

REPORT ON OIL ENGINE MACHINERY.

No. 11967

Received at London Office

JUL -1 1937

Date of writing Report

19

When handed in at Local Office 30.6.1937 Port of Belfast

Date in Survey held at

Belfast

Date, First Survey 3rd Aug 1936 Last Survey 29th June 1937

Number of Visits 135

g. Book.

0051 on the

Single
Twin
Triple
Quadruple

Screw vessel SINGLE

"ROXBURCH CASTLE"

Tons { Gross 7800
Net 4738

Built at Belfast

By whom built Harland & Wolff Ltd

Yard No. 993 When built 1937

Engines made at do

By whom made do do

Engine No. 993 When made 1937

Monkey Boiler made at Annan

By whom made Cochran & Co. Annan Ltd

Boiler No. 13430 When made 1936

Horse Power 1647

Owners Union Castle Mail S.S. Co Ltd

Port belonging to London

Horse Power as per Rule 1642

Is Refrigerating Machinery fitted for cargo purposes Yes

Is Electric Light fitted Yes

Trade for which vessel is intended

Ocean going 243k 55 1/2

L ENGINES, &c.

Type of Engines

H.W. Airless injection

2 or 4 stroke cycle 2 Single or double acting double

Maximum pressure in cylinders 49 Kg/cm²

Diameter of cylinders 620 mm

Length of stroke 1400 mm

No. of cylinders 8

No. of cranks 8

Mean Indicated Pressure 100 lbs

Distance of bearings, adjacent to the Crank, measured from inner edge to inner edge 1164 mm

Is there a bearing between each crank Yes

Revolutions per minute 104

Flywheel dia. 2483 mm

Weight 2500 Kg

Means of ignition Compression

Kind of fuel used Diesel Oil

Crank Shaft, dia. of journals

as per Rule as app'd

Crank pin dia. 500 mm

Crank Webs

Mid. length breadth 960 mm

Mid. length thickness 260 mm

Thickness parallel to axis 260 mm

Thickness around eye hole 225 mm

Flywheel Shaft, diameter

as per Rule

as fitted

Intermediate Shafts, diameter

as per Rule as app'd

as fitted 18"

Thrust Shaft, diameter at collars

as per Rule as app'd

as fitted 490 mm

Screw Shaft, diameter

as per Rule

as fitted

Screw Shaft, diameter

as per Rule as app'd

as fitted 19 3/4"

Is the { tube } shaft fitted with a continuous liner { Yes

Bronze Liners, thickness in way of bushes

as per Rule

as fitted 1"

Thickness between bushes

as per rule

as fitted 2 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

If 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

If two liners are fitted, is the shaft lapped or protected between the liners

Is an approved Oil Gland or other appliance fitted at the after end of the tube

If so, state type

Length of Bearing in Stern Bush next to and supporting propeller 6'-9"

Propeller, dia. 19'-6"

Pitch 17'-10"

No. of blades 4

Material Mang. B. whether Moveable Solid

Total Developed Surface 130 sq. feet

Method of reversing Engines Air

Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes

Means of lubrication

Forced

Thickness of cylinder liners 42 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

Cooling Water Pumps, No. Two

Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Large Pumps worked from the Main Engines, No.

Diameter

Stroke

Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line

No. and Size

Two Bilge 110 tons/hr

Ballast pump 150 tons/hr

How driven

Electric motor

Electric motor

the cooling water led to the bilges

No

If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

Ballast Pumps, No. and size One 150 tons/hr

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Two 300 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

One 5 1/2" direct suction. 2-3 1/2"

5-2 1/2"

1-4" tunnel

In Pump Room 2-3 1/2"

Holds, &c. One 2 1/2" from ref. holds aft.

6-3 1/2" from fore holds

1-2" from ref. space

Copper drain

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-5 1/2" Ballast pump.

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes

Are the Bilge Suctions in the Machinery Spaces

Are they fitted with Valves or Cocks Valves

Are all Sea Connections fitted direct on the skin of the ship Yes

Are the Overboard Discharges above or below the deep water line Below

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Yes

Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes

How are they protected

What pipes pass through the bunkers

None

Have they been tested as per Rule

What pipes pass through the deep tanks

None

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Is the Shaft Tunnel watertight Yes

Is it fitted with a watertight door Yes

worked from Upper deck

If 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.

No. of stages

Diameters

Stroke

Driven by

Auxiliary Air Compressors, No. 2

No. of stages 2

Diameters 280/245 mm

Stroke 130 mm

Driven by El motor

Small Auxiliary Air Compressors, No. 1

No. of stages 2

Diameters 106/34 mm

Stroke 80 mm

Driven by Steam Engine

Exhausting Air Pumps, No. 1

Capacity 341 m³/min each

at 307 rpm and Pressure 1.2 atmos absolute

Stroke

Driven by Main engines

Auxiliary Engines crank shafts, diameter

as per Rule as app'd

as fitted 280 mm journal 250 crank pin

No. 3

Position On seats in Main motor room

Lloyd's Register

Foundation

W242-0130

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Yes*

Can the internal surfaces of the receivers be examined and cleaned *Yes* Is a drain fitted at the lowest part of each receiver *Yes*
MANOEUVRING
High Pressure Air Receivers, No. *2* Cubic capacity of each *538 cu ft* Internal diameter *6'-0 3/8"* thickness *1 1/32"*
Seamless, lap welded or riveted longitudinal joint *Riveted* Material *Steel* Range of tensile strength *28/32* Working pressure *by Rules 372 lb*
EMERGENCY Actual *356 lb*
Starting Air Receivers, No. *One* Total cubic capacity *180 litres* Internal diameter *1'-6"* thickness *3/8"*
Seamless, lap welded or riveted longitudinal joint *Riveted* Material *Steel* Range of tensile strength *28/32 lb* Working pressure *by Rules 371 lb*
Actual *356 lb*

IS A DONKEY BOILER FITTED? *Yes*

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

Is the donkey boiler intended to be used for domestic purposes only *Yes*

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

Receivers *Yes*

Separate Fuel Tanks *Yes*

Donkey Boilers *Yes*

General Pumping Arrangements *Yes*

Pumping Arrangements in Machinery Space *Yes*

Oil Fuel Burning Arrangements *Yes*

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

The foregoing is a correct description,

See attached list
FOR HARLAND & WOLFF, LIMITED
Manufacturer.
Assistant Secretary

HB
1936
Dates of Survey while building
During progress of work in shops--
Aug. 3. 12. 26. 28 Sept 2. 3. 4. 11. 15. 16. 19. 28 Oct 1. 2. 3. 6. 13. 14. 15. 19. 20. 21. 22. 26. Nov 2. 4. 5. 6. 7. 11. 13. 14. 16. 19. 20. 23. 24. 26. 27. 28 Dec 1. 2. 3. 4. 5. 8. 9. 10. 11. 12. 15. 16. 17. 18. 21. 22. 23. 24. 1937 Jan. 4. 5. 6. 9. 11. 12. 13. 21. 22. 25. 27. 28 Feb. 2. 4. 6. 9. 10. 11. 12. 13. 16. 17. 18. 19. 20. 22. 23. 25. 26 Mar 1. 2. 3. 9. 10. 11. 16. 18. 19. 22. Apr. 5. 6. 7. 8. 9. 12. 13. 15. 16. 24. 26. 28. 29. 30 May 7. 10. 11. 18. 19. 20. 22. 26. 28 June 2. 4. 7. 10. 11. 17. 18. 29
Total No. of visits *135*

Dates of Examination of principal parts—Cylinders *20-1-37 21-3-37* Covers *6-11-37 31-3-37* Pistons *8-11-37 1-3-37* Rods *15-10-37* Connecting rods *23-11-37*

Crank shaft *4-2-37* Flywheel shaft *-* Thrust shaft *4-2-37* Intermediate shafts *11-5 11-3-37* Tube shaft *✓*

Screw shaft *10-3-37* Propellers *13-10-37* Stern tube *5-3-37* Engine seatings *16-3-37* Engines holding down bolts *29-4-37*

Completion of fitting sea connections *16-3-37* Completion of pumping arrangements *18-6-37* Engines tried under working conditions *18-6-37*

Crank shaft, Material *S* Identification Mark *110405 253* Flywheel shaft, Material *✓* Identification Mark *✓*

Thrust shaft, Material *S* Identification Mark *110405 472* Intermediate shafts, Material *S* Identification Marks *11-5 110405*

Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *S* Identification Mark *110405 256*

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 *✓*

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with *✓*

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

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

The machinery of this vessel has been constructed under special survey. The materials and workmanship are sound & good. The main engines and auxiliaries have been efficiently installed and tried out under working conditions with satisfactory results. In our opinion the vessel is eligible for notation in the Society Register Book + LMC 6. 37. CL. DB 100 lbs GIL ENGINE

The amount of Entry Fee .. £ *6 : 0* : When applied for,
Special ... £ *141 : 1* : *30 6* 1937
Air Receiver ... £ *8 : 8* :
Donkey Boiler Fee ... £ *8 : 8* :
Travelling Expenses (if any) £ : *21.7* 1937

Committee's Minute *TUE. 6 JUL 1937*

Assigned

+ Lmb. 6. 37
DB-100 lb
oil eng. G

Charles Y. Hunter & R. Lee Amner
Engineer Surveyors to Lloyd's Register of Shipping.



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Lloyd's Register
Foundation