



Figure 52: Bridge deck showing the chart house lower walls coaming (1) and possible steering platform well (2) (Image: Subsea 2022)



Figure 53: Bridge section - starboard side to top showing possible chart house coaming (1), steering platform and chain well (2), and the collapsed ladder (3) to access the pilot's bridge. Note the collapsed boiler room coaming (4) (Image: CSIRO 2023 - 3068)



Figure 54: Closeup of steering chain well hole showing the hole for steering chains or pipes (1). Note the piping at the top of the image above the steering chain well which may be part of the handrail (2) (Image: CSIRO 2023 - 3096)

The ladder implies that there was another deck above this area, possibly used for another higher but external ships steering wheel on a pilot's bridge. The location of these features in the centre of the vessel suggest that this was probably the bridge deck / and upper pilots bridge area, the latter of which was elevated about the surrounding main deck to improve visibility when steering. Figure 55 show a schematic diagram of the bridge deck of a late 19th century steamer. This also indicates therefore that the vessel was probably a three-island ship, with a raised stern and forecastle deck and raised central bridge deck (see schematic Figure 56).

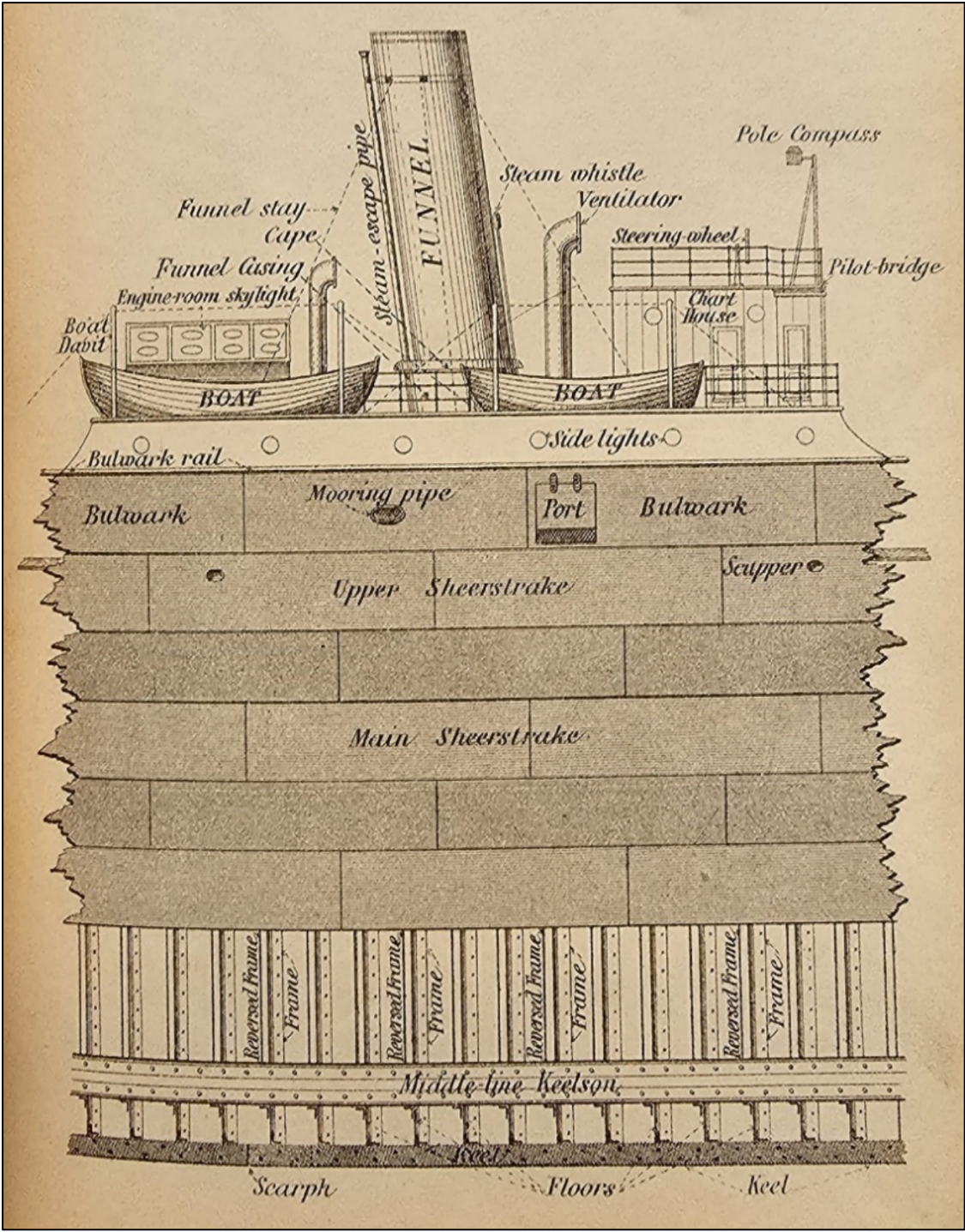


Figure 55: Schematic of raised bridge deck of a late nineteenth century steamer. Note the raised exterior steering platform on the pilot bridge with the chart house below (Image: Paasch 1885)

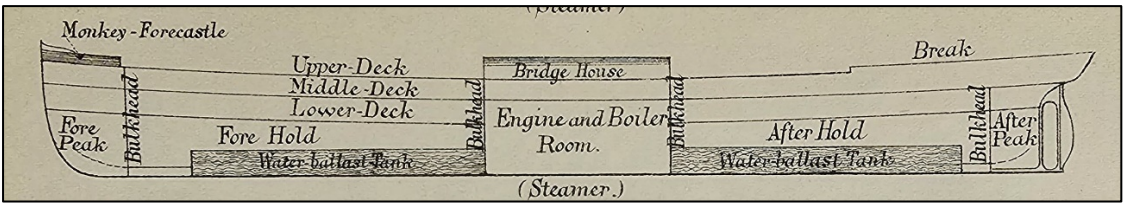


Figure 56: Three Island Ship Design (Image: Paasch 1885)

ii. Hand rails

Remnants of what appears to be handrails were located over the steering well (Figure 57); parts of the fore main deck on the starboard aft side (Figure 58); and outside of the starboard hull below the bridge deck area (Figure 59, Figure 60). These are consistent with the types of handrails shown in Figure 55 which surround the upper bridge and pilot's bridge decks of late 19th century steamers.

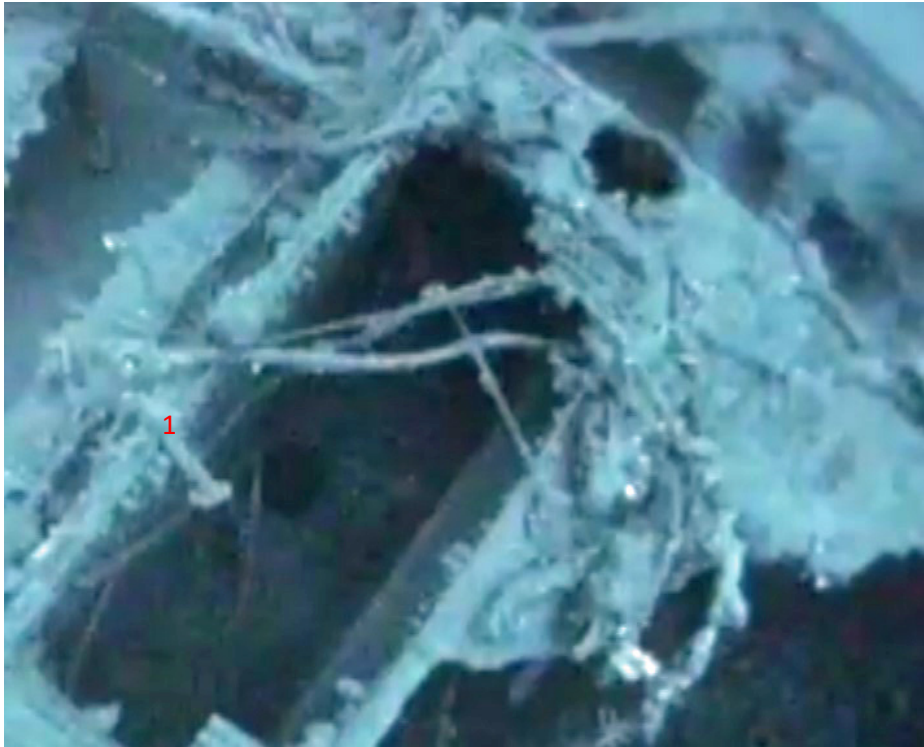


Figure 57: Possible handrail sitting over the steering well (1) (Image: CSIRO 2023 - 3107).



Figure 58: Bitts starboard side and handrails (1) (Image: CSIRO 2023 - 07834)



Figure 59: Possible handrail on outside of wreck, starboard side (Image: CSIRO 2023 - 07605)



Figure 60: Possible Handrail starboard side outside of the wreck (Image: Subsea 2022)

iii. Piping

A horizontal pipe was observed leading forward just under the starboard side of the bridge deck, which joined up to a vertical pipe and flange in the fore part of the bridge deck. This hollow pipe suggests it was used for steam or liquids to the bridge deck and may have led to a steam whistle or other steam powered device (?).

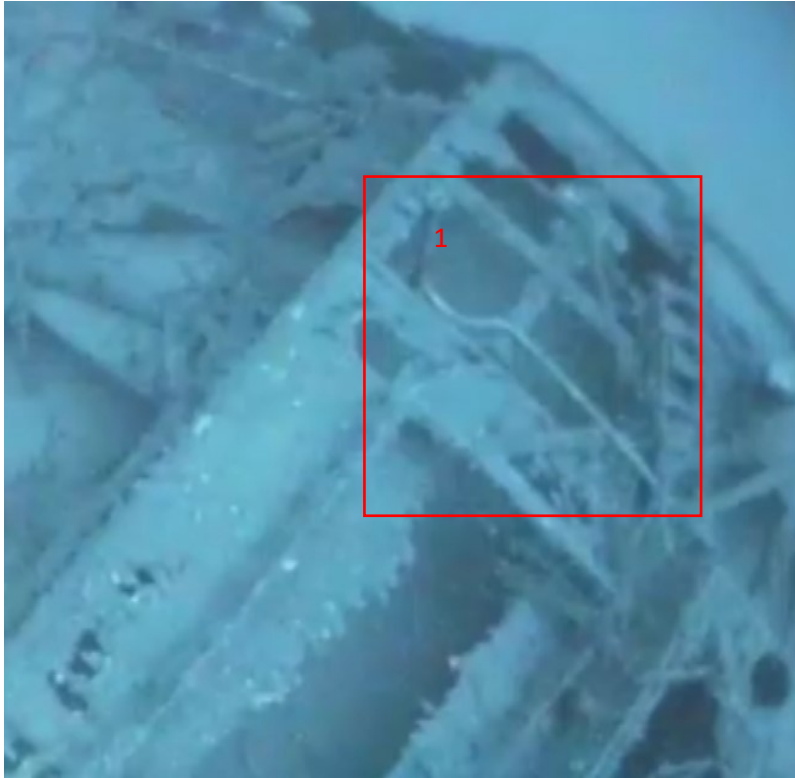


Figure 61: Under deck piping at forward starboard bridge area showing vertical pipe (1) that possibly led to a steam whistle (Image: CSIRO 2023 - 0334)



Figure 62: Closeup details of underdeck piping (1) and vertical piping / flange (2) at forward starboard section of bridge (Image: CSIRO 2023 - 03334 enhanced)

iv. Lifeboat Davits / Mounts

Numerous circular pole mounts were seen around the extremity of the bridge deck on both the port (Figure 63, Figure 74) and starboard sides (Figure 64). Some fittings also consisted of triangular mounts on the deck (Figure 63). Some raised fittings on the starboard side may have raised circular bases and may be davit socket mounts or boat cradle mounts (Figure 66). Figure 67 show a schematic of lifeboat fittings from late nineteenth century.



Figure 63: Possible davit socket mounts, pole or cradle mount (1), port side near bridge remains. Note bitts (2) to left and steering well recess (3) (Image: CSIRO 2023 - 2867 side)



Figure 64: Possible lifeboat cradle mounts or davit socket mounts (1) on starboard side (Image: CSIRO 2023 - 3068 enhanced)



Figure 65: Port side looking forward from deck house (1) towards bridge showing the raised remains of lifeboat davits or boat cradles (2). Note the raised stokehold ventilators (3) (Image: CSIRO 2023 - Port Side drop Cam)



Figure 66: Possible lifeboat davit (1) and boat cradle mount (2), starboard side of bridge deck (Image: CSIRO 2023 - Lifeboat davit and mount bridge starboard side cam)

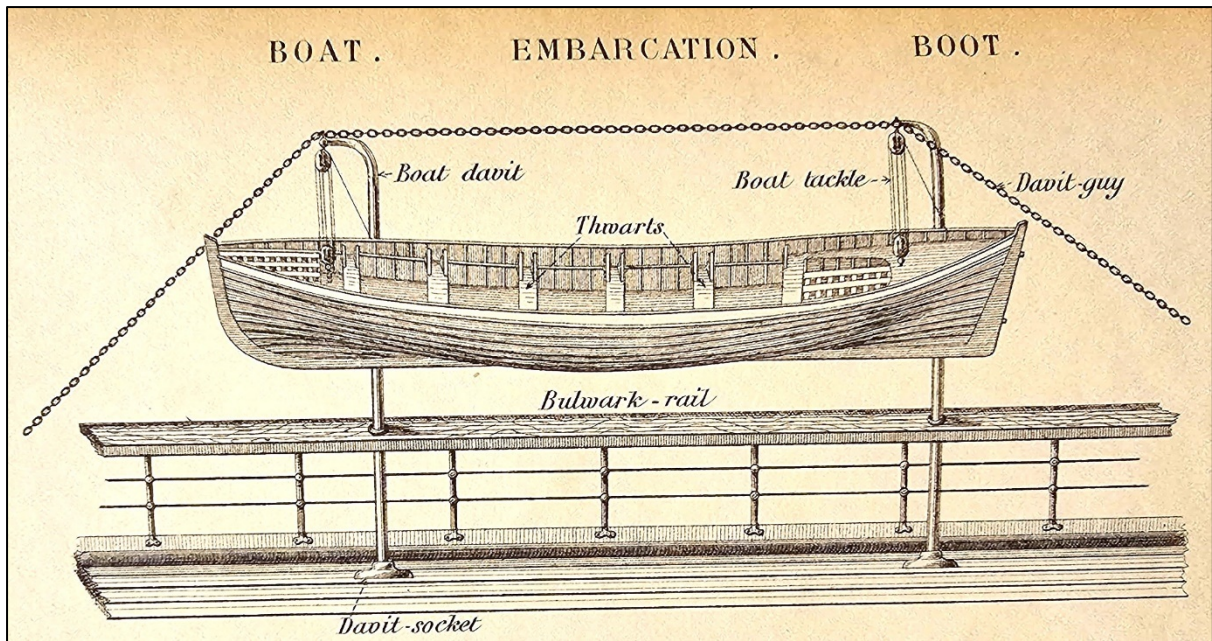


Figure 67: Lifeboat fittings on deck. Note the davit sockets, lifeboat davits, and (Image: Paasch 1885)

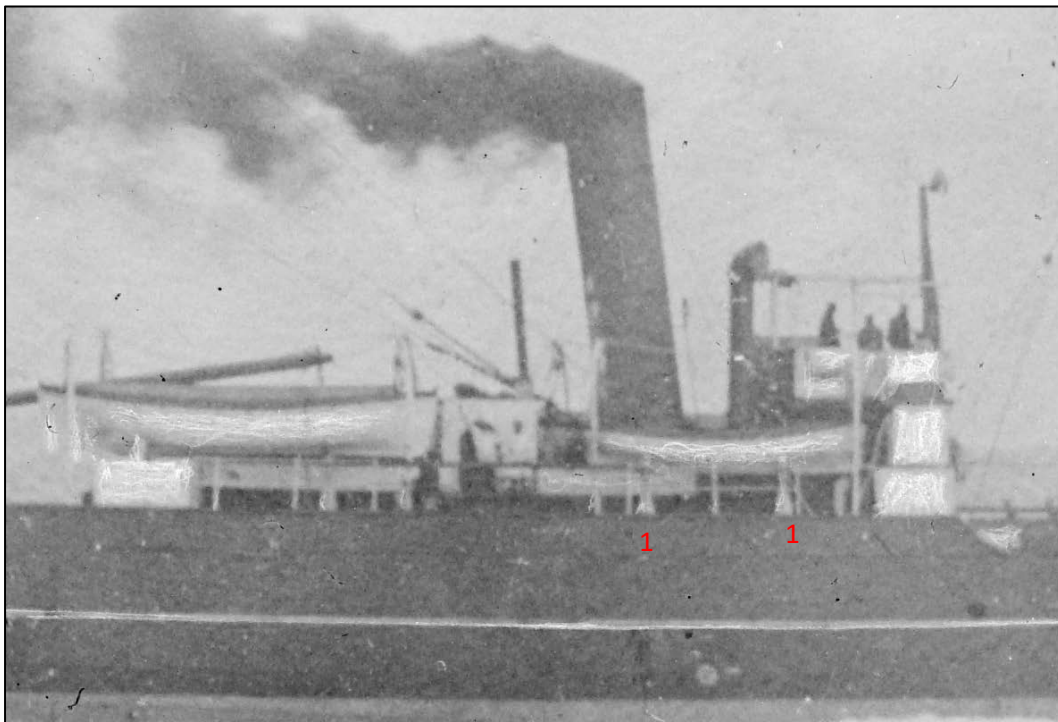


Figure 68: Lifeboat Davits (#9939649678507636) (Image: Green 1900 (BW v slv gr005472))

v. Ventilators and Funnel

Directly behind the bridge are the remains of a collapsed boiler coaming (which would usually cover the boiler room), through which the boiler and top of the funnel outlet are visible. Also within this space is the top of the steam safety valve, which is usually mounted on the top of the boiler as a type of pressure relief valve (Figure 69, Figure 70, Figure 71) .

Circular holes located on top of the bridge deck either side of the steering platform well are likely the remains of the stokehold ventilators (Figure 69), which feed air in to cool the stokers in the boiler room.

The presence of a probable safety valve indicates that the vessel was steam powered.



Figure 69: Midship section showing stokehold ventilation pipes (1) funnel of boiler (2) and steam safety valve (3) below the boiler coaming (Image: CSIRO 2023 - 2964)



Figure 70: Closeup of midship section showing funnel air casing (1) and steam safety valve below the Casing (Image: CSIRO 2023 - 3061)



Figure 71: Closeup of Safety valve by side of funnel outlet (1) (Image: CSIRO 2023 - 3096)



Figure 72: Stokehold ventilator tubes (1) and funnel air casing (2) locations on wreck (Image: CSIRO 2023 -)

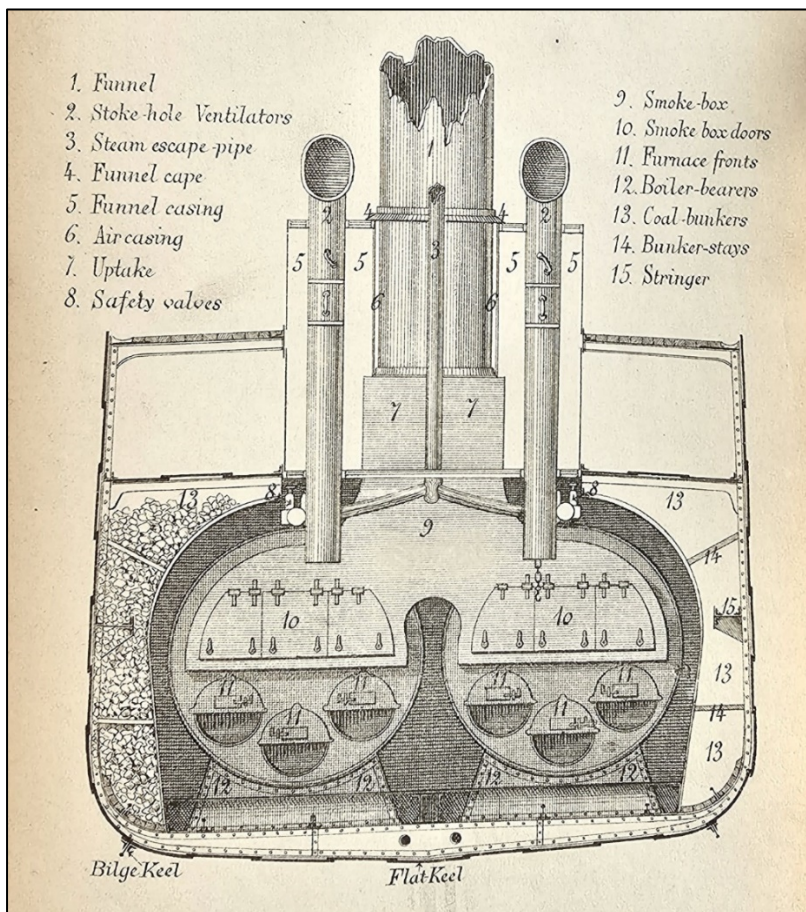


Figure 73: Schematic of late nineteenth century boiler setup (Image: Paasch 1885)

vi. Deckhouse (Galley?)

A small deck house is located aft of the funnel outlet. This structure is rectangular in transverse shape and has several circular outlets on the roof, possibly for small chimney outlet(s) and other ventilation requirements. A transverse rectangular doorway is visible on the port side of the structure and the roof projects c 30 – 50cm beyond the walls on all sides (Figure 74, Figure 76). The deck on either side of the deckhouse has collapsed exposing the coal bunkers below (Figure 76).



Figure 74: Port side looking forward from deck house (1) towards bridge. Note the raised remains of lifeboat davits (2) and stokehold ventilators (Image: CSIRO 2023 - Port Side drop Cam)



Figure 75: Top view of deckhouse showing multiple chimney or vent outlets on the roof and the port side window or door (1) (Image: CSIRO 2023 - deck house Drop camera side 02688).

vii. Bitts

At least two sets of bitts are visible on the port side between the bridge and the deckhouse (Figure 76). These were probably used for mooring the vessel and/or for general maintenance.



Figure 76: Deckhouse structure (1) abaft the funnel (2). Note the outlets in the roof, probably indicative of ventilation or chimney/ exhaust outlets (3) bitts on port main deck (4); and coal in the coal bunkers under the main deck (5) (Image: CSIRO 2023 - 2715)

viii. Engine Room

Abutting the rear of the deckhouse (and the same width of it) is a rectangular structure similar to a cargo hatchway coaming but with a central fore / aft beam and athwart two shifting beams. There are also two diagonal plates that cross from each corner of the coaming, but it is unclear if these are part of the structure or have fallen onto it (Figure 77). The top of the cylinder of what appears to be a large steam compound engine (or given its size: a triple expansion engine) is just visible through the skylight (Figure 78).

Directly behind this feature the bridge deck ends and drops down again to the main deck at the edge of the engine room bulkhead (Figure 79). This feature appears to be an engine coaming or skylight, a structure which allows natural light to enter the engine room (see schematic - Figure 80). Schematics of a compound and triple expansion engine are shown in Figure 81 and Figure 82 (respectively).



Figure 77: Engine room skylight (1) abaft deckhouse (2). Note the diagonal strapping supporting the coaming; the top of what appears to be a large engine cylinder (3) and possible coal bunker on port side (4) (Image CSIRO 2023 - 2659)



Figure 78: Closeup on engine room showing head of at least one cylinder (shown in red) with vertical tail rod or escape valve of a compound engine. (Image: CSIRO 2023 - Engine room cylinder Drop camera side02618).



Figure 79: Rear view of engine coaming (1), deckhouse (2), boiler coaming (3), engine room bulkhead (4) and aft collapsed hatchway (5) (Image: CSIRO 2023 - Side cam)