

REPORT ON MACHINERY.

No. 9316
9 APR 1925

Date of writing Report 4-4-1925 When handed in at Local Office 8-4-1925 Port of Belfast
 No. in Survey held at Belfast Date, First Survey 4th Nov 1924 Last Survey 20th Mar 1925
 Reg. Book. on the New Steel Y.S.S. Inverlago (Number of Visits 38)
 Master Belfast Built at Belfast By whom built Harland & Wolff Ltd Tons Gross 2347
 Engines made at Glasgow By whom made A & J Inglis Ltd when made 1925 Net 1925
 Boilers made at Belfast By whom made Harland & Wolff Ltd when made 1925
 Registered Horse Power 196 Owners Lago Shipping Co Ltd Port belonging to London
 Nom. Horse Power as per Section 28 196 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Twin Triple Expansion No. of Cylinders 6 No. of Cranks 6
 Dia. of Cylinders 13 1/2 x 23 1/2 x 36 Length of Stroke 24 1/2 Revs. per minute 125 Dia. of Screw shaft 4 1/8 Material of screw shaft Steel
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes Is the after end of the liner made water tight in the propeller boss yes If the liner is in more than one length are the joints burned 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 Length of stern bush 3'0" aft 1'9" fwd
 Dia. of Tunnel shaft 6.85 Dia. of Crank shaft journals 4.19 Dia. of Crank pin 4 3/8 Size of Crank webs 4 1/2 x 4 1/2 Dia. of thrust shaft under collars 4 3/8 Dia. of screw 9'0" Pitch of Screw 9'6" No. of Blades 4 State whether moveable no Total surface 28 sq ft each propeller
 No. of Feed pumps 2 Diameter of ditto 2 1/4 Stroke 13 1/2 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 2 1/4 Stroke 13 1/2 Can one be overhauled while the other is at work yes
 No. of Donkey Engines 6 Sizes of Pumps 1 Ball Wren 9x10x2 1/2 2 Wren Aux feed Pms 4 1/2 x 5 1/2 x 15 2 oil fuel pressure Pms 4 1/2 x 3 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 1 @ 3'8", 1 @ 2'9", 2 @ 2'8" Copperdams In Holds, &c. Carrying petroleum in bulk
 No. of Bilge Injections 2 sizes 4" Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes 3'2"
 Are all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes Are the sluices on Engine room bulkheads always accessible yes
 Are all connections with the sea direct on the skin of the ship yes Are they 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 Discharge Pipes 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 are carried through the bunkers none How are they protected yes
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from yes

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel D. Colville & Sons Ltd
 Total Heating Surface of Boilers 3102 sq ft Is Forced Draft fitted no No. and Description of Boilers Two single ended, (2 SE.)
 Working Pressure 180 lbs Tested by hydraulic pressure to 320 lbs Date of test 3-2-25 No. of Certificate 852
 Can each boiler be worked separately yes Area of fire grate in each boiler 49 sq ft No. and Description of Safety Valves to each boiler Two spring loaded Area of each valve 9.67 sq in Pressure to which they are adjusted 185 lbs Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 2'0" Mean dia. of boilers 14'3" Length 10'6" Material of shell plates Steel
 Thickness 1 1/2" Range of tensile strength 28-30 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D.R.
 long. seams T.R.V.B.S Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 3/8" Lap of plates or width of butt straps 18 1/8"
 Per centages of strength of longitudinal joint rivets 85.0% Working pressure of shell by rules 180 lbs Size of manhole in shell 16 x 12
 Size of compensating ring 2'8" x 3'0" No. and Description of Furnaces in each boiler 3 of Morrison Corrugated Steel Outside diameter 3'1 1/4"
 Length of plain part top 1'11" bottom 1'11" Thickness of plates top 1 1/2" bottom 1 1/2" Description of longitudinal joint weld No. of strengthening rings yes
 Working pressure of furnace by the rules 191 lbs Combustion chamber plates: Material Steel Thickness: Sides 7/8" Back 7/8" Top 5/8" Bottom 3/4"
 Pitch of stays to ditto: Sides 8 1/2 x 8 1/2" Back 9 1/4 x 9 1/2" Top 8 x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 188 lbs
 Material of stays Steel Area at smallest part 1.416 sq in Area supported by each stay 42.95 sq in Working pressure by rules 210 lbs End plates in steam space:
 Material Steel Thickness 1 1/8" Pitch of stays 14 1/2 x 20 1/2" How are stays secured D.N.W. Working pressure by rules 182 lbs Material of stays Steel
 Area at smallest part 6.33 sq in Area supported by each stay 346 sq in Working pressure by rules 182 lbs Material of Front plates at bottom Steel
 Thickness 1 1/8" Material of Lower back plate Steel Thickness 1 1/2" Greatest pitch of stays 13 1/2 x 4 1/2" Working pressure of plate by rules 224 lbs
 Diameter of tubes 2 1/4" Pitch of tubes 4 1/8 x 4 1/2" Material of tube plates Steel Thickness: Front 1/8" Back 1/16" Mean pitch of stays 11 1/4 x 8 1/4"
 Pitch across wide water spaces 14 1/4 x 8 3/4" Working pressures by rules 184 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 2 @ 8 1/4 x 3 1/4" Length as per rule 2'6 1/8" Distance apart 8 1/8" Number and pitch of stays in each 3 @ 8"
 Working pressure by rules 215 lbs Steam dome: description of joint to shell none % of strength of joint yes
 Diameter yes Thickness of shell plates yes Material yes Description of longitudinal joint yes Diam. of rivet holes yes
 Pitch of rivets yes Working pressure of shell by rules yes Crown plates yes Thickness yes How stayed yes

UPERHEATER. Type none Date of Approval of Plan yes Tested by Hydraulic Pressure to yes
 Date of Test yes Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler yes
 Diameter of Safety Valve yes Pressure to which each is adjusted yes Is Easing Gear fitted yes

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

SPARE GEAR. State the articles supplied:— Two each bolts & nuts for top & bottom ends of main bearings one set coupling bolts, one set valves for each donkey pump, 2 sets feed charge pump valves. one set packing rings for HP & LP pistons one top end & 1 bottom end on mid head. 2 ice traps 1 pair pump link hoses of each size of condenser tubes one air & one air pp. bucket, pad, & nuts complete 2 sets valves each for air & air pps. one set escape valve springs. 1 Propeller shaft & 2 C.I. propellers. 1 set 5/4 springs one set valve leads for boiler valves. 2 oil fuel burners & 18 tips 1 suction & 1 delivery filter basket & thermometers etc. Quantity of assorted bolts nuts & riv.

The foregoing is a correct description, (Engines not included)
FOR HARLAND AND WOLFF, LIMITED.

DeLobbeck Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1924 Nov 4. 5. 6. 14. 18. 28 Dec 1. 5. 8. 13. 15. 16. 19. 31 1925 Jan 5. 12. 14. 16. 19. 22. 23. 30 Feb 3. 4. 6
{ During erection on board vessel --- } 11. 20. 24 Mar 2. 3. 4. 5. 9. 11. 13. 16. 19. 20
Total No. of visits 38 Is the approved plan of main boiler forwarded herewith Yes please return for 400/3

Dates of Examination of principal parts—Cylinders Slides Covers Pistons Rods
Connecting rods Crank shaft Thrust shaft N.Y.S Tunnel shafts none Screw shaft N.Y.S Propeller H. 2. 25
Stern tube N.Y.S Steam pipes tested 19. 1. 25 & 29. 2. 25 Engine and boiler seatings N.Y.S Engines holding down bolts 16. 3. 25
Completion of pumping arrangements 16. 3. 25 Boilers fixed 9. 3. 25 Engines tried under steam N.Y.S
Completion of fitting sea connections N.Y.S Stern tube 24. 2. 25 Screw shaft and propeller N.Y.S
Main boiler safety valves adjusted 19. 3. 25 Thickness of adjusting washers Stamb Bl 1/16 Inch 2/16 3/16
Material of Crank shaft Identification Mark on Do. Material of Thrust shaft Steel Identification Mark on Do. 522, 523
Material of Tunnel shafts none Identification Marks on Do. Material of Screw shafts Steel Identification Marks on Do. 644, 645
Material of Steam Pipes Solid drawn copper Test pressure 100 lbs 1"
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 Section 49 of the Rules 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 built under Special Survey. Materials & Workmanship good. Hydraulic satisfactory. The whole of the machinery has been efficiently installed & fired in the vessel and tried under steam and is in good & safe working condition and eligible in my opinion to be classed and have records. **✠ LMC. 3-25. Tail Shaft C.L. 6 Lt. Fitted for oil fuel 3. 25 F.P. above 150°F.**

It is submitted that this vessel is eligible for THE RECORD. + LMC 3. 25. CL.

Fitted for oil fuel 3. 25. F.P. above 150°F

W.D. Pines
9/4/25
William Pines
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee charged in Glasgow When applied for, 27-11-1925
Special Light 3.5 ... £ 29 : 8 : 0
Donkey Boiler Fee ... £ 10 : 0 : 0
Travelling Expenses (if any) £ 1 : 0 : 0
When received, 22/5/25

Committee's Minute **FRI. 17 APR 1925**
Assigned + dmb 3. 25 CL
Fitted for oil fuel 3. 25
F.P. above 150°F



Certificate (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.