

# Open air valve ‘sank WWI submarine’ HMAS AE1

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One hundred and four years to the day after the mysterious disappearance and tragic loss of 35 sailors aboard one of Australia’s first submarines, the HMAS AE1, investigators have released new and detailed research revealing what sunk the vessel.

The report, Baseline Survey of HMAS AE1, found a critical, hand-operated ventilation valve designed to supply air to the engine room was partially open when the E-class submarine dived on September 14, 1914, flooding the rear half of the vessel and causing it to lose control.

It disappeared off the present-day Duke of York Island, near Rabaul, Papua New Guinea, but remained lost until late last year when, on December 20, a team of experts using an underwater drone launched from the Fugro Equator ship discovered the wreck. No human remains have been found.

“The ship’s ventilation hull valve has been found 60 per cent open; this may have initiated a sequence that led to the flooding of the after (rear) end of the submarine, causing it to sink, out of control, past its crush depth, leading to an implosion that would have killed the crew instantaneously,” investigators wrote.

There was a jammed engine clutch, which meant the submarine could not power to the surface, and as the heavy, flooded stern sank first below the 90 to 120-metre crush depth, the front, unflooded area of the vessel imploded, killing the crew and likely blowing the engine room hatch off.

A crew with a “low level of dived training” in an embryonic submarine fleet was a major factor in the accident, the report found.

However, after more than a century on the sea floor, the heavily rusted submarine is perilously close to “major structural collapse” — expected to occur within 12 years, according to the report — and some of the lightweight steel has disappeared.

“It is estimated that in 80 years only the conning tower, propellers and shafts and engine bed plates will remain,” the report, written by Find AE1 and the Australian National Maritime Museum, found.

The report recommends more research on the rapidly degrading vessel.

Eight times in the 180-page document, the authors stated they “do not know” an element of what happened in the AE1 in September 1914. Why, they asked, were the caps of the rear and forward torpedo tubes open? It is hypothesised the submarine may have been preparing to engage a German steamer seen off the Duke of York Island.

“If so, AE1 was lost seeking out the foe!” the report said.

Vera Ryan, a 75-year-old relative of AE1 crew member Petty Officer John Messenger, said the overriding feeling among the roughly 85 living relatives was “absolute amazement”.

“It was rather confronting, but absolute amazement at the work the team has done,” she said. “I’ve sort of felt that they’re now reunited with (sister ship) AE2 crew members in memory.

“We remember them both; they’re not separate, they were shipmates.”

Rear Admiral Peter Briggs, who led the search, said the biggest questions had been answered.

“There are some follow-up examination issues we’d have a look at; there are still puzzles out of the data we’ve got,” he said. “The big answer is there, what happened is pretty well solved.”

He paid special tribute to a former Royal Australian Navy officer who spent decades searching for the AE1.

“We followed in the footsteps of Commander John Foster and others who have searched over the years, spurred on by the patient vigil of the descendants in Australia, UK and New Zealand who have never forgotten their menfolk lost in AE1,” he said.

“Australians say ‘we will remember them’; today we have done that for the crew of AE1.”

Maritime museum director and chief executive Kevin Sumption said the report was a result of the combined efforts of a team of volunteers including retired submariners, maritime archeologists, naval historians and specialists. The report recommends the PNG and Australian governments declare the wreck site a protected area.

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