5. D. L. Amsbury: Stratigraphic petrology as aid to mapping calcarenite bodies in lower and middle Trinity Cretaceous rocks of San Marcos platform, Texas 2:40
6. J. D. Cooper: Stratigraphy and petrology of type Escondido Formation (Upper Cretaceous), Maverick County, Texas, and adjacent Coahuila, Mexico 2:55
7. H. S. Chafetz: Morphologic evolution of Cambrian algal mounds, Texas, with changing depositional environment 3:15
8. A. M. Thompson, P. A. Offutt: Sedimentologic data on Ordovician-Silurian boundary in central Appalachians 3:30

SEPM Session on Detrital Sedimentation and Diagenesis

Convention Center Conference Room 3ABEF

Presiding: R. H. De Voto, J. H. McGowen

1. L. G. Kessler, II: Channel sequence development in aggradational streams with example from South Canadian River, Texas 1:30
2. W. R. Costello, R. G. Walker*: New component of braided river model 1:50
3. C. G. Groat, J. H. McGowen: Van Horn Sandstone, West Texas—early Paleozoic alluvial fan system 2:05
4. J. C. Boothroyd, G. M. Ashley: Continental sedimentation in tectonically active geosynclinal basin, glacial outwash plain of northeastern Gulf of Alaska 2:25
5. M. O. Hayes, R. L. Henry, C. H. Hobbs, III, F. J. Raffaldi, P. R. Hague: Coastline sedimentation in tectonically active geosynclinal basin, glacial outwash-plain shoreline of northeastern Gulf of Alaska 2:45
6. J. B. Southard, J. C. Harms: Bedform sequence of silts from flume experiments 3:05
7. W. A. Pryor: Biogenic pelletization and alteration of suspended argillaceous sediments 3:25
8. J. T. Whetten, R. R. Hiltabrand: Formation of authigenic clay in detrital sand 3:45
9. E. L. Couch: Postdepositional reactions involving boron, sediment, and pore water in Mississippi delta system 4:00
10. R. Hesse: Selective silicification of ooids in graywackes of Gault Formation, Early Cretaceous, East Alps 4:20

THURSDAY MORNING, APRIL 20

SEPM Colloquium

Oceanic Plankton

Aspen Room, Hilton Hotel

Presiding: J. C. Ingle, Jr., E. A. Pessagno 8:00–12:00

ABSTRACTS OF PAPERS

ADENT, W. A., and S. E. SZASZ, California State Lands Div., Long Beach, Calif.

Unique Oil-Gas-Water Transition Zone

Detailed subsurface studies of the F-1 sandstone (Ranger zone, lower Repetto Formation, lower Pliocene) resulted in the mapping of an oil-gas-water transition zone where the gas is postulated to have appeared as a secondary feature, associated with the pressure relaxation of the oil reservoir, and to have migrated from the oil zone downdip to form the oil-gas-water transition zone.

ALI, O. S., Guilford College, Greensboro, N.C.

Stratigraphy of Lower Triassic Sandstone of Northwest Algerian Sahara

Within the past few years there has been an active exploration and development program for petroleum in Triassic sandstones of the northwestern Algerian Sahara. This stratigraphic unit has not been named formally, and no significant fossils have been found in the 150,000-sq km area involved in the program. The present study involves analysis of the sedimentologic characteristics, correlation, and stratigraphic relations. Although there are few data for such a large area, it has been possible to diagnose local and regional patterns of lithologic variation. These analyses provide a basis for reconstruction of the environmental setting. A major purpose is to provide a preliminary analysis of this important sandstone reservoir to be used in further exploration.

Existing information indicates that Lower Triassic sandstone in the northwest part of the Algerian Sahara was deposited on a post-Hercynian erosion surface in a shallow marine environment. Part of the variability in thickness (50–200 m) is related to irregularities in the Paleozoic erosion surface. There is also an apparent shoreline represented by nondeposition. Sediments are believed to have been derived from local folds, such as the eroded Hassi Messaoud anticline, and from broader uplifts in north-central Algeria.

AMSBURY, D. L., 1422 Brookwood Court, Seabrook, Tex.

Stratigraphic Petrology as Aid to Mapping Calcarenite Bodies in Lower and Middle Trinity Cretaceous Rocks of San Marcos Platform, Texas

Lower Trinity rocks (Sycamore sandstone, Hosston sandstone, and Sligo limestone) and middle Trinity rocks (Hammett shale and Cow Creek limestone) represent two depositional cycles, bounded by regional disconformities, in the basal Lower Cretaceous section of south-central Texas. The cyclic units contain alluvial sandstone, alluvial and lagoonal terrigenous mudstone, lagoonal carbonate mudstone, and oolitic and skeletal calcarenites. Study of outcrops, cores, well cuttings, and electric logs demonstrates that these lithofacies are in ordered belts parallel with paleoslope contours on the depositional shelf.

Calcarenites formed where highly agitated marine water impinged on the shelf surface. At different times, belts of calcarenite were formed at the shoreline, about 50 mi offshore, and 75–90 mi offshore. The resulting bodies are 5–25 ft thick, 5–10 mi wide, and tens of miles long. The approximate location of each offshore body can be determined by mapping lithofacies belts landward. Seaward from the calcarenite bodies, ooliths and well-rounded skeletal fragments are present as "exotic" grains in mud. These round grains range from 0.05 to 0.1 mm in diameter and are in quiet-water, open-marine sediments characterized by calcareous mud, terrigenous silt, glauconite silt, large angular shell fragments, and fragile whole fossils. Careful correlation of electric logs on the basis of scattered cores, plus thorough examination of well cuttings and cores, provides the ability to predict locations of calcarenite belts within these cyclic deposits.