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Unravelling secrets of The Deep

DEEP-SEA creatures living in Australian waters will be caught on film for the first time this year in an environmental initiative by Woodside.

As the first Australian partner of an innovative scientific project, Woodside will work with University of Sydney marine scientists to capture video footage of the seabed during the Enfield drilling campaign off the coast of Exmouth.

Remotely operated vehicles (ROVs), used in drilling and subsea operations, will also be harnessed to give marine researchers insights into the flora and fauna in the area.

Video cameras and special suction devices attached to the ROV's "arms" will allow the vehicle pilots and scientists to capture film and samples, explore the sea floor and catalogue its biodiversity.

The work will be done out as part of the SERPENT project (Scientific and

Environmental ROV Partnership using Existing Industrial Technology).

SERPENT is collaboration between the Deep Seas Group at the Southampton Oceanography Centre in the UK – one of the world's largest marine research institutes – and oil and gas companies, including BP, Shell, ChevronTexaco, drilling contractor Transocean and underwater contractor, Subsea 7.

Enfield Area Development Project Environmental Adviser Cara Price says the project aims to gain greater ecological value from data collected as part of normal offshore exploration activities.

Much of the work aims to understand complex dynamics of the deep-sea environment and links between the deep-sea and processes in the upper ocean and mid-water.

She says it will also provide a greater

understanding and appreciation of these ecosystems through sampling and collecting species and monitoring and observing animal behaviour in their natural environment.

"SERPENT is a fantastic environmental initiative that will help us gain a greater understanding of the deep sea environment in which we operate as well as provide more detailed information on how our activities may potentially impact on that environment," Cara says.

"We have a fantastic opportunity to make a real contribution to scientific knowledge in deep water as well as meet our project's need for good environmental data and monitoring.

"It is very much a win-win situation.

"The project will offer doctorate or masters students an avenue to complete their work and we have required they be sourced from Australian universities to build local capability and content.

"Because we will opportunistically use ROVs and routinely collected information, we have a very cost-effective solution," Cara says.

Established two years ago, much of SERPENT's work has been done out in the North Sea where scientists discovered several new species.

Previously unobserved behaviours were also discovered including footage of a monkfish hunting and attacking a cod; a squat lobster, previously thought to be a mud-feeder, catching krill; and a sea cucumber feeding.

Some of the footage will feature in a BBC documentary series, *Planet Earth*, to be screened in 2006.

During Woodside's pioneering work in Australia it is hoped new footage will be captured and further discoveries made.

"In particular, we are seeking to learn more about the impact drill cuttings (waste) have on the environment," Cara says.

"We need to know whether they pile up or disperse and undertake chemical analysis to understand the impact they may have on the ecosystem of the sea floor.

"If needed, we can repeat this work whenever ROVs are used during installation and operations, giving us the potential to monitor impacts over a much longer timeframe".

The work could have wide implications for Woodside drilling, and it is hoped the footage and any new findings will be published through industry journals and associations.

Funding for the SERPENT project is provided by the Enfield Project, while the Woodside Technology Council has funded the purchase of equipment.