

NEWS RELEASE

Ocean Drilling Program



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STAVANGER, Norway -- JOIDES Resolution arrived in port today after completing a cruise which shipboard scientists say yielded outstanding scientific results.

For the past two months the ship has been drilling on the Voring Plateau in the Norwegian Sea. From cores of sediment and rock recovered from beneath the seafloor, scientists have discovered more about the geologic history of this part of the world than has ever before been known.

Geologic evidence shows that millions of years ago Norway and Greenland together formed part of a huge continent which began to separate about 55 million years ago. As Norway and Greenland broke apart, what is now the Norwegian Sea began to grow.

As the continents separated, volcanic rocks filled the gap, forming new oceanic floor. The movement still continues as the distance between Norway and Greenland increases about one inch each year.

Scientists also learned that a massive outpouring of volcanic rocks covering nearby land masses accompanied the

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separation of the continents. Flow after flow of lava was laid down. As time passed, the massive volcanic surge subsided, burying the layers of lava flows under an increasingly thick bed of rock formed by plant and animal fragments and material sloughed off nearby land masses.

Since the cataclysmic event 55 million years ago, this section of the Norwegian Sea has sunk more than a mile and a half (2 kilometers), buried by a undersea carpet of soft sediment. Scientists discovered that this sediment layer hides a sunken rock formation remarkably similar to the geologic make up of Iceland.

The ship recovered more than a mile (1700 meters) of cores composed of rock and sediment from eight holes that were drilled in water depths up two miles (3.0 kilometers). The deepest hole was about three quarters of a mile (1250 meters) below the seafloor. The last 3,000 feet (920 meters) penetrated hard volcanic rocks, the greatest depth ever drilled through hard rock by a scientific drillship during a single cruise.

The recovered cores have given scientists a much clearer picture of how continents break apart and ocean basins subsequently develop. Scientists now also understand more about how the margins of today's continents are formed, giving important background information about their potential resources.

The recovered cores also revealed how the ocean has gradually widened and deepened through time. From this information, it is now possible to map how the climate and ocean current systems have varied through the ages.

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Co-chiefs scientists for the cruise were Dr. Jorn Thiede of the University of Kiel, West Germany, and Dr. Olav Eldholm of the University of Oslo, Norway. Dr. Elliott Taylor was the Texas A&M University staff scientist.

The international team of 25 scientists came from Canada, Denmark, England, France, Norway, the U. S. and West Germany. A technical crew of 23 and a ship's crew of 68 also sailed.

JOIDES Resolution, whose official name is SEDCO/BP 471, is the drillship for the Ocean Drilling Program (ODP) an international scientific program funded by the U. S. National Science Foundation, Canada, Federal Republic of Germany, France, and Japan.

The 470-foot long drillship boasts a derrick that towers 200 feet above the waterline. The heart of the floating research center is a seven-story laboratory stack which provides space and equipment for onboard examination of sediment and hard-rock cores. Studies include chemical, gas and physical properties, paleontology, petrology, paleomagnetism and sedimentology. Marine geophysics research is conducted while the ship is underway.

Texas A&M, as science operator, operates and staffs the drillship 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, provides logistical and technical support for shipboard scientific teams,

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manages post-cruise activities, is curator for the cores and distributes samples, and coordinates the editing and publishing of the scientific results.

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

The United States, Canada, France, Japan and West Germany fund the program through the Joint Oceanographic Institutions (JOI, Inc.) which manages the project. JOI, Inc. is a nonprofit Oceanographic Institutions for Deep Earth Sampling (JOIDES), an international group of scientists, provides overall planning and program advice.

The next cruise will involve high latitude drilling in the Labrador Sea and Baffin Bay. Later on this year, the ship will drill newly formed rock in the Mid-Atlantic Ridge, announced Dr. Philip D. Rabinowitz, ODP director at Texas A&M.

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(NOTE: JOIDES institutions are the University of California, Columbia University, University of Hawaii, University of Miami, Oregon State University, University of Rhode Island, Texas A&M University, University of Texas, University of Washington and Woods Hole Oceanographic Institution.

Non-U. S. members are the Department of Energy, Mines and Resources, Earth Sciences Sector, Canada; Bundesanstalt fur Geowissenschaften und Rohstoffe, Federal Republic of Germany; Institut Francais de Recherche pour l'Exploitation de la Mer (IFREMER), France; and University of Tokyo, Ocean Research Institute, Japan.)

Scientists on board were: Olav Eldholm, University of Oslo, Norway; Jorn Thiede, Christian-Albrechts-Universitat, Federal Republic of Germany; Elliott Taylor, Texas A&M University; Claude Froget, Laboratoire de Géologie Marine, France; Rudiger Henrich, University of Kiel, Federal Republic of Germany; Lawrence Krissek, Ohio State University; Kjell Bjorkland, University of Bergen, Norway; and Alain Desprairies, Université de-Paris Sud, France.

Also, Anne LeHuray, Columbia University; David Love, University of Waterloo, Canada; Lindsay Parson, Institute of Oceanographic Sciences, England; Lothar Viereck, Ruhr-Universitat Bochum, Federal Republic of Germany; Alan Pittenger, Texas A&M University; Thomas McDonald, Texas A&M University; Paul Cielsielski, University of Florida; Diane Donnally, Florida State University; and Robert Goll, University of Bergen, Norway.

Also Eystein Jansen, University of Bergen, Norway; Peta Mudie, Geological Survey of Canada, Nova Scotia; Lisa Osterman, Smithsonian Institution, Washington, D. C.; Gunnbjorg Qvale, University of Oslo, Norway; Gunther Schoenharting, Kobenhavns Universitet, Denmark; Ulrich Bleil, Universitat Bremen, Federal Republic of Germany; Peter Lysne, Sandia National Laboratory, New Mexico; Joseph Phillips, University of Texas; and Keith Kvenvolden, U. S. Geological Survey, California.