Surface Geologic Unit Descriptions for Mississippi
(after Geologic Map of Mississippi, Bicker, 1969)

Qa - Alluvium
(Quaternary, Holocene)
Loam, sand, gravel, and clay; mapped on in Mississippi River Alluvial Plain.

Qc - Coastal Deposits
(Quaternary, Holocene)
Loam, sand, gravel, and clay

UNCONFORMITY

Ql - Loess and brown loam
(Quaternary, Pleistocene)
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
(Quaternary, Pleistocene)
Red sand and gravel and white clay; may be of Pliocene age; the formation mapped is equivalent to the Willis sand and does not include the terrace deposits, colluvium, and residuum commonly considered “Citronelle”.

UNCONFORMITY

Mph - Pascagoula and Hattiesburg formation
(Tertiary, Miocene)
Green and bluish-green clay, sandy clay, and sand; gray siltstone and sand; locally fossiliferous.

Mc - Catahoula formation
(Tertiary, Miocene)
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 - Vicksburg group and Chickasawhay limestone
(Tertiary, Oligocene)
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 near the top chocolate-colored clay and some sand.

UNCONFORMITY

Of - Forest Hill formation and Red Bluff clay
(Tertiary, Oligocene)
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
(Tertiary, Eocene)
Yazoo clay, green and gray, calcareous clay containing some sand and marl; Moodys Branch formation at base, shells embedded in glauconitic clayey quartz sand.

UNCONFORMITY

Ec - Cockfield
(Tertiary, Eocene, Claiborne group)
Irregularly bedded, more or less laminated lignitic clay, sand, and lignite; sparingly glauconitic.

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

Ek - Kosciusko formation
(Tertiary, Eocene, Claiborne group)
Irregularly bedded sand, clay, and some quartzite.

Ezw - Zilpha formation and Winona formation
(Tertiary, Eocene, Claiborne group)
Zilpha clay, chocolate-colored clay containing some glauconitic sand, not recognized north of Yalobusha River; Winona sand, highly glauconitic sand, more or less clayey.

Et - Tallahatta formation and Neshoba sand
(Tertiary, Eocene, Claiborne group)
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; Neshoba sand, sparingly glauconitic fairly coarse sand not recognized southeast of Newton County or north of Yalobusha River.
UNCONFORMITY

Ew - Wilcox formation
(Tertiary, Eocene)
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,
glaucnritic fossiliferous sand containing large calcareous fossiliferous concretions; Ewn,
fossiliferous marl bed which in Alabama occurs near middle of Nanafalia formation of
Alabama.

UNCONFORMITY

Pan - Naheola formation
(Tertiary, Paleocene, Midway group)
Fine to coarse micaceous sand, kaolin, and bauxitic clay.

Pap - Porters Creek formation
(Tertiary, Paleocene, Midway group)
Dark-gray clay, north of Clay County contains slightly glauconitic, micaceous sand
lenses.

Pac - Clayton formation
(Tertiary, Paleocene, Midway group)
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
(Cretaceous, Upper Cretaceous, Selma group)
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 sandy clay.

UNCONFORMITY

Kr - Ripley formation
(Cretaceous, Upper Cretaceous, Selma group)
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
(Cretaceous, Upper Cretaceous, Selma group)
Chalk and marly chalk containing fewer impurities than underlying and overlying formations.

Km - Mooreville chalk  
(Cretaceous, Upper Cretaceous, Selma group)  
Marly chalk and calcareous clay; Kma, Arcola limestone member at top, hard buff-colored limestone.

Kc - Coffee sand  
(Cretaceous, Upper Cretaceous, Selma group)  
Light-gray cross-bedded to massive glauconitic sand, sandy clay, and calcareous sandstone.

UNCONFORMITY

Ke - Eutaw formation  
(Cretaceous, Upper Cretaceous)  
More or less cross-bedded and thinly laminated glauconitic sand and clay; basal part includes the McShan formation, greenish-gray, micaceous, locally very glauconitic, very fine-grained sand and thin-bedded light-gray clay, small chert gravels may be present in basal beds, not recognized in northern Tishomingo County; Ket, Tombigbee sand member, massive fine glauconitic sand.

UNCONFORMITY

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

UNCONFORMITY

Cc - Chester group  
(Carboniferous, Mississippian)  
Sandstone, shale, and limestone

Cm  
(Carboniferous, Mississippian)  
Limestones, chert and shale of Meramec, Osage, and Kinderhook age.

D  
(Devonian)  
Chattanooga shale (Carboniferous or Devonian) and underlying limestones of early Devonian age.