GEOLOGIC MAP OF MISSISSIPPI

PUBLISHED BY THE MISSISSIPPI GEOLOGICAL SOCIETY
PREPARED BY THE MISSISSIPPI GEOLOGICAL SOCIETY WITH COOPERATION OF THE GEOLOGICAL SURVEY OF THE UNITED STATES DEPARTMENT OF THE INTERIOR
JACKSON, MISSISSIPPI

Scale 1/500000

10 0 10 20 30 40 Miles
10 0 10 20 30 40 50 Kilometers

Compiled by W. E. Belt, H. R. Bergquist, G. F. Brown, L. C. Conant, D. H. Eargle, U. B. Hughes, F. S. MacNeil, W. H. Monroe, J. H. Morris, J. H. Stillwell, and H. A. Tourtelot, from data submitted by oil companies active in Mississippi, from published reports of the Mississippi State Geological Survey, and from field revisions.

1945

EXPLANATION

Qa — Alluvium
(Loam, sand, gravel, and clay; mapped only in Mississippi River Lowland)

Qc — Coastal deposits
(Loam, sand, gravel, and clay)

UNCONFORMITY

Ql — Loess and brown loam
(Grayish to yellowish-brown massive silt; the pattern indicates the area within which the loess is generally thicker than ten feet; remnants of the mantle are present many miles farther east)

UNCONFORMITY

Pc — Citronelle formation
(Red sand and gravel and white clay; may be of Pleistocene age; the formation mapped is equivalent to the Wilis sand and does not include the terrace deposits, colluvium, and residuum commonly considered "Citronelle")

UNCONFORMITY

Mph — Pascagoula and Hattiesburg clays
(Green and bluish-green clay, sandy clay, and sand; gray siltstone and sand; locally fossiliferous)

Mc — Catahoula sandstone
(Irregularly bedded gray sand and sandstone; mottled red and gray, green, and chocolate-colored clay; some quartzite; and some gravel; the Paynes Hammock sand, sandy limestone cross-bedded fine green sand, and thin-bedded sand and clay, is mapped with the underlying Chickasawhay limestone in eastern Mississippi)

UNCONFORMITY

Ov — Chickasawhay limestone and Vicksburg group
(Chickasawhay limestone, sandy limestone and sand, present only in eastern Mississippi (mapped with it is the overlying Paynes Hammock sand of Miocene age); Vicksburg group, predominantly limestone and marl, but contains some bentonite and wear the top chocolate-colored clay and some sand)

UNCONFORMITY

Of — Forest Hill sand and Red Bluff clay
(Forest Hill sand, cross-bedded fine gray sand, laminated fine sand and clay, and a little lignite; in Wayne and Clarke Counties lower part merges eastward into Red Bluff clay, blue-green glauconitic, gypsiferous, fossiliferous clay and thin limestone beds)

UNCONFORMITY

Ej — Jackson group
(Yazoo clay, green and gray calcareous clay containing some sand and marl, Cocoa sand member, in Wayne, Clarke, and Jasper Counties; Moodys Branch formation at base, shells embedded in glauconitic clayey quartz sand)

UNCONFORMITY

Ec — Cockfield formation
(Irregularly bedded, more or less laminated lignitic clay, sand, and lignite; sparingly glauconitic in Clarke County)

Ecm — Cook Mountain formation
(Southeast of Pearl River, marl, limestone, glauconitic sand, and chocolate-colored clay; northwest of Pearl River, predominantly chocolate-colored clay with some glauconitic sand)

Es — Sparta sand
(Irregularly bedded sand, clay, and some quartzite; north of Yalobusha River probably includes beds of Zilpha, Cook Mountain, Cockfield, and Jackson age)

Ezw — Zilpha clay, Winona sand, and Neshoba sand
(Zilpha clay, chocolate-colored clay containing some glauconitic sand, not recognized north of Yalobusha River; Winona sand, highly glauconitic sand, more or less clayey; Neshoba sand, sparingly glauconitic fairly coarse sand, not recognized southeast of Newton County or north of Yalobusha River)

Et — Tallahatta formation
(Southeast of Pearl River predominantly more or less glauconitic claystone and clay with lenses of sand and some sandstone; highly cross-bedded sand at base; northwest of Pearl River predominantly sand, locally glauconitic, containing claystone and clay lenses and abundant clay stringers)

UNCONFORMITY

Ew, Ewb, Ewn — Wilcox formation
(Irregularly bedded fine to coarse sand, more or less lignitic clay, and lignite; includes bauxite-bearing Fearn Springs sand member at base; Ewb, Bashi marl member, glauconitic fossiliferous sand containing large calcareous concretions; Ewn, fossiliferous marl bed which in Alabama occurs near middle of Nanafalia formation of Alabama)

UNCONFORMITY?

Pan — Naheola formation
(Fine to coarse micaceous sand, kaolin, and bauxitic clay)

Pap — Porters Creek formation
(Dark-gray clay, north of Clay County contains slightly glauconitic, micaceous sand lenses)

Pac — Clayton formation
(Upper part, greenish-gray coarsely glauconitic sandy clay and marl; lower part, crystalline sandy limestone and loose sand, represented south of Houston by a discontinuous bed of indurated calcareous sandstone)

UNCONFORMITY

Kp — Prairie Bluff chalk and Owl Creek formation
(Prairie Bluff chalk, compact brittle chalk, sandy chalk, and calcareous clay; at base contains many phosphatic molds of fossils; in Pontotoc and Union Counties merges northward into Owl Creek formation, tough blue glauconitic finely sandy clay)

UNCONFORMITY

Kmr — Ripley formation
(Gray to greenish-gray fine glauconitic sand, clay, and sandy limestone; south of Oktibbeha County is very sandy micaceous chalk; Krm, McNairy sand member, red and white cross-bedded micaceous sand and white sandy clay)

Kd — Demopolis chalk
(Chalk and marly chalk containing fewer impurities than underlying or overlying formations)

UNCONFORMITY (?)

Kma, Km — Mooreville chalk
(Marly chalk and calcareous clay; Kma, Arcola limestone member at top, hard buff-colored limestone)

Kc — Coffee sand
(Light-gray cross-bedded to massive glauconitic sand and sandy clay and calcareous sandstone)

UNCONFORMITY

Ket, Ke — Eutaw formation
(More or less cross-bedded and thinly laminated glauconitic sand and clay; Ket, Tombigbee sand member, massive fine glauconitic sand)

UNCONFORMITY

Kt — Tuscaloosa formation
(Light and vari-colored irregularly bedded sand, clay, and gravel; gravel is mostly in lower portion)

UNCONFORMITY

Cc — Chester group
(Sandstone, shale, and limestone)

Cm — Limestones, chert and shale of Meramec, Osage, and Kinderhook age

D — Chattanooga shale (Carboniferous or Devonian) and underlying limestones of Early Devonian age

CLASSIFICATION OF CONTACTS

- Abrupt change in lithology or disconformity
- Gradual change in lithology
- Contact concealed by surficial formation
- Lateral transition of one stratigraphic unit into another
- Fault *(Many known faults, such as the Pickens Fault in Madison County, are not shown because of lack of knowledge of their surface expression)*

Note: This map does not show alluvium, except in the Mississippi River Lowland, nor terrace deposits that are extensively developed along the larger streams.

QUATERNARY — TERTIARY
Pliocene(?) — Miocene — Oligocene — Eocene — Paleocene — Upper Cretaceous — Mississippian
Citronelle group — Claiborne group — Midway group — Selma group