

NO. 1, LIRETTE FIELD, TERREBONNE PARISH, LOUISIANA

The Humble Oil and Refining Company, H. J. Ellender No. 1, sec. 32, T. 19 S., R. 19 E., Lirette field, Terrebonne Parish, Louisiana, is the type locality for *Bigennerina nodosaria directa*, *Cibicides carstensi*, *Uvigerina liretensis*, *Globorotalia fohsi fohsi*, and *Globorotalia mayeri*, stratigraphically important Miocene marker species described by Cushman and Ellis (1939). *Globorotalia fohsi fohsi*, ranging from the *Cibicides carstensi opima* zone upward through the *Bigennerina humblei* zone, has been used extensively for intercontinental correlation of Miocene deposits.

Ellis (1940) reported *Bigennerina humblei*, *Uvigerina liretensis*, and *Globorotalia fohsi fohsi* at 9,612 feet, the sample depth from which she and Cushman had earlier described *Globorotalia fohsi fohsi* and *Globorotalia mayeri*. Additional deeper drilling and later work has proved that the Humble Ellender No. 1 well penetrated sediments no older than *Bigennerina nodosaria directa-Cibicides carstensi* and that the deepest well in Lirette field, the Humble H. J. Ellender No. 6 (also located in sec. 32), drilled to 13,500 feet, did not encounter the *Textularia stapperi* zone which overlies the *Bigennerina humblei* zone.

In order to establish that *Bigennerina humblei* could not have occurred at 9,612 feet in Lirette field, and that the Humble Ellender No. 1 well should not be considered a valid type locality for *Globorotalia fohsi fohsi* and *Globorotalia mayeri*, two cross sections have been constructed; A-A' from Raceland field, Lafourche Parish, to Bay Baptiste field, Terrebonne Parish, and B-B' from Patterson field, St. Mary Parish, to Lirette field. The two sections depict the general down-dip (coastward) thickening of the Miocene section and the tremendous sedimentary accumulations encountered on the downthrown sides of the large "growth" or depositional faults typical of the area.

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Robulus "43" AND Discorbis "4"—TWO USEFUL MIOCENE FORAMINIFERA IN LOUISIANA

For a number of years a foraminiferal species, commonly designated *Robulus* "43" by economic paleontologists, has been used to mark a biostratigraphic zone in the Miocene post-Anahuac sedimentary sequence of south Louisiana. In the petroleum industry this species has also been known as *Robulus* "L," *Robulus* "4," and *Cristellaria* "angular." A paper describing and naming this species and its associate *Discorbis* "4" has been submitted to the Journal of Paleontology for publication (Butler, in press).

Regionally, the *Robulus* "43" zone lies stratigraphically below the *Cibicides carstensi opima* and *Amphistegina* "B" zones and above the *Operculinoides* sp. zone. The *Amphistegina* "B" fauna generally occurs 100 to 200 feet above the *Robulus* "43" zone, but tends to climb stratigraphically in the section along strike and to the southwest. Since *Robulus* "43" shows less stratigraphic variation than the *Amphistegina* "B" fauna, it is considered a more reliable regional marker on which to base correlations.

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FORAMINIFERAL POPULATIONS AND FAUNAS IN THE BARRIER REEF AND LAGOON OF BRITISH HONDURAS

Eighty-nine sediment and 41 bottom-water samples were collected from the barrier reef and lagoon of British

Honduras. The sediment samples were obtained with a gravity coring tube and a Van Veen grab sampler. The top 1 cm. or 10 ml. of wet sediment of each core or grab sample was used to study the contained Foraminifera. The temperature and salinity of each bottom-water sample were measured.

Living and total (living and dead) foraminiferal populations were determined in each sediment sample. The largest populations on the barrier reef occur on the leeward side of mangrove and coral sand cays.

The Barrier Reef fauna was typified by the restricted occurrence of some species of the families Alveolinellidae, Amphisteginidae, Cymbaloporidae, Peneroplidae, and Rotaliidae, and abundant and diversified Miliolidae.

The Lagoon fauna was characterized by the abundant occurrence of species of *Elphidium* and *Nonian*, and the relatively common occurrence of variants of *Streblus beccarii*.

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PALEOECOLOGY OF THE CHOCTAWHATCHEE DEPOSITS AT JACKSON BLUFF, FLORIDA

The Choctawhatchee (late Miocene) deposits exposed at Jackson Bluff, on the Ochlockonee River, are composed of two fossiliferous units separated by a slight erosional disconformity.

Comparison of fossil molluscan and foraminiferal assemblages with extant communities in the Gulf of Mexico, western Atlantic, and Caribbean indicates that the Choctawhatchee sediments were deposited in an open-marine near-shore shallow to intermediate shelf zone, at depths of less than 21 fathoms.

The lower part of the lower unit ("*Ecphora* facies") is transgressive over the nonmarine Hawthorne (medial Miocene?), and the deposits representing maximum water depth for the section lie a few feet above the base of this unit. The upper part of the lower unit was deposited under shoaling conditions. The overlying unit ("*Cancellaria* facies") is transgressive, but was deposited at a depth of less than 8 fathoms.

The terms "*Ecphora* facies" and "*Cancellaria* facies" as applied to this section, are rejected.

Comparison of the Jackson Bluff Choctawhatchee deposits with those at Alum Bluff, Liberty County, Florida, indicates that the lower unit at Jackson Bluff is contemporaneous with Units 2 and 3 ("*Ecphora* shell bed") and Unit 4 (Aluminous clay) at Alum Bluff, and that the upper unit at Jackson Bluff is contemporaneous with the upper Choctawhatchee sand (Unit 5) at Alum Bluff.

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BIOSTRATIGRAPHY OF SOUTH-CENTRAL LAFOURCHE PARISH, LOUISIANA

A biostratigraphic study of south-central Lafourche Parish, Louisiana, was undertaken to solve some of the structural and stratigraphic problems of the area. Samples from wells in Valentine, Bully Camp, Golden Meadow, Leeville, and Bayou Raphael fields in Lafourche Parish were examined paleontologically. Samples from one well in Bayou Jean LaCroix field in eastern Terrebonne Parish were examined. Results of these paleontological examinations served as the principal source of regional correlations; electrical logs were also used at key locations when samples were not available, or were not collected from high enough in a well for the uppermost occurrence of index forms to be observed.