

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office.

6 FEB 1946

Date of writing Report 19 When handed in at Local Office 19 Port of LIVERPOOL

No. in Survey held at Lytham, Preston & Hutton Date, First Survey 17/2/44 Last Survey 20/12/1945
 Reg. Book on the after screw "FRESHWATER" (Number of Visits 50) Tons {Gross 282.91
 Net 92.82

Built at Lytham By whom built Lytham S.B. & Co. Ltd. Yard No. 878 When built 1945

Engines made at do By whom made do Engine No. 556 When made 1945

Boilers made at do By whom made do Boiler No. 555 When made 1945

Registered Horse Power 90 Owners The Admiralty Port belonging to London

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

Trade for which vessel is intended Admiralty Tender services

ENGINES, &c.—Description of Engines Trip Expansion Inverted Revs. per minute 180

Dia. of Cylinders 11" x 18" x 30" Length of Stroke 21" No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals 5.79" as per Rule 6" as fitted Crank pin dia. 6" Crank webs 10" Mid. length breadth 3.75" Thickness parallel to axis 3.75"

Intermediate Shafts, diameter 5.514" as per Rule 5.514" as fitted Thrust shaft, diameter at collars 6.14" as per Rule 5.79" as fitted

Tube Shafts, diameter 6.534" as per Rule 6.534" as fitted Screw Shaft, diameter 6.12" as per Rule 6.12" as fitted Is the tube shaft fitted with a continuous liner no

Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as per Rule 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

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 yes

If 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 at yes If so, state type Lytham S.B. & Co.

Propeller, dia. 6.10" Pitch 7.0" No. of Blades 4 Material C.I. whether Moveable no Total Developed Surface 13 sq. feet

Feed Pumps worked from the Main Engines, No. Two Diameter 2" Stroke 10 1/2" Can one be overhauled while the other is at work yes

Bilge Pumps worked from the Main Engines, No. Two Diameter 2" Stroke 10 1/2" Can one be overhauled while the other is at work yes

Feed Pumps { No. and size One - 6" x 4" x 12" simplex Pumps connected to the Main Bilge Line { No. and size Two E. pumps, one 6 1/2" x 6 1/2" x 12" simplex
 How driven Steam How driven S.S. pump, Steam driven

Ballast Pumps, No. and size One - 10 1/2" x 12 1/2" x 24" simplex Lubricating Oil Pumps, including Spare Pump, No. and size yes

Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected both to Main Bilge Pumps and Auxiliary Bilge Pumps:—In Engine and Boiler Room One RIS at fore end of E.R. one at aft end of E.R. two 2 1/2" dia. one direct suc. in E.R. 2 1/2" dia.

In Pump Room One RIS + Centrif. all 2 1/2" dia In Holds, &c. 2" dia. suc. in chain locker, crew space, galley compartment, connect to salvage pump, S.S. pump + 1 Jockey pump.

Main Water Circulating Pump Direct Bilge Suctions, No. and size One - 4" dia. Independent Power Pump Direct Suctions to the Engine and/or Boiler Room Bilges, No. and size One 2 1/2" in E.R. one 2 1/2" in Stokelol

Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes yes

Are the 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

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 stokehold plates yes Are the Overboard Discharges above or below the deep water line above

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

What Pipes pass through the bunkers none How are they protected yes

What pipes pass through the deep tanks none 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 no worked from yes

MAIN BOILERS, &c.—(Letter for record 'S') Total Heating Surface of Boilers 1600 sq

Which Boilers are fitted with Forced Draft All (one) Which Boilers are fitted with Superheaters none

No. and Description of Boilers One single ended multiburner Working Pressure 180 lb/sq in

IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes

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

Can the donkey boiler be used for other than domestic purposes yes

PLANS. Are approved plans forwarded herewith for Shafting 18-4-41 Main Boilers 8-4-41 Auxiliary Boilers yes Donkey Boilers yes

(If not state date of approval)

Superheaters - General Pumping Arrangements 24-9-42 Oil fuel Burning Piping Arrangements yes

SPARE GEAR.

Has the spare gear required by the Rules been supplied yes

State the principal additional spare gear supplied 2 main bearing balls, 6 ME cyl studs + nuts, 6 ME push ring studs, Pump Link
 brasses, 1 set each ME piston rings, 1 set ME piston + valve rod packing, 20 condenser ferrules + flugs, 1 set of piston
 + bucket rings for each independent pump, 2 each, top, bottom + main bearing balls,
 steering engine, 1 set each main top + bottom end brasses, piston rod, eccentric rod, sleeve + strap, 2 control valves,
 1 distributor valve, 2 sets of valves, 1 set of main top + bottom end brasses, piston rod, eccentric rod, sleeve + strap, 2 control valves,
 1 set of suction + delivery valves for each independent pump,
 F.D. Fan Engines:—1 set connecting rod balls + valve rings, Dynamo Engines:—1 set piston rings, main top,
 + bottom brasses, governor shafts, Generator:—Armatures with bearings, 1 set of field coils,
 brushes + springs, Woundless:—1 set main bearings.

The foregoing is a correct description.

THE LYTHAM SHIPBUILDING and
ENGINEERING COMPANY, LIMITED

Manufacturer.

During progress of work in shops - - - } 17/2/44 to 20/12/45.
 Dates of Survey while building }
 During erection on board vessel - - - }
 Total No. of visits 50

Dates of Examination of principal parts - Cylinders 16-1-45, 16-6-45. Slides 29-3-45. Covers 29-3-45.
 Pistons 16-6-45. Piston Rods 16-1-45, 29-3-45. Connecting rods 16-1-45, 29-3-45.
 Crank shaft 27-2-45, 9-3-45. Thrust shaft 10-10-45, 9-3-45. Intermediate shafts 9-5-45, 10-10-45.
 Tube shaft. ✓ Screw shaft 9-3-45, 10-10-45. Propeller 6-9-45.
 Stern tube 27-2-44, 6-9-45. Engine and boiler seatings 6-9-45. Engines holding down bolts 17-10-45.
 Completion of fitting sea connections 6-9-45.
 Completion of pumping arrangements 18-12-45. Boilers fixed 11-9-45. Engines tried under steam 18-12-45.
 Main boiler safety valves adjusted 14-12-45. Thickness of adjusting washers. P.V. 9/32" S.V. 3/16"
 Crank shaft material Steel. Identification Mark 4236, 29-3-45 FAF Thrust shaft material Steel Identification Mark 2562, 10-10-45 FAF
 Intermediate shafts, material Steel. Identification Marks 2559, 10-10-45 FAF Tube shaft, material ✓ Identification Mark ✓
 Screw shaft, material Steel. Identification Mark 2560, 10-10-45 FAF Steam Pipes, material Steel Test pressure 540 LSW Date of Test 29-10-45.
 Is an installation fitted for burning oil fuel ✓ 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 yes If so, state name of vessel "FRESHTHORN" (See Report No 122077)
 General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of the vessel has been constructed under special survey in accordance with the approved plans and the Society's Rules.

The materials and workmanship are sound & good. It has been satisfactorily fitted on board, tried under steam and free working conditions and found satisfactory.

It is eligible in my opinion to be classed in the Register Book with notation :- +LMC 12-45 - TS(OG) - 1513-180 LSW

The amount of Entry Fee ... £ :
 Special + Specifical 50 : 0
 Donkey Boiler Fee ... £ :
 Travelling Expenses (if any) £ 16 : 14/9

When applied for, 31 JAN 1946
 When received, 19

J. A. Lindley

Engineer Surveyor to Lloyd's Register of Shipping.

Date LIVERPOOL - 5 FEB 1946

Committee's Minute

Transit to London

+LMC 12, 45

FD. O.G.

Lloyd's Register Foundation