

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 20 AUG 1942

Date of writing Report 19... When handed in at Local Office 3 AUG 1942 Port of POOL
 No. in Survey held at Lytham & Preston. Date, First Survey 3/5/41 Last Survey 27/7/1942.
 Reg. Book. on the Steel screw "FRESHENER" (Number of Visits 59) Tons { Gross 278.14
 Net 98.69
 Built at Lytham By whom built The Lytham S.B. & C. Co. Ltd. Yard No. 869 When built 1942.
 Engines made at Lytham By whom made - do - Engine No. 548 When made - do -
 Boilers made at Lytham By whom made - do - Boiler No. 547 When made - do -
 Registered Horse Power Owners The Admiralty Port belonging to London.
 Nom. Horse Power as per Rule 90. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted yes.
 Trade for which Vessel is intended "For Admiralty Tender Services"

ENGINES, &c.—Description of Engines Triple expansion, inverted. Revs. per minute 180.
 Dia. of Cylinders 11"-18"-30" Length of Stroke 21" No. of Cylinders 3. No. of Cranks 3.
 Crank shaft, dia. of journals as per Rule 5.49 Crank pin dia. 6" Crank webs Mid. length breadth 10" Thickness parallel to axis 3.38"
 as fitted 6" Mid. length thickness 3.58" shrunk Thickness around eye-hole 3"
 Intermediate Shafts, diameter as per Rule 5.314 Thrust shaft, diameter at collars as per Rule 5.40
 as fitted 5.34 as fitted 6.14
 Tube Shafts, diameter as per Rule 6.334 Is the { tube } shaft fitted with a continuous liner { No. }
 as fitted 6.40 { screw }
 Bronze Liners, thickness in way of bushes as per Rule 5.314 Thickness between bushes as per Rule 5.314 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 shaft yes. If so, state type Lytham S.B. & C. Co. Ltd. (Type). Length of Bearing in Stern Bush next to and supporting propeller 24"

Propeller, dia. 6'-10" Pitch 4'-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 { No. and size Two M.E. pumps + one S.P. pump 6" x 6" x 12"
 How driven Steam Main Bilge Line { How driven Sevens, Steam driven simplex.
 Ballast Pumps, No. and size One 10 1/2" x 12" 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 to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room One P.S. at fore end of E.R. One at aft end of E.R. One 2 1/2" dia. One direct suction in E.R. 2 1/2" dia.
 In Pump Room One P.S. + Centre. All 6 1/2" dia. In Holds, &c. 2 1/2" dia. suction in fore peak, chain locker, stow, crew space, gland compartment + aft peak, connected to salvage pump + 1 Downton Pump.

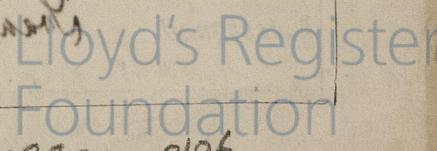
Main Water Circulating Pump Direct Bilge Suctions, No. and size One 2 1/2" in E.R. One 2 1/2" in Hold. Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One 2 1/2" in E.R. One 2 1/2" in Hold. All the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes yes.
 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 The main Boiler Which Boilers are fitted with Superheaters NONE.
 No. and Description of Boilers One single ended multi-tube (scotch) type Working Pressure 180 lbs/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 domestic purposes only yes.
 PLANS. Are approved plans forwarded herewith for Shafting No (18-4-41) Main Boilers No (18-4-41) Auxiliary Boilers yes. Donkey Boilers yes.
 (If not state date of approval)
 Superheaters yes. General Pumping Arrangements No (5-11-41). 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 bolts + nuts, 6 M.E. cylinder cover studs + nuts, 6 M.E. crank neck studs + nuts, 1 complete pump link bearing, eccentric strap, 1 set of valve rod packing, condenser tubes + ferrules 12 x 24, 1 boiler safety valve spring, 6 boiler smoke tubes, set of piston + bucket rings for each in dependent pump, steering engine:—1 set of main top + bottom brasses, fore + salvage pump:—1 impeller + shaft, engine, main top + bottom brasses, piston rod + guide, eccentric rod + strap, valve spindle + metallic packing, piston valve, lub oil pump unit + plunger, Force Draft Fan Engine:—Piston + valve rings, main bearing + conn. rod balls, Electric Generator:—1 Armature with bearings, field coils, Brushes + holders, Dynamo Engine:—1 each main top + bottom end brasses, piston valve + spindle, governor + springs, Windlass:—1 each main top + bottom end brasses, piston rod, eccentric rod + strap, valve + spindle complete, control + recovery valve, neck rings for piston valve rods, 1 set of piston rings for all purposes.

The foregoing is a correct description.
THE LYTHAM SHIPBUILDING and ENGINEERING COMPANY, LIMITED Manufacturer.
R. Friedenthal

NOTE—The words which do not apply should be deleted. If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship? Is a Report also sent on the Hull of the Ship?



59811.01

1941 May 3.13.28 June 10.19.25 July 8.24.31 Aug 8.21 Sept 2.10.17.23.30 Oct 10.24 Nov 3.14.18.25
 During progress of work in shops -- }
 Dec 5.12.23. 1942 Jan 2.9.15.28 Feb 13.20 Mar 5.9.11.14.24.27 Apr 2.7.10.17.24.30 May 5.8.15.22.21
 Dates of Survey while building }
 During erection on board vessel --- }
 June 5.24 July 3.6.10.14.15.17.21.22.27
 Total No. of visits 59

Dates of Examination of principal parts—Cylinders 21-8-41, 30-9-41 Slides 30-9-41 Covers 10-9-41
 Pistons 10-9-41 Piston Rods 8-8-41, 21-8-41, 13-2-42 Connecting rods 8-8-41, 21-8-41, 5-3-42
 Crank shaft 29-4-41, 17-9-41, 5-12-41, 21-4-42 Thrust shaft 24-7-41 Intermediate shafts 24-7-41
 Tube shaft ✓ Screw shaft 24-7-41 Propeller 10-9-41, 23-9-41
 Stern tube 23-9-41, TESTED 13-3-42 Engine and boiler seatings 17-4-42 Engines holding down bolts 15-5-42
 Completion of fitting sea connections 14-3-42 Boilers fixed 24-4-42 Engines tried under steam 3-7-42, 17-7-42
 Completion of pumping arrangements 14-7-42 Thickness of adjusting washers ST^o VALVE 1 1/32" PORT VALVE 3/8"
 Crank shaft material STEEL Identification Mark NO 2219 AE 2-1-42 Thrust shaft material STEEL Identification Mark NO 2214 AE 24-7-41
 Intermediate shafts, material STEEL Identification Marks NO 2218 A+B AE 24-7-41 Tube shaft, material ✓ Identification Mark ✓
 Screw shaft, material STEEL Identification Mark NO 2216 AE 24-7-41 Steam Pipes, material S.D. COPPER Test pressure 450 lb/in² Date of Test 24-6-42
 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 Yes. If so, state name of vessel "Greenbrook."

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The machinery of this vessel has been constructed under special survey in accordance with the approved plans and the Society's Rules.
 The material and workmanship are sound & good. It has been satisfactorily fitted on board, tried under steam and full working conditions and found satisfactory.
 It is eligible in my opinion to be classed in the Register Book with notation +LMC 7-4-2. T.S. 09, 15B-180 lb/in².

The amount of Entry Fee ... £ 2 : - : - :
 Special ... £ 22 : 10 : - :
 Donkey Boiler Fee ... £ : : :
 Travelling Expenses (if any) £ 10 : 16/2 : - :
 When applied for, 24 AUG 1942
 When received, 19

H. Lindley
 Engineer-Surveyor to Lloyd's Register of Shipping.

Committee's Minute LIVERPOOL 18 AUG 1942
 Assigned Transmit to London. 8/8/42 + dupl. 7.4.42
 FRI. 28 AUG 1942

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For S.S.O.F. see H.M.S. Greenbrook (No 117763)

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