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 THE NATIONAL GEOTHERMAL INFORMATION RESOURCE

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 The National Geothermal Information Resource (GRID) was established in 1973 by the Lawrence Berkeley Laboratory of the Atomic Energy Commission and the U.S. Geological Survey to collect, categorize and disseminate information from a collection of current and retrospective sources. Both numerical and bibliographic data are compiled in two formats: (1) a loose-leaf handbook and (2) computer-aided recall system. In addition to releasing a thesaurus of geothermal terms, the Center is publishing a five-volume set of data in the following categories: (1) exploration and evaluation; (2) physical chemistry; (3) utilization; (4) environmental, and (5) institutional. These compilations will be described.

PYROLYSIS EXPERIMENTS ON KEROGEN-PRECURSORS ISOLATED FROM RECENTLY-DEPOSITED ALGAL OozES

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The structure determination of kerogens has been the subject of many studies. In general, any degradation reaction gives very complex mixtures of products from which it is not possible to reconstruct a specific structure for the kerogen. We have adopted a new approach and decided that since many ancient shales are of algal origin, an examination of kerogen-like material in recently-deposited algal oozes should provide less complex mixtures of degradation products. From these products it should be possible to reconstruct the original kerogen-like structure and then by extrapolation obtain a clearer idea as to the structure of ancient kerogens. Samples of recently-deposited algal oozes were collected from a hypersaline marsh environment at Laguna Mormona, Baja California. These samples were acid treated to remove carbonates and silicates and exhaustively extracted with organic solvents to remove any soluble organic material. This kerogen-like fraction has been subjected to pyrolysis for varying periods of time between 2 and 8 hrs at 400°C. The pyrolysates have been analysed by gas chromatography and computerized-gas chromatography-mass spectrometry. A wide range of components were identified, the major products being a series of alkenes and alkanes in the range C₉-C₃₄. These results will be discussed and compared with results from similar experiments on kerogens from ancient shales. This comparison will show a close correlation between the results and thus illustrate the value of using these algal oozes in model studies on the structure determinations of kerogens in ancient shales.

HIGH RESOLUTION ELECTRON MICROSCOPY OF SULFIDES

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 High resolution electron microscopy has recently been shown to be an important tool for the study of the fine structure of refractory compounds, such as oxides and silicates. Electron microscopy has not, however, had extensive use in the study of sulfides.

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have surveyed a number of sulfosalts with bright field microscopy to determine their stabilities. The stabilities of sulfosalts under bombardment were found to be related to the rate of sintering or decomposition rate of the low decomposition sulfides relative to the high decomposition sulfides. Sulfosalts were found to be stable under electron microscopy, and satisfactory for all.

Structural information on sulfosalts obtained from these images, including interferences and superstructure, superlattice structure, and details of certain sulfosalts, are available to provide information on the order and superstructure. We understand the complex relationship between similar structure and composition.

DEVELOPMENT OF SUBMARINE MORPHOLOGY IN THE WESTERN CARIBBEAN SEA

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 An updated bathymetric chart of the Cayman Trough was constructed from data recorded by R/V TRIDENT. The trough is the tectonic setting. The western margin abuts the Cayman Trough, a structural platform consisting of a shallow basin and a steeply dipping (10°) slope. The trough also has been modified by a shelf edifice at the shelf edge. The shelf, in contrast, is reduced, because it is a wedge-shaped salient of rugged topography. Hence, the shelf is a platform characterized mostly by low slope gradients (2°-8°), and factors that document a prolonged period of slumping locally have steepened the survey area. A previously unexplained feature of the western Honduras margin is the dispersal of turbidites into the trough.

RECENT FAULTING AT SAMARIA MOUNTAIN

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 Earthquakes have been frequent in the Samaria Mountain area since March 27, 1975, they had not caused any damage. Epicenters have not been located. Seismologic stations and complex faulting are present. Two normal faults with recent activity were mapped in a 100 km² quadrangle in 1974. Although the criteria point to Holocene activity, the Samaria Mountain is steep and has debris fans from these canyons. The faults do not reach into the bedrock but drain into the same clastic basin.