

## REPORT ON REFERRED FOSSILS

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STRATIGRAPHIC  
R/

Paleocene-Eocene

SHIPMENT  
NUMBER

EEG-78-47

GENERAL  
LOCALITY

Georgia

## REGION

Dougherty Co.

QUADRANGLE  
OR AREA

Albany East 7.5 min

DATE  
RECEIVED

6/78

KINDS OF  
FOSSILS

Sporomorphs

STATUS  
OF WORK

Incomplete

REFERRED  
BY

Gibson/Reinhardt

DATE  
REPORTED

9/18/78

REPORT  
PREPARED BY

Norman Frederiksen

This report concerns samples from the Albany core, elev. 195 ft., lat. 31.52 deg N, long. 84.11 deg W., Dougherty County, Georgia.

342 ft. depth - Sample contained the following taxa.

NUXPOLLENITES cf. PSILATUS )  
 )  
 )  
 NUXPOLLENITES CROCKETTENSIS ) abundant  
 )  
 )  
 NUXPOLLENITES CLAIBORNENSIS )  
 NUXPOLLENITES sp. )  
 Microreticulate prolate tricolporates - abundant  
 SILTARIA - abundant  
 MOMIPITES CORYLOIDES  
 MOMIPITES MICROFOVEOLATUS  
 MOMIPITES CORYLOIDES transitional to PLATYCARYAPOLLENITES SWASTICOIDUS  
 MOMIPITES-PLICATOPOLLIS-PLATYCARYAPOLLENITES complex  
 RIESTEDTIPOLLIS?  
 ILEX  
 VERRUTRICOLPORITES prolate - abundant  
 CUPULIFEROIPOLLENITES - many  
 NYSSA KRUSCHII  
 CYRILLACEAPOLLENITES thick walled  
 TETRACOLPOROPOLLENITES LESQUEREUXIANUS  
 NYPA ECHINATA

This sample is clearly Claibornian. Unfortunately, little is known about the two-thirds of the Claibornian between the lowermost and uppermost parts of that stage, so I don't have a good idea of ranges within the stage. NUXPOLLENITES CROCKETTENSIS and N. CLAIBORNENSIS have only been reported from the middle part of the Claibornian in Texas and from the upper part of the stage in South Carolina; they were not reported by Elsik from the lowermost Claibornian of Texas, and I have not seen them in the lowermost Claibornian of Mississippi. Therefore, I presume the sample is from the middle or upper Claibornian. From the presence of MOMIPITES CORYLOIDES transitional @

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to PLATYCARYAPOLLENITES SWASTICOIDUS, and the presence of the MPP Group, though both are rare in the sample, I would have thought the sample was from the lower half of the Claibornian, but perhaps these forms persist as rare elements into the upper half of that stage.

The find of NYPA ECHINATA was highly interesting. Previously this tropical mangrove palm genus had been known from pollen only from the Gosport Sand (uppermost Claibornian) through the Jacksonian; the only verified megafossil record was from the Weches Formation of Texas, which is probably equivalent to the lower part of the Lisbon Formation of the eastern Gulf Coast. The sample contains dinoflagellates.

429 ft. 8 in. depth

Microreticulate prolate tricolporates

SILTARIA - abundant

ARALIACEOIPOLLENITES sp.

aff. BOMBAPOLLIS

MOMIPITES MICROFOVEOLATUS

MOMIPITES-PLICATOPOLLIS-PLATYCARYAPOLLENITES complex

MOMIPITES CORYLOIDES

CARYA 29 um

ILEX

NUDOPOLLIS TERMINALIS

TETRACOLPOROPOLLENITES MEGADOLIUM

TETRACOLPOROPOLLENITES cf. MEGADOLIUM

RHOIPITES LATUS - probable

RHOIPITES ANGUSTUS

CUPULIFEROIPOLLENITES - abundant

VERRUTRICOLPORITES prolate - several spp.

NYSSA aff. PULVINA

PSEUDOLAESOPOLLIS VENTOSA

MILFORDIA HUNGARICA

MYRICA

CELTIS - probable

NUXPOLLENITES PSILATUS

NUXPOLLENITES spp.

CASUARINIDITES CONVEXUS - several specimens

PLATANUS OCCIDENTALOIDES

GRANULATISPORITES LUTETICUS @

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The assemblage from this sample is very similar to that from 342 ft. and seems to be much the same age. *PLATANUS OCCIDENTALOIDES* has not been recorded from rocks older than latest Claibornian, but I think the sample is probably older than that because it contains *CASUARINIDITES* which presumably is not reworked. The occurrence of *GRANULATISPORITES LUTETICUS* was very interesting, as this species (undoubtedly produced by the mangrove fern genus *ACROSTICHUM*) is extremely rare in Gulf Coast deposits - I have previously seen only one specimen, from the uppermost Jacksonian of Mississippi. Maybe the Lisbon in this core was deposited close to shore, and therefore might offer a rare opportunity to study the mangrove vegetation of the middle Eocene of the Gulf Coast (note find of NYPA in sample from 342 ft.).

543 ft. depth - barren of palynomorphs

555 ft. depth -

THOMSONIPOLLIS MAGNIFICA - quite a few  
CUPULIFEROIPOLLENITES  
NUDOPOLLIS TERMINALIS  
CARYA small  
CASUARINIDITES  
PLATYCARYA PLATYCARYOIDES  
PLATYCARYAPOLLENITES SWASTICOIDUS  
MOMIPITES MICROFOVEOLATUS  
MOMIPITES-PLICATOPOLLIS-PLATYCARYAPOLLENITES complex  
TRICOLPITES REDACTUS or RIESTEDTIPOLLIS?  
INTERPOLLIS MICROSUPPLINGENSIS

PLATYCARYA and PLATYCARYAPOLLENITES have their range bases essentially at the base of the Eocene, form an acme-zone essentially coinciding with the upper Sabinian (lower Eocene), are present but in lesser numbers in the lowermost Claibornian, and peter out above this level. However, THOMSONIPOLLIS MAGNIFICA is mainly Sabinian and older; it occurs in the lowermost Claibornian of Texas, but perhaps only as reworked specimens, and is rare above the Sabinian. INTERPOLLIS MICROSUPPLINGENSIS is restricted to the upper Sabinian and lowermost Claibornian. Perhaps the best evidence that the sample is upper Sabinian rather than lowermost Claibornian is the relatively great abundance of THOMSONIPOLLIS MAGNIFICA. @

REPORT NOT TO BE QUOTED OR PARAPHRASED IN PUBLICATION WITHOUT A FINAL RECHECK BY THE PALEONTOLOGY AND STRATIGRAPHY BRANCH.

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582 ft. depth -

CASUARINIDITES  
 MOMIPITES MICROFOVEOLATUS  
 MOMIPITES CORYLOIDES  
 PLATYCARYAPOLLENITES SWASTICOIDUS  
 CARYA small  
 MOMIPITES FLEXUS - probable  
 MOMIPITES STRICTUS  
 NUDOPOLLIS TERMINALIS  
 TRIATRIOPOLLENITES TURGIDUS - possible  
 INTRATRIOPOLLENITES PSEUDINSTRUCTUS  
 TRICOLPITES REDACTUS or RIESTEDTIPOLLIS?  
 BOMBACACIDITES NACIMIENTOENSIS  
 MILFORDIA MINIMA

Sporomorphs were sparse compared with dinoflagellates in this sample. However, the sample is no younger than earliest Claibornian and no older than earliest Eocene. The sample contains scattered specimens of reworked Paleocene sporomorphs - MOMIPITES STRICTUS and probable M. FLEXUS.

586 ft. depth -

ULMIPOLLENITES KREMPII  
 INTERPOLLIS MICROSUPPLINGENSIS  
 NUDOPOLLIS TERMINALIS  
 MILFORDIA MINIMA  
 MOMIPITES MICROFOVEOLATUS  
 MOMIPITES STRICTUS  
 MOMIPITES FLEXUS  
 PLATYCARYAPOLLENITES SWASTICOIDUS  
 PLATYCARYAPOLLENITES TRIPLICATUS  
 PLATYCARYAPOLLENITES spp.  
 PLATYCARYA PLATYCARYOIDES  
 CARYA small  
 TRICOLPITES REDACTUS or RIESTEDTIPOLLIS? @

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From the diversity of species of PLATYCARYA and PLATYCARYAPOLLENITES the sample is undoubtedly upper Sabinian (lower Eocene). Like the sample from 582 ft., it contains reworked Paleocene sporomorphs - MOMIPITES STRICTUS and M. FLEXUS.

685 ft. 5 in. depth -

CASUARINIDITES  
THOMSONIPOLLIS MAGNIFICA  
MOMIPITES STRICTUS  
MOMIPITES FLEXUS  
MOMIPITES MICROFOVEOLATUS  
CARYA small  
NUDOPOLLIS TERMINALIS  
PARAALNIPOLLENITES CONFUSUS  
CARYAPOLLENITES IMPARALIS type  
TRICOLPITES CRASSUS  
TRICOLPITES ASPER  
SPINAEPOLLIS SPINOSA  
LABRAPOLLIS GLOBOSA - probable  
MYRTACEIDITES  
SYMPLOCOIPOLLENITES of Tschudy - probable

This is a typical lower Sabinian sample. It is much richer in species, many of them undescribed, than the Tuscahoma in the Matheson Quarry. PARAALNIPOLLENITES CONFUSUS is an interesting species. It was originally described from the Paleocene of Kazakhstan, then found in the Paleocene of Arctic Canada, and I have recently begun finding it, in rather rare occurrences, in the Paleocene of the Gulf Coast.

708 ft. depth -

NUDOPOLLIS TERMINALIS  
RHOIPITES ANGUSTUS  
CASUARINIDITES  
EPHEDRA  
TRIATRIOPOLLENITES probably SUBTRIANGULUS  
MILFORDIA MINIMA  
PARAALNIPOLLENITES CONFUSUS  
BETULA INFREQUENS @

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ALNUS TRINA  
 MOMIPITES STRICTUS  
 MOMIPITES TENUIPOLUS group  
 CARYAPOLLENITES IMPARALIS type  
 CARYA small  
 ULMIPOLLENITES rugulate  
 TETRACOLPOROPOLLENITES LESQUEREUXIANUS  
 RIESTEDTIPOLLIS?  
 CHENOPODIPOLLIS  
 PLICATOPOLLIS LUNATA type - probable

Typical lower Sabinian assemblage. From the presence of RHOIPITES ANGUSTUS and TETRACOLPOROPOLLENITES LESQUEREUXIANUS the sample is probably from the upper part of the lower Sabinian.

714 ft. 5 in. depth - practically barren of sporomorphs @

*Norman Frederiksen*  
 Norman Frederiksen

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Bybell

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STRATIGRAPHIC RANGE	Paleogene	SHIPMENT NUMBER	EEG-78-47
GENERAL LOCALITY	Georgia	REGION	Dougherty Co.
QUADRANGLE OR AREA	Albany East 7.5 min	DATE RECEIVED	6-15-78
KINDS OF FOSSILS	Calcareous nannofossils	STATUS OF WORK	Complete
REFERRED BY	T.G. Gibson and Jurgen Reinhardt	DATE REPORTED	4-17-79
REPORT PREPARED BY	Laurel M. Bybell		

Project No. 9510-01910

Thirty-eight samples were examined from the Albany Core for calcareous nannofossils. The core was drilled at latitude 31.52 deg N and longitude 84.11 deg W, at an elevation of 195 feet.

950 feet - abundant Cretaceous forms

922.8-923.0 ft. - abundant Cretaceous forms

921.5-921.6 ft. - a few Cretaceous forms and no Paleocene forms

920.8-921.0 ft.

Species present:

A few reworked Cretaceous forms

BIANTHOLITHUS SPARSUS Bramlette and Martini 1964

MARKALIUS INVERSUS (Deflandre) 1954

THORACOSPHAERA sp.

Age: Early Paleocene, possibly zone NP 1. This is the lowest Tertiary sample in the core.

919.3-919.6 ft.

Species present:

BRAARUDOSPHAERA BIGELOWI (Gran and Braarud) 1935

CEPEKIELLA sp.

MARKALIUS INVERSUS (Deflandre) 1954

THORACOSPHAERA sp.

A few reworked Cretaceous forms

Age: Early Paleocene, possibly zone NP 1.

918.3-918.4 ft.

Species present:

MARKALIUS INVERSUS (Deflandre) 1954

THORACOSPHAERA sp.

ZYGOLITHUS SIGMOIDES (Bramlette and Sullivan) 1961

A few reworked Cretaceous forms

Age: Early Paleocene, possibly zone NP 1. @

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918 feet

Species present:

MARKALIUS INVERSUS (Deflandre) 1954

THORACOSPHAERA sp.

A few reworked Cretaceous forms

Age: Early Paleocene, possibly zone NP 1.

916.4-916.7 ft.

Species present:

BRAARUDOSPHAERA BIGELOWI (Gran and Braarud) 1935

MARKALIUS INVERSUS (Deflandre) 1954

THORACOSPHAERA sp.

Age: Early Paleocene, possibly zone NP 1.

915.0-915.3 ft.

Species present:

MARKALIUS INVERSUS (Deflandre) 1954

THORACOSPHAERA sp.

ZYGOLITHUS SIGMOIDES (Bramlette and Sullivan) 1961

Age: Early Paleocene, possibly zone NP 1.

910 feet

Species present:

CRUCIPLACOLITHUS TENUIS (Stradner) 1961

THORACOSPHAERA sp.

ZYGOLITHUS SIGMOIDES (Bramlette and Sullivan) 1961

Age: Early Paleocene, zone NP 2.

903.8 ft.

Species present:

BRAARUDOSPHAERA BIGELOWI (Gran and Braarud) 1935

COCCOLITHUS PELAGICUS (Wallich) 1877

CRUCIPLACOLITHUS TENUIS (Stradner) 1961

NEOCOCCOLITHES PROTENUS (Bramlette and Sullivan) 1961

THORACOSPHAERA sp.

ZYGOLITHUS SIGMOIDES (Bramlette and Sullivan) 1961

Age: Early Paleocene, zone NP2. @

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883.8 ft.

## Species present:

BRAARUDOSPHAERA BIGELOWI (Gran and Braarud) 1935  
 COCCOLITHUS PELAGICUS (Wallich) 1877  
 CRUCIPLACOLITHUS TENUIS (Stradner) 1961  
 NEOCOCCOLITHES PROTENUS (Bramlette and Sullivan) 1961  
 THORACOSPHAERA sp.  
 ZYGOLITHUS SIGMOIDES (Bramlette and Sullivan) 1961

Age: Early Paleocene, zone NP 2.

870.2 feet

## Species present:

CHIASMOLITHUS CONSUETUS (Bramlette and Sullivan) 1961  
 COCCOLITHUS PELAGICUS (Wallich) 1877  
 COCCOLITHUS sp.  
 CRUCIPLACOLITHUS TENUIS (Stradner) 1961  
 MARKALIUS INVERSUS (Deflandre) 1954  
 MICRANTHOLITHUS PINGUIS Bramlette and Sullivan 1961  
 NEOCOCCOLITHES PROTENUS (Bramlette and Sullivan) 1961  
 THORACOSPHAERA sp.  
 ZYGOLITHUS SIGMOIDES (Bramlette and Sullivan) 1961

Age: Early Paleocene, zone NP 3.

856.5 feet

## Species present:

CHIASMOLITHUS CONSUETUS (Bramlette and Sullivan) 1961  
 COCCOLITHUS PELAGICUS (Wallich) 1877  
 COCCOLITHUS sp.  
 CRUCIPLACOLITHUS TENUIS (Stradner) 1961

Age: Early Paleocene, zone NP 3.

851.5 feet

## Species present:

CHIASMOLITHUS CONSUETUS (Bramlette and Sullivan 1961 @

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COCCOLITHUS PELAGICUS (Wallich) 1877  
 COCCOLITHUS sp.  
 CRUCIPLACOLITHUS TENUIS (Stradner) 1961  
 MARKALIUS INVERSUS (Deflandre) 1954  
 NEOCOCCOLITHES PROTENUS (Bramlette and Sullivan) 1961  
 THORACOSPHAERA sp.  
 ZYGOLITHUS SIGMOIDES (Bramlette and Sullivan) 1961  
 Age: Early Paleocene, zone NP 7.3

848.8 feet

Species present:  
 COCCOLITHUS PELAGICUS (Wallich) 1877  
 COCCOLITHUS sp.  
 CRUCIPLACOLITHUS TENUIS (Stradner) 1961  
 MARKALIUS INVERSUS (Deflandre) 1954  
 NEOCOCCOLITHES PROTENUS (Bramlette and Sullivan) 1961  
 THORACOSPHAERA sp.  
 ZYGOLITHUS SIGMOIDES (Bramlette and Sullivan) 1961  
 Age: Early Paleocene, zone NP 7.3

841.5 feet

Species present:  
 CHIASMOLITHUS CONSUETUS (Bramlette and Sullivan) 1961  
 COCCOLITHUS PELAGICUS (Wallich) 1877  
 COCCOLITHUS sp.  
 CRUCIPLACOLITHUS TENUIS (Stradner) 1961  
 MARKALIUS INVERSUS (Deflandre) 1954  
 NEOCOCCOLITHES PROTENUS (Bramlette and Sullivan) 1961  
 THORACOSPHAERA sp.  
 ZYGOLITHUS SIGMOIDES (Bramlette and Sullivan) 1961  
 Age: Early Paleocene, zone NP 7.3

827 feet

Species present:  
 COCCOLITHUS PELAGICUS (Wallich) 1877  
 COCCOLITHUS sp.  
 CRUCIPLACOLITHUS TENUIS (Stradner) 1961 @

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NEOCOCCOLITHES PROTENUS (Bramlette and Sullivan) 1961  
 THORACOSPHAERA sp.  
 ZYGOLITHUS SIGMOIDES (Bramlette and Sullivan) 1961  
 Age: Early Paleocene, zone NP 2.3

811 feet

Species present:  
 COCCOLITHUS PELAGICUS (Wallich) 1877  
 ZYGOLITHUS SIGMOIDES (Bramlette and Sullivan) 1961  
 Age: Early Paleocene, zone NP 2.3

728.5 feet

Species present:  
 COCCOLITHUS PELAGICUS (Wallich) 1877  
 Age: Paleocene or Early Eocene.

636.5 feet

Species present:  
 CHIASMOLITHUS BIDENS (Bramlette and Sullivan) 1961  
 COCCOLITHUS PELAGICUS (Wallich) 1877  
 COCCOLITHUS sp.  
 CRUCIPLACOLITHUS TENUIS (Stradner) 1961  
 DISCOASTER MULTIRADIATUS Bramlette and Riedel 1954  
 FASCICULITHUS sp.  
 HORNIBROOKINA sp.  
 NEOCOCCOLITHES PROTENUS (Bramlette and Sullivan) 1961  
 PONTOSPHAERA OCELLATA (Bramlette and Sullivan) 1961  
 PONTOSPHAERA PULCHRA? (Deflandre) 1954  
 THORACOSPHAERA sp.  
 TOWEIUS CRATICULUS Hay and Mohler 1967  
 TOWEIUS EMINENS (Bramlette and Sullivan) 1961  
 ZYGOLITHUS HERLYNI (Sullivan) 1964  
 Age: Early Eocene, zone NP 10. @

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618 feet

Species present:

CEPEKIELLA LUMINA (Sullivan) 1965  
 COCCOLITHUS EOPELAGICUS (Bramlette and Riedel) 1954  
 COCCOLITHUS PELAGICUS (Wallich) 1877  
 COCCOLITHUS sp.  
 DISCOASTER MULTIRADIATUS Bramlette and Riedel 1954  
 FASCICULITHUS sp.  
 HORNIBROOKINA sp.  
 NEOCOCCOLITHES PROTENUS (Bramlette and Sullivan) 1961  
 PONTOSPHAERA PULCHRA (Deflandre) 1954  
 THORACOSPHAERA sp.  
 TOWEIUS CRATICULUS Hay and Mohler 1967  
 ZYGOLITHUS SIGMOIDES (Bramlette and Sullivan) 1961

Age: Early Eocene, zone NP 10.

613 feet

Species present:

CHIASMOLITHUS BIDENS (Bramlette and Sullivan) 1961  
 CHIASMOLITHUS CONSUETUS (Bramlette and Sullivan) 1961  
 CHIASMOLITHUS GRANDIS (Bramlette and Riedel) 1954  
 COCCOLITHUS EOPELAGICUS (Bramlette and Riedel) 1954  
 COCCOLITHUS PELAGICUS (Wallich) 1877  
 DISCOASTER BARBADIENSIS Tan Sin Hok 1927 ?  
 DISCOASTER MULTIRADIATUS Bramlette and Riedel 1954  
 HORNIBROOKINA sp.  
 PONTOSPHAERA PULCHRA (Deflandre) 1954  
 THORACOSPHAERA sp.  
 TOWEIUS CRATICULUS Hay and Mohler 1967  
 TOWEIUS EMINENS (Bramlette and Sullivan) 1961

Age: Early Eocene, zone NP 10

582 feet

Species present:

COCCOLITHUS PELAGICUS (Wallich) 1877  
 NEOCOCCOLITHES sp.  
 TOWEIUS CRATICULUS Hay and Mohler 1967

Age: Eocene.

(Continued on EEG-78-47a). @

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STRATIGRAPHIC RANGE GENERAL LOCALITY QUADRANGLE OR AREA KINDS OF FOSSILS REFERRED BY REPORT PREPARED BY	Paleogene Georgia Albany East 7.5 min Calcareous nannofossils T.G. Gibson and Jurgen Reinhardt Laurel M. Bybell	SHIPMENT NUMBER REGION DATE RECEIVED STATUS OF WORK DATE REPORTED	EEG-78-47a Dougherty Co. 6-15-78 Complete 4-17-79
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(Continued from EEG-78-47).

558 feet

This sample is barren of calcareous nannofossils.

400.4-429.8 ft.

This sample is barren of calcareous nannofossils.

376.8 feet

Species present:

- BLACKITES sp.
- BRAARUDOSPHAERA BIGELOWI (Gran and Braarud) 1935
- CAMPYLOSPHAERA DELA (Bramlette and Sullivan) 1961
- CHIASMOLITHUS GRANDIS (Bramlette and Riedel) 1954
- CHIASMOLITHUS TITUS Gartner 1970
- COCCOLITHUS PELAGICUS (Wallich) 1877
- CYCLOCOCCOLITHUS FLORIDANUS (Roth and Hay) 1967
- CYCLOCOCCOLITHUS FORMOSUS Kamptner 1963
- DISCOASTER BARBADIENSIS Tan Sin Hok 1927
- HELICOSPHAERA BRAMLETTEI?? (Muller) 1970
- NEOCOCCOLITHES sp.
- PONTOSPHAERA MULTIPORA (Kamptner) 1948
- PONTOSPHAERA PULCHEROIDES (Sullivan) 1964
- PONTOSPHAERA VESCA (Sullivan) 1964
- PONTOSPHAERA ZIGZAG (Roth and Hay) 1967
- RETICULOFENESTRA DANICA (Black) 1967
- SPHENOLITHUS MORIFORMIS (Bronnimann and Stradner) 1960
- ZYGRHABLITHUS BIJUGATUS (Deflandre) 1954

Age: Middle Eocene, zones NP 16-17. There is a chance it is zone NP 18, but I rather doubt it.

363.5 feet

Species present:

- BLACKITES sp.
- BRAARUDOSPHAERA BIGELOWI (Gran and Braarud) 1935
- COCCOLITHUS EOPELAGICUS (Bramlette and Riedel) 1954
- COCCOLITHUS PELAGICUS (Wallich) 1877
- CYCLOCOCCOLITHUS FLORIDANUS (Roth and Hay) 1967
- CYCLOCOCCOLITHUS FORMOSUS Kamptner 1963 @

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DISCOASTER BARBADIENSIS Tan Sin Hok 1927  
 DISCOASTER DISTINCTUS Martini 1958  
 DISCOASTER SAIPANENSIS Bramlette and Riedel 1954  
 MICRANTHOLITHUS PINGUIS Bramlette and Sullivan 1961  
 PONTOSPHAERA PULCHEROIDES (Sullivan) 1964  
 PONTOSPHAERA ZIGZAG (Roth and Hay) 1967  
 SPHENOLITHUS FURCATOLITHOIDES? Locker 1967  
 SPHENOLITHUS MORIFORMIS (Bronnimann and Stradner) 1960  
 ZYGRAHABLITHUS BIJUGATUS (Deflandre) 1954  
 AGE: Middle Eocene, zones NP 16-17.

359 feet

Species Present:  
 CYCLOCOCCOLITHUS FORMOSUS Kamptner 1963  
 Age: Middle to Late Eocene.

349.5 feet

Species present:  
 CYCLOCOCCOLITHUS FLORIDANUS (Roth and Hay) 1967  
 SPHENOLITHUS MORIFORMIS (Bronnimann and Stradner) 1960  
 Age: Middle to Late Eocene.

319 feet

Species present:  
 BLACKITES TENUIS (Stradner) 1961  
 CHIASMOLITHUS TITUS Gartner 1970  
 COCCOLITHUS EOPELAGICUS (Bramlette and Riedel) 1954  
 COCCOLITHUS PELAGICUS (Wallich) 1877  
 CYCLOCOCCOLITHUS FLORIDANUS (Roth and Hay) 1967  
 CYCLOCOCCOLITHUS FORMOSUS Kamptner 1963  
 CYCLOCOCCOLITHUS NEOGAMMATION Bramlette and Wilcoxon 1967  
 DISCOASTER BARBADIENSIS Tan Sin Hok 1927  
 HELICOSPHAERA EUPHRATIS Haq 1966  
 MARKALIUS INVERSUS (Deflandre) 1954  
 PEMMA PAPILLATUM Martini 1959  
 PONTOSPHAERA VESCA (Sullivan) 1965  
 PONTOSPHAERA ZIGZAG (Roth and Hay) 1967 @

## REPORT ON REFERRED FOSSILS

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STRATIGRAPHIC  
RANGESHIPMENT  
NUMBER

EEG-78-47a

GENERAL  
LOCALITY

REGION

QUADRANGLE  
OR AREADATE  
RECEIVEDKINDS OF  
FOSSILSSTATUS  
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BYDATE  
REPORTEDREPORT  
PREPARED BY

RETICULOFENESTRA DANICA (Black) 1967  
 RETICULOFENESTRA HILLAE Bukry and Percival 1971  
 SPHENOLITHUS MORIFORMIS (Bronnimann and Stradner) 1960  
 ZYGRHABLITHUS BIJUGATUS (Deflandre) 1954  
 Age: Late Eocene, zones NP 18-20.

313.5 feet

## Species present:

BLACKITES SPINOSUS (Deflandre and Fert) 1954  
 BRAARUDOSPHAERA BIGELOWI (Gran and Braarud) 1935  
 CAMPYLOSPHAERA DELA (Bramlette and Sullivan) 1961  
 CHIASMOLITHUS TITUS Gartner 1970  
 COCCOLITHUS EOPELAGICUS (Bramlette and Riedel) 1954  
 COCCOLITHUS PELAGICUS (Wallich) 1877  
 CYCLOCOCCOLITHUS FLORIDANUS (Roth and Hay) 1967  
 CYCLOCOCCOLITHUS FORMOSUS Kamptner 1963  
 CYCLOCOCCOLITHUS NEOGAMMATION Bramlette and Wilcoxon 1967  
 CYCLOCOCCOLITHUS RETICULATUS Gartner and Smith 1967  
 DISCOASTER BARBADIENSIS Tan Sin Hok 1927  
 ERICSONIA OBRUTA Perch-Nielsen 1971  
 HELICOSPHAERA sp.  
 MARKALIUS INVERSUS (Deflandre) 1954  
 NEOCOCCOLITHES DUBIUS (Deflandre) 1954  
 PEMMA BASQUENSE (Martini) 1959  
 PEMMA ROTUNDUM Klumpp 1953  
 PONTOSPHAERA PANARIA (Deflandre) 1954  
 PONTOSPHAERA PULCHEROIDES (Sullivan) 1964  
 PONTOSPHAERA PULCHRA (Deflandre) 1954  
 PONTOSPHAERA VESCA (Sullivan) 1965  
 PONTOSPHAERA ZIGZAG (Roth and Hay) 1967  
 RETICULOFENESTRA DANICA (Black) 1967  
 RETICULOFENESTRA HILLAE Bukry and Percival 1971  
 SPHENOLITHUS FURCATOLITHOIDES? Locker 1967  
 SPHENOLITHUS MORIFORMIS (Bronnimann and Stradner) 1960  
 SPHENOLITHUS RADIANS Deflandre 1952  
 THORACOSPHAERA sp.  
 ZYGRHABLITHUS BIJUGATUS (Deflandre) 1954  
 Age: Late Eocene, zones NP 18-20. a

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STRATIGRAPHIC  
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GENERAL  
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RECEIVEDKINDS OF  
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PREPARED BY

290.0 feet

## Species present:

COCCOLITHUS PELAGICUS (Wallich) 1877  
 CYCLOCOCOLITHUS FLORIDANUS (Roth and Hay) 1967  
 CYCLOCOCOLITHUS FORMOSUS Kamptner 1963  
 CYCLOCOCOLITHUS RETICULATUS Gartner and Smith 1967  
 PEMMA ROTUNDUM Klumpp 1953  
 PONTOSPHAERA PULCHEROIDES (Sullivan) 1964  
 RETICULOFENESTRA DANICA (Black) 1967  
 RETICULOFENESTRA HILLAE Bukry and Percival 1971  
 SPHENOLITHUS MORIFORMIS (Bronnimann and Stradner) 1960

Age: Late Eocene, zones NP 18-20.

276.0 feet

## Species present:

BLACKITES SPINOSUS (Deflandre and Fert) 1954  
 CHIASMOLITHUS TITUS Gartner 1970  
 COCCOLITHUS EOPELAGICUS (Bramlette and Riedel) 1954  
 COCCOLITHUS PELAGICUS (Wallich) 1877  
 CYCLOCOCOLITHUS FLORIDANUS (Roth and Hay) 1967  
 CYCLOCOCOLITHUS FORMOSUS Kamptner 1963  
 CYCLOCOCOLITHUS NEOGAMMATION? Bramlette and Wilcoxon 1967  
 CYCLOCOCOLITHUS RETICULATUS Gartner and Smith 1967  
 ERICSONIA OBRUTA Perch-Nielsen 1971  
 RETICULOFENESTRA DANICA (Black) 1967  
 SPHENOLITHUS MORIFORMIS (Bronnimann and Stradner) 1960  
 ZYGRHABLITHUS BIJUGATUS (Deflandre) 1954

Age: Late Eocene, zones NP 18-20.

268.5 feet

## Species present:

BLACKITES sp.  
 CEPEKIELLA LUMINA (Sullivan) 1965  
 COCCOLITHUS PELAGICUS (Wallich) 1877  
 CYCLOCOCOLITHUS FLORIDANUS (Roth and Hay) 1967  
 CYCLOCOCOLITHUS FORMOSUS Kamptner 1963  
 CYCLOCOCOLITHUS NEOGAMMATION? Bramlette and Wilcoxon 1967  
 RETICULOFENESTRA DANICA (Black) 1967  
 SPHENOLITHUS MORIFORMIS (Bronnimann and Stradner) 1960

Age: Late Eocene, zones NP 18-20. @

REPORT NOT TO BE QUOTED OR PARAPHRASED IN PUBLICATION WITHOUT A FINAL RECHECK BY THE PALEONTOLOGY AND STRATIGRAPHY BRANCH.

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STRATIGRAPHIC  
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GENERAL  
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## 260.1 feet

## Species present:

COCCOLITHUS EOPELAGICUS (Bramlette and Riedel) 1954  
 COCCOLITHUS PELAGICUS (Wallich) 1877  
 CYCLOCOCCOLITHUS FLORIDANUS (Roth and Hay) 1967  
 CYCLOCOCCOLITHUS FORMOSUS Kamptner 1963  
 CYCLOCOCCOLITHUS NEOGAMMATION Bramlette and Wilcoxon 1967  
 RETICULOFENESTRA BISECTA (Hay, Mohler, Wade) 1966  
 RETICULOFENESTRA DANICA (Black) 1967  
 SPHENOLITHUS MORIFORMIS (Bronnimann and Stradner) 1960

Age: Late Eocene or Oligocene.

## 253 feet

## Species present:

BLACKITES sp.  
 COCCOLITHUS EOPELAGICUS (Bramlette and Riedel) 1954  
 COCCOLITHUS PELAGICUS (Wallich) 1877  
 CYCLOCOCCOLITHUS FLORIDANUS (Roth and Hay) 1967  
 CYCLOCOCCOLITHUS FORMOSUS Kamptner 1963  
 RETICULOFENESTRA BISECTA (Hay, Mohler, Wade) 1966  
 RETICULOFENESTRA SCRIPPSAE (Bukry and Percival) 1971  
 SPHENOLITHUS MORIFORMIS (Bronnimann and Stradner) 1960  
 SPHENOLITHUS FURCATOLITHOIDES?? Locker 1967

Age: Late Eocene or Oligocene.

## 187.5 feet

This sample is barren of calcareous nannofossils.

I do want to mention the presence of CYCLOCOCCOLITHUS NEOGAMMATION in the samples in the interval from 319 ft. to 260.5 feet. This species is supposedly restricted to zones NP 23-24, or late Oligocene. It is not very common in these samples, as it is in zone NP 24 samples from South Carolina, but because of its presence, there is a chance that the interval from 319 ft. to 260.1 ft. is Late Oligocene in age. @

*Laurel M. Bybell* *ph*  
 Laurel M. Bybell

REPORT ON REFERRED FOSSILS

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STRATIGRAPHIC  
RANGE

SHIPMENT  
NUMBER

EEG-78-28

GENERAL  
LOCALITY

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STRATIGRAPHIC  
RANGE

DATE  
RECEIVED

GENERAL  
LOCALITY

STATUS  
OF WORK

REFERRED  
FOSSILS

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REPORTED

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PREPARED BY

Depth 1362 (USGS 31668)

Bivalvia:

NUCULANA sp.

SYNCYCLONEMA SIMPLICIUS (Conrad)

Oyster spat

INOCERAMUS sp.

LUCINA cf. L. MATTIFORMIS Stephenson

Gastropoda:

MARGARITELLA? sp.

(muddy bottom shelf assemblage- age Sant.-Maestrichtian).

Depth 1375 (USGS 31669)

Bivalvia:

NUCUCLANA sp.

SYNCYCLONEMA SIMPLICIUS (Conrad)

ANOMIA ARGENTARIA Morton

ANOMIA TELLENOIDES Morton

INOCERAMUS sp.

(EXOGYRA CANCELLATA subzone or slightly below)

@

Norman F. Sohl

## REPORT ON REFERRED FOSSILS

XX

1 XX

STRATIGRAPHIC RANGE Cretaceous

GENERAL LOCALITY Georgia

QUADRANGLE OR AREA Albany East 7.5 min. Quad.

KINDS OF FOSSILS Mollusks

REFERRED BY Juergen Reinhardt

REPORT PREPARED BY N. F. Sohl

JRG \_\_\_\_\_

HGG \_\_\_\_\_

HBC \_\_\_\_\_

HEG X \_\_\_\_\_

PFC \_\_\_\_\_

WRS \_\_\_\_\_

JRM \_\_\_\_\_

TRD \_\_\_\_\_

SHIPMENT NUMBER EEG-78-28

REGION Dougherty Co.

DATE RECEIVED 4/5/78

STATUS OF WORK Complete

DATE REPORTED 1/26/79

GGS-3187

The following report concerns macro invertebrates recovered from cores of the Albany well, Albany East 7.5 min. quadrangle. Latitude-longitude (313105 084064201) LSA = 195 ft, Dougherty County, Georgia.

In summary all the Cretaceous mollusks suggest that penetration to 1375 ft. ended near the base of the EXOGYRA COSTATA Zone. Correlating intervals with the outcrop is somewhat hazardous because of the restriction of small samples that can be extracted from the core. The following thus should be taken as only a best guess.

To depth 1013 = Providence Sand  
 To depth 1321 = Ripley Formation  
 (part may be uppermost Cusseta)  
 To depth 1375 = Cusseta (upper part) —

The fossils from the 958-1013 are not as diagnostic as one would like but there are several taxa that are to be found most commonly in that unit but which do range down into the uppermost part of the Ripley of the Chattahoochee River Valley and the Mississippi Embayment sections.

The presence of FLEMINGOSTREA SUBSPATULATA of the normal morphotype indicates we are into Ripley equivalents at a depth of 1030.

The first ANOMIA TELLENOIDES is encountered at 1321. This species generally cooccurs with EXOGYRA CANCELLATA but ranges slightly below (30-50 ft.) the CANCELLATA range zone beds. In the Chattahoochee River section A. TELLENOIDES occurs through the upper part of the Cusseta with E. CANCELLATA ranging slightly upward into the basal unnamed member sands of the Ripley. @

FEB 05 1979

## REPORT ON REFERRED FOSSILS

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STRATIGRAPHIC  
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NUMBER

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GENERAL  
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REGION

CORNER/RANGE  
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FOSSILSSTATUS  
OF WORKREFERRED  
BYDATE  
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PREPARED BY

ft.

Depth 958.5/(USGS 31652) Phosphatic molds and pebbles.

## Bivalvia:

LITHOPHAGA sp.  
 SYNCYCLONEMA SIMPLICIUS (Conrad)  
 CARDIUM sp.  
 CRASSATELLA sp.

## Gastropoda:

TURRITELLA sp.  
 HAPLOVOLUTA sp.  
 Indeterminate mold

## Sponge:

CLIONE sp.

## Arthropoda:

Crab fragments

## Vertebrata:

Assorted bone, teeth, scales and spines

Assemblage not age diagnostic other than Upper Cretaceous (Sant.-  
 Maest.) but probably represents some sort of omission surface.

Depth 961-962 ft. (USGS 31653) Mainly prints.

## Bivalvia:

Indeterminate ostreids  
 CUCULLAEA? sp.  
 NEITHEA sp.  
 PLICATULA? sp.

Fish scales & vertebrae

Non-age diagnostic.

a

## REPORT ON REFERRED FOSSILS

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STRATIGRAPHIC  
RANGESHIPMENT  
NUMBER

EEG-78-28

LOCALITY

REGION

QUADRANGLE  
OR AREADATE  
RECEIVEDKINDS OF  
FOSSILSSTATUS  
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PREPARED BY

Depth 963.5 ft. (USGS 31654)

Bivalvia:  
PYCNODONTE MUTABILIS Morton  
(Santonian-Maestrichtian)

Depth 967 ft. (USGS 31655)

Bivalvia:  
INOCERAMUS sp.  
EXOZYRA COSTATA Say

Common spines & other echinoid debris  
(Maestrichtian)

Depth 977 ft. (USGS 31656)

ACESTA (COSTELLACESTA) sp.

Maestrichtian. On the outcrop known only from uppermost Ripley and Providence equivalents.

Depth 994.5 ft. (USGS 31657)

EXOZYRA COSTATA Say

Shell cross-sections in tightly cemented sandstone.  
(Maestrichtian)

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## REPORT ON REFERRED FOSSILS

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STRATIGRAPHIC  
LEVELSHIPMENT  
NUMBER

EEG-78-28

GENERAL  
LOCALITY

REGION

QUADRANGLE  
OR AREADATE  
RECEIVEDKINDS OF  
FOSSILSSTATUS  
OF WORKREFERRED  
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PREPARED BY

Depth 998 ft. (USGS 31658)

ANOMIA sp.  
worn oyster fragments  
Shark tooth

(age)

Depth 1013 ft. (USGS 31659)

## Bivalvia:

GLYCYMERIS sp.  
SYNCYCLONEMA SIMPLICIUS (Conrad)  
Oyster spat  
GRANOCARDIUM cf. G. BOWENAE Stephenson  
TRACHYCARDIUM sp.  
CRASSATELLA sp.  
CORBULA cf. C. TORTA Stephenson

## Gastropoda:

TURRITELLA TIPPANA Conrad  
GYRODES sp.  
ACTAEON sp.

(mainly broken shell material - age Maestrichtian - possibly high Ripley to Providence equivalent. The abundant Cardiids and coarse sand suggest bar-facies mixed assemblage. In total lithically and ecologically its much like the lower part of the Providence along the Chattahoochee at such places as Alexanders Landing [=basal Providence non Ergle])

Depth 1030 ft. (USGS 31660)

## Bivalvia:

GLYCYMERIS sp.  
OSTREA sp.  
FLEMINGOSTREA SUBSPATULATA (Forbes) normal form

## Worms:

HAMULUS? HUNTONSIS Stephenson

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## REPORT ON REFERRED FOSSILS

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STRATIGRAPHIC  
RANGESHIPMENT  
NUMBER

EEG-78-28

GENERAL  
LOCALITY

REGION

LOCALITY  
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RECEIVEDKINDS OF  
FOSSILSSTATUS  
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(age-Maestrichtian - this type of FLEMINGOSTREA occurs in post-EXOZYRA CANCELLATA Ripley Formation equivalents.

Depth 1069 ft. (USGS 31661)

## Bivalvia:

Oyster fragment  
ANOMIA sp. (fragment)  
SYNCYCLONEMA SIMPLICIUS (Conrad)  
AENONA sp.  
Corbulid & sp. indet.

## Worm:

HAMULUS ONYX Morton

(age Santonian-Maestrichtian)

Depth 1104 (USGS 31662)

## Bivalvia:

Oyster spat  
NEITHIA? sp.  
ANOMIA ARGENTARIA Morton  
Abundant fragments

(age Santonian - Maestrichtian)

Depth 1184 (USGS 31663)

## Bivalvia

INOCERAMUS sp.  
PINNA? sp.  
Indeterminate prints

(age indeterminate)

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REPORT ON REFERRED FOSSILS

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STRATIGRAPHIC  
RANGE

SHIPMENT  
NUMBER

EEG-78-28

GENERAL  
LOCALITY

REGION

CORNER  
OF AREA

DATE  
RECEIVED

NAME OF  
FIELD

STATUS  
OF WORK

FIELD

DATE  
REPORTED

PREPARED BY

Depth 1193.5 (USGS 31664)

Bivalvia:

CAMPTONECTES ARGILLENIS Conrad type  
RADIOPECTEN MISSISSIPPIENSIS Conrad  
much angular shell debris = crab predation?

(Ripley type pectenoids)

Depth 1196.5 (USGS 31665)

Bivalvia:

Oyster fragments  
CAMPTONECTES ARGILLENIS Conrad type  
INOCERAMUS sp.  
TRACHYCARDIUM sp.

(as before)

Depth 1273 (USGS 31666)

Bivalvia:

INOCERAMUS sp. (age indeterminate)

Depth 1321 (USGS 31667)

Bivalvia:

GLYCYMERIS sp.  
INOCERAMUS sp.  
Ostreid fragments  
ANOMIA TELLENOIDES Morton

(=EXOZYRA CANCELLATA subzone lowest Maestrichtian= Cussetta and  
lowermost Ripley of Chattahoochee River sections) @

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STRATIGRAPHIC RANGE	Campanian-Maastrichtian (Cretaceous)	SHIPMENT NUMBER	EEG-78-47
GENERAL LOCALITY	Georgia	REGION	Dougherty Co.
QUADRANGLE OR AREA	Albany East 7.5 min. Quad.	DATE RECEIVED	8/2/78
KIND OF FOSSILS	Planktonic Foraminifera - Nannos	STATUS OF WORK	Complete
REFERRED BY	Juergen Reinhardt	DATE REPORTED	8/29/80
REPORT REFERRED BY	Charles Smith		

66S-3187

This report represents a summary of studies conducted on 56 samples taken from the Albany Core Hole, Albany East 7.5 min. Quad., latitude-longitude 313105084064201, Dougherty County, Georgia.

I have not attempted to detail each of these samples due to the press of other duties, the fact that all samples are quartzose silty to very fine sandy and to adequately document the planktonic foraminifera would require heavy liquid flotation which is a time consuming process, and because you have indicated to me that your primary concern is with the basal portion of the core represented by Cusseta lithologies.

#### Summary of Findings

911.5 (uppermost sample)-921.6	Danian
921.6-922.8	Danian-Maastrichtian boundary
922.8 to (1065.2-1109.6)	middle Maastrichtian
(1065.2-1109.6) to (1320.3-1376.2)	early Maastrichtian
1320.3-1376.2	Maastrichtian-Campanian boundary
(1320.3-1376.2) to 1398.6 (core T.D.)	late Campanian

The Danian-Maastrichtian boundary lies between the samples 921.5-921.6 and 922.8-923.0. The five samples which Ray and I collected within the interval from 911.5-921.6 appear to be somewhat dolomitic and contain only very rare Danian nannofossils. It is interesting that the clay size fraction of the sample only 1.2 feet lower, at 922.8-923.0, represents very nearly a nannofossil ooze containing a great diversity of species with common to abundant LITHRAPHIDITES QUADRATUS. Planktonic foraminifera from this sample include GLOBOTRUNCANA GANSSERI, PLANOGLOBULINA BRAZOENSIS, RACEMIGUEMBELINA FRUCTICOSA, and an associated fauna indicative of the R. FRUCTICOSA Zonule, G. GANSSERI Subzone, of late middle Maastrichtian age. Once again, the ABATHOMPHALUS MAYAROENSIS Subzone appears to be absent for I can find neither nannofossils nor foraminifera which would indicate any sediments of late Maastrichtian age.

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REPORT ON REFERRED FOSSILS

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STRATIGRAPHIC  
RANGE

SHIPMENT  
NUMBER EEG-78-47

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PREPARED BY

Middle Maastrichtian strata in the core extends from 922.8 feet to somewhere within the 43-foot interval between 1066 feet to 1109 feet. All available evidence indicates that the base of the nannofossil LITHRAPHIDITES QUADRATUS Zone lies very near the base of the planktonic foraminiferal G. GANSSERI Subzone. The sample at 1065.0-1065.2 is assignable to the L. QUADRATUS Zone, whereas the next underlying sample which we processed, at 1109.6-1109.8 feet, stratigraphically lies between the highest occurrence surface of TETRALITHUS TRIFIDUS and lowest occurrence surface of L. QUADRATUS (late early Maastrichtian age). Within central Alabama, the G. GANSSERI Subzone (or L. QUADRATUS Zone) includes about the upper one-third of the Ripley Formation and all of the overlying Prairie Bluff Chalk. Based on your lithological analyses, including your suggestion to me that the Providence-Ripley contact is best placed at about 1040 feet, and the Ripley-Cusseta contact at about 1290 feet, I can presume that the Ripley Formation in the core is about 250 feet in thickness. My paleo studies indicate that the upper 25 to 70 feet of the Ripley is of middle Maastrichtian age. This is surprisingly close agreement with what we find in central Alabama where the early-middle Maastrichtian boundary lies within the upper one-third of the Ripley. Since the base of the middle Maastrichtian seems to be at about the same lithostratigraphic level in both central Alabama and in far western Georgia, it does not seem unreasonable to speculate that the Ripley-Providence contact is perhaps closely synchronous in time with the Ripley-Prairie Bluff contact. Just a thought.

Early Maastrichtian strata assignable to the RUGOTRUNCANA SUB-CIRCUMNODIFER Subzone can be divided into two very probably unequal parts based on nannofossil ranges. The upper part can be defined by the interval between the highest occurrence surface of TETRALITHUS TRIFIDUS and lowest occurrence surface of LITHRAPHIDITES QUADRATUS. Although we have much work to be done, it appears that this "interval" zone may represent the upper two-thirds or so of the early Maastrichtian R. SUBCIRCUMNODIFER Subzone. The lower part of the R. SUBCIRCUMNODIFER Subzone contains T. TRIFIDUS but lacks our late Campanian marker, EIFFELLITHUS EXIMIUS. See, I'll make you a biostratigrapher yet! In the samples from the Albany core, this upper part of the early Maastrichtian R. SUBCIRCUMNODIFER Subzone would include the interval between 1065 to 1109 feet and 1162 to 1213 feet. The lower part of @

REPORT ON REFERRED FOSSILS

STRATIGRAPHIC RANGE	SHIPMENT NUMBER EEG-70-47
GENERAL LOCALITY	REGION
QUADRANGLE OR AREA	DATE RECEIVED
KINDS OF FOSSILS	STATUS OF WORK
REFERRED BY	DATE REPORTED
REPORT REFERRED BY	

the R. SUBCIRCUMNODIFER Subzone, containing T. TRIFIDUS but lacking E. EXIMIUS, and of early early Maastrichtian age, lies within the interval between 1162 to 1213 feet and 1320 to 1376 feet. It would seem, then, that the middle part of the Ripley in the core is of middle to late early Maastrichtian age, whereas the lower Ripley and uppermost Cusseta are of early early Campanian age. Again, this appears to be consistent with other data from this area. For example, basal Ripley strata at Stop 6 of our G.S.A. Field Trip (1980) along Barbour County Highway 37 in the Eufaula North 7.5 min. Quad., or well as lower Ripley samples along Barbour Creek, are also of early Maastrichtian age. I do not believe I've seen fossiliferous uppermost Cusseta in outcrop, so I cannot be certain that it is the same age in both the core and in outcrop exposures.

On the basis of both the planktonic foraminifera (GLOBOTRUNCANA VENTRICOSA and associated fauna) and nannofossils (EIFFELLITHUS EXIMIUS and associated flora), the Campanian-Maastrichtian boundary is within the interval between 1320 and 1376 feet, or some 30 to 85 feet below the top of the Cusseta. The presence of E. EXIMIUS, with the species TETRALITHUS ACULEUS, T. GOTHICUS, and T. TRIFIDUS, indicates that the Cusseta section penetrated in the core is still of late Campanian age (see enclosed listing of nannofossils from a basal sample of the core).

Regarding the biostratigraphic proximity of the basal core sample (1398.4-1398.6 feet) to the biostratigraphic equivalent of the Arcola in central and east-central Alabama, that is a bit more than I can confidently handle. First, our TETRALITHUS ACULEUS Zone extends down to within 15 feet or so of the top of the Arcola in Alabama. So, since we are in the T. ACULEUS Zone in the base of the core, you might think that we could be as low as 15 feet above the Arcola biostratigraphic level. I really do not believe this to be the case, since my experience (unpublished work) indicates that the lower part of the T. ACULEUS Zone does not contain T. NITIDUS or T. TRIFIDUS. TETRALITHUS TRIFIDUS is common to abundant in samples at 1383.9-1384.1 feet, and although it is absent in the basal core sample at 1398.6 feet, T. NITIDUS remains a common element of the flora (see enclosed listing). So, I believe the bottom of the Albany core is at a biostratigraphic level equivalent to the middle part of the Demopolis. I see no possibility whatever that @

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BY

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PREPARED BY

the core bottomed in either Arcola equivalent or older sediments.  
I am quite certain of this.

Got any money left over?

@

*Charles C. Smith*  
\_\_\_\_\_  
Charles Smith *CS*

STRATIGRAPHIC  
RANGESHIPMENT  
NUMBER

EEG-78-47

GENERAL  
LOCALITY

REGION

QUADRANGLE  
OR AREADATE  
RECEIVEDKINDS OF  
FOSSILSSTATUS  
OF WORKREFERRED  
BYDATE  
REPORTEDREPORT  
PREPARED BY

## Nannofossil Flora

1398.4 - 1398.6

C - AHMUELLERELLA OCTORADIATA  
 C - ARKHANGELSKIELLA CYMBIFORMIS  
 R - BIDISCUS ROTATORIUS  
 C - BISCUTUM CONSTANS  
 R - B. NOTACULUM  
 VR - BRAARUDOSPHAERA BIGELOWI  
 C - BROINSONIA PARCA  
 C - CHIASTOZYGUS CUNEATUS  
 A - C. PLICATUS  
 C - COROLLITHION EXIGUUM  
 R - C. SIGNUM  
 A - CRETARHABDUS CONICUS  
 C - C. CRENULATUS  
 R - C. DECORATUS  
 A - CRIBROSPHAERELLA EHRENBERGII  
 C - C. JINEA  
 C - CYLINDRALITHUS sp. indet.  
 C - EIFFELLITHUS EXIMIUS  
 VA - E. TURRISEIFFELI  
 C - GARTNERAGO OBLIQUUM  
 R - KAMPTNERIUS MAGNIFICUS  
 R - K. PUNCTATUS  
 R - LITHASTRINUS GRILLII  
 A - LITHRAPHIDITES CARNIOLENSIS  
 A - LUCIANORHABDUS CAYEUXII  
 R - MANIVITELLA PEMMATOIDEA  
 R - MICRORHABDULUS BELGICUS  
 A - M. DECORATUS  
 A - M. ELONGATUS  
 VA - MICULA STAUROPHORA  
 C - PARHABDOLITHUS ANGUSTUS  
 VR - P. EMBERGERI  
 C - P. REGULARIS  
 C - P. SPLENDENS  
 VA - PREDISCOSPHAERA CRETACEA

a

REPORT ON REFERRED FOSSILS

6 XX

STRATIGRAPHIC  
RANGE

SHIPMENT  
NUMBER EEG-78-47

GENERAL  
LOCALITY

REGION

QUADRANGLE  
OR AREA

DATE  
RECEIVED

KINDS OF  
FOSSILS

STATUS  
OF WORK

REFERRED  
BY

DATE  
REPORTED

REPORT  
PREPARED BY

R - PREDISOSPHERA SPINOSA  
 R - REINHARDITES ANTHROPHORUS  
 VR - RUSSELIA BUKRYI  
 VR - SCAMPANELLA sp. indet.  
 VR - SCAPHOLITHUS FOSSILIS  
 R - STAUROLITHUS MATALOSUS  
 C - TETRALITHUS ACULEUS  
 R - T. GOTHICUS  
 VA - T. OBSCURUS  
 C - T. NITIDUS  
 C - THORACOSPHERA sp. indet.  
 R - VEKSHINELLA DIBRACHIATA  
 A - V. DORFII  
 VR - V. ELLIPTICA  
 VA - WATZNAUERIA BARNESAE  
 VR - W. BIPERFORATA  
 A - ZYGODISCUS DIPLOGRAMMUS  
 R - Z. ORIONATUS  
 A - Z. SPIRALIS

Code to abundance

VR - 1-2 individuals

R = 3-5

C = 6-10

A = 11-50

VA = greater than 50 individuals

@