dinner with the King at Fontainebleau. Present at this dinner was our ambassador to the Republic of Texas. He described that vast republic and talked about its tremendous resources. Remember, my darling, that one day, the Palace of the President of the Republic of Texas will be bigger and better than Fontainebleau."

I am telling you about this letter to show you that we French Texans have something in common with the real ones.

I would like to express my deep appreciation to The American Association of Petroleum Geologists for the privilege of being here today, and my thanks for this recognition of the contributions of Conrad and Marcel Schlumberger.

PIERRE SCHLUMBERGER

EASTERN SECTION AAPG 3RD ANNUAL MEETING Pittsburgh, Pennsylvania, April 18-19, 1974

"APPALACHIAN ENERGY"

Abstracts of Papers

BENNETT, W. E., Columbia Gas Transmission Corp.

Potential Gas Supply of Appalachians

No abstract available.

BLOOMER, G., Gulf Research and Development Co., Pittsburgh, Pa.

Significance of Deposition in Schenectady-Frankfort Formations (Upper Ordovician), New York

A petrologic and paleocurrent study of the Upper Ordovician Schenectady-Frankfort Formations does not support the commonly held supposition that the sediments were derived from the Taconic region of New England–New York.

The grain-size distribution, mineralogy, and paleocurrent direction of the Schenectady Formation indicate a complex source area south of the Mohawk Valley rather than an easterly source.

It is proposed that the source area for the Schenectady-Frankfort Formations was in the Reading Prong region of northern New Jersey–southeastern New York. It is also proposed that a southward-plunging north-south sedimentary barrier prevented the sediments on the east from penetrating as far west as the Schenectady basin.

BROWN, P. R., Hudson's Bay Oil and Gas Co., Ltd., Calgary, Alta., and H. BUCHANAN, West Virginia Univ.

Tectonic Diagenesis of Appalachian Middle Ordovician Carbonate Rocks—Significance to Resource Exploration

Middle Ordovician carbonate rocks with a variety of mud-supported to grain-supported textures have been sampled in the central and northern Appalachians. Progressive fabric alterations similar to those in older (Cambrian-Ordovician) mud-supported carbonates of the central Appalachians also are observed in the Middle Ordovician rocks. These alterations include increase in matrix (micrite) crystal size, elongation and increased preferred orientation of matrix crystals, increased twinning in echinoderm fragments, and progressive loss of original textures. Scanning electron microscopy of the Middle Ordovician carbonate rocks has revealed other progressive changes in microfabric including increased sinuosity of grain boundaries between matrix crystals.

The progressive alteration observed in these rocks evidently is related to increasing intensity of tectonic deformation. The tectonic factors responsible for the fabric alterations also act to destroy porosity and permeability and, in part, to effect the generation, migration, and ultimate destruction of hydrocarbons. Thus, studies of the fabric changes in carbonate rocks may provide valuable information on the possible occurrence of oil or gas in a basin or in a particular part of a basin being explored, regardless of whether or not the carbonate rocks themselves are potential reservoirs. A straightforward petrographic tool of this type would be especially valuable in exploration in the deeper Appalachian basins. Carbonate fabric studies also may be useful in the discovery and exploration of metallic deposits such as lead and zinc in the Appalachians.

CLIFFORD, M. J., Weaver Oil and Gas Corp., Houston, Tex., and H. R. COLLINS, Ohio Division of Geol. Survey, Columbus, Ohio

Structures of Southeastern Ohio

A review of structure data in southeastern Ohio indicates that the Burning Springs anticline and the Cambridge arch are the only valid structures of regional extent in the area. Recent mapping by the authors has clarified the relation between these elements.

The Burning Springs anticline previously has been shown to be the result of thin-skinned thrusting on a Silurian salt glide plane. The salt, now identified as the Salina F4, pinches out beneath the structure. The structure follows the western limit of the salt into southern Monroe County and there dies out.

The Cambrian arch follows the pinchout of the Salina E salt; east of the pinchout, elevations of the Pittsburgh coal (Pennsylvanian) are about 300 ft higher than in the west. There is only a gentle southeastward dip below the salt. The structure is interpreted to be the result of movement of a southeastward-thickening block of supra-Salina rocks northwestward along a salt glide plane. A postulated near vertical tear fault (or series of faults) marks the western limit of this movement.

The Parkersburg-Lorain syncline, often mentioned as lying west of the Cambridge arch, also is not present below the salt in the study area.

Production of hydrocarbons from Salina (Silurian), Oriskany (Devonian), and Berea (Mississippian) zones and from several Pennsylvanian sands appears to be associated with the Cambridge feature for at least 75 mi of its extent. The northward extension of the Burning Springs anticline into Ohio apparently localized production from Pennsylvanian and Mississippian sandstones in Washington and Monroe Counties.

DENNISON, J. M., Univ. of North Carolina, Chapel Hill, N.C.

Uranium Possibilities in Appalachians

Uranium oxides in the Chattanooga Shale constitute the largest total tonnage of uranium known in the United States, but the concentration is at best only about a hundredth of that necessary for present economic development. The highest tenors are in the upper five ft of the Chattanooga in the Highland Rim area of Tennessee.

Most large commercial uranium deposits in the United States are roll-type deposits formed in geochemical cells acting on a protore of arkosic, carbonaceous or pyritic, fluvial sandstone. The cells may concentrate uranium more than a thousandfold, but rarely exceed one-percent tenor in the narrow roll front. The best possibilities for commercial uranium in the Appalachians are in fluvial sandstones deposited after the development of abundant land plants. In addition to mineralogic composition and depositional environment, other important factors are paleocurrent trends, unconformities, changes in regional dip through time, and possible removal of uranium cells by Pleistocene glacial scouring. Significant uranium shows are present in Pennsylvania in fluvial-channel sandstones exhibiting evidence of geochemical cells, in both the Devonian Catskill Formation and the Mississippian Mauch Chunk Formation.

Out of 22 fluvial or possibly fluvial Appalachian stratigraphic