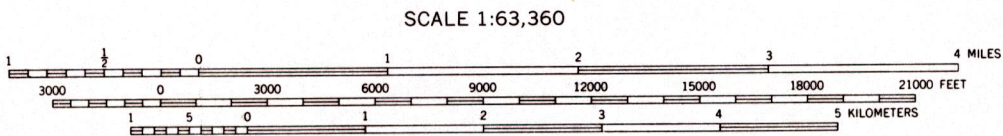


VERTICAL-INTENSITY MAGNETIC MAP OF MC CLAIN AND SOUTHERN CLEVELAND COUNTIES, CENTRAL OKLAHOMA

By

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DESCRIPTION OF MAPPING

This vertical-intensity magnetic map of McClain and southern Cleveland Counties was compiled from magnetic mapping of five areas by graduate students under the direction of John A. E. Norden, professor of geology and geophysics, The University of Oklahoma. The five areas and authors are shown on the INDEX TO MAPPING. All maps were prepared at an original scale of 1:20,000 and then reduced to 1:63,360 for completion. In all five surveys a Ruika V-3 vertical magnetometer (serial no. 5708) was used.

Before each area was mapped, all magnetic interferences, such as pipelines, power lines, railroad tracks, underground cables, wire fences, iron gates, and well casing, were carefully sought out and plotted on an interference map. Next, Norden made a thorough study of aerial photographs, from which every recognizable positive structural feature was plotted. Finally, combined photogeologic evaluation and knowledge of objects of magnetic interference made possible the strategic selection of interference-free stations. Thus the map is of unique value in portraying in detail magnetic anomalies coincident with structural features interpreted by photogeology.

A master base station was established in the area mapped by Markas (northern McClain County), approximately 500 feet west of the northeast corner of sec. 1, T. 8 N., R. 4 W., in order to permit a continuous tie between all the surveys. The master base was assigned a plus base value of 500 gammas. One reference base station was established in each of the other mapped areas and tied to the master base.

A brief description of the instrumentation and stations of each of the five mapped areas follows.

**Northern McClain County (Markas).**—Instrument sensitivity was set to 10.18 gammas per scale division. A total of 380 stations were recorded in the area and were referred to the master base station, approximately 500 feet west of the northeast corner of sec. 1, T. 8 N., R. 4 W. The survey made by Markas in 1965 was revised by Norden in 1968.

**Southern Cleveland and northeastern McClain Counties (Marchetti).**—Of the 600 stations recorded in the area, 36 were read with an instrument sensitivity of 10.17 gammas per scale division and the remaining 564 with a sensitivity of 10.27 gammas per scale division. A reference base station for

the area was established in the southeast corner of sec. 35, T. 7 N., R. 2 W. The survey was completed in 1967.

**Southeastern Cleveland County (Kaupp).**—Instrument sensitivity was set to 10.14 gammas per scale division. The 248 stations recorded in the area were tied to a reference base station approximately 700 feet south of the northeast corner of sec. 19, T. 7 N., R. 1 E. The survey was completed in 1969.

**Southwestern McClain County (Bedwell).**—Of the 602 stations in the area, 60 were recorded with an instrument sensitivity of 10.18 gammas per scale division and the remaining 542 with a sensitivity of 10.17 gammas per scale division. A reference base station for the area was established 650 feet south of the northeast corner of sec. 27, T. 6 N., R. 4 W. The survey was completed in 1967.

**Southeastern McClain and southernmost Cleveland Counties (Blair).**—Instrument sensitivity was set to 10.10 gammas per scale division. The 400 stations recorded in the area were tied to a reference base station 3,109 feet east of the southwest corner of sec. 10, T. 6 N., R. 1 W. The survey was completed in 1968.

EXPLANATION

- 700
- Magnetic contours; contour interval, 10 gammas; hachures indicate negative closures
- Master base station; arbitrary value, 500 gammas
- Reference base station
- Area of oil production
- Area of gas production
- Area of oil and gas production
- Oil and gas production to January 1, 1972*

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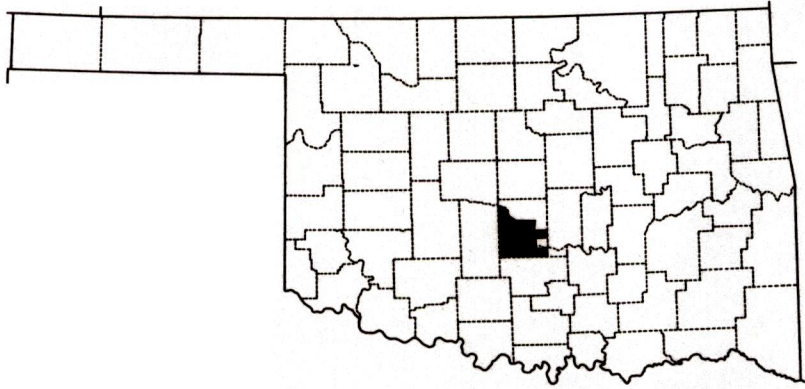
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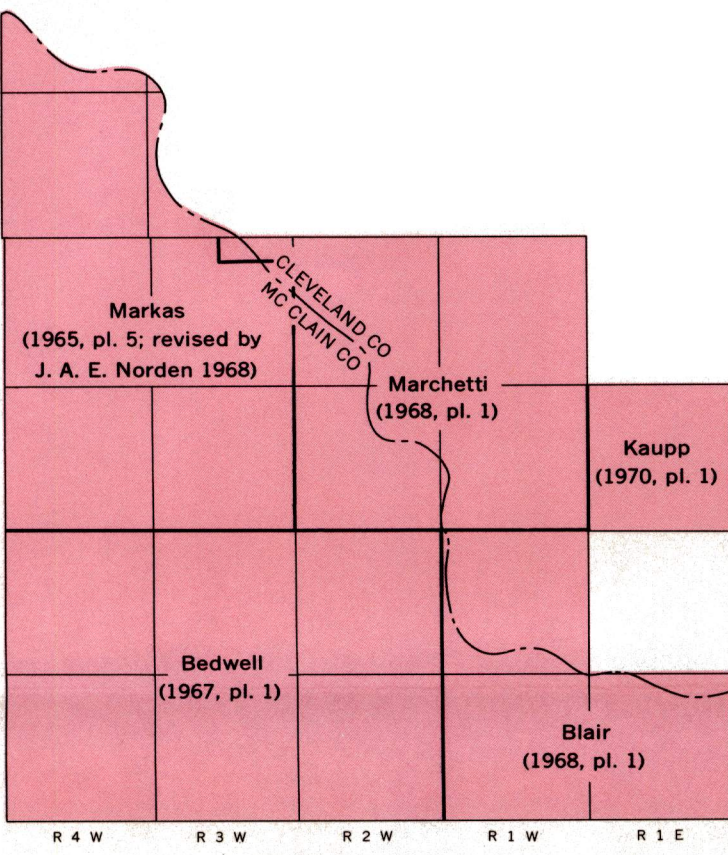
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INDEX MAP OF OKLAHOMA SHOWING MAPPED AREA



INDEX TO MAPPING

