

pt. 4b.

# REPORT ON OIL ENGINE MACHINERY.

No. 12128

APR 12 1938

Received at London Office

Form of writing Report

10

When handed in at Local Office

8<sup>th</sup> April 1938 Port of Belfast

Survey held at Belfast  
Book.

Date, First Survey 1<sup>st</sup> Sept, 1936 Last Survey 2<sup>nd</sup> April 1938  
Number of Visits 308

on the Single Twin Triple Quadruple Screw vessel

"CAPETOWN CASTLE"

Tons { Gross 26850  
Net 16500

built at Belfast By whom built Harland & Wolff Ltd Yard No. 956 When built 1935  
Engines made at Belfast By whom made Harland & Wolff Ltd Engine No. 956 When made 1935  
Monkey Boilers made at Belfast By whom made Cochran & Co Annan Ltd Boiler No. 13614/5 When made 1935  
Horse Power 4650 Owners Union Castle Mail S.S. Co. Ltd Port belonging to London  
Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes  
Trade for which vessel is intended Ocean going 26 59 1/2

ENGINES, &c.—Type of Engines Harland 3144 airless injection 2 or 4 stroke cycle 2 Single or double acting double  
Maximum pressure in cylinders 49 Kg/cm<sup>2</sup> Diameter of cylinders 660 mm Length of stroke 1500 mm No. of cylinders 20 No. of cranks 20  
Distance of bearings, adjacent to the Crank, measured from inner edge to inner edge 1390 mm Is there a bearing between each crank yes  
Revolutions per minute 102 Flywheel dia. 2122 mm Weight 3000 Kg Means of ignition Compression Kind of fuel used Diesel oil  
Crank Shaft, dia. of journals as per Rule 590 mm Crank pin dia. 590 mm Crank Webs as per Rule 330 mm Thickness parallel to axis 330 mm  
Flywheel Shaft, diameter as per Rule 21 1/8 Thrust Shaft, diameter at collars as per Rule 590 mm  
Main Shaft, diameter as per Rule 23 Is the tube shaft fitted with a continuous liner yes  
Bronze Liners, thickness in way of bushes as per Rule 1 1/4 Thickness between bushes as per Rule 1 1/2 Is the after end of the liner made watertight in the  
propeller boss yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner yes  
the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive yes  
two liners are fitted, is the shaft lapped or protected between the liners yes Is an approved Oil Gland or other appliance fitted at the after end of the tube  
aft no If so, state type yes Length of Bearing in Stern Bush next to and supporting propeller 8'-3"

Propeller, dia. 21'-0" Pitch 23'-8" No. of blades 3 Material M.B. whether Moveable solid Total Developed Surface 115 sq. feet  
Method of reversing Engines Hand gear Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication  
timed Thickness of cylinder liners 45 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with  
non-conducting material lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine yes  
Cooling Water Pumps, No. 4 Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

Bilge Pumps worked from the Main Engines, No. 4 Diameter 4 Stroke 4 Can one be overhauled while the other is at work yes  
Pumps connected to the Main Bilge Line { No. and Size Four all 200 tons/hr  
How driven Motor  
Ballast Pumps, No. and size Two 200 tons/hr Lubricating Oil Pumps, including Spare Pump, No. and size 4 - 500 tons/hr

Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge  
Pumps, No. and size:—In Machinery Spaces Forstner 1-4" 2-2 1/2", Aux ER 2-4 1/2", BR 2-2 1/2", Main ER 2-4 1/2", 1-7", 4-2 1/2"  
Holds, &c. Off tunnel 2-4", 2-2 1/2", Tunnel well 1-4", Holds H 1-2, 3, 7, 2-4", H 5, 2-4", 3-2 1/2", H 6 2-4", 1-2 1/2"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Aux ER 1-7", Main ER 2-7", Off tunnel 1-7"  
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Spaces  
fitted from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes

Are all Sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks Valves  
Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates yes Are the Overboard Discharges above or below the deep water line below

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes Are the Blow Off Cocks fitted with a spigot and brass covering plate yes  
That pipes pass through the bunkers None How are they protected yes  
That pipes pass through the deep tanks yes Have they been tested as per Rule yes

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes  
Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one  
compartment to another yes Is the Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Upper deck

For a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork  
Main Air Compressors, No. 3 No. of stages two Each compressor has 3 - two stage cylinders Diameters 240/210 Stroke 160 Driven by El Motor  
Auxiliary Air Compressors, No. 1 No. of stages two Diameters 180/54 Stroke 115 Driven by Steam engine

Small Auxiliary Air Compressors, No. 1 No. of stages two Diameters 180/54 Stroke 115 Driven by Steam engine  
Vacuuming Air Pumps, No. 4 Capacity each 880 m<sup>3</sup> at 1.24 Kg/cm<sup>2</sup> abs, 2200 rpm. Driven by El motor

Auxiliary Engines crank shafts, diameter as per Rule 270 mm journal 240 mm pins as approved  
Is the Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Upper deck

Is there a drain arrangement fitted at the lowest part of each receiver yes What means are provided for cleaning their inner surfaces Manhole  
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IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *Yes*

PLANS. Are approved plans forwarded herewith for Shafting *Yes* 24.7.36  
(If not, state date of approval)

Receivers *Yes*

Separate Tanks *Yes*

Donkey Boilers *Yes*

General Pumping Arrangements *Yes*

Oil Fuel Burning Arrangements *Yes*

SPARE GEAR

*See attached list*

The foregoing is a correct description,

For HARLAND AND WOLFF, LIMITED.

*as Marshall* Manufacturer.

1936 Sept. 1. 8. 25 Oct. 2. 5. 7. 8. 15. 16. 20 Secretary 23. 26 27. 28 31 Nov 5. 17. 18. 24. 26. 27. 28. 30 Dec 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31 Jan. 5. 6. 7. 8. 11. 12. 13. 14. 15. 16. 18. 19. 20. 21. 22. 25. 26. 27. 28. 29. 30. 31 Feb. 1. 3. 4. 5. 6. 8. 9. 10. 12. 13. 15. 16. 17. 18. 19. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31 Mar. 1. 2. 3. 10. 11. 12. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31 Apr. 1. 2. 6. 7. 8. 12. 13. 14. 19. 20. 21. 23. 26. 28. 29. 30 May 5. 6. 7. 8. 10. 11. 13. 14. 15. 17. 18. 19. 20. 21. 24. 27. 28. 31 June 1. 2. 3. 4. 7. 8. 9. 10. 11. 14. 15. 16. 17. 18. 19. 21. 22. 23. 24. 25. 26. 28. 29. 30 July 1. 2. 3. 5. 6. 19. 20. 21. 22. 23. 26. 27. 29. 30. 31 Aug 2. 3. 4. 5. 6. 7. 11. 12. 13. 14. 16. 17. 18. 19. 20. 21. 24. 25. 26. 27. 30. 31

Dates of Examination of principal parts—Cylinders 15/4/37 17/9/37 Covers 11/8/37 14/11/37 Pistons 27/4/37 1/11/37 Rods 1/4/37 14/11/37 Connecting rods 5 7/8/37

Crank shaft S 4/7/37 Flywheel shaft Thrust shaft P S 14/4/37 Intermediate shafts 4/4/37 3/9/37 Tube shaft

Screw shaft 31/8/37 Propellers 7/3/38 Stern tube S 2/7/37 Engine seatings 16/8/37 Engines holding down bolts 4/7/37 14/11/37

Completion of fitting sea connections 16/8/37 Completion of pumping arrangements 17/3/38 Engines tried under working conditions 21/4/37 25/8/37

Crank shaft, Material S Identification Mark LLOYDS 258 Flywheel shaft, Material Identification Mark

Thrust shaft, Material S Identification Mark LLOYDS 258 Intermediate shafts, Material S Identification Mark S LLOYDS 258

Tube shaft, Material Identification Mark Screw shaft, Material S Identification Mark LLOYDS 258

Is the flash point of the oil to be used over 150° F. *Yes*

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *Yes*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *No* If so, have the requirements of the Rules been complied with

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *STIRLING CASTLE*

General Remarks (State quality of workmanship, opinions as to class, &c.)

*The machinery of this vessel has been constructed under special survey. The workmanship & materials are good. The main engines and auxiliaries have been effectively installed & tried out under working conditions. In our opinion the vessel is eligible for notation in the Society Register Book*

*+ LMC 4-38, CL. 4DBs 100lbs. OIL ENGINES*

The amount of Entry Fee ... £ 6 : 0 :  
Special ... £ 216 : 5 :  
Donkey Boiler Fee ... £ 24 : 0 :  
AIR RECEIVERS 21 : 0 :  
Travelling Expenses (if any) ... £ : :  
When applied for, 11. 4. 19 38  
When received, 21. 5. 19 38

Committee's Minute *FRI. 22 APR 1938*

Assigned *+ Lmb. H. 38 oil eng.*  
*4 DB-100lb CL*

*Charles J. Hunter, R. Lee Arneason*  
Engineer Surveyor to Lloyd's Register of Shipping.



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