Paul Huddlestun

 Logged ca. 1988

 Written up – 1/2/10

**COLQUITT 11, GGS-3545, HARRELL FARM 1**

**DOERUN CORE**

**COLQUITT COUNTY, GEORGIA**

 **Doerun 7½’ quadrangle**

**1.8 miles southeast of Doerun in northwestern Colquitt County, Georgia,**

**off of north side of Thaggard Road,**

**0.3 miles west of jct. of Ga 133 and Thaggard Road**

 **Latitude N 31° 17.896' Elev. 350 Feet**

 **Longitude W 83° 53.871'**

Lithostratigraphic

unit and bed number Description Thickness Depth \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(feet)\_\_\_\_\_\_ (feet)\_

Bed 1 Soil: sand; fine grained, grained, moderately 2.0 0.0

 well sorted; loose but coherent and competent,

 structureless; overlies:

**MIDDLE MIOCENE? SERRAVALLIAN?**

**MEIGS trans. ALTAMAHA FORMATION? – 9 feet**

**undifferentiated**

(100% core recovery)

Bed 2 Sand: ocherous residuum; fine to medium 3.5 2.0

grained, moderately to moderately poorly

sorted, argillaceous; mostly massive bedded

but hints of stratification; somewhat coherent

but competent (100% core recovery); some color

mottling, mostly dark yellowish orange

(10Y 6/6) with very pale orange (10YR 8/2),

some moderate reddish brown (10R 4/6) and

dark reddish brown; grades downward into:

Bed 3 Sand: argillaceous; sand is medium grained 5.5 5.5

 and moderately sorted, more poorly sorted

near base of bed; some intervals distinctly

stratified and thin bedded, some massive

and structureless intervals; unconsolidated

but coherent and competent; massive intervals

are color mottled whereas stratified intervals

contain layers of differing colors; colors

include moderate reddish brown (10R 4/6),

moderate red (5R 4/6), pale red (5R 6/2)

and dark yellowish orange (10YR 6/6);

abruptly overlies:

**MIDDLE MIOCENE?** **SERRAVALLIAN?**

**PROBABLY MEIGS FORMATION – 46.5 feet**

(~40% core recovery)

Bed 4 Sand and clay: some very sandy clay, 11.0 11.0

 silty with dark minerals, more sandy in

lower part; sand is fine to medium

grained and moderately well sorted;

mostly stratified with layers defined by

strong color differences and proportions

of sand and clay, some intervals are

massive and structureless and the

colors are mottled; stratification ranges

from crudely laminated to thinly bedded

to crudely medium bedded, some layers

 appear to be lenticular; dense, heavy,

 hard and tough when dry; pale red

 (5R 6/2) pale grayish red (5R 5/2) with

 some dark reddish brown, dark yellowish

 orange (10YR 6/6) and very pale orange

 (10YR 8/2); overlies core gap:

CORE GAP 16.5 22.0

Bed 5 Sand: fine to very fine grained and well sorted, 3.5 38.5

 very argillaceous (clay minerals identified by

 J. H. Hetrick include 79.8% kaolinite, 16.7%

 smectite, 4.6% illite), more sandy in lower part,

 some very sandy clay, common dark minerals,

 somewhat finely micaceous; massive and

 structureless; hard and tough when dry,

 tends to have a slightly hackly fracture;

 yellowish gray (5Y 8/1) to dark yellowish

 gray (5Y 7/1), color mottling includes dark

 yellowish orange (10YR 6/6) and grayish

 orange (10YR 7/4); probably transitional to

 underlying bed; overlies core gap:

CORE GAP 15.5 42.0

**MIDDLE MIOCENE; SERRAVALLIAN**

**Definite MEIGS FORMATION – 39.5 feet**

(~40% core recovery)

Bed 6 Clay and sand: clay (74.0% smectite, 15% 3.5 57.5

 illite, 14.6% kaolinite), sand is very fine to silty

 and very well sorted, sugary; frequent dark

 minerals; clay and sand are thinly

 interstratified and interlaminated, sand

 occurs mainly along partings within the

 clay; basal few inches of bed 6 consists of

 massive, argillaceous, fine to very fine

 grained sand with common dark minerals;

 clay is yellowish gray (5Y 7/2) to pale

 yellowish gray (5Y 8/2), sand is yellowish

 gray (5Y 8/1); abruptly overlies:

Bed 7 Clay: finely sandy with dark minerals; 1.0 61.0

 massive and structureless; tough and hard

 when desiccated, very hackly fracture; dark

 yellowish gray (5Y 6/2); overlies core gap:

CORE GAP 10.0 62.0

Bed 8 Clay: (probably continuous with Bed 7) 2.0 72.0 variably stratified sandy clay to argillaceous

 sand (clay consists of 55.3 % smectite, 38.6%,

 kaolinite, and 6.1% illite), sand is fine to very

 fine grained and well sorted; frequent to

 common dark minerals, slightly and finely

 micaceous, sulphur bloom is present on

 laminated clay; mostly massive and

 structureless, top thin interval consists

 of thinly stratified to laminated sand and

 clay; close to yellowish gray (5Y 8/1), clay is

 close to yellowish gray (5Y 7/2); overlies core

 gap:

CORE GAP 8.0 74.0

Bed 9 Sand: sand is fine to very fine grained, well to 4.5 82.0

 very well sorted; argillaceous (48.9% smectite,

 39.9% kaolinite, 7.5% illite, 3.4% palygorskite,

0.2% sepiolite), more clay near the base of

 the Bed, common dark minerals, some rounded

 white pellets (phosphate?), trace of small clay

 clasts; appears massive and structureless but

 on closer inspection is vaguely and crudely

 layered, some undulatory bedded, some

 intervals appear bioturbated; friable but

 competent; yellowish gray (5Y 8/1); overlies

 core gap:

CORE GAP 5.5 86.5

Bed 10 Clay: the base of Bed 9 lithology appears to 5.0 92.0

 merge gradually over 1 foot into Bed 10 at

 93.0 feet (83.2% smectite, 11.8% palygorskite,

 5.1% kaolinite), common to abundant dark

 minerals along bedding planes or partings,

 some sulphur bloom on core; finely sandy,

 fine grained and very well sorted; thinly

 bedded to laminated; clay is tough, hard and

 brittle when desiccated, clay is light olive gray

 (5Y 6/1), sand is yellowish gray (5Y 8/1), very

 abruptly and disconformably overlies:

**LOWER MIOCENE; BURDIGALIAN**

**MARKS HEAD FORMATION – 66.5 feet**

**Upper Marks Head – 35.5 feet**

(35% core recovery)

Bed 11 Chert: argillaceous and sandy, some dark 1.0 97.0

 minerals; sand is very fine grained and well

sorted; massive and structureless; irregular

and very hackly fracture; color closest to very

pale orange (10YR 8/2); abruptly overlies:

Bed 12 Chert: dense, massive, hackly to 1.0 98.0

 subconchoidal fracture; color appears

intermediate from dark yellowish brown

(10YR 4/2) to light brown (5YR 5/6)

(caramel colored); abruptly overlies:

Bed 13 Chert: very similar to Bed 11; overlies 0.5 99.0 core gap:

CORE GAP 4.5 99.5

CORE GAP 3.0 104.0

Bed 14 Variably sandy clay/clayey sand: sand 3.5 107.0

is very fine grained to silty; (fullers earth

clay is 70.7% palygorskite and 29.3 %

smectite); some small filmy concentrations

of finely crystalline pyrite, some dark

minerals; massive and structureless; clay

is brittle, hackly and has irregular

fracture yellowish gray (5Y 8/1); abruptly

overlies:

Bed 15 Sand: very argillaceous (37.6% palygorskite, 7.0 110.5 54% smectite), phosphatic, slightly siliceous

near base; bioturbated; unconsolidated and

poorly coherent and competent; poor core

recovery between ~108 feet and ~111 feet;

overlies core gap:

CORE GAP 6.5 117.5

CORE GAP 3.5 124.0

Bed 16 Sand: very fine grained and well sorted, 1.5 127.5

slightly argillaceous with clay intraclasts;

massive and structureless; soft and

unconsolidated, poorly competent;

gradationally overlies:

Bed 17 Sand: argillaceous (clay is 100% smectite); 3.5 129.0

very fine grained and well sorted; massive and

structureless; soft, unconsolidated and

poorly coherent; lower contact is uncertain

due to poor recovery in the cored interval:

**Lower Marks Head – 31 feet**

(53% core recovery)

Bed 18 Chert: massive and structureless; hard and 0.75 132.5

dense; abruptly overlies:

Bed 19 Clay/claystone: siliceous, finely sandy; 1.75 133.25

brecciated; grades downward into:

Bed 20 Sand, fine grained and well sorted; 14.0 135.0

 argillaceous (28% palygorskite and 71.4%

 smectite at ~138 feet, 14.1% illite and

 85.9% smectite at ~144.5 feet), siliceous,

 finely sandy, dolostone intraclasts scattered

 throughout; massive and structureless,

 partially indurated and fairly competent;

 overlies core gap:

CORE GAP 10.0 149.0

Bed 21 Sand: somewhat argillaceous (10.4% illite 4.5 159.0

and 89.6% smectite); stratified; unconsolidated, soft and poorly competent

(very poor recovery); abruptly overlies:

**LOWER MIOCENE; AQUITANIAN**

**CHATTAHOOCHEE FORMATION – 152 feet**

**Upper Chattahoochee Formation**

**upper Parachucla-equivalent – 63 feet**

**limestone trace, dolostone ~18.25%, sand ~23.8%, clay ~21.0%, core gap (C.G.) 0%, partial recovery (PR) 36.9%**

Bed 22 Dolostone: slightly and finely sandy, 2.5 163.5

calcareous with scattered clay intraclasts;

vaguely medium bedded, some variability in

bedding thickness; indurated and competent;

grades downward into:

Bed 2 3 Dolostone: sandy with sand distribution 2.5 166.0

irregular and in local concentrations, slightly

calcareous in upper part; other than irregular

concentrations of sand, massive and

structureless; indurated and competent;

grades downward into:

Bed 24 Dolostone: slightly and finely sandy with thin 4.5 168.5

layer of dolomitic sandstone at ~179.5 feet;

other than sandstone layer, massive and

structureless; indurated and competent;

gradationally overlies:

Bed 25 Sand: fine grained and well sorted; dolomitic, 15.5 173.0

slightly argillaceous (53.4% smectite, 37.5%

illite, 6% palygorskite and 3.1% sepiolite);

very poor recovery – appears to be massive

and structureless; soft and poorly coherent

except in upper part of bed where it is

slightly more dolomitic (~8% core recovery);

overlies:

Bed 26 Sand: fine grained and well sorted, 7.0 188.5

argillaceous (63.2% illite and 36.8% smectite),

irregular inclusions or clasts at ~192 feet –

looks like carbonate but isn’t; mostly massive

and structureless but with thin clay stringers

in basal few inches; mostly unconsolidated

but firm and competent; abruptly overlies:

Bed 27 Sandstone: sand is fine to coarse grained but 1.0 195.5

mostly medium and moderately poorly sorted;

very dolomitic and very slightly argillaceous;

massive and structureless; indurated and

competent; grades downward into:

Bed 28 Sandstone: sand is fine to coarse grained but 1.5 196.5

mostly medium and moderately poorly sorted;

slightly dolomitic and argillaceous with

scattered dolostone intraclasts, dark minerals

present; massive and structureless; sand is

moderately consolidated; abruptly overlies:

Bed 29 Clay: dolomitic, finely sandy and micaceous 13.5 198.0

with scattered dolostone and clay intraclasts,

top of bed contains short, vertical fractures

that appear to be desiccation cracks (also

more dolomitic at top of bed); massive and

structureless; mostly unconsolidated but

firm and coherent; grades downward into:

Bed 30 Sand: (very poor recovery – core gap from 12.0 211.5

~213 feet to ~222 feet), argillaceous, very

slightly dolomitic in places, appears fine

grained and well sorted; massive and

structureless; poorly competent (~25%

recovery); abruptly overlies:

Bed 31 Sandy dolostone grading uniformly downward 3.0 223.5

into dolomitic sand: slightly argillaceous,

scattered clay rip-up clasts from underlying

bed scattered at base of bed; mostly massive,

clay intraclasts at base of bed only indication

of stratification; moderately consolidated;

abruptly overlies irregular, scoured surface

of underlying bed:

**Lower Chattahoochee Formation – 89 feet**

**Lower Parachucla-equivalent**

**limestone 6.46% dolostone** **~33.69, sand ~13.76%, clay ~16.78%, C.G. 17.98%,**

**PR 11.31%**

Bed 32 Clay: finely sandy, less sandy in lower part; 3.5 226.5

massive and structureless; unconsolidated

but firm and competent (100% core recovery);

grades downward into:

Bed 33 Sand: fine grained and well sorted; dolomitic 4.0 230.0

and argillaceous; massive and structureless;

not well consolidated and moderately

competent (~52% core recovery); abruptly

overlies:

Bed 34 Dolostone: finely sandy and argillaceous, sand 6.5 234.0

distribution somewhat irregular – more so in

lower part; massive and structureless but thin

layering more apparent in roughly basal 1 foot;

indurated, hard and competent (100% core

recovery); abruptly overlies scoured surface of:

Bed 35 Sand: (scoured surface), fine grained and 7.0 240.5

well sorted; argillaceous with scattered,

irregular, dolomitic inclusions or concretions;

massive and structureless; consolidated,

coherent and competent; grades downward

into:

Bed 36 Sand: fine grained and well sorted; very 1.0 247.5

dolomitic, argillaceous; massive and

structureless; partially consolidated and

coherent; grades downward into:

Bed 37 Dolostone: finely sandy and argillaceous; 0.75 248.5

massive and structureless; indurated and

hard; grades downward into:

Bed 38 Dolostone: very sandy and argillaceous; 1.0 249.25

massive and structureless; partially

consolidated; abruptly overlies:

Bed 39 Limestone: almost pure and fine grained, 0.75 250.25

very little quartz sand; massive and

structureless; indurated and coherent;

grades downward into:

Bed 40 Clay: slightly calcareous at top, slightly 1.0 251.0

dolomitic at base, no discernible quartz

sand; massive and structureless; mostly

unconsolidated but firm and coherent;

abruptly overlies:

Bed 41 Dolostone: slightly and finely sandy, 7.0 252.0

somewhat argillaceous, a thin layer of clay

intraclasts and a few other scattered clay

intraclasts, slightly calcareous at base;

variably bedded, mostly massive and

structureless but some thin bedding in

the lower part; partially indurated,

coherent and mostly competent (~79% core

recovery); abruptly overlies:

Bed 42 Dolostone: argillaceous; silty to finely sandy; 0.5 259.0

thin bedded and shaley; partially indurated

and competent; grades downward into:

Bed 43 Clay: silty to finely sandy, dolomitic; massive 2.5 259.5

and structureless; poorly consolidated, poorly

coherent and poorly competent (~29% core

recovery); overlies:

Bed 44 Dolostone: finely sandy, argillaceous; thinly 1.0 262.0

layered partially indurated and competent;

grades downward into:

Bed 45 Clay: silty to finely sandy; mostly massive 2.0 263.0

and structureless but some thin clay/sand

layers in middle of the Bed; poorly

consolidated but firm and coherent:

Bed 46 Sand: fine grained and well sorted; 1.0 265.0

argillaceous; massive and structureless;

mostly unconsolidated but firm coherent and

grades downward into:

Bed 47 Sandstone: dolomitic, probably a trace of 1.0 266.0 clay minerals; massive and structureless;

indurated, hard and competent; abruptly

overlies:

Bed 48 Clay: appears relatively pure, may be slightly 1.0 267.0

silty; thinly layered; unconsolidated but firm

and tough; overlies core gap:

CORE GAP probably Bed 48, no recovery 16.0 268.0

Bed 49 Clay: finely sandy, dolomitic, scattered small 1.0 284.0

intraclasts; massive and structureless; firm

but not particularly coherent and poorly

competent (~33% core recovery);

gradationally overlies:

Bed 50 Dolostone: rather irregular lithology, finely 2.5 285.0

sandy and argillaceous but both sand and

clay occur in irregular concentrations, some

scattered intraclasts, a very thin layer of

argillaceous dolostone at ~286.5 feet

overlying a very thin layer of sandstone at

~286.75 feet; massive but not structureless;

consolidated and coherent; abruptly

overlies:

Bed 51 Clay: silty to very finely sandy and variably 4.0 287.5

dolomitic with more dolomite near base of

bed; thinly layered with silt and fine sand

along clay partings, layering undulatory or

slightly bioturbated in upper few inches;

unconsolidated but hard and coherent;

grades downward into:

Bed 52 Dolostone: finely sandy with somewhat 4.5 291.5

irregular sand distribution, argillaceous

with a few clay concentrations, rare

macrofossil molds; massive but not entirely

structureless; moderately indurated and

moderately coherent; grades downward

into:

Bed 53 Limestone: finely sandy with scattered, 7.0 296.0

slight concentrations of sand, finely

calcarenitic and granular, microfossiliferous

in lower part; mostly massive and

structureless except for slightly irregular

sand distribution; moderately indurated,

coherent and competent (~43% core

recovery); abruptly overlies:

Bed 54 Clay: with a thin dolostone layer near top 2.5 303.0

of bed and clayey dolostone in basal few

inches, very slightly finely sandy and silty;

top thin layer of clay is stratified, below the

thin dolostone layer the clay is massive and

structureless; unconsolidated but tough

and coherent; dark greenish gray; grades

broadly downward into:

Bed 55 Dolostone: argillaceous, slightly and very 4.5 305.5

finely sandy and silty, rare burrows and

scattered fossil molds, a layer of small

intraclasts in upper few inches; massive

and structureless; indurated and coherent;

gradationally overlies:

Bed 56 Limestone: few obvious impurities but gives 2.0 310.0

the impression of being bioturbated (or with

limestone intraclasts of the same lithology);

massive bedded; indurated and coherent;

abruptly overlies:

Bed 57 Dolostone: very slightly and finely sandy 3.5 312.0

with scattered fossil molds; massive and

structureless; indurated and coherent;

disconformably overlies:

**LOWER OLIGOCENE; VICKSBURGIAN**

**SUWANNEE LIMESTONE – 23 feet**

(~66% core recovery)

Bed 58 Chert: massive and structureless; uniform; 0.75 315.5

abruptly overlies:

Bed 59 Limestone: granular, somewhat 22.25 316.25

fossiliferous, foraminiferal? massive

and structureless; indurated and

recrystallized; pinkish gray (5YR 8/1);

abruptly but gradationally overlies:

**LOWER OLIGOCENE; VICKSBURGIAN**

**OCHLOCKONEE FORMATION**

**Pridgen Limestone Member? – 32.5 feet**

**“Upper Ochlockonee” (Suwannee-equivalent?)**

 (~68% core recovery)

Bed 60 Limestone: fine to medium granular, 32.5 338.5

calcarenitic, even textured,

macrofossiliferous with common bryozoans;

massive bedded and structureless; mostly

indurated with jagged fracture, moderately

competent with ~75% core recovery;

*Lepidocyclina* and *Nummulites* present but

rare; various shades of yellow, orange, and

browns - pale yellowish brown (10YR 6/2)

at the top of bed, pale orange (10YR 7/2)

to very pale orange (10YR 8/2) through

the rest of the bed;

Very hard, thin, indurated layers at ~355

feet and ~358 feet;

*Nummulites* at ~356 feet;

*Lepidocyclina* at ~359 feet;

Soft limestone from ~360 feet to ~362 feet,

the color of the soft limestone is close to

pale yellowish brown (10YR 6/2) and

yellowish brown (10YR 6/4);

More coarsely granular with common, small

bryozoans below ~371 feet;

Slightly argillaceous around 370 feet;

Overlies core gap:

SEA LEVEL 350.0

CORE GAP 50.0 371.0

**LOWER OLIGOCENE; VICKSBURGIAN**

**TONGUE OF GLENDON/BRIDGEBORO-EQUIVALENT? – 10 feet**

(100% core recovery)

Bed 61 Limestone: finely granular, *Lepidocyclina*- 10.0 421.0

rich limestone; massive and structureless;

well consolidated and competent; very

abundant eulepedine *Lepidocyclina*,

frequent *Nummulites*, smeared-out

carbonaceous material present at ~422.5

feet; grades downward into:

**LOWER OLIGOCENE; VICKSBURGIAN**

**OCHLOCKONEE FORMATION *sensu stricto***

**“Lower Ochlockonee” – 267 feet**

(~64% core recovery)

Bed 62 Limestone: finely granular, very even 7.0 431.0

textured, sucrosic with tan rhombs

(some dolomite), some smeared out

carbonaceous material at ~432 feet;

bioturbated to well mixed with scattered

burrows, generally massive in

appearance; moderately recrystallized

and competent; grades downward into:

**(Suwannacoochee stratigraphic position) – 52 feet**

(~100% core recovery)

Bed 63 Dolostone: calcareous, sucrosic; massive 13.5 438.0

bedded and structureless; mostly

recrystallized and competent; grades

downward into:

Bed 64 Dolostone: finely granular; hard, dense, and 27.5 451.5

recrystallized; bioturbated with scattered

burrows; pale yellowish brown (10YR 6/2) to

dark yellowish brown (10YR 4/2); very

gradationally overlies:

Bed 65 Dolostone: calcareous, sucrosic; massive 11.0 479.0 bedded and structureless; mostly

recrystallized and competent; a lag deposit

at the base of the Bed consisting of

glauconite, glauconitized clasts, black dusty

pyrite pellets? and rare phosphate pellets;

overlies with the appearance of

disconformity:

**Ellaville-Marianna/Red Bluff-equivalent? – 208 feet**

(~56% core recovery)

Bed 66 Limestone: some scattered dolostone beds, 208.0 490.0

chert layers and chert concretions, probably

slightly argillaceous; limestone is very fine

grained, chalky, consolidated but not

recrystallized – looks like chalk; uniform,

massive and structureless; some scattered

and rare intervals of vague stratification

and bioturbation; very pale orange

(10YR 8/2) to yellowish gray (5Y 7/2)

to light yellowish gray (5Y 8/2); dolostone

appears orangish brown (10YR 6/4?);

chert is generally olive gray (5Y 4/1 – 2/1)

to brownish black (5YR 2/1);

Glauconitic Ochlockonee filled burrows below

disconformity to 9 feet (from ~490 to ~499 feet):

Six inch chert layer at 499.5 feet:

Four feet of dolostone at ~529 feet, upper and

lower contacts are apparently abrupt:

Three feet of dolostone at ~549 feet, upper and

lower contacts are apparently abrupt:

Bioturbated around 669 feet:

Vague stratification and bioturbation below

~675 feet:

 Good Ochlockonee foraminiferal fauna at

~686 feet:

Abruptly overlies:

**UPPER EOCENE; UPPER JACKSONIAN**

**UNNAMED LIMESTONE**

**Upper Jacksonian? – 60.5 feet**

(~86% core recovery)

Bed 67 Dolostone: massive and structureless; 2.0 698.0

dense and hard; brownish light olive gray

(5YR 5/2 - 5Y 5/2); abruptly overlies:

Bed 68 Limestone: granular and calcarenitic, 10.0 700.0

microfossiliferous and with larger

foraminifera; glauconitic, finer textured

and less glauconitic in lower part; massive

and structureless; indurated and competent;

common discocyclinids, rare to frequent

*Operculinoides* and rare *Nummulites*;

gradationally overlies:

Bed 69 Dolostone: sucrosic, very fine grained; 5.5 710.0

bioturbated and massive bedded; indurated

and dense; brownish light olive gray

(5YR 5/2 - 5Y 5/2); grades downward

into what appears to be a lag deposit

consisting of argillaceous, glauconitic and

pyritic, finely sucrosic dolostone in basal

1 foot; abruptly overlies:

Bed 70 Limestone: finely granular, finely 43.0 715.5

calcarenitic, very finely biogenic limestone

with scattered larger foraminifera, frequent

*Lepidocyclina* and *Operculinoides*; some

finely disseminated organic matter/pyrite;

massive and structureless; partially

indurated and competent; frequent to

common discocyclinids; very pale orange

in color(10YR 8/2);

Burrow at ~717 feet;

Very thin layer of glauconitic clay at

~718.5 feet;

*Operculinoides* *mariannensis* at 753 feet;

Grades downward into:

**Lower Jacksonian? – 32.5 feet**

(~95% core recovery)

Bed 71 Limestone: quite pyritic with a trace of 13.5 758.5

associated glauconite, pyrite/glauconite

content increases below ~762 feet,

fossiliferous; massive and structureless;

partially indurated and competent; scallop

shell at ~772 feet; abruptly grades

downward into:

Bed 72 Limestone: variably glauconitic, finely 19.0 772.0

granular and calcarenitic, very finely

biogenic limestone with scattered larger

foraminifera, more coarsely fossiliferous

in upper part, less coarsely fossiliferous

and more glauconitic in lower part;

massive and structureless; mostly

indurated and competent;

*Asterocyclina* and *Operculinoides* at

~775 feet;

Algae at ~776 feet;

Increasing glauconite below ~777 feet;

Bryozoans, *Operculinoides*, and some

mollusk molds between ~780 and ~782

feet;

Very glauconitic and with visible calcite

rhombs in basal few feet of bed;

Disconformably overlies:

**MIDDLE EOCENE; CLAIBORNIAN**

**CLAIBORNE GROUP – 351 feet thick**

**Interval 1 – 67.5 feet**

**Gosport?/Clinchfield-equivalent? Inglis-equivalent?**

(~50% core recovery)

Bed 73 Sandstone: sandy, glauconitic, probably 4.0 791.0

slightly argillaceous; massive and

structureless; hard and competent;

abruptly overlies:

Bed 74 Sand: calcareous, glauconitic, argillaceous 30.0 795.0

finely sandy clay in basal 1 foot), scattered

thin layers of limestone, sandstone and very

calcareous sand layers; massive and

structureless in appearance other than

the presence of the thin limestone and

sandstone layers; slightly indurated and

moderately competent (~70% core recovery);

abruptly overlies:

Bed 75 Limestone (hard ground?): slightly and finely 1.0 825.0

sandy and glauconitic; structureless; hard

and indurated; grades downward into:

Bed 76 Sand: fine grained and well sorted; 1.5 826.0

calcareous, somewhat glauconitic,

argillaceous but higher content of sand and

lower content of calcite, glauconite and clay

than overlying bed; massive and

structureless; consolidated but poorly

competent (~21%core recovery; overlies

core gap:

CORE GAP 31.0 827.5

**MIDDLE EOCENE; CLAIBORNIAN**

**CLAIBORNE GROUP**

**LISBON FORMATION**

**Interval 2 – 121.5 feet**

(~65% core recovery)

Bed 77 Limestone: (hard ground?) slightly glauconitic, 3.5 858.5

a trace of clay and very fine, well sorted sand,

~6 inches of very calcareous, glauconitic

limestone is present at top of bed, few fossils

present; limestone is undulatory bedded and

flaggy; hard and indurated; *Cubitostrea* is

present at ~861.5 feet; grades downward

into:

Bed 78 Sand: fine to very fine grained and well 111.0 862.0

sorted; calcareous, slightly to somewhat

microfossiliferous; micaceous throughout

(biotite and muscovite), common to

abundant heavy minerals, slightly

argillaceous, becoming slightly more

argillaceous down section; massive

and structureless, few and scattered thin

sandstone/limestone beds; slightly

indurated and friable, moderately

competent (~64% core recovery);

Thin sandy limestone bed at ~866 feet;

The benthic foraminifer *Cibicides* *westi* and

the planktonic foraminifer *Hantkenina* sp.

identified at ~903 feet;

 Thin sandy limestone bed at ~914 feet;

 Sand is a little coarser, a little less well

sorted below ~941 feet:

Sand is medium to fine/medium grained

and not well sorted with larger, moderately

rounded quart grains and some phosphate

 below ~950 feet:

 Thin, sandy limestone bed at ~969 feet;

 Sand is moderately sorted below ~970 feet;

 Overlies core gap:

CORE GAP 7.0 973.0

**MIDDLE EOCENE; CLAIBORNIAN**

**CLAIBORNE GROUP**

**Interval 3 – 59 feet**

**Lower Lisbon?/Still Branch-equivalent?**

(~58% core recovery)

Bed 79 Sandstone: very fine grained, silty and well 52.0 980.0

sorted quartz sand, slightly coarser at top of

bed – fines downward; calcareous, abundant

heavy minerals, somewhat micaceous, slightly

argillaceous, some minor silicification in upper

part of bed? silicification? increases down-

section where siliceous spicules become

apparent, chert is present in lower part of the

bed, scattered thin limestone layers; more

consolidated than overlying bed,

somewhat more indurated, cemented and

brittle than overlying bed, friable; more

mottled or marbled in appearance than

overlying bed (bioturbation?);

Calcareous sandstone at the top of the Bed

at ~980 feet;

Nine inches of limestone at ~989 feet;

Black to clear acicular structures below ~992

feet – diatoms? sponge spicules?

Abundant spicules below ~994 feet;

Irregular silicification and induration of the

sandstone below ~997 feet with concomitant

decrease in core recovery;

As above with chert layers at ~1017 feet, ~1022

feet, and 1.5 feet of chert at ~123.5 feet;

Overlies core gap:

Bed 80 Sandstone: very fine grained, silty and well 7.0 1032.0

sorted quartz sand (sand coarsens to fine to

fine/medium grained downward), glauconitic

(glauconite content increases downward,

spicular and siliceous (silica content

decreases downward), argillaceous,

calcareous and micaceous; massive and

structureless; somewhat indurated and

friable; this bed is very broadly gradational

between the overlying bed (or unit) and the

underlying bed (or unit), grades downward

into:

**MIDDLE EOCENE; CLAIBORNIAN**

**CLAIBORNE GROUP**

**Interval 4 – 74 feet**

**upper Congaree/upper “Tallahatta”-equivalent?**

(~90% core recovery)

Bed 81 Sandstone: fine to fine/medium grained, 74.0 1039.0

moderately to moderately poorly sorted in

the upper part of the Bed, fines irregularly

downward to fine to very fine grained and

well sorted in the lower part; very to

moderately calcareous, argillaceous,

glauconitic, a trace of scattered phosphate

and scattered occurrences of pyrite, a trace

to nil silica; bioturbated and massive-

bedded, some disrupted clay stratification;

very competent, tough to somewhat

consolidated;

Less calcareous and argillaceous, more fine

to medium grained sand below ~1054 feet;

Conspicuous pyrite from ~1055 to ~1058 feet;

A little more calcareous below ~1059 feet;

Fine to very fine grained, well sorted sand

and very finely glauconitic below ~1063 feet;

More intensely or intricately bioturbated and

some unmixed swirls of brownish, sticky clay

with gypsum-bloom below ~1069 feet;

Sand is fining to silty, very fine grained below

~1078 feet;

There is still evidence of spicules in this part

of the section but most evidence is in the

form of impressions;

More argillaceous and more poorly mixed

clay below ~1092 feet;

Increasing content and coarser size of

glauconite, and more calcareous below

~1095 feet;

Trace of phosphate and more indurated

below ~1100 feet;

Less carbonate but dolomitic, crudely layered

and platy in basal 1.5 feet;

Abruptly overlies:

**LOWER EOCENE? WILCOX GROUP?**

**Interval 5 – 29 feet+**

**Hatchetigbee/Bashi-equivalent?**

 (~47% core recovery)

Bed 82 Sand: medium grained and well sorted; very 27.0 1113.0

glauconitic (almost a greensand), slightly

dolomitic in upper 2 feet, becoming slightly

calcareous below ~1115 feet, minor pelletal

phosphate present, very slightly argillaceous;

massive bedded and mostly structureless

(a thin layer of sandstone present at ~1122

feet); slightly indurated and poorly competent

(~13% core recovery);

Little or no carbonate below ~ 1117 feet;

Trace of pelletal phosphate below ~1125 feet;

Grades downward into:

Bed 83 Greensand (glauconitite): sandy, quartz sand 2.0 1140.0

is medium grained and well sorted, slightly

calcareous; crudely stratified; unknown

competence due to poor recovery in coring

interval; bottom of core at 1142 feet.

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TOTAL DEPTH – 1142 FEET