

"lack of competition" real. Current examples are: (1) in the SEC, the constant effort to broaden the definition of a security and bring the attendant registration and disclosure requirements to bear on the most mundane joint ventures; (2) in the Congress and the SEC, the pressure to bring about accounting changes limiting independents' access to equity markets and encouraging sellouts and mergers; (3) in the IRS, grotesque definitions of joint ventures as partnerships, partnerships as corporations, and farmouts as income; (4) in the FERC, strained interpretations of gas contracts as "covenants running with the land" in order to introduce the principle of administrative confiscation of mineral rights without due process. The ponderous weight of the regulatory hand weighs most heavily on the independent geologist who has no legal or accounting staff.

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Engineering Geology in Deep Basin, Canada

No abstract available.

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Burial Dolomitization of Upper Devonian Miette Buildup, Alberta

Four discrete phases of dolomite are present within rocks which compose the south margin of the small, isolated Miette buildup. Detailed mapping, petrographic analysis, and chemical studies facilitate distinction of the following dolomite types: (1) an "early" phase of microcrystalline dolomite occurring as a diffuse matrix component of micrite limestones; (2) a pervasive phase of saccharoidal dolomite exhibiting a variety of features "inherited" from precursor limestones; the degree of dolomitization associated with this phase ranges from partial recrystallization of limestones from all depositional facies to complete dolomite mosaics which modify most primary textures and depositional features in the buildup margin; (3) a relatively minor phase of subhedral to anhedral microcrystalline to macrocrystalline dolomite confined to the buildup interior and associated with bitumen, clay, and iron residues along stylolites, and with characteristic green microcrystalline carbonate accumulations along solution surfaces; (4) a late phase of coarse, white dolomite associated with coarse calcite spar, which is related to brecciation of phase 2 dolomites of the buildup margin.

Paragenetic relations between the first three phases are best observed in partially dolomitized micritic limestones from the interior of the buildup. Vuggy porosity is associated with the pervasive dolomites of the buildup margin.

Petrographic observations, supported by geochemical and isotopic data, suggest different origins for these different phases of dolomite. Pervasive dolomitization postdates cementation and lithification of back-reef deposits; furthermore, there is little evidence of subaerial exposure, and evaporite-related solution features are absent. Alkaline, magnesium-rich fluids derived from adjacent and underlying basinal strata may have been

responsible for the major phase of pervasive dolomitization.

Before dolomitization models can be applied to specific localities and to rocks displaying specific facies relations, careful petrographic, geochemical, and stratigraphic analyses are essential.

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Determination of Storm Overwash Periodicity from Stratigraphic Relations in Delaware Coastal Barriers

Atlantic coastal barriers of Delaware are characterized by relatively thick (>1 m) sandy washover units interbedded with thin silts and clays. The coarse-grained sediments represent overwash deposition during storm conditions, and are separated by lagoonal and marsh muds deposited during quiescent periods between storms. Washover deposits consist of fine-grained to coarse-grained, moderately sorted, negatively skewed sands. Internal sedimentary structures, consisting of lower units of small- and large-scale trough cross-bedded laminations and upper units of slightly landward-dipping parallel laminae, reflect the transition from lower to upper flow regime as storm intensity peaked. The fine-grained materials represent lagoonal and back-barrier marsh deposition, and consist of silts and clays containing characteristic faunal and floral components. The sand unit forms a sharp contact with underlying muds, whereas the upper boundary is a gradational sand-to-mud contact as back-barrier marsh deposition reestablished on the washover-fan surface. Thickness and lateral extent of washover deposits vary depending on magnitude of wave parameters and storm tide. Large fans may extend as far as 1 km landward, and exceed 1 m in thickness. Radiometric dating of organic material in marsh and lagoon deposits permits establishment of up to four major depositional events during the past 2,700 years. Back-barrier marsh mud sequences suggest a time of stability and low storm periodicity, whereas the greater part of the barrier washover sequences suggests a higher frequency of major storm overwash and upbuilding of the back barrier. Thus, storm-overwash periodicity may be the major determinant in establishment of lateral facies interrelations between coastal-barrier and lagoonal sequences in the stratigraphic record.

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Dinoflagellate Assemblages from Surface and Subsurface Nanushuk Group (Albian-Cenomanian), Northern Alaska

A multidisciplinary evaluation of potential hydrocarbon reservoirs in the Nanushuk Group (Albian-Cenomanian) of northern Alaska is being undertaken by the U.S. Geological Survey. The correlation of surface outcrops of the Nanushuk with subsurface units is based, in part, on marine dinoflagellate assemblages. Nanushuk dinoflagellates have been studied from four cored wells: Umiat Test Well 11, Simpson Core Test 25, Fish Creek Test Well 1, and Grandstand Test Well 1. Sam-