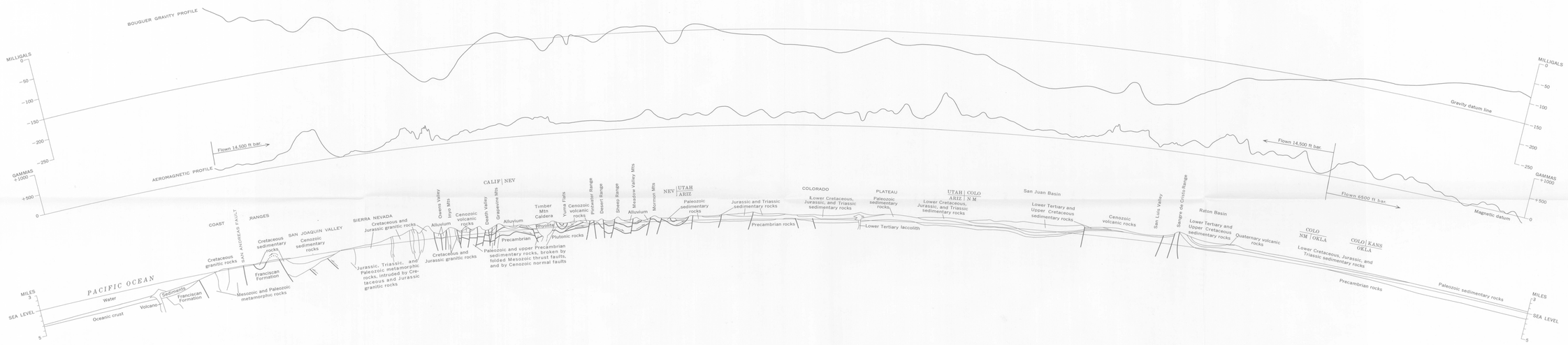
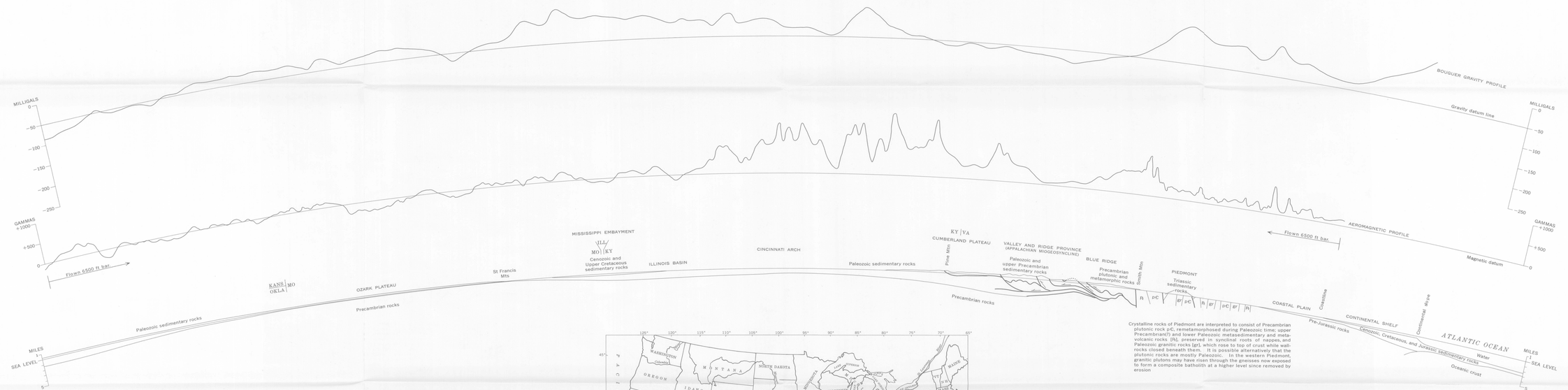
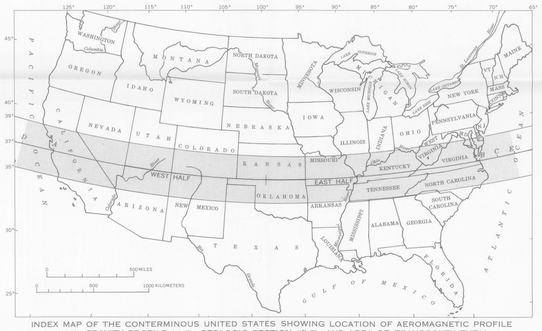
WESTERN UNITED STATES



EASTERN UNITED STATES



Crystalline rocks of Piedmont are interpreted to consist of Precambrian plutonic rock pC, remetamorphosed during Paleozoic time; upper Precambrian(?) and lower Paleozoic metasedimentary and metavolcanic rocks [R], preserved in synclinal roots of nappes, and Paleozoic granitic rocks [gr], which rose to top of crust while wallrocks closed beneath them. It is possible alternatively that the plutonic rocks are mostly Paleozoic. In the western Piedmont, granitic plutons may have risen through the gneisses now exposed to form a composite batholith at a higher level since removed by erosion



INDEX MAP OF THE CONTERMINOUS UNITED STATES SHOWING LOCATION OF AEROMAGNETIC PROFILE (*A,B*), GRAVITY PROFILE (*A,C*), GEOLOGIC SECTION (*D,E*), AND AREA OF TRANSCONTINENTAL GEOPHYSICAL SURVEY OF THE UPPER MANTLE PROJECT

SCALE 1:2 500 000

90 0 50 100 150 200 250 MILES

50 0 50 100 150 200 250 KILOMETERS

The geologic cross section from U.S. Geological Survey Miscellaneous Geologic Investigation Map I–448 Geologic and crustal cross section of the United States along the 37th parallel by Warren Hamilton and L. C. Pakiser (1965) is reprinted here to permit comparison of the geophysical and geologic data. The gravity profile is based on "Bouguer Gravity Anomaly Map of the United States exclusive of Alaska and Hawaii": the American Geophysical Union's Special Committee for the Geophysical and Geological Study of continents, G. P. Woollard, Chairman and the U.S. Geological Survey, H. R. Joesting, Coordinator. Aeromagnetic profile flown by U.S. Geological Survey, 1965 effects the earth's main magnetic field from the U.S. Coast and Geodetic Survey data, based on epoch 1955, has been removed from the aeromagnetic profile. Magnetic datum is arbitrary

AEROMAGNETIC AND GRAVITY PROFILES OF THE UNITED STATES ALONG THE 37TH PARALLEL

A CONTRIBUTION TO THE UPPER MANTLE PROJECT

By
Isidore Zietz and J. R. Kirby

1967

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