THE FIRST FIELD TRIP
OF THE
SOUTHEASTERN GEOLOGICAL SOCIETY
JUNE 21, 22, 23, 1944

SOUTHWESTERN ALABAMA
SOUTHEASTERN GEOLOGICAL SOCIETY
Tallahassee, Florida

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ACKNOWLEDGMENTS

We are indebted to Dr. Lyman D. Toulmin and Miss Winnie McGlamery of the Alabama Geological Survey for their wholehearted cooperation, and especially for preparing the Guide Book material. We regret Dr. Toulmin’s inability to lead the party, and appreciate Miss McGlamery’s acceptance of this role.

To R. M. Swesnik, former Secretary-Treasurer, we are indebted for his initiation and enthusiastic promotion of plans for this trip, and also to E. W. Scott, Secretary-Treasurer, for his active help in carrying forward the plans.

We are grateful to E. H. Rainwater for his able assistance in conducting the field party, and to Robert Hendee Smith, for outlining for us the exposed geology as we view it in the Little Stave Creek Section, and for the detailed, painstaking work on the columnar section on this area which will long remain a classic. To all others who have contributed to the success of this field trip program, we express our thanks.
The most recently published works on the Upper Cretaceous of Alabama are by Dr. L. W. Stephenson and Mr. Watson H. Monroe.\textsuperscript{1,2,3,4}

Detailed study of the Tuscaloosa is now in progress by the U. S. Geological Survey under the direction of Dr. Stephenson and Mr. Monroe.

The Upper Cretaceous of west-central Alabama is composed of the following formations in ascending order: Tuscaloosa, Eutaw, Selma Chalk, Ripley and Prairie Bluff Chalk.

**TUSCALOUSA FORMATION**

In the vicinity of Tuscaloosa, the Tuscaloosa formation is resting unconformably on beds of Pennsylvanian age. The formation is much thicker in west-central Alabama than in the eastern part of the State, with an estimated thickness of about 1000 feet. The beds are nonmarine in origin, composed of sands, clays and gravel, excepting, however, an exposure in Chilton County, near Maplesville, which carries some glauconite and shell impressions, and a locality 5 miles west of Centerville, on Tuscaloosa highway, Bibb County. Fossil plants have been found in the Tuscaloosa at Cottondale, about ten miles east of Tuscaloosa, and at other localities within the formation. Also there is a fossiliferous shale and sandstone section penetrated in wells.


\textsuperscript{3} Watson H. Monroe, Guidebook Cretaceous Field Trip, Miss. Geol. Society, May 3-5, 1940.

\textsuperscript{4} Watson H. Monroe, Notes on Deposits of Selma and Ripley Age in Alabama, Bull. 48, Geological Survey of Alabama, 1941.
EUTAW FORMATION

An unconformity separates the Tuscaloosa, and the overlying Eutaw. The formation is approximately 400 feet thick at Eutaw, Alabama. The Eutaw deposits were laid down in shallow marine waters, and the beds exhibit cross-bedding. They are more or less glauconitic, and are interstratified with clay. The Tombigbee sand member of the Eutaw, representing the upper 100 feet of the formation, is typically represented at Plymouth Bluff on the Tombigbee River, 4 miles northwest of Columbus, Mississippi. It is composed of medium to fine-grained glauconitic sand with indurated lenses. Among the fossils in this part of the Eutaw are Gryphaea wrathoni Stephenson and Exogyra ponderosa Roomer.

SELMA CHALK

The Selma is a massive chalk overlying the Eutaw with an apparent disconformity. The base of the formation is sandy and carries some phosphatic material in the form of molds of shells. The greatest thickness of the chalk is in western Alabama. A water well at Livingston, Sumter County, shows a thickness of almost 900 feet. In the three-fold division of the chalk made by Mr. W. H. Monroe⁵ there is a lower marly member, including the section exposed at Selma, the Arcola Limestone Member, and the Demopolis Member.

The lower marly member has an estimated thickness in western Alabama of almost 300 feet. The Arcola limestone lying above it is a hard limestone interstratified with chalk, with a thickness of 5 feet at Arcola Landing on the Warrior River, Hale County, and can be traced from eastern

⁵Monroe, Watson H., op. cit., p. 25.
Alabama into Mississippi. In western Alabama its average thickness is about 2 feet.

The Domopolis member contains much purer chalk than the other two members, except for a sandy upper portion, and has an estimated thickness of about 500 feet in western Alabama. The type locality is a bluff on the Tombigbee River at Domopolis at Webb & Sons Cotton Warehouse. This section is about 150 feet above the base and is characterized by a faunal zone about 50 feet thick carrying a small pelecypod, Diploschiza crotacea, and a small brachiopod, Terebratulina filosa.

RIPLEY

In western Alabama the Ripley lies conformably on the Solma, and is composed of micaceous chalky sand and sandstone. The base of the formation has been placed just above the top of the Exogyra concolleta zone in Sumter County, but eastward it occupies a lower stratigraphic position, that is, within the Exogyra concolleta zone. Other fossils characteristic of the Ripley are Ostraca subspatulata and Trigonia thoracica. In eastern Alabama on Barbour Creek south of Eufaula, and the vicinity of the Chattahoochee, there are very fossiliferous beds in the Ripley.

PRAIRIE BLUFF CHALK

The prairie Bluff chalk lies unconformably on the Solma or Ripley. At Prairie Bluff on the Alabama River in Wilcox County, there is an angular unconformity between the Prairie Bluff and the underlying Ripley. The Prairie Bluff is about 50 feet thick and is phosphatic in its lower portion. At Prairie Bluff and other localities it is abundantly fossiliferous. Some of the characteristic fossils are Cliona sp., Hemiaster slocumi Lambert, Linthia variabilis Slocum, Exogyra costata Say (variety with narrow costae), Cronella serica Con., Baculites columna Morton, Scaphites conradi,
Eutrophocora dekeyi (Morton), Diploschiza molloni Stephenson (noted in abundance just north and east of Livingston) a small Crystacea. Typical Exogyra costata with wider costae are to be found in beds below the Prairie Bluff.

Faunal Zones

The Exogyra pendorosa zone extends from the upper half of the Tombigbee sand member of the Eutew through the lower two-thirds of the Selma Chalk. The Diploschiza crotacea zone lies within the Exogyra pendorosa zone about 200 feet below the top. The Exogyra costata zone includes the upper third of the Selma, and the Ripley and Prairie Bluff Chalk. The Exogyra cancellata zone lies within the lower 200 feet of the Exogyra costata zone. Anomia tectinoides Morton is an associated form in this zone.
STRATIGRAPHIC AND AGE RELATIONS OF UPPER CRETAEOUS FORMATIONS OF MISSISSIPPI AND ALABAMA

FROM
L.W. STEPHENSON & W.H. MONROE
AAPG BULL. VOL. 22 NO. 12 DEC 1938
GENERAL FEATURES OF THE TERTIARY FORMATIONS IN ALABAMA

By Lyman D. Toulmin, Jr.

PALEOCENE SERIES

Midway Group

Clayton formation.-- The oldest Midway deposits rest disconformably on the rocks of the Cretaceous system. This disconformity represents a relatively long lapse of time, as is indicated by the great paleontological hiatus. In eastern Alabama the Clayton formation rests on the eroded surface of the Providence sand. The Clayton formation thins westward and is not mapped as a separate formation in western Alabama.

In western Alabama basal Midway beds, included in the Porters Creek (Sucarnochee) formation, rest on the eroded surface of the Prairie Bluff chalk. Phosphatic casts of mollusks reworked from the underlying chalk are common in the basal Midway calcareous glauconitic sand and sandstone. Ostrac pulaskensis Harris is common in the argillaceous beds a few feet above the Cretaceous contact.

On the Chattahoochee River in eastern Alabama the Clayton formation consists almost entirely of massive limestone about 140 feet thick. In Wilcox County, central Alabama, its thickness is about the same, but the lower portion, about 100 feet thick, consists of red-weathering argillaceous sand with nodular layers of calcareous sandstone. This is overlain by 10 to 20 feet of fossiliferous sand and sandy crystalline limestone filled with Turritella albaniensis Whitfield, and many other fossils. This is the "Turritella rock" of Smith. This is overlain by 30 to 50 feet of white chalky limestone with casts of nautiloids, the "Nautilus rock" of Smith.
The Clayton formation becomes thinner in western Wilcox County concomitantly with the westward thickening of the Porters Creek formation, and is not distinguished as a separate formation west of Wilcox County.

Section of Clayton formation in road cut west of highway bridge over Alabama River at Millers Ferry

4. "Nautilus rock". White chalky, somewhat argillaceous limestone at top of hill with casts of nautiloids and large Brachiozoa .................................................. 3 - 5

3. Calcareous sand weathering to loose reddish sand and irregular hard limestone boulders. Contains Ostrac and a few other fossils. This bed, and probably bed 2, make the "Turritella rock" of eastern Wilcox County. ................................................................. 3


1. Alternating gray shale and hard argillaceous chalky limestone layers, to bottom of road cut.............. 10

**Porters Creek (Sucarneecooch) formation.** -- The Porters Creek (Sucarneecooch) formation has its maximum thickness in western Alabama where it consists mainly of black joint clay that breaks with a conchoidal fracture. The clay contains little lime and forms tough clay soil that is the basis of the "Flatwoods" that are well developed in Mississippi and extend into Alabama as far as the Alabama River at Midway Landing. The lower part of the formation is more calcareous than the upper part and becomes increasingly calcareous east of the Alabama River. It forms a narrow belt of black prairie land bordering, and lying just north of, the "Flatwoods" belt. The formation is marine in origin and contains a thick fossiliferous zone.

The formation thins toward the east and does not extend beyond Butler County in central Alabama. It rests conformably on the Clayton
formation. In western Alabama in places it overlaps the limestone or calcareous sandstone of the basal Midway (Clayton formation equivalent) and rests directly on the Cretaceous. Its maximum thickness in western Alabama is about 200 feet and its thickness in Wilcox County ranges from 35 to 50 feet in the eastern part of the county to 65 feet or more in the western part. It is in part equivalent to the Clayton formation in eastern Alabama.

The Nacheola formation. -- The Nacheola formation can be conveniently divided into three members, a lower very fossiliferous micaceous silty clay member, 12 to 20 feet thick, typically exposed at Matthews Landing on the Alabama River in Wilcox County, a middle member of unfossiliferous gray cross-beded sand and laminated gray clay, 100 feet thick,characteristically exposed at Oak Hill in Wilcox County, and an upper fossiliferous greensand member about 25 to 30 feet thick, characteristically exposed at Coal Bluff on the Alabama River where it rests on a four-foot, lignite bed. The Nacheola formation has not been recognized in eastern Alabama.

The lower member, the "Matthews Landing marl", containing a greensand bed at the base, lies conformably on the Porters Creek (Sucarnoochee) formation. The middle nonmarine member at several localities contains lignitic clay and lignite. The upper greensand member lies disconformably on the middle member. It is considerably weathered at most places where exposed and consists of loose sand and thin, platy, limonite beds. Fossiliferous unweathered greensand marl belonging in this member, discovered in February, 1942, at Caledonia, Wilcox County, contains a large number of species of Foraminifera and Ostracoda, several of which are diagnostic Midway species. The "Coal Bluff beds", the "Ackerman formation"
in Alabama of Cooke, are therefore of Midway age and are not equivalent
to the lower Wilcox Ackerman formation of Mississippi. The upper marine
greensand member of the Nahaola, separated by disconformities from the
beds below and above, is a distinct lithologic unit that can be mapped
from central to western Alabama, and could logically be designated a new
formation.

EOCENE SERIES

Wilcox Group

Nanafalia formation. -- The Nanafalia formation extends all the
way across the state and lies disconformably on the formations of the
Midway group below, on the Clayton formation in eastern Alabama, and on
the Nahaola formation in central and western Alabama. It may be divided
into three members which are most distinctly developed in Wilcox County;
a basal coarse cross-beded sand up to 30 feet in thickness where present,
containing rounded pellets of clay in the lower part; a middle greensand
marl member 35 to 80 feet thick, packed with shells of Ostrea thirsaec;
and an upper glauconitic sandy clay member indurated in central Alabama
and called "pseudobuhrstone", 50 foot thick or more, containing molds of
Turritella and other marine fossils. The basal sand is absent in some
areas and the middle marl member lies directly on the Midway beds. The
basal sand was included by Cooke in his "Ackerman formation" in Alabama.
The Ackerman formation of Mississippi is probably equivalent, in part at
least, to the Nanafalia formation. West of the Tombigbee River the middle
marl member thins rapidly, the upper "pseudobuhrstone" member loses its
lithologic character, and the formation consists largely of unfossilifer-
ous sandy clay and unconsolidated sand.
Tuscahoma formation. -- The Tuscahoma formation extends all the way across the state and consists of about 200 feet of unfossiliferous cross-bedded sand and stratified sandy clay. In central and western Alabama it contains two fossiliferous marl beds. The lower part of the formation includes a clay-boulder conglomerate bed consisting of sand containing boulders of laminated gray clay up to 2 feet in length. The Bells Landing marl, 6 to 10 feet thick on the Alabama River, lies 25 feet above the Greggs Landing marl (4 to 5 feet thick) and is 120 feet below the marl of the overlying Bashi formation. The Tuscahoma formation is here considered to include all the strata up to the base of the Bashi marl. It is thus extended to include the 3-foot lignite bed and the overlying cross-bedded sand and sandy clay strata, about 70 feet thick, that have been included heretofore in the Bashi formation. In western Alabama the Tuscahoma formation contains considerable unconsolidated sand.

Bashi formation. -- The Bashi formation is here considered to be restricted to the fossiliferous marino greensand marl 6 to 20 feet thick in central and western Alabama, and to equivalent sand, clay, and fossiliferous marl beds, 40 feet thick or more, in eastern Alabama. The formation extends all the way across the state.

Hatchetigbee formation. -- The Hatchetigbee formation consists of 175 to 200 feet, or more, of unfossiliferous sandy clays and clayey sands of gray, brown, and purple color lying conformably on the Bashi formation. Like the Wilcox group as a whole, the Hatchetigbee formation is thicker in western Alabama and down the dip from its outcrop. Its thickness in the area of the Hatchetigbee anticline was estimated by
Hopkins to be 300 feet. The upper 90 feet of the formation is exposed at the type locality in the Hatchetigbee anticline where it is disconformably overlain by the Tallahatta formation. Several beds in the formation at the type locality contain marine fossils. On the Chattahoochee River in eastern Alabama the formation has a thickness of only 22 feet.

Claiborne Group

Tallahatta formation. -- The Tallahatta formation consists of 140 to 200 feet of siliceous claystone and aluminous sandstone, glauconitic in part, extending across the state and resting disconformably on the Hatchetigbee formation. In central and western Alabama the hard beds of the Tallahatta, called "buhrstone", form a prominent northward-facing escarpment or cuesta, and an inward-facing escarpment surrounding the crest of the Hatchetigbee anticline. The formation is marine in origin and sparingly fossiliferous. The upper part of the formation where exposed in Little Stave Creek is very fossiliferous and contains Ostrea lisbonensis, Ostrea johnsoni, and Discocyclina adv. var.

Lisbon formation. -- The very fossiliferous Lisbon formation consists predominantly of calcareous and glauconitic sandy clays and sands of marine origin. It is separated by a minor disconformity from the Tallahatta formation below and extends all the way across the State. The entire formation is exposed on the Alabama River at Lisbon Bluff and Claiborne Bluff, where it is 117 feet thick, and in Little Stave Creek in Clarke County where it is almost 150 feet thick. The formation contains several beds of large Ostrea solidaformis, and in the lower portion it contains Ostrea lisbonensis.

Hopkins, O. B., 1918, Oil and gas possibilities of the Hatchetigbee anticline, Alabama; U. S. Geol. Survey, Bull. 661h, p. 287
Gosport formation. -- The Gosport formation is separated from the Lisbon formation below by a minor disconformity. It consists of very fossiliferous marine greensands, dark green to reddish brown in color depending on the amount of weathering, and intermingling wedges of nonmarine sand and carbonaceous clay which extend as far east within the formation as the Alabama River. The nonmarine beds have been correlated with the Cockfield formation in Mississippi. The Gosport formation is here considered to include the overlying lithologically and faunally similar Porciarchus bed or "Scutella" bed which was formerly considered to be the basal bed of the Jackson group. The Porciarchus bed carries Nonionella cockfieldensis. The entire Gosport formation is exposed at Claiborne Bluff where it is 24 to 26 feet thick including the "Porciarchus" bed, and in Little Stave Creek where it is 25 feet thick. The nonmarine beds are absent at Little Stave Creek, but are present in exposures a few miles to the north. The formation is 35 feet thick at Willow Branch in Choctaw County. The formation is known only in Choctaw, Washington, Clarke, Monroe, and Conecuh counties.

Jackson Group

Jackson formation in western Alabama. -- The Moodys Branch marl, lying conformably on the Porciarchus bed or Nonionella cockfieldensis zone of the Gosport formation, is the basal formation of the Jackson group in western Alabama. It consists of marine fossiliferous calcareous silt and sand and blue glauconitic marl, between 20 and 25 feet thick in the Little Stave Creek section.

The Yazoo clay, lying conformably on the Moodys Branch marl, consists of marine fossiliferous blue and blue-gray plastic clay that
breaks up into blocks having conchoidal fracture surfaces. These beds of clay are about 42 feet thick in the Little Stee Creek section.

Marine beds aggregating 30 feet in thickness in the Little Stee Creek section conformably overlie the blue plastic clay. These beds consist of a basal bed of blue to buff marl or glauconitic limestone, about 6 feet thick, containing Foriarchus pileus-sinensis, overlain by fossiliferous buff marl, fossiliferous blue glauconitic marl, and blue plastic clay.

In western Alabama the total thickness of the Jackson group of formations ranges from about 60 to about 125 feet. In the Little Stee Creek section the total thickness is about 95 feet. The formations become more calcareous eastward and grade into the Ocala limestone.

Ocala limestone. -- East of the Tombigbee River the Ocala limestone is equivalent to the Jackson group of formations in western Alabama. It extends eastward into Georgia and Florida and lies conformably on the Foriarchus bed of the Gosport formation. It is a soft cream-colored to white chalky limestone 40 to 60 feet thick in Alabama. It carries a few fossils, several of which occur also in the Jackson group in western Alabama, notably Macropnoestes mortoni (Conrad), Schizaster armiger Clark, and Pocon carrus Merton.

OLIGOCENE SERIES

Vicksburg Group

Red Bluff clay. -- The Red Bluff clay extends from Mississippi into western Alabama. East of the Tombigbee River it thins rapidly and merges into the Marianna limestone, and any Red Bluff strata that are present are included in that formation. The Red Bluff clay has a maximum
thickness of 40 feet near the Mississippi line, but is only 9 foot thick at St. Stephens Bluff on the Tombigbee River in Washington County. The formation consists of marine fossiliferous gray to blue-green glauconitic marl containing Ostrea vicksturgiensis and other fossils.

**Marianna limestone.** — The Marianna limestone extends from Mississippi across Alabama into northwestern Florida. It retains the same lithologic character throughout this distance. It is a soft cream-colored to white porous marine limestone known as "chimney rock", owing to its local use in building chimneys, and as "orbital limestone", owing to the abundance of *Lopidocyclina mantolli* (Morton). The formation rests conformably on the Red Bluff clay in western Alabama and on the Ocala limestone in eastern Alabama. It is characteristically exposed at St. Stephens Bluff on the Tombigbee River where it has a total thickness of 74 feet.

**Geldon limestone.** — The Geldon limestone is a fossiliferous, marine, yellow to white, irregularly indurated and in places crystalline limestone. It is distinguishable both lithologically and faunally from the Marianna limestone on which it lies conformably. Where both formations are exposed the Geldon limestone is harder and in most places forms an overhanging ledge filled with irregular tubular cavities resulting from weathering. It is called "horseshoe rock" owing to its habit of weathering into irregularly shaped masses with smooth surfaces. The Geldon limestone carries *Lopidocyclina supera* (Conrad) whereas the Marianna limestone carries *L. mantolli* (Morton). The Geldon limestone is about 20 feet thick at the type locality and has a maximum thickness of about 40 feet and an average thickness of about 15 feet. It is probably absent in eastern Alabama.
Chickasawhay marl. -- The Chickasawhay marl is correlated with the Flint River formation of southeastern Alabama and Georgia and with the Suwannee limestone of Florida. It lies disconformably on the Glendon limestone in western Alabama and the Marianna limestone in southeastern Alabama. This hiatus represents a stratigraphic interval at least equal to the Byram marl and Bucatunna clay of Mississippi which are absent in Alabama. Some Bucatunna clay strata may be present locally in Alabama. The Chickasawhay has been divided into two members. The lower member, Oligocene in age, is the typical part of the formation. The upper member contains species of mollusks closely related to species in the Miocene Tampa limestone of Florida.

The Chickasawhay marl consists of fossiliferous marine strata which in Alabama are chiefly marlstone or argillaceous limestone with fossil molds, blue-green plastic clay, soft blue-green to buff marl with Torpedo circula Aldrich, and blue-green unfossiliferous sand. The formation has a maximum thickness in western Alabama of 35 feet and possibly a somewhat greater thickness in southeastern Alabama. It extends east to Covington County, Alabama, and into northwestern Florida.

Flint River formation. -- The Flint River formation, correlated with the Chickasawhay marl and Suwannee limestone, consists of sand and masses of silicified limestone or chert in southeastern Alabama northwestern Florida, and southwestern Georgia. It overlaps older formations. The cherty limestone beds contain roof corals and a large molluscan fauna.

MIOCENE AND PLIOCENE SERIES

Strata of Miocene and Pliocene age in Alabama are nonmarine and unfossiliferous in the region of their outcrop. The Miocene series consists predominantly of sand and clay, and the Pliocene series of sand, clay, and gravel. These two series are discussed more fully in publications of the Alabama Survey and in other publications. 3/

3/ See:


Start at flagpole in Tuscaloosa.

Black Warrior River.

.55 Turn left. Follow U. S. Highway #43.

1.0 Stop light- continue north.

4.2 Fresh exposures of Tuscaloosa laminated sand and clay.

10.4 STOP- Park on gravel road on left. Cretaceous-Pennsylvanian contact. Tuscaloosa sand and gravel overlying Pottsville sand. Typical lithified Pottsville sand exposed 100 yards north of contact. Pottsville shale exposed in stream bed and cut along highway about 300 yards north of stop.

10.6 On highway- return to Tuscaloosa.

21.0 Flagpole.

21.3 Turn right on U. S. Hwy. #43- Shell service station on right. Alluvium and terrace gravels between here and Black Warrior River.

22.6 Stillman Institute on left.

30.2 Black Warrior River.

33.3 STOP- Tuscaloosa section exposed in road-cut.

2' sandy soil.

10' buff sand and gravel.

5' red and gray clay.

8' brown pebbly sand. Red surface staining from overlying clay.

34.2 Tuscaloosa sand and gravel.

33.2 Ralph Post Office.

40.5 First exposure of Tuscaloosa - Eutaw contact.

41.0 Enter Green Co. - leave Tuscaloosa Co.

42.6 STOP - Good exposure of Eutaw sand and clay. Intraformational disconformity between sand and underlying laminated sand and lignitic clay.

42.9 Knoxville Post Office.
43.5 Tuscaloosa - Eutaw contact (covered by soil).
44.8 Tuscaloosa - Eutaw unconformity.
46.0 Tuscaloosa - Eutaw contact.
48.1 Well-bedded Eutaw sand exposed in road-cut.
48.5 Eutaw clay exposed in road-cut. Outlier of Eutaw (upper part).
54.85 Small fault in Eutaw on right.
56.0 Town of Eutaw. Continue south on U. S. Hwy. #43.
56.5 Turn right on Hwy. #43.
57.8 Selma chalk knoll on left.
57.9 Road junction - turn left.
61.1 Turn right on road across field.
61.4 STOP- Choctaw Bluff with Selma-Eutaw contact
   The following section is exposed:

   River terrace deposit and weathered Selma chalk
   Red and gray clay containing a few quartz pebbles/1 13

   Selma Chalk:
   Thin-bedded gray marl ...................................... 25
   Hard calcareous sandstone containing phosphatic
   molds and a few quartz pebbles; highly irregular
   base ............................................................. 4.5

   Unconformity

   Eutaw formation (Tombigbee sand member):

   Fine-grained sparingly glauconitic sand; Gryphaea
   wratheri Stephenson and Exogyra ponderosa Roemer. 11
   53.5

   Correlation: Texas- Austin chalk above middle and
   Bonham marl.

   Arkansas- Tokio formation

   Return by same route to highway.

61.7 Gravel road.
64.9 Hwy. #43 - turn sharply to left. Route from this point to Forkland crosses "Black Belt" soil derived from Selma Chalk.

73.9 Ascend Arcola limestone cuesta.

77.3 Forkland P. O. Forkland to Domopolis over terrace and floodplain material of Black Warrior and Tombigbee rivers. (Black Warrior to east - Tombigbee to west).

86.3 "Black Warrior River. Leave Greene Co. - enter Marengo Co.

88.0 Domopolis member of Selma Chalk exposed in road cut along right side of highway.

88.3 Domopolis Square.

88.35 Blvd. stop - turn right.

88.6 STOP - River bank at Webb and Sons warehouse. Type locality of Domopolis member of Selma Chalk - *Dipsoschiza cretacea*

Return to Domopolis Inn for lunch.

88.8 Domopolis Square.

88.95 Turn right on Hwy. #43.

89.2 Continue straight on dirt road past school.

89.5 Turn left.

89.6 Turn right and into gateway through Gaineswood (built 1832). Historical plantation home. Return by same route to school and turn right in front of school.

89.95 Pavement - US Hwy. #43. Spocari cement plant in distance to left making cement from Selma Chalk.

91.0 Hwy. junction, turn south on #43 (Linden road) Cross Selma Chalk "Black Belt" area.

95.3 STOP - *Exogyra cancellata* zone

*Exogyra cancellata*

*Anomia telenoides*
Paranomia scabra

Ostrea falcata

96.3 Exogyra cancellata zone. Possibly beginning of Ripley.

97.0 Ripley (?)

97.6 Ripley (?)

104.2 Steel bridge. Ripley (?) cuesta ahead.

104.6 STOP - Ripley locality. Brown sand overlying white sand. Many borings at contact. Lenticular fossiliferous sandy clay at base of brown sand.

Exogyra costata

Sharks tooth

105.3 Linden courthouse. Turn left on Alabama Hwy. #28.

106.25 Possible Midway-Prairie Bluff contact.

111.5 Fossiliferous lower Midway locality. Ostrea pulaskensis very abundant.

111.6 Basal Midway conglomerate on Prairie Bluff.

113.3 Hugo siding.

117.1 Thomaston.

118.2 Midway - Cretaceous contact.

118.4 STOP - Prairie Bluff-Ripley contact in road cut. Ostrea subumbilicata abundant in Ripley sand.

120.35 Ripley. Ostrea subumbilicata.

123.55 Leave Marengo Co. - enter Wilcox Co.

125.55 Midway-Prairie Bluff contact. Good exposure of pebbly basal sand of the Midway.

129.0 Junction with Alabama Hwy. #5 - continue east.

123.4 Midway exposed in road cut.
132.85 Prairie plantation. Turn left on dirt road.

133.1 Turn left at road fork.

133.55 **STOP** - Midway - Prairie Bluff contact exposed in bed of Shell Creek. Fossiliferous, very foraminiferal Midway exposed on hill about 400 yards to north.

Return to highway.

134.2 Highway - turn left.

136.1 Road fork at beacon. Continue ahead to Alabama River bridge.

136.7 **STOP** - Clayton (lower Midway) formation exposed in bluff.

This section described on page 6. Return to beacon.

137.1 Turn left on Alabama Hwy. #96.

137.9 **STOP** - Clayton "Nautilus rock". Type locality of *Adhaerentia midwayensis* Plummer.

138.0 Forters Creek formation (Succanoche).

140.6 **STOP** - Highly fossiliferous Matthews Landing marl of Naheola formation (upper Midway).

141.7 Naheola sands and sandy clays.

150.75 Kimbrough.

150.8 Road intersection, turn sharply to left and cross railroad.

151.7 Turkey Creek.

151.9 **STOP** - *Ostrea thyrsae* beds of Nanofaillia formation.

152.6 Pavement. State Highway #5. Turn right and return to Domopolis for night. Dinner at Domopolis Inn.
Second Day

Breakfast at 6:30 at Demopolis Inn. Lunches for today will be obtained at breakfast time.

0 Demopolis Square. Proceed to Linden via Hwy. #43.

16.5 Linden Court House. Continue straight ahead on Hwy. #43.

18.2 Porters Creek (Sukanoochee) clay in ditch on left.

18.5 Porters Creek clay.

19.1 Porters Creek clay.

20.4 Porters Creek clay.

21.7 STOP? Porters Creek clay.

23.8 Beginning of Nafoola formation. Matthews Landing marl. Hard green-sand bed lying on Porters Creek clay.

24.8 Nafoola formation. Middle (Oak Hill) member.

25.0 Nafoola formation. Middle (Oak Hill) member.

25.8 Nafoola formation. Middle (Oak Hill) member.

26.4 Six-inch lignite bed on left in Oak Hill member of Nafoola formation.

25.6 Northam glauconitic sand of upper Nafoola (Coal Bluff) member, 20-25 feet above lignite.

27.8 Nafoola formation. Upper (Coal Bluff) member.

28.4 Approximate position of Midway-Milcox contact.

29.1 Nanafalia formation.

29.3 Nanafalia formation. Ostrea thirssae bed on right.

34.6 End of pavement at Dixo's Mill. Continue straight ahead on Hwy. #43.

37.4 Tuscaloosa formation. Cross-bedded sand.

37.7 Tuscaloosa formation. Laminated sandy clay.

39.1 Tuscaloosa formation. Laminated sandy clay.

39.7 Tuscahoma formation.

40.2 Leave Marengo - enter Clarke County.

40.6 Tuscahoma beds with steep south dip on right.

41.5 Lignite bed about 3 foot thick in upper part of Tuscahoma.

Formerly marked base of Bashi formation.

42.4 Weathered Bashi marl on left, about 60 foot above lignite.

42.8 Bashi marl boulders.

43.0 Hatchotigbee formation begins.

45.6 Highway intersection, Thomasville. Turn right on pavement to Grovo Hill and Jackson.

51.3 Tallahatta escarpment ahead.

51.9 Hatchotigbee exposure. Tallahatta in hill on right.

52.0 Approximate location of Hatchotigbee-Tallahatta contact.

52.1 STOP. Tallahatta exposure.

53.0 Lisbon formation overlying Tallahatta.

55.3 Exposure of Gosport (Pararchus bed) overlain by Jackson clay.

57.5 Jackson clay on left.

61.1 Grovo Hill. Continue ahead. Route from here to Jackson is over surficial sand deposits.

73.8 Road to Little Stave Creek.

74.0 STOP. Little Stave Creek.

Note: If time permits, an optional stop is planned at Salt Mountain. In this case continue ahead from this reading to Jackson.

76.2 Ochre pit on left.

77.8 Jackson Post Office.

78.1 Turn left on gravel road at Sinclair Station

78.2 Terrace gravels in deep gully on right.

78.6 Railroad crossing
79.3 Bassett Creek.

80.0 Turn right.

83.5 Oligocone limestone on left - Marianna, Glendon, Chickasawhay.

83.7 Salt Creek.

83.8 **STOP.** Oligocone limestone bluff on right, concealed by trees.

Jackson fault between here and Salt Mountain. Throw of fault approximately 1300 feet.

84.0 Salt Mountain.

84.2 Turn around and return to Jackson and proceed to Little Stevo Creek.

90.6 Jackson Post Office.

94.4 **STOP.** Little Stevo Creek.
### COLUMNAR SECTION
SOUTHWEST ALABAMA

#### SOUTHEASTERN GEOLOGICAL SOCIETY
FIELD TRIP JUNE 21-23, 94

<table>
<thead>
<tr>
<th>AGE</th>
<th>SERIES</th>
<th>FORMATION AND MEMBER</th>
<th>SYMBOL</th>
<th>SCALE-FOOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CENOZOIC</td>
<td>TERTIARY</td>
<td>COTTON VALLEY</td>
<td>&quot;T&quot;</td>
<td>HYD (RED BOUNDARY)</td>
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<td></td>
<td></td>
<td>LOWER CRETACEOUS</td>
<td>&quot;C&quot;</td>
<td>&quot;BLACK POND MUD&quot;</td>
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</tbody>
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**Sample Description**

- Fine-grained sand with lenses of black, fine-grained silt.
- Very fine-grained sand to silt.
- Grey fine-grained sand to silt.
- Dark grey fine-grained sand to silt.
- Light grey fine-grained sand to silt.
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