

ture are typical. Facies F was deposited by bed-load streams that originated in east-central Arizona and transported coarse, poorly sorted sand and gravel westward to the intertidal flats.

DEVELOPMENT OF A GEOTHERMAL THESAURUS

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A thesaurus of geothermal terminology has been developed by the Lawrence Berkeley Laboratory's Information Research Group, in collaboration with Lawrence Berkeley Laboratory's Geothermal Group and the ERDA Technical Information Center, Oak Ridge. The Geothermal Thesaurus is complete in itself and is in use at the National Geothermal Information Resource. In addition it is an integral part of the multidisciplinary mission-oriented ERDA Energy Thesaurus.

Various aspects of the development of a geothermal thesaurus are discussed, including techniques for interfacing the vocabulary of the specific subject of geothermal energy with that of all aspects of energy and for translating the vocabularies of a variety of data bases into a single unified vocabulary.

HOLOCENE SEDIMENTATION HISTORY OF THE MAJOR FAN-VALLEYS OF MONTEREY

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Deep tow profiles confirm that the relief of the Monterey fan valley is primarily erosional whereas that of Ascension fan valley is depositional. A narrow ($\frac{1}{2}$ km) erosional thalweg within the broad, straight confined ($\frac{1}{2}$ km wide) of Ascension valley meanders with a 2.3-km radius of curvature. Hummocky relief on the back side of the western levees of both valleys (characteristic of many turbidite valleys in the Northeast Pacific) is characteristic depositional, dunelike features, which migrate toward the levee crests during growth. A dune field (1100 meters by 300 meters) observed on the downvalley side of a scarp crossing the floor of the Monterey fan valley is evidence for active overflow from Monterey fan valley into this beheaded tributary. Evidence from grain size analyses and foraminiferal-foraminiferal ratios shows a shift in activity in the canyon-valley systems of the Monterey fan. As a result of the Holocene transgression, Ascension canyon now receives little sandy sediment and Monterey canyon has become the single most important source of sand for the fan during the Holocene. Within the Monterey fan valley, a general absence of sand along the crest of the high relief (up to 400 meters) indicates that bank full flow is not presently taking place. The dune field and sediment analyses both suggest that Monterey East fan valley still receives occasional overflow of coarse debris from the Monterey fan valley. Very high sedimentation rates within Holocene turbidite of Ascension fan valley emphasize the role of fine-grained turbidity currents in transporting Holocene debris to this valley. Differential sedimentation rates between valley floor (43 cm/10³ years) and levee crest (27 cm/10³ years) indicate that deposition in the upper fan valley is dominated by turbid layer flows, not uniform hemipelagic deposition.

THE QUATERNARY ENVIRONMENTAL RECORD FOR WESTERN WASHINGTON

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Quaternary biogenic deposits located in the Puget Lowland and on the Olympic Peninsula range in age from the earliest known interglaciation to the Alderton, through the Holocene. Their pollen content permits the reconstruction of a near-continuous, vegetation and environmental record, when comparison is made with the pollen output of existing

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communities in western Washington. The Alderton Interglaciation (Pseudotsuga m...); during the next younger interglaciation, the limits of Salmon Springs are chiefly high montane. The nonglacial forests, named here the Sumner Interglaciation and forests of pine later at Olympia Interstate (34,000-26,000 years) and whereas on the Olympic Peninsula spruce (*Picea*) constitute the forest during Fraser Glaciation, pine becomes dominant 15,000 to 10,000 yr ago. Holocene forests by Douglas fir and alder, and the Quaternary environmental conditions were relatively warm, and relatively dry tundra or park tundra. Average July temperatures were higher today. Only during the Alderton Interglaciation were temperatures higher than

DISTRIBUTIONAL PATTERNS OF POLLEN FROM

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Pollen was analyzed from 103 core tops to determine its means of transport into the western North America (30°-60°N latitude). Pollen concentration in shelf sediment and abyssal plain, pollen concentration from the continental shelf, slope and distance from shore. The maximum pollen concentration in shelf sediment appear to be modified by both continental and marine transport. Pollen is transported primarily by rivers, and thereafter is deposited. In contrast to the sedimentary pollen concentrations, relative concentration of pollen taxa from 61 core tops indicates that the maximum abundance of pollen taxa from 61 core tops generally coincides with that of the maximum percentage further of active transport of pine pollen. From the 61 core tops results in four pollen taxa: *Compositae-Quercus*, *Tsuga heterophylla*, *Compositae-Quercus*, and *Compositae-Quercus*. The pollen content of the vegetation of the adjacent shelf and continental shelf is used to correlate the pollen transport. Thus, pollen in marine sediments for correlating marine and continental

AND MARINE RECORDS IN THE PACIFIC OCEANIC INTERVAL

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