

Retyped - Sept. 1954.

Herewith report on samples studied from the Ohio Oil Co. et al, Hernasco No. 1, Hernando County, Florida. Samples collected at well, May 18-19, 1946 by Jack Reeds.

4640 - 50'

Hard white chalk. Inoceramus fragments fairly common. A few fragments of gray and light bluish and greenish gray, thinly flaky, bentonitic shale. Forams, which apparently wash from the chalk section, are Globotruncana area, Anomalina sholtzensis, Planulina cedarkeyensis, Gyroidina alabamensis, Anomalina cosdeni, Buliminella cushmani, Globotruncana canaliculata, Stensonia americana, Cribrobulimina? sp., Robulus sp. The species present are Taylor in age and include some species common in the Lower Taylor of this area. No species characteristic of the Austin present, (see (1, 2) - (13 & 14) on slide.)

Age -

L. Taylor

15 in Taylor

ERA -

54

13' 14'

CIB. PARSONI

PARSONI

GLOBOTRUNCANA SP.

STENSONIA? AMERICANA

The light greenish gray shale fragments carry some Inoceramus prisms and the darker gray shale fragments show some small carbonaceous inclusions.

4650 - 60'

Like the preceding.

4660 - 80'

As above, with numerous fragments of the chalk, highly impregnated with scattered to concentrated small colorless (calcite?) crystals.

4680 - 4700'

Cuttings of hard white chalk and forams as listed from 4640-50'. Shale fragments very rare. Inoceramus fragments fairly common.

4700 - 10'

Cuttings of chalk as above, also some fragments of dense, light tan colored dolomite, possibly caving, and many fragments of greenish gray, flaky shale. Some fragments of dark gray marly shale which apparently occurs as thin lenses in a chalky limestone. The shale fragments may be caving or may represent a repetition of shale layers in the limestone section. The shales noted are similar in character to those noted in the first sample in this report.

4710 - 20'

Sample again mainly chalk. Shale fragments and dolomite fragments rare. No marked change in fauna.

4720 - 30'

Austin? Chalk, shale fragments and some dolomite as at 4700-10'. Many of the chalk fragments show some black (bituminous?) inclusions and thin irregular streaks of brownish gray shale. Dark, brownish gray, marly shale fragments common. These probably coming from thin irregular lenses in the chalky limestone. Inoceramus fragments very common. Character of the lithology suggests that sample is Austin in age. No marked change in foram fauna washing from the chalk noted. (See 3, 4, 5 & 6 on slide.)

4730 - 40'

Like the preceding.

4740 - 50'

Mainly chalk with some shale and some fragments of shale-streaked chalk. Many Inoceramus fragments. No marked change in micro-fauna.

4750 - 60'

No change.

4760 - 70'

Almost entirely hard white chalk. Inoceramus fragments and some forams as above.

4770 - 4980'

Like the above. Forams rare.

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AD. V. 1111
M. 1111
O. 1111

- 4980 - 90' As above, with some dark and a few shale streaks and fragments.
- 4990 - 5000' Almost entirely hard white chalk. Very few forams and few Inoceramus prisms.
- 5000 - 10' Probably Austin. White chalk. Most of the chalk fragments have a finely speckled appearance from presence of abundant minute (calcite?) crystals rather evenly distributed through the material. This has been a feature, though not as distinctly, of the limestone through the last 100' of samples described above.
- 5010 - 5110' Like the preceding.
- 5110 - 30' Definite Austin Similar to the above but with some of the chalk fragments showing irregularly shaped inclusions of a brownish black (bituminous?) residue and some light tan staining.
- 5130 - 40' As above, chalk fragments with brownish black inclusions more common and some fragments of dark brownish gray marly shale. A few fragments of Ostrea sp. and some fragments of Inoceramus.
- 5140 - 90' Fragments of a chalky limestone, finely calcite^d, "speckled" as above, with many Inoceramus fragments and some very small fragments of other calcitised fossil material. A few fragments of the dark gray, bituminous? shale and some fragments showing a light brownish gray streaking.
- 5190 - 5270' Chalk similar to the above but very little stain or streaking noted. Large fragments of Inoceramus or calcite veining? common.
- 5270 - 80' Chalk similar to the above, but showing many black shaly streaks and inclusions. Many of the chalk fragments stained a light brown.
- 5280 - 90' Sample mainly buff to dark brownish gray, stained, streaked and somewhat finely light spotted chalk.
- 5290 - 5300' Like the above.
- 5300 - 10' Soft, light cream colored, somewhat brownish gray streaked limestone, very highly impregnated with minute crystals (calcite or dolomite) and small fragments of Inoceramus and other very finely broken, calcitic fossiliferous material, (see 16 & 17 on slide.)
- 5310 - 30' No change.
- 5330 - 40' As above Cuttings of light gray to light tan limestone more chalky in texture than the preceding and more highly streaked with dark brownish gray, irregularly shaped areas. Small fragments of fossil bivalves resembling Ostrea common and some sections and fragments of forams and other fossils, (see 18 on slide).
- 5340 - 70' Like the preceding.
- 5370 - 80' Similar to the above but more highly light brown to dark brownish gray streaked and limestone harder than above. Several species of Ostracods and specimens of Gumbelina and Globigerina cretacea var. fairly common, many shell fragments.

5380 - 90' No change.

5390 - 5400' As above, but gray to dark brownish gray in color, highly streaked with darker areas. Calcitised shell fragments common as above. No change in foram fauna.

5410 - 20' Cuttings of a hard light buff to dark brownish gray limestone carrying some small traces of microfossils and a few fragments of an Ostrea-like bivalve. Numerous fragments of a moderately hard, dark brownish gray, calcareous shale carrying a few shell fragments. Some specimens of Globigerina and Gumbelina as in the section just above 5400' (possibly caving). A few of the dark stained limestone and shale fragments - light spotted.

Handwritten notes:
A.K.
B. SARGENT
Gumbelina
Globigerina
Horn
M.S.
Cymatoceras
Tuberculoceras

5420 - 30' No sample.

5430 - 40' (Sample when rewashed gave off an oil odor on drying). Cuttings of limestone and shale similar to the above, but limestone more highly dark stained (possibly a bituminous staining).

Handwritten notes:
U. Atkinson
Ostracods
Fossils

5440 - 50' Cuttings composed mainly of buff to dark brownish gray, hard limestone and many fragments of light to dark brownish gray marly shale. Majority of limestone and shale fragments finely light streaked and spotted. Light spotting apparently due to abundance of fine broken and crushed fossiliferous material. Some shell fragments present both in the shale and the limestone and many specimens of Globigerina and Gumbelina wash from this material, see 10 - 12 and 22 to 24 on slide.

5450 - 60' Sample composed mainly of light to dark gray, hard limestone, highly impregnated with minute particles of calcite, a few fragments of the dark brownish gray spotted shale and limestone as above, (see 25 & 26 on slide.)

Handwritten notes:
Eagle Ford
U. Atkinson

U. Atkinson.

5460 - 70' Fragments of limestone apparently representing several depths in the hole and many fragments of a highly dark brownish gray stained and streaked limestone. (Sample when washed gave off an oil odor on drying).

5470 - 80' Like the above and in addition many fragments of gray to brownish gray, hard, calcareous sandstone and sandy limestone and many fragments of a thinly flaky shale. A trace of glauconite noted in the sandstone, (27 & rest of row).

Handwritten notes:
A.K. (C?)
B.M. SS. ON 27
Core

Core

5470 - 82' Moderately hard, dark gray, thinly laminated, irregular, somewhat finely silty, calcareous shale. Samples of this core were studied from the following depths:

Handwritten notes:
L. Atkinson
(see pp. 70-71, p.p. 447.)
5470 - 21
Ammonoites
Tany Monoceros

Part, 5470' - Washed. Moderately small residue of flaky fragments of the shale which contains about 25% hard, thin, irregularly finely silty lenses and is sparsely very finely micaceous. Sample carried fairly numerous small specimens of Globigerina cretacea (Upper Cretaceous variety), several species of Ammonobaculites (poorly preserved and indefinite) and one specimen of Spiroplectammina sp. Fauna is definitely Upper Cretaceous and Woodbine in age.

Part 5503' - Hard, dense, gray, calcareous and glauconitic sandstone. Sand is poorly sorted, fine to very coarse, with some small quartz pebbles and abundant fragments of an Ostrea-like bivalve present. Light gray oolitic concretions also common in this material.

Note - No sharp break in character of material was seen above 5502'. The sandstone in the upper portion of the (5490-98') core grade downward into finer grained sandstones, then into a silty clay with a black, irregularly silty shale at the base. No forams were noted in this material and therefore no definite age determination can be made, although the general character of this part of the section, and the presence of phosphatic material and fish bones in the upper portion of the section - top & middle of core (5490-98') suggest a Woodbine correlation.

Further report on samples studied from the Ohio Oil Co.'s Hernasco No. 1/ These samples, from - Ohio Oil Co., Tampa, Florida.

Core No. 15
5498 - 5505'

Woodbine. Top. Gray, highly silty and micaceous (colorless) shaly clay, slightly calcareous.

Second description, Core as above.

Part 5501' - As above.

This is a near shore facies of the Woodbine.
L. Atkinson

Part 5502' - Top of Beach limestone. Gray, calcareous, micaceous and glauconitic sandstone with chalky matrix. Sand is poorly sorted, fine to coarse, with many small fragments of carbonaceous material present.

see fig 35-4 p 66
470471
P.P. 447

Part 5503' - Hard, calcareous, glauconitic, gray and white spotted sand. Sand is very poorly sorted, carries small shells and fragments and some oolites.

Bottom - Hard, light gray, highly glauconitic and dense, calcareous limestone with abundant fragments of fossil bivalves, some oolites and oolitic areas.

oolitic is common only 4861 54-57

5500 - 5510'

Sandstone, greenish gray, calcareous, glauconitic. Some oolitic, chalky limestone streaks. Oolites are often partially filled with glauconite. Sandstone contains oolitic limy areas. A few shell fragments in the chalky areas.

Core No. 16
5505 - 5509'

Top. Like Bottom of Core No. 15.

Middle. Gray calcareous, generally fine to very fine grained sandstone, somewhat micaceous. A little carbonaceous material and some small shell fragments. Some glauconite..

Bottom. Like Middle section of this core.

Core No. 17
5509 - 5519'

Top. Fine grained, light gray, calcareous, micaceous sandstone.

Middle. Sandstone similar to above, somewhat coarser. Some large fragments of soft brown, carbonaceous material. Sandstone is irregularly glauconitic.

Bottom. Light gray silty, highly micaceous and highly and finely carbonaceous. Irregularly glauconitic and in part very soft.

5510 - 5520'

Sandstone, harder, more chalky and denser than 5500 - 5510'. Sandstone averaging fine grained. Oolites are generally gray and some are filled with glauconite. Some fragmental fossil shell material. Some Ostracods.

Core No. 185519 - 5528'

Top. Light gray, micaceous, sandy siltstone, with lenses of moderately fine grained, light gray, glauconitic, calcareous sandstone. Small fragments of carbonaceous material in the silty layers.

Middle. Fine to coarse grained, light gray, glauconitic sandstone with some chalk lenses and micaceous, carbonaceous siltstone as above.

Bottom. Glauconitic sandstone as above.

5520 - 5530'

Moderately coarse grained, glauconitic sandstone and some white, chalky, oolitic limestone. A few shell fragments in sandstone. Many fragments of dense, highly oolitic, somewhat glauconitic limestone.

Trocholina sp. See ^{718, 57}~~57~~ & 54 on slide.
walteri

Core No. 195528 - 5533'

Top. A highly oolitic and glauconitic, sandy, fossiliferous, white limestone. Fragments of fossil bivalves abundant. One fragment of a Turritella, a small Echinoid (Propitella micra), some sections of Miliolids, Ostracods, Echinoid spines, and Trocholina floridana.

Middle. Similar to above but more finely sandy and less fossiliferous and oolitic. Glauconite comparatively rare. Some carbonaceous streaks.

Bottom. Finely and evenly highly sandy, hard, white chalk, with mica and a small amount of glauconite. One portion a highly oolitic and glauconitic, chalky, slightly sandy limestone.

5530 - 5540'

Mainly glauconitic, calcareous sandstone, some fine and some coarse. Amount of chalky lime in sand and amount of oolites variable. Some fossil fragments. Trocholina? sp. Dark gray nodules common. See 57 on slide. walteri

Core No. 205533 - 5537'

Top. Light gray, finely and highly sandy chalk. Some rounded coarse sand grains; a little mica; a few oolites; also a few fragments of macrofossils and poor sections of Miliolids; a trace of glauconite.

Middle. Light gray, chalky, fine grained, glauconitic sandstone. Some mica; a few poor sections of larger Miliolids. A few shell fragments.

Bottom. Chalky and somewhat sandy and glauconitic oolite. Some shell fragments; a few poor sections of Miliolids. Some gray, unctuous, micaceous, calcareous shale, apparently irregularly bedded with the oolite.

Core No. 21
5537 - 5547'

Top. Glauconitic, micaceous, moderately coarse grained, calcareous sandstone. Some shell fragments. Some pebble-size grains in the sandstone. Also, presumably, a lense of highly sandy, fossiliferous (macrofossil fragments) glauconitic, slightly micaceous chalk.

Middle. Light gray, glauconitic, calcareous sandstone (moderately fine to coarse); some worn shell fragments.

Bottom. Like Middle section of this core.

Core No. 22
5547 - 5549'

No change.

5540 - 5550'

Mainly moderately coarse grained, glauconitic, calcareous sandstone. Some fragmental fossil material. Sand poorly sorted. Microfossils.

Core No. 23
5549 - 5553'

Top. Same as Core No. 22.

Middle. Similar to above but sand grains average finer. Black phosphate pebbles also present. Shell fragments and abundant glauconite.

Bottom. Like preceding.

Core No. 24
5553 - 5558'

Top. Micaceous, glauconitic sandstone as in preceding, but softer.

Middle. Soft, light gray, glauconitic, moderately fine grained sandstone with a little mica.

Bottom. Hard sandstone, moderately fine to very coarse grained, glauconitic and carrying fossil bivalves (Ostrea? sp.). Some sandstone like that in middle of core and streaks of dark gray, somewhat micaceous shale.

Core No. 25
5558 - 5568'

Top. Moderately fine grained, glauconitic, somewhat micaceous, calcareous sandstone.

Middle. Hard, calcareous, very finely micaceous siltstone with fragments of fossil bivalves resembling Ostrea; trace of glauconite.

Bottom. Anhydrite and dolomite, dense brown.

Core No. 26
5568 - 5578'

Top. Light blue-green, unctuous shale with some irregularly distributed fine sand and much worn and broken macrofossil shell material. Also green shale.

Middle. Hard, calcareous, light gray siltstone.

Bottom. Hard, white, somewhat finely sandy, slightly glauconitic limestone with some worn macrofossil fragments and some irregularly finely crystalline, white, anhydritic areas.

Core No. 27
5578 - 5584

Top. Limestone as above but more dolomite and glauconite.

Middle. Limestone similar to the preceding but more fossiliferous and highly and irregularly spotted (gray). Some of gray material is irregular inclusions or washings of dark gray shale.

Bottom. Like the above.

5580 - 5590

Dense, white, chalky limestone with irregular light tan, finely dolomitic areas; a small amount of evenly distributed fine sand in the limestone. Traces of glauconite. Some of limestone is light gray spotted. (See 7 & 8 on slide.)

Dark tan, very
7 & 8 on slide

5590 - 5600
Approximate
top of
L. Cretaceous.

Cream to white, partly chalky, mainly finely dolomitic, highly gray spotted limestone. Vague traces of fossil fragments. Limestone is dense.

Core No. 28
5600 - 5602½

Top. Hard, cream, gray spotted, very fine grained dolomite with some poor molds of Miliolids and traces and fragments of macro-fossils.
Mammoloculina hermi

Bottom. Porous, fossiliferous dolomite like the above. Porosity due to dissolving of most of fossil material, leaving molds. Some Miliolids present which are not completely dissolved.
Mammoloculina hermi

Core No. 29
5602½ - 5603

Top. Porous, gray spotted dolomite similar to the above.

Bottom. Gray spotted dolomite less porous than the above.

5602½ - 5605

Highly porous, fossiliferous, fine, deep cream colored dolomite, abundantly gray spotted. Gray areas are large, apparently original highly fossiliferous.

Dark tan

Core No. 30
5603 - 5608

Top. Hard, light tan, gray spotted, very fine grained dolomite with pitted appearance, apparently from dissolving of abundant small fossils or oolites.

Bottom. Dense tan dolomite.

5600 - 5610

Dense, very finely granular tan, somewhat gray spotted dolomite and some porous dolomite as above. Traces of Miliolids in pores.

5600-50
N. Hernasco
IN 2 rows
1915

5600-30
N. Hernasco
5600-30
N. Hernasco

Core No. 31
5608 - 5613'

Top. Moderately soft, dense, very finely granular, tan dolomite or siltstone.

Middle. Hard, gray and brown, irregularly porous dolomite.

Bottom. Moderately hard, light brown, very finely granular dolomite.

Core No. 32
5613 - 5623'

Top. Moderately soft, tan and gray spotted, finely granular dolomite.

Middle. Hard, greenish gray shale, slightly carbonaceous.

Bottom. Tan, slightly carbonaceous, very finely granular dolomite.

5620 - 5630'

Very finely crystalline dolomite, tan colored, irregularly porous, gray spotted, slightly glauconitic. Miliolid sections present in black and white, chalky, partly dolomitic limestone.

Core No. 33
5623 - 5627'

Top. Highly and finely dolomitic limestone, showing abundant poorly preserved, chalky sections of Miliolids. Limestone shows very thin, irregular inclusions of carbonaceous shale.

Middle. Similar to the above, but material is in part shaly and with more abundant carbonaceous shale streaks.

Bottom. Tan, very finely granular dolomite, gray spotted; some fragmental fossil material and a few Miliolids.

Core No. 34
5627 - 5632'

Top. Tan, chalky, dolomitic limestone containing many fragments of fossil bivalves resembling Ostrea.

Middle. Like the above. Some sections of Alveolinids? ^{nummoleculina} ~~heimi~~.

Bottom. Limestone, hard. A dolomitic cemented mass of fragmented fossil material, including some Miliolids. Color gray and tan spotted.

Core No. 35
5032 - 5637'

Top. Gray and white spotted dolomite and chalky limestone containing much fragmental fossil material including fossil bivalves and showing some poor sections of Alveolinids? ^{nummoleculina} Material is irregularly streaked with carbonaceous shale.

Middle. Hard, dense, light tan dolomite showing an abundance of partly fragmented fossil material. Some sections of small Miliolids and fragments of sections of Dicyclina sp. - & Cuneolina.

Bottom. Fossiliferous dolomite as above. ^(25 in El Abras of Mexico - see pl. 6, vol. 5, nos 7 & 8. Bull. Geol. Surv. Mex. 1956.)

Similar to 5620-30'. Hard, white, somewhat gray spotted limestone irregularly dolomitic. Traces of fossils. Some Miliolids. Some Dicyclina? Many of the limestone fragments filled with fragmental and small whole microfossil sections.

5630 - 10'

5713 - 5715' As above.

5715 - 5717' Light brown, gray spotted, generally porous dolomite.

Core No. 48

5715 - 5717' Dense, light brown, gray spotted dolomite, irregularly and slightly porous and slightly sandy. Sand present in moderately large scattered and rounded grains.

Core No. 49

5717 - 5722' Top. Tan, somewhat porous and finely granular dolomite. A few Ostracods and some small fragments of carbonaceous material.

Middle. Tan dolomite as above, and white, chalky limestone showing abundant poor traces of microfossils (Alveolinids?).

nummoleolina

Bottom. Light brown, gray-spotted, slightly porous dolomite.

Core No. 50

5722 - 5732' Top. Light brown, highly gray-spotted, granular, slightly porous dolomite.

Middle. No change.

Bottom. No change.

Core No. 51

5732 - 5742' Top. As in preceding.

Middle. As above but no porosity.

Bottom. Light brown, finely granular, highly gray spotted dolomite.

Core No. 52

5742 - 5752' Top. Brown, highly gray spotted dolomite with impressions and some molds of macrofossils common. A Turritella-like form and several bivalves noted.

Middle. Tan gray spotted dolomite, with porosity due to removal of fossil material.

Bottom. Gray and tan, hard, dolomitic limestone. Some poor sections of Miliolids noted and some porosity; also irregular, thin carbonaceous streaks and splotches.

5742 - 5752' Light brown, gray spotted, generally porous dolomite. More porous due to dissolving out of Alveolinids which are chalky in a brown dolomite.

Core No. 53

5752 - 5757' Top. Dense tan gray spotted dolomite.

Middle. Bluish gray, finely porous, dolomitic limestone. Some molds and impressions of fragments of macrofossils.

Bottom. Grayish tan, very finely granular dolomite with some glauconite.

Core No. 545757 - 5762'

Top. Gray spotted, tan, granular dolomite with some traces of fossil material.

Middle. Tannish gray spotted, hard, somewhat porous and somewhat glauconitic dolomite. Some traces of fossil molds and impressions.

Bottom. Like the preceding section.

5757 - 5762'

Hard, gray and white, somewhat porous limestone showing traces of fossils.

5762 - 72'

Hard, light tan, gray spotted, highly porous limestone. Porous areas due to dissolving of microfossils and fossil fragments.

Core No. 555762 - 5772'

Top. Light brown, porous dolomite showing abundant fragmental molds and casts of macrofossils, and many vaguely defined sections of miliolid-like forams. Destruction of fossil material has made dolomite porous.

Middle. Like the preceding section of core.

Bottom. Hard, gray and tan, dolomitic limestone, with some porosity which is probably due to removal of fossil material. Core has pitted appearance.

5772 - 5778'

Gray and cream, dense, very finely granular dolomite.

Core No. 565772 - 5778'

Top. Hard, light gray, silty-textured dolomite. A few dark gray spotted areas and a few green (glauconitic?) areas.

Bottom. As above.

Core No. 575778 - 5784'

Top. Tan, highly gray spotted, somewhat porous dolomite. A few traces of glauconite and traces of molds of macrofossils.

Bottom. Highly porous, light brown dolomite, with honeycomb appearance.

Core No. 585784 - 5791'

Highly and coarsely porous, highly gray spotted, glauconitic dolomite. Many dolomitized, fragmentary molds and casts of macrofossils.

Core No. 595791 - 5796'

Top. Light grayish tan, finely dark gray spotted, slightly glauconitic dolomite.

Prob. top ofFredericksburg,5795'

Bottom. Like the above, but no glauconite noted. Dark gray fragments here apparently carbonaceous material.

Core No. 605796 - 5801'

Top. Light brown, gray spotted, highly and coarsely porous dolomite.

Bottom. Dense, light grayish tan, glauconitic dolomite.

Core No. 615801 - 5806'

Top. Yellowish brown, gray streaked and spotted dolomite.

Bottom. Light gray, silty textured, somewhat gray spotted dolomite.

Core No. 62

5806 - 5815'

Top. Light tan colored, porous dolomite, showing some fragments of macrofossils (molds) and infiltrations of a blue-green, waxy shale.

Bottom. A mixture of gray dolomite and anhydrite.

Core No. 63

5815 - 5821'

Top. Light brown, somewhat gray spotted, finely granular dolomite. Some thin carbonaceous streaks.

Bottom. Brown dolomite. Some inclusions of anhydrite.

Core No. 64

5821 - 5830'

Top. Light gray, somewhat porous, brown spotted dolomite.

Bottom. Dense, light gray, dolomitic limestone with abundant thin curved, irregular calcite streaks, which apparently represent altered traces of fragments of macrofossils. A few molds of macrofossil fragments also present. A little glauconite and some small brown (hematite?) inclusions.

Core No. 65

5830 - 5835'

Top. Anhydrite, dark and light gray streaked.

Middle. What seems to be a hard, light gray, shaly limestone with some coarse quartz grains and some small inclusions of gypsum; many small hematite inclusions and irregular streaks of dark gray mudstone; a few fragments of molds of macrofossils.

Bottom. Like the middle.

Core No. 66

5835 - 5840'

Top. Tan, highly gray-spotted, gypsiferous dolomite, with many molds of small gastropods and pelecypods; a few sand grains.

Bottom. Tan, porous, gray spotted dolomite, with a little glauconite, and vague traces of macrofossils.

(Lituola inflata reported by Louise Jordan).

subgood landensis.

Core No. 68

5845 - 5854'

Top. Light gray, silty textured, gray spotted, dolomitic limestone.

Bottom. Gray, finely and highly porous, somewhat gypsiferous limestone.

Core No. 69

5854 - 5864'

Top. Light tan, gray-spotted, silty textured dolomite, some glauconite and anhydrite, and some poor sections of foraminifera, not good enough to determine.

Bottom. Gray, porous, gray spotted, and highly brown spotted (hematite?) gypsiferous dolomite (gypsum and anhydrite inclusions.)

Core No. 70
5864 - 5869

Top. Light gray, dolomitic limestone, very finely dark speckled giving a peppered appearance; material also slightly micaceous.

Bottom. Light greenish gray, dolomitic limestone, somewhat glauconitic. Some irregular inclusions of black muddy shale in porous areas of limestone.

Core No. 71
5869 - 5873

Top. Gray, dolomitic limestone with inclusions of gypsum and some glauconite; a number of molds of microfossils.

Bottom. Like the preceding but with black muddy inclusions in more porous portions of limestone.

Core No. 72
5873 - 5883

Light grayish-tan, gray spotted, glauconitic dolomite, with molds of microfossils and a fish bone fragment noted.

Core No. 73
5883 - 5888

Top. Hard gray dolomite.

Bottom. Light brown, coarsely crystalline, highly gray streaked and spotted dolomite. Some molds and impressions of microfossils.

Core No. 74
5888 - 5898

Top. Moderately coarsely crystalline, light tan, finely gray spotted dolomite.

Bottom. Light gray, dolomitic limestone. Some muddy inclusions and abundant brown streaks and small splotches, (possibly carbonaceous material).

Core No

Core No. 75
5930 - 5935

Top. Light brown, gypsiferous, slightly porous dolomite. Some small brown (hematite?) inclusions.

Bottom. Tan-gray and somewhat brown (hematite?) streaked and spotted, fine grained dolomite.

Core No. 76
5935 - 5944

Top. Light brown gray streaked dolomite.

Bottom. Light greenish gray, somewhat gray spotted, dense, very fine grained dolomite.

Cores Nos. 77 and 78 Missing. No Recovery.

5950 - 5954: Mainly light brown, porous, gray-spotted dolomite and some gray shale.

5954 - 5959: Same and a little anhydrite.

Core No. 79
5964 - 5971

Top. Hard, dolomitic and somewhat gypsiferous limestone. A mass of fine to moderately coarse, generally fragmental fossil material, both microscopic and macroscopic. Some fragments seem to show labarynthic texture. Lituola inflata abundant.

Bottom. Brown, porous, gray and brown spotted, moderately coarsely crystalline dolomite.

Handwritten notes:
Lituola inflata
SP
N 73
Microfossils
D.J. Sed

- 5965 - 5971' Dolomite as above; also numerous fragments of a dolomitic, hard, irregularly porous, cream colored, in part highly gray spotted limestone which is a mass of (mainly) fragmental macrofossil and microfossil material. A few sections of *Miliolids* recognized; *Ostracods*?; and fragments of specimens of other forms not determined. A few small oolitic areas and some anhydrite.
- 5970 - 5980' Like the above.
- 5980 - 5990' No change. Fossiliferous, dolomitic, gray spotted limestone fragments very abundant. Some fragments of porous, light brown and some gray granular dolomite. A trace of glauconite in the fossiliferous limestone. Some fragments of anhydrite and a little gray shale.
- 5990 - 5994' No change.
- Core No. 80
5993 - 5998' Top. Soft, light grayish tan dolomite; gypsum inclusions and many small brown and brownish black, carbonaceous inclusions.
Bottom. Light gray, gray spotted, finely granular dolomite.
- 5994 - 5999' Sample mainly composed of fragments of the white, gray spotted, fossiliferous, irregularly dolomitic limestone.
- Core No. 81
5998 - 6005' Top. Light gray, porous, finely granular dolomite. Some gray spots.
Bottom. Light brown, highly porous, sucrose dolomite.
- 5999 - 6005' Sample composed mainly of fragments of a porous, brown, finely granular dolomite.
- Core No. 82
6005 - 6015' Top. Gray, highly dark gray streaked and spotted, fine textured dolomite.
Bottom. Brown, finely granular, black spotted dolomite.
- Core No. 83
6015 - 6025' Top. Light grayish tan, very fine textured, highly brown and dark gray spotted (carbonaceous?) dolomite.
Middle. Light gray, silty textured, irregularly dark gray spotted, somewhat glauconitic dolomite.
Bottom. Light grayish tan, slightly porous and somewhat gray and brown spotted dolomite.
- Core No. 84
6025 - 6035' Top. Light tan, dark gray spotted, dolomitic limestone.
Bottom. Hard, dark gray, calcareous shale, and light grayish, tan, silty textured dolomite with some dark gray areas or inclusions.
- Core No. 85
6035 - 6045' Top. Light gray, silty textured, slightly porous, glauconitic dolomite; *Discyclina* present.
Middle. Brown, somewhat gypsiferous dolomite with abundant brownish black, irregularly shaped inclusions (carbonaceous?) and some glauconite; a fragment of a macrofossil.

Q No. 80
in core

Bottom. Light brown, very fine grained, somewhat gypsiferous dolomite. Small flakes of carbonaceous material present.

Core No. 86
6045 - 6055'

Top. Brown, porous, sucrose, highly black spotted dolomite.

Middle. Similar to above but less black spotted, somewhat glauconitic.

Bottom. Light brown, slightly porous and slightly glauconitic, silty textured dolomite.

Core No. 87
6055 - 6060'

Top. Hard, light grayish tan, calcareous shale.

Bottom. Light and dark streaked greenish gray shale.

Core No. 88
6060 - 6065'

Top. Light blue-green, somewhat unctuous shale. Shale is silty with the small sand particles evenly distributed through the shale.

Bottom. Light grayish tan, dolomitic limestone and hard, gray-green, calcareous shale with conchoidal break.

Core No. 89

Top. Light greenish gray, very fine textured, dolomitic limestone; some fragments of molds of macrofossils. Some small, green (glauconite?) particles in the limestone.

Bottom. Brown, finely sucrose dolomite. Some dark brown areas and a trace of glauconite.

Core No. 90
6075 - 6085'

Top. Dense, light brown and dark gray spotted dolomite.

Bottom. Brown, highly black spotted and streaked dolomite. A trace of glauconite and a few gypsum inclusions.

Core No. 91
6085 - 6094'

0.5' Recovery. Dolomite.

Core No. 92
6094 - 6099'

Top. Light brown sucrose dolomite with some dark gray and many small, brown, rusty-looking spots.

Bottom. Light tan, silty textured, highly and moderately finely gray spotted dolomite.

Core No. 93
6099 - 6109'

Top. Hard, gray, highly dark gray spotted dolomite and some silty black shale.

Note: Description of shale sample collected from core at the well. Hard, gray marly shale with irregular light gray streaks and some silty lenses. Fragments of fish scales and teeth present.

Bottom. Light tan, porous, gypsiferous and somewhat glauconitic, silty textured dolomite and gray, calcareous shale, as described above, has a conchoidal fracture.

Note:- The 3 next cutting samples (6099 to 6125') were studied particularly for shale fragments.

- 6099 - 6109' Sample composed mainly of brown, porous, gray-spotted dolomite, with some inclusions of anhydrite; some fragments of gray, shaly limestone, slightly glauconitic and having some carbonaceous inclusions. A few fragments of gray shale.
- 6109 - 19' Like the above and a few fragments of gray and gray-green shale.
- 6119 - 26' Limestone similar to the above and a few fragments of gray shale.
- Core No. 94
6109 - 6119' Top. Finely and irregularly light and dark gray streaked, calcareous shale with irregular thin lenses which are finely sandy and glauconitic. Some fragments of fish scales present.
- Bottom. Light brown, highly gray streaked and spotted, porous dolomite.
- Core No. 95
6119 - 6126' Top. Light brownish gray spotted, gypsiferous dolomite with some coarsely sandy areas; material also appears to be sideritic in places.
- Bottom. Brown, sideritic? gray spotted, slightly glauconitic dolomite.
- Core No. 96
6126 - 6130' Top. Light tan, very fine grained dolomite which seems to be a dolomitized mass of small, irregularly shaped, lighter colored fragments of possibly organic origin.
- Bottom. Anhydrite.
- 6126 - 6130' *NT 96*
6126 - 6130' *ES*
OK Mainly fragments of dense, gray, dolomitic limestone and brown-gray spotted dolomite. A few of the limestone fragments appear oolitic, and a few show traces of glauconite. Pieces of the fragmental limestone as described from the top portion of Core 96 also present.
- 6130 - 6140' Mainly light brown, gray spotted dolomite with some gypsum inclusions.
- 6140 - 6150' Mainly dense, grayish brown, dolomitic limestone with small streaks and spots of carbonaceous material.
- 6150 - 6160' Limestone as in the preceding; also fragments of a porous, highly gray spotted dolomite showing traces of an original highly microfossiliferous (or fragmental organic) content. A few fragments of gray shale.
- 6160 - 6170' Cuttings composed of fragments of porous, very fine grained, and in part, highly black streaked and spotted dolomite; slightly glauconitic; shows some molds and fragments of fossils. Fragments of green shale also present.
- 6170 - 6180' Similar to the above; with fragments of gray and some green shale.
- 6180 - 6190' Porous, gray streaked and spotted dolomite with some anhydrite inclusions; and traces of fossils (fragments of molds and impressions) in a slightly glauconitic limestone.

- 6190 - 6200' Light gray and buff colored dolomite. Some fragments porous and some highly dark spotted.
- 6200 - 6210' Material as above. A little anhydrite and a few fragments of gray shale and green shale. A few of the limestone fragments show traces of fossils.
- 6210 - 6220' Sample composed of fragments of a porous, buff colored, moderately highly glauconitic dolomite. Some fragments of this limestone have honey-combed appearance. Fragments of macrofossil molds present and a few Miliolids.
- 6220 - 6230' Buff colored, gray streaked and spotted, occasionally porous dolomite.
- 6230 - 6240' Light buff colored, somewhat porous and irregularly glauconitic dolomite, with some anhydrite inclusions; some fragments of fossil molds.
- 6240 - 6250' Buff and gray and gray-spotted buff colored, silty textured dolomite, with some anhydrite inclusions. A few fragments of gray and greenish gray shale.
- 6250 - 6260' Similar to above, but in part highly porous. A few fragments of gray and of green shale.
- 6260 - 6270' Limestone as above, and about 5% fragments of gray and of blue-green shale. A few fragments of brown and red-brown shale.

Core No. 976279 - 6284'

Top. Light greenish gray, extremely fine grained, shaly sandstone, which is apparently mottled and streaked with dark reddish brown, irregularly blue streaked, highly and very finely sand shale. Some irregular mustard colored areas in the gray sandstone.

Bottom. Fine, even grained, white sandstone. Some pink, green and yellow tinted grains. Very little cementing material.

Core No. 986284 - 6294'

Top. Gray shale and very light tan, very fine, even grained sandstone similar to above; some areas with small evenly distributed particles of magnetite?

Bottom. Light gray dolomite with about 20% fine, evenly distributed sand grains; some carbonaceous fragments.

Core No. 996294 - 6303'

Top. Gray, unctuous, sandy shale. Sand is fine to moderately coarse, about 20% and rather evenly distributed. Also sandy dolomite as above with a carbonaceous inclusion.

Middle. Highly sandy (at least 50%) light greenish gray, shaly clay, moderately hard.

Bottom. Dull red-brown and gray to greenish, irregularly sandy shale with some small mustard colored areas.

Core No. 100
6303 - 6309'

Top. Hard, gray shale and some light gray, irregularly sandy, glauconitic and dolomitic limestone.

Bottom. Light greenish gray, dolomitic limestone with some dark streaks.

Core No. 101
6309 - 6319'

Top. Hard, light gray, dolomitic limestone.

Middle. As above with some darker gray, very finely granular dolomite.

Bottom. Light gray, very finely dark streaked and spotted, dolomitic limestone and dark gray, unctuous, irregularly sandy (about 10%) shale.

Core No. 102
6319 - 6324'

Top. Dark gray, hard shale, very highly and very finely sandy. Sand is somewhat irregularly distributed, leaving irregularly shaped shale areas distributed through the core.

Bottom. Light greenish gray, somewhat yellow streaked, dolomitic limestone.

Core No. 103
6324 - 6334'

Top. Shale, dark brownish red with irregular light blue-gray streaks.

Middle. Dark brownish red, irregularly sandy (about 5%) shale.

Bottom. Dark brownish red, irregularly gray mottled, sandy shale. Sand is very fine to coarse and about 20%.

Core No. 104
6334 - 6340'

Top. Light gray, red and brown mottled, silty limestone?

Bottom. Light greenish gray, silty textured limestone.

Core No. 105
6340 - 6346'

Top. Light tan, dolomitic limestone with some anhydrite inclusions.

Bottom. Light tan, slightly sandy dolomite.

6340 - 6346'

Sample studied for shale content. Mainly green, sandy shale.

Core No. 106
6346 - 6356'

Top. Light gray, highly light red-brown streaked, very finely sandy, limestone.

Bottom. Brown and gray mottled, somewhat sandy shale.

Note: Description of shale sample taken from core at well. Hard, gray, calcareous shale with some irregularly shaped, silty areas. Material contains occasional fragments of thin shelled fossil bivalves and a few small fragments of carbonaceous material. A few small broken, scroll shaped fossil fragments also present; a trace of pyrite and of mica.

Core No. 107
6356 - 6306'

Top. Light greenish gray, silty? limestone.

Middle. Greenish gray and light red brown mottled, slightly sandy, silty textured limestone.

Bottom. Light blue green, slightly sandy, silty textured limestone.

Core No. 108
6366 - 6376'

Top. Brownish red and gray, finely mottled, silty textured limestone

Middle. Light gray, irregularly sandy dolomite?. A few blue-green, glauconitic? areas.

Bottom. Dark bluish gray and purple red mottled, somewhat sandy (about 5%) shale, slightly calcareous.

Core No. 109
6376 - 6386'

Top. White, moderately even grained sandstone, loosely cemented, and gray green, sandy shale. Sand in shale is 50 to 75%.

Bottom. Dark brownish red, somewhat gray mottled shale.

Core No. 110
6386 - 6396'

Top. Light greenish gray, shaly sandstone. Sand grains are fine to coarse with shaly cement.

Bottom. Red, shaly sandstone. Sand grains, fine to coarse in purplish red shale matrix.

Core No. 111
6396 - 6406'

Top. Blue green, shaly sandstone. Fine to coarse quartz sand in blue green, unctuous, shaly matrix.

Middle. Light purplish red and gray mottled, sandy shale.

Bottom. Purplish red, blue green, mustard brown and gray mottled, very highly sandy shale. Some dolomitic areas.

Core No. 112
6406 - 6412'

Top. Dark purplish red, finely gray mottled, fine grained, slightly micaceous, shaly sandstone.

Bottom. Fine, even grained, silty sandstone with some purplish red, shaly areas.

Core No. 113
6412 - 6422'

Top. Fine to moderately fine grained (some coarse grains of clear quartz) light brownish red and light blue-gray mottled, argillaceous sandstone. Color due to matrix.

Middle. Dark purplish or grayish red shale with blue-green and some yellowish-green mottling. Shale is somewhat irregularly sandy (sand about 5%).

Bottom. Blue-green and brownish to purplish red mottled (with some mustard colored spots) very highly sandy shale (sand 75 to 90%).

Core No. 114
6422 - 6428'

Top. Blue-green to dull light purplish red, moderately shaley sandstone.

Bottom. Purplish-red, brown and sulphur-colored, mottled, fine to very fine grained, shaly sandstone.

Core No. 115
6428 - 6438'

Top. Light blue-green, moderately fine to moderately coarse grained argillaceous sandstone.

Bottom. Sulphur yellow, fine grained sandstone. Grains show some crystal faces. Little cement.

Core No. 116
6438 - 6446'

Top. Gray, light purplish-red and some mustard colored, fine to moderately fine grained sandstone. Little cement. Grains are relatively even in size and show crystal faces.

Bottom. Dull purplish-red and light blue-gray mottled (with a few sulphur-colored areas) shaly sandstone.

Core No. 117
6446 - 6455'

Top. Very light bluish-green, fine grained sandstone. Very little cement.

Bottom. Similar to above. Sand grains fine to moderately fine.

Core No. 118
6455 - 6460'

Top. Greenish-blue and purplish-red and brown mottled, highly sandy shale. Sand is irregularly distributed and poorly sorted.

Bottom. Dark brownish-red, somewhat gray mottled shale with a few mustard-colored areas. Shale is somewhat sandy and the sand is poorly sorted.

Core No. 119
6460 - 6470'

Top. Like the preceding.

Middle. Purplish or grayish-red, somewhat gray and yellow-green mottled, irregularly sandy shale. Sand is poorly sorted.

Bottom. Light blue-green, very fine grained, argillaceous sandstone. Little cement.

Core No. 120
6470 - 6480'
L. Zone?

Top. Dark purplish or grayish red, highly sandy shale. Sand is 50 - 75% and fine to moderately fine.

Middle. Light green and purplish-red mottled sandy shale. Sand and shale each about 50%. Some dolomitic or limestone areas.

Bottom. Dark brownish-red, moderately fine to moderately coarse grained, soft, shaly sandstone. Sand grains rounded.

Core No. 121
6480 - 6490'

Top. Purplish or grayish red, shaly sandstone, with sand grains moderately fine to coarse and rounded. Little matrix.

Bottom. Purplish-red, gray and blue-green, sandy shale with some brown mottling. Sand 25 - 50% and poorly sorted.

6480 - 6496'

Pink and purplish, sandy limestone and hard, silty clay fragments common. Colored shale fragments and some light green, hard, silty clay.

Core No. 122
6490 - 6497'

Top. Colors as above. Sand more abundant, about 50 - 75%.

Bottom. Light blue-green, somewhat irregularly sandy, silty limestone showing some light red and mustard-colored mottlings.

Core No. 123
6497 - 6507'

Top. Light yellowish-green, fine, even-grained, argillaceous sandstone. Small amount of cement.

Bottom. Soft, light pinkish-gray, fine grained sandstone. Little cement.

6480 - 6496'
Rod
Cm 51

- Core No. 124
6507 - 6517' Top. Dark, dull purplish-red, somewhat blue-gray mottled, micaceous, irregularly sandy shale.
- Bottom. Hard, pinkish-tan and light gray, shaly sandstone. Sand is poorly sorted. Sandstone has inclusions of mustard-colored clay and anhydrite.
- Core No. 125
6517 - 6527' Top. Soft cream-colored, moderately fine to coarse grained, argillaceous sandstone. Small amount of argillaceous matrix.
- Bottom. Thickly mottled, red-brown, gray and mustard colored, micaceous and very highly sandy clay. Sand is very fine to moderately fine.
- Core No. 126
6527 - 6537' Top. Pinkish-tan and gray, soft, moderately fine to coarse grained, shaly sandstone. Sand grains are rounded. Little cement. Sandstone is shaly or muddy in texture.
- Middle. Mottled light gray and pinkish-tan sandstone like the preceding, with some anhydrite?.
- Bottom. Mottled gray, light green and purplish, argillaceous sandstone; moderately fine to very coarse quartz grains.
- 6527 - 6537' Sample again mainly gray-green, blue-green, purplish and brownish red, in part sandy shale; some fragments of sandstone as above and some of pink and purplish, silty textured limestone.
- 6537 - 6547' Shale fragments as above and at least 50% fragments of pink to purplish-pink tinted, sandy limestone and sandy siltstone. Much of the shale is bright blue-green or purplish-red. Limestone is possibly nodular?.
- Core No. 127
6537 - 6547' Top. Finely mottled, blue-green, purplish-red, gray and mustard-colored, shaly sandstone, with a small amount of waxy shale as a matrix. Sand grains are rounded, fine to moderately coarse, but mainly moderately fine.
- Bottom. Soft, light greenish-gray, fine to moderately coarse grained, argillaceous sandstone with little cement.
- Core No. 128
6547 - 6552' Top. Dark purplish-red, yellowish-green and gray mottled, irregularly and highly sandy shale. Sand is poorly sorted and composed about 90% of the shale.
- Bottom. White and light pinkish-tan, moderately fine, even grained sandstone. Sand grains show crystal faces. Almost no cement.
- 6547 - 6552' Sample mainly very coarse (small pebble size) sand. Many of the grains are yellow, some pink or peach colored; grains are often roughly angular.
- 6552 - 6557' Sand as above. A little shale and limestone.
- Core No. 129
6552 - 6557' Top. Dark yellowish-brown, moderately fine to coarse-grained, soft sandstone in a shaly, unctuous matrix.

Bottom. Dark, gray-green and grayish-purple, mottled shale with some sulphur-colored areas. Shale is highly sandy, containing about 50% poorly sorted sand.

Core No. 130
6557 - 6560'

Top. Colors as above, but sand comprises between 75% and 90% of core sample. A shaly sandstone, with dark purplish-red colors predominating.

Bottom. Like the preceding.

6560 - 6565'

Dark purplish red, some brownish red, light blue-green, and a little mottled shale which is in part sandy. Abundant fragments of purplish pink tinted, silty to somewhat sandy limestone and some light green, silty limestone.

Core No. 131
6560 - 6565'

Top. Grayish purple, gray-green and some brown mottled shaly sandstone. Sand grains are generally moderately fine. Matrix unctuous.

Bottom. Purplish-red and blue-gray mottled, highly sandy shale. The sand grains are moderately coarse.

Core No. 132
6565 - 6570'

Top. Light blue-green, somewhat purplish-red mottled sandy shale. Sand about 25%.

6565 - 6570'

Bottom. Light blue-green, argillaceous, fine grained sandstone, with some light purplish-red mottling. Little cement. Sample again mainly coarse sand with some shale and limestone fragments, as in cutting at 6560-6565'.

6570 - 6578'

Fragments of the pink and pink and cream, sandy and silty limestone very abundant. Some fragments of red, purplish-red, and deep blue-green shale. A little coarse sand as above.

Core No. 133
6570 - 6578'

Top. Light purplish-red, gray and light blue-green mottled, argillaceous, fine grained sandstone.

Middle. Like the preceding with some mustard-colored areas.

Bottom. Dark brownish-red, fine grained, shaly sandstone.

Core No. 134
6578 - 6588'

Top. Purplish-red, light blue-green and brown mottled sandstone with anhydrite inclusions.

Bottom. Grayish-red, moderately fine grained, soft, argillaceous sandstone.

6578 - 6588'

Sample about 75% coarse sand; remainder shale and limestone fragments as in cutting at 6570-6578'.

6588 - 6598'

Materials as above; also many fragments of a pinkish-tan and raspberry colored (stained?) moderately fine grained, loosely cemented sandstone.

Core No. 135
6588 - 6598'

Top. Purplish-red, greenish-blue, gray and mustard colored mottled, highly sandy, unctuous shale. Sand is moderately fine; about 50% of core sample.

- Bottom. Purplish-red, blue-green and gray mottled, shaly, moderately fine grained sandstone. Some anhydrite inclusions.
- Core No. 136
6598 - 6608'
6598 - 6608'
- Top. Mustard-yellow and purplish-red mottled, soft, shaly sandstone. Sand grains moderately fine to coarse; matrix unctuous.
- Bottom. Fine grained, light blue-green, gray and purplish-red, gray mottled, fine grained, argillaceous sandstone.
- Pink and pink and white mottled, silty limestone fragments; coarse sand, and fragments of purplish-red, blue green, and some mustard-colored mottled shale. A few fragments of the sandstone as in cutting at 6588-6598'.
- Core No. 137
6608 - 6618'
6608 - 6618'
- Top. Blue-green, dark purplish-red to grayish-red, gray and some yellow-brown mottled shale, which is irregularly sandy and has some inclusions of anhydritic dolomite.
- Middle. Dark purplish-red, shaly sandstone with some yellow-green mottling. Sand is fine to coarse in a waxy matrix.
- Bottom. Like the preceding.
- Core No. 138
6618 - 6628'
6618 - 6628'
- Top. Purplish red-gray and some mustard colored, mottled, argillaceous, fine to moderately coarse grained sandstone.
- Bottom. Light pinkish tan, argillaceous, moderately fine to coarse grained sandstone.
- 6618 - 6628'
- Pink and pink and white mottled, silty limestone fragments; small amount of coarse sand; fragments of purplish-red, blue-green, and some mustard-colored mottled shale; and numerous fragments of light blue-green, moderately fine grained sandstone.
- Core No. 139
6628 - 6638'
6628 - 6638'
- Top. Like the preceding.
- Bottom. Purplish red, gray, mustard and blue-green mottled, argillaceous, fine to moderately coarse grained sandstone.
- 6628 - 6638'
- Materials as in cutting at 6598-6608', with only a small amount of coarse sand and numerous fragments of light blue-green, moderately fine grained sandstone.
- Core No. 140
6638 - 6648'
6638 - 6648'
- Top. Purplish red, light gray, dark gray and yellowish brown mottled, fine grained, argillaceous sandstone with some anhydritic? areas.
- Bottom. Moderately soft, dark brownish red, argillaceous, fine to moderately coarse grained sandstone.
- 6638 - 6648'
- Dark purplish-red and dark greenish-gray and some mottled shale fragments common. Coarse sand, pink and white and mottled, sandy, silty textured limestone fragments also fairly common.

Core No. 141
6643 - 6653'

Top. Yellow-brown, light gray and some pinkish-tan mottled, sandy siltstone.

Middle. Mustard colored, fine to moderately fine grained, moderately soft, argillaceous sandstone.

Bottom. Soft, light pinkish-tan, moderately coarse grained, argillaceous sandstone with apparently some anhydrite.

6648 - 6653'

Dark purplish-red and dark greenish-gray and some mottled shale fragments common. Coarse sand, pink and white mottled, sandy limestone fragments also fairly common and silty textured.

6653 - 6663'

No change.

Core No. 142
6653 - 6663'

Top. Soft, moderately fine to coarse grained, buff and light yellowish brown, argillaceous sandstone.

Bottom. Soft, yellow, brown and light gray mottled sandstone, fine to moderately coarse grained and argillaceous.

Core No. 143
6663 - 6666'

Top. Light grayish pink sandstone with mustard mottling; hard, slightly argillaceous, moderately fine to coarse grained.

Bottom. Light pinkish-tan sandstone with some small mustard colored areas. The sand is moderately fine to very coarse with some yellow and some pink tinted grains; a little argillaceous matrix.

6663 - 6666'

Similar to above, but mustard colored shale, sand and limestone common, with a marked increase in coarse sand present in this sample.

Core No. 144
6666 - 6674'

Top. Fine grained, argillaceous sandstone, light reddish-brown, yellow-green and tan mottled.

Bottom. Grayish-red, fine to moderately fine grained, argillaceous sandstone.

6666 - 6674'

Like cutting at 6663-6666', but pink limestone seems to be more sandy and more evenly sandy.

6674 - 6684'

No change.

Core No. 145
6674 - 6684'

Top. Gray, purplish-red, mustard and red-brown mottled, fine grained, shaly sandstone, with some pink anhydrite inclusions.

Bottom. Light brownish-red, soft, fine to moderately coarse grained, argillaceous sandstone.

Core No. 146
6684 - 6692'

Top. Light blue-green, purplish-red, and yellowish green mottled, irregularly sandy shale.

Bottom. Light blue-green and brownish red mottled, unctuous shale.

- Core No. 155
6746 - 6752' Coarse grained, light gray and mustard colored, spotted sandstone. The yellow, shaly spots usually have only fine sand grains. Cement for sandstone is apparently anhydrite. Also some fine grained, moderately hard, gray and pink mottled, argillaceous sandstone.
- 6752 - 6769' (59?) Varicolored shale fragments; some sand and many fragments of pink and white, and light blue-green, somewhat sandy, possibly nodular limestone also common.
- 6760 - 6770' Like the preceding.
- 6770 - 6780' Varicolored shale fragments, sandy limestone fragments and some loose, generally fine sand. Colors as above.
- 6780 - 6790' Fragments of sandstone which is fine to moderately coarse grained; also loose sand. Both are common. Many mustard-colored fragments of sandy and stained limestone and sandstone also common. Shale and sandy limestone fragments in various colors also present, as above.
- 6790 - 6800' White, yellow-streaked and some pink, hard limestone fragments abundant; some loose sand and some shale.
- Note: The limestone may represent hard, calcareous areas in the multicolored sandstone.
- 6800 - 6810' Varicolored shale fragments common (dark red-brown, purplish, blue-green, and mustard-colored); some fine to coarse sand and some varicolored, sandy limestone fragments as above.
- 6810 - 6820' Mainly, varicolored, hard, sandy limestone (white, yellow, pink and mottled); some varicolored shale and some loose sand; a few anhydrit inclusions in the limestone.
- 6820 - 6830' As above.
- 6830 - 6840' Varicolored, waxy shale fragments dominant; fragments of limestone and some sand as above.
- 6840 - 6850' Fine to coarse sand with many yellow grains the dominant material. Numerous varicolored fragments of sandy limestone, and fragments of mustard-colored sandstone; some shale.
- 6850 - 6860' Coarse sand still strongly dominant.
- 6860 - 6870' Shale dominant (dull brownish-red, greenish-blue mottled and some mustard-colored); some sand and sandy limestone as above.
- 6870 - 6880' Coarse sand abundant; varicolored shale fragments common; varicolored, sandy limestone fragments also present.
- 6880 - 6890' Like the preceding.
- 6890 - 6900' Shale fragments dominant (dull brownish-red, dark blue-green and some mottled shale); some sand as above; comparatively few limestone fragments.

- 6900 - 6910' No change.
- 6910 - 6920' Fine to coarse sand with many yellow grains; some shale as above and some limestone fragments.
- 6920 - 6930' Similar to the preceding; limestone fragments generally white and sandy or only light colored.
- 6930 - 6940' No change.
- 6940 - 6950' Like the preceding with increase in limestone fragments; some pink anhydrite?
- 6950 - 6960' Coarse sand; varicolored shale; many fragments of pink, white, and some pale green, sandy limestone; some pink anhydrite and anhydritic limestone.
- 6960 - 6970' Mainly varicolored, sandy shale and many fragments of limestone; anhydrite and loose sand as above; some fragments of pink anhydrite.
- 6970 - 6980' No change.
- 6980 - 6990' Mainly fragments of pink and white mottled, and pink sandy limestone some shale as above and some coarse sand.
- 6990 - 7000' No change.
- 7000 - 7010' No change.
- 7010 - 7020' Cuttings, mainly coarse sand fragments of white, pink, and some rose and yellow tinted, highly sandy, dolomitic limestone; some shale fragments as above; some anhydrite.
- 7020 - 7030' No change.
- 7030 - 6040' No change.
- 7040 - 7050' As above. Fine to coarse, loose sand common in this sample.
- 7050 - 7060' Fine to coarse sand dominant; some shale and sandy limestone as above.
- 7060 - 7070' Dominant material, a light greenish-gray, ^{granular} ~~silty~~ textured, ^{silty} ~~dolomitic~~ somewhat finely sandy and somewhat pyritic limestone; some fragments of other materials as above.
- 7070 - 7090' Like the above; some sand and more cavings.
- 7090 - 7100' Cuttings of light blue-green siltstone and ^{granular} ~~silty~~ textured limestone as above; also light green tinted, fine to very fine grained sandstone, and dark blue-green, flaky, somewhat finely micaceous shale which is irregularly sandy; some fragments of red shale and other materials noted above 7060', possibly cavings.

- 7100 - 7110' Materials as above, also many fragments of mottled dark blue-green and very dark purplish to brownish-red, and some black shale also common in this sample; some cavings as above.
- 7110 - 7120' Like the above; also many fragments of a fine to moderately coarse grained, argillaceous, clear quartz sand present.
- 7120 - 7130' Like the preceding; sandstone fragments less common; very dark red, green, gray and brown shale fragments common.
- 7130 - 7140' Very coarse quartz sand and many fragments of the flaky, dark gray-green, dark brown and purplish-brown shale; some of the shale fragments are highly and very finely micaceous; also, except for the green shale, the shale are not sandy, as are nearly all those above 7060'. The shales in this sample are splintery, while those above 7060' have a conchoidal fracture and are generally more unctuous.
- 7140 - 7150' No change.
- 7150 - 7160' No change.
- 7160 - 7170' Mainly coarse sand and fragments of red, pink and white, sandy limestone. A little shale as above, and some cavings of various materials from higher depths.
- 7170 - 7180' Mainly dark colored shale as above, and limestone fragments as in the preceding sample. About 25% coarse sand.
- 7180 - 7190' Mottled pink, greenish-white and red, moderately coarsely sandy limestone fragments are the dominant material; some shale and coarse sand as above.
- 7190 - 7200' No change.
- 7200 - 7210' No change.
- 7210 - 7220' No change.
- 7220 - 7230' No change.
- 7230 - 7240' Coarse sand and sandy limestone fragments which are red and mottled; some shale.
- 7240 - 7250' No change.
- 7250 - 7260' Similar to above, but shale fragments relatively more abundant.
- 7260 - 7270' Hard, pink and white mottled, irregularly and somewhat sandy limestone; some pink anhydrite; some inclusions of white and pink anhydrite; some coarse sand and some shale as above.
- 7270 - 7280' Fragments of dark red, green and some mottled shale very common; limestone fragments and some coarse sand present as above.
- 7280 - 7290' As above, also many fragments of mustard-yellow streaked, sandy limestone, and some siltstone and fine to very coarse grained, mustard-yellow sandstone.

- 7290 - 7300' Very coarse quartz sand, with many yellow grains; other materials as above.
- 7300 - 7310' No change.
- 7310 - 7320' Common materials, pink and white, and some yellow streaked limestone, sandy limestone, and some anhydrite; very coarse sand and some shale fragments as above.
- 7320 - 7330' Materials as above, but coarse sand and shale fragments are dominant; limestone fragments much less abundant.
- 7330 - 7340' Fragments of shale (dark gray, dark brownish and greenish gray, and some red); fragments of pink and white and some yellow-streaked, irregularly sandy limestone; some coarse sand.
- 7340 - 7350' Shale and coarse sand predominate. Some limestone fragments as above.
- 7350 - 7360' No change.
- 7360 - 7371' No change.
- Core No. 156
7365 - 7371' Top. Fine to moderately fine grained, shaly sand, and mottled mustard, brown and purplish-red sandstone, well cemented.
- Bottom. Moderately fine to moderately coarse sandstone, which is mottled gray and grayish-red, soft, and poorly cemented.
- Core No. 157
7371 - 7381' Soft, dull grayish red and gray mottled, moderately fine to coarse sandstone; a small amount of argillaceous cement and some anhydrite? inclusions.
- Core No. 158
7381 - 7391' Dark purplish-red and gray, soft, unconsolidated, argillaceous sandstone, moderately fine to coarse grained; sandstone appears to be nodular or with irregular shaped, well consolidated areas.
- Core No. 159
7391 - 7401' Like the preceding but generally moderately fine grained.
- Core No. 160
7401 - 7411' Top. Fine grained, light greenish-gray, argillaceous sandstone; and dull grayish-red, fine to moderately fine grained, soft, argillaceous sandstone.
- Bottom. Soft, red, fine to moderately fine grained, argillaceous sandstone, poorly consolidated.
- Core No. 161
7411 - 7421' Soft, light red or reddish tan, moderately fine to moderately coarse, argillaceous quartz sand.
- Core No. 162
7421 - 7426' No Recovery.
- 7421 - 7431' Moderately fine to very coarse quartz sand. Some fragments of brownish-red, dark gray, greenish-gray, and some mottled shale; many fragments of moderately fine grained, white sandstone, and

- some irregularly sandy limestone which is varicolored, mainly pink and white mottled.
- 7430 - 7440' Similar to above, but with many mustard-colored, sandy limestone and calcareous sandstone fragments common.
- 7440 - 7450' No change.
- 7450 - 7460' No change.
- 7460 - 7470' Mainly coarse to very coarse quartz sand and some moderately fine white sandstone; some shale and limestone as above.
- 7440 - 7480' Moderately fine to extremely coarse quartz sand with many yellow-tinted grains; a small amount of shale and limestone.
- 7480 - 7490' No change.
- 7490 - 7500' No change.
- 7500 - 7510' As above; very large, pebble-sized grains common in the sand; yellow-tinted grains common.
- 7510 - 7520' Sand as above, but varicolored shale and limestone fragments compose about 50% of sample, possibly due to caving.
- 7520 - 7530' Moderately coarse to very coarse quartz sand again strongly predominates. Some varicolored shales as above, and some limestone fragments; sand is mainly quartz with some chalcedony.
- 7530 - 7540' Sand as above, but some red and greenish shale fragments more abundant. Some limestone fragments present.
- 7540 - 7550' No change.
- 7550 - 7560' Red, gray and mustard mottled, unctuous, somewhat sandy shale common; also sand as above and some limestone fragments.
- 7560 - 7570' Shale fragments as in the preceding sample strongly predominate.
- 7570 - 7580' Moderately fine to coarse quartz sand again abundant in sample; shale fragments still common, also some limestone fragments.
- 7580 - 7590' Like the preceding.
- 7590 - 7600' Mainly coarse sand and shale fragments as above; some limestone fragments.
- 7600 - 7610' Fine to very coarse sand strongly dominant. Some shale and limestone fragments.
- 7610 - 7620' Similar to above, but shale and limestone fragments more abundant. Many fragments of mustard colored, highly sandy, waxy shale; many mottled pink and white limestone fragments; some anhydrite.
- 7620 - 7630' Very coarse sand dominant.

- 7630 - 7640' No change.
- 7640 - 7650' Sand as above; also fragments of many types of shale noted from higher depths, and fragments of pink and white mottled, sandy limestone; some of the materials obviously cavings.
- 7650 - 7660' Mainly coarse to very coarse quartz sand, with many deep yellow tinted grains, and some fragments of mustard colored, sandy shale; a few fragments of other colors and types of shale and limestone.
- 7660 - 7670' As above; sand averages somewhat finer grained.
- 7670 - 7680' Like the preceding.
- 7680 - 7690' Sand as above; also abundant fragments of mottled red-gray, green and mustard colored waxy shale. A few fragments of limestone and anhydrite.
- 7690 - 7700' Mainly coarse to very coarse quartz sand, with many deep yellow tinted grains; a few fragments of pink and white limestone and some fragments of several types and colors of shale; some materials obviously cave.
- 7700 - 7710' Mainly coarse to very coarse quartz sand; many yellow and some pink-tinted grains.
- 7710 - 7720' Like the preceding. A few grains of pink feldspar.
- 7720 - 7730' No change. 7720' - Top of Paleozoic.
- 7730 - 7740' Sand as above; also numerous fragments of white, hard sandstone with siliceous cement; grains clear quartz and fine to moderately fine. The sandstone so hard that some grains break across when sandstone is broken. Top of this sandstone on electric log is 7720'. Continues to T.D.
- Core No. 163
7800 - 7802' Hard, light gray sandstone, moderately fine to very coarse grained, clear quartz; micaceous (colorless mica); argillaceous; a few grains of rose quartz; siliceous cement.
- Core No. 164
7802 - 7804' Like Core 165, below.
- Core No. 165
7804 - 7805' Light-gray, hard, fine to coarse grained, micaceous sandstone with highly micaceous areas. Sand mainly quartz; some chalcedony; well cemented with siliceous cement.
- Core No. 166
8183 - 8185' Light and dark gray, hard, micaceous (clear and copper colored) sandstone; tight, with siliceous cement; so hard as to be almost a quartzite; some grains break across when core is broken.
- Core No. 167
8468 - 8472' T.D. Fine to very coarse quartz sandstone; tight; siliceous cement; very hard; some pyrite inclusions and some mica.

FL-HER4

FLA-HE-OT-4

- 200-10 | wh, frag-foss, chy, ind ls w/ micro matrix, v porous
- 210-20 | do but fairly tight
- 220-30 | do
- 230-40 | buff, frag-foss chy, ind, tight ls w/ micro matrix Tr. lg. loose forams
- 240-50 | do but much siliceous loss to recrystallization of ls into micro calcite
- 250-60 | buff, micro, ind, slightly chy, tight ls w/ abund embedded foss. Also abund lg. & Tr. lg. loose forams
- 260-70 | do but no lg. but w/ some oil stain on ls
- 270-80 | tan-buff ool ls w/ M, chy oolites in micro, hard matrix
- 280-90 | do
- 290-300 | buff, frag-foss, micro, porous, chy, ind ls Tr. lg. loose forams
- 300-40 | do
- 310-20 | lt buff-cmy, frag-foss, porous, chy ls w/ micro matrix Tr. lg. loose forams Almost microcosmina
- 320-30 | do
- 330-40 | do
- 340-50 | buff, v xtal, porous, hard, vuggy dol Ugs M-small
- 350-60 | same (310-20) but all cmy
- 360-70 | do but buff-cmy
- 370-80 | Cmy - vlt tan, porous, chy, finely pct ls w/ micro matrix
- 380-90 | do but dolc w/ f, emb, brn, del phases in ls
- 390-400 | tan, f xtal, porous, vuggy, hard dol, slightly chy Tr. lg.
- 400-10 | do
- 410-20 | do

20-30 | tan, v.f. - micro, tight, hard dol

30-40 | tan, f. - micro, tight, porous, hard, dol w/ & w/o vugs

40-50 | do but all porous & w/ vugs

50-60 | do

60-70 | do but slightly tighter than above

70-80 | do but fairly tight w/ few vugs

80-90 | N.S.

90-100 | Crmy, v.f., porous, vuggy dol Vugs small & numerous

100-110 | do

110-120 | do but tan-crmy

120-130 | do

130-140 | do

140-150 | do

150-160 | do

160-170 | do but all crmy

170-180 | Crmy - 11 but, micro, porous, vuggy, hard dol Vugs are small & numerous

180-190 | do but v.f. micro

190-200 | This sample is out of place.

200-210 | N.S.

210-220 | Crmy - tan, v.f. - micro, porous, vuggy, hard dol w/ vugs being M & numerous

220-230 | do

230-240 | do

240-250 | w/ micro, v. porous, vuggy, ch, ddc 15. Vugs are foss cavities tan, v.f. - small

250-260 | do

0-90 | do
 0-700 | but f, v f-micro, porous, vuggy dol. Vugs M + small
 10-10 | do
 110-20 | do
 120-30 | do but but f-cry. d vugs M small + numerous
 130-40 | wh-cry, micro, v porous, v vuggy (small - M + numerous) sypst, dolite ls.
 Tr. loose wh-cry, porous, v small sypst
 740-50 | do
 750-60 | do
 760-70 | do
 770-80 | do All cry + abund loose sypst
 780-90 | do but v f-micro
 100-800 | do
 800-10 | do
 810-20 | do but not as sypst as above + slightly lighter
 820-30 | do
 830-40 | Cry, micro, porous, sypst, vuggy, but dol. Vugs small + numerous. In loose wh-cry, mica
 sypst + separate phases
 840-50 | do
 850-60 | do but fairly tight
 860-70 | do
 870-80 | do but v porous
 880-90 | do
 890-900 | do
 900-10 | do

- 10-20 | do but modernized porous
- 20-30 | do Tr. brn-gn bar ch t
- 30-40 | Lt brn, micro, hand, tight, ^{gypst} vuggy dol Ugs M-v small + numerous Tr. loose gyp
- 40-50 | Crny, micro, hand, porous, gypst, vuggy dol Ugs small + scatt. Tr. loose gyp
- 50-60 | do
- 60-70 | do but v. gypst
- 70-80 | do
- 80-90 | do but micro
- 90-100 | do
- 100-110 | do but ^{more} vugs + scatt. + abund loose gyp
- 110-120 | do
- 120-130 | do
- 130-140 | do but v. micro, porous, tight Tr. gyp
- 140-150 | do plus Tr. asp
- 150-160 | do but no Asp + all porous
- 160-170 | do but v. vuggy
- 170-180 | do
- 180-190 | do
- 190-200 | do
- 1100-110 | buff, micro, hand, fairly tight, slightly gypst, dol w/ v small scatt. Ugs Tr. loose gyp
- 1110-110 | do
- 1120-110 | SAME (1090-100)
- 1130-110 | buff, micro, hand, tight, slightly gypst dol
- 1140-110 | Almost all blk, v carb sh a lig. ★ See slide
- 1150-110 | SAME (1130-110) Tr. lig. + carb sh

- 0-70 | lt tan, micro, fairly tight, slightly xpsf dol Tr. loose gyp & lig
- 0-80 | do
- 0-90 | do but w/ abund blk carb sh & lig Tr. loose gyp
- 90-100 | buff, micro, porous, xpsf dol w/ Tr. loose gyp, lig, sh
- 100-110 | do
- 120-20 | lt tan, micro, fairly tight, slightly xpsf dol w/ Tr. gyp, sh, lig
- 120-30 | do but v. micro
- 1230-40 | do
- 1230-40 | do but all micro
- 1240-50 | do
- 1250-60 | M bn, micro, tight, hard dol w/ widely scatt. small vugs
- 1260-70 | ult tan, micro, fairly tight, xpsf dol Tr. loose gyp
- 1270-80 | do but porous
- 1270-80 | do w/ abund lig, blk carb sh & lt tan sh
- 1280-90 | do
- 1290-100 | do
- 1300-110 | ult tan, micro, tight, hard, slightly xpsf dol Tr. loose gyp
- 1310-20 | do but fairly porous & slightly chy
- 1310-20 | do
- 1320-30 | do but v. xtal & vuggy
- 1330-40 | do
- 1340-50 | do but v. micro
- 1350-60 | do
- 1360-70 | M tan, v. xtal, tight, xpsf dol w/ scatt. small vugs Tr. loose gyp
- 1370-80 | Crny, foss-frag, chy, ind ls w/ micro matrix
- 1380-90 | do
- 1390-100 | tan, f. xtal, tight, xpsf dol
- 1400-10 | tan, f-m xtal, fairly tight, chy, xpsf dol

See slides
See slides

- 10-20 | Crmy, frag-pel, micro, porous, ind ls
- 20-30 | N.S. [do from apelin]
- 30-40 | SAME (1410-20)
- 40-50 | do but slightly appst w/ tr loose, wh, micro, u soft gyp
- 450-60 | do
- 460-70 | do plus tr. Many soft, fissile sh
- 470-80 | do
- 480-90 | It tan, chy, f-M xtal, fairly tight hard dol tr. gray-brn, fissile, soft sh
- 1490-00 | It tan, f-M xtal, tight, slightly chy, hard dol tr. loose, wh, u soft, micro gyp & sh as above
- 1500-10 | Crmy, micro, porous, frag-pel, ind ls tr. loose gyp as above & blk-velky, fissile, soft, carb sh
- 1510-20 | do but no sh
- 1520-30 | do
- 1530-40 | do plus tr. blk-brn notched, fissile, ind sh w/ sparry carb material

See slide

present within laminations

- 1540-50 | Crmy-wh, micro, porous, ind, frag-pel ls, dolc w tan, xtal, each dol xtal replacing it
- 1550-60 | do tr. selenite
- 1560-70 | tan, f-M xtal, tight, slightly appst dol tr. lig & loose, wh, micro, u soft gyp
- 1570-80 | It tan, f-micro, tight, appst dol tr. loose, wh, micro, u soft gyp
- 1580-90 | do plus tr. lig
- 1590-00 | do
- 1600-10 | do but no lig
- 1610-20 | do
- 1620-30 | Crmy, micro, porous, ind, fass, dolc ls
- 1630-40 | tan, M xtal, tight, chy, appst dol
- 1640-50 | do but M-micro & not chy

150-60 | do

N.S.

160-70 |

170-80 | tan, M-ming, tight, highly qyps f dol w/ Tr. loose, wh, ming, v. soft gyp + 11bn, cht

180-90 | tan, f-C craly, tight, slightly qyps f dol. Is loose gyp, wh, ming, v. soft

190-00 | do plus tan-but f cht

200-10 | wh, micro, porous, ind, slightly foss, vuggy ls. Vugs are foss molds. Tr. loose calcines + wh, ming soft gyp

210-20 | do

220-30 | do

230-40 | do w/ Tr. asp

240-50 | tan, f-craly, porous, hard dol w/ Tr. lig + wh, loose, ming, v. soft gyp

250-60 | Same (230-40) but crmy

260-70 | Crmy, ming, ind, porous, fossils w/ abund loose ferans. Tr. loose wh, ming, v. soft gyp

270-80 | do

280-90 | do

290-00 | wh, chy, micro, ind, porous ls. Tr. M. Crmy, sR, milky qz + dol

300-10 | do plus Abund ls. loose ferans + Tr. blk, fissile, soft carb sh. See slide.

310-20 | Mxi. of tan, f-C craly, porous dol; blk, carb sh; wh, ming, v. soft gyp; Many = qz + crmy + bngry

fissile, soft sh See slide

320-30 | Mostly tan-Mbn cht w/ asp + gyp

330-40 | Crmy, ind, porous, ming, slightly foss ls w/ abund tan-ribby cht; wh, micro, v. soft gyp + Tr. asp

340-50 | ls, cht, gyp + Tr. blk, fissile, carb sh

350-60 | ls w/ abund ls. qz-bngry cht + Tr. wh, ming, v. soft gyp

360-70 | Crmy - wh, micro, ind, chy, foss ls w/ abund ls. loose ferans. Tr. bn. cht + blk-dk qz, fissile carb sh

370-80 | do

880-90 | Wh, micro, ind porous, slightly gypsif, slightly foss ls

890-00 | do but not gypsif

900-10 | do

910-20 | do

920-30 | do


930-40 | do

940-50 | do In. lt gray, micro, tight, dense, hard ls

950-60 | do but wh-crmy foss ls

960-70 | tan - tan-brn gray, micro, tight, dense, hard ls w/ widely scatt lg-small ungs

970-80 | do but mostly tan

980-90 | tan, finely pal, porous, ind ls w/ micro matrix w/ abnd loose ls. forams 

990-00 | do

2000-10 | do but fewer loose forams & tan-crmy

2010-20 | do

2020-30 | do

2030-40 | do

2040-50 | do

2050-60 | do

2060-70 | do

2070-80 | do

2080-90 | do

2090-00 | do

2100-10 | do

2110-20 | do

2120-30 | tan-lt buff, v-f-f. raly, tight dol w/ some relic pal ls texture

- 20-40 | do but f-micro
- 22-50 | do but no relief ls. Permian w/ Tr. selective lease
- 50-60 | tan-tuff, f-micro, tight, hard, exp f dol
- 60-70 | do
- 70-80 | do but all tan
- 80-90 | do
- 90-100 | do
- 110-120 | C-micro, porous, exp f, fairly vuggy ls
- 120-130 | do
- 130-140 | do
- 140-150 | tan, C-micro, fairly tight, exp f dol
- 150-160 | N.S.
- 160-170 | do
- 170-180 | do but micro. Crystals + tan-tuff
- 180-190 | N.S.
- 190-200 | do
- 200-210 | wh, micro, porous, ind, vuggy ls w/ emb, exp, C, dol rhombs. scatt throughout some pieces
- 210-220 | do
- 220-230 | buff-tan, C-micro, fairly tight, slightly exp f dol
- 230-240 | do
- 240-250 | do
- 250-260 | do but no Crystals + v little exp
- 260-270 | do
- 270-280 | buff, micro, fairly tight, hard dol w/ widely scatt small vugs
- 280-290 | do
- 290-300 | do but buff-tan
- 300-310 | do
- 310-320 | do
- 320-330 | do
- 330-340 | do
- 340-350 | do
- 350-360 | do
- 360-370 | do
- 370-380 | do

- 368-90 | do
- 390-00 | do v few vugs
- 400-10 | do w/ Tr. loose, wh, pur, v soft, micros. v. p.
- 410-20 | do
- 420-30 | do
- 430-40 | Gray-buff, micro, hard, tight, dense dol
- 440-50 | M.S.
- 450-60 | do
- 460-70 | do
- 470-80 | do
- 480-90 | buff, microporous, hard dol w/ numerous v small vugs
- 490-00 | do but few vugs v Tr. Asp
- 500-10 | do (no Asp)
- 510-20 | Crmy, micro, porous, hard dol w/ a few small scatt. vugs
- 520-30 | do but tight
- 530-40 | do
- 540-50 | Gray-crmy, finely pel, ind, porous, dolo. ls w/ micro ^{of v. r. m.} matrix
- 550-60 | do
- 560-70 | do but buff
- 570-80 | do but v finely pel
- 580-90 | buff, v r. m., porous, hard dol
- 590-00 | do
- 600-10 | do
- 610-20 | do
- 620-30 | buff-gray, v r. m., porous, hard dol w/ numerous small vugs.

2630-40 | do but uf-micro

2640-50 | do

2650-60 | do

2660-70 | N.S.

2670-80 | do

2680-90 | ult. qtz, micro, porous hand, uuggy dol

2690-00 | do

2700-10 | do

2710-20 | do but fairly tight

2720-30 | do but porous

2730-40 | do

2740-50 | do

2750-60 | ult. qtz, micro, porous, hand dol, arg

2760-70 | do

2770-80 | do

2780-90 | do

2790-00 | do

2800-10 | do

2810-20 | do w/ Tr, blk, fossils, hand sh

2820-30 | do but ult. qtz - cmy & wash only ult. qtz is arg

2830-40 | do

2840-50 | do

2850-60 | cmy, micro, porous, hand, uuggy dol w/ some relict fossils in clus

2860-70 | do

2870-80 | do

- 2880-90 | do
- 2890-00 | do
- 2900-10 | do
- 2910-20 | do
- 2920-30 | do
- 2930-40 | do
- 2940-50 | do
- 2950-60 | do
- 2960-70 | do
- 2970-80 | do w/ very evident retic foss ls texture
- 2980-90 | do
- 2990-00 | do
- 3000-10 | do Also gypst
- 3010-20 | do
- 3020-30 | do
- 3030-40 | Crmy - lt gray, micro, porous, wuggy, gypst dol w/ some retic foss ls texture
- 3040-50 | do
- 3050-60 | do plus Tr, wh, micro, soft, loose gyp
- 3060-70 | do plus Tr, wh, ring hand Anh
- 3070-80 | dol w/ abund wh, hand, micro Anh
- 3080-90 | Crmy, micro, porous, wuggy, hand, anhyd dol w/ some retic foss ls texture & Tr, wh, hand, micro
loose Anh
- 3090-00 | do w/ abund loose Anh
- 3100-10 | do
- 3110-20 | do but just Tr, loose Anh

- 20-30 | do
- 30-40 | do but cmy-buff
- 40-50 | do
- 50-60 | tan, micro, porous, vuggy, slightly anhyd dol w/ a little relic foss ls texture
Also some pieces tight
- 310-70 | do
- 3170-80 | do w/ m. loose wh, M-micro, hand anhyd
- 3180-90 | do but all fairly tight
- 3190-00 | do
- 3200-10 | do but tight-porous
- 3210-20 | do but all porous
- 3220-70 | N.S.
- 3270-80 | buff-tan, micro, porous, vuggy, hand, anhyd dol w/ some relic foss ls texture & Th.
wh-gray, hand, micro anhyd
- 3280-90 | do
- 3290-00 | do
- 3300-70 | N.S.
- 3320-30 | cmy, micro, fairly tight, slightly anhyd dol w/ some SCAT vugs Th, loose, wh, micro anhyd
- 3330-40 | do
- 3340-50 | do
- 3350-55 | do but tight-porous
- 3355-40 | cmy, v. fine, pel, porous, anhyd dol w/ micro matrix
- 3360-65 | do
- 3365-70 | do Th, loose, wh, micro, hand anhyd
- 3370-75 | do

3375-80	Crmy, micro, porous, anhyd, hard dol
3380-85	do Tr. wh-gray, C-micro, hard, loose anhyd
3385-95	do
3395-00	do
3400-05	do
3405-10	do
3410-15	do
3415-20	do
3420-25	do
3450-55	do
3455-70	do
3470-80	do
3480-90	do
3490-00	do
3500-10	do slightly tighter than above
3510-20	do
3520-30	do
3530-40	do
3540-50	Crmy, micro, tight, anhyd, hard dol w/ Tr. loose, wh, micro, hard anhyd. Dol has small sharp vugs
3550-60	do
3560-70	do
3570-80	lt tan, vfrish, fairly tight, chy dol
3580-90	do but slightly anhyd
3590-00	do but not anhyd
3600-10	Crmy, micro, red, chy, foss ls, porous

3610-20 | do

3620-30 | Many, micro, chy, porous, hard dol

3630-40 | do

3640-50 | wh, micro, ind, chy ls, porous

3650-60 | do

3660-70 | do

3670-80 | do

3680-90 | wh, ind ch

3690-00 | do

3700-10 | do

3750-60 | do Tr, gtz sd

3800-10 | do no sd

3810-20 | wh, micro, ind, chy, foss, porous ls

3820-30 | do but wh-crmy

3830-40 | do

3840-50 | wh, ind ch

3850-60 | buff, micro, hard, chy, porous dol

3860-70 | do

3870-80 | do but tan

3880-90 | wh, ind ch

3890-00 | vit tan, micro, chy, porous, hard dol

3900-10 | wh, ind ch

3910-20 | Same as 3890-00

3920-30 | wh, ind ch

3930-40 | do

3940-50 | whit, micro, chy, porous, hard dol

3950-60 | wh, ind ch

4000-10 | do

4010-20 | do

4020-30 | do

4030-40 | N.S.

4040-50 | do

4050-60 | do

4100-10 | do

4150-60 | do Tr, micro, fine, v soft, calc cly

4160-70 | do

4170-80 | wh, ind ch w/ inclusions of Cr, mica, vlt grey Anh crystals

4180-90 | do

4190-00 | wh, ind ch

4200-10 | tan, micro, porous, hard dol, chy

4210-20 | do

4220-30 | wh, ind ch

4260-10 | do

4270-80 | wh, ind ch w/ Tr, f. prisms

4300-10 | do

4310-20 | H-tan, micro, porous, chy, hard dol Tr, Asp

4320-30 | do

4330-40 | wh, ind ch w/ Tr, f. prisms

4340-50 | do

4350-60 | N.S.

- 4360-70 | wh, ind ch w/ Tr. I. prisms & forams
- 4400-10 | do plus Tr. Asp (AT high kick is dot as above)
- 4440-50 | wh, ind ch
- 4450-60 | N.S.
- 4460-70 | wh, ind, micro, ch, ls
- 4500-10 | do
- 4510-20 | do
- 4520-30 | do
- 4530-40 | N.S.
- 4540-50 | wh, micro, ind, ch, ls
- 4560-70 | do
- 4570-80 | do
- 4580-90 | do
- 4590-00 | do w/ Tr. ult brn, fissile, soft, calc ch
- 4600-10 | do but no ch
- 4650-60 | do
- 4660-70 | do
- 4670-80 | do
- 4680-90 | do
- 4690-00 | do
- 4700-10 | ls as above w/ brnry, fissile, hard, calc ch & ult brn, fissile, soft, many calc sh
- 4710-20 | ls w/ Tr. I. prisms
- 4720-30 | ls w/ abund brnry, ult brn ch as above plus Tr. I. prisms
- 4730-40 | do
- 4740-50 | ls w/ Tr. brnry sh & I. prisms

1750-70 | N, S

1770-80 | wh, micro, ind, porous ls

1780-90 | do

1790-00 | wh, micro, ind, porous, chy ls

1800-10 | do not chy

1850-60 | do now taking on a slight grey cast

1900-10 | do

1930-40 | do b/w wh & vlt grey in color

1940-50 | vlt grey, micro, ind, porous ls w/ Tr Asp

1950-60 | do plus Tr blks, fissile, hard, calc sh

5000-10 | do but no Tr

5050-60 | do

5100-10 | ls w/ Tr, dk grey, fissile, soft, waxy, calc sh

5120-30 | do but no sh

5130-40 | vlt grey, micro, porous, ind ls w/ abund bio inclusions including F. frags slightly Ang

5150-60 | do

5160-70 | - do

5170-80 | lt grey, micro, porous, ind, Ang ls w/ some bio inclusions

5190-00 | vlt grey, micro, porous, ind ls w/ a few bio inclusions

5200-10 | do

5210-20 | do but no inclusions

5220-30 | do col b/w vlt grey & wh

5230-40 | do w/ a few inclusions

5240-50 | wh-vlt grey, micro, ind, porous ls w/ Tr Asp

5250-60 | do no asp

- 5260-70 | do
- 5270-80 | lt qny, micro, ind, porous, Arg ls w/ Tr. blk, fissile, hard, calc sh
- 5280-90 | Mgny, fissile, hard, calc sh w/ lenses of wh calc material in sh partings
- 5290-00 | do
- 5305-10 | do
- 5310-20 | ult qny - crmy, micro, ind, porous, slightly chy, arg ls
- 5320-30 | do
- 5330-40 | do
- 5340-50 | wh ult qny, micro, ind, porous, slightly arg ls
- 5350-60 | do
- 5360-70 | Mgny, blocky, hard, calc sh Tr. pyr cubes Some calc lenses & pools
- 5370-80 | do
- 5380-90 | do
- 5390-00 | do but now slightly fissile
- 5400-10 | dk qny - dk qny, fissile, hard, calc sh. Some pieces highly mic. Tr. wh glauc, fqny, calc
ind ss
- 5410-20 | M-lt qny, blocky, hard, calc sh, has abund calc inclusions
- 5420-30 | N.S.
- 5430-40 | SAME (5410-20)
- 5440-50 | do
- 5450-60 | do Tr. pyr
- 5460-70 | do but M-lt qny - brn qny
- 5470-80 | do plus Mgny, soft, fissile, calc sh
- 5480-90 | ~~N.S.~~ (from upper) N.S.
- 5490-00 | Mix. of Mgny, fissile, soft, calc sh & lt qny, argny glauc, calc, friable, arg ss

- 5715-17 | tan, v. x-ray, tight, hard dol w/ numerous v ls, vugs
- 5717-22 | do
- 5722-32 | buff, v. x-ray, fairly porous, hard, vuggy dol w/ relict bioherm ls texture
- 5732-42 | do but fairly tight & not v vuggy
- 5742-52 | do but tight & w/ many vugs
- 5752-57 | do but v. micro
- 5757-62 | do but relict bioherm texture is not v evident
- 5762-72 | buff-amy, v. x-ray, vuggy, tight dol w/ some relict bioherm ls texture
- 5772-78 | do but porous & less vuggy
- 5778-84 | do
- 5784-91 | Same (5762-72)
- 5791-96 | do
- 5796-101 | buff, micro porous, hard, glauc, dol w/ some relict bioherm ls texture, Mn glauc
slightly amy
- 5801-06 | do
- 5806-15 | do w/ some tight, vuggy pieces
- 5815-21 | do but buff-tan-ltgy
- 5821-30 | buff-tan-ltgy micro-v. x-ray, porous-tight, slightly vuggy, hard, amy dol w/ some relict
bioherm ls texture
- 5830-35 | do w/ Mn wh-gry-brn, micro, hard amy
- 5835-40 | do
- 5840-45 | buff-tan, v. micro, vuggy, porous, anhyd dol w/ some relict bioherm ls texture &
Mn (base wh amy)
- 5845-54 | Same (5830-35)
- 5854-64 | do but all porous
- 5864-69 | do but porous-tight

- 5869-73 | N.S.
- 5873-83 | buff, micro, tight, hard dol w/ some ^{arg} relict bioherm ls texture & scall. ls vugs. In glauc
- 5883-88 | do
- 5888-98 | do
- 5898-00 | do
- 5900-10 | do
- 5910-20 | Mgry, fissile, soft, dolc sh
- 5920-30 | do
- 5930-35 | do
- 5935-42 | N.S.
- 5942-50 | Same (5910-20)
- 5950-54 | buff, v. xtal, tight, arg, slightly vuggy dol w/ a little relict bioherm ls texture
- 5954-59 | do
- 5959-64 | N.S.
- 5964-71 | Same (5950-54) but buff. Mgry
- 5970-80 | Crmy-tan-ltgy, micro, porous, int, bioherm ls, arg
- 5980-90 | do
- 5990-94 | do In glauc
- 5994-99 | do but no glauc & mostly tan-crmy
- 5999-05 | buff, micro, porous, slightly porous, Arg dol
- 6005-15 | Mbry, v. xtal, porous, hard, arg dol w/ scall, M size vugs & some relict bioherm ls texture
- 6015-25 | do but Mbry-ltgy
- 6025-35 | do but Mbry-ltgy-tan
- 6035-45 | do but ltgy-tan
- 6045-55 | do but all Mbry

- 6055-65 | do but buff w/ micro
- 6060-66 | do
- 6066-76 | do
- 6076-86 | do but buff - tan - lt grey
- 6086-94 | do but buff.
- 6099-09 | do
- 6109-19 | do but bioelastic ls texture some evident than above
- 6119-26 | do slightly tighter than above
- 6126-30 | do but porous as (6109-19)
- 6130-40 | do
- 6140-50 | do Tr. loose, w/ micro Anh
- 6150-60 | Ulf grey, micro, porous, hard, slightly anhyd dol
- 6160-70 | buff - lt grey, micro, porous, ^{Ang}hard dol w/ inter bioelastic ls texture & soft small nodular vugs
- 6170-80 | do but porous - tight
- 6180-90 | do
- 6190-00 | do
- 6200-10 | do
- 6210-20 | do but w/ micro
- 6220-30 | do
- 6230-40 | do but w/ numerous small vugs
- 6240-50 | Mgry, fissile, hard, dolic sh
- 6250-60 | do
- 6260-70 | Mgry - gngry - dk grey, fissile, soft sh
- 6270-84 | N.S.
- 6284-44 | Same (6200-20)

- 6294 | do
- 6303-14 | brn red, fissile, soft, soft sh w/ M-lt grey - grey, fissile, soft sh
- 6314-19 | do
- 6319-24 | do but mostly qtz shales
- 6324-34 | lt brick red, blocky, hard sh w/ M-lt grey - grey, fissile, soft sh
- 6334-40 | do
- 6340-46 | wh - vv lt grey, micro, hard, porous dol
- 6346-56 | do
- 6356-66 | Mgny, fissile, soft, calc sh w/ some 1 brick red sh
- 6366-76 | do
- 6376-86 | Mxt. of M brick red - lt maroon, blocky, soft sh + Mgny, SR, milky qtz sd
- 6386-96 | wh, fgn, ind, porous, ss
- 6396-06 | wh, fgn, ind, porous dol, calc ss w/ brick red - maroon, blocky, hard sh
- 6411-21 | Mxt. of wh - yel, M - fgn, SR, qtz sd + brick red - maroon, blocky, hard sh
- 6428-38 | Maroon - dk brick red, blocky, hard sh
- 6438-46 | do w/ yel, fgn, ind, porous ss + wh - yel, C, fgn, SR, qtz sd
- 6446-56 | do
- 6455-60 | deep brick red - maroon, blocky, hard, sd sh sd is f-f, A-B qtz
- 6460-70 | do
- 6470-80 | do
- 6480-96 | sh as above w/ C-Mgny, SR-SA, yel - wh, qtz sd in 40% multicol, micro, tight dol matrix
- 6507-17 | f - v fgn, qtz sd in 40% multicol, micro, tight, dol matrix
- 6517-27 | wh - pale yel, fgn, porous, ind, dol, calc ss
- 6527-37 | wh - yel, C, fgn, SR, qtz sd in multicol, micro, tight, hard dol matrix
- 6537-47 | do

6746-52 | VC-Mgny, wh, loose, dolc, red & to SS

6752-60 | brick red, blocky, hard, slightly & finely sdy sh

6760-70 | Cgny, SR-SP, wh-yel-pink etc. sd w/ multicol, micro, sdy, ^{finely} tight, hard dol matrix.

6770-80 | do

6780-90 | do

6790-00 | do

6800-10 | yel-brick red mottled, hard, blocky, sparsely & v finely sdy sh

6810-20 | wh-pink-yel-red, micro, hard, tight, sdy dol sd is f-Mgny, SR, clear & to

6820-30 | do plus sh as (6800-10)

6830-40 | Sdy dol as above

6840-50 | VCgny, yel-wh, R-SR, & to sd

6850-60 | do

6860-70 | brickred-yel mottled, blocky, hard, sparsely & v finely sdy sh

6870-80 | Cgny, yel-wh, SR & to sd

6880-90 | do

6890-00 | do

6900-10 | Red sh as above

6910-20 | VC-Cgny, wh-yel-red, SR & to sd

6920-30 | Red sh

6930-40 | VC-Cgny, SR, wh-yel-red & to sd

6940-50 | do ± soft multicol, micro, tight, hard dol matrix

6950-60 | brick red-yel mottled, blocky, hard, sparsely & v finely sdy sh

6960-70 | do

6970-80 | do

6980-90 | do

- 6990-00 do
- 7000-10 C-Mqny, yel-wh-pink, SR gtz sd
- 7010-20 wh, fqny, tight, ind, dolr. SS
- 7020-30 wh-pink-yel, micng tight, sdy dol. Sd is Cqny, wh gtz, Plus wh-pink-yel, Cqny, SR gtz sd
- 7030-40 dk q+y, fissile, hard, rate sh
- 7040-50 Sdy dol w/ C-Mqny, SR, wh-yel gtz sd
- 7050-60 do
- 7060-70 Vlt qny, micng, hard, porous dol
- 7070-80 do
- 7080-90 N.S.
- 7090-00 lt brick wh, fissile, soft sh
- 7100-10 do plus dk brngny, fissile, soft sh
- 7110-20 wh, Cqny, ind, tight gtz-glate. SS
- 7120-30 do
- 7130-40 wh-yel, VCqny, R, gtz sd
- 7140-50 brngny, fissile, soft sh
- 7150-60 VCqny, wh-yel, R, gtz sd
- 7160-70 VC-Cqny, SR-SA, wh-yel gtz sd
- 7170-80 brngny, fissile, soft sh
- 7180-90 VC-Cqny, yel-wh, SR-SA gtz sd
- 7190-00 Pink-wh mottled, micng tight, hard dol
- 7200-10 do
- 7210-20 Cqny, wh-pink-yel, SA-SR gtz sd
- 7220-30 do
- 7230-40 do

sparsely

7240-50 | do w/ abundant wh-pink-red; ^{red} micro, tight, hard clst matrix Matrix ISM-fs ch

7250-60 | do

7260-70 | do

7270-80 | do

7280-90 | do

7290-00 | do

7300-10 | do

7310-20 | do

7320-30 | do

7330-40 | do

7340-50 | do

7350-60 | brick red, blocky, soft, highly & finely mic sh

7360-71 | do

7371-81 | wh-yel-pink, DC-C qtz, SA-SA qtz sd

7381-91 | do

7391-01 | do

7401-11 | do

7411-21 | do plus Mgxy-bungry, fissile, soft, highly mic sh

7421-31 | wh-yel, Cqny, SA-SR qtz sd

7430-40 | wh-yel, C-Mqny, SA-SR clst sd plus Mgxy, fissile, hard, calc sh

7440-50 | wh-yel, Cqny, SA-SR qtz sd

7450-60 | do

7460-70 | do

7470-80 | do plus H-Mgxy-bungry, fissile, hard, highly mic sh

7480-90 | wh-yel, Cqny, SA-SR qtz sd

7490-00 | do

7500-10 | wh-yel, UC-Cgny, SA-SR qtz sd

7510-20 | Mnry-gnry - Mnry fossils, hard sh

7520-30 | wh-yel, UC-Cgny, SA-SR qtz sd

7530-40 | do

7540-50 | do plus sh as above

7550-60 | brick red-yel, blocky, ind sh

7560-70 | do

7570-80 | UC-Cgny, wh-pale yel, SA-SR, qtz + qtz sd

7580-90 | Mnry, fossils, hard, calc sh

7590-00 | UC-Cgny, wh-pale yel, SA-SR qtz + qtz sd. Qtz is Mnry

7600-10 | Mnry, fossils, hard, calc sh

7610-20 | sd as above

7620-30 | do

7630-40 | N.S.

7640-50 | sh as above

7650-60 | Pale yel, UC-Cgny, SA, qtz + qtz sd. Qtz is Mnry

7660-70 | brick red-yel, blocky, hard sh

7670-80 | do

7680-90 | do

7690-00 | do

7700-10 | Pink-wh-pale yel, UC-Cgny, SA-SR qtz + qtz sd. Qtz is Mnry

7710-20 | do

7720-30 | wh, Mnry, tight ind, fairly pure ^{qtz} ss

7730-40 | do

- 7740-50 | do
- 7750-60 | do
- 7760-70 | do w/ a few highly mic pieces
- 7770-80 | wh. yel, Cpx, SR, Qtz sd
- 7780-90 | SS as above
- 7790-00 | wh-ultary, f-M qnz, tight, ind Qtz ^{-fairly pure-} SS w/ a few highly mic pieces
- 7800-10 | do but v slightly Arg
- 7802-04 | do
- 7805-10 | do
- 7810-20 | do w/ Tr, Asp & light brn, black, ind cly
- 7820-30 | do but no cly & fairly pure
- 7830-40 | do
- 7840-50 | do but no Asp
- 7850-60 | do w/ Tr, cly as above
- 7860-70 | do plus Tr, Asp
- 7870-80 | do
- 7880-90 | wh, f-M qnz, fairly tight, ind, Qtz-Qtz SS w/ a few ^{highly} mic & slightly arg pieces
Tr, Asp & biotite booklets
- 7890-00 | do but no Asp but w/ Tr, rose Qtz
- 7900-10 | SS w/ Tr, cly as above
- 7910-20 | do
- 7920-30 | SS as above
- 7930-40 | N.S.
- 7940-50 | SS as above w/ Tr, Asp
- 7950-60 | do but no Asp

- 7960-70 | ss AS Above w/ Tr Asp & cly.
- 7970-80 | do
- 7980-90 | do but no Asp or cly
- 7990-00 | do w/ micrang pieces becoming more abundant
- 8000-10 | do
- 8050-60 | do but fewer micrang pieces than above
- 8090-00 | do
- 8100-10 | N.S.
- 8110-20 | wh, f-Mgny tight, ind, qtz-qtz ss w/ Tr VARG mic pieces & Hbny, blacky, ind cly
- 8150-60 | do but no cly
- 8200-10 | do
- 8250-60 | do
- 8300-10 | do
- 8350-60 | do
- 8400-60 | do
- 8450-60 | do w/ slight increase in arg mic pieces
- 8460-72 | do

Nov. 7, '64

FL-HER4

with report on study of samples from the Tertiary section of the Ohio Company, No. 1, Hernasco, Hernando County, Florida.

Samples from locality of Unit OX 6 of Jackson, Miss.

SPINOSOPH,
CANNONIA
SPOR

200 - 10'

Upper
Eocene
Ocala

Limestone, white, porous, coquinoïdal, a mass of molds of foraminifera and other usually fragmental, micro and macro-fossil material. Specimens of Camerina striatoreticulatus and Sphaerogypsina globula. Age - Ocala, Jackson Upper Eocene (See # 1 on slide 1)

210-20'

Do, light cream color, more indurated, much less porous.

220-30'

Do.

230-40'

Middle
Eocene
Avon Park

Limestone, deep cream, coquinoïdal, hard, abundant worn and partly fragmental micro and macro-fossil material. Some small specimens of Periarchus lyelli, fragment of Dictyoconus cookei. (See # 2 & 3 on slide 1)

240-50'

Dolomitic limestone, light brown, well indurated, similar to preceding in general character, but fossil debris indicated only by small chalky remnants. Some fragments of Dictyoconus floridanus.

250-60'

Do, more chalky in texture, carbonaceous.
Note - Samples taken every 10', only marked changes in lithology and/or fauna will be recorded.

310-20'

Limestone, hard, coquinoïdal, but highly water worn and altered, fossil material generally fragmental, poorly preserved and tightly imbedded in chalky and dolomitic matrix. Some specimens of Dictyoconus cookei. (See # 4 on slide 1)

320-30'

Similar to preceding, but less altered and indurated and more chalky. Some specimens of Dictyoconus floridanus and Spirolina coryensis. (See # 5 & 6 on slide 1)

340-50'

Limestone, hard, light brown, dense, irregularly nodular, texture extremely finely granular. Some fragments white, moderately hard, chalky in texture.

350-60'

Limestone, chalky, contains poorly preserved molds of some forams. Specimens of Valvulina intermedia fairly common, some specimens of Dictyoconus floridana, Discorbis inornatus and Spirolina coryensis as above. (See # 7 on slide 1)

370-80'

Limestone, light tan, moderately hard, dense to moldic, partly chalky and partly very finely granular in texture. Some Dictyoconus floridana.

380-90'

Limestone, light tan, a rough textured dolomitic chalk composed of finely fragmental fossil material. A few specimens of Dictyoconus floridana.

390-400'

Dolomite, light brown, finely crystalline, weakly chalky, moldic and porous.

Dictyoconus
FIBRILLARIA
VALVULINA
DISCORBIS
INORNATUS

Dictyoconus
Spirolina
Coryensis

Discorbis inornatus
Spirolina
Coryensis
Valvulina intermedia
V. sp.

- 420-30' Dolomite, slightly darker in color, dense and finely granular to moldic and moderately finely crystalline.
- 500-10' Dolomite and dolomitic limestone, light tan to brown, generally highly moldic.
- 640-50'
Possible
top Lake
City equivalent - generally called Tallahassee
- 760-70' Do, some fragments highly gypsiferous.
- 800-10' Limestone, light tan, dense to highly and finely moldic, irregularly gypsiferous, many fragments with a very finely pelleted structure.
- 850-60' Limestone, hard, light tan, highly moldic, irregularly gypsiferous.
- 870-80' Limestone, light cream, hard, highly moldic, irregularly gypsiferous. A few traces of impressions of fragments of fossil materials.
- 960-70' Similar to preceding but light tan, more indurated and with scattered traces of carbonaceous material.
- 970-80' Limestone, tan, highly moldic, highly gypsiferous, dolomite generally with finely pelleted texture.
- 980-90' Limestone, light tan, moderately hard, weakly moldic and gypsiferous.
- 990-1000' Do, about 1/2 sample limestone with finely pelleted, finely porous texture, highly gypsiferous.
- 1010-20' Limestone, tan to cream, highly moldic to comparatively dense and non-porous, irregularly gypsiferous. An impression of a macro-fossil (bivalve) fragment, and mold of a gastropod fragment.
- 1060-70' Limestone, tan, weakly to highly moldic, irregularly highly gypsiferous, a few small molds of micro-fossil material still remaining in moldic pits.
- 1100-10' Limestone, light brown, hard, generally highly moldic or pitted, from removal of original fragmental fossil content, some gypsum blebs and fragments. A few traces of impressions of structure of fragmental fossil material.

- 1130-40' Limestone, dolomitic limestone, hard, dense, grainy, grayish light brown, scattered traces of carbonaceous material, scattered blebs of gypsum.
- 1140-50' Do, and about 75% brownish black coal and fragments of gypsum.
- 1150-60' Limestone as at (1130-40'). Many small carbonaceous areas, trace of coal and of gypsum.
- 1160-70' Limestone, hard, light brown, generally dense with a few moldic pits and scattered gypsum inclusions.
- 1170-80' Dolomitic limestone, hard, light brown, grainy. A few small moldic areas, trace of gypsum.
- 1190-1200' Do, but moldic pits and gypsum more common. A trace of carbonaceous material in limestone.
- 1200-10' Limestone, hard, tan, dense and irregularly moldic, and limestone earthy textured, dull brown, carbonaceous.
- 1210-20' Limestone, tan, hard, dense, shows many faint traces of small white irregular shaped inclusions (probably finely fragmental fossil material and scattered small particles of carbonaceous material). Some free fragments of dull brown to brownish black carbonaceous material. Some blebs of gypsum.
- 1220-30' Dolomite, light brown, grainy, contains some blebs of gypsum variable in size.
- 1230-40' Do, and some fragments carbonaceous material.
- 1270-80' Limestone, dolomitic, light tan, hard, dense, grainy, angular fracture. Some blebs gypsum.
- 1280-90' Do, some carbonaceous material. Some cavings.
- 1340-50' Dolomitic limestone, light brown, grainy, irregularly moldic, irregularly gypsiferous.
- 1370-80' Dolomite, light brown, very finely crystalline, irregularly porous and irregularly gypsiferous.
- 1400-10' Similar to preceding but more coarsely crystalline.

2730-40' Limestone, usually light gray, hard, dense, occasionally weakly moldic. A few thin carbonaceous areas.

2750-60' Limestone, moderately hard, light gray, argil^{lacuous}, laminated, dense, non-fossiliferous. (See # 6-9 on slide 2)

2880-90' Limestone, hard, gray, and some tan. Some fragments moldic and rough textured, an occasional capsule shaped gray nodule (possibly fecal pellets). Material of this type a rather characteristic feature of Cedar Keys sediments.

2900-10' Limestone, irregularly light and darker gray and irregularly dense to rough textured and moldic, some sections and molds of Boretis gunteri and Boretis floridanus. (See 9-12 on slide 2)

Cedar Keys
fauna
definite

WMS
Boretis
SPP.

E. R. A.

Continuation of report on samples from the upper part of Ohio Oil Company
Hernasco well #1, Hernando County, Florida.

2910-20' Limestone, gray and white, moderately hard, very rough textured,
irregularly finely porous. Fauna same as above.

2960-70' Do, and many fragments of a deep cream colored limestone,
similar to the preceding in character and fauna. Some small
light gray areas in this limestone.

2980-90' Mainly white and gray limestone as above. Fauna same.

3000-10' Limestone, similar to above, but less indurated, moderately
gypsiferous. Free specimens of the two species of Borealis
less common. (see 13-16 on slide 2)

3020-30' Limestone, gray, white and cream, moderately gypsiferous, similar
in texture. Large specimens of Borealis guhleri fairly common.

3060-70' Limestone, similar to preceding, but more worn, more moldic
and more gypsiferous. Little free fossil material.

3080-90' Limestone, cream, moderately hard, highly moldic. Contains
much gypsum. Some Borealis.

3100-10' Limestone, deep cream, moderately hard, chalky textured,
occasionally moldic, highly gypsiferous.

3130-40' Limestone, cream, white and gray, very rough textured, moderately
gypsiferous. Contains some Borealis.

3150-60' Limestone, white, gray and deep cream, moderately hard, generally
highly moldic, gypsiferous.

3160-70' Same, but weakly gypsiferous. Some moldic pits retain Borealis
structure.

3190-3200' Do. A trace of carbonaceous material in limestone.

3230-40' Limestone, white, gray and cream, in part moldic, moderately
hard, moderately gypsiferous.

3290-3300' Limestone, gray and light grayish tan, moderately hard, in part
finely moldic. A few fragments with thin streaks of carbonaceous
material. Very minor gypsum.

3310-20' Limestone tan, dense, cryptocrystalline, contains some blebs of
gypsum, a few fragments of molds of fossil bivalves.

Top of
Upper
Cretaceous
Gulf Series

Ohio Oil Company
 Hernasco Corporation well No. 1
 Hernando County, Florida (Upper Part)
 Section 19-TWF23S-R18E
 Elevation: 47' D. F.
 Report By: E. R. Applin
 Date: 1964 *worked 1952.*
Religed -

Report on samples from Ohio Oil Company's Hernasco Corporation well No. 1, Hernando County, Florida.

Top of Upper Lawson 3310' Note - Samples taken at 10' intervals, only marked changed in lithology and/or fauna recorded.

3310-20' Limestone, light tan, gypsiferous, crypto-crystalline to irregularly granular crystalline. Some small pitted areas which retain vague indications of original fossil structures.

3320-30' Do. A few small chalky areas in the limestone.

3355-60' Same as above and about 50% finely granular, finely porous, tan limestone.

3365-70' Similar to above, but mainly fragments of the finely granular, finely porous, chalky limestone which contains some blebs of gypsum and shows some sections of Orbitoides (Orbitoides browni?).

*Possible problems
 Suno
 Lawson
 LAM - looks like Lepidodermis*

3375-80' Material like the preceding, but no fossils noted.

3380-85' Material similar to the above but much less porous.

3375-3400' Cream, chalky, finely granular textured, gypsiferous limestone like the preceding, but somewhat finely porous.

3485-3500' Like the above, but sparsely porous, almost white in color, slightly gypsiferous (note - the change from the highly and finely porous, highly gypsiferous, chalky limestone described from higher depth to the chalky, finely, but obscurely granular textured, sparsely porous and sparsely gypsiferous limestone at this depth has been gradual).

3500-10' Chalky limestone as above and some white, moderately hard limestone. A few traces of macro and micro-fossils.

3550-70' Mainly moderately hard, light tan, crypto-crystalline, somewhat gypsiferous limestone. Some traces of micro and macro-fossils.

3570-80' Light brown, gypsiferous, very finely granular dolomite.

3580-3600' Like the preceding with addition of a few fragments white chalk.

3600-10' Like the preceding and some fragments of Lepidorbitoides, a few Bryazoan fragments and a few specimens of Robulus sp. Some fragments of the white chalk from which the fossils wash.

*Lepid. non part
 Robulus
 Banner
 A
 Lawson*

Lawson.
 Schlumberger
 and fauna
 suggest could
 be pushed up
 to 3580'

- 3610-20' Sample about 50% chalk and 50% dolomite. Fauna same as above and some Echinoid fragments and spines, a few Ostracods, some Brachiopods common to this Cretaceous horizon and some specimens of a micro-crinoid also common to the Lower Lawson. A few specimens of Sulcoperculine cosdeni.
- 3620-30' Same as above and many fragments of olive gray dolomite.
- 3630-40' Partly olive gray and partly light tan sucrose dolomite.
- 3650-60' Mainly white chalk. Some dolomite as above. Few fossils.
- 3660-3700' Chalk and hard sucrose, generally tan dolomite as above.
- 3700-10' Mainly white chalk; a few fragments of dolomite as above, an occasional poorly preserved fossil.
Same to 3810'.
- 3810-20' White chalk with a large amount of fragmental calcitic fossil material.
- 3840-50' Moderately hard, white chalk.
- 3850-60' Dense light tan, sucrose dolomite.
Note. Samples continue as white chalk and varying amounts of tan sucrose dolomite with an occasional micro-fossil section noted in chalk. A few fragments of a disk-shaped Algae Bornetella sp. new, noted at 3980-90'. Some small anhydrite crystals in the chalk below 3900'.
- 4180-90' Tan, sucrose dolomitic, white chalk and many fragments of the very finely and highly dolomitic chalk. Inclusions of large crystals of anhydrite in the chalk.
- 4190-4200' White chalk and dolomite as above. Many specimens of the large variety of Cibicides harperi present. Some specimens of Bornetella sp. Some specimens of Arenobulimina sp.
- 4290-4300'
Top of
Taylor Chalk with many specimens of large variety of Cibicides harperi. Some Inoceramus fragments, some specimens of Bolivina incrassata. Some specimens of Anomalina cf. cosdeni (slightly ornamented variety), and specimens Stensioina americana.
- No report on samples 4300-4640'.