

Scientists set new world drilling-depth record of scientific ocean drilling

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Scientific deep sea drilling vessel *Chikyu* has set a new world record by drilling down and obtaining rock samples from deeper than 2,111 meters below the seafloor off the Shimokita Peninsula of Japan.

Chikyu made this achievement during the Deep Coalbed Biosphere expedition, Expedition 337, conducted within the framework of an international marine research programme, the Integrated Ocean Drilling Program (IODP).

University of Birmingham scientist Dr Guy Harrington who has been on the ship since July dating the rocks using fossil pollen and spores, said: "Among an array of results, this expedition is opening a fascinating window onto fossil forests now buried under 2km of rock. It's great to use my practical skills as a geologist to help support world-class research."

"We have just opened a window to the new era of scientific ocean drilling", Fumio Inagaki, Co-Chief scientist of Expedition 337, said: "The extended record is just a beginning for the *Chikyu*. This scientific vessel has tremendous potential to explore very deep realms that humans have never studied before. The deep samples are precious, and I am confident that our challenges will extend our systematic understanding of nature, life and earth."

Co-Chief scientist Kai-Uwe Hinrichs from the University of Bremen in Germany, added: "I am very glad that I am here today and could witness this wonderful and important moment. Everybody on the ship worked really hard to make this happen. And, I am very pleased about the high quality of the core samples, which show only minimal drilling disturbance. This is very important for our research."

Chikyu is the state-of-the-art scientific research vessel, capable of drilling as much as 10,000 m below sea level. It is designed to reach the deeper part of the Earth such as the mantle, the plate boundary seismogenic zones and the deep biosphere.

Drilling down to 2,200m below the seafloor and obtaining high-quality samples from the deeply buried coal formation is the main objective of the expedition. An international science party aboard *Chikyu* has already achieved this aim working jointly with the Center for Deep Earth Exploration (CDEX) and the operational team.

Samples collected from the target coalbeds have been analysed in the laboratory aboard *Chikyu* and will continue to be examined after the expedition. The research will provide new insight into the deep life associated with a hydrocarbon system in the deep marine subsurface.

The expedition that started in late July continues coring operations to obtain even deeper rock samples and formation fluids using a new borehole wire-line instrument in *situ*. For a further three weeks, the scientific party on *Chikyu* will continue to explore the deeply buried coal formation, in which microbes may be involved in the formation of natural gas, and to tackle fundamental scientific questions related to the co-evolution of the Earth and life.

Before *Chikyu* broke the record, the previous deepest hole in the history of scientific ocean drilling reached 2,111 meters into the seafloor (504B at Costa Rica Rift).

Notes to Editors

- For more information about Expedition 337, latest images and blogs, visit: www.jamstec.go.jp/chikyu/exp337/ (<http://www.jamstec.go.jp/chikyu/exp337/>)
- For more information about IODP, visit: www.iodp.org (<http://www.iodp.org>)
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About IODP:

The current scientific ocean drilling program, the Integrated Ocean Drilling Program (IODP), is an international research program dedicated to advancing scientific understanding of the Earth through drilling, coring, and monitoring the subseafloor. The JOIDES Resolution is a scientific research vessel managed by the US Implementing Organization of IODP (USIO). *CHIKYU* is a scientific drilling vessel operated by JAMSTEC/CDEX (Japan), and mission-specific platforms are supplied by ECORD (the European Consortium for Ocean Research Drilling). IODP is supported by two lead agencies: the US National Science Foundation (NSF) and Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT). Additional program support comes from ECORD, the Australian-New Zealand IODP Consortium (ANZIC), India's Ministry of Earth Sciences, the People's Republic of China (Ministry of Science and Technology), the Korea Institute of Geoscience and Mineral Resources, and Coordination for Improvement of Higher Education Personnel (CAPES) in Brazil.