

MH370 Search Continues without RV 'Dong Hai Jiu 101'



On Saturday, 3 December 2016, 'Dong Hai Jiu 101' concluded underwater search operations and commenced passage to Fremantle to demobilise the Phoenix 'Remora III' remotely operated vehicle (ROV) before the vessel returns to Shanghai. The Australian Marine Safety Authority's search work will continue to be thorough and methodical, so sometimes weekly progress may seem slow. However, the aim remains to find MH370 as quickly as possible.

Fugro Equator paused underwater search operations on Tuesday 6 December 2016 and commenced passage to Fremantle for a routine re-supply. She will then return to the search area to continue using the Autonomous Underwater Vehicle (AUV). Over the past week, *Fugro Equator* completed a total of 4 successful AUV missions, with an average

duration of 23 hours.

AUV and ROV Search Operations

As has been reported in previous Updates, search operations moved from deep tow operations to AUV and ROV operations in October 2016.

Deep tow vehicles are equipped with side scan sonar and multibeam echo sounders, making them ideal for searching large areas of the seafloor in a single pass. They are towed behind the vessels on 10 kilometre-long cables and while they require reasonable conditions to safely launch, once they are in the water they can remain deployed for days at a time.

Areas of the seafloor that are difficult or inefficient to search using the deep tow vehicles, for example areas with irregular terrain are searched using the highly manoeuvrable AUV. The AUV is also used to reacquire sonar contacts which require further investigation. The AUV must be launched and recovered in relatively calm sea conditions which limits these operations to the better summer weather months in the search area.

The ROV on *Dong Hai Jiu 101* has been used to reacquire, investigate and eliminate sonar contacts of potential interest identified during previous deep tow and AUV search operations.

An ROV is launched from the side of the vessel and is tethered by a cable. The vessel must remain geostationary over the top of the ROV during a dive and therefore these operations must also be conducted in calmer sea conditions. The sonar contacts reacquired by the ROV in the past swing of *Dong Hai Jiu 101* have been shown to be mainly geology with some manmade items, including cables and drums, which have no relationship to MH370.

Deep tow operations of the search area were completed in October 2016. Since that time AUV and ROV operations have been used to undertake detailed examination of sonar contacts and points of interest, and examine areas not able to be covered by deep tow operations.

Search Operations Nearly Completed

The search vessel, *Dong Hai Jiu 101*, provided by the People's Republic of China, departed the search area on 3 December 2016 and has completed its missions in the search for MH370.

Fugro Equator's missions in the remaining parts of the 120,000 square-kilometre search area are expected to be completed in January/February 2017.

Ministers have reiterated that this does not mean the termination of the search. Should credible new information emerge that can be used to identify the specific location of the aircraft, consideration will be given to determining next steps. Due to poor weather conditions over the Southern hemisphere winter, searching the entire 120,000 square-kilometre underwater search area has taken longer than first planned.

Currently it is expected the search operations of the current area will be completed in January/February 2017.