Hantkenina, the "Shubuta"-Bumpnose contact, and the Eocene-Bluff and Bumpnose, but also indicates that the last occurrence of
demonstrably older than the calcareous nannofossil assemblage from the
only confirms the original hypothesis regarding reworking within the Red
in both the "Shubuta" and Bumpnose are indeed reworked, which not
surrounding sediment. Thus, at least some of the
Hantkenina
from both units, was
from inside hand-picked specimens
content. The calcareous nannofossil assemblage, preserved in the matrix
examined for both calcareous nannofossil and planktonic foraminiferal
and Bumpnose units at Little Stave Creek, Alabama, and they were
were collected on both sides of the boundary from the upper "Shubuta"
attributed to reworking. To test the validity of this hypothesis, samples
specimens at Little Stave Creek, Alabama
boundary. Most of the Tallahatta Formation, including those strata con­
considered entirely early Eocene, entirely middle Eocene, or straddling the
boundary. The Tallahatta Formation from western Georgia to western Alabama yielded
calcareous inner neritic sand and clay containing calcareous nannofossils and
foraminifers. The occurrence of these biostratigraphically useful
groups in the subsurface Tallahatta allows the reliable dating of the entire
formation; this has been difficult in the past because of the dominance in the
outcrop belt of heavily leached, noncalcareous coarse clastics and sparingly fossiliferous siliceous clay and silt.
Fossiliferous sand at the base of the Tallahatta generally overlies carbonaceous
clay of the Hatchetigbee Formation. These lowest Tallahatta strata contain calcareous nannofossils diagnostic of Zone NP12 of Mar­
tini; overlying these strata are beds placed in Zone NP13. The uppermost Tallahatta beds in the core holes and in the Little Stave Creek outcrop sec­tion in western Alabama are assigned to Zone NP14; no positive evidence for strata belonging to Zone NP15 was found. Erosion surfaces separate the sediments belonging to each of the three calcareous nannofossil zones. On the basis of foraminiferal assemblages, the strata belonging to Zone NP12 and the lower part of Zone NP13 are interpreted as probably representing shallow-marine deposits; sediments in the upper part of Zone NP13 and Zone NP14 were probably deposited in somewhat deeper inner-shelf environments.
Zones NP12 and NP13 are normally placed in the lower Eocene of the intercontinental correlation charts, whereas Zone NP14 has been consid­ered entirely early Eocene, entirely middle Eocene, or straddling the boundary. Most of the Tallahatta Formation, including those strata con­sidered to represent the basal Meridian Sand Member, is therefore of early Eocene age. As the Tallahatta is the lowest formation of the
Clai borne Group, the base of the Clai borneian Stage is thus placed within the early Eocene, and the Sabinian-Clai borneian Stage boundary in Ala­bama and Georgia does not correspond to the early middle Eocene boundary.

BYBELL, LAUREL M., and RICHARD Z. POORE, U.S. Geol. Sur­vey, Reston, VA
Reworked Hantkenina Specimens at Little Stave Creek, Alabama

The Eocene-Oligocene boundary in Mississippi and Alabama has been traditionally placed between the Shubuta Member of the Yazoo Forma­tion and the overlying Red Bluff Formation (or its carbonate facies equiv­alent, the Bumpnose Limestone). Consequently, the presence of Eocene planktonic foraminifers in the Red Bluff and Bumpnose has long been attributed to reworking. To test the validity of this hypothesis, samples were collected on both sides of the boundary from the upper "Shubuta" and Bumpnose units at Little Stave Creek, Alabama, and they were examined for both calcareous nannofossil and planktonic foraminiferal content. The calcareous nannofossil assemblage, preserved in the matrix from inside hand-picked specimens of Hantkenina from both units, was demonstrably older than the calcareous nannofossil assemblage from the surrounding sediment. Thus, at least some of the Hantkenina specimens in both the "Shubuta" and Bumpnose are indeed reworked, which not only confirms the original hypothesis regarding reworking within the Red Bluff and Bumpnose, but also indicates that the last occurrence of Hantkenina, the "Shubuta"-Bumpnose contact, and the Eocene-Oligocene boundary in the U.S. Gulf Coast may not be equivalent.

CABLES, ARTHUR W., Oklahoma State Univ., Stillwater, OK
Carboniferous Terrigenous Clastic Facies, Hydrocarbon Producing Zones, and Sandstone Provenance, Northern Shelf of Black Warrior Basin

The Lower Cretaceous Dantzler sediments were deposited in a down­
dip stranded (dry) basin (Perry basin) contemporaneous with uplift and erosion of the land to the north. Sedimentation continued in this manner throughout deposition of the lower Tuscaloosa. By this means the basins were filled with sediment, and deltas were built seaward of the older Edwards shelf edge. As the sea continued to transgress during deposition of the middle Tuscaloosa, all fluvial-deltaic deposition was restricted to the far updip areas. The result of this marine transgression and sediment deposition has been a tripartite relationship of depositional environments. Observations from electric logs, cores, and cuttings indicate a typ­ical depositional sequence consists of a basal braided channel complex overlain by meander-belt point bars and topped by overlapping, shallow-marine, nearshore bars. Facies and depositional interpretations indicate that the lower Tuscaloosa and Dantzler are facies equivalents of one another and, as such, form a time-transgressive unit which spans the Upper-Lower Cretaceous boundary.

CHASTEEN, HAYDEN R., Sun Exploration and Production Co., Dal­las, TX
Re-evaluation of Lower Tuscaloosa and Dantzler Formations (middle Cretaceous) with Emphasis on Depositional Environments and Time­Stratigraphic Relationships

The lower Tuscaloosa and Dantzler formations of east-central Louisi­ana and southeastern Mississippi are excellent examples of fluvial-deltaic sediments deposited in a semiarid climate. This deltaic deposition was subsequently slowly transgressed by the sea, and deposition of the middle marine Tuscaloosa occurred.

The Lower Cretaceous Dantzler sediments were deposited in a down­
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CABLES, ARTHUR W., Oklahoma State Univ., Stillwater, OK
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