

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office.

5 OCT 1946

Date of writing Report 3. 10 1946 When handed in at Local Office 3. 10 1946 Port of Aberdeen
 No. in Survey held at Aberdeen Date, First Survey 15. 10. 45 Last Survey 30. 9 1946
 Reg. Book (Number of Visits 30) Tons Gross 233.24 Net 5
 on the single screw tug "Sun XVI" ex "Empire Leonard"
 Built at Aberdeen By whom built A. Hall & Co. Ltd. Yard No. 412 When built 1946
 Engines made at By whom made Engine No. 417 When made 1946
 Boilers made at Greenock By whom made J. G. Kincaid & Co. Boiler No. 324 When made 1945
 Registered Horse Power 150 Owners W. H. J. ALEXANDER, LONDON Port belonging to London
 Nom. Horse Power as per Rule 150 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted Yes
 Trade for which vessel is intended Towing

ENGINES, &c.—Description of Engines Triple Expansion Revs. per minute 120
 Dia. of Cylinders 16" x 25" x 42" Length of Stroke 24" No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule as app. Crank pin dia. 8 3/4" Mid. length breadth Thickness parallel to axis 5 1/2"
 as fitted 8 3/4" Crank webs shrunk Thickness around eye-hole 3 1/2"
 Intermediate Shafts, diameter as per Rule as app. 7.94 Thrust shaft, diameter at collars as per Rule as app. 8 3/8"
 as fitted 8" as fitted 8 3/8"
 Tube Shafts, diameter as per Rule as app. 9.14 Is the screw shaft fitted with a continuous liner No.
 as fitted as fitted 9 1/4"
 Screw Shaft, diameter as per Rule as app. 9.14 Is the after end of the liner made watertight in the propeller boss Yes
 as fitted as fitted 9 1/4"
 Bronze Liners, thickness in way of bushes as per Rule as app. 9.14 Is the after end of the liner made watertight in the propeller boss Yes
 as fitted as fitted 9 1/4"
 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 Newark Length of Bearing in Stern Bush next to and supporting propeller 3' - 4"
 Propeller, dia. 10'0" Pitch 11'6" No. of Blades 4 Material CAST IRON whether Moveable No. Total Developed Surface 34 sq. feet
 Feed Pumps worked from the Main Engines, No. 2 Diameter 2 1/2" Stroke 14" Can one be overhauled while the other is at work Yes
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 2 1/2" Stroke 14" Can one be overhauled while the other is at work Yes
 Feed Pumps No. and size 1-6" x 4 1/2" x 6" Pumps connected to the Main Bilge Line No. and size 1-4" x 5" x 8"
 How driven Steam Duplex How driven Steam Duplex
 Ballast Pumps, No. and size 1-4" x 5" x 8" Lubricating Oil Pumps, including Spare Pump, No. and size 1
 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 E.R. 1-2 1/2", B.R. 1-2", Lofferdans 2-2" Emergency E.R. 1-2"
 In Pump Room In Holds, &c. Yard 1-2"

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1-5" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-2 1/2"
 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 both
 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
 What pipes pass through the deep tanks none Have they been tested as per Rule
 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 No Is it fitted with a watertight door worked from

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 2904 sq. ft.
 Which Boilers are fitted with Forced Draft none Which Boilers are fitted with Superheaters none
 No. and Description of Boilers one multitubular Working Pressure 200 LB. sq. in.
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes, Greenock Rt. 23325
 IS A DONKEY BOILER FITTED? No If so, is a report now forwarded?

Can the donkey boiler be used for domestic purposes only.
 PLANS. Are approved plans forwarded herewith for Shafting 23/10/41 Main Boilers Auxiliary Boilers Donkey Boilers
 (If not state date of approval)

Superheaters General Pumping Arrangements 19/5/42 Oil fuel Burning Piping Arrangements 14/8/44
 SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes
 State the principal additional spare gear supplied as per Specification.

The foregoing is a correct description.

For ALEXANDER HALL & Co. LTD.

W. J. Smith

Managing Director

Manufacturer.



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Lloyd's Register Foundation

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1945. ^{1946.}
 During progress of work in shops - - - { Oct 15. 31. Nov. 5. 12. 29. Jan. 5. 10. Feb. 12. 21. 22. Mar. 4. 18. 28. May 14.
 Dates of Survey while building { During erection on board vessel - - - { June 14. 19. 24. 27. July 2. 11. 25. 27. Aug 14. 19. 20. 24. Sep 14. 19. 20. 30
 Total No. of visits 30

Dates of Examination of principal parts—Cylinders 15/10, 5/11, 29/11 (1945) Slides 21.2.46 Covers 21.2.46
 Pistons 21.2.46 Piston Rods 21.2.46 Connecting rods 21.2.46
 Crank shaft 21.2.46 Thrust shaft 28.3.46 Intermediate shafts 28.3.46
 Tube shaft ✓ Screw shaft 28.3.46 Propeller 14.5.46
 Stern tube 14.5.46 Engine and boiler seatings 14.5.46 Engines holding down bolts 19/6/46
 Completion of fitting sea connections 14.5.46
 Completion of pumping arrangements 20/8/46 Boilers fixed 20/8/46 Engines tried under steam 19/9/46
 Main boiler safety valves adjusted 20/8/46 Thickness of adjusting washers P. 12" S. 11" 64 32
 Crank shaft material S.M. Steel Identification Mark LLOYD 9322 JH ✓ Thrust shaft material S.M. Steel Identification Mark LLOYD 9348 JH ✓
 Intermediate shafts, material S.M. Steel Identification Mark LLOYD 9366 JH ✓ Tube shaft, material ✓ Identification Mark ✓
 Screw shaft, material S.M. Steel Identification Mark LLOYD 9376 JH ✓ Steam Pipes, material S.D. Copper Test pressure 400 LBS Date of Test 27.6.46
 Is an installation fitted for burning oil fuel Yes ✓ Is the flash point of the oil to be used over 150° F. Yes ✓
 Have the requirements of the Rules for the use of oil as fuel 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 "Empire Polby" Abn Rpt 21494

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 Rules and approved
 plans and Specification.
 The materials and workmanship are good.
 The engine and boiler have been securely fitted on board the vessel, tried under
 power and found Satisfactory and is eligible, in my opinion, to be placed with
 record of Survey + L.M.C. 9.46 and the notation O.G.
 Fitted for oil fuel 9.46 Y.P. above 150°F.
 Boiler Report Greenock 23325 attached, also Lth. Rpt 7 (9559) + Lth. Rpt 10 (2700)
 Rpt. 7 :- Lth. 9373, 9322, 9361 covering above shafting checked with above
 marks. These reports retained here for reference in future contracts.

Certificate to be sent to
 The amount of Entry Fee ... £ ✓ :
 Balance Special + 25% Super. £ 32 : 3
 Donkey Boiler Fee ... £ ✓ :
 Travelling Expenses (if any) £ ✓ :
 Committee's Minute
 Assigned + L.M.C. 9.46
 O.G.

When applied for, 3.10.1946
 When received, 19

Clive Bell
 Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 1 NOV 1946

Fitted for oil fuel 9.46 Y.P. above 150°F