

**GEORGIA  
STATE DIVISION OF CONSERVATION**

DEPARTMENT OF MINES, MINING AND GEOLOGY  
GARLAND PEYTON, Director

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**THE GEOLOGICAL SURVEY**  
Bulletin Number 74

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**LOGS OF SELECTED WELLS IN THE  
COASTAL PLAINS OF GEORGIA**

by

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ATLANTA  
1964



Depth (feet)	Description
0-2100	Samples not studied.
<b>Eocene Series</b>	
<b>In middle Eocene, undifferentiated</b>	
2100-2120	Limestone, white, irregularly sandy (fine-grained sand); glauconitic, and a few fragments of light-tan chert. Sample contains a few small specimens of nondiagnostic species of Foraminifera.
2120-2130	Like sample at 2100-2120 ft., and in addition, many fragments of light grayish-cream, highly glauconitic, sandy (fine-grained sand) limestone.
2130-2140	Like the sample at 2120-2130 ft., but few fragments of dark glauconitic limestone.
2140-2150	Limestone, white, somewhat glauconitic, and fragments of light grayish-tan chert. A few specimens of several species of Foraminifera, including a specimen of <i>Asterigerina</i> sp.
2150-2160	Limestone and chert like the samples at 2100-2150 ft., but some fragments of limestone are highly glauconitic.
2160-2170	Like sample at 2150-2160 ft., and many fragments of white, chalky, dense, cherty limestone; chert abundant.
2170-2180	Limestone, glauconitic, many fragments of chert, and a little white ash.
2180-2200	Limestone and chert, like sample at 2170-2180 ft.
2200-2210	Limestone, slightly glauconitic, fragmental, porous, composed of a mass of small fragments of chert-cemented calcite that are probably derived from molds of altered fossil material.
2210-2220	Limestone, like the sample at 2200-2210 ft., containing many inclusions of calcite; many moderately large irregular-shaped nodules of calcite, and a little chert.
2220-2230	Limestone, light-cream, fragmental, slightly glauconitic; much light-tan chert.
2230-2240	Like the sample at 2220-2230 ft., but some fragments of limestone are highly glauconitic.
2240-2260	Limestone, fragmental, and a little chert, like the sample at 2230-2240 ft. A section of <i>Discocyclina</i> sp. in the sample at 2240-2250 ft.
<b>Lower Eocene. Clastic beds of Wilcox(?) age.</b>	
2260-2280	Shale, light-green, micaceous; a few fragments of limestone and a little chert like that described in the samples of the middle Eocene beds.
2280-2300	Like the samples at 2260-2280 ft., and many specimens of small Foraminifera; <i>Globigerina</i> sp., <i>Orbulina</i> sp., and <i>Discorbis</i> sp. are common.
2300-2310	Shale, like the samples at 2260-2300 ft., and many fragments of light greenish-gray, highly glauconitic, irregularly sandy, porous limestone, streaked with thin veins of chalcedony. Limestone

Depth (feet)	Description
	contains sections and small specimens of <i>Asterocyclina</i> sp. and a few bryozoan fragments.
2310-2320	Shale, light-green, highly glauconitic, irregularly sandy, containing phosphatic nodules and nodules of glauconitic limestone. A few nodules contain fragments of <i>Discocyclina</i> sp.
<b>Lower Eocene. Salt Mountain Limestone.</b>	
2320-2340	Limestone, white, fragmental, somewhat glauconitic, that seems to be composed of worn, chalky, calcitic molds and fragments of fossils. A few specimens of <i>Discocyclina weaveri</i> are present, and <i>Asterigerina</i> sp. is common.
2340-2350	Like sample at 2320-2340 ft., and many fragments of light grayish-brown, micaceous, fossiliferous chert.
2350-2380	Limestone, fragmental, somewhat glauconitic, composed of tests and altered fragments of macrofossils and microfossils; among the latter is <i>Discocyclina weaveri</i> .
2380-2390	Limestone, finely fragmental, somewhat sandy and glauconitic.
2390-2420	Like the sample at 2380-2390 ft., but the sand content of the limestone is between 50 and 75 percent; fine-grained, evenly distributed glauconite is about 25 percent. The sample at 2410-2420 ft. contains a little fine-grained, calcareous, glauconitic sandstone.
<b>Paleocene Series</b>	
<b>Beds containing Tamesi fauna</b>	
2420-2440	Clay, soft, which, when washed, leaves a moderately large residue of fine-grained, angular clear quartz sand and a few fragments of calcareous sandstone like sample at 2410-2420 ft. Sample contains a few phosphatic nodules. Fairly common specimens of Foraminifera are: <i>Darbyella?</i> sp., <i>Lenticulina degolyeri</i> , <i>Nodosaria latejugata</i> , and <i>Globigerina</i> sp.
2440-2460	Like sample at 2420-2440, and a few specimens of other small Foraminifera.
2460-2480	Clay, sandy; washed residue composed of sand and a few phosphatic nodules like sample at 2420-2440 ft., fragments of calcareous, glauconitic sandstone, and specimens of small Foraminifera.
2480-2490	Like samples at 2460-2480 ft. Microfauna contains specimens of <i>Nodosaria latejugata</i> , <i>Lenticulina degolyeri</i> , and <i>Darbyella?</i> sp. like sample at 2420-2440 ft.; many specimens of <i>Globigerina triloculinoides</i> , and <i>Cibicides</i> cf. <i>C. praecursorius</i> ; <i>Globorotalia acuta</i> , <i>G. velascoensis</i> , and <i>Eponides lotus</i> are common.
2490-2540	No change.
2540-2550	Moderately large washed residue composed of sand like sample at 2420-2440 ft., fragments of light-green, micaceous clay shale,

Depth (feet)	Description
	and many fragments of light-gray, highly sandy (fine-grained sand), finely glauconitic limestone that is possibly nodular in the clay shale. Specimens of <i>Darbyella?</i> sp., <i>Lenticulina degolyeri</i> , and <i>Nodosaria latejugata</i> very common; <i>Globigerina</i> sp., <i>G. triloculinoides</i> , and other small Foraminifera, like sample at 2480-2490, are also present.
2550-2610	No change.
2610-2620	Like samples at 2540-2610 ft.; also abundant fragments of white, hard, dense, slightly glauconitic limestone, and several fragments of light-gray, fragmental, porous, slightly glauconitic limestone.
2620-2630	Sample seems to be a mixture of materials described from higher levels.
2828	Sidewall core 64. Recovery 1 in. Clay, bluish-gray, slightly micaceous, somewhat glauconitic, highly calcareous, containing much comminuted microfossil material. Glauconite occurs as small bluish-green nodules. Microfossils are common, but are usually chalky, very small, and poorly preserved. The fauna, which is Paleocene in age, contains specimens of <i>Cibicides</i> sp., <i>Anomalina</i> sp., and <i>Globigerina triloculinoides</i> .
2630-2860	Cutting samples not studied.

## Cretaceous

### Gulf Series

#### Beds of Taylor age

	The top of the beds of Taylor age is placed at 2855 ft. on the basis of electric log correlation supported by the data from samples.
2860-2880	Chalk, white, and cavings of light-green shaly clay. Fragments of <i>Inoceramus</i> wash from the chalk, and <i>Inoceramus</i> fragments and prisms are abundant in the sample. Specimens of Foraminifera and Ostracoda are common. Dominant species of Foraminifera are <i>Dorothyia conula</i> , <i>Planulina cedarkeysensis</i> , and <i>Planulina dumblei</i> .
2880-2890	Like the samples at 2860-2880 ft.; numerous specimens of <i>Arenobulimina americana</i> , and a few specimens of <i>Kyphopyxa christneri</i> .
2890-2900	Material and fauna like the samples of chalk in the beds of Taylor age at 2860-2890 ft.
2900-2940	Like the sample at 2890-2900 ft., but cavings of light-green clay shale are very abundant.
2940-2950	Chalk, white, and <i>Inoceramus</i> fragments about 50 percent of washed sample; cavings of light-green clay shale about 50 percent of washed sample. Foraminiferal fauna contains species listed in samples at 2860-2880 ft. and 2880-2890 ft.

Depth (feet)	Description
2950-2960	Chalk, white, soft. The small washed residue of this sample is composed mainly, of <i>Inoceramus</i> prisms and fragments, and many specimens of Foraminifera. <i>Globotruncana</i> sp., <i>Globigerina cretacea</i> , and <i>Gümbelina</i> sp. are the most common species; <i>Kyphopyxa christneri</i> , <i>Pseudogaudryinella capitosa</i> , <i>Robulus</i> spp., and <i>Marginulina</i> spp. are also common. A few specimens of <i>Globorotalites umbilicatus</i> , <i>Eowvigerina americana</i> , <i>Heterostomella austiniana</i> , and <i>Planulina austiniana</i> are present. On the basis of the microfauna, the age of the containing beds is classified as early Taylor or late Austin.
2960-3000	No change.
3000-3010	Limestone, light-gray, chalky, and nodules of pyrite. The small washed residue contains fragments of <i>Inoceramus</i> and <i>Ostrea</i> -like bivalves, and a foraminiferal fauna similar to that in the sample at 2950-2960 ft.
3010-3060	No change.
<b>Beds of Austin age</b>	
3060-3070	The top of the beds of Austin age is placed at 3055 ft. on the basis of electric log correlation supported by the data from samples. Limestone, white, hard, chalky, containing much comminuted, calcitized fossil debris. Fragments of the limestone show masses of <i>Oligostegina</i> that are common in the beds of Austin age. Fragments of <i>Inoceramus</i> and shells of other fossil bivalves are common. The microfossil material is usually poorly preserved, and no species having a narrowly restricted vertical range were identified.
3070-3080	Limestone, like the sample at 3060-3070 ft., and a little gray marl. The sample contains many fragments of <i>Inoceramus</i> and shells of other fossil bivalves; the microfossil material is like that in the sample at 3060-3070 ft.
3080-3090	Marl, gray; many fragments of <i>Inoceramus</i> ; a few fragments of moderately hard, white, limestone, like the sample at 3060-3070 ft.; abundant nodules of pyrite. The foraminiferal fauna is composed, largely, of specimens of <i>Globigerina</i> cf. <i>G. cretacea</i> , and <i>Gümbelina</i> cf. <i>G. moremani</i> ; specimens of <i>Valvulineria</i> sp. and <i>Planulina austiniana</i> are common; a few specimens of <i>Globotruncana</i> sp. and <i>Dorothia</i> cf. <i>D. alexanderi</i> (often common in the lower part of the beds of Austin age) are present. Specimens of ostracodes and a few specimens of arenaceous species of Foraminifera also occur in the sample.
3090-3120	No change.
3120-3130	Shale, gray, marly, and harder than in the sample at 3080-3090 ft. The microfauna is composed almost entirely of specimens of <i>Globigerina</i> sp. and <i>Gümbelina reussi</i> , and a few specimens of <i>Planulina</i> cf. <i>P. eaglefordensis</i> and <i>Globotruncana</i> sp.
3130-3150	Like the sample at 3120-3130 ft.

Depth (feet)	Description
3160-3170	Like sample at 3120-3130 ft. The microfossil specimens are larger and more abundant than in the sample at 3120-3130 ft., but <i>Globigerina</i> spp. and <i>Gümbelina</i> spp. are still strongly dominant in the fauna; <i>Globotruncana</i> spp. are somewhat more common; fragments of <i>Citharina texana</i> are very common. <i>C. texana</i> is common near the base of the Mooreville chalk of Austin age at the outcrop in Alabama, and one of the species of <i>Globotruncana</i> is also common in the lower part of the Austin chalk.
3170-3180	Like the sample at 3160-3170 ft.; <i>Citharina texana</i> is much less abundant.
3180-3210	Material and fauna like the preceding samples of the beds of Austin age are mixed with cavings from much higher levels.
3190	Side wall core 65. Recovery 1-3/4 in. Shale, greenish-gray, flaky, marly, slightly micaceous, containing <i>Inoceramus</i> fragments, a few fragments of fish bones, and abundant specimens of <i>Globigerina</i> cf. <i>G. Cretacea</i> , <i>Gümbelina reussi</i> , <i>Globotruncana</i> spp. (including an undescribed form characteristic of the beds of Austin age), and <i>Anomalina</i> sp. (small).
3210-3270	Shale, gray, marly, and fauna like the sidewall core 65 at 3190 ft.
3233	Side wall core 66. Recovery 1-1/4 in. Marl, light bluish-gray, chalky, containing abundant fragments of <i>Inoceramus</i> and shells of other fossil bivalves, and many specimens of Foraminifera like those in sidewall core 65 at 3190 ft. Also, specimens of <i>Neobulimina canadensis</i> , <i>Palmula suturalis</i> , <i>Palmula pilulata</i> , and <i>Valvulinaria infrequens</i> . Specimens of ostracodes are common: <i>Cythere cornuta</i> var. and <i>Cytherella</i> sp.
3233	Sidewall core 67. Recovery 1 in. Shale, gray, marly; <i>Inoceramus</i> prisms and fragments are common. The microfauna is composed of specimens of several species of ostracodes, and specimens of <i>Globigerina</i> sp., <i>Globotruncana marginata</i> , <i>Kyphopyxa christneri</i> , <i>Gümbelina reussi</i> , <i>Valvulinaria infrequens</i> (Austin var.), <i>Nodosaria</i> sp. (fragments), <i>Planulina austiniana</i> , <i>Robulus münsteri</i> , and <i>Marginulina inconstantia</i> ?
3262	Sidewall core 68. Recovery 1/2 in. Chalk, light-gray, marly, typically Austin in character; contains specimens of <i>Oligostegina</i> , <i>Inoceramus</i> fragments and ostracodes, and abundant specimens of Foraminifera: <i>Globigerina</i> sp., <i>Gümbelina reussi</i> , <i>Globotruncana</i> spp. fairly common, and a few specimens of a small <i>Anomalina</i> sp.
3270-3310	Shale, gray, marly, and abundant fragments of dark brownish gray somewhat light-speckled and light-streaked shale.
3303	Sidewall core 69. Recovery 1 in. Marl, gray, streaked and speckled with white chalk, highly microfossiliferous. The fauna is composed, mainly, of specimens of <i>Globigerina</i> sp., <i>Gümbelina reussi</i> , <i>Globotruncana arca</i> , <i>Planu-</i>

Depth (feet)	Description
	<i>lina texana</i> , and <i>Pleurostomella watersi</i> .
3310-3320	No samples.
3316	Sidewall core 70. Recovery 1/4 in. Chalk, white, marly; fauna like sidewall core 69 at 3303 ft.
3320-3330	No samples.
3324	Sidewall core 71. Recovery 1 in. Shale, greenish-gray, marly, sandy (fine-grained sand), glauconitic, micaceous, containing phosphatic nodules. The fauna is composed of fragments of fish bones, <i>Inoceramus</i> , and other fossil bivalves, specimens of several species of <i>ostracodes</i> , and specimens of Foraminifera: <i>Globigerina</i> spp. <i>Gümbelina reussi</i> , <i>Gümbelina moremani</i> , <i>Globotruncana arca</i> var., <i>Planulina texana</i> , <i>Palmula pilulata</i> , <i>Marginulina austiniana</i> .
3330-3350	Shale, gray, and some speckled shale; no change in fauna.
3335	Sidewall core 72. Recovery 1 1/4 in. Shale, gray, marly, highly microfossiliferous. The fauna is composed of fragments of <i>Inoceramus</i> and fish bones, specimens of ostracodes, and specimens of Foraminifera; <i>Globigerina</i> sp., <i>Globotruncana arca</i> , var., <i>Globorotalia cushmani</i> ?, <i>Gümbelina reussi</i> , <i>Gümbelina moremani</i> , <i>Marginulina austiniana</i> , <i>Planulina texana</i> ?
3350-3360	Material and fauna like samples at 3330-3350 feet; also many fragments of white, moderately coarse grained, clear quartz sandstone, containing many phosphatic nodules, nodules of pyrite, and worn fragments of fossil bivalves.
<b>Atkinson Formation. Upper Member.</b>	
3360-3366	Core 6. Recovery 8 in. Sandstone, white, dense, calcareous, quartz; contains phosphatic nodules and fragments of <i>Ostrea-like</i> bivalves.
3366-3367	Core 7. Recovery 5 in. Sandstone, grayish-white, moderately fine grained, calcareous, quartz, containing mica, glauconite; fragments of lignite and fossil bivalves.
3367-3372	Core 8. Recovery 5 ft. Top 1/2 ft. Sandstone, light-gray, hard, dense, micaceous, somewhat fossiliferous, containing fragments of fossil bivalves. Middle 2 ft. Sandstone, light greenish-gray, soft, fine-grained, argillaceous, micaceous, containing small, black, phosphatic nodules, and thin lenses of gray and greenish-gray flaky shale. Bottom 2 1/2 ft. Sandstone, soft, like middle 2 ft., but the sand grains are slightly coarser. The sandstone contains irregular thin lenses of gray and greenish-gray, somewhat sandy and micaceous shale.
3372-3382	Core 9. Recovery 10 ft. Top 4 ft. Siltstone and sandstone, greenish-gray, soft, fine-

Depth (feet)	Description
	grained, argillaceous, micaceous, glauconitic, pyritic, containing a few lenses of greenish-gray, flaky, sandy (fine-grained sand), micaceous shale.
	Middle 3 ft. Shale, grayish-green, thinly laminated, and white, highly micaceous siltstone, containing a few fragments of carbonaceous material and a few nodules of pyrite. Parts of the core are predominantly shale that is micaceous, irregularly silty, and somewhat carbonaceous.
	Bottom 3 ft. Sandstone containing lenses of shale. The sandstone is white, dense, fine to moderately fine grained, angular, clear quartz, containing many phosphatic nodules and a few shell fragments. The shale is greenish-gray to green, usually micaceous and somewhat carbonaceous.
3382-3392.	Core 10. Recovery 7 ft. Top 5 ft. Shale, grayish-green, irregularly silty, micaceous, somewhat carbonaceous, containing lenses of light-gray micaceous, containing lenses of light-gray micaceous siltstone, and specimens of a small <i>Globigerina</i> sp., <i>Gümbelina moremani</i> , <i>Gümbelina reussi</i> , and <i>Planulina eaglefordensis</i> . A few thin lenses of hard sandstone occur in the shale. Bottom 2 ft. Sandstone, light greenish-gray, fine-grained, micaceous, argillaceous, slightly glauconitic; contains carbonaceous material and fossil bivalves.
3392-3401	Core 11. Recovery 4½ ft. Top. Shale, light-gray, slightly micaceous, containing a few lenses of soft, fine-grained, micaceous sandstone. Middle. Sandstone, white, dense, hard, somewhat glauconitic, containing a few phosphatic nodules and many fragments of fossil bivalves. Bottom 1½ ft. Shale, grayish-green, and moderately fine-grained quartz sandstone containing phosphatic nodules.
3401-3411	Core 12. Recovery 7 ft. Top 1½ ft. Shale, greenish-gray, and a little white, dense, moderately fine-grained sandstone containing many worn and broken fragments of <i>Ostrea</i> sp., bryozoan fragments, and phosphatic nodules. Middle 2½ ft. Shale, light grayish-green, irregularly silty, micaceous, containing irregularly distributed soft, micaceous, slightly glauconitic siltstone. Bottom 3 ft. Shale, light greenish-gray, silty, micaceous, carbonaceous, containing many phosphatic nodules, a little glauconite, many small fragments of <i>Ostrea</i> sp., and a few specimens of Ostracodes.
3411-3421	Core 13. Recovery 2½ ft. Sandstone, light greenish-gray, soft, argillaceous, micaceous, glauconitic, containing a few shell fragments and phosphatic nodules.

Depth (feet)	Description
3421-3430	<p>Core 14. Recovery 4 ft.</p> <p>Top 2 ft. sandstone, light greenish-gray, argillaceous, highly micaceous and glauconitic; contains phosphatic nodules and fragments of fossil bivalves.</p> <p>Bottom 2 ft. shale, grayish-green, somewhat micaceous, containing scattered grains of sand, fish bones, and a trace of glauconite.</p>
3430-3440	<p>Core 15. Recovery 8 ft.</p> <p>Top 5 ft. Sandstone, argillaceous, fine to moderately fine grained, micaceous, glauconitic; contains fragments and molds of fossil bivalves, and some fragments of phosphatized bones.</p> <p>Bottom 3 ft. Sandstone, light-green, soft, argillaceous glauconitic; contains a few shell fragments and small phosphatic fragments.</p>
3440-3450	<p>Core 16. Recovery 7 ft.</p> <p>No change.</p>
3450-3460	<p>Core 17. Recovery 9 ft.</p> <p>Top. Sand, like core 16 at 3430-3440 ft., containing thin, irregular lenses and splotches of grayish-green shale. The material is slightly glauconitic, phosphatic, and fossiliferous (fragments of <i>Ostrea</i> sp.).</p> <p>Middle. Like the top part of the core, but more glauconitic.</p> <p>Bottom. Like the middle part of the core.</p>
3460-3470	<p>Core 18. Recovery 2 ft.</p> <p>No change.</p>
3470-3480	<p>Core 19. Recovery 1½ ft.</p> <p>Top. Sandstone, white, hard, and green, soft, sandy clay. The sandstone is dense, fine to moderately fine grained, calcareous, and contains abundant fragments of white, chalky, shell fragments and many nodules of glauconite and phosphatic material. The green clay is highly sandy and contains a few shell fragments.</p> <p>Bottom. Sandstone, light-gray, dense, containing shell fragments and nodules of both glauconite and phosphatic material.</p>
3480-3488	<p>Core 20. Recovery 3 ft.</p> <p>Top. Sandstone, greenish-gray, glauconitic, phosphatic, like core 19 at 3470-3480 ft., and lenses of thinly flaky green shale. The sandstone contains shell fragments.</p> <p>Bottom. Shale, grayish-green, flaky, interlaminated with light-gray, soft, very fine grained, argillaceous, micaceous, phosphatic, glauconitic sandstone.</p>
3488-3498	<p>Core 21. Recovery ½ ft.</p> <p>Sandstone, light greenish-gray, very fine grained, in part dense, and in part argillaceous; contains mica, shell fragments, phosphatic nodules, and many irregular-shaped, gray nodules of calcitic limestone.</p>

Depth (feet)	Description
3498-3508	<p>Core 22. Recovery 4½ ft.</p> <p>Top. Sandstone, light grayish-green, shaly, micaceous, and lenses of dark grayish-green, thinly flaky shale; contains a few shell fragments, phosphatic nodules, and a little glauconite.</p> <p>Middle. Shale, green, micaceous.</p> <p>Bottom. Shale, like middle part of core, irregularly streaked with micaceous, pyritic, slightly carbonaceous siltstone; contains a few specimens of Ostracodes.</p>
3508-3518	<p>Core 23. Recovery 7½ ft.</p> <p>Top. Shale, like the middle and bottom parts of core 22 at 3498-3508 ft., containing many sandy areas. Fauna consists of a few fragmentary fish bones and a few small specimens of <i>Globigerina</i> cf. <i>G. cretacea</i>.</p> <p>Middle. Sandstone, light greenish-gray, moderately soft, micaceous, somewhat phosphatic, and containing brown carbonaceous fragments; a few lenses of flaky green shale in the sandstone.</p> <p>Bottom. Shale, green, irregularly sandy (fine-grained sand), micaceous, carbonaceous.</p>
3518-3528	<p>Core 24. Recovery 7 ft.</p> <p>Top 3 ft. Shale, like bottom part of core 23 at 3508-3518 ft. Part of this section of core 24 is sandy, (coarse-grained sand), and contains many phosphatic nodules, nodules of pyrite, and fragments of <i>Ostrea</i> sp.</p> <p>Middle 3 ft. Sandstone, light greenish-gray, soft, argillaceous, micaceous, glauconitic, pyritic, and a few thin, irregular lenses of green shale.</p> <p>Bottom 1 ft. Sandstone, light greenish-gray, fine-grained, argillaceous, micaceous; contains a few fragments of carbonaceous material, phosphatic nodules and <i>Ostrea</i> sp.</p>
3528-3538	<p>Core 25. Recovery 7 ft.</p> <p>Top. Sandstone, fine to moderately fine grained, slightly glauconitic, phosphatic, and pyritic, irregularly interbedded with green, micaceous, somewhat carbonaceous shale that occurs in lenses of variable thickness.</p> <p>Middle. Like top of this core.</p> <p>Bottom. Sandstone, white, hard to moderately hard, fine to moderately coarse grained, containing a few phosphatic nodules, a few nodules of glauconite, and chalky fragments of fossil bivalves.</p>
3538-3548	<p>Core 26. Recovery 3 ft. 8 in.</p> <p>Top 30 in. Sandstone, light greenish-gray, soft, glauconitic, micaceous, somewhat carbonaceous, containing a few inclusions and thin lenses of shale.</p> <p>Middle. 6 in. Sandstone, soft, argillaceous, somewhat glauconitic, micaceous, and carbonaceous, irregularly interlaminated with shale and siltstone.</p>

Depth (feet)	Description
3548-3558	<p>Bottom 8 in. Sandstone, light greenish-gray, argillaceous, micaceous, containing many fragments of lignite, a little phosphatic material, and a few fragments of glauconite-coated shells.</p> <p>Core 27. Recovery 6½ ft.</p> <p>Top ½ ft. Sandstone like bottom of core 26 at 3538-3548 ft., and irregular thin lenses of shale.</p> <p>2nd 1 ft. Sandstone, light-gray, moderately hard, argillaceous, containing many shell fragments and black, phosphatic nodules, a little glauconite and mica, and a few thin irregular lenses of green shale.</p> <p>3d 1 ft. Like the second foot, but containing a few rather large fragments of lignite.</p> <p>4th 1 ft. Sandstone, light greenish-gray, soft, micaceous, containing a few shell fragments and thin lenses of shale.</p> <p>5th 1½ ft. Sandstone, light greenish-gray, soft, argillaceous micaceous, containing a few shell fragments, phosphatic nodules and a little carbonaceous material.</p> <p>6th 1½ ft. No sample?</p>
3558-3560	<p>Core 28. Recovery 2½ ft.</p> <p>Top. Sandstone, light-gray, moderately hard, argillaceous, containing irregular laminae of green shale. The sandstone is micaceous, slightly glauconitic and carbonaceous, and contains a little magnetite and a few shell fragments.</p> <p>Bottom. Like the top part of the core, but softer and contains phosphatic material.</p>
3560-3570	<p>Core 29. Recovery 7 ft.</p> <p>Top 2 ft. Shale, greenish-gray, micaceous, silty, containing abundant fragments of <i>Ostrea</i> sp.; small fragments of carbonaceous material are fairly common.</p> <p>Bottom 5 ft. Sandstone, grayish-green, fine-grained, micaceous, irregularly streaked with shale laminae, and containing many fragments of <i>Ostrea</i> sp. and a few phosphatic nodules.</p>
3570-3578	<p>Core 30. Recovery 4½ ft.</p> <p>Top. Sandstone, light greenish-gray, soft, argillaceous, glauconitic, micaceous, containing a few shell fragments and thin lenses of grayish-green flaky shale.</p> <p>Bottom. Sandstone similar to the top part of the core, containing small carbonaceous fragments and irregular thin streaks of shale.</p>
3578-3588	<p>Core 31. Recovery 6½ ft.</p> <p>Top 2 ft. Like the bottom of core 30 at 3570-3578 ft., but fragments of lignite and small fragments of carbonaceous material are abundant.</p> <p>Bottom 4½ ft. Sandstone, light-gray, moderately hard, calcareous, micaceous, containing abundant fragments of <i>Ostrea</i> sp., many small phosphatic fragments, and a little glauconite and carbonaceous material.</p>

Depth (feet)	Description
3588-3598	<p>Core 32. Recovery 5½ ft.</p> <p>Top 1½ ft. Sandstone, light greenish-gray, shaly and highly sandy clay shale. Parts of the core are white, hard, nodular, sandy (very fine grained sand) limestone, in which shell fragments and small phosphatic nodules are common.</p> <p>Middle 3 ft. Sandstone, light greenish-gray, hard, and a few irregular lenses of green, micaceous silt. The sandstone is glauconitic and contains many fragments of fossil bivalves and gastropods, and a few fragments of lignite.</p> <p>Bottom 1 ft. Sandstone like middle part of core, and lenses of grayish-green, micaceous shale that is usually silty and in places highly carbonaceous.</p>
3598-3608	<p>Core 33. Recovery 5½ ft.</p> <p>Top 2 ft. Shale, grayish-green flaky, containing lenses composed of mica and moderately small fragments of lignite.</p> <p>Middle 2 ft. Sandstone, light-gray, moderately soft, fine-grained, micaceous, argillaceous, containing fragments of <i>Ostrea</i> sp., and a few very thin lenses of shale.</p> <p>Bottom 1½ ft. Sandstone, light-gray, very fine grained, micaceous and somewhat glauconitic. This part of the core is very dense and hard in places, and contains abundant small fragments of fossil shells.</p>
<b>Atkinson Formation. Lower Member.</b>	
3608-3615	<p>Core 34. Recovery 5½ ft.</p> <p>Top. Sandstone, like bottom part of core 33 at 3598-3608 ft.; contains moderately large areas of white sandy (fine-grained sand) limestone containing shell fragments. This part of the core seemed to be conglomeratic when first exposed.</p> <p>Bottom. Shale, grayish-green, sandy, slightly glauconitic, containing abundant worn and broken fragments of shells, and many specimens of <i>Valvulineria infrequens</i>. (Eagle Ford variety), a few specimens of arenaceous species of Foraminifera, and a few ostracodes.</p>
3615-3625	<p>Core 35. Recovery 4 ft.</p> <p>Top. Shale, greenish-gray, sandy, micaceous, containing many fragments of macrofossils, a trace of glauconite, a few large, calcareous nodules, and specimens of <i>Valvulineria infrequens</i>.</p> <p>Bottom. Like the top part of the core, and containing a few fragments of carbonaceous material. No change in microfauna. In this part of the core a lens of light green, hard, sandy limestone contains abundant fragments of fossil bivalves, a few fragments of lignite, a trace of glauconite, and a little mica.</p>
3625-3629	<p>Core 36. Recovery 4 ft.</p> <p>Top. Shale, grayish-green, flaky, somewhat micaceous, and a few fragments of limestone like that in the bottom part of core</p>

Depth  
(feet)

## Description

35 at 3615-3625 ft. The shale contains highly micaceous and carbonaceous partings, many specimens of *Globigerina* sp., *Gümbelina* sp., and *Planulina* sp., and a few specimens of small arenaceous species of Foraminifera.

3629-3639 Core 37. Recovery 4 ft.

Top. Shale, gray, flaky, micaceous, somewhat carbonaceous; contains a foraminiferal fauna in which specimens of arenaceous species are strongly predominant: *Ammobaculoides plummerae* (common), *Ammobaculites advenus* (present).

Middle. Like the top part of the core; a few fragments of macrofossils present.

Bottom. Shale like the top part of the core containing fragments of carbonaceous material (common), a few fragments of macrofossils, and a few fish scales.

3639-3649 Core 38. Recovery 10 feet.

Top. Shale, greenish-gray, micaceous, slightly silty; contains specimens and fragments of fragile, thin-shelled macrofossils, young specimens of *Ammobaculites advenus*, and a few specimens of ostracodes.

Middle. No change.

Bottom. No change.

3649-3659 Core 39. Recovery 9 ft.

Top. Shale, gray, micaceous, containing irregularly distributed silty areas, and very thin shelled macrofossils.

Middle. No change.

Bottom. No change.

3659-3669 Core 40. Recovery 10 ft.

Top 8 ft. Shale, greenish-gray, containing fragments and molds of thin-shelled bivalves, fragments of fish bones and comatulids; common species of Foraminifera are: *Ammobaculites advenus*, *Ammobaculites agrestis*, *Ammobaculoides plummerae*, *Ammobaculites junceus*, *Trochammina wickendeni*, *Globigerina* sp., *Planulina eaglefordensis* var.; a few specimens of *Gümbelina* sp.

Bottom 2 ft. Shale, gray, containing many irregularly silty to finely sandy, micaceous, slightly glauconitic streaks, and small scattered fragments of lignite. The fauna is like that in the top part of this core.

3669-3679 Core 41. Recovery 9½ ft.

Like core 40 at 3659-3669 ft.

3679-3689 Core 42. Recovery 9 ft.

Top. Shale, greenish-gray, containing many thin irregular streaks and lenses that are silty, micaceous, pyritic, and slightly glauconitic.

Middle. Shale, gray, thinly flaky, micaceous, containing many small particles of carbonaceous material.

Depth (feet)	Description
3689-3699	<p>Bottom. Like the middle part of this core.</p> <p>Core 43. Recovery 10 ft.</p> <p>Top. Shale, greenish-gray, containing fragments of casts and molds of small thin-shelled bivalves, and a few thin, silty, micaceous and somewhat carbonaceous streaks and lenses.</p> <p>Bottom. Like the top part of this core, but more silty, micaceous, and carbonaceous.</p>
3699-3709	<p>Core 44. Recovery 10 ft.</p> <p>Top 2 ft. Like the bottom part of core 43 at 3689-3699 ft.; contains a few fish bones and fish teeth, a few specimens of Ostracodes, and many specimens of Foraminifera. The common species of Foraminifera are: <i>Ammobaculites comprimatus</i> and <i>Globigerina</i> sp.</p> <p>2nd 2 ft. Like the top 2 ft. of this core.</p> <p>3d 3 ft. Shale like the preceding parts of this core, and many thin, highly sandy (very fine-grained sand) micaceous lenses.</p> <p>Bottom 3 ft. Shale like the preceding parts of this core, containing specimens of <i>Ammobaculites comprimatus</i> and a few specimens of <i>Ammotium braunsteini</i>.</p>
3709-3719	<p>Core 45. Recovery 10 ft.</p> <p>Top 3 ft. Shale, gray, thinly bedded, somewhat carbonaceous, sandy (fine-grained sand), micaceous. Contains many shell fragments, and specimens of Foraminifera and Ostracoda. Dominant species of Foraminifera are: <i>Ammobaculites advenus</i>, <i>Ammobaculites agrestis</i>, <i>Ammobaculoides plummerae</i>, <i>Reophax</i> sp., <i>Placopsilina</i> sp., <i>Pseudoclavulina</i> sp., <i>Polyphragma</i> sp., <i>Citharina kochii</i>, <i>Anomalina plummerae</i>, <i>Fröndicularia</i> cf. <i>F. inversa</i>, <i>Globigerina</i> sp., <i>Dentalina</i> sp., <i>Quinqueloculina lirellanguila</i>, <i>Triloculina</i> sp. Common species of ostracodes are: <i>Cythereis burlesonensis</i>, <i>Cythere concentrica</i>, <i>Cythereloides obliquirugata</i>, <i>Cytherella</i> sp., <i>Cytheridea graysonensis</i>.</p> <p>Middle 4 ft. No change.</p> <p>Bottom 3 ft. No change.</p> <p>This core is the type locality of the fauna usually called the "Barlow fauna".<sup>2</sup></p>
3719-3729	<p>Core 46. Recovery 10 ft.</p> <p>Top 2 ft. Thinly interbedded gray, micaceous shale and gray, highly micaceous, somewhat carbonaceous siltstone.</p> <p>2nd 2 ft. Shale, gray sandy (moderately coarse sand), micaceous, and argillaceous limestone containing a small quantity of moderately coarse, scattered sand grains.</p> <p>3d 3 ft. Shale, gray, containing lenses of silty, micaceous shale and lenses of siltstone, fragments of thin-shelled fossil bivalves, and specimens of <i>Trochammina rainwateri</i>, <i>Ammobaculites ad-</i></p>

<sup>2</sup>Applin, E. R., 1955, U.S. Geological Survey, Professional Paper 264-I, p. 187-197, pls. 48, 49.

Depth  
(feet)

## Description

*venus*, *Globigerina* sp., and *Cytheridea graysonensis*.

Bottom 3 ft. Shale, gray, containing small particles of carbonaceous material, and thin lenses of light-gray, very fine grained, micaceous, pyritic, slightly glauconitic sandstone.

- 3729-3739 Core 47. Recovery 9 ft.  
Top 2 ft. Shale, gray, flaky, micaceous.  
2nd 2 ft. Shale, gray, flaky, containing thin, silty, micaceous, slightly glauconitic lenses.  
3d 2 ft. Sandstone, gray, argillaceous, micaceous, glauconitic, somewhat phosphatic. Sand grains are poorly sorted, fine to very coarse (pebble-size).  
Bottom 3 ft. Like the preceding part of this core.
- 3739-3749 Core 48. Recovery 10 ft.  
Top 3 ft. Sandstone, light greenish-gray, argillaceous, micaceous, glauconitic sandstone, like the lower part of core 47 at 3729-3739 ft., and a few thin lenses of highly micaceous, flaky shale.  
2nd 3 ft. Sandstone like the preceding part of this core; also a little soft, argillaceous, glauconitic, slightly micaceous sandstone.  
3d 3 ft. Sandstone, light greenish-gray, soft, fine to moderately fine-grained, argillaceous, glauconitic, slightly micaceous.  
Bottom 1 ft. Shale, gray, thinly flaky, micaceous, containing thin irregular, sandy (very fine-grained sand), glauconitic, micaceous streaks and lenses.
- 3749-3759 Core 49. Recovery 8 ft.  
Top. Like the bottom part of core 48 at 3739-3749 ft.  
Middle. Siltstone, irregularly and thinly laminated, soft, micaceous, argillaceous, and gray, flaky, somewhat glauconitic shale.  
Bottom. Shale, gray, silty, micaceous, glauconitic, and fine to coarse-grained, glauconitic, phosphatic, argillaceous sandstone.
- 3759-3769 Core 50. Recovery 9 ft.  
Top. Shale, gray, thinly flaky, containing a few rather evenly distributed, small fragments of lignite, and thin lenses of soft, very fine grained, glauconitic sand.  
Middle. Shale, greenish-gray, highly sandy (fine to coarse grained sand), micaceous. Coarse to moderately coarse, well-rounded sand grains, are common.  
Bottom. Like the middle part of this core.
- 3769-3779 Core 51. Recovery 4 ft.  
Top. Sandstone, light-gray, soft, fine to coarse-grained, argillaceous, glauconitic, somewhat micaceous; moderately fine grains are common.  
Bottom. Sandstone, light greenish-gray, soft, mostly fine-grained, argillaceous, micaceous, glauconitic.
- 3779-3788 Core 52. Recovery 3 ft.  
Top. Like the bottom part of core 51 at 3769-3779 ft. The sand-

Depth (feet)	Description
	stone is mainly fine-grained, but coarse grains are fairly common.
	Bottom. Shale, light bluish-green and reddish-brown mottled, highly micaceous, unctuous.
<b>Comanche Series, undifferentiated</b>	
	The top of the Comanche Series is placed at 3789 ft. on the basis of electric log correlation in connection with the data from samples.
3788-3793	Core 53. Recovery 4 ft. Shale, mottled light-green, yellowish-brown, light purplish-gray, micaceous, unctuous.
3793-3803	Core 54. Recovery 9 ft. Shale, mottled, dull brownish-red, green, mustard, bluish-gray, and lavender, somewhat micaceous, unctuous.
3803-3812	Core 55. Recovery 9 ft. Top 3 ft. Clay, mottled, light-yellowish-green and purple, highly sandy, unctuous. The sand grains are fine to very coarse, rounded to subrounded, and etched; many grains show an orange tint. Middle 3 ft. Clay, mottled, light-green, purple, and yellow, unctuous, slightly sandy. Nodules of limonite are fairly common. Bottom 3 ft. Clay, mottled, light bluish-green and reddish to yellowish-brown, unctuous.
3812-3819	Core 56. Recovery 7 ft. Top. Clay, gray, purplish-gray, and yellow, sandy, unctuous. The sand is fine-grained, evenly distributed in the clay, and constitutes about 10 percent of the sample. 2nd part. Clay, dark grayish-purple, waxy, containing bands of red, yellow, and white-streaked sand. The sand is composed of fine to very coarse, rounded quartz grains, and a little feldspar. 3d part. Sandstone, white, bentonitic, fine to moderately coarse grained, micaceous; the fine-grained sand predominates. Bottom. Sandstone, mottled, light-green, grayish-purple, and mustard, bentonitic, fine to moderately coarse grained, micaceous; the sand grains are etched.
3819-3829	Core 57. Recovery 7 ft. Top. Sandstone, mottled, gray, light purplish-gray, and yellow, bentonitic, micaceous. The sand grains are fine to very coarse, etched quartz, and a little feldspar; many grains are tinted yellow and pink. Bottom. Sandstone, very light green, fine to very coarse grained, bentonitic; the sand grains are etched, and a few are tinted yellow and pink.
3829-3831	Core 58. Recovery 1 ft. Top. Sandstone, mottled, light-green, light purplish-red, and mustard, argillaceous and a little sandy clay in which the sand grains are poorly sorted, fine to coarse, rounded, etched, and

