jective sections above the Edwards have been found water-bearing, and in three deep tests (to the Sligo) porous sections were of too low permeability to be commercial. The field limits are essentially defined, at a length of about 7½ miles and a width slightly more than a mile.

Shell Oil Company is currently completing a 15 million cubic foot capacity gas treating plant at Person for the extraction of sulphur and sale of sulphur and sweetened gas. The plant will be owned by all of the operators in the field.

LAFAYETTE GEOLOGICAL SOCIETY STUDY GROUP, Lafayette, La.

CAMERINA AND CIBICIDES HAZZARDI STRATIGRAPHIC INTERVALS OF SOUTHWEST LOUISIANA

The economic significance of the *Camerina* and *Cibicides hazzardi* zones and the numerous unanswered questions relative to possible areas of reservoir sand development, areas of maximum and minimum sedimentary accumulations and sand percentages, and downdip lithofacies developments prompted the preparation of electric log correlation sections and lithofacies study of the intervals.

Three west-east (strike) and five north-south (dip) electric log correlation sections are presented. These sections show the correlation points used, depths at which various zones occur, and the relationship between the lithologic and paleontological markers. The correlations are extended as deep as possible and include the tops of the Hackberry, *Nonion struma* and *Nodosaria blanpiedi*.

Isopachous maps of the *Camerina* and *Cibicides hazzardi* intervals, isopachous maps of the net effective porous and permeable sand found in each interval, and sand percentage maps were constructed. In addition to providing lithofacies data, these maps add a third dimension to the correlation sections. The primary purpose of the study was to develop data to be make available for individual interpretation. For this reason, only general observations relative to the findings are recorded in the text.

Sedimentation within the *Cibicides hazzardi* interval was influenced markedly by regional growth faults. Pronounced thickening and net sand increase occur on the downthrown side of these faults. Sedimentation within this interval has also been affected locally by the older Hackberry negative area and by *Nodosaria blanpiedi* growth faults. *Cibicides hazzardi* sediments are best developed along northeast-southwest-trending axes which exhibit thickening and a decrease in net sand and sand percentage gulfward. The downdip limit of *Cibicides hazzardi* sand development exists in the southeast part of the area studied.

The *Camerina* zone is characterized by the existence of large positive areas north of regional growth faults and tremendous thickening and net sand increases on the downthrown side of these faults. *Camerina* sands show good development as far south as the study was extended.

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BIG JOHN (EDWARDS) FIELD

Big John (Edwards) field is in northwestern Karnes County, Texas. Its productive limits are north of and adjacent to the now abandoned Hobson field that had produced more than 3½ million barrels of oil from Reklaw and Carrizo sands. Both accumulations were trapped on the upthrown side of an up-to-the-coast fault that is a part of the Fashing-Persons fault system.

Big John field was discovered in 1960, as the result of subsurface surface mapping and trend drilling, with the assistance of major company seismic leads. The gas column is approximately 200 feet thick, and the effective oil column only 25 feet thick. Vertical closure in the reservoir is at least 250 feet. The areal extent of the field is approximately 2,600 acres.

Cumulative production as of March, 1962, has been 117,400 barrels of oil and 425 million cubic feet of gas.

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COMPUTER APPLICATIONS TO LOG INTERPRETATION

Modern stored-program electronic computers are adaptable to statistical studies and other repetitive arithmetic operations relative to log interpretation. This paper touches on several applications in practical use within the industry today. An effort is made to assess both the validity and the economics of machine computation.

Machine speeds are unbelievably fast, permitting an investigation of a large spectrum of possible interpretations. It must be recognized, however, that each problem must be very well defined before taking it to the computer. This suggests that each program must evolve slowly starting with a few simple operations and decisions. Modifications are then based on previous results.

In order to justify the expenditures for the programming and operation of the computer, the answers produced must be valid and of increasing utility in the search for oil.

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STRATIGRAPHIC IMPLICATIONS FROM STUDIES OF THE MESOZOIC OF CENTRAL AND SOUTHERN MISSISSIPPI

Beds of Mesozoic age hold much promise of further oil and gas production in central and southern Mississippi without "getting farther downdip and drilling deeper." Examination of cuttings and cores from many wells in this area, and correlation with electrical logs of these wells, point out some areas which may contain favorable facies for oil and gas accumulation.

In southwestern Mississippi, sediments from the upper Tuscaloosa suggest a return to depositional environments prevalent in lower Tuscaloosa time. The lower Tuscaloosa is productive in this area from deltaic and stream channel deposits. Some production is already established from the upper Tuscaloosa.

Recent deep tests have added to knowledge of the Lower Cretaceous carbonate section in southern Mississippi and this information can be used in interpreting the environment of deposition of this section. No porosity trends have been established but a few zones with some porosity are present.

In central Mississippi, beds of Jurassic age can be reached at depths which are economically feasible to drill. The Cotton Valley is for the most part continental, but a few wells contain beds which may be rich enough in organic material to be source beds . The Smackover Formation has possible objective zones in this area, but the belt of possible porosity is very narrow.

Stratigraphic cross sections in these favorable areas show the possible extent of favorable zones and help to explain the depositional history of these areas. Lack of identifiable fossils makes paleontological determinations very difficult. Lithologic studies with consideration of the environment and paleogeography are the most useful tools of study in this area.