P76

Humble Oil and Refining Company
#12 Gulf Coast Realties
Sec. 21-48S-30E, T.D.11,709
Collier County, Florida
Report by: E. R. A pplin
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Herewith report on samples studied from the #12 Gulf Coast Realties, Collier County, Florida. *Humble samples.*

5418 - 20' Upper Lawson (?)	Core #1. Light tan, very finely granular dolomitic chalk, somewhat gypsiferous and with a little porosity, due to removal of fossils originally present.
5420 - 22'	Core #2. Chalk as in preceding core.
5422 - 27'	Core #3. Tan chalk as above; a thick lense of anhydrite.
5427 - 32'	Core #4. Lenses of anhydrite and light brown dolomitic chalk.
5432 - 37'	Core #5 - Rec. 2'. Lenses of anhydrite in a light brown, very finely granular, gypsiferous dolomite.
5437 - 42'	Core #6 - Top 4'. Anhydrite.
	Bottom 1'. Brown dolomite like the above; a lense of anhydrite.
5442 - 47'	Core #7 - Rec. 4'. Tan, very finely granular dolomite occasionally with small porous spots, due to removal of micro-fossils.
	Bottom 3'. Anhydrite.
5447 - 52'	Core #8 - Rec. 1½'. Moderately soft, tan dolomite like the preceding in character.
5452 - 62'	Core #9 - Rec. ½'. Tan, very finely granular dolomite as above. Some fragments of macro-fossil--(Pectin sp. -- 4 others).
5462 - 67'	Core #10 - Rec. 2'. Material same as above.
5468 - 76'	Core #11. Dolomite like the above; some small porous areas, due to removal of fossiliferous material.
	Bottom 2'. Anhydrite.
5475 - 80'	Cutting of light brown dolomite as above; some anhydrite.
5485 - 90'	No change.
5490 - 95'	No change.
5495 - 5500' Upper Lawson "A" Zone	Like the above, also some fragments of a Milioline, irregularly finely dolomitic, white chalk. Many small gray dolomitic areas. Small inclusions of gypsum. (See #1 and 13 on slide).

Dolomitic rock @ pumps in Loosely carved — This is Lawson [illegible]

5500 - 05' Like the preceding.

5505 - 10' About 50% dolomite and anhydrite as above; 50% chalky, Milioline, irregularly dolomitic and gypsiferous limestone, this the material apparently being drilled. Specimens and some sections of a Rotalid foram present. (See #2 and 14 on slide).

5510 - 15' Mainly light cream colored, irregularly very finely dolomitic chalk; many fragments with abundant Miliolid molds; some small gypsiferous inclusions. Some specimens of the Rotalid species as above (very poorly preserved).

5515 - 20' Mainly cream colored, very finely dolomitic chalk, and chalky dolomite; some fragments with abundant specimens of Miliolids, a few fragments of the Rotalid as above, a few fragments of Pseudorbitoides.

5520 - 30' Mainly light tan, very finely granular, somewhat gypsiferous dolomite, and cream colored, partly very finely dolomitic chalk; some gypsum; a few Miliolid fragments; and a few specimens of the Rotalid and Pseudorbitoides mentioned above.

5530 - 40' Like the preceding.

5540 - 50' No change.

5550 - 60' Very finely granular, tan, somewhat gypsiferous dolomitic chalk and chalky dolomite; and fragments of a white Milioline chalk, which is, in part, also finely dolomitic. Some gypsum and some poorly preserved specimens of the Rotalid foram washed from the more chalky materials.

5560 - 70' Like the preceding — fragments of a micro-fossiliferous, somewhat dolomitic, light cream colored chalk relatively more abundant.

5580 - 90' Dolomite, anhydrite, and some dolomitic micro-fossiliferous chalk as above.

5590 - 5600' Same as above. For fauna see (#3 and 15 on slide).

5600 - 10' Like the preceding.

5610 - 50' No change.

5650 - 60' Mainly light tan, very finely granular, gypsiferous dolomite. Some micro-fossiliferous chalk, and chalky dolomite as above. Some gypsum.

5660 - 5700' No change.

5700 - 10' Cream colored, finely and somewhat irregularly dolomitic, anhydritic and highly micro-fossiliferous chalk. Fossils chalky and generally poorly preserved. Miliolids strongly dominate. Some Rotalid forams.

5710 - 20'	Like the preceding.
5720 - 30'	No change.
5730 - 40'	Fossiliferous dolomitic chalk as above and about 50% finely granular, tan and grayish tan dolomite; some gypsum.
5740 - 50'	About 75% fossiliferous chalk; 25% dolomite; some gypsum.
5750 - 60'	Like the preceding. The Rotalid species of foram common.
5760 - 70' Top of Upper Lawson "B" Zone	50% fossiliferous chalk; 50% porous light tan, gypsiferous dolomite. A species of Rotalid foram common. Miliolids abundant.
5770 - 80'	Like the preceding.
5780 - 5860'	Fossiliferous and dolomitic chalk, and varying amounts of dolomite as above. Fauna same as above.
5860 - 70'	More finely cut fragments (material possibly more indurated) of finely granular, porous, tan dolomite, and micro-fossiliferous chalk which is, in part, finely dolomitic. A little gypsum. Fauna same as above. A few fragments of a fossil showing Rudistid-like shell structure.
5870 -80'	Like the preceding.
5880 - 90'	Moderately hard, white, flaky chalk, some fragments finely porous. Some cavings.
5890 - 5900	Like the preceding. A few fragments of shell material showing Rudistid structure. (See #16 on slide).
5900 - 10'	Moderately hard, cream colored chalk, showing vague traces of a highly micro-fossiliferous content. Some flaky white chalk as above. A few Rudistid fragments.
5710 - 20'	Like the preceding.
5920 - 80'	No change.
5980 - 90'	White, porous to well cemented, chalky limestone having an oolitic appearance, but apparently composed of chalky molds of micro-fossils, and even sized chalky fossiliferous fragments. (See #5 and 17 on slide).
5990 - 6000'	Sample of flaky white, calcitic and chalky limestone, showing vague traces of a high, fine, micro-faunal content, and fragments of the pseudo-oolitic limestone as above. Coraline algae.
6000 - 10'	Like the preceding - pseudo-oolitic material about 75% of sample.

6010 - 50'	No change.
6050 - 60'	Material like the above. Some poorly preserved specimens of Vaughanina sp. and Pseudorbitolina? (See #6 and 18 on slide).
6060 - 6110'	Like the preceding.
6110 - 20' Approximate Top of Lower Lawson	Like the preceding, also some fragments of a brown, moderately finely granular, dolomite and dolomitic chalk. No change in fauna.
6120 - 30'	Like the preceding.
6130 - 40'	Fossiliferous, chalky limestone as above; and about 50% fragments of a brown, moderately finely granular, porous dolomite.
6140 - 50'	Like the preceding, also some fragments and sections of Lepidorbitoides sp. and Sulcoperculina cosdeni from the somewhat chalky, brown dolomite. (See #7 and 19 on slide).
6150 - 60'	Sample composed mainly of dolomite and chalky dolomite as above. Fauna same as above.
6160 - 70'	Sample at least 75% moderately finely granular, porous, brown dolomite; remainder chalk and some chalky dolomite, and a few fossils as above.
6170 - 80'	Like the preceding.
6180 - 90'	No change.
6190 - 6200'	About 50% dolomite, and 50% dolomitic chalk; fauna same as above.
6200 - 20'	No change.
6220 - 30'	Same of light tan, somewhat finely dolomitic chalk. Fauna same as above.
6230 - 40'	Like the preceding.
6240 - 50'	No change.
6250 - 60'	Like the above - Poor specimens of Sulcoperculina common.
6260 - 70'	Like the preceding.
6270 - 90'	No change.
6290 - 6300'	Brown, moderately finely granular dolomite again forms about 50% of sample; remainder moderately hard chalk and tan, somewhat dolomitic chalk.
6300 - 10'	Chalk and dolomitic chalk as above; some dolomite. No marked change in fauna - (for fauna see #8 and 20 on slide).

6310 - 30' No change.

NOTE. The tan color of the chalk due to small veins filled with brownish black carbonaceous(?) material and staining from accumulations of this material.

Sulcoperculina the dominant fossils.

6330 - 40' Cutting of slightly dolomitic chalk, which generally lacks the (carbonaceous?) streaks and stains found in the preceding chalky section. Some dolomite and some gypsum (both possibly caving).

6340 - 50' Like the preceding.

6350 - 6400' No change.

6400 - 10' White chalk. Specimens of Sulcoperculina and Lepidorbitoides fairly common. Some Echinoid species; some specimens of Torreina sp. (See #9 and 10 - 21 and 22 on slide).

6410 - 6510' Material and fauna as above. No Torreina noted. A few fragments of Inoceramus.

6510 - 20' Chalk as above and specimens of Lepidorbitoides and Sulcoperculina fairly common. Inoceramus prisms common in fine material.

6520 - 70' No change.

6570 - 80' Material like the above. Fragments of heavy shelled bivalves fairly common in sample.

6580 - 90' Like the preceding.

6590 - 6670' Chalk as above, and about 25 to 50% fragments of a dense, brown, moderately finely granular dolomite. No change in fauna noted.

6670 - 80' Chalk, (much of it apparently non-fossiliferous), and about 50% dolomite as above. Some fragments of fossiliferous bivalves, and some specimens of Lepidorbitoides and Sulcoperculina.

6680 - 6800' Chalk and some dolomite as above. Specimens of Vaughanina(?) and Sulcoperculina(?), some of the Sulcoperks thinner than those above this depth, close to the Cuban species in character. For fauna from these depths, (see #11 and 12 - 23 and 24 on slide)

6800 - 20' White chalk as above, apparently sparcely fossiliferous. Some fragments of fossiliferous bivalves; some specimens of Vaughanina(?) and Sulcoperculina(?); some brown, moderately finely granular dolomite (possibly caving).

6810 - 90' No change.

6890 - 6900' White chalk; some fragments of fossiliferous bivalves. Few forams (those present probably caving). A few Inoceramus fragments. A little light brown, moderately finely granular dolomite.

6900 - 7110' No change.

7110 - 20' Chalk as above, and 20 to 50% moderately coarsely crystalline, tan dolomite. Some Sulc~~epenellina(?)~~ orbitoides(?) ~~and Vaughaninal(?)~~; some fragments of fossiliferous bivalves including Inoceramus. (The micro-fossils possibly caving.)

7120 - 7200' No change.

7200 - 7320' Chalk; some fragments of fossiliferous bivalves including Inoceramus; a few forams (probably caving). Species as above; a few fragments of dolomite.

7320 - 7580' No change.

7580 - 90' In Austin (?) (7450 by Schlumberger) Mainly white chalk as above. A few fragments of fossiliferous bivalves, and an occasional foram (probably caving). A few fragments of dolomite (also probably caving); and a very few fragments of a dark brownish gray, "speckled" and stained marly chalk.

7580 - 7670' Like the above, an occasional fragment of the dark brownish gray, stained and "speckled" chalk.

7670 - 80' White, flaky chalk, which apparently contains finely fragmental, calcitic, fossiliferous material. A few Inoceramus fragments and a few fragments with small inclusions of tarry(?) material. Some fragments of chalk have light gray anhydrite crystals.

7680 - 7980' Moderately hard, flaky white chalk as above; a few fragments of macro-fossils including Inoceramus. An occasional fragment with brownish gray streaked and stained appearance. Some traces of a little finely fragmental fossiliferous material. A few anhydrite crystals.

7990 - 8050' No change.

8050 - 60' Like the preceding with a few of the chalk fragments showing many anhydrite crystals.

8060 - 90' No change.

8090 - 8100' Probably definitely Austin Chalk as above; many fragments at this depth packed with very fine calcitic fragments, some of these brown stained. (See #25 and 26 on slide).

8100 - 10' Like preceding with more brown stained fragments than in samples above 8090'.

8110 - 8210' No change.

8220 - 30' Chalk as above, and about 50% fragments of a brown, finely light streaked and spotted marly chalk. (See #27 on slide).

8240 - 50' Like the preceding.

8250 - 60'	Mainly grayish tan chalk with some dark stained fragments as above.
8260 - 70'	No change.
8270 - 80'	Cutting of white chalk, with finely fragmental calcitic material; some dark stained and streaked chalk as above, and cavings of chalk, and some fossils from various higher depths.
8280 - 8340'	Like the preceding.
8350 - 60' Top of Middle and Lower Atkinson(?)	Chalk as above, also many fragments of a gray shale, and limestone, in part, finely silty; a little light gray ash. Silty gray limestone shows trace of glauconite. (See #28 and 29 on slide).
8360 - 70'	Like the preceding, fragments of the silty gray marl more abundant.
8370 - 80'	Like the preceding.
8380 - 8410'	No change.
8410 - 20'	Materials like the preceding with the addition of many fragments of a bright blue-green bentonitic shale. (See #31 and 33 on slide).
8420 - 30' Top of Lower Cretaceous	Same as preceding - many fragments of "speckled" marly, brown chalk and green shale. Some fragments of brown dolomite which probably represents the material actually being drilled.
8430 - 40'	No change.
8440 - 50'	Materials as above, and about 50% brown, finely granular dolomite; some dolomitic fragments filled with small pockets due to removal of fossiliferous material. (See #34 on slide).
8450 - 60'	Like the preceding.
8460 - 80'	No change.
8480 - 90'	Same as above, with some chalky and dolomitic molds of Miliolids in the dolomite. (See #35 on slide).
8490 - 8500'	Finely granular, brown dolomite which is, in part, chalky. Contains some poorly preserved, chalky Miliolid sections.
8500 - 10'	Same as above, some flaky fragments of anhydrite.
8510 - 50'	No change.
8550 - 60'	A highly micro-fossiliferous, bright brown, finely granular, anhydritic dolomite. Fossils preserved as dolomitic casts and molds. Small, disk shaped molds of Miliolid forams common; some small Gastopods. (See #36 on slide).

8560 - 8600' Like the preceding.

8600 - 10' Tan, very finely granular, chalky and gypsiferous dolomite. A few traces of micro-fossils (molds and casts).

8610 - 20' Chalky dolomite and irregularly dolomitic, tan chalk; material anhydritic as above.

8620 - 8830' Section composed of dull, tan colored, soft, very finely granular to extremely finely granular dolomite, chalky dolomite, and dolomitic chalk irregularly gypsiferous and with a few traces of fossils as above.

8830 - 40' Dull grayish, light brown, very finely granular, gypsiferous dolomite, and about 20% anhydrite.

8840 - 90' Like the preceding.

8890 - 8900' Dolomite like the above, and chalky dolomite, a little anhydrite.

8900 - 9580' Samples stay dull grayish brown, very finely granular, irregularly gypsiferous dolomite; some chalky dolomite; and dolomitic chalk, irregularly porous, due to removal of small micro-fossils and fragments. Lenses of anhydrite.

9580 - 90' Dolomite, chalk, and cavings as above; also some fragments of a brown, somewhat gypsiferous dolomitic limestone, which is cut into thin flaky fragments.

9590 - 9600' Like the preceding.

9600 - 10' No change.

9610 - 20' Anhydrite.

9620 - 30' Anhydrite, and brown, irregularly porous, finely granular dolomite.

9630' - t. log correction.

Questionable Florida JM

9640 - 50' Top of Fredericksburg (9630 by Schlumberger) Tan and gray limestone - partly chalky and partly dolomitic in texture, with many small blebs of anhydrite, and abundant, poorly preserved traces of micro-fossils; (some poor sections of Miliolids recognized). (See #37 on slide).

9650 - 70' No change.

9670 - 80' Dense, dark grayish brown, extremely finely granular dolomite, and 50% anhydrite.

9680 - 90' Like the preceding.

9690 - 9720' No change.

9720 - 22' Core #12. Dense, dark brown dolomite; some portions showing vague traces of a highly micro-fossiliferous (fragmental material and small Miliolids) structure; other portions with a

9720 - 22' Continued --
pseudo-oolitic structure - (not true oolites, or so altered as not to be recognizable).

9722 - 24' Core #13 - Rec. 2'. Anhydrite.

9724 - 29' Core #14 - Top. Gray anhydrite.

Bottom. Gray anhydrite.

9729 - 39' Core #15 - Rec. 10' - Top 5'. Gray anhydrite or above.

Middle. Gray anhydrite.

Bottom. Anhydrite.

9739 - 49' Core #16 - Rec. 10' - Top. Anhydrite; some thin, brown, irregularly (oil stained?) lenses.

Middle. Gray anhydrite.

Bottom. No change.

9749 - 59' Core #17 - Rec. 10' - Top. Gray anhydrite.

Middle. Anhydrite.

Bottom. Anhydrite.

9759 - 69' Core #18. Hard, dark brownish gray, dolomitic shale.

Middle. Dolomitic shale like the above. Some fragments of macro-fossils. Lenses of anhydrite.

Bottom. Hard, dark brownish gray, dolomitic shale.

9769 - 73' Core #19 - Rec. 4' - Top. Dark brownish gray, dolomitic shale like that above; some irregularly shaped, (sometimes angular), lighter colored areas.

Bottom. Dark brownish gray, dolomitic shale or shaly dolomite like the above.

9773 - 78' Core #20 - Rec. 1'. Dense, dark brownish gray, shaly and somewhat chalky dolomite.

9778 - 83' Core #21 - Rec. 1'. Light grayish tan, dolomitic chalk. Dolomite is minutely granular.

9783 - 85' Core #22 - Rec. 1'. Hard, grayish tan, chalky dolomite. Some fragments of macro-fossils. Material has irregularly darker and lighter areas, due to extent of dolomitization and to some staining from thin veins filled with a brownish black substance.

9785 - 87' Core #23. Grayish tan, chalky dolomite as above; vague traces of an original high micro-faunal and fragmental, fossiliferous content. Some fragments of macro-fossils. A few blebs of anhydrite. A few transverse sections of forms suggesting Lituola(?) sp. A few poorly preserved Miliolids.

9787 - 90' Core #24 - Rec. 2'. Dark brownish gray, hard, dense, dolomitic shale.

9790 - 9800' Core #25. Light grayish tan, dolomitic chalk, or chalky dolomite. (Dolomite is very minutely granular).
Some fragments of macro-fossils, (small Gastropods).
A questionable base of Coskinolina ~~adkinsi~~ texana.

9800 - 05' Core #26 - Rec. 4'. Tan, hard, dolomitic limestone like the above. Some veins filled with brownish black (tarry?) residue. Some fragments of macro-fossils. A few blebs of anhydrite.

9805 - 08' Core #27 - Rec. ½'. Dolomitic limestone like the preceding. Some fragments of macro-fossils.

9808 - 10' Core #28 - Rec. ½'. Dark brownish gray, hard, dolomitic shale, or shaly dolomite. A few small fragments of carbonaceous material.

9810 - 11' Core #29 - Rec. ½'. Same as preceding.

9811 - 15' Core #30 - Rec. 1'. Light tan, hard, dolomitic limestone. A few fragments of macro-fossils. Core has darker and lighter areas, due to degree of dolomitization.

9815 - 17' Core #31 - Rec. 6". Like the preceding.

9817 - 22' Core #32 - Rec. 2'. Dark brownish gray, shaly, dolomite; some portions of core with a vaguely, evenly and thickly light spotted structure suggesting that material was originally oolitic.

9822 - 27' Core #33 - Rec. 1'. Dark brownish gray, shaly dolomite, or dolomitic shale similar to preceding. Some fragments of macro-fossils; no oolitic(?) areas.

9827 - 29' Core #34. Dark brownish gray, shaly dolomite like the preceding in character. A few small fragments of carbonaceous material.

9829 - 32' Core #35 - Rec. 1'. No change -- Dark brownish gray dolomitic shale. A few fragments of macro-fossils.

9834 - 39' Core #36 - Rec. 1'. Brownish gray, dolomitic, hard limestone.

9839 - 45' Core #37 - Rec. ½'. Hard, dark grayish brown, dolomitic limestone. Some fragments of macro-fossils.

9845 - 47' Core #38 - Rec. ½'. Like the preceding, lighter colored.

9847 - 52' Core #39 - Rec. 1'. Dark brownish gray, dolomitic limestone. Many large fragments of fossiliferous bivalves. A few blebs of anhydrite.

9852 - 54' Core #40. Grayish tan, hard limestone. Fragments of macro-fossils fairly common. Some poor specimens of Miliolids.

9854 - 56' Core #41 - Rec. 1'. Like the preceding. Some irregular veins filled with brownish black residue. Some fragments of macro-fossils. Some Quinqueloculinas.

9856 - 61' Core #42 - Rec. ½'. Limestone like the preceding.

9861 - 63' Core #43. Chalky, light tan limestone. Many fragments of macro-fossils. A few Quinqueloculinas. Some poor longitudinal and many transverse sections of Lituola inflata.

9863 - 68' Core #44 - Rec. ½'. Material and fauna same as above.

9868 - 71' Core #45 - Rec. 3". Chalky, light tan limestone as above. Some fragments of macro-fossils; a few Quinqueloculinas; some blebs of anhydrite, and veins filled with brownish black residue.

9871 - 73' Core #46 - Rec. 2". Limestone like the preceding. Some fragments of macro-fossils, and Quinqueloculinas.

9873 - 75' Core #47 - Rec. 9". Chalky, light tan limestone as above. Fragments of macro-fossils, and some Quinqueloculinas. Sections of Lituola sp.; some blebs of anhydrite.

9875 - 77' Core #48 - Rec. 1'. Light tan colored, chalky limestone, like the above, very finely and irregularly dolomitic. Fragments of macro-fossils fairly common as above; a few specimens of Quinqueloculina; a few blebs of anhydrite. A section of Nummuloculina? sp.

9877 - 79' ~~Coskinolina elus~~. Core #49. Like the preceding; also a few specimens of Coskinolinoides adkinsi. texanus.

9879 - 81' Core #50. Like the preceding. Coskinolinoides adkinsi texanus present. Some Lituolas, Nummuloculina? sp. var.; some Quinqueloculinas, and fragments of macro-fossils.

9881 - 83' Core #51 - Rec. 15". Light tan, chalky limestone; in part, a fine coquina of micro-fossils, and fragments with a finely oolitic appearance. Some specimens of Coskinolina adkinsi; other fossils as above. A few small Textularian forms. Small oolites often formed around small fossils and fossiliferous fragments.

9883 - 86' Core #52. Grayish tan, hard, very finely dolomitic limestone somewhat gray spotted. Specimens of Quinqueloculina, and Nummuloculina? fairly common. Small fragments of macro-fossils and a small Textularian form also present. Some portions of limestone with a large amount of moderately fine, broken, fossiliferous material.

9886 - 89' Core #53 - Rec. 2-3/4'. Hard, white, chalky limestone, less fossiliferous than preceding materials. A few specimens of Lituola inflata; subgoodlandensis and small fragments of macro-fossils present. A few specimens of Coskinolina adkinsi texanus.

9889 - 95' Core #54 - Rec. 1'. Light tan gray, chalky limestone like the preceding in general character. Fossil, material fine, fragmental sparce. A few sections of Coskinolina adkinsi and Lituola ~~inflata~~ subgoodlandensis. A lense of dark gray, dolomitic shale. " change as above.

9895 - 9900' Core #55 - Rec. 3½' - Top. Moderately hard, dense, chalky, dolomitic limestone with scattered small fragments of fossiliferous material. Some specimens of Lituola inflata. " " A few Quinqueloculinas, fragments of macro-fossils. Some blebs of anhydrite. Dendritic veins filled with brownish black, shaly material in portions of the core. A few thin, black, irregularly pyritic, shaly lenses.

Bottom. Light grayish tan, chalky, moderately hard limestone. Fragments of macro-fossils. Some specimens of Coskinolina adkinsi Miliolids and Lituola inflata. Fragmental fossiliferous material common.

9900 - 10' ~~Coskinolina plus~~. Core #56 - Rec. 2'. Like preceding - Fossiliferous material very common -- Quinqueloculina, Nummuloculina? sp., Coskinolina adkinsi and Lituola inflata. " Fred. variety.

9910 - 15' Core #57 - Rec. 2½'. Limestone like the preceding but sparcely fossiliferous. Species present same as in preceding core. Some paper thin, irregular lenses of black, pyritic shale.

9915 - 10,160' (No samples.)

10,160 - 70' Cutting of hard, brownish gray and light brown, flaky flaty, dolomitic limestone. Some anhydrite, and finely granular, brown dolomite. A few fragments of a hard, brown, oolitic limestone.

10,170 - 80' Like the preceding.

10,180 - 90' "No returns."

10,190 - 10,200' Grayish tan, hard, flaky limestone as above; some dolomite, and anhydrite. Many cavings.

10,200 - 30' Limestone like the above, and 50% anhydrite. Many cavings.

10,210 - 20' No change.

10,220 - 30' Mainly dark brownish gray, hard, flaty, dolomitic limestone; and some dolomitic shale.

10,230 - 40' Like the preceding.

10,240 - 50' No change.

10,250 - 60' Mainly a light tan, finely dolomitic chalk, and fragments of a light grayish tan dolomite, and anhydritic limestone with Quinqueloculina sp. and some other fossiliferous material (in part, gray).

10,260 - 70' Mainly a light olive gray, dolomitic, flaky limestone. Some Miliolids and other fragmentary, fossiliferous material in portions of this limestone. Many fragments of the tan, dolomitic, chalky and anhydritic limestone with many Miliolids also present.

10,270 - 80' Like the preceding.

10,280 - 90' Limestone as above, and about 50% anhydrite.

10,290 - 300' Light tan, chalky limestone; anhydritic and irregularly dolomitic Miliolids; and fragmental, fossiliferous material common in many fragments of this limestone.

10,300 - 10' Olive tan and gray, very finely granular dolomite irregularly finely porous and slightly gray spotted - slightly gypsiferous.

10,310 - 20' Like the preceding.

10,320 - 30' Light tan, moderately coarsely crystalline porous dolomite somewhat chalky and anhydritic. Contains some Miliolids and fragmental fossiliferous material.

10,330 - 40' Irregularly chalky, dolomitic and anhydritic, light tan and gray limestone. Poorly preserved Miliolids and fragmental, fossiliferous material common in some fragments.

10,340 - 50' Like the preceding.

10,350 - 60' Mainly finely granular, brown, porous and anhydritic dolomite. about 25% fragments of anhydrite. Some cavings.

10,360 - 70' Mainly brown and gray succros dolomite; 25% anhydrite and cavings.

10,370 - 80' No change.

10,380 - 90' Like the preceding -- about 50% anhydrite.

10,390 - 400' Light cream colored, chalky and in part highly oolitic, somewhat gypsiferous limestone. Miliolids often form cores of the oolites. (For character of limestone, see #38 and 39 on slide).

10,400 - 10' Light cream colored, chalky limestone irregularly infiltrated with and altering to a finely granular dolomite. Material less porous than above and showing poorly defined abundant chalky molds of fossils and fragmental fossiliferous material.

10,410 - 20' Like the preceding.

10,420 - 30' Like the above; and about 25% finely granular, light brown dolomite irregularly porous.

10,430 - 40' Like the above - cavings abundant.

10,440 - 50' Material as above; also many fragments of a light brown, oolitic and gypsiferous, porous dolomitic limestone. Miliolids generally form centers of oolites, (see # 40 on slide).

10,450 - 60' Like the preceding; also fragments of olive brown, very finely granular dolomite. Some finely granular, dolomitic chalk with traces of many micro-fossils and fragments.

10,460 - 70' Mainly olive gray and brown, succros dolomite; some chalky, oolitic and anhydritic limestone. (For dolomite, see #41 on slide).

10,470 - 80' Dolomite as above, and many fragments of a porous, white, oolitic, Miliolid and irregularly dolomitic and gypsiferous chalk.

10,480 - 90' Similar to above -- Chalk less porous, and fossiliferous material less clearly defined.

10,490 - 500' Finely granular, grayish brown dolomite (in part finely porous); and 50% oolitic, milioline, dolomitic and anhydritic, chalky limestone like the above.

10,500 - 10' Mainly succros, brown dolomite as above; and fragments of the Milioline and oolitic, chalky, dolomitic and anhydritic limestone. A fragment of Cuneolina in the oolitic limestone. (See #42 on slide).

10,510 - 20' Fragments of a finely granular, brown and grayish brown, somewhat gypsiferous dolomite strongly dominant in sample.

10,520 - 30' Like the preceding.

10,530 - 40' Dolomite as above. Many fragments of white, chalky and partly dolomitic limestone. Some dense, olive gray, flaky limestone; and cavings of various other material.

10,540 - 50' Mainly finely granular, brown and grayish brown, irregularly porous dolomite as above. Many fragments of white, chalky, somewhat micro-fossiliferous (mainly Miliolids), irregularly dolomitic limestone; and cavings of other materials.

10,550 - 60' Like the preceding.

10,560 - 80' No change.

10,580 - 90' Finely granular, brown, irregularly porous dolomite; and some dolomitic and fossiliferous, white chalk as above. Many cavings.

10,590 - 600' Like the preceding.

10,600 - 50' No change.

10,650 - 60' Dolomite as above, and light cream colored, irregularly finely dolomitic chalk; (a few fossiliferous fragments. Many cavings).

10,660 - 70' Materials as above; also many fragments of a hard, flaky limestone which apparently is variable in color and texture (hard and tan, to cream and chalky. An occasional Miliolid noted and some gray spots (see #43 and 44 on slide).

10,670 - 80' Like the preceding; also a few fragments of a brown, hard, Miliolid limestone, (these may be caving). (See #45 on slide).

10,680 - 90' Flaky, hard, variable light brown to light tan or cream, hard to chalky textured limestone, somewhat gray spotted like the preceding. Some fragments of the brown, dolomitic and gypsiferous milioline limestone, as also reported from preceding samples. Some dolomite and some cavings.

10,690 - 700' Like the preceding.

10,700 - 10' About 50% finely granular, grayish brown dolomite, and 50% flaky fragments of a light cream colored, chalky, slightly gray spotted limestone. A few fragments of the hard, brown, miliolid limestone first noted at 10,670'.

10,710 - 20' 50% anhydrite, and 50% dark and some light grayish brown, hard, flaky, dolomitic limestone. Some cavings.

10,720 - 30' Anhydrite, dolomite and many fragments of a hard, flaky, somewhat gypsiferous, gray spotted limestone (see #46 and 48 on slide), Quinqueloculina sp. in this limestone. Some Ostracods, and Nummuloculina? sp. var.

10,730 - 40' Variable tan to dark grayish brown, soft and chalky to hard and crypto-crystalline, gray spotted, somewhat fossiliferous and gypsiferous limestone as in preceding sample. About 50% of sample finely granular, brown dolomite.

10,740 - 50' Like the preceding.

10,750 - 60' Light tan and gray limestone flaky, chalky in texture, finely, gray spotted and more finely micro-fossiliferous than preceding, (see #49 and 50 on slide). Several species of Miliolids common.

10,760 - 70' Light tan, flaky, light gray spotted, chalky textured limestone. Several species of Miliolids common as above.

10,770 - 80' Flaky, gray spotted, chalky to crypto-crystalline limestone; some fragments with Miliolids and other fossiliferous material; some anhydrite, and some dolomite.

10,780 - 90' Mainly succros and slightly anhydritic, grayish brown dolomite; 25% anhydrite.

10,790 - 800' Dolomite, anhydrite, and gray spotted limestone like the above - in about eq ual proportions in sample.

10,800 - 10' ~~Trinity~~ ~~& Top~~ Flaky limestone similar to the above in general character, light to darker grayish tan in color and apparently variable in texture -- chalky to crypto-crystalline. Some gray spotted fragments at this depth show a trace of glauconite. Some dolomite and some anhydrite also present (possibly caving), and some definite cavings. For glauconite in limestone, see (#51 on slide).

DEP TRM

10,810 - 20' Dolomite, gray spotted flaky limestone, and anhydrite.

10,820 - 30' Similar to above, and abundant cavings.

10,830 - 40' Like the above, anhydrite about 25%.

10,840 - 50' Fragments of several types of flaky, gray spotted limestone; grayish tan, finely granular dolomite; and at least 50% anhydrite (This probably being drilled). Abundant obvious cavings.

10,850 - 60' Sample mainly anhydrite.

10,860 - 70' Like the preceding.

10,890 - 900' Mainly anhydrite. Some cavings of various materials.

10,900 - 10' No change.

10,910 - 20' Anhydrite and brown, dense, (oil stained?) extremely finely granular dolomite, and anhydritic dolomite. (This probably occurs as stringers in the anhydrite).

10,920 - 30' Like the preceding.

10,930 - 40' About 50% anhydrite; and 50% dolomite and cavings of the flaky grayish tan limestone; and other material from much higher depths.

10,940 - 50' Mainly brown and gray, very finely granular, irregularly porous dolomite. About 25% anhydrite.

10,950 - 60' Like the preceding.

10,960 - 70' Dolomite as above; also many fragments of flaky, dark to light brown, hard limestone (some of the lighter colored fragments with many Miliolids).

10,970 - 80' Like the above; also many fragments of a chalky and dolomitic, somewhat gypsiferous, porous, light tan limestone composed mainly of moderately small fragments of fossiliferous material. Miliolids common. (See #52 on slide).

TRM

10,980 - 90' As above, and about 10% anhydrite.

10,990 - 11,000' Like the above - some fragments of a brown, dolomitic, flaky and gypsiferous limestone with Miliolids common. Fossiliferous material in this limestone coarser than in preceding lighter colored, chalky limestone. (See #53 on slide).

11,000 - 10' Fragments of light to dark, grayish brown, hard, flaky, dolomitic limestone. Some Miliolids as above; many cavings.

11,010 - 20' Like the above; about 20% anhydrite.

11,020 - 30' As above, many fragments of the dark, grayish brown, hard, flaky limestone, which is apparently variable in texture and color shade. The limestone is gray spotted and contains some anhydritic areas. Some Miliolids present. Sample also contains anhydrite and cavings of various materials from higher levels.

11,030 - 40' Brown, finely porous, very finely granular, somewhat gypsiferous dolomite. Cavings of other material as above.

11,040 - 50' Dolomite as above, and cavings. Sample about 50% anhydrite.

11,050 - 60' Like the preceding -- less anhydrite, more cavings.

11,060 - 70' No change.

11,070 - 80' About 50% anhydrite; 50% hard, flaky, dark brown limestone; and brown, finely granular, porous dolomite; and abundant obvious cavings.

11,080 - 90' Limestone and dolomite as above; abundant cavings.

11,090 - 11,100' Like the preceding, and fragments of a hard, dark, grayish brown, dolomitic limestone which contains some fragmental fossiliferous material.

11,100 - 10' Like the preceding.

11,110 - 20' No change.

11,120 - 30' Light brown, finely granular dolomite; some anhydrite; and abundant cavings.

11,130 - 40' No change.

11,140 - 50' No change.

11,150 - 60' ?

11,160 - 70' Abundant cavings as above; also fragments of a hard, brown limestone carrying some specimen of Orbitolina ~~texana~~ minuta. (See #54 on slide).

11,170 - 80' Many fragments of the hard, olive gray (or light grayish brown) limestone noted in preceding sample. Some Miliolids also present in the limestone; and specimens of Orbitolina ~~texana~~ minuta limestone is somewhat variable in texture, partly hard and crypto-crystalline, and in part softer and lighter in color. More granular in texture (see #55 and 56 on slide).

11,180 - 90' Like the preceding. Some specimens of Orbitolina minuta.

11,190 - 200' Fragments of the hard, brown to olive brown limestone as above. Some cavings. Some dark olive gray, dolomitic shale.

11,200 - 210' Like the preceding. Some heavy oil streaks(?) on the limestone.

11,210 - 20' Like the preceding.

11,220 - 30' No change.

11,230 - 40' Limestone and some dolomite like the above; and abundant cavings, mainly from much higher levels. A little anhydrite.

11,240 - 330' No change. Little fossiliferous material in limestone.

11,330 - 40' Mainly olive gray limestone similar to the above. The limestone apparently irregularly lighter and darker in color -- dark portions crypto-crystalline and light cream portions and chalky or talc-like. (See #57 on slide).

OK

11,340 - 50' Like the preceding. A few fragments of the limestone have Miliolids and show gray spots possibly representing other fossiliferous material. (See #58 on slide).

OK

11,350 - 60' Olive gray and brown limestone as above; many fragments of very finely granular, brown dolomite. Some anhydrite and many cavings.

11,360 - 400' No change.

11,400 - 10' Mainly hard, olive gray and brown, flaky limestone with some fossiliferous fragments (in part represented by darker gray molds. Some dark brownish, gray shale.

11,410 - 20' Like the preceding.

11,420 - 30' No change.

11,430 - 40' Same as above, but at least 50% cavings.

11,440 - 50' About 50% anhydrite, and 50% cavings.

11,450 - 60' Cutting of hard, flaky, variable, dark brown, to tan and olive brown limestone irregularly oolitic and with a large amount of fragmental, fossiliferous material; the limestone is anhydritic in part, anhydrite being the cementing medium for the fragmental material in some fragments. (See #59 and 60 on slide). A trace of glauconite in oolitic portions of this limestone.

N/S

11,460 - 70' Like the preceding.

11,470 - 80' Variable, light to dark olive brown, oolitic and highly (fossil) fragmental, somewhat anhydritic limestone.

11,480 - 90' Limestone as above; and many fragments of a dark brownish gray, dolomitic shale. Some of the limestone fragments have anhydrite inclusions.

11,500 - 10' Dark olive gray limestone; and some shale similar to above, but dense and with very little fossiliferous material.

11,510 - 20' Same as above. Many cavings.

11,520 - 30' Like the preceding, but many oolitic and fragmental, fossiliferous fragments of limestone.

11,530 - 40' Limestone as above; fossiliferous material very sparce.

11,532 - 37' Core #58 - Rec. 5', Top 1'. Anhydrite.

Middle. No change.

Bottom. Brownish gray, highly anhydritic, dolomitic limestone. Some traces of fossiliferous fragments.

11,537 - 45' Core #59 - Rec. 7½', Top. Brownish gray, shaly dolomite with fragments of macro-fossils abundant.

Middle. Dark brownish gray, shaly dolomite like preceding in lithologic character. Material in part, dense and fragmental with a conglomeritic appearance. Some small Miliolids noted. In part, a dense, grayish brown, dolomitic limestone (shaly).

Bottom. Anhydrite.

11,545 - 50' Core #60 - Top. Anhydrite.

Middle. Anhydrite.

Bottom. Anhydrite.

11,555 - 60' Core #61 - Rec. 10', Top. Light and dark gray, moderately finely splotched anhydrite.

Middle. Anhydrite.

Bottom. Anhydrite.

11,565 - 75' Core #62 - Rec. 10'. Anhydrite.

Middle. Anhydrite; and dark gray, dolomitic shale with conglomeritic appearance in part. This results from limestone being composed of a mass of fragmental fossiliferous material, and some poorly preserved Miliolids. Part of this a dense, non-fossiliferous dolomite. Some fragments of macro-fossils, and blebs of anhydrite in conglomeritic looking material.

Bottom. Dark brownish gray, shaly dolomite or dolomitic shale. Some vague traces of Miliolids(?)

11,580 - 87' Core #64 - Rec. 7', Top. Olive gray, minutely granular, dense, chalky dolomite. Scattered and rather evenly distributed, light gray spots, (vague on edges).

11582
Top of Sunniland Fm.
11,582

Middle. Same as top.

Bottom. Anhydrite.

11,587 - 91' Core #65 - Rec. 2'. Anhydrite and 1/4 inch lense of shaly, brown dolomite.

11,591 - 92' Core #66 - Rec. 9". Dense, very finely granular, brown dolomite and one fragment of light brown dolomite filled with macro-fossiliferous fragments. Some specimens of Dictyoconus floridensis

11,592 - 93' Core #67. Light grayish tan, dense, very finely granular dolomite filled with rounded white spots, giving it an oolitic appearance. Some of these are moderately large, poorly defined Miliolids. Dolomite in part, non-fossiliferous and with some blebs of anhydrite.

11,593 - 94' Core #68 - Rec. 10". Dense, brown, very finely granular dolomite. Small darker spots common.

11,594 - 95' Core #69. Dolomite as above; some small blebs of anhydrite.

11,595 - 97' Core #70. Like the preceding. Some fragments of showing darker colored vein-like streaking.

11,597 - 98' Core #71 - Rec. 6". Dolomite as above; small blebs of anhydrite.

11,598 - 99' Core #72 - Rec. 1'. Anhydrite; and a conglomerite like dolomite and anhydrite. Miliolids, common in portions of the core which is a dense, brown, organic, fragmental and Milioline limestone. Some sections of a Textularian form and other fossils.

11,599 - 601' Core #73 - Rec. 1½'. Dense, grayish brown, dolomitic limestone; some Miliolids like those in preceding sample.

11,601 - 3' Core #74 - Rec. 1'. Dense, light brown, very finely granular dolomite. A few small blebs of anhydrite; a few Miliolids as above. One thin fragment of light brown, highly Miliolid limestone.

11,604 - 05' Core #76. Light brown, very finely granular, chalky dolomite. A few Miliolids and some fragments of other fossiliferous materia

11,605 - 06' Core #77 - Rec. 3". Light brown, finely granular, dense dolomite some irregularly darker brown areas and spots. A few small blebs of anhydrite. Some hard, light brown, dolomitic chalk.

11,607 - 08' Core #79 - Rec. 8". A very fine grained, light tan dolomitic chalk. Small fragments of macro-fossils.

11,608 - 10' Core #80 - Rec. 6". Grayish brown, dense, very finely granular dolomite. A few Miliolids and a few blebs of anhydrite. Some small, dark spots and dark veins (in part dendritic). Some muddy shale intruded into some vein-like crevices in dolomite.

11,610 - 611' Core #81. Grayish tan, moderately dense, very finely granular dolomite.

11,611 - 12' Core #82. Dense, very finely gramular, grayish brown dolomite. Some fragments of macro-fossils.

11,612 - 13' Core #83. Dolomite as above. A few fragments of macro-fossils.

11,613 - 14' Core #84 - Rec. 1'. Dense, light grayish brown dolomite. Miliolids (Nummuloculina type) fairly common. Fragments of other fossiliferous material also present. Some blebs of anhydrite.

11,614 - 19' Core #85 - Rec. 4', Top. Dense, grayish brown, very finely granular dolomite.

Middle. Dolomite as above. Many Miliolids in some parts of core.

Bottom. Dolomite as in top; some areas in core with Miliolids and other fragmental fossiliferous material.

11,622 - 24' Core #87 - Rec. ½'. Tan chalk with irregularly dolomitic areas. Miliolids and other fossiliferous material present.

11,624 - 25' Core #88 - Rec. 10". Brownish gray, dolomitic chalk (a chalky matrix filled with small, brown, dolomitic crystals. Miliolids and rounded fragments of other fossiliferous material, giving material a coarsely oolitic, or conglomeritic appearance.

11,625 - 26' Core #89 - Rec. 8". Light grayish tan, Milioline and somewhat oolitic chalk. Some Dictyoconus S. floridanus Some blebs of anhydrite.

11,626 - 27' Core #90 - Rec. 6". Material and fauna like the preceding.

11,627 - 28' Core #91 - Rec. 8". A coarsely oolitic, dolomitic chalk like the above. Few Miliolids. No Dictyoconus noted.

11,628 - 29' Core #92 - Rec. 3". Material like the preceding core. Some Dictyoconus S. floridanus

11,629 - 31' Core #93 - Rec. 6". Light cream colored chalk, filled with brown fragments of fossiliferous material and some Miliolids. Fossiliferous material finer than above. Material anhydrite?

11,631 - 32' Core #94 - Rec. 3". Light cream colored chalk with many dark colored (dolomitic) fossiliferous fragments.

11,632 - 33' Core #95 - Rec. 8". Light cream colored chalk with fragmental macro-fossiliferous material, and some Miliolids.

11,632 - 34' Core #96 - Rec. 6". Fragmental fossiliferous chalk like the preceding. Some Miliolids. Some specimens of Dictyoconus S., ... same as above.

11,634 - 35' Core #97 - Rec. 3". Fragmental fossiliferous chalk as in preceding. A thin lense of anhydrite.

11,635 - 36' Core #98 - Rec. 6". Brown, somewhat coarsely porous, anhydritic and somewhat chalky, very finely granular dolomite.

11,636 - 37' Core #99 - Rec. 1'. A brown, dolomitic chalk with abundant fragments of fossiliferous material.

11,637 - 38' Core #100 - Rec. 8". Tan chalk; many fossiliferous fragments; some Miliolids; some blebs of anhydrite.

11,638 - 39' Core #101 - Rec. 1'. Light cream colored chalk. Some fragmental, fossiliferous material. Some small blebs of anhydrite.

11,639 - 40' Core #102 - Rec. 8". Chalk as above; many fossiliferous fragments; and some Miliolids. Chalk, sparcely finely dolomitic.

11,640 - 41' Core #103 - Rec. 10". Light grayish tan, very finely and highly dolomitic chalk. Some small fragments of fossiliferous material.

11,641 - 42' Core #104 - Rec. 1'. Light grayish tan, chalky dolomite, very finely crystalline. Some fragments of macro-fossils; a few Miliolids.

11,642 - 43' Core #105 - Rec. 8". Chalky dolomite as in preceding. Very little fossiliferous material.

11,643 - 44' Core #106 - Rec. 8". Like the preceding.

11,645 - 46' Core #108 - Rec. 1'. Moderately hard, light tan, chalky limestone. Some specimens of Miliolids and black and dark brown, irregularly shaped fragments of other fossiliferous material. Miliolids fairly common in some portions of limestone.

11,646 - 47' Core #109 - Rec. 2". Grayish tan, chalky dolomite (very finely granular), dense. Miliolids common.

11,648 - 49' Core #111 - Rec. 1'. Hard, grayish tan, chalky limestone. A little finely fragmental, fossiliferous material.

11,649 - 54' Core #112 - Rec. 1½'. Anhydrite; porous, tan, chalky, finely crystalline dolomite? Miliolids and fragments of other fossiliferous material fairly common; and dark brownish gray, dense dolomite with some thin, black (tarry?) lenses.

11,654 - 57' Core #113 - Rec. 2'9", Top. Light tan, soft chalk, streaked with anhydrite and with large fragments of fossiliferous bivalves. Part of this core all (anhydrite?).

Bottom. Anhydritic, white chalk as above.

11,657 - 62' Core #114. Anhydrite streaked, light cream chalk; and some pure chalk lenses with Miliolids and other fossiliferous fragments.

11,662 - 64' Core #115. Light tan, anhydritic and chalky dolomitic, very finely fragmental, fossiliferous material abundant. Specimens of Dictyoconus S. fairly common.

11,665 - 68' Core #116 - Rec. 1' 8". Light cream colored chalk. Fragments of macro-fossils; and numerous specimens of Dictyoconus S. floridanus Some dark colored veins.

11,668 - 73' Core #117. Anhydrite; and large blebs of anhydrite in a light cream colored chalk.

11,673 - 76' Core #118 - Rec. 1' 6". Light cream colored chalk; some black veins and fragments of macro-fossils. Some specimens of Dictyoconus S. Blebs of anhydrite.

11,676 - 77' Core #119. Light tan, chalky and highly fragmental, fossiliferous dolomite. Dictyoconus S. common.

11,677 - 78' Core #120 - Rec. 1'. Light brown, chalky and dolomitic coquina of fossiliferous fragments. Some species of Dictyoconus S.

11,678 - 81' Core #121 - Rec. 1½'. Like the preceding.

11,681 - 84' Core #122 - Rec. 1'. Similar to preceding -- a tan, moderately hard, chalky dolomite packed with fragmental, fossiliferous material less well preserved than in the above. Some specimens of Dictyoconus S; and a few Miliolids.

11,684 - 87' Core #123 - Rec. 15". A coquina of fossiliferous fragments which has a coarsely oolitic appearance. Orbitolina texana and Dictyoconus S. present.

11,687 - 91' Core #124 - Rec. 4', Top. Like the preceding.

Bottom. Light brown, chalky dolomite. A coquina of fossiliferous fragments and some micro-fossils. Fauna same as above.

11,691 - 96' Core #125 - Rec. 5', Top. Like the preceding. Dictyoconus S. noted.

Middle. No change.

Bottom. Like the above, but softer and more chalky.

11,696 - 700' Core #126 - Rec. 4'. A tan chalk, with much fragmental, macro-fossil material.

11,700 - 705' Core #127 - Rec. 2'. A somewhat dolomitic, light tan chalk with fragmental, fossiliferous material and traces of abundant, finely comminuted, fossiliferous fragments.

11,705 - 707' Core #128 - Rec. 6". Light brown, irregularly chalky dolomite. Some Miliolids (same as noted in upper part of Sunnyland horizon).

11,707 - 09' Core #129 - Rec. 1'. Light tan, dense dolomite. A few Miliolids as above.

E. R. Applin.