32.5       | 91.5         | -17.097                 | -10.305 | 15          |
| -22.5       | 94.0         | -17.014                 | -24.724 | 5           | -27.5       | 81.5         | -6.976                  | 10.082  | 4           | -32.5       | 97.0         | -24.666                 | -28.883 | 15          |
| -22.5       | 99.5         | -28.120                 | -28.393 | 14          | -27.5       | 87.0         | -2.532                  | 3.080   | 7           | -32.5       | 103.0        | -25.655                 | -26.070 | 20          |
| -22.5       | 104.5        | -.531                   | -2.881  | 13          | -27.5       | 93.0         | -6.679                  | -8.259  | 9           | -32.5       | 109.0        | -6.400                  | -6.460  | 25          |
| -22.5       | 110.0        | -5.447                  | -6.858  | 17          | -27.5       | 98.5         | -13.029                 | -18.861 | 10          | -32.5       | 115.0        | -14.960                 | -14.960 | 25          |

Table 6. (Cont.)

| Lat.<br>(deg.) | Long.<br>(deg.) | Block estimates*<br>(mgal) |         |    | No. of<br>obs. | Lat.<br>(deg.) | Long.<br>(deg.) | Block estimates*<br>(mgal) |    |       | No. of<br>obs. | Lat.<br>(deg.) | Long.<br>(deg.) | Block estimates*<br>(mgal) |    |  | No. of<br>obs. |
|----------------|-----------------|----------------------------|---------|----|----------------|----------------|-----------------|----------------------------|----|-------|----------------|----------------|-----------------|----------------------------|----|--|----------------|
|                |                 | I                          | II      |    |                |                |                 | I                          | II |       |                |                |                 | I                          | II |  |                |
| -32.5          | 127.0           | -23.650                    | -23.724 | 21 | -37.5          | 136.0          | -10.185         | -14.537                    | 13 | -42.5 | 309.0          | -10.683        | -13.731         | 10                         |    |  |                |
| -32.5          | 133.0           | -21.327                    | -21.465 | 22 | -37.5          | 142.0          | 1.936           | 1.494                      | 23 | -42.5 | 315.5          | -13.725        | -12.095         | 9                          |    |  |                |
| -32.5          | 139.0           | 1.940                      | 2.040   | 25 | -37.5          | 148.5          | 1.194           | 1.186                      | 24 | -42.5 | 322.5          | -7.021         | -5.002          | 1                          |    |  |                |
| -32.5          | 145.0           | 4.422                      | 4.218   | 23 | -37.5          | 155.0          | -1.514          | -1.846                     | 16 | -42.5 | 349.5          | -6.669         | 9.721           | 1                          |    |  |                |
| -32.5          | 150.5           | 25.720                     | 25.680  | 25 | -37.5          | 161.0          | -5.302          | -8.395                     | 13 | -42.5 | 356.5          | 12.052         | 11.097          | 9                          |    |  |                |
| -32.5          | 156.0           | -19.233                    | -19.507 | 20 | -37.5          | 167.5          | -0.093          | -1.592                     | 11 |       |                |                |                 |                            |    |  |                |
| -32.5          | 162.0           | -21.780                    | -22.702 | 9  | -37.5          | 174.0          | 9.224           | 10.139                     | 19 | -47.5 | 11.0           | -2.436         | -4.318          | 3                          |    |  |                |
| -32.5          | 168.0           | -37.843                    | -20.859 | 6  | -37.5          | 180.0          | -14.364         | -13.447                    | 21 | -47.5 | 18.5           | 4.475          | 9.379           | 3                          |    |  |                |
| -32.5          | 174.0           | 36.769                     | 25.549  | 2  | -37.5          | 192.5          | -26.870         | -15.807                    | 8  | -47.5 | 40.5           | 25.762         | 43.299          | 1                          |    |  |                |
| -32.5          | 180.0           | 236                        | 10.791  | 12 | -37.5          | 211.5          | 4.516           | 2.467                      | 5  | -47.5 | 69.5           | 10.814         | 26.380          | 5                          |    |  |                |
| -32.5          | 186.0           | -20.670                    | -0.830  | 5  | -37.5          | 218.0          | 3.932           | -2.431                     | 3  | -47.5 | 150.0          | -9.026         | -2.308          | 5                          |    |  |                |
| -32.5          | 192.0           | -17.620                    | -2.608  | 7  | -37.5          | 224.0          | -3.583          | 4.511                      | 4  | -47.5 | 165.5          | 28.956         | 33.051          | 6                          |    |  |                |
| -32.5          | 209.5           | -1.581                     | 1.869   | 10 | -37.5          | 230.5          | 11.176          | 16.786                     | 4  | -47.5 | 172.5          | 9.829          | 21.793          | 6                          |    |  |                |
| -32.5          | 215.0           | 2.591                      | 8.104   | 3  | -37.5          | 237.0          | -0.314          | 4.842                      | 5  | -47.5 | 180.0          | -19.050        | -15.212         | 7                          |    |  |                |
| -32.5          | 221.0           | 10.173                     | 8.786   | 4  | -37.5          | 243.0          | -3.470          | -1.848                     | 5  | -47.5 | 187.5          | -19.534        | -19.832         | 15                         |    |  |                |
| -32.5          | 227.0           | -1.891                     | -1.750  | 10 | -37.5          | 249.5          | -25.324         | -24.081                    | 19 | -47.5 | 194.5          | 6.669          | 4.480           | 1                          |    |  |                |
| -32.5          | 233.0           | 8.502                      | 6.447   | 6  | -37.5          | 256.0          | -28.374         | -20.583                    | 11 | -47.5 | 209.5          | 6.476          | -8.296          | 10                         |    |  |                |
| -32.5          | 239.0           | 5.886                      | 10.328  | 5  | -37.5          | 262.0          | -6.239          | -8.274                     | 9  | -47.5 | 253.5          | 4.861          | 4.163           | 2                          |    |  |                |
| -32.5          | 245.0           | -3.305                     | 5.830   | 5  | -37.5          | 268.5          | -0.669          | -18.421                    | 1  | -47.5 | 268.0          | 2.006          | 20.840          | 1                          |    |  |                |
| -32.5          | 251.0           | -5.404                     | -3.067  | 7  | -37.5          | 281.0          | 2.226           | 3.800                      | 1  | -47.5 | 275.5          | 12.953         | 13.014          | 9                          |    |  |                |
| -32.5          | 257.0           | -2.455                     | -4.115  | 12 | -37.5          | 287.5          | 20.329          | 19.968                     | 19 | -47.5 | 283.0          | -11.420        | -5.200          | 6                          |    |  |                |
| -32.5          | 263.0           | -10.994                    | -10.412 | 6  | -37.5          | 294.0          | 5.980           | 5.980                      | 25 | -47.5 | 290.5          | 6.389          | 6.344           | 24                         |    |  |                |
| -32.5          | 268.5           | -2.192                     | -4.176  | 5  | -37.5          | 300.0          | 13.700          | 13.650                     | 24 | -47.5 | 297.5          | -6.613         | 4.446           | 13                         |    |  |                |
| -32.5          | 274.0           | 7.066                      | 4.198   | 6  | -37.5          | 306.0          | 3.316           | 2.703                      | 23 | -47.5 | 305.0          | -16.310        | -16.418         | 21                         |    |  |                |
| -32.5          | 280.0           | 11.782                     | 4.881   | 6  | -37.5          | 312.5          | -28.788         | -28.679                    | 20 | -47.5 | 312.5          | -16.162        | -13.514         | 2                          |    |  |                |
| -32.5          | 286.0           | -18.577                    | -15.774 | 15 | -37.5          | 319.0          | -15.134         | -13.998                    | 13 | -47.5 | 319.5          | -18.156        | -13.621         | 9                          |    |  |                |
| -32.5          | 292.0           | 39.680                     | 39.680  | 25 | -37.5          | 325.0          | 7.043           | 7.740                      | 6  | -47.5 | 327.0          | -23.845        | -22.498         | 9                          |    |  |                |
| -32.5          | 298.0           | 15.520                     | 15.520  | 25 | -37.5          | 331.5          | 1.739           | 6.579                      | 5  | -47.5 | 334.5          | 3.113          | -18.041         | 4                          |    |  |                |
| -32.5          | 304.0           | 19.700                     | 19.700  | 25 | -37.5          | 338.0          | 11.988          | 8.716                      | 2  | -47.5 | 341.5          | 6.886          | 1.686           | 7                          |    |  |                |
| -32.5          | 310.0           | -3.128                     | -3.144  | 20 | -37.5          | 344.0          | 7.605           | 7.332                      | 11 | -47.5 | 349.0          | 14.528         | 22.034          | 7                          |    |  |                |
| -32.5          | 316.0           | -19.431                    | -19.638 | 12 | -37.5          | 350.5          | 3.721           | 4.524                      | 13 |       |                |                |                 |                            |    |  |                |
| -32.5          | 322.0           | -18.185                    | -17.959 | 19 | -37.5          | 357.0          | -9.536          | -2.103                     | 7  | -52.5 | 69.5           | 20.716         | 26.992          | 4                          |    |  |                |
| -32.5          | 327.5           | -20.329                    | -13.277 | 2  |                |                |                 |                            |    | -52.5 | 143.0          | 28.749         | 15.969          | 4                          |    |  |                |
| -32.5          | 333.0           | 1.390                      | 4.076   | 6  | -42.5          | 3.5            | 4.505           | -3.476                     | 5  | -52.5 | 159.5          | 2.099          | -2.912          | 6                          |    |  |                |
| -32.5          | 339.0           | 5.791                      | 9.345   | 8  | -42.5          | 10.5           | 1.399           | -2.436                     | 10 | -52.5 | 168.0          | 16.170         | 7.716           | 4                          |    |  |                |
| -32.5          | 345.0           | 3.539                      | 4.895   | 16 | -42.5          | 17.0           | 9.617           | 1.005                      | 3  | -52.5 | 176.0          | -2.340         | -4.420          | 1                          |    |  |                |
| -32.5          | 351.0           | -3.747                     | -3.186  | 13 | -42.5          | 23.5           | 16.607          | 16.663                     | 11 | -52.5 | 184.0          | 4.551          | -8.992          | 7                          |    |  |                |
| -32.5          | 357.0           | 9.236                      | 6.461   | 6  | -42.5          | 30.5           | 72.564          | 66.445                     | 9  | -52.5 | 192.0          | -6.650         | -16.403         | 6                          |    |  |                |
|                |                 |                            |         |    | -42.5          | 71.5           | -2.807          | 19.823                     | 4  | -52.5 | 209.0          | -5.521         | -6.800          | 10                         |    |  |                |
| -37.5          | 3.0             | -8.737                     | -0.155  | 4  | -42.5          | 85.0           | -1.286          | 14.551                     | 3  | -52.5 | 249.5          | 10.164         | -3.874          | 2                          |    |  |                |
| -37.5          | 9.5             | -2.314                     | -2.532  | 12 | -42.5          | 91.5           | 9.61            | 9.925                      | 5  | -52.5 | 282.0          | 10.329         | 6.592           | 12                         |    |  |                |
| -37.5          | 16.0            | 0.589                      | 4.28    | 18 | -42.5          | 98.5           | -2.781          | 8.261                      | 2  | -52.5 | 290.5          | -1.969         | -1.586          | 23                         |    |  |                |
| -37.5          | 22.0            | 3.520                      | 3.380   | 25 | -42.5          | 105.5          | -4.717          | -1.333                     | 1  | -52.5 | 299.0          | 12.418         | 12.034          | 22                         |    |  |                |
| -37.5          | 28.5            | 10.317                     | 10.440  | 24 | -42.5          | 112.0          | -11.515         | -11.403                    | 2  | -52.5 | 307.0          | -3.594         | -5.565          | 18                         |    |  |                |
| -37.5          | 35.0            | 8.582                      | 9.751   | 20 | -42.5          | 139.5          | 6.308           | -18.617                    | 1  | -52.5 | 315.0          | 6.370          | 5.295           | 20                         |    |  |                |
| -37.5          | 41.0            | 5.919                      | 9.250   | 12 | -42.5          | 146.0          | 1.830           | -1.10                      | 19 | -52.5 | 323.0          | -0.909         | -3.234          | 9                          |    |  |                |
| -37.5          | 47.5            | 18.386                     | 17.314  | 10 | -42.5          | 152.5          | -15.551         | -13.571                    | 10 | -52.5 | 331.0          | 25.999         | 2.273           | 1                          |    |  |                |
| -37.5          | 54.0            | 14.098                     | 13.753  | 10 | -42.5          | 166.5          | -16.512         | 0.522                      | 9  | -52.5 | 339.5          | 0.544          | 11.449          | 1                          |    |  |                |
| -37.5          | 60.0            | 3.174                      | 11.372  | 6  | -42.5          | 173.5          | 8.443           | 9.685                      | 22 |       |                |                |                 |                            |    |  |                |
| -37.5          | 66.0            | -0.079                     | 17.216  | 4  | -42.5          | 180.0          | 15.422          | 11.334                     | 15 | -57.5 | 50.5           | 13.788         | 21.769          | 1                          |    |  |                |
| -37.5          | 72.5            | -1.698                     | 14.956  | 4  | -42.5          | 186.5          | -22.232         | -19.389                    | 7  | -57.5 | 133.5          | -5.450         | -19.605         | 4                          |    |  |                |
| -37.5          | 79.0            | 6.856                      | 8.077   | 15 | -42.5          | 193.5          | -24.550         | -5.852                     | 4  | -57.5 | 143.0          | 20.170         | 15.163          | 3                          |    |  |                |
| -37.5          | 85.0            | -0.693                     | -1.549  | 12 | -42.5          | 207.5          | -5.670          | 0.174                      | 10 | -57.5 | 152.5          | 4.474          | 4.529           | 10                         |    |  |                |
| -37.5          | 91.5            | 7.17                       | 0.67    | 18 | -42.5          | 248.0          | -16.454         | -16.305                    | 9  | -57.5 | 189.5          | -24.809        | -26.074         | 14                         |    |  |                |
| -37.5          | 98.0            | -10.829                    | -10.855 | 18 | -42.5          | 254.5          | -12.237         | -8.511                     | 7  | -57.5 | 198.5          | -14.927        | -24.269         | 2                          |    |  |                |
| -37.5          | 104.0           | -24.715                    | -25.877 | 16 | -42.5          | 268.5          | -3.581          | -8.956                     | 9  | -57.5 | 207.5          | -3.412         | -7.437          | 10                         |    |  |                |
| -37.5          | 110.5           | -33.452                    | -36.998 | 12 | -42.5          | 281.5          | 0.623           | 8.573                      | 3  | -57.5 | 217.0          | 18.868         | 19.186          | 1                          |    |  |                |
| -37.5          | 117.0           | -37.291                    | -39.935 | 8  | -42.5          | 288.5          | 38.278          | 37.194                     | 20 | -57.5 | 253.5          | 5.977          | 4.329           | 3                          |    |  |                |
| -37.5          | 123.0           | -33.544                    | -41.282 | 4  | -42.5          | 295.5          | 6.179           | 6.881                      | 16 | -57.5 | 272.5          | -5.937         | -10.160         | 1                          |    |  |                |
| -37.5          | 129.5           | -20.091                    | -20.180 | 2  | -42.5          | 302.5          | 1.107           | 2.296                      | 19 | -57.5 | 281.5          | -8.704         | -9.261          | 10                         |    |  |                |



Table 6. (Cont.)

| Lat.<br>(deg.) | Long.<br>(deg.) | Block estimates* |         |                | No. of<br>obs. | Lat.<br>(deg.) | Long.<br>(deg.) | Block estimates* |    |  |
|----------------|-----------------|------------------|---------|----------------|----------------|----------------|-----------------|------------------|----|--|
|                |                 | (mgal)           |         | No. of<br>obs. |                |                |                 | (mgal)           |    |  |
|                |                 | I                | II      |                |                |                |                 | I                | II |  |
| -57.5          | 290.5           | 17.922           | 18.415  | 15             | -72.5          | 41.0           | -1.000          | -0.667           | 12 |  |
| -57.5          | 300.0           | 29.562           | 29.933  | 23             | -72.5          | 90.0           | 13.537          | 14.383           | 12 |  |
| -57.5          | 309.5           | 18.959           | 20.493  | 18             | -72.5          | 106.5          | -30.573         | -25.095          | 7  |  |
| -57.5          | 318.5           | 19.228           | 20.995  | 18             | -72.5          | 139.0          | -20.092         | -29.489          | 8  |  |
| -57.5          | 327.5           | 34.913           | 34.447  | 15             | -72.5          | 155.5          | -30.579         | -30.007          | 6  |  |
| -57.5          | 337.0           | 12.298           | 12.141  | 14             | -72.5          | 172.0          | -26.592         | -28.462          | 2  |  |
| -57.5          | 346.5           | 16.807           | 11.899  | 8              | -72.5          | 204.5          | -24.522         | -30.896          | 3  |  |
|                |                 |                  |         |                | -72.5          | 237.0          | 11.817          | -11.702          | 2  |  |
| -62.5          | 5.5             | 7.124            | -11.620 | 2              | -72.5          | 253.5          | -4.681          | -16.726          | 1  |  |
| -62.5          | 16.5            | 23.813           | 19.557  | 8              | -72.5          | 270.0          | 11.697          | 2.176            | 5  |  |
| -62.5          | 27.5            | .363             | 2.057   | 1              | -72.5          | 286.5          | 30.333          | 22.681           | 8  |  |
| -62.5          | 49.5            | 11.874           | 17.141  | 1              | -72.5          | 352.0          | 11.751          | 42.609           | 1  |  |
| -62.5          | 70.5            | 32.914           | 29.652  | 4              |                |                |                 |                  |    |  |
| -62.5          | 81.5            | 13.263           | 8.248   | 10             | -77.5          | 34.0           | -7.487          | -4.085           | 4  |  |
| -62.5          | 92.5            | -22.987          | -19.001 | 7              | -77.5          | 79.0           | 18.992          | 17.637           | 5  |  |
| -62.5          | 103.5           | 19.059           | 19.995  | 3              | -77.5          | 101.5          | -3.580          | -5.050           | 18 |  |
| -62.5          | 114.5           | -41.925          | -7.134  | 2              | -77.5          | 124.0          | -3.356          | -33.572          | 1  |  |
| -62.5          | 125.5           | -24.370          | -31.056 | 3              | -77.5          | 146.5          | -37.120         | -39.375          | 13 |  |
| -62.5          | 136.5           | -31.761          | -30.028 | 9              | -77.5          | 169.0          | -15.599         | -20.014          | 15 |  |
| -62.5          | 147.5           | -7.919           | -7.810  | 11             | -77.5          | 191.5          | -18.511         | -23.228          | 11 |  |
| -62.5          | 158.5           | 1.242            | -6.985  | 9              | -77.5          | 214.0          | -17.874         | -19.759          | 9  |  |
| -62.5          | 169.5           | -1.588           | -22.611 | 1              | -77.5          | 236.5          | -5.154          | -5.444           | 20 |  |
| -62.5          | 190.5           | -11.780          | -17.385 | 6              | -77.5          | 259.0          | -13.161         | -13.241          | 22 |  |
| -62.5          | 201.5           | -9.322           | -15.484 | 4              | -77.5          | 281.5          | 8.196           | 6.275            | 9  |  |
| -62.5          | 212.5           | -6.171           | -8.391  | 3              | -77.5          | 304.0          | -2.090          | -10.931          | 3  |  |
| -62.5          | 245.5           | 9.972            | 2.046   | 3              | -77.5          | 326.5          | -13.196         | -11.772          | 8  |  |
| -62.5          | 256.5           | -2.675           | -11.113 | 1              |                |                |                 |                  |    |  |
| -62.5          | 278.5           | -0.669           | -27.987 | 1              | -82.5          | 20.0           | -1.559          | -1.455           | 13 |  |
| -62.5          | 289.5           | 6.331            | 6.785   | 15             | -82.5          | 60.0           | 22.829          | 18.915           | 13 |  |
| -62.5          | 300.0           | 34.952           | 34.197  | 22             | -82.5          | 100.0          | 18.744          | 11.155           | 9  |  |
| -62.5          | 310.5           | 30.575           | 23.667  | 10             | -82.5          | 140.0          | -17.491         | -19.812          | 14 |  |
| -62.5          | 321.5           | 16.451           | 22.402  | 3              | -82.5          | 180.0          | -21.012         | -21.191          | 20 |  |
|                |                 |                  |         |                | -82.5          | 220.0          | -15.396         | -14.633          | 9  |  |
| -67.5          | 6.5             | 13.675           | 6.888   | 6              | -82.5          | 260.0          | -5.805          | -6.057           | 24 |  |
| -67.5          | 19.5            | -7.153           | -6.761  | 16             | -82.5          | 300.0          | -13.005         | -16.171          | 14 |  |
| -67.5          | 32.5            | 17.882           | 17.187  | 15             |                |                |                 |                  |    |  |
| -67.5          | 45.0            | 10.349           | 10.058  | 19             | -87.5          | 60.0           | -16.579         | -14.110          | 12 |  |
| -67.5          | 57.5            | 42.700           | 38.464  | 13             | -87.5          | 180.0          | -20.723         | -18.577          | 15 |  |
| -67.5          | 70.5            | 20.941           | 22.348  | 13             | -87.5          | 300.0          | -14.037         | -15.229          | 10 |  |
| -67.5          | 83.5            | 10.849           | 14.429  | 16             |                |                |                 |                  |    |  |
| -67.5          | 96.5            | 24.110           | 22.066  | 18             |                |                |                 |                  |    |  |
| -67.5          | 109.5           | 17.429           | 16.746  | 15             |                |                |                 |                  |    |  |
| -67.5          | 122.5           | -20.404          | -20.206 | 10             |                |                |                 |                  |    |  |
| -67.5          | 135.0           | -11.610          | -22.629 | 6              |                |                |                 |                  |    |  |
| -67.5          | 147.5           | -15.327          | -19.287 | 9              |                |                |                 |                  |    |  |
| -67.5          | 160.5           | -9.630           | -10.258 | 16             |                |                |                 |                  |    |  |
| -67.5          | 173.5           | -7.736           | -13.760 | 8              |                |                |                 |                  |    |  |
| -67.5          | 186.5           | -9.372           | -12.006 | 16             |                |                |                 |                  |    |  |
| -67.5          | 199.5           | -19.936          | -25.523 | 5              |                |                |                 |                  |    |  |
| -67.5          | 212.5           | -8.688           | -22.266 | 2              |                |                |                 |                  |    |  |
| -67.5          | 225.0           | -22.816          | -25.826 | 4              |                |                |                 |                  |    |  |
| -67.5          | 237.5           | -19.149          | -17.681 | 6              |                |                |                 |                  |    |  |
| -67.5          | 250.5           | -5.145           | -11.776 | 2              |                |                |                 |                  |    |  |
| -67.5          | 263.5           | 25.689           | -19.425 | 2              |                |                |                 |                  |    |  |
| -67.5          | 276.5           | -6.082           | -10.888 | 5              |                |                |                 |                  |    |  |
| -67.5          | 289.5           | 19.919           | 11.640  | 5              |                |                |                 |                  |    |  |
| -67.5          | 302.5           | 16.383           | -4.023  | 1              |                |                |                 |                  |    |  |
|                |                 |                  |         |                |                |                |                 |                  |    |  |
| -72.5          | 8.0             | -23.061          | 6.711   | 6              |                |                |                 |                  |    |  |
| -72.5          | 24.5            | 8.463            | 3.859   | 7              |                |                |                 |                  |    |  |

## 5. DISCUSSION

Block anomalies as obtained from estimated residual anomalies (column headed II in Table 6) are preferred for several reasons. First, surface-gravity data are augmented by the information contained in the reference field, the assumption, of course, being that the reference field is a good representation of the geoid. Second, the covariance function of the residual anomalies is nearly zero for  $\tau > 3^\circ$ , so that estimates depend only on nearby measurements; thus, the effect of ignoring measurements outside the block is reduced. Third, the residual anomalies are more nearly stationary than are the original measurements. Figures 2 and 3 are typical of other partitionings of the data.

Nevertheless, there is a serious objection to using these estimates in combination with other kinds of data to solve for the coefficients of the earth's gravity field. The block anomalies obtained from estimated residual anomalies do not represent only information in the surface-gravity data. This fact blurs the meaning of the weights assigned to the anomalies and of the statistics comparing solutions with the anomalies. The problem would be magnified by iteration.

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