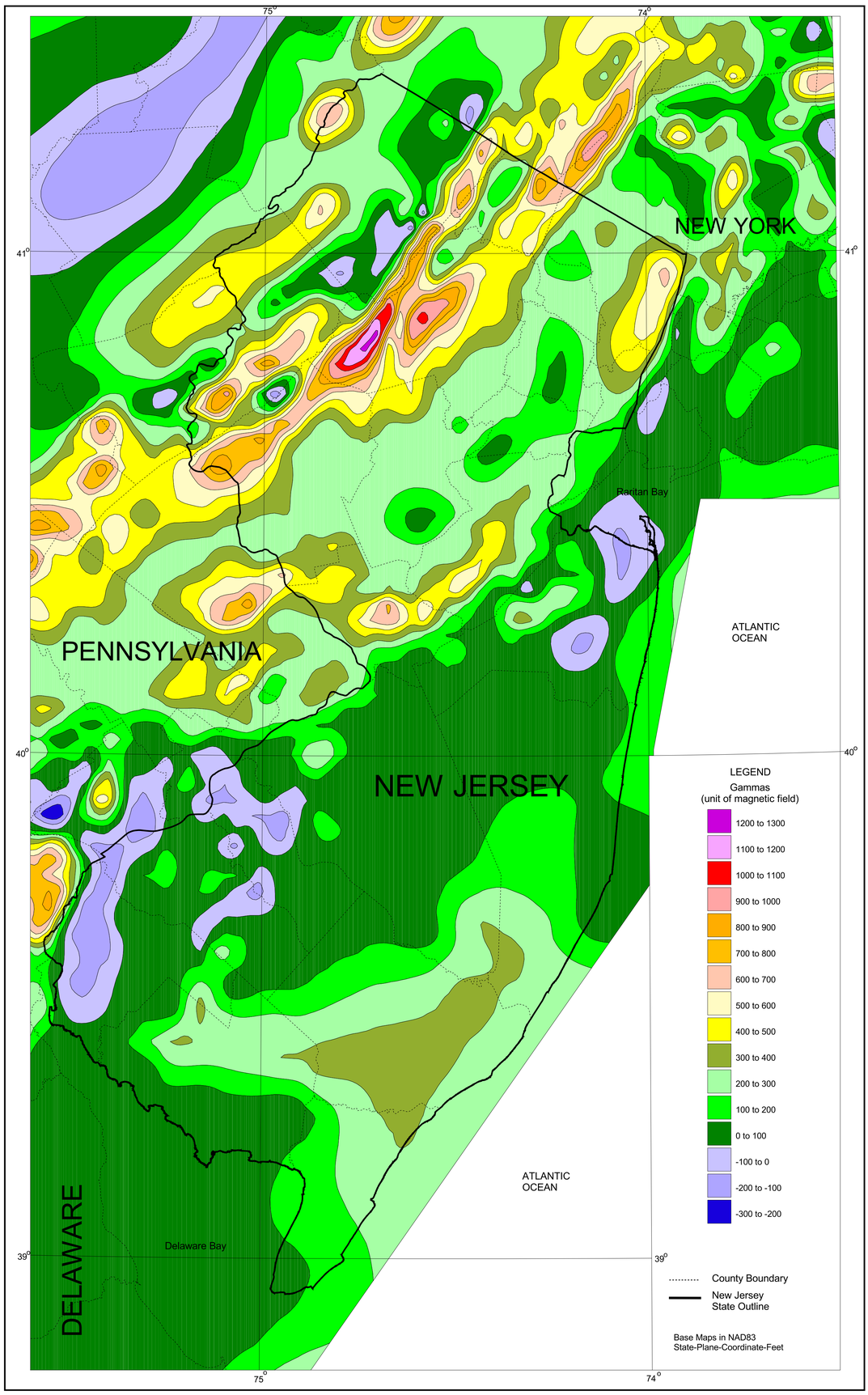

EXPLANATIONS:

Magnetic anomalies are produced by variations in the distribution of iron minerals, usually magnetite, in the rocks of the Earth's crust. Igneous and metamorphic rocks can be very magnetic. By comparison, sedimentary rocks are usually nonmagnetic. Magnetic anomalies therefore provide a way of mapping exposed and buried crystalline rocks (Phillips and others. 1993).

The grid of magnetic anomaly data for the conterminous United States and adjacent marine areas (Godson, 1986) was created from digitized contours of the east half of the Composite Magnetic Anomaly Map of the United States, Part A (U.S. Geological Survey, 1982), and the Composite Magnetic Anomaly Map of the Conterminous United States West of 96 Degrees Longitude (Bond and Zietz, 1987), with additional data used in the compilation of the Magnetic Anomaly Map of North America (Geological Society of America, Committee for the Magnetic Anomaly Map of North America, 1987). A regional gradient present in the 1982 map was removed by using a corrected geomagnetic reference field (Godson, 1986).

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Bond, K.R., and Zietz, Isidore, 1987, Composite magnetic anomaly map of the conterminous United States west of 96 degrees longitude: U.S. Geological Survey Geophysical Investigations Map GP-977, 2 sheets, scale 1:2,500,000, 13 p. text.

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Godson, R.H., 1986, Description of magnetic tape containing conterminous United States magnetic data in a gridded format: National Technical Information Service Report PB86-197423, 5 p., magnetic tape.

Hinze, W.J., and Zietz, Isidore, 1985, The composite magnetic-anomaly map of the conterminous United States, in Hinze, W.J., ed., The utility of regional gravity and magnetic anomaly maps: Tulsa, Okla., Society of Exploration Geophysicists, p. 1-24.

U.S. Geological Survey, 1982, Composite magnetic anomaly map of the United States; Part A--Conterminous United States: U.S.Geological Survey Geophysical Investigations Map GP-954-A, 2 sheets, scale 1:2,500,000, 59 p. text.

DATA SOURCE:

Phillips, J. D., Duval, J. S. and Ambroziak, R. A., 1993, National Geophysical Data Grids: Gamma-Ray, Gravity, Magnetic, and Topographic Data for the Counterminous United States, U.S. Geological Survey Digital Data Series DDS-9

Scale: 1:500,000

10 0 10 20 Miles

10 0 10 20 Kilometers

Magnetic Anomaly Map of New Jersey and Vicinity

by

Suhas L. Ghatge

2004

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NEW JERSEY DEPARTMENT
OF ENVIRONMENTAL PROTECTION