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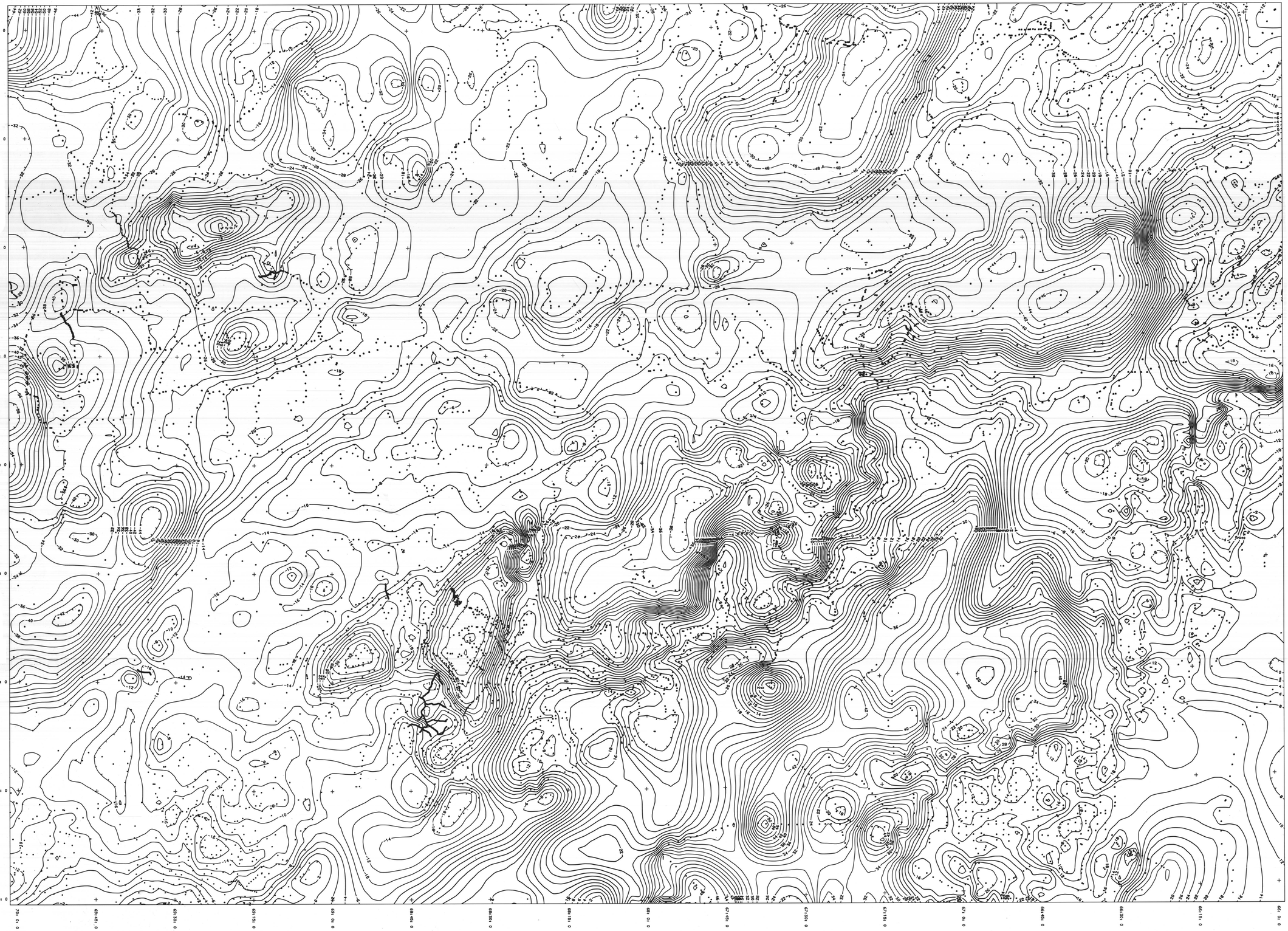


# PRELIMINARY BOUGUER GRAVITY MAP OF EASTERN MAINE AND ADJACENT CANADA

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## EXPLANATION

Contours of Bouguer anomaly values drawn by computer from a 2 km by 2 km gridded representation of the data.

Contour interval is 2 milligals. Hachures are used to indicate gravity lows. Small squares mark the locations of individual stations. UTM projection.

Anomalies were calculated relative to the 1967 Geodetic Reference System formula for theoretical gravity (International Association of Geodesy, 1971), and base values were adjusted to conform to the International Gravity Standardization Net of 1971 (Morelli, 1974). Terrain corrections have been calculated from 0.093 km to 166.7 km using a modification of the terrain correction program of Plouff (1977). No terrain corrections have been applied for the zones closer than 0.093 km, but in most cases errors resulting from this omission are substantially less than 1.0 mgal.

## REFERENCES CITED

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Morelli, C., (ed.), 1974, The International Gravity Standardization Net 1971: International Association of Geodesy Special Publication, no. 4, 194 p.

Plouff, D., 1977, Preliminary documentation for a FORTRAN program to compute gravity terrain corrections based on topography digitized on a geographic grid: U.S. Geological Survey Open-File Report 77-536, 45 p.

## DATA SOURCES

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Canadian gravity data from: National Gravity Data Base; Energy, Mines, and Resources; Earth Physics Branch, Gravity and Geodynamics Division, Ottawa, Canada.

Abbey, D. A., 1972, Gravity study of several Maine coastal plutons, southeastern Maine: M.S. dissertation, SUNY at Buffalo, 77 p.

Simpson, R. W., and LaFlamme, P., 1978, Principal facts for gravity profiles at Orrington and Waterville, Maine: U.S. Geological Survey Open-File Report 78-619, 6 p.

_____ 1979, Principal facts for gravity profiles near South Penobscot, Maine: U.S. Geological Survey Open-File Report 79-767, 13 p.

Sweeney, J., 1972, Detailed gravity investigation of shapes of granitic intrusives, south-central Maine, and implications regarding their mode of emplacement: Ph.D dissertation, SUNY at Buffalo, 117 p.

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SCALE 1:250 000

5 0 5 10 15 20 25 MILES

5 0 5 10 15 20 25 KILOMETERS