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More deep-sea signals heighten hopes of locating missing Malaysian airliner

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After an Australian vessel again detected deep-sea signals consistent with those from an airplane's "black box," the official leading the multinational search effort expressed hope Wednesday that crews will begin to find wreckage of a missing Malaysian airliner "within a matter of days."

"I believe we're searching in the right area," retired Air Chief Marshal Angus Houston said at a news conference in Perth.

Since Saturday, the Australian navy ship Ocean Shield — equipped with a U.S. Navy black-box detection system — has picked up four separate transmissions, the two most recent of which came on Tuesday. The newest signals are significant because the increased data could allow searchers to more accurately predict the location on the Indian Ocean floor where the sounds are originating.

Australian officials caution that they cannot yet determine whether the sounds are coming from the remains of Malaysia Airlines Flight 370, which disappeared March 8 with 239 people on board. But Houston said that the signals are a "great lead," one that has helped to drastically narrow a search field that once spanned much of the world's largest continent and third-largest ocean. The area now being scoured by search teams is about the size of South Carolina.

Those acoustic signals, according to Australian analysis, match the kind emitted by black boxes and take the form of metronomic pings recurring just shy of once every second. Analysts looking at the first two transmissions determined that they were "not of natural origin," Houston said, "and likely sourced from specific electronic equipment."

Black boxes generally transmit at 37.5 kilohertz, but that signal can fluctuate with the age of the batteries and the water pressure. The frequency picked up by the Ocean Shield: 33.331 kilohertz.

"I'm now optimistic that we will find the aircraft — or what is left of the aircraft — in the not too distant future," Houston said. "But we haven't found it yet, because this is a very challenging business."

On Wednesday, 15 aircraft and 14 ships were involved in the search. But the focus in recent days has centered on the Ocean Shield, which is largely working apart from the other vessels. If other ships crowded that area, Houston said, they would create noise pollution and interfere with any sounds coming from the three-mile depths.

The bid to detect potential black-box transmissions began only five days ago, but the move has reinvigorated the search. The Ocean Shield trawls for acoustics by dragging a so-called towed pinger locator — at a depth of nearly 10,000 feet — attached to miles of cable. Homing in on the acoustic signals is a challenge, as underwater sound waves travel unpredictably, and a thick layer of silt on the ocean floor can conceivably muffle any black-box pings, said Australian Navy Commodore Peter Leavy.

Separately, a Chinese vessel over the weekend said it had detected transmissions of its own — some 300 nautical miles away from where the Ocean Shield is operating. But in recent days, the Haixun 01, joined by a British vessel with its own more sophisticated acoustic gear, has not reacquired the signal.

If Ocean Shield crew members can detect additional signals in the upcoming days, they will have a better sense of where to begin a labor-intensive underwater exploration. But they do no have much time. The black-box batteries that emit emergency beacons are estimated to last for about 30 days, and Wednesday marked the 33rd day of the search. Houston said searchers will not begin underwater exploration until they have either picked up additional transmissions or are certain that the sounds have stopped.

The deployment of an underwater drone, a 16-foot yellow robotic submarine, would open a new phase in the search — one with a new set of challenges. The drone, known as the Bluefin-21, uses sonar to map out any debris on the ocean floor, but it would be working in depths approaching its technical limit. It also moves slowly and could require dozens of sorties before finding any debris.

In the case of Air France Flight 447, which went missing in 2009 over the Atlantic Ocean, searchers needed 20 days of underwater exploration before they found anything, Houston said, even though they believed they had a good idea of where the plane went down.

The Ocean Shield's four detections, occurring within about 25 miles of one another, give a rough idea, not a precise one, of the sounds' origin. Given the present data, the sounds could be coming from anywhere within a 500-square-mile chunk of the ocean floor, U.S. Navy Capt. Mark Matthews told the Associated Press. The U.S. Navy says the Bluefin can search roughly 40 square miles in a day. If no further data is obtained, the Bluefin could need weeks to complete its scan of the area.

“Hopefully, with lots of transmissions, we’ll have a tight, small area,” Houston said. “And by triangulating all of this positional data, we’ll be able to come up with a much more sharply defined search area — a much smaller search area underwater.”

More than a month after its disappearance, the case of Flight 370 stands as one of the greatest mysteries in aviation history. The Boeing 777, scheduled to travel from Kuala Lumpur to Beijing, veered from its flight path shortly after takeoff in a move that Malaysian officials say was deliberately engineered by somebody on board.

Search teams have yet to uncover any wreckage, and numerous sightings of debris later turned out to be false leads. China’s state-run Xinhua news agency said Wednesday that the Haixun was heading to an area where a patrol aircraft spotted “multiple floating objects.”

Without physical evidence to go on, analysts have pieced together the plane’s likely endpoint using a series of signals the plane sent to a satellite while aloft. Based on those data, the endpoint could be anywhere along an arc that crosses through the Indian Ocean to the west of Australia.

The Ocean Shield detected the potential black-box transmissions along one area of that arc.