ABSTRACTS OF PAPERS

ABELSON, P. H., AAAS, Washington, D.C.

Synthetic Fuel Forecasts

No abstract available.

ACEVEDO, J. S., PEMEX, Coatzacoalcos, Mexico

Giant Fields of Southeastern Mexico

No abstract available.

ADDY, SUNIT K., J. LAMAR WORZEL, and DANIEL A. GOODWIN, Univ. Texas Marine Sci. Inst., Galveston, Tex.

Seismic Stratigraphy and Structure Off Panama City, Florida

Approximately 1,240 km of multichannel seismic profiles along the continental shelf and upper slope off Panama City, Florida, in the vicinity of Destin dome and De Soto Canyon reveal several major and minor discontinuities in shelf-slope deposition. Geologic ages were assigned to these discontinuities by correlating the depth profiles with a previously described sparker line of a nearby crossing and from other geologic considerations. Depositional breaks of major magnitude occurred in middle Miocene and Early Cretaceous(?). Isopach maps of seven seismic stratigraphic units between Upper Jurassic–Cretaceous(?) and the present have been prepared. Earliest maximum sedimentation occurred in the southwest of the area of investigation, but shifted to the northeast and north in early Miocene and back to the southwest in recent times.

The doming in the area is maximum in the earliest units and has a major northwest-southeast axis. Later units show decreasing relief and the evolution of the major axis to a northeast-southwest trend. From late Miocene on, minimal doming is evident. The peak doming is northeast of the older structure, suggesting that the tectonic motions forming the dome had nearly stopped by the Jurassic-Cretaceous(?). Later sedimentation and compaction have almost obscured this feature and have generated extensional faults in some of the layers above the dome.

The De Soto Canyon appears to be the only canyon that remains from a group of 10 or so that appear in a major erosion surface in the middle Miocene.

AIT-HAMOUDA, M., Sonatrach, Algiers, Algeria

Ouargla Region, Algeria, North Africa

No abstract available.

AITKEN, R. R., U.S. Dept. Energy, Washington, D.C.

Drilling and Production Problems in Undiscovered Reservoirs

The popular urge to make 50-year global and national petroleum-production curve projections is present among industrial, financial, political, environmental, and scientific entities here and abroad. Petroleum reserve estimates and undiscovered-recoverable resource appraisals stimulate predictive models incorporating diverse geologic, statistical, economic, and political assumptions reflecting the backgrounds and present circumstances of equally diverse investigators. The federal government's post-embargo succession of energy organizations (FEO/FEA/DOE), relying primarily on the USGS Resource Appraisal Group's work as a data base, has developed an oil and gas model that predicts future production levels and variations in these levels that are expected to result from changes in demand, regulations, and incentives. The results have not been uniformly excellent.

ALMON, WILLIAM R., Cities Service Co., Tulsa, Okla.

Mechanisms of Formation Damage in Diagenetically Altered Sandstones

Diagenetically altered sandstones ("shaly sands") are extremely susceptible to formation damage during drilling, completion, stimulation, or enhanced-recovery operations. This susceptibility arises because of the development of diagenetic minerals within the pore system and because of physical and chemical interactions between the diagenetic minerals and the injected fluids.

Formation-damage mechanisms can be separated into three groups: mechanical, chemical, and physical. The mechanical mechanisms include migrating clays, swelling clays, and sloughing clays. The chemical mechanisms include dissolution of minerals and precipitation of minerals. Physical mechanisms of formation include emulsion blockages or water blockages.

The scanning electron microscope allows the geologist or engineer to observe directly the mechanisms for formation damage in a reservoir and to design his treatment accordingly. The SEM can also be used to observe the effects of well treatments and evaluate their success or failure.

AMSBURY, DAVID L., Seabrook, Tex.

Edwards Formation, North-Central Texas—Stratigraphy, Depositional Geometry, and Diagenesis

Oolitic and skeletal carbonate grainstone (Moffat Mound) is present as a nearly straight, WNW-ESE-trending belt within the upper Fredericksburg (Cretaceous Comanche) of north-central Texas. The grainstone body with its associated rudist reefs is 2 to 4 mi (3 to 6 km) wide, up to 120 ft (36 m) thick, and at least 50 mi (80 km) long. It separates normal-marine carbonate wackestone and marlstone on the north from tidal-flat dolomite on the south. Detailed tracing of key beds and hardground surfaces through closely spaced, measured sections permitted separation of the body and its finer grained equivalents into several approximate time-stratigraphic subunits. The belt began as a series of discontinuous, relatively thin rudist reefs on a broad shoal, developed into the narrow, linear, carbonate-sand buildup, and then merged with widespread rudist patch reefs to end local Fredericksburg deposition.

Early multiple aragonite(?) and calcite cements filled nearly all intergranular pores and most early leached-