the Late Triassic (Indosinian events). In the eastern part of the continent, four major east-trending sutures (Red River, Qin Ling, Yan Shan, and Mongol-Okhotsk) bound three major blocks (respectively, South China, North China-Korea, and Manchuria-Bureya).

The Yanshanian geology in eastern Asia, particularly the widespread belts of calc-alkaline igneous rocks, can be interpreted as resulting from magmatism superposed above major peripheral subduction zones that dipped northwestward under South China and westward under North China-Korea and Central Mongolia from 200 to 100 m.y.B.P., and westward under North China-Korea (fronted by Southwest Honshu) and Manchuria-Bureya from 100 to 50 m.y.B.P. Some subduction also took place from 200 to 100 m.y.B.P., parallel to the Qin Ling, Yan Shan, and Mongol-Okhotsk sutures, as all finally closed. Hydrocarbon-rich basins formed as the result of major epeirogenic subsidence on western margins of the oldest continental nuclei, farthest from the eastern subduction zones. Rates of subsidence and subduction appear correlative; areas of magmatic arcs and volumes of sedimentary basins reflect subduction rates; both reach a maximum in the Late Jurassic and Early Cretaceous.

The post-Yanshanian (since 50 m.y.) geology in eastern Asia can be interpreted as resulting from northeast-southwest crustal extension in the region between the Siberian craton and the continental margin from Primorye to Taiwan, contemporaneously with collisions between Asia and the Okhotsk block in the northeast, the India block in the southwest, and the Philippine arc in the southeast. The extension is evidenced by hydrocarbon-rich Tertiary grabens, by voluminous Late Tertiary alkalic basalt volcanism localized along former plate sutures, and by historically recorded, scattered, intraplate, shallow seismicity.

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Tectonic Guidelines for Oil and Gas in the Circum-Pacific

(No abstract)

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Petroleum Potential of Southern Part of Tonga Platform

The Tonga platform is roughly outlined by the 2,000-m isobath with an average width of about 60 to 75 mi (100 to 120 km) surrounding the Tongan Islands of Vava'u, Ha'apal, and Tongatapu. Single-channel seismic profiles across the platform were acquired between 1977 and 1979 by scientific expeditions sponsored by CCOP/SOPAC (Committee for Cooperation of Joint Prospecting for Mineral Resources in South Pacific Offshore Areas) and ORSTOM (Office de la Recherche Scientific et Technique Outre Mer). This survey and a five-well drilling program on Tongatapu were inspired by the discovery of seeps of weathered crude oil from vuggy coralline limestone. Reef buildups and normal fault structures are interpreted from seismic data, and the wells penetrated Miocene and Eocene limestones, volcanogenic clastics, and some reached volcanic basement. Few oil and gas fields are found in fore-arc basins, of which the Tonga platform is typical, but the reefs offer prospects and the seeps suggest that the requirements of source rock and maturation may be satisfied.

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Preliminary Results of Leg 3 *Lee* Cruise—Basin Development and Resource Potential of Central Solomons Trough

A CCOP/SOPAC cruise funded by Australia, New Zealand, and the United States surveyed parts of the Solomon Islands region in May and June 1982, in order to assess the potential for petroleum accumulations and to identify geologic hazards. Work was concentrated in the central Solomons trough (the Slot) between the islands of Guadalcanal, Santa Ysabel, New Georgia, and Choiseul, where continuous multichannel, single channel, and high resolution seismic records were acquired together with magnetic and gravity profiles.

The Slot is underlain by a composite depositional basin that contains as much as 2.8 mi (4.5 km) of Cenozoic sediments. Despite its complex island-arc setting, submarine volcanoes, and 2,625 to 5,900 ft (800 to 1,800 m) water depths, the basin includes structural, stratigraphic, and possibly thermal elements that favor generation and entrapment of hydrocarbons.

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A Review of United States Active/Passive Solar Cooling Program for Building

(No abstract)

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New Gold-Silver-Copper Orebody at El Indio, Chile

In June 1975, a St. Joe Minerals Corp. geologist, Dave Thomson, visited a remote prospect called El Indio, 300 mi (500 km) north of Santiago, close to the Argentine frontier at 13,000 ft (4,000 m) elevation. He recognized the great potential and St. Joe moved promptly. However, an agreement to purchase 80% of the property was not signed until June 30, 1976. Intensive exploration and development followed. It took another year to negotiate a foreign investment agreement with the government of Chile.

On December 2, 1981, the El Indio mine-mill complex was dedicated. The total investment approximates U.S.$200 million and the facility will process 1,380 tons (1,250 MT) ore per day. Mill-feed ore reserves at the time of dedication were calculated at 3.1 million tons averaging 12 g gold, 144 g silver, and 3.5% copper. In addition, direct shipping high-grade ore reserves are estimated at 70,000 tons averaging 11 oz (345 g) of gold per ton. Similar material has been mined and shipped since 1979, containing in excess of 345,000 oz (10,750 kg) of gold. Our geological assessment is that continued exploration at El Indio will discover considerably more ore of both types.

The ore is found in a complex vein system within volcanic andesites, dacites, and quartz dacites within, but near the border