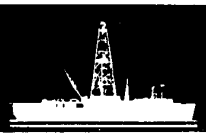
NEWS RELEASE
Ocean Drilling Program



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September 12, 1988

ODP Leg 122.2

COLLEGE STATION -- Scientists for the Ocean Drilling Program (ODP) recently recovered the oldest marine rocks ever obtained through scientific ocean drilling.

The fossils found in the 220-million-year-old rocks will enable scientists to reconstruct the geologic history of a continental margin, a study which will tell us more about the movements of continents, the destruction of an ancient sea and the rise and fall of global sea levels.

The scientists, on board the drill ship JOIDES Resolution, drilled off the northwest continental margin of Australia to recover a sequence of rocks spanning from the present to the Triassic period, which occurred approximately 248 to 213 million years ago and marked the dawn of the dinosaurs' 160-million-year reign.

Rocks from this period are particularly significant to marine geologists because they contain important clues to the breakup of the supercontinent Pangaea, a period of massive continental rifting beginning in the Late Triassic.

ODP targeted two underwater formations for drilling--the Wombat and Exmouth plateaus. Both are parts of the Australian continental margin, a passive margin once bounded by the ancient Tethys Sea. This

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type of margin develops when the continents drift apart as the intervening ocean basin grows. In this case, the now-extinct Tethys Sea bisected Pangaea, eventually separating South America, Africa, Australia, India and Antarctica from the parent supercontinent. These continents eventually made their way to their present-day locations.

The Australian continent and parts of the Tethys Sea occupied the same lithospheric crust and remained fused during rifting. Plate movement across the globe eventually consumed the ancient sea, leaving the newly created Indian Ocean in the wake. Today, the northwest Australian margin is one of the few oceanic sites in the world that can yield material from the long-ago Tethys Sea.

Ancient microfossils and plant material contained in the cores serve as touchstones to the rifting history of Australia and India and the destruction of the Tethys Sea. These delicate organisms, which only live in the ocean, are preserved through time in layers of sediment, enabling the ODP scientific party to date the various stages of the Australian margin's evolution.

Evidence found in the sediments suggests that the margin underwent several periods of shallowing and deepening water, related to periods when the Wombat Plateau was alternately uplifted, tilted and submerged under water. The scientists also found evidence--coral reefs, mudstones from lagoons and clay and silt from deltas--of sea-level fluctuations.

Several of the periods of shallow water occurred at the same time as shallow-water events on other continental margins, substantiating a generally accepted hypothesis that major sea-level changes occur

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simultaneously worldwide.

A missing sequence from a geologic period also provided clues to the region's history. The drilling record skipped an important period, the Jurassic, which immediately succeeded the Triassic and extended from 190 to 135 million years ago. Because this interval is missing from both the submerged Wombat and Exmouth plateaus, scientists theorized that this portion of the margin was above water during the Jurassic. If the region had been under water, the fossils would have been protected from the elements, safely buried in the layers of sediment.

During the next several years, scientists will use the rocks obtained on this cruise to study how continents rift apart, destroying old seas and creating new ones. They will compare samples from the Australian continental margin with rocks from the Himalayas, the Alps and Mediterranean mountain belt, evidence of a time when these wide ranging land masses were once united.

Co-chief scientists for the cruise were Dr. Ulrich von Rad, Budesanstalt fur Geowissenschaften und Rohstoffe, Hannover, Federal Republic of Germany, and Dr. Bilal Haq, National Science Foundation, Washington, D.C. ODP staff scientist was Dr. Suzanne O'Connell, Texas A&M University, College Station.

The ship departed Singapore on July 3 and arrived in Singapore on Aug. 28. The 28-member scientific party represented the United States and eight foreign countries: Australia, Canada, Federal Republic of Germany, France, Italy, Japan, Turkey and the United Kingdom.

JOIDES Resolution, registered as SEDCO/BP 471, is the research

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vessel for ODP which is funded by the United States National Science Foundation, Canada, the European Science Foundation Consortium for the Ocean Drilling Program, France, Japan, West Germany and the United Kingdom.

The 470-foot-long drill ship's derrick towers 200 feet above the waterline. A seven-story laboratory stack provides facilities for on board examination of sediment and hard-rock cores. Laboratories contain space and equipment for studies in chemical, gas and physical properties, paleontology, petrology, paleomagnetics and sedimentology. Marine geophysics research is conducted while the ship is under way.

Texas A&M University, as science operator, operates and staffs the drill ship and retrieves cores from strategic sites around the world. The science operator also ensures that adequate scientific analyses are performed on the cores. To do this, Texas A&M maintains shipboard scientific labs and provides logistical and technical support for shipboard scientific teams. On shore, in the Texas A&M University Research Park, the science operator manages post-cruise activities, curates the cores and publishes the scientific results.

Lamont-Doherty Geological Observatory of Columbia University is responsible for downhole logging.

Joint Oceanographic Institutions for Deep Earth Sampling (JOIDES), an international group of scientists, provides scientific planning and program advice. Joint Oceanographic Institutions (JOI, Inc.), a nonprofit consortium of 10 major U.S. oceanographic institutions, manages the program.

"The Ocean Drilling Program completes its 18-month expedition in

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the Indian Ocean at the end of this year," said Dr. Philip D. Rabinowitz, director. "We will explore the western and central Pacific through 1990," he said.

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(Note: JOIDES institutions are: University of California at San Diego, Scripps Institution of Oceanography; Columbia University, Lamont-Doherty Geological Observatory; University of Hawaii, Hawaii Institute of Geophysics; University of Miami, Rosenstiel School of Marine and Atmospheric Science; Oregon State University, College of Oceanography; University of Rhode Island, Graduate School of Oceanography; Texas A&M University, Department of Oceanography; University of Texas at Austin, Institute of Geophysics; University of Washington, College of Ocean and Fishery Sciences; and Woods Hole Oceanographic Institution.

Non-U.S. members are Department of Energy, Mines, and Resources, Canada; European Science Foundation Consortium for the Ocean Drilling Program: Belgium, Denmark, Finland, Iceland, Italy, Greece, the Netherlands, Norway, Spain, Sweden, Switzerland and Turkey; Bundesanstalt fur Geowissenschaften und Rohstoffe, Federal Republic of Germany; Institut Francais de Recherche pour l'Exploitation de la Mer, France; University of Tokyo, Ocean Research Institute, Japan; and Natural Environment Research Council, United Kingdom.)

Members of the Leg 122 scientific party were: Bilal U. Haq, National Science Foundation, Washington, D.C., and Ulrich von Rad, Bundesanstalt fur Geowissenschaften und Rohstoffe, Hannover, Federal Republic of Germany, co-chief scientists; Suzanne O'Connell, ODP staff scientist, Texas A&M University, College Station; Alistair Bent, British Pretroleum Exploration Company, London, United Kingdom; Charles Blome, U.S.G.S., Denver, Colo.; Peter Borella, Saddleback College, Mission Viejo, Calif.; Ron Boyd, Dalhousie University, Halifax, Nova Scotia, Canada; Timothy Bralower, Florida International University, Miami; Wolfram Brenner, Institut und Museum fur Geologie und Palaontologie, Tubingen, Federal Republic of Germany; Eric de Carlo, University of Hawaii, Honolulu; Thierry Dumont, Institut Dolomieu, Grenoble, France; Neville Exon, Bureau of Mineral Resources, Canberra, Australia; Bruno Galbrun, Universite Paris VI, France; Xenia Golovchenko, Lamont-Doherty Geological Observatory, Palisades, N.Y.; Naci Gorur, Istanbul Technical University, Turkey; Makoto Ito, Geological Institute, Chiba University, Japan; Juan Lorenzo, Lamont-Doherty Geological Observatory; Philip Meyers, University of Michigan, Ann Arbor; Ian Moxon, Stanford University, Calif.; David O'Brien, University of Hawaii, Honolulu; Motoyoshi Oda, Kumamoto University, Japan; Massimo Sarti, Universita della Calabria, Cosenza, Italy; William Siesser, Vanderbilt University, Nashville, Tenn.; Lloyd Snowdon, Geological Survey of Canada, Calgary, Alberta; Cheng Tang, University of California, Santa Cruz; Roy Wilkens, University of Hawaii at Manoa, Honolulu; Paul Williamson, Bureau of Mineral Resources, Canberra, Australia; Antonius Wonders, British Petroleum Research Centre, Middlesex, United Kingdom.