

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Date of writing Report 21.9.1935 When handed in at Local Office 21.9.1935 Port of GLASGOW.
 No. in Survey held at Reg. Book. Date, First Survey 13.11.34 Last Survey 11.9.1935
 on the new steel S/S "INVENTOR" (Number of Visits 76)
 Built at Glasgow By whom built D & W. Henderson & Co. Ltd. Yard No. 953 Tons Gross 6210 Net 3840
 Engines made at Glasgow By whom made D & W. Henderson & Co. Ltd. Engine No. 953 When built 1935
 Boilers made at Glasgow By whom made D & W. Henderson & Co. Ltd. Boiler No. 953 When made 1935
 Registered Horse Power Owners T & J. Harrison Port belonging to Liverpool
 Nom. Horse Power as per Rule 587 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes
 Trade for which Vessel is intended

ENGINES, &c.—Description of Engines Triple expansion
 Dia. of Cylinders 28" - 46" - 81" Length of Stroke 54" No. of Cylinders 3 Revs. per minute 75
 Crank shaft, dia. of journals as per Rule 15.82" as fitted 16 1/4" Crank pin dia. 16 1/4" No. of Cranks 3
 Intermediate Shafts, diameter as per Rule 15.07" as fitted 15 1/4" Crank webs Mid. length breadth 26" Thickness parallel to axis 10 3/4"
 Tube Shafts, diameter as per Rule 15.82" as fitted 16" Thrust shaft, diameter at collars as per Rule 15.82" as fitted 16" Thickness around eye-hole 7 7/8"
 Screw Shaft, diameter as per Rule 16.61" as fitted 16 3/4" Is the lube screw shaft fitted with a continuous liner yes
 Bronze Liners, thickness in way of bushes as per Rule 8.39" as fitted 7/8" Thickness between bushes as per Rule 6.3" as fitted 3/4" 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 shaft no If so, state type -
 Propeller, dia. 18'6" Pitch 19'0" No. of Blades 4 Material Steel bronze whether Movable yes Length of Bearing in Stern Bush next to and supporting propeller 6'0" Total Developed Surface 108 sq. feet
 Feed Pumps worked from the Main Engines, No. none Diameter - Stroke - Can one be overhauled while the other is at work -
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 4 3/4" Stroke 24" Can one be overhauled while the other is at work yes
 Feed Pumps No. and size 2 @ 10 1/2" - 8 x 24 How driven steam Pumps connected to the Main Bilge Line No. and size 1 @ 10 1/2" - 13 x 24 (Ballast pump) 1 @ 10 1/2" - 8 x 24 How driven steam
 Ballast Pumps, No. and size 1 @ 10 1/2" - 13 x 24 Lubricating Oil Pumps, including Spare Pump, No. and size -
 Are two independent means arranged for circulating water through the Oil Cooler -
 Bilge Pumps;—In Engine and Boiler Room 2 @ 3 1/2" in engine room. 2 @ 3 1/2" in stokehold
 In Pump Room - In Holds, &c. No. 1 hold - 2 @ 3 1/2". No. 2 hold - 2 @ 3 1/2". No. 3 hold - 2 @ 3 1/2".
 No. 4 hold - 2 @ 3 1/2". No. 5 hold - 2 @ 3 1/2". No. 6 hold - 1 @ 3 1/2". Tunnel well - 1 @ 3".

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 10" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size one @ 5"
 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 below
 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 yes Is it fitted with a watertight door yes worked from upper deck

MAIN BOILERS, &c.—(Letter for record (r)) Total Heating Surface of Boilers 9212 sq. ft.
 Is Forced Draft fitted no No. and Description of Boilers 2 DB Working Pressure 215 lb

IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes
 IS A DONKEY BOILER FITTED? yes If so, is a report now forwarded? yes

PLANS. Are approved plans forwarded herewith for Shafting yes Main Boilers yes Auxiliary Boilers - Donkey Boilers yes
 (If not state date of approval)
 Superheaters no General Pumping Arrangements no Oil fuel Burning Piping Arrangements -

SPARE GEAR.

Has the spare gear required by the Rules been supplied yes
 State the principal additional spare gear supplied see attached list

The foregoing is a correct description
 FOR DAVID & WM HENDERSON & CO., LTD. (Ltd.)

A.S. Macdonald Liquidator

Manufacturer.



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Lloyd's Register
 Foundation

1934 Nov: 13. 18 Dec: 10. 17. 26. 28 (1935) Jan: 7. 15. 21. 25. 30 Feb: 7. 8. 18. 21. 22. 26
 During progress of work in shops - Mar: 2. 7. 11. 20. 26. 27 Apr: 3. 4. 8. 11. 15. 17. 18. 25 May: 1. 7. 13. 16. 23. 23. 24. 27. 28. 30. 31
 Dates of Survey while building - June: 5. 6. 10. 11. 12. 13. 15. 17. 18. 24. 26. 27. 28 July: 2. 3. 5. 8. 9. 10. 18. 19. 22. 24. 26. 31 Aug: 1. 5. 8. 9. 14. 16. 22 Sep: 6. 11
 During erection on board vessel - - -
 Total No. of visits 76

Dates of Examination of principal parts—Cylinders 25-4-35 Slides 12-6-35 Covers 16-5-35
 Pistons 13-5-35 Piston Rods 24-6-35 Connecting rods 25-4-35
 Crank shaft 17-4-35 Thrust shaft 17-4-35 Intermediate shafts 5-6-35
 Tube shaft - Screw shaft 13-6-35 Propeller 18-6-35
 Stern tube 13-6-35 Engine and boiler seatings 2-7-35 Engines holding down bolts 8-7-35
 Completion of fitting sea connections 2-7-35
 Completion of pumping arrangements 14-8-35 Boilers fixed 5-8-35 Engines tried under steam 11-9-35
 Main boiler safety valves adjusted 22-8-35 Thickness of adjusting washers Piston P 5" 11/32" Stroke 11" 3/4"
 Crank shaft material 1. Steel Identification Mark * LLOYD'S No 5208 L.C.D. 17-4-35 Thrust shaft material 1. Steel Identification Mark * LLOYD'S No 5208 L.C.D. 17-4-35
 Intermediate shafts, material 1. Steel Identification Marks * LLOYD'S No 5208 L.C.D. 17-4-35 Tube shaft, material - Identification Mark -
 Screw shaft, material 1. Steel Identification Mark * LLOYD'S No 5208 L.C.D. 13-6-35 Steam Pipes, material Steel Test pressure 645 Date of Test 26-7-35
 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.)

* In addition to these marks each shaft is stamped with its original forging test number.
 The engines are fitted with Andrew & Bamber's cam operated valve gear to each cylinder.
 All valve spindles horizontal. No of slide valves on each spindle HP-Stm 2, Ex 2. MP-Stm 4 Ex 6. LP-Stm 6 Ex 8.
 The materials and workmanship are good.
 The machinery has been constructed under special survey, satisfactorily fitted in the vessel, tried under steam and found good. *Signature* in my opinion to have L.M.C. 9.35.
Signature 21/9/35.
Signature marked in the Register Book.

The amount of Entry Fee ... £ 6 : : When applied for, 17.9.35.
 Special ... £ 104 : 7 : : When received, 8.11.35.
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 S. Davis
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 24 SEP 1935

Assigned + L.M.C. 9.35.