ities of 0.5 to 83 md. Primary sedimentary structures, textures, mineralogy, and stratigraphic sequences from core analysis, log character, and paleontology suggest a delta to prodelta environment. Convolute structures within reservoirs and chaotic dipmeter patterns suggest complex subaqueous mass movement, similar to that within the modern Mississippi delta complex.

General Crude Oil has drilled 17 wells in the field with 15 containing hydrocarbon-bearing sands. The productive sandstones rarely correlate between wells, thus masking reservoir geometry and indicating a restricted aerial extent for most reservoir sandstones. Production in most wells has declined rapidly, and results of stimulation by fracturing, acidizing, and clay stabilization appear to substantiate the interpretation of multiple, small, discontinuous reservoirs.

TALLEY, BOBBY J., Amoco Production Co., Tulsa, Okla.

Lithology Data Systems—Rocks to Applications

As geologists we should take a close look at the development and use of Lithologic Data Systems as hydrocarbon finding tools. The technology and experience are now available for us to do this.

A Lithologic Data System must be capable of accepting descriptive data from sample cuttings, cores, outcrops, and that purchased from commercial concerns. The capture of the company data is very time consuming and expensive. Purchase of lithologic data from commercial firms is the fastest and least expensive method of obtaining a Lithologic Data System. Their data are more adaptable to a computer system because of the higher degree of standardization and are already prepared for computer storage. Commercial firms are currently generating more intervals of data per month than most companies. The three commercial firms currently in the data processing business have in their files approximately 15,000 lithologic digital logs. The files are increasing at the rate of approximately 100 wells per month. No longer are data systems the sole property of the larger companies. All three commercial lithologic data firms have retrieval programs that will process their data.

With the increase of computer usage, industry-wide standardization of logging methods, geologic terms, and data formats are essential. After storage, geologic models can be developed and retrievals created for output in any desirable form such as log strips, multiple types of maps, histograms, statistical data, etc. Of all data systems developed by the oil companies, the Lithologic Data System has the greatest potential for aiding in the search for future energy reserves.

TALWANI, MANIK, Lamont-Doherty Geol. Observ., Palisades, N.Y.

Deep-Sea Drilling and Global Tectonics

The start of the Deep Sea Drilling Project coincided with the development of the ideas of "global tectonics" or "plate tectonics," which had been mainly derived from geophysical data. The results of drilling have been able to confirm the ideas of plate tectonics and have been important in adding important information in many areas: the age of the oceanic crust, relative and absolute plate motions, composition of the oceanic crust, sources of magnetic anomalies, tectonics at subduction zones, and initiation of rifting.

TARANIK, JAMES V., U.S. Geol. Survey, Sioux Falls, S.D.

Characteristics of LANDSAT System for Geologic Applications

LANDSAT satellites were launched into orbit in 1972 and 1975. Additional LANDSAT satellites will be launched in 1978 and 1981. The satellites orbit the Earth every 18 days at an altitude of approximately 900 km. A sun-synchronous orbit is utilized to insure repeatable illumination conditions. Seasonal variations in solar illumination must be analyzed to select the best LANDSAT data for geologic applications. LANDSAT data may be viewed in stereo where there is sufficient sidelap and sufficient topographic relief. Repetitive satellite coverage allows optimal cover conditions for geologic applications to be identified. The present LANDSAT satellites detect only solar radiation that is reflected from the earth's surface in visible and near-visible wavelengths. The third LANDSAT satellite will detect emitted thermal radiation. The Multispectral Scanner (MSS) is the only sensing instrument operating on the first two satellites. The MSS on LANDSATS 1 and 2 detects radiation which is reflected from a 79 × 79-m area, and the data are formated as if the measurement were made from a 56 × 79-m area.

The MSS integrates spectral response from all cover types within the 79 × 79-m area. The integrated spectral signature often does not resemble the spectral signature from individual cover types, and the integrated signature is also modified by the atmosphere. LANDSAT 1 and 2 data are converted to 70-mm film and computer compatible tapes (CCT's) at Goddard Space Flight Center (GSFC) and are shipped to the EROS Data Center (EDC) for distribution to users. LANDSAT-C data will be converted to 241-mm wide film and CCT's at EDC. LANDSAT-D data will be relayed from the satellite collection platform directly to geosynchronous satellites and then to the United States from any location on Earth.

TARANIK, JAMES V., U.S. Geol. Survey, Sioux Falls, S.D.

Computer Processing of LANDSAT Data for Geologic Applications

The main objectives of computer processing of LANDSAT data for geologic applications are to improve display of image data to the analyst or to facilitate evaluation of the multispectral characteristics of the data. Image enhancements involve adjustments of brightness values for individual picture elements. Image classification involves determination of the brightness values of picture elements for a particular cover type. Histograms are used to display the range and frequency of occurrence of brightness values.

LANDSAT 1 and 2 data are preprocessed at God-