Phase III have confirmed the complex nature of the oil-bearing facies. Furthermore, SEM and thin section analyses have determined additional controls on fluid flow, mainly reduction in permeability by ductile rock fragment deformation and intergranular clay and mica.

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Uranium Industry Outlook from a Banker's Perspective

This paper will discuss the technical fundamentals underlying the uranium industry: reserves, supply vs demand, and the geographic changes anticipated in the industry to the year 1995. Particular emphasis is placed on the economics of the uranium industry including the price outlook for U-308. Given this outlook, a brief outline of the various criteria important in financing uranium producers rounds out the banker's viewpoint on the viability of the industry.

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Distribution of Paleocene-Eocene Benthic Foraminifera in Atlantic

A study of Paleocene-Eocene deep sea benthic foraminifera from DSDP sites in the Atlantic, Caribbean, and the Gulf of Mexico, reveals two major faunas: (1) a Paleocene fauna dominated by Cretaceous relict species, and (2) an Eocene fauna characterized by many new faunal elements. An abrupt faunal turnover, resulting in the extinction of almost all Cretaceous species, occurs during the latest Paleocene (Zone P6a). Using the "backtracking" method of Berger, the relative plate motions of Phillips and Forsyth, and the paleomagnetic data of McElhinny, the paleobathymetric and paleolatitudinal distribution of benthic forams was studied. A principal component analysis identifies three distinct Paleocene and four Eocene assemblages. A *Gavelinella beccariiformis* assemblage, with a wide bathymetric range during the early Paleocene, becomes restricted to shallower water during the late Paleocene before becoming extinct in Zone P6a. A deep water *Nuttallides* assemblage, consisting of long-range taxa, follows this trend, occurring at intermediate depths during the latest Paleocene. A third assemblage, with predominantly *Nuttallides crassaformis* and various buliminids, is restricted to the low-middle latitudes. In the Eocene the *Nuttallides* (mainly *N. truempyi)* becomes restricted to deep water prior to its extinction in the late Eocene, when it is replaced by a previously shallow assemblage characterized by *Cibicidoides ungerianus* (2). A second trend discriminates between a shallow assemblage (3) with *Lenticulina, Osangularia mexicana,* and various buliminids, which is most prominent during the middle Eocene, and a deep assemblage (4) with *Globocassidulina subglobosa, Gyroidinoides, C. ungerianus, Stilostomella aculeata,* and *Oridorsalis umbonatus,* which is most prominent during the middle and late Eocene.

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Triassic Paleogeography, Evaporites, and Stromatolites of Southwest Britain

During Triassic time, northwest Europe was subjected to tensional stresses which resulted in the formation of a complex system of rapidly subsiding grabens and wrench-faulted basins. This pattern of regional crustal extension, which is part of the Mesozoic breakup of the Pangean megacontinent, is related to the Triassic opening of the Tethys ocean in southern Europe and rifting in the Arctic/North Atlantic, and is a prelude to the Jurassic opening of the southern North Atlantic. Great thicknesses of chiefly continental (non-volcanic) sediments accumulated within the Triassic basins. Within western Britain, a complex series of fault-bounded basins extended from the western approach and channel area, northward to the Irish Sea.

Sediments within the Triassic basins of southwest Britain generally conform to a pattern. In the basin center, haline and marls predominate, and toward the basin margin halite gives way to gypsum-anhydrite (commonly replaced by quartz, dolomite, and calcite). Where highland regions occur at basin margins, alluvial fan sequences are developed and interdigitate down-fan with marls. Beach breccias and shore-flat deposits occur in some marginal areas, as well as wave-cut platforms carbed into Carboniferous limestone bedrock. At times the fault-bounded basins contained substantial water bodies ("lakes") from which the halite was precipitated, and around which beaches developed. Contraction of the lakes produced polygonal structures in the halite and calcretes within basin margin deposits. A rare but interesting marginal facies is that of a hyposaline limestone containing fine stromatolites, fenestral fabrics, and tepees.

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Influence of Time Dependent Thermal Histories on Conversion of Kerogen to Petroleum

The conversion of kerogen to petroleum is a thermally activated process. Many alternative forms of the rate equations have been proposed. Usually it is assumed that the present geothermal gradient has been unchanged in the past and the fractional conversion is determined. In this paper three limiting examples of time dependent thermal histories are considered: (1) a sedimentary basin is formed by thermal subsidence on initially hot lithosphere; (2) isothermal (cold) sediments are deposited instantaneously on crust with a constant (time independent) thermal gradient; and (3) a transient thermal event, i.e., a volcanic sill or dike, heats cool sediments. In each example, the conversion of kerogen to petroleum is determined and is compared with the steady state hypothesis.

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Model for Barrier Island–Tidal Inlet Stratigraphy

A three-dimensional stratigraphic model for a tidal inlet-barrier island facies was constructed through examination of 37 vibracores and 10 auger drill holes on Capers and Dewees Islands, South Carolina. Two cycles of southerly inlet migration and subsequent abandonment resulted in beach ridge truncation on the northern ends of the barriers. The inefficiency of overextended migrating inlet channels caused shorter northerly oriented channels to breach the ebb-tidal delta. Inlet reorientation allowed a large wave-formed swash bar to migrate landward, attach to the barrier, and close the former inlet channel.

Price Inlet formed during the onset of the Holocene transgression by submerging the ancestral Pliocene-Pleistocene