

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office - 9 JAN 1934

Date of writing Report 7th Decr 1934 When handed in at Local Office 8th Decr 1934 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle-on-Tyne Date, First Survey 19 June 1933 Last Survey 5. 1. 1934
 Reg. Book. on the S.S. "ARCWEAR" (Number of Visits 51) Tons { Gross 4157
 Net 2503

Built at Rynderland By whom built Short Bros. Yard No. 443. When built 1934.

Engines made at Newcastle-on-Tyne By whom made R. E. Marine Eng. Co. Ltd Engine No. 2797. When made 1934.

Boilers made at Newcastle-on-Tyne By whom made R. E. Marine Eng. Co. Ltd Boiler No. 2797. When made 1934.

Registered Horse Power 357 Owners Arcwear Shipping Co. (Coburnwood Ark Form Ship Ltd) Port belonging to London

Horse Power as per Rule 357 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes.

for which Vessel is intended _____

DESCRIPTION OF ENGINES Triple Expansion Revs. per minute 62 normal

No. of Cylinders 3 No. of Cranks 3

Length of Stroke 42" Mid. length breadth 21 1/2" Thickness parallel to axis 7 3/4" x 8 1/4"

shaft, dia. of journals 12 5/8" Crank pin dia. 12 5/8" Mid. length thickness 7 3/4" x 8 1/4" shrunk Thickness around eye-hole 6 5/16" x 6 13/16"

Intermediate Shafts, diameter as per Rule 11.7" Thrust shaft, diameter at collars as per Rule 12.286"

as fitted 12 5/8" as fitted 12 5/8"

Shafts, diameter as per Rule 13.1375" Is the hub shaft fitted with a continuous liner yes

as fitted 14" Is the screw shaft fitted with a continuous liner yes

Liners, thickness in way of bushes as per Rule 6.54" Thickness between bushes as per Rule 4.9" Is the after end of the liner made watertight in the stern boss yes

as fitted 4 1/8" as fitted 19/32"

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner yes

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 fits full length

liners are fitted, is the shaft lapped or protected between the liners no Is an approved Oil Gland or other appliance fitted at the after end of the tube yes

If so, state type variable Length of Bearing in Stern Bush next to and supporting propeller 4'-9"

Propeller, dia. 17'-3" Pitch to 18'-3" No. of Blades 4 Material Bronze whether Movable no Total Developed Surface 107 sq. feet

Pumps worked from the Main Engines, No. None Diameter 3 1/2" Stroke 21" Can one be overhauled while the other is at work yes

Pumps worked from the Main Engines, No. 2 Diameter 3 1/2" Stroke 21" Can one be overhauled while the other is at work yes

No. and size Two Weirs 6" x 8 1/2" x 18" Pumps connected to the Main Bilge Line { No. and size One 10" x 9" x 24" How driven Steam

Oil Pumps, No. and size One 10" x 9" x 24" Lubricating Oil Pumps, including Spare Pump, No. and size None

Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Pumps;—In Engine and Boiler Room 4 @ 2 1/2" + 1 @ 2 1/4" to Tunnel Well

In Holds, &c. N=1 Hold 2 @ 3"; N=2 Hold 2 @ 3 1/2"; N=3 Hold 2 @ 2 3/4"; N=4 Hold 2 @ 2 3/4"

Water Circulating Pump Direct Bilge Suctions, No. and size One @ 7" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One @ 4 1/2"

Are all the Bilge Suction Pipes in holds and tunnel well fitted with steam-bores yes

Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes

Sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks both

Are they fitted sufficiently high on the ship's side to be seen without lifting the stokehold plates yes Are the Overboard Discharges above or below the deep water line above except main discharge

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

Pipes pass through the bunkers None How are they protected _____

Pipes pass through the deep tanks None Have they been tested as per Rule _____

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

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

BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 5209 sq. ft.

Forced Draft fitted yes No. and Description of Boilers 2 S. E. Main + 1 S. E. Aux. Working Pressure 220 lbs./sq. in.

A REPORT ON MAIN BOILERS NOW FORWARDED? yes

A DONKEY BOILER FITTED? No If so, is a report now forwarded? yes

Is a donkey boiler intended to be used for domestic purposes only _____

ANS. Are approved plans forwarded herewith for Shafting yes Main Boilers yes Auxiliary Boilers yes Donkey Boilers yes

(If not state date of approval)

Heaters yes General Pumping Arrangements yes Oil fuel Burning Piping Arrangements yes

SPARE GEAR.

Is the spare gear required by the Rules been supplied yes

Is the principal additional spare gear supplied one Cast Iron propeller.

The foregoing is a correct description,

[Signature]
 SECRETARY
 Manufacturer.



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 Foundation

1933

June 19. 27. 29. July 4. 7. 14. 22. 27. Aug. 1. 2. 3. 4. 8. 10. 11. 14. 15. 18. 22. 24. 29. 30.

31. Sep. 5. 8. 11. 12. 14. 15. 19. 25. 28. 29. Oct. 3. 4. 9. 10. 12. 24. 25. 27. 29. Dec. 1. 5.

7. 8. 11. 12. 14. 22. Jan 5.

Dates of Survey while building

During progress of work in shops - -
During erection on board vessel - - -

Total No. of visits

51

Dates of Examination of principal parts—Cylinders 15.9.33 Slides 5.9.33 Covers 5.9.33
 Pistons 5.9.33 Piston Rods 11.9.33 Connecting rods 11.9.33
 Crank shaft 3.10.33 Thrust shaft 3.10.33 Intermediate shafts 3.10.33
 Tube shaft ✓ Screw shaft 3.10.33 Propeller 9.10.33
 Stern tube 9.10.33 Engine and boiler seatings 24.11.33 Engines holding down bolts 11.12.33

Completion of fitting sea connections See Sunderland Report
 Completion of pumping arrangements 12.12.33 Boilers fixed 11.12.33 Engines tried under steam at Wharf 14.12.33
 Main boiler safety valves adjusted 14.12.33 Thickness of adjusting washers { Cuphtn. P 7/16 S 7/16 P 7/16 S 1/2 P 1 1/2 S 3/4 }
 Crank shaft material Steel Identification Mark 2797 W.B. Thrust shaft material Steel Identification Mark 7987 W.B.
 Intermediate shafts, material Steel Identification Marks { 9821, 9808, 768 Tube shaft, material ✓ Identification Mark ✓
 768, 9801, 792. W.B. 3.10.33 }
 Screw shaft, material Steel Identification Mark 7986 W.B. Steam Pipes, material 40 Steel Test pressure 660 lbs/sq. Date of Test 15.9.33
 3.10.33 8.12.33

Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150°F. ✓
 Have the requirements of the Rules for the use of oil as fuel been complied with ✓
 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 No If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)
 This machinery has been constructed under special survey in accordance with the Rules and approved plans; the materials and workmanship are good. The machinery has been satisfactorily installed in the vessel, examined under working conditions and found satisfactory, and is eligible, in our opinion, for classification, and to have the record L.M.C. 1.34 - C.L. in the Register Book.
 The S.P. Engine is fitted with Poppet valves.

Certificate to be sent to The Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ... £ 5 : 0 : 0 When applied for,
 Special ... £ 78 : 11 : 0 6/11 1934
 Donkey Boiler Fee ... £ : : : When received, S.P.
 Travelling Expenses (if any) £ : : : 8/11 1934

For Wm Butler & Self
 H. B. Forster
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 9 JAN 1934
 Assigned + L.M.C. 1.34
 C.L.

