P85

W-1877
(Driller's log)
November, 1948

OWNER : Humble Oil & Refining Company
FARM NAME : G. H. Hodges No. 1 (Permit No. 85)
LOCATION : Approx. in center of NE¼ of NE¼, Sec. 12 T5S, R6E, 1½ miles southwest of Hampton Springs
COUNTY : Taylor
ELEVATION : 21.5' Grd
STARTED : July 16, 1948
COMPLETED : October 31, 1948
CASING : 26" at 60' w/150 sx; 13-3/8" at 1519' w/800 sx
DEPTH : 6254' in igneous rock
DRILLER : Sunnyland Contracting Company
USE : Test for oil - dry and abandoned
REMARKS : *DST: 3425-3445: open 2 hrs 30 min; ½" T rec 120' mud cut w/SW(*Dixie Geol. Serv. 11/4/48)
191 cuttings from 1610 to 6240', cores from No. 7 at 1985-1995 to No. 116 at 6229-6254' were received from Humble Oil & Refining Company, Tallahassee, by J. C Simpson on March 29, 1949.

12	Sand & shells
15	Dolomite
60	Limestone
65	Dolomitic lime
84	No returns
114	Limestone
210	Boulders
213	Lime
245	Limestone
520	Broken lime
690	Chalk & limestone
1610	Broken lime
1950	Dolomite
2340	Lime
2635	Soft lime
2735	Hard lime
2835	Chalk
2995	Chalk & dolomite
3200	Chalk
3300	Lime
3390	Lime & limey shale
3430	Shale & lime
3445	Sand & shale
3448	Green shale
3499	Sandy shale
3507	Hard shale
3514	Sticky shale
3551	Shale
3573	Green & gray shale & streaks sand
3622	Sand & shale
3623	Gray sandy shale
3648	Sand & shale
3658	Green sand
3673	Sand
3743	Sticky shale
3753	Shale
3795	Greenish, gray, sandy shale
3870	Green sand
3962	Green sand & black shale
4100	Green sand & shale
4251	Sand & shale
4280	Shale & sand
4288	Green shale
4329	Sand & green shale
4354	Shale
4485	Green shale
4567	Sand & shale
5643	Gray shale & sand
4702	Sand & shale
4713	Hard quartzitic sand
4757	Sand & green shale
4825	Sand & shale
4881	Green & red shale w/s sand
4924	Sand & green shale
4928	Sand & shale
5024	Red & gray shale w/s lime
5086	Green sand & red shale
5147	Sand & shale
5177	Gray shale w/s sand
5183	Sand & shale
5220	Shale & hard sand
5238	Green shale & sand
5277	Shale
5310	Shale & sand
5322	Green shale
5367	Red shale
5422	Shale & hard sand
5500	Shale & sand
5532	Sand & shale
5548	Lime

5568	Shale & lime
5580	Lime & shale
5598	Red shale & lime streaks
5630	Red & green shale
5666	Shale
5694	Red & gray shale
5805	Shale & sand
5845	Sand & shale
5862	Shale & sand
5895	Sahel & hard sand
5913	Sand & green shale
5930	Sand & shale
5935	Shale & sand
5936	Sand
5944	Sand & shale
5949	Shale
5961	Sand & shale
5970	Shale & sand
5980	Sand & shale
6001	Shale & streaks sand
6041	Sand & shale
6063	Red & gray shale & sand
6085	Gray shale
6097	Greenish, gray shale & sand
6106	Green shale
6115	Shale
6152	Black shale
6160	Shale
6179	Sandstone
6254	Igneous rock
6254	T. D.

/s/ Frank Fee

W-1877
(Southeastern Geological Society Mesozoic Cross-Section Committee - 1949)

Line A to A^1

OWNER : Humble Oil & Refining Co.
FARM NAME : G. H. Hodges No. 1 (Permit No. 85)
LOCATION : Approx. in center of NE/4 NE/4 Sec. 12, T5S, R6E, 1½ mi. SW Hampton Springs
COUNTY : Taylor
ELEVATION : 21.5' Grd.
STARTED : July 16, 1948
COMPLETED : October 31, 1948
CASING : 26" at 60' w/150 sx; 13-3/8" at 1519' w/800 sx.
DEPTH : 6254' in igneous rock
DRILLER : Sunnyland Contracting Company
USE : Test for oil - dry & abandoned
REMARKS : Received 191 cuttings from 1610 to 6240 f Cores from No.7 @ 1985-1995 ft. to No. 16 @ 6229-6254 ft. Igneous rock.

CRETACEOUS SYSTEM - GULF SERIES
AUSTIN - TAYLOR EQUIVALENT

2290-2860 Chalk
2860-3384 Shaly chalk
3384-3404 Sand

ATKINSON FORMATION - Zone A

Fauna: Planulina eaglefordensis
Valvulineria infrequens
Gumbelina moremani
Trochammina wickendeni, etc.

3404-3444 Sand, calcareous, glauconitic,
3444-3524 Shale, sandy
3524-3534 Sand.
3534-3600 Shale, sandy

ATKINSON FORMATION - Zone B

3600-3676 Sand
3676-3758 Shale
3758-3798 Sand, glauconitic

Fauna: Ammobaculites braunsteini
A. comprimatus, A. advenus
Ammobaculoides plummerae
Trochammina rainwateri, etc.

COMANCHE SERIES

3798-5911 Red or variegated sand, calcareous or nodular.

POSSIBLE TRIASSIC

5911-6000 Red or variegated, calcareous or nodular sand.
6000-6158 Shale
6158-6253 Basic igneous

Taken from Mesozoic Committee Cross Section by Mary W. Blount, September, 1950

WTy-5S-6E-12
W-1877
Chih Shan Chen
Dec. 31, 1964

COMPANY	:	Humble Oil & Ref. Co.
WELL	:	Hodges #1
LOCATION	:	Sec. 12, T5S, R6E
COUNTY	:	Taylor
ELEVATION	:	36 D.F.
DEPTH	:	6253'
COMPLETED	:	10-28-48
REMARKS	:	No sample at 0-1610', etc. Electric Log Available

CHEN 1963

0	60	OLIGOCENE AND YOUNGER
60	250	OCALA GROUP
250	415	AVON PARK LIMESTONE
415	1080?	LAKE CITY LIMESTONE
1080	1680?	OLDSMAN LIMESTONE
1680	2020?	CEDAR KEYS LIMESTONE
2020?	2457?	UPPER CRETACEOUS (LAWSON LIMESTONE)
2457		UPPER CRETACEOUS (TAYLOR)
0	60	OLIGOCENE AND YOUNGER
60	185	Highly fossiliferous Limestone, large forams
185	250	DOLOMITE?, very fine to fine crystalline
250	295	Fossiliferous Limestone
295	385	Fossiliferous Limestone
384	415	Calcitic (20%) DOLOMITE?, fine crystalline
415	745	Fossiliferous Limestone
745	770	DOLOMITE(20%) fossiliferous Limestone?
770	830	Fossiliferous Limestone
830	860	DOLOMITE, fine crystalline

860	945	Fossiliferous Limestone
945	955	DOLOMITE, fine crystalline
955	1050	Fossiliferous Limestone
1050	1080	DOLOMITE, fine crystalline
1080	1160	Fossiliferous Limestone
1160	1170	DOLOMITE, very fine to crystalline
1170	1460	Fossiliferous Limestone
1460	1510	DOLOMITE, very fine to fine crystalline
1510	1570	Fossiliferous Limestone
1570	1615	DOLOMITE, fine crystalline, dark brown
1615	1660	Fossiliferous Limestone, fragmental, rather well cemented, microcrystalline, very light brown to light brown, rather pure, forams as Heliostegina, Cosk., etc, all forams were re-crystallized
1660	1680	As above
1680	1720	Fossiliferous Limestone, microcrystalline, finely fragmental, rather dense, very light brown to light brown, rather pure and clear, slightly gypsiferous and dolomitic
1720	1765	DOLOMITE, very fine to fine crystalline, sugary, dense, dark gr
1765	1800	Fossiliferous (fragments) Limestone, finely fragmental, light brown, rather dense, slightly cherty, dark brown and gray-brov chert fragments
1800	1820	DOLOMITE, very fine crystalline, rather dense, dark gray-brov
1820	1900	LIMESTONE, finely fragmental CO. 2mm) rather dense, light gray-brown, slightly cherty and dolomitic., (the limestone may be a cherty (10%) limestone, dark gray-brown, chert fragments rather common
1900	1920	Cherty (10%)Dolomitic (10%) Limestone, finely fragmental, light gray brown, rather dense, chert fragments rather common
1920	1940	Cherty (10%) dolomitic (10%) as above

1940	1975	Cherty (10%) dolomitic (10%) Limestone, as above
1975	2020	Limestone, finely fragmental, rather dense, light gray-brown, slightly cherty and dolomitic
2020	2080	Fossiliferous (fragments and forams) Limestone, finely fragmental, rather well cemented, more or less microcrystalline, light brown rather pure, Biosparite with very small forams , (probably Upper Cretaceous in age.)
2080	2170	Limestone, finely fragmental, rather well cemented, dense, light gray-brown, slightly cherty, dark gray chert fragments
2170	2250	Cherty (10%) Limestone, finely fragmental, rather dense, light gray-brown, gray chert fragments rather common with fossils and forams, etc., rare
2250	2285	Cherty (10%) Limestone as above, gray and chalky white chert fragments common
2285	2457	Limestone, microcrystalline, finely fragmental, rather well cemented, pure, light brown, chert fragments also present, (probably due to mix up from above)
2457	2600	Fossiliferous Limestone as above, shell fragments, Inoceramus prisms ?
2600		Chalky fossiliferous Limestone, shell fragments, porous, Inoceramus prisms, Brachiopods, etc.

Taylor Peak: 2560'

804 Valencia Street
Jackson, Miss. 39204
April 5, 1966

P85

Mr. John C. Maher
U.S.Geological Survey
Marine Geology
345 Middlefield Road
Menlo Park, California 94025

Dear John:

Herewith sample log of Humble Oil & Ref'g. Co. G.H.Hodges well 1, Taylor County, Fla., from 1610 to 1950 ft. The sample log of this well from 1950 to 6180 ft. was mailed to you on March 11, 1966.

1610-30 In Oldsmar Ls.(lower Eocene) Limestone, light-cream, moderately hard, bioclastic, composed of chalk-cemented molds of fragmental microfossil material. Many poorly preserved molds of Camerina sp. (undescribed) and Miscellanea.

1630-50 Limestone, light-cream, moderately hard, chalky textured. A few fragments of coralline algae, Molds of Miscellanea sp. fairly common in medium screenings.

1650-70 Do. Some gypsum inclusions, and a few fragments of dolomite, dense, light-tan,finely crystalline. A few molds of Camerina.

1670-90 Do.

1690-1710 Limestone like the preceding. Very minor chalky dolomite, light-tan,finely crystalline, dense; a trace of gypsum.

1710-30 Do. A few dolomitized molds of Camerina sp. as above.

1730-50 Like the above, but slightly more dolomitic. Several nodules of coralline algae in the limestone.

1750-70 Limestone, like the preceding, and many fragments of dark brownish-gray,finely crystalline, weakly porous dolomite. A few fragments of brownish-gray chert.

1770-90 Do.and a trace of gypsum.

1790-1810 Do., with more chert and more dolomite.

1810-30 Limestone as above, and about 50 percent dolomite, grayish-brown, finely crystalline, moderately porous; some gray chert and a few fragments of a very hard gray limestone.

1830-50 Top of Paleocene. Limestone about 50 percent,and dolomite about 50 percent. A little gray chert. The dolomite is similar to the preceding. The limestone is, in part, like the above, but many fragments are cream-colored, chalky, very finely nodular textured, and packed with small fragments of calcitic material that is possibly of organic origin.

1850-70 Limestone as described just above, and dolomite also like the preceding sample. A little gray chert and a fewspecimens of Robulus sp. are present.

1870-90 Do., and many fragments of light-gray chert.

1890-1910 Do.

1910-30 Do., and some cavings from higher levels.

1930-50 Limestone, light-cream, finely porous, finely dolomitic, very finely nodular in texture, Many chips of light-gray chert, and a trace of dolomite like the above are present.

Note. I suggest a possible Paleocene top at about 1830ft. on the basis of an abrupt change in lithology. This point is not supported by definitive faunal evidence, but the Robulus found at 1850ft. occurs also at a lower level in a core it where it is accompanied by a Paleocene faunal assemblage. The core is at 1950-55ft., and is in the part of the log sent to you in March. The approximate top of the upper Lawson is questionably at 2135ft. as shown on page 2 of the lower part of the log of this well.

I have written to Bob Vernon to see whether or not the Fla. Survey has samples above the depth of 1610ft. where the present log starts. I have logs of several other wells in Taylor County from the surface into the middle Eocene, and possibly one of these would help us to pick e-log points for the formations above the Oldsmar Limestone, if Bob does not have the uppermost samples on the Hodges well.

Sincerely

Esther R. Applin

Humble Oil & Refining Company
#1 G. H. Hodges
Sec. 12-5S-6E
Taylor County, Florida
Elev: 21.5' GR
35.5' DF

Paleocene. Tamesi facies.
~~Upper Lawson~~ - (Possibly a top Cretaceous - basal Eocene transition zone which, in this well, shows a larger and better preserved micro-fauna than is usually found in this part of the section.)
Material and a few fossils noted in cutting as high as 1810 - cores studied in this part of section, as recorded below.

CORES

1950-55' Consists of lenses of white, very finely dolomitic chalk, and chalky, very finely granular dolomite with some sections of micro-fossils, and dolomitic chalk, having a finely nodular texture, from presence of an abundance of chalky and calcitic molds of foraminifera. This latter type of material, dominant in this part of the section and dolomite content varies from 50% to almost zero. Common forams present -
Camerina sp.
Cibicides ~~kerpori~~ alleni
Anomalina tennesseensis.
Nodosaria cf. corsicanana.
Marginulina cf. plummerae.
Robulus munsteri.
Robulus sp.
and rare specimens of -
Globigerina cf. triloculinoides
Gyroidina sp.
Pluerostomella cf. velascoensis
Sulcoperculina cosdeni (prob. reworked)
See #13 - 16 on slide.

1955-65' Finely nodular - highly micro-fossiliferous and calcitic chalk. Fauna as above.

1965-75' Like the preceding.

1975-85' Material similar to preceding with material more chalky and very finely dolomitic - correspondingly less fossiliferous ~~core~~ same thin streaks of gray chert.

1985-95' Very finely dolomitic chalk - some forams, species as above.

1995-2005' Soft white, slightly very finely dolomitic chalk.

2005-15' Finely nodular, micro-fossil calcitic and very finely somewhat dolomitic chalk. No change in fauna.
See #17 on slide.

2015-25' Soft white somewhat very finely dolomitic chalk.

2025-35' White, finely nodular, highly calcitic and micro-fossil chalk. Micro-fauna same as for the above.
(See #18 on slide.)

2035-45' Like the preceding (See #19 on slide). Some specimens of Globorotalia velascoensis, Globorotalia membranacea and Pseudouvigerina sp., Cibicides ~~harperi~~ alleni? still common.

2045-55' Like the preceding.

2055-65' No change.

2065-75' Same as above, for fauna see #20 on slide.

2085-95' Very finely and highly dolomitic soft chalk. A few fossils - species as above.

2095-2105' A highly calcitic chalk - (calcitised and poorly preserved, small forams and fragments), some gray chert.

2105-15' Soft white chalk, some chert.

2115-25' White chalk. No fossils noted.

2125-35' Finely nodular, highly calcitic (poor) molds and fragments of micro-fossils), slightly glauconitic chalky limestone. Fauna same as in preceding fossiliferous core samples. (See #21 on slide for fauna.)

2135-45' A highly and finely calcitic chalk. A few Ostracods noted.

2145-55' Soft white chalk - some chert.

2155-65' White chalk - with abundant fine particles of calcitic material represent calcite molds and fragments of micro-fossils - some gray chert. Micro-fauna same as for fossiliferous samples above, but recognizable specimens rare.

2165-75' Soft white chalk.

2175-85' Like the preceding. (Sample apparently not washed.)

2185-95' Moderately hard, white, very finely granular textured chalk.

2195-2205' Softer chalk similar to preceding in character.

2205-15' Soft white chalk, some white chert.

2215-25' Like the preceding.

2225-35' No change.

Note: The above described cored section shows a faunal mixture of Velasco with some ~~Lower~~ Cretaceous species. The interval apparently represents a phase of the U. Lawson which is less highly calcitised and more chalky than the U. Lawson as usually represented. The cutting samples for some distance below the cored section consists mainly of caving from the harder portions of the U. Lawson (the nodular fossiliferous limestone), therefore the U. Cretaceous points agreed upon by members of the S. E. Geological Society Mesozoic section will be given below - ~~and~~ samples not worked.

Top of Lower Lawson -- (Lepidorbitoides Horizon - 2296'.
Top of Taylor - 2580'. 2680'
Top of Austin - 3030'.

CUTTINGS

3020-40' White chalk, with some fragments of gray and greenish gray marly shale with Inoceramus prisms - some fragments of Inoceramus, a few fragments of a small Brachiopod. Some small Gumbelinas noted and some forams from higher portions of the section. Some chert (possibly caving).

3040-60' Like the preceding. Small Gumbelinas - Globigerinas and a small Anomalina sp. common. A.

3060-80' Like the above, but cavings common.
3080-3100' White chalk as above and many fragments of a light gray marly chalk. Inoceramus fragments common.
3100-20' Like the preceding.
3120-40' Cut - mainly white chalk, some gray marly chalk and some light greenish gray, marly shale. Many fragments of Inoceramus.
3140-60' Like the preceding.
3160-80' White chalk as above and about 20% fragments of the gray marly chalk. Many fragments of Inoceramus.
3180-3200' Like the preceding.
3200-20' Like the above, many fragments of a dark brownish gray, somewhat light "speckled" marly shale.
3220-40' Like the preceding.
3240-60' Mainly white chalk. Some fragments of gray marly chalk, and brownish gray "speckled" marl. Many Inoceramus fragments. Some chert.
3260-80' Like the preceding.
3280-3300' No change.
3300-20' No change.
3320-40' No change.
3340-60' No change.
3360-80' No change.

~~Top of Eagle Ford~~.

3380-3400' Sample about 75% - fine grained, cal. white to light gray, slightly glauconitic sandstone - remainder of material, highly sandy chalk and some fragments of a dark brownish gray, thinly flaky shale; having a somewhat "speckled" appearance. Some fragments of fish bones and teeth also present.

3400-05' Core #32. 1st 6": Light gray, argillaceous, very fine, even grained quartz sandstone. Some phosphatic nodules. Sand grains sub-angular.
2nd 6": Moderately hard, light greenish gray, argillaceous and calcitic very fine grained quartz sandstone (slightly micaceous). Some phosphatic molds and a few small Grypheas?.
3rd 6": Sandstone similar to preceding in general character, but poorly consolidated. Small fragments of chalco-pyrite common; mica more common than above.
4th 6": A moderately hard, highly and finely sandy chalk, some phosphatic nods.

3405-15' Core #33. 1st 6": Hard cream colored highly calcitic very fine grained sandstone and highly and finely sandy hard chalk.
2nd 6": Hard white fine grained quartzitic-like sandstone with apparently very thin partings of dark brownish shale with some fish bone fragments. Some mica in ss.
3rd 6": Hard white calcite, very fine grained sandstone and thin lenses of dark gray, slightly speckled, flaky shale. Speckled appearance due to presence of minute, crushed specimens of foraminifera.

3405-15' 4th 6": Moderately hard light gray, highly calcitic, somewhat micaceous and slightly glauconitic very fine grained sandstone.

3415-20' Core #34. 1st 6": Gray, argillaceous and micaceous siltstone and lenses of gray green, finely carbonaceous shale which also contains fragments of fish scales and some minute specimens of foraminifera. A few specimens of Planulina eaglefordensis noted.
2nd 6": Like the preceding. Less shale.
3rd 6": Like the preceding.
4th 6": Gray green shale and thin lenses of cream colored, very fine grained calcitic mica, finely glauconitic sandstone. Sample contains abundant specimens of Globigerina sp., Gumbelina moremaini and Planulina eaglefordensis. (See #22 on slide.)
5th 6": Cream colored highly silty clay or argillaceous and micaceous siltstone, with some lenses of gray-green shale as above.

Def. E. Ford Top. upper Atkinson

3420-30' Core #35. 1st 6": Hard light gray calcitic fine grained sandstone with many fragments of fish teeth and bones and some fragments of fossil bivalves including some Inoceramus fragments. Lenses of flaky green shale.
2nd 6": Thinly laminated gray green shale. Some thin siltstone lenses. Minute specimens of Gumbelina, Planulina eaglefordensis and other very small forams, and some shreds of carbonaceous material in shale. Small flakes of mica common in thin partings.
Lenses of soft light gray argillaceous fine, even grained, somewhat micaceous sandstone carrying many small fragments of phosphatic bone material. A trace of glauconite.
3rd 6": Sandstone as above and thin lenses of flaky gray-green shale.
4th 6": Gray, highly and finely arenaceous limestone and hard highly calcitic fine, even grained quartz sandstone. A little mica, some small fragments of phosphatic material and a trace of fine, bright blue-green glauconite.
5th 6": Soft sandstone - like the preceding, some thin lenses of the gray-green shale and one 1" fragment of the core of hard gray limestone and hard calcitic sandstone showing a fracture zone filled with calcite combined with gilsenite.
6th 6": Gray, fine even grained, argillaceous and micaceous sandstone. Scattered small fragments of phosphatic material.

3430-35' Core #36. 1st 6": Moderately soft, gray, argillaceous, fine even grained sandstone. Some small fragments phosphatic material.

3430-35' Core #36. 2nd 6": Like the preceding. A little mica. 3rd 6": Sandstone as above and thin lenses of the flaky gray-green shale. Small fragments of phosphatic material present as above.

3435-40' Core #37. 1st 6": Soft gray, fine, even grained, argillaceous quartz sandstone - some thin lenses of the flaky gray-green shale.
2nd 6": Soft, gray, argillaceous, fine, even grained, slightly micaceous sandstone. A trace of glauconite. A few small fragments of phosphatic material.
3rd 6": Like the preceding.
4th 6": No change.
5th 6": Similar to above - less well consolidated.

3440-45' Core #38. 1st 6": Argillaceous and micaceous fine even grained soft sandstone with cross bedded appearance due to irregularly distributed sandy clay. Material is finely phosphatic, micaceous and contains a trace of fine, blue-green glauconite.
2nd 6": Like the preceding.
3rd 6": Soft sandstone like the above, some lenses of greenish-gray shale.
4th 6": Gray-green, thinly laminated, slightly micaceous shale. Some fish scales noted, small pyrite nods common. A few small specimens of Planulina eaglefordensis noted. (Boiling of sample might have revealed a layer of micro-fauna.)
5th 6": Gray-green flaky shale with irregular thin partings of light gray siltstone. Small pyrite nods. common. Some fine fragments of phosphatic material.

3445-48' Core #39. 1st 6": Soft gray, fine, even grained argillaceous sandstone and some green shale (not a good core fragment.)
2nd 6": Like the preceding. Some phosphatic material and pyrite nods. present.
3rd 6": Soft argillaceous sand as above and some lenses of flaky, dark gray, slightly carbonaceous shale.
4th 6": Argillaceous sand as above and flaky gray-green shale.
5th 6": Like the preceding.
6th 6": Seems to be drilling mud.

3448-58' Core #40. 1st: Gray-green flaky shale and thin lenses of light gray siltstone. A few small Planulina eaglefordensis and Gumbleina sp. Some phosphatic material and pyrite nods.
2nd: Thinly laminated gray-green shale. Showing a few small fragments of carbonaceous material. Crushed specimens of very small forams common the shale. A small Gumbelina most abundant form noted.
3rd: Shale as above. Minute specimens of Planulina, Globigerina and Gumbelina fairly common.
4th: Shale and fauna as above - some silty partings.

3448-58' Core #40. 5th: Shale similar to preceding with irreg. silty parting. Shale has a "speckled" appearance from presence of many small crushed specimens of foraminifera and fish bones and scales. (For type of shale and fauna see #23 on slide.)
6th: Like the preceding.
7th 6": "Speckled" finely micro-fossil shale as above and thin silty parting.
8th: Light gray silty or finely granular micaceous clay or soft, very fine siltstone.

3458-63' Core #41. 1st 6": Gray green shale and numerous thin, irregular partings of soft, light gray siltstone. Siltstone is finely micaceous and slightly glauconitic. Shale has much fine, often crushed foram material as above. A good fauna of typical E. Ford species washes from this sample. Common species present were: Planulina eaglefordensis, Globigerina sp., Gumbelina moremani, Gumbelina sp.; Hastigerinella moremani, Valvulineria infrequens, Neobulimina sp., Pleurostomella sp. (See #24 on slide.)
2nd: Gray green flaky shale with thin irregular micaceous siltstone parting, some lenses of hard, dense, calcitic, micaceous, very fine grained sandstone. Some forams, species as above. A few Ostracods.
3rd: Gray, argillaceous, very fine, even grained quartz sandstone. Material somewhat micaceous and contains scattered small fragments of of phosphatic material. A trace of glauconite.
4th: Like the preceding.
5th: Sandstone like preceding with some thin, irreg. lenses of greenish-gray shale.
6th: Light gray, argillaceous and calcitic somewhat micaceous, very fine grained sandstone. Scattered fragments of phosphatic bone material present.
7th: Sandstone similar to preceding - less argillaceous, less well consolidated.
8th: Similar to preceding, but some small fragments of carbonaceous material also present.
9th: Like the preceding.
10th: Gray green shale with abundant, thin, irreg. highly micaceous siltstone partings. A trace of glauconite and some shreds of carbonaceous material.

3463-73' Core #42. 1st 6": Thinly laminated gray-green shale. Material is slightly micaceous and shows a few shreds of carbonaceous material. A small amount of very fine, crushed micro-fossil material also present. Some crushed specimens of Planulina eaglefordensis.
2nd: Like the preceding. Some very thin silty partings.
3rd: Like the preceding.
4th: Shale as above, thin silty partings which are micaceous and contain much finely crushed minute micro-fossil material - some fish scale fragments.

3463-73' Core #42. 5th: Shale like the above.
6th: No change.
7th: No change.
8th: Light gray, finely sandy, argillaceous and micaceous, soft siltstone. A trace of light blue-green glauconite in very small nods. Some shreds of carbonaceous material and small fragments of fish scales.
9th: Finely and highly sandy to silty micaceous, gray green clay shale. Material contains crushed micro-fossil material. Some specimens of Plan. eaglefordensis present. Some phosphatic bone fragments.
10th: Like the preceding. 11th: No change.
12th: Light gray, argillaceous and micaceous, very fine grained, soft sandstone.
13th: Thinly laminated gray-green shale with abundant and irreg. thin silty and micaceous partings. Minute, generally crushed forams present in the shale, some shreds of carbonaceous material and fine fragments of fish bones and scales.
14th: Like the preceding. Some thin lenses of siltstone.
15th: Light greenish-gray, finely sandy and silty, micaceous clay shale.
16th: Light gray, argillaceous, very fine, even grained quartz sandstone, micaceous, with some forams, some shreds of carbonaceous material and a little phosphatic material. Planulina eaglefordensis present.

3473-78' Core #43. 1st: Light gray, fine, even grained, moderately hard, calcitic, micaceous sandstone. A few small fragments of carbonaceous material. A trace of glauconite
2nd: Like the preceding.
3rd: Soft gray, micaceous and argillaceous, very fine grained sandstone. A trace of glauconite and some phosphatic material.
4th: Gray-green shale with fine, irregular, abundant partings of micaceous siltstone - a very fine grained sandstone. Some minute forams in shale. Generally crushed.
5th: Similar to above, with abundant small pyrite nods.
6th: No change.
7th: Similar to above. A trace of glauconite and a few small fragments of carbonaceous and of phosphatic material, little pyrite.
8th: As above. Glauconite slightly more common.
9th: Like the above.
10th: No change.
11th: No change.
12th: Gray-green, thinly laminated shale. Some minute forams present and a few small fragments of phosphatic material in shale.

3478-88' Core #44. 1st part: Shale as above. Small specimens of Globigerina and Gumbelina common.
2nd: Like the preceding.
3rd: As above. Globigerina and Gumbelina still common. Some specimens of Planulina eaglefordensis.
4th: Shale as above with some partings of micaceous, silty, v. fine grnd. ss. Micro-fauna as above. (For fauna see #25 on slide.)

Good Austin fauna

3478-88' Core #44. 5th: Gray-green thinly laminated shale. Fauna same as above with addition of a few small arenaceous forams.
6th: Shale and fauna as above with very thin irregular lenses of micaceous siltstone.
7th: Like the preceding.
10th: No change.
11th: Like the preceding, but forams much less common.
13th: No change.
14th: No change.
15th: Thinly laminated gray-green shale. No change in fauna.
16th: Shale with thin pyritic and micaceous siltstone lenses. Forams common, but usually very small species same as above.
17th: Gray-green shale - some thin, irregular silty and micaceous partings. Fauna as in preceding.
18th, 19th, & 20th: Like the preceding.

3488-98' Core #45: 2nd: Gray-green shale as above. A few thin siltstone partings. Some minute forams in shale. Some larger specimens washing free. No change in fauna. A few fragments of fish scales.
3rd: Gray-green shale. Fauna as above.
4th:& 5th: No change.
6th: Gray-green, thinly laminated shale. Very few forams.
7th: Shale as above and a few very thin siltstone lenses.
8th: Like the preceding. Some small, irregular shaped siderite nods.
9th: Like the preceding, but no siderite nods noted.
10th: As above. Some small, irregular shaped siderite nods.
11th, 12th, 13th, 14th: (steady increase in percentage of small siderite nods. Material same as above. No change in fauna.)
15th: Gray-green shale - a few thin siltstone partings. Some small irregular shaped siderite nods. Mica in siltstone. Some forams. No chage in fauna.
16th, 17th, 18th, 19th, 20th: No change.

3498-3501' Core #46. 1st 6": Gray-green shale with a few thin micaceous siltstone lenses. Fauna same as for the above. Small irregular shaped siderite nods present and a few small fragments of carbonaceous material. Some small pyrite nods.
2nd & 3rd: No change.

3501-05' Core #47. 1st: Like the preceding.
2nd: Like the preceding.
3rd: Thinly laminated gray-green shale. Fauna as above.
4th: Shale as above - a few very thin silty, micaceous partings. Fauna as above. Many small irregular shaped siderite nods, some pyrite nods.
5th: Gray-green shale. Some siderite and fauna as above.
6th: Like the preceding.

3505-07' Core #48. Gray-green shale. A few thin siltstone lenses. Siderite and fauna as above.

3507-12' Core #49. 1st: Gray-green shale with irregular thin partings and some thin lenses of light gray micaceous siltstone. Fauna as above. Small siderite nods. as above.
2nd: Gray-green somewhat micaceous shale and thin lenses of hard, light gray, very fine grained sandstone. Fauna and siderite as above - a few small fish bone fragments.

3512-15' Core #50. 1st: Like the preceding.
2nd ft.: No change.
3rd ft: No change.

3515-16' Core#51. Gray-green shale. A few irregular siltstone partings and hard, fine grained sandstone inclusions. Fauna, siderite, micaceous as above.

3516-23' Core #52. 1st ft.: Gray-green shale with thin partings and lenses of very fine grained micaceous sandstone. Some small fragments fish bones and scales, siderite nods and fauna like the preceding (Gumbelina moremani, Globigerina sp., Planulina eaglefordensis and some specimens of Valvulineria infrequens.

3523-28' Core #53. 1st: Thinly laminated gray-green shale. Some siderite nods. micro-fauna as above. Some fragments of fish bones and scales and a few fragments of Inoceramus.
2nd ft: Like the preceding.
3rd: Shale and fauna as above, some irregular partings of very fine grained micaceous sandstone and siltsone. Fragments of a thin shelled Inoceramus in shale. Forams abundant in silty lenses and many small fragments of fish bones and scales.
4th: Thinly laminated greenish-gray shale with a speckled appearance from abundance of minute forams and small crushed fragments of other fossil material. Fauna same as above - some fish scales and bones.
5th: Darker gray, "speckled" shale - character as above and thin lenses of siltstone. No change in micro-faunal content. Small fish bone fragments present.

3528-38' Core #54. 1st: Hard, fine grained, micaceous, calcitic sandstone with many fragments of fish bones. Some forams - species as above.
2nd: Very fine grained silty and micaceous light gray sandstone - somewhat finely carbonaceous. A few fragments of Inoceramus and other bivalves.
3rd: Gray-green shale with partings of siltstone and shale with highly "speckled" appearance from crushed fossiliferous material, fish bone fragments, mica and some shreds of carbonaceous material.
4th: Like the preceding.
5th: Thinly laminated gray-green shale, some darker gray, thin, "speckled" lenses as above.
6th: A highly and finely "speckled" (crushed and finely broken fossiliferous material and some fish bones and scale fragments, mica) shale.
7th: Like the preceding.
8th: Speckled shale as above with many thin silty to finely sand partings which carry a micro-fauna same as for the preceding shaly cores.

3528-38' Core #54. 9th: "Speckled" shale as above and some cream colored, hard calcitic, very fine grained micaceous thin sandstone lenses.
10th: "Speckled" shale as above.

3538-48' Core #55. 1st: Like the preceding.
2nd: No change.
3rd: Gray shale with lenses of speckled shale and of very fine grained micaceous and argillaceous and calcitic sandstone which contains fish bone fragments and some Inoceramus fragments. Micro-fauna washing from this material same as in preceding cores.
4th: Gray-green shale with thin lenses of micaceous siltstone which also contains forams, some fragments of fish scales and bones, a little carbonaceous material. Some lenses of the dark gray speckled shale; Gumbelina and Globigerina the dominant forams in the micro-fauna.
5th: Thinly laminated gray-green shale. A few thin, micaceous, and slightly carbonaceous lenses with an abundance of finely crushed fossiliferous material.
6th: Gray-green flaky shale. A few very thin partings with crushed fossil fragments.
7th: Dark gray and gray-green "speckled" shale. Finely broken and crushed micro-fossil material common to abundant, some micaceous partings.
8th: Flaky gray-green shale and lenses of "speckled" shale with much crushed and finely broken fossil material.
9th: Thinly laminated gray-green shale. Occasional fragments shows some "speckled" appearance.
10th: Gray-green shale with highly "speckled" lenses.

3548-58' Core #56. (This core contained some good specimens of the ~~Inoceramus~~ genus Prianotropus.
1st: Thinly laminated gray-green rather coarsely "speckled" shale.
2nd: Gray-green shale - a few thin silty partings.
3rd: Gray-green shale - irregular highly "speckled"; abundant specimens of foraminifera wash from this shale. Neobulimina (two species) is strongly dominant. Other common species present. Gumbelina sp., Globigerina sp, Planulina eaglefordensis and Hastigerinella moremani. (See #26 on slide.)
4th: Gray moderately "speckled" shale. Fauna same as for preceding.
5th: Like the preceding.
6th: No change.
7th: Highly "speckled" dark gray shale. Globigerina and Gumbelinas strongly dominant in fauna. Other species present as above. Some fish scales and bones.
8th and 9th: No changes.
10th: Highly speckled dark gray shale as above with some thin highly micaceous and sandy, speckled lenses. A trace of fine dark blue-green glauconite. No change in micro-fauna.

3558-68' Core #57. 1st: Hard, light tan gray silty to finely sandy limestone.

3558-68' Core #57. 2nd: Gray shale with highly micaceous and finely sandy micro-fossil speckled shale. Many fish scale and bone fragments. Some fragments of fossil bivalves. Planulina eaglefordensis fairly common.
3rd: Like the preceding.
4th: Dark gray thinly flaky shale; a few "speckled" areas.
5th: Dark gray thinly flaky shale and thin, highly micaceous, finely sandy, "speckled" lenses.
6th: Dark gray "speckled" shale (much crushed and broken forams, bivalve and fish scales fragments.) Some highly micaceous partings.
7th: Dark gray, thinly laminated "speckled" shale.
8th: Like the preceding. Some molds of fossil bivalves.
9th: Like the above - a few thin siltstone lenses.
10th: Flaky dark gray shale with highly"speckled" lenses.

3568-73' Core #58. Rec. 5'0". 1st: Dark olive gray thinly flaky dark gray shale. Some highly micaceous partings with finely fragmental fossiliferous material in some partings. Few forams wash free.
2nd: Dark gray flaky shale - a few thin "speckled" lenses.
3rd: Shale as above and thin lenses of micaceous, very fine grained sandstone and speckled shale lenses. Fish bone and scale fragments common.
4th: Gray shale with highly "speckled" lenses.
5th: Gray shale - some "speckled" lenses.

3573-83' Core #59. Gray shale with highly speckled lenses. Some fragments of a thin shell Inoceramus.
2nd: Gray, highly speckled shale. A few thin siltstone lenses and some micaceous partings. Forams generally too crushed to be identified. Some specimens of Planulina eaglefordensis and Globigerina.
3rd: Dark gray, somewhat "speckled" shale. Some specimens of Globigerina, Gumbelina and crushed specimens of Planulina eaglefordensis. Small fragments of fish scales.
4th: Like the preceding.
5th: No change.
6th: Dark gray shale - a few thin, sandy "speckled" lenses. Some fragments of a thin shelled Inoceramus sp.
7th: Gray, flaky, sparcely "speckled" shale. A few small fragments of Inoceramus.
8th: Like the preceding.
9th: Gray flaky shale with some irregular thin, micaceous and sandy partings. (Sand and mica combined with crushed fossil material.) Globigerina the only fairly common forams washing from this material. Inoceramus fragments also present. (See #27 on slide).
10th: Thinly flaky, dark gray, somewhat speckled shale.

3583-93' Core #60. 1st: Flaky gray shale with some thin irregular partings which are silty, highly micaceous, and speckled. Some shreds of carbonaceous material. Some fragments of fish material.
2nd: Like the preceding - Gumbelinas more common than above. Some specimes of Planulina eaglefordensis.
3rd: Like the preceding.
4th: Dark gray flaky shale. A few "speckled" partings. Few forams washing free.
5th: Like the preceding. A few specimens of Globigerina and a few fragments of a thin shelled Inoceramus specimen.
6th: Dark gray, thinly laminated shale. A few slightly "speckled" areas. Few forams washing free. No change in general faunal aspect.
7th: No change.
8th: Dark gray, lightly "speckled" and somewhat micaceous flaky shale. Some shreds of carbonaceous material. No change in fauna.
9th & 10th: Like the preceding.

3593-3602' Core #61. 1st: Moderately hard, gray, lightly speckled, somewhat micaceous shale. Forams present but few washing free. Globigerina and a few Gumbelinas wash out of sample.
2nd: Gray, thinly laminated shale with some slightly "speckled" areas as above. A few fish scales fragments and an occasional forams.
3rd: Gray moderately hard shale. Some imbedded microfossils (Species as above.) Some micaceous, fish bones fragments and a trace of glauconite.
4th: No change.

Top ~~of Mid~~ and Lower Atkinson → 5th: Argillaceous glauconitic sandstone. Sand is moderately fine to moderately coarse, much phosphatic material present. Glauconite in black to blue-green moderately sized nods. Glauconite common. A little mica in large flakes. (See #28 on slide.)

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6th: Sandstone as above, but much less glauconitic and lenses of very highly "speckled" dark brownish gray shale. Phosphatic material common.
7th: Hard, sandy and slightly glauconitic light gray limestone. Some phosphatic material also present in limestone.
8th: Gray, argillaceous, glauconitic and micaceous, fine grained sandstone.
9th: Like the preceding. Some phosphatic material also present.

3602-07' Core #62. 1st: Like the preceding.
2nd: No change.
3rd: Light gray, argillaceous, fine grained, sandstone. Some glauconite and mica common, in fairly large flakes. Phosphatic material also present.
4th, 5th, & 6th: No change.

3607-12' Core #63. 1st: Like the preceding.
2nd, 3rd, 4th, & 5th: No change.

3612-17' Core #64. 1st: No change.
2nd: No change.
3rd: Glauconitic, micaceous and argillaceous fine grained sandstone as above with some thin glauconitic and sandy shale lenses. (A few fragments in washed portion of the same in the preceding fine sandstone samples, but fragments much more abundant here.)

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3612-17' Core #64. 4th: Light gray, fine grained, argillaceous, micaceous and somewhat glauconitic soft sandstone with some phosphatic material.

3617-22' Core #65. 1st: Sandstone like the preceding with a few very thin lenses of dark gray unctuous shale.
2nd: Like the preceding.
3rd: Dark gray, thinly flaky shale with abundant irregular thin parting, which are finely sandy, micaceous and glauconitic and contain small fragments of fish scales and some minute specimens of foraminifera. A few fragments of carbonaceous material.
4th & 5th: Like the preceding.

3622-23' Core #66. (not a good core). Material like the above in general character.

3623-33' Core #67. 1st: Highly argillaceous, micaceous and glauconitic, very fine grained sandstone, or highly sandy and micaceous clay shale.
2nd: Like the above, with some very thin, finely flaky, glauconitic, micaceous and sandy shale partings. A few very small forams in shale. A small trochoid form and Gumbelina noted.
3rd: Material like the above. Mica abundant and some fragments of carbonaceous material. Specimens of Ammobaculites aggrestis and Trochammina rainwateri. Some minute calcareous forams in shale fragments and some small fragments of carbonaceous material.
4th, 5th, 6th, & 7th: Like the preceding. For forams present thru this core (See #29 on slide.)

3633-43' Core #68. Rec. 2'. 1st: Fine grained, micaceous and glauconitic sand with thin flaky gray shale lenses. No forams noted. Mica less abundant.
2nd: Lithology like the preceding. A few specimens of Ammobac. aggrestis.

3643-48' Rec. 2'. Core #69. 1st: Soft, light gray, glauconitic, argillaceous and micaceous sand.
2nd: Sand and glauconite as above. Mica less abundant.

3648-53' Core #70. 1st: Soft, light gray, glauconitic and micaceous fine to moderately fine grained quartzitic sand.
2nd, 3rd, 4th 5th: No change.

3653-58' Core #71. 1st: Fine to moderately fine grained, glauconitic and some what micaceous, soft, argillaceous sand. Some phosphatic and carbonaceous material.
2nd, 3rd, 4th, & 5th: Like the preceding.

3658-63' Core #72. Rec. 4'. 1st: Unconsolidated fragments of core, composed of glauconitic sand as above and some brownish gray flaky shale.
2nd: Soft, glauconitic and micaceous and like preceding.
3rd: Sand as above and some thin, irregular lenses of flaky, unctuous, brownish gray shale.

3663-73' Core #73 (?) (This core not in set).

3673-83' Core #74. (Parts 1 & 2 of this core also missing.)
3rd: Thinly laminated dark gray shale. Shale breaks into fine flaky fragments. Has a few silty and mica. partings.

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3673-83' Core #74. 4th: Shale as above and some thin lenses of fine grained, glauconitic and micaceous soft sandstone.
5th: Shale as above and thin lenses of light gray micaceous siltstone. Some fragments of fish scales of brown carbonaceous material and some minute forams noted in the shale. A small Eponides? common.
6th: Like the preceding.
7th: No change.
8th: Very small sample of shale and some fine glauconitic sand.

3683-93' Core #75. Rec. 3'. 1st: Small sample of shale and sand as above.
2nd: Shale as above and some thin lenses of fine grained light gray micaceous sandstone. Some minute forams in the shale.
3rd: Shale like the above in character, with very thin irregular partings of very fine grained, glauconitic and micaceous soft sandstone.

3693-3703' Core #76.1st: (?) not present.
2nd: Shale as above and about 50% fine, glauconitic, micaceous soft sand.
3rd: Very small sample of light gray, micaceous and somewhat carbonaceous siltstone and some fragments of the flaky shale as above.

3703-13' Core #77. Rec. 5'. 1st: Gray thinly flaky shale as above and thin lenses of the light gray siltstone.
2nd: Very small sample - like the preceding in character.
3rd: Very small sample - siltstone and some shale. About 50% of pyrite nods.
4th: Very small sample, micaceous siltstone and some shale.
5th: Unconsolidated core fragments of siltstone, some glauconitic sand and shale (like the above.)

3713-23' Core #78. Rec. 8' 1st: Very thinly flaky gray shale, rapidly alternating with fine lenses of highly silty and micaceous shale. Some fine shreds of carbonaceous material present.
2nd: Shale as above and numerous thin lenses of micaceous soft siltstone.
3rd: Micaceous siltstone, some thin shale lenses.
4th: Small sample like the preceding in character.

3723-33' Core #79. 1st: Thin irregular lenses of shale and micaceous siltstone.
2nd: The thinly flaky gray shale with some shreds of brown carbonaceous material and a few fragments of phosphatic material. Some thin, irregular partings of micaceous siltstone.
3rd: Very small sample of material like the above, some small forams in the shale. Gumbelinas and Eponides? common. Some shreds of carbonaceous material also present. See #30 on slide.

3733-43' Core #80. Top 2'. Rapidly alternating thin lenses of shale and micaceous and glauconitic siltstone as above. Shale carries minute forams (a shred of carbonaceous material) as above.
2nd 2': Like the preceding.
Bot 1½': Small sample of shale, siltstone and some sand. Like the preceding in general character.

3743-53' Core #81 Thinly flaky gray, micaceous shale and thin

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3743-53' Core #81:
lenses of micaceous siltstone with some fine sand grains. Some glauconite and some shreds of carbonaceous material.

3753-60' Core #82. Top 2': Dark gray, thinly laminated shale with some minute forams and a few thin lenses of fine grained glauconitic and somewhat micaceous sandstone. Some shreds of carbonaceous material also present in the thinly flaky shale fragments. A few phosphatic fragments also present.
2nd 2': Like the preceding with sandstone lenses more common.
3rd 2': Like the preceding in general character, but sand in sandstone lenses averaging coarser grained. Grains size varies from fine to coarse, clear, sub-angular quartz. Glauconite markedly reduced.
Bot. 1': Mainly fine to coarse soft quartzitic sand. Some pyrite and a few thin shale lenses.

3760-65' Core #83. Sand as above, many coarse grains present. Some shale lenses with minute forams as above.

3765-70' Core #84. A conglomeritic sand of fine to very coarse (coarse grains common) sub-angular quartz. Some pink and some yellow stained quartz grains, many gray small phosphatic pebbles. A little mica.

3770-75' Core #85. Conglomeritic sand like the preceding in character. Some lime nods. and a fragments of coraline fossil present in this sand and sandstone. A trace of glauconite (See #31 on slide and separate slide).

3775-80' Core #86. Top 2': Fine to moderately coarse, clear quartz sand with brown, green and gray micaceous flakes fairly common. Sand grains roughly angular. 2nd 2'. Like the preceding. Grains averaging slightly smaller in size.
Bot. 1': Like the preceding, dark gray and greenish gray clear moderately large micaceous flakes common.

3780-90' Core #87. Top 2': Moderately fine, even grained, clear quartz sand. Some mica, smaller sized flakes, less abundant than above.
Bot. 1½' Light gray, micaceous and highly argillaceous sandstone. Sand grains fine to moderately fine, roughly angular, some light gray green unctuous, sandy and finely pyritic clay shale.

3790-3800' Core #88. Top 2': Like the preceding.
Bot. 2': No change.

3800-10' Core #89. Light yellowish green highly argillaceous, fine to moderately fine sandstone or highly sandy clay shale. Dark gray and some brown mica common.

3810-20' Core #90: Like the preceding.

3820-30' Core #91. Top ½': Fine to moderately coarse, light greenish gray sandstone generally poorly consolidated. Little cement.
Bot 1½': No change. A little mica.

3830-35' Argil - poorly consolidated, fine to coarse quartz sand. Some mottled light green, purplish and gray unctuous shale. Some yellow tinted and pink tinted sand grains. Sand roughly angular. Some mica.

3835-45' Core #93. Top 1½': Argil. (white - bentonitic cement) soft fine to moderately fine quartz sandstone. Many yellow tinted grains, some mica and some sandy gray, light green and purplish tinted, sandy, unctuous clay shale.

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3835-45'	Core #93. Bot. 1½': Fine to moderately coarse, poorly consolidated quartz sand. Grains roughly angular and etched.
3845-55'	Core #94. Sand like the preceding. Some reddish brown blue green mottled clay shale. (See #32 on slide).
3855-60'	Core #95. Light bluish green, reddish yellow and white mottled micaceous, highly sandy clay shale. Sand grains fine to moderately coarse.
3865-70'	Core #96. Top 2': Light green highly argillaceous and micaceous soft sandstone and sandy and micaceous, mottled, purplish red, light green and mustard clay shale. Sand grains, fine to moderately fine, micaceous, colorless, dark gray and dark brown. Bot. 2': Reddish brown, and light blue green mottled highly micaceous and sandy clay shale.
3860-80'	Cut. Fine to coarse quartz sand (abundant coarse grains, cavings of a number of types of argillaceous and micaceous sandstone seen at various higher depths.)
3880-3900'	Fine to coarse, sub-angular quartz sand, abundant coarse grains. Some pink and yellow tinted grains. A little feldspar.
3900-20'	Like the preceding.
3920-80'	No change (samples every 20'.)
3980-4000'	Washed sample not as large as preceding. Sand mainly quartz as above, poorly sorted grains, fine to mod. large, some white, pink and red stained lime nods. (In part sandy) some fragments of red stained mica., Moderately fine grained, calcareous sandstone. A few fragments of brownish red and mustard colored clay. (See #33 & 34 on slide.)
4000-20'	Like the preceding.
4020-40'	No change.
4040-60'	Materials as above. Sample again large.
4060-4100'	No change.
4100-20'	Fine to coarse quartz sand as above. Many yellow grains of quartz and some feldspar. Many unusually highly sandy, white, red, and pink stained lime nods. Some fragments of moderately fine grained red stained ss.
4120-40'	Smaller sample, like the preceding in character. A few fragments of brownish red and mustard colored clay, shale.
4140-80'	Like the preceding.
4180-4200'	Fine to coarse quartz sand. Some feldspar and many yellow and some pink tinted grains. Some red-pink and mustard colored lime nods. (occasionallysandy) a few fragments of dark brownish red clay shale and of sandy lavender colored clay shale. A little mica (pos. caving).
4200-20'	Like the preceding .
4220-80'	No change.
4280-4300'	Sand and colored lime nods. as above, but lime nods much more abundant and many fragments of a loosely cemented, moderately fine grained red stained, slightly micaceous sandstone. (See #35 on slide).
4300-20'	Like the preceding. Less sandstone smaller sample.
4320-40'	Moderately small sample of sand as above. Many red and mustard stained lime nods. Numerous small fragments of dark brownish red and some mustard colored slay shale.

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4340-60'	Like the preceding. (For character of clay shale See #36 on slide.)
4360-80'	Sample again large, fine to very coarse sand like the preceding in character, many lime nods (red and some mustard mottled and occasional sandy) A few fragments of the red clay shale. Many yellow tinted and some reddish tinted sand grains. Some feldspar.
4380-4400'	Like the preceding.
4400-20'	No sample.
4420-40'	Conglomerate of sand as above and small pebbles of stained (red or mustard colored) quartz, chert, feldspar, limestone and some igneous and metamorphic materials, some fragments of dark red quartzite.)
4440-60'	Like the preceding.
4460-80'	Similar to preceding but pebbles less abundant. Mustard nods very common. Some fragments of red and mustard colored clay.
4480-4500'	Fine to coarse, sub-angular, pinkish-tan sand of quartz a d red, yellow and pink, lime nods. and some pebbles of various material as above.
4500-20'	Like the preceding. Some fragments of red and mustard mottled clay shale. Some colored lime nods. Few pebbles.
4520-40'	Fine to coarse sand like the above. A few pebbles and numerous nodular fragments of lime, generally white or pink tinted.
4540-60'	Like the preceding.
4560-80'	No change.
4580-4600'	Like the above with addition of a few fragments of light blue-green clay shale and a few pebbles of various materials in same color.
4600-20'	Like the preceding.
4620-40'	Fine to very coarse sand, some lime nods and pebbles as above.
4640-4700'	No change.
4700-20'	Fine to coarse sub-angular clear quartz sand. (Some yellow tinted grains). A few pebbles of various colors and material, a few pink and red tinted lime nods.
4720-4800'	Like the preceding. Sand averaging slightly finer grained.
4800-20'	Fine to coarse, sub-angular quartz sand, some yellow tinted grains, some white, pink tinted and yellow tinted lime nods; a few pebbles, as above. Some cavings of glauconitic sandstone from much higher depths. (Some fragments of this sandstone in nearly all samples studied thru L. Cret.) Here cavings of this type common.
4820-60'	Like the preceding.
4860-80'	Sand, lime nods etc., as above. Little of the caving glauconitic sandstone noted above.
4880-4900'	Fine to coarse sub-angular quartz sand and many, partly sandy, red and yellow mottled lime nods. A few pebbles and a few cavings.
Approx. Top L. Zone 4900-20'	No change.
4920-60'	No samples.
4960-80'	Fine to coarse sand as above and about 25% fragments of highly calcitic sandstone and sandy limestone all red stained, or tinted, occasionally yellow mottled, sand in sandstone and sandy limestone fine to mod. fine.

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4960-80'	Lime apparently represents concentrations of calcium carbonate in a calcitic sandstone and a red silty clay. (See #37-40 on slide.)
4980-5000'	Like the preceding, but at least 50% of the material fragments of hard, red, white and yellow mottled sandy limestone and highly calcitic sandstone.
5000-40'	Like the preceding.
5040-60'	Sample at least 80% fragments of red or reddish, highly calcitic sandstone and highly sandy red, white and reddish and mustard limestone. About 20% fine to coarse quartz sand as above. Material apparently a calcitic sandstone with irregularly high calcium carbonate concentrations. Sand grains in sandstone and limestone, generally fine to moderately fine.
5060-80'	Like the preceding.
5080-5140'	No change.
5140-60'	Cut of red, white and some mustard colored, calcitic sandstone and highly sandy limestone (rapidly and irregular alternating as above. Sand grains generally poorly sorted as above. Some fragments of a finely and highly sandy red limestone. Some lime nodules. Some fine to coarse etched sand.
5160-5220'	Like the preceding.
5220-40'	Sample mainly cavings from much higher depths and some sandstone and sandy limestone as above. Small fragments of red shale (latter prob. being dulled) Sample much smaller than preceding.
5240-60'	Abundant cavings and materials as above. Numerous small fragments of dark brownish red clay shale.
5260-80'	Like the preceding with caving forming 50 to 75% of sample. (Cavings from E.F. & Woodbine).
5280-5300'	No change.
5300-20'	No change.
5320-40'	Sample about 50% cavings - 50% fine, angular even grained red sandstone and some red, nodular? limestone. (See #41 & 42 on slide.)
5340-60'	Sample about 75% cavings, 25% red and pink lime nods. Some red, fine grained sandstone as above.
5360-80'	Light greenish white to pinkish or reddish mottled, fine to mod. fine grained calcitic sandstone. A few fragments of white chert. Some red sandstone and red lime nods. as above. Some cavings (See #43 & 44 on slide).
5380-5400'	Like the preceding.
5400-20'	White and red sandstone and red lime nods as above.
5420-40'	Cut of brownish red calcitic fine to moderately fine grained sandstone and irregular sandy red limestone material prob. rapidly and irregular alternating from a calcitic sandstone to a sandy limestone. Some light greenish white sandstone as above.
5440-60'	Like the preceding. Sandstone the predominating material.
5460-5500'	No change.
5500-20'	Materials as above, also many fragments of a white moderately to highly sandy limestone. Sand grains mod. fine. The limestone is generally mod. sandy with sand grains, rather evenly distributed. This material forms at least 75% of sample. (See #45 & 46 on slide.) Calcite veins common.

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5520-40'	Like the preceding.
5540-60'	Cut of white, pink to red and mustard mottled, sandy limestone similar to preceding and calcitic sandstone. Dominant sand grains mod. fine, sub-angular.
5560-5620'	Like the preceding.
5620-40'	Dominant material a dense, mod. fine grained, pinkish hard sandstone. Grains mod. even in size (See #47 and 48 on slide.)
5640-60'	Dominant material as in preceding. Cavings abundant.
5660-80'	No change.
5680-5700'	Sample apparently mainly cavings of fine to coarse sand. Lime nods of several types and colors and fragments of the several types and sandstone and sandy limestone noted above. Much material from E. Ford part of section.
5700-20'	Like the preceding. Fine to very coarse sand at least 50% (may be caving.)
5720-60'	No change.
5760-80'	Mod. small sample, about 50% cavings from E. Ford and 50% red, pinkish and white calcitic, mod. fine grained sandstone and sandy limestone and lime nods. Small fragments of red clay-shale also common, prob. material being drilled.
5780-5800'	Like the preceding.
5800-20'	Small washed sample, like the preceding in character.
5820-40'	No change.
5840-60'	Mod. large sample, similar to preceding, i.e. cavings from E. Ford, fragments of several types of sandstone and sandy limestone noted in the last several hundred feet of hole and fine to very coarse sand; also a number of fragments of white and amber colored, fine grained quartzite or hard quartzite-like sandstone. (See #49-51 on slide). Some fragments suggest that this may come from pebbles.
5860-80'	Like the preceding.
5880-5900'	As above, quartzite fragments common.
5900-20'	Material mainly cavings (about 50% from E. Ford) small fragments of red shale fairly common. Some fragments of quartzite.
5920-40'	Like the preceding quartzite fragments fairly common.
5940-60'	No change.
5960-80'	Like the preceding, largely cavings with abundant fragments of white and amber colored, quartzite-like limestone. S S (Prob. from pebbles.)
5980-6000'	No change.
6000-20' Top of Triassic	Sample composed mainly of ffagments of a red, sandstone fine grained and mod. fine grained. Small grains of fragments of dark red shale and of light green bentonitic shale fairly common in sandstone. (See #53 & 54 on slide).
Approx. Top of Triassic 5960 on Schlumberger. (see letter from Hoffmeister 1960 Jurassic)	
6020-40'	Like the preceding. A little red clay shale.
6040-60'	No change.
6060-80'	Similar to the above, but cavings abundant.
6080-6100'	Abundant cavings also many fragments of a gray, finely micaceous shale.
6106-10'	Core #97. A very poor sample of gray and reddish brown

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6106-10' Core #97.
clay shale, and fragments of other materials apparently mainly drilling mud.
Core #98 (?)

6113-14' Core #99. Top: Gray, unctuous clay shale with some red brown streaks. Shale finely micaceous.

6114-40' Core #100 thru 106 not present.

6140-42' Core #107 Rec. 1': Mod. hard gray clay shale like the preceding in character.

6140-60' Cut of gray, finely micaceous clay shale and of a dull grayish reddish brown clay shale of similar character. Some fragments of a bluish green, gray bentonitic shale. (See #55 and 57 on slide.)

6142-44' Core #108. Rec. 1': Gray finely micaceous shale.

6144-49' Core #109. Rec. 2'3". Top: Gray shale similar to preceding in character. Some fragments of carbonaceous material and fragments and specimens of a small non-marine crustacean (Esteria cf ovata.) A fossil characteristic of and abudant in the Triassic, although the genus is known from the Jurassic-Buckner and Cotton Valley formations and also from the Woodbine.
Bot: Shale as in top portion of core. Some fragments of carbonaceous material and a mold of Esteria.

6149-51' Core #110 Rec. 2': Gray shale like the preceding core in general character. Some fragments of carbonaceous material. No specimens of Esteria noted.

6151-61' Core #111. Rec. 7½' Top 1': Shale as in preceding core.
2nd: A gray basaltic rock.
3rd: Diabase.

6160-80' Cut of the gray shale from the Triassic section and numerous fragments of the diabase mentioned above. (See #~~58~~ & ~~59~~ on slide).

E. R. Applin

Letter Jean Burdan to ERA Jan. 17, 1959

"xxx I thought you might also be interested to learn that he (Jim Schopf) got some good plant micro fossils from the Hodges well, and feels he can date the sample from core 109 as a part of the Jurassic. As I remember, this is what you thought it was, but I couldn't recall ~~remember~~ whether you dated it on stratigraphic grounds or whether you had fossil evidence. Anyway, if you are still interested in it, Jim can give you more details."

FLA-TA-07-3

1610-30 | Crmy, micro, ind, porous, frag-foss ls
1630-50 | do Tr. wh, crypto, powdery, soft gyp
1650-70 | do
1670-90 | do v minor dolm reple.
1690-10 | do
1710-30 | do
1730-50 | ls + Tr. brn-gry cht chips & brngry, f xtaly, hard, porous, vuggy dol
1750-70 | ls & gyp as (1630-50)
1770-90 | As (1730-50) + wh, f-c xtaly anhy
1790-10 | Crmy-buff, vfgrn, ind, porous, dolm, pel-foss ch + brngry, vf xtaly, hard, porous, vuggy dol
Tr. brn-gry cht chips
1810-30 | brn-brngry, f-vf xtaly, hard, porous, vuggy, dol w/ thin stringers of wh, crypto soft gyp
Tr. cht Probably a doltz pel ls
1830-50 | Crmy, soft, porous, micro, chy, pel ch doltz to dol of (1810-30) + Tr. gry cht & brn cht
1850-70 | do
1870-90 | do mostly partial doltz here
1890-10 | do
1910-30 | do
1930-50 | Crmy-buff, micro, soft, porous, pel ch. Some minor doltz to a brn-brngry, vf xtaly,
hard, porous, vuggy dol. Tr. brn & gry cht
1950-70 | do
1970-90 | do Almost no doltz
1990-10 | do more doltz than (1970-90)
2010-30 | do v little doltz

2030-50	Crmy, mlcrg soft, porous, pel ch
2050-70	do
2070-90	do Tr. bngry cht
2090-10	ch + 5% dk gry cht Is has ultgry tint
2110-30	do
2130-50	ch + Tr. cht
2150-70	ch + 5% lt-dkgry cht pels v small here
2170-90	do
2190-10	ch + 2% ultgry-dkgry cht
2210-30	do pels are layer than in (2150-70)
2230-50	do pels v small
2250-70	ch w v small pels + 10% cht as above
2270-90	ch + Tr. cht
2290-00	N.S.
2300-20	do
2320-40	Crmy. ultgry, mlcrg soft, porous pel ch w 10% ultgry-bng cht
2340-60	do
2360-80	do
2380-2480	N.S.
2480-00	do
2500-20	ch + 5% cht
2520-40	do
2540-60	do
2560-80	do
2580-00	ch + Tr. cht

2600-20 | do Tr. I. prisms Log as sh
2620-40 | sh + Tr. I. prisms & forams [illegible]
2640-60 | do
2660-80 | do
2680-00 | wh, soft, pure ch w/ tr. cht v forams I. prisms [log adjust this up] +le
2700-20 | do Log as ch as above
2720-40 | do
2740-60 | do
2760-80 | do
2780-00 | do
2800-20 | do
2820-40 | do
2840-60 | do few pels
2860-80 | do
2880-00 | do
2900-20 | lt gry, fissile, soft, calc, slightly waxy, sh + v lt gry, soft, porous, lty ch Log as
2920-40 | do
2940-60 | do
2960-80 | do
2980-00 | do
3000-4900 | N.S.
4900-20 | Multicol, mrly hard, tyht, dense ls & dol (sdy, fgnd) nodules + Multicol, f-C gry, PS, SA-R qtz sd + ~~v lt gry, v fgry, ndy, glaucy, calc, mic, qtz ss~~ + pinky, fgry, rnd, porous qtz ss + brick red hard, blocky, sh + lt gry, soft, v fissile, calc sh
4920-40 | do

4940-60	do
4960-80	do
4980-00	Multicol, [illegible] hard, [illegible] dense, v sdy dol nodules + Multicol, C gry, PS, SR qtz sd + gry sh
5000-20	do + brick red, red, blocky sh
5020-40	Multicol, mostly dull red? mag hard, tght, dense sdy dol nodules + pink, & dull red f gry, red, dolic ss + brick red, red, blocky sh + gry sh
5040-60	do
5060-80	do
5080-00	do
5100-2.5	do Tr. Asp
5120-4.5	dol + ss + blk, hard, v fissile, hghly & v finely mic sh + gry sh
5140-60	V poor sample Assumed to be same as (5120-4.5)
5160-80	do
5180-00	dol + ss as above + multicol, C-M gry, PS, R-A qtz sd + gry sh
5200-20	do
5220-40	brick red & dull yel, soft, blocky shale
5240-60	do + ss + dol
5260-80	red & yel shales + ss + dol + lt gry, v fissile, soft [illegible] sh
5280-00	N.S.
5300-20	Red & yel shales + gry sh
5320-40	do
5340-60	N.S.
5360-80	do + wh-pink, dull red, f gry, red, porous, dolic ss + multicol, mag hard, tg, ht, dens sdy dol nodules
5380-00	do
5400-20	do

5420-40 do

5440-60 do

5460-80 Pink-dull red, microhard, tight, dense, sdy dol nodules + pink-dull red, fgrn, mod, porous dolic ss

5480-00 do

5500-20 do v noticable increase in pink sdy dol here not much ss

5520-40 dol + red, grn & yel shales

5540-60 do

5560-80 dk dull brick red, fissile, soft sh + wh-pink-dull red, microhard, tight, dense, sdy dol + wh-pink, fgrn, mod, porous, dolic ss + a few pieces of pink, fgrn state

5580-00 Red sh + dull yel, black, soft sh

5600-20 N.S.

5620-40 Pink, fgrn state + red & yel shales

5640-60 do

5660-80 do

5680-00 red & yel shales + multicol, C. fgrn, PS SA-SR qtz ss