

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

No. 79467

Received at London Office

7 AUG 1925

NEWCASTLE-ON-TYNE

Date of writing Report 22/7 1925 When handed in at Local Office 22/7 1925 Port of NEWCASTLE-ON-TYNE
 No. in Survey held at Scotswood & Walker Date, First Survey 19 March 1924 Last Survey 21st July 1925
 Reg. Book. 89157 on the Steel Screw Steamer "Humber Arm" (Number of Visits 182)
 Built at Halker, Dne By whom built H. G. Armstrong Whitworth & Co. Yard No. 1000
 Engines made at Chorlton, Dne By whom made do Engine No. 52 when made 1925
 Boilers made at do By whom made do Boiler No. 52 when made 1925
 Registered Horse Power 663 Owner Newfoundland Export & Shipping Co. Port belonging to St John's N.F.L.
 Nom. Horse Power as per Rule 620 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes
 Trade for which Vessel is intended Seamen going.

ENGINES, &c.—Description of Engines Triple Expansion Revs. per minute 85
 Dia. of Cylinders 28, 46, 77" Length of Stroke 51" No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule 14.49" as fitted 15 3/4" Crank pin dia. 15 3/4" Crank webs Mid. length breadth 24 1/2" Thickness parallel to axis 10 1/2"
 as fitted 15 3/4" Mid. length thickness 10 1/2" shrunk Thickness around eye-hole 7"
 Intermediate Shafts, diameter as per Rule 13.8" as fitted 14 1/2" Thrust shaft, diameter at collars as per Rule 14.49" as fitted 15.75"
 Tube Shafts, diameter as per Rule None as fitted None Screw Shaft, diameter as per Rule 16.041" as fitted 16 1/2" Is the shaft fitted with a continuous liner yes
 Bronze Liners, thickness in way of bushes as per Rule .809" as fitted .875" 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 shaft yes
 Length of Bearing in Stern Bush next to and supporting propeller 70"
 Propeller, dia. 17.8" Pitch 15.7" No. of Blades 4 Material Steel whether Movable yes Total Developed Surface 100 sq. feet
 Feed Pumps worked from the Main Engines, No. 2 Diameter 4 1/2" Stroke 25 1/2" Can one be overhauled while the other is at work yes
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 4 1/2" Stroke 25 1/2" Can one be overhauled while the other is at work yes
 Feed Pumps { No. and size one 10 1/2" x 8" x 21" Pumps connected to the { No. and size one 10" x 12" x 12"
 How driven Steam Main Bilge Line How driven Steam
 Ballast Pumps, No. and size one 10" x 12" x 12" Lubricating Oil Pumps, including Spare Pump, No. and size None
 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 Yes, 3" & two 2 1/2" diameters.
 In Holds, &c. Yes, 3" in Nos 1 & 2, two 2 1/2" in Nos 3 & 4, two 3" in No 5, three 3" in No 6 and one 3" in tunnel well.

Main Water Circulating Pump Direct Bilge Suctions, No. and size one 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, ice box 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 Bilge dis. 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 are carried through the bunkers Bilge to forward holds How are they protected hood boxing
 What pipes pass through the deep tanks do 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 yes worked from Engine room top platform

MAIN BOILERS, &c.—(Letter for record 87) Total Heating Surface of Boilers 9420 sq ft
 Is Forced Draft fitted yes No. and Description of Boilers 3 Single Ended Working Pressure 150 lbs per 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

PLANS. Are approved plans forwarded herewith for Shafting yes Main Boilers yes Auxiliary Boilers None Donkey Boilers None
 Superheaters None General Pumping Arrangements yes Oil fuel Burning Piping Arrangements yes

SPARE GEAR. State the articles supplied: 2 Connecting rod top & 2 bottom bolts & nuts, 2 main bearing bolts & nuts, one set of coupling bolts & nuts, a quantity of assorted bolts & nuts, a few bars of iron, one set of feed & bilge pump valves & seats, 4 Cast steel propeller blades, studs & nuts for 2 blades, one propeller shaft complete, one pair of top & bottom end brasses, one complete eccentric strap, one slide valve spindle, one set of relief valve springs, 24 junk ring bolts & washers, one set of piston rings & springs for each piston, one set of metallic packing, one Corrods air pump bucket rod & nut, 50 boiler tubes, 1/2 set of fire bars, one set of check valves, 4 safety valve springs 50 gauge glasses, 50 condenser tubes with ferrules & packing also sparts for oil burning installation, transfer pump, feed pumps, general service & ballast pumps etc.

The foregoing is a correct description.

SIR W. G. ARMSTRONG, WHITWORTH & CO. LIMITED.

Hawthornley

Manufacturer.



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Lloyd's Register Foundation

W 404-0113

1924
During progress of work in shops - - -
Dates of Survey while building - - -
During erection on board vessel - - -
Total No. of visits 182.

Dates of Examination of principal parts - Cylinders 25/8, 29/8, 2/9, 4/9, 9/9, 11/9, 12/9, 15/9, 23/9, 26/9, 29/9, 2/10, 2/10, 2/10, etc. Slides 27/8, 9/9, 12/9, 17/10, 24 Covers 4/9, 12/9, 15/9, 17/10, 24/10/2
Pistons 27/8, 9/9, 15/9, 23/9, 26/9, 2/10/2 Piston Rods 15/9, 19/9, 27/9, 29/9, 12/10/2 Connecting rods 15/9, 19/9, 27/9, 29/9, 12/10/2
Crank shaft 15/9, 19/9, 27/9, 29/9, 12/10/2 Thrust shaft 17/10, 20/10, 22/10, 27/10, 30/10 Intermediate shafts 17/10, 20/10, 22/10, 27/10, 30/10/2
Tube shaft None Screw shaft 19/9, 30/10, 11/12, 15/12/24, 5/1/25 Propeller 22/10, 6/11, 10/11, 5/12/24, 22/1/25
Engine and boiler seatings 26/1/25 Engines holding down bolts 11/3, 17/3, 24/3/25
Completion of pumping arrangements 18/6/25 Boilers fixed 6/2, 17/3, 24/3/25 Engines tried under steam 21/5/25, 21/7/25
Main boiler safety valves adjusted 21/5/25 Thickness of adjusting washers forward B 13/32, 11/32, 11/32, 13/32, 5/16, 3/8
Crank shaft material S.M. Steel Identification Mark GM 21/1/25 Thrust shaft material S.M. Steel Identification Mark GM 21/1/25
Intermediate shafts, material do Identification Marks do Tube shaft, material None Identification Mark None
Screw shaft, material S.M. Steel Identification Mark GM 21/1/25 Steam Pipes, material Copper Test pressure 540 + 360 Date of Test 12/2, 16/2, 18/2, 23/2, 4/3, 5/3, 9/3
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 carrying and burning oil fuel been complied with yes
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.)
The machinery of this vessel has been constructed under special survey, the materials and workmanship are of good quality, it has been securely fitted on board and satisfactorily tested under full steam pressure.

In my opinion the machinery of this vessel is now eligible for record & L.M.C. 7.25 in red & fitted for burning oil fuel of flash point above 150°F. in the register book.

Plan of boilers, pads & mountings, crank shaft, pumping arrangements, oil fuel suction & discharges, fuel cutters & discharges, steam & exhaust pipe arrangements, certificates of steel castings & forgings, safety valves, reversing engine and steel test invoices now forwarded.

It is submitted that this vessel is eligible for THE RECORD. + LMC 7.25 C.L. F.D. Fitted for oil fuel 7.25. H above 150°F. 10/8/25

The amount of Entry Fee ... £ 6 : 0 :
Special ... £ 108 : 3 :
Donkey Boiler Fee ... £ ✓ :
Travelling Expenses (if any) £ ✓ :
When applied for, 19 1925
When received, 25 1925

George Murdoch.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
Assigned
FRI. 14 AUG 1925
+ LMC 7.25 C.L. F.D.
Fitted for oil fuel 7.25
H. above 150°F.