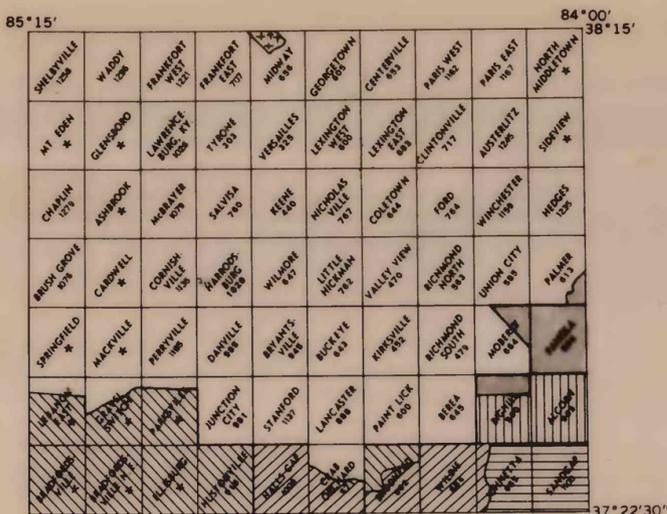


MAPS SHOWING GEOLOGIC STRUCTURE, BOUGUER GRAVITY, AND
AEROMAGNETIC INTENSITY FOR PART OF CENTRAL KENTUCKY
84° TO 85°15' W. LONGITUDE, 37°22'30" TO 38°15' N. LATITUDE

By

DOUGLAS F.B. BLACK, U.S. GEOLOGICAL SURVEY;
G. RANDY KELLER, UNIVERSITY OF KENTUCKY;
AND ROBERT W. JOHNSON, JR., TENNESSEE VALLEY AUTHORITY

EXPLANATION

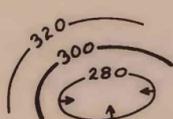


Index map showing geologic quadrangle maps used in compilation of geologic structure map. Numbers identify U.S. Geological Survey quadrangle maps. Asterisks identify quadrangles in which geologic mapping is in progress. Patterns below identify contoured horizons.

- Top of Tyrone Limestone of Middle Ordovician age
- Base of New Albany Shale of Devonian and Mississippian age
- Top of New Albany Shale
- Top of Halls Gap Member of Borden Formation of Mississippian age
- Base of Newman Limestone of Mississippian age
- Top of Newman Limestone
- Not contoured

GEOLOGIC STRUCTURE MAP

D.F.B. BLACK



STRUCTURE CONTOURS

Contour interval 20 feet. Datum is mean sea level. Arrow indicates direction of dip. Only index contours shown or contours omitted in some areas of steep dip or complex structure. In area contoured on top of Tyrone Limestone, this common horizon was extrapolated, where necessary, from various different horizons shown on geologic quadrangle maps. This was done by using stratigraphic intervals determined from field measurements and from drill holes whose locations are shown on the structure map.



FAULT

Bar and ball on downthrown side of normal faults. Arrows show sense of strike-slip component of displacement.



DRILL HOLE

Figure indicates elevation in feet of top of Tyrone Limestone (Ot). List of drill holes used in compilation attached.

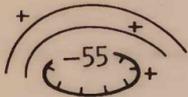


DOLOSTONE BODY

BOUGUER GRAVITY MAP

G. R. KELLER

ASSISTED BY A. E. BLAND, G. M. GRAHAM, AND J. K. GREENBERG



BOUGUER GRAVITY CONTOURS

Contour interval 1 milligal. Hachures indicate direction of decrease in gravimetric intensity. Average crustal density of 2.67 grams per cubic centimetre, sea level datum, and International Gravity Formula 1967 used in data reduction. Data tied to Department of Defense base station No. 624-1 at Bluegrass Airport, Lexington, Ky. Approximately 25 field stations occupied per 7 1/2-minute quadrangle. Contours were drawn using the CALCOMP General-Purpose Contouring Program with drum plotter. Plus marks indicate locations of field stations.

TOTAL INTENSITY AEROMAGNETIC MAP

R. W. JOHNSON, JR.,
C. HAYGOOD, AND P. M. KUNSELMAN

Map compiled from data obtained in an aerial magnetic survey using a proton-precession magnetometer operating in the one-second, one-gamma mode in a towed-bird configuration. Analog charts and a digital data acquisition system were used to record magnetic field data at intervals of approximately 115 feet. Flight-line spacing was one mile; flight altitude 1000 feet in northern 2 1/2 tiers of 7 1/2-minute quadrangles, 500 feet elsewhere. No diurnal correction applied. The International Geomagnetic Reference Field has been removed. Contours drawn using the CALCOMP program. Magnetometer has an accuracy of one gamma and a reading repeatability of three gammas in the one-second, one-gamma mode. Maximum error due to contour-program smoothing between data points was less than 10 gammas.



MAGNETIC CONTOURS

Contour interval 50 gammas. Hachures indicate closed areas of lower magnetic intensity. Plus marks depict points located in flight-line recovery procedures.

BASIC GEOPHYSICAL DATA REPOSITORY

All data are available on open file in the Geologic Services Branch, Tennessee Valley Authority, Knoxville, Tennessee 37902. They include principal facts of gravity, flight-path-recovery maps, computer-plotted aeromagnetic flight-line profiles, and corrected magnetic data in digital form. All material is available at cost of reproduction.

Kentucky (Central) Structure. 1:25,000. 1976.
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Cop. 2

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