Btu. In Texas, air-quality standards (AAQS and PSD) could restrict the siting of future power plants. Future use in atmospheric fluidized bed combustion and medium-Btu gasification is probable. Underground gasification should be commercialized by 1990.

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Revision of Tampa Formation, West-Central Florida

The Tampa Formation of west-central Florida historically has been defined primarily from biostratigraphic and geochronologic criteria. Formation definitions based on these criteria are not in accordance with the American Code of Stratigraphic Nomenclature. Furthermore, a type section of the Tampa has never been established. Currently, the Tampa Formation is recognized by ill-defined and conflicting criteria with boundaries that are vague. At the originally described localities on Tampa Bay, there is an interval of rocks that is mappable, has recognizable boundaries, and is capable of being defined in accordance with the code. It is proposed that this unit be designated the Tampa Formation. The unit is generally a quartz sandy limestone, having at least 10% quartz sand and less than 1% phosphate. The boundary with the units above the Tampa is defined by phosphate-bearing (5 to 50%) dolomites, clays, and quartz sands. The lower boundary is marked by a relatively pure carbonate unit containing only trace phosphates or quartz sands. The Tampa has been indirectly correlated with the Oligocene Chickasawhay Stage of the Gulf Coast. A type section for the Tampa is established in the Ballast Point core held by the Florida Bureau of Geology. The core was taken at Tampa Bay, Florida.

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Suitability Studies of Salt Domes in East Texas Basin for Geologic Isolation of Nuclear Wastes

The suitability of salt domes in the East Texas basin (Tyler basin), Texas, for long-term isolation of nuclear wastes is being evaluated. The major problems concern hydrologic and tectonic stability of the domes and potential natural resources in the basin. These problems are being approached by integration of dome-specific and regional hydrologic, geologic, geomorphic, and remote-sensing investigations. Hydrologic studies are evaluating basinal hydrology and groundwater flow around the domes to determine the degree to which salt domes are dissolving, their rates of solution, and the orientation of saline plumes in the freshwater aquifers. Subsurface geologic studies are being conducted: (1) to determine the size and shape of specific salt domes, the geology of the strata immediately surrounding the domes, and the regional geology of the East Texas basin; (2) to understand the geologic history of the dome growth and basin infilling; and (3) to evaluate potential natural resources. Geomorphic and surficial geology studies are determining whether there have been dome growth and tectonic movement in the basin during the Quaternary. Remote-sensing studies are being conducted to determine (1) whether dome uplift has altered regional lineation patterns in Quaternary sediments and (2) whether drainage density and ruggedness ratios indicate Quaternary structural movement.

By means of the screening criteria of McClain and others, Oakwood and Keechi domes were chosen as possible candidate domes. Twenty-three domes were eliminated because of insufficient size, too great a depth to salt, major hydrocarbon production, or previous use (e.g., liquid propane storage or salt mining or brining). Detailed geologic, hydrologic, and geomorphic investigations are being conducted around Oakwood and Keechi salt domes.

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Equilibrium in Modern Coral Reefs, Western Gulf of Mexico—Role of Ecology and Ostracod Microfauna

Two groups of modern patch reefs are present off Veracruz, Mexico. Terrigenous sediments of the Rio Jamapa are being deposited between the two complexes. Longshore drift of these sediments is causing declining coral growth on the southern (Anton Lizardo) group, although corals on the northern (Veracruz) group are healthy. These differences in coral diversity should be reflected in the water chemistry and microfauna.

Environmental data collected (depth, salinity, pH, temperature, Eh, and dissolved oxygen) were treated as random samples from populations whose normality (or lack thereof) was established by chi-squared goodness-of-fit tests. Chi-square testing at the 0.01 level demonstrated that of the six sample populations, only depth, pH, and dissolved oxygen were normally distributed. Depth, pH, and dissolved oxygen data were assembled into two populations representing the Veracruz and Anton Lizardo groups, to test the null hypothesis that the variances of the respective populations were equal ($F = 0.005$ level). The variances were found to be equal. T tests (0.01 level) on the population means of depth, pH, and dissolved oxygen of both Veracruz and Anton Lizardo groups disclosed that there is no significant difference between the two groups of reefs in terms of these characteristics. Analysis of the dominant ostracod species in 33 samples collected on the reefs indicates two distinct biofacies. *Loxocorniculum tricornatum* Krutak dominates the Veracruz group; whereas *L.* cf. *L. postdorsoalata* "group" (Teeter) characterizes the Anton Lizardo stations. Two ostracod species, *L. tricornatum* and *Morkhovenia inconspicua* (Brady), are cosmopolitan, and are present at all 33 sampling stations. Rare species living on the two reef complexes are generally restricted to the Veracruz complex. Simple diversity analysis (number of species/station) demonstrates that the Veracruz reefs are more diverse than those of Anton Lizardo. However, this difference is statistically insignificant. Comparisons of Shannon-Weiner information function and equitability values between the two complexes show that these diversity measures are also insignificant and do not reflect observed environmental differences. Ostracod species abundance and dominance on the scleractinian bioherms at Veracruz and Anton Lizardo