

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 Reg. Book.

Date, First Survey 4th Nov 1924 Last Survey 20th Mar 1925

(Number of Visits 38)

on the New Steel Y.S.S. "Inverlago"

Master Built at Belfast By whom built Harland & Wolff Ltd

Tons Gross 2347

Net

When built 1925

Engines made at Glasgow By whom made A. J. Inglis Ltd when made 1925

Boilers made at Belfast By whom made Harland & Wolff Ltd when made 1925

Registered Horse Power 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 $13\frac{1}{2} \times 23\frac{1}{2} \times 36$ Length of Stroke 2'1" Revs. per minute 125 Dia. of Screw shaft as per rule $4\frac{1}{8}$ as fitted $4\frac{1}{8}$ 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 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

Dia. of Tunnel shaft as per rule 6.85 as fitted none Dia. of Crank shaft journals as per rule $4\frac{1}{8}$ as fitted $4\frac{1}{8}$ Dia. of Crank pin $4\frac{3}{8}$ Size of Crank webs $14\frac{1}{2} \times 14\frac{1}{2}$ Dia. of thrust shaft under collars $4\frac{3}{8}$ 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 2'4" Stroke 13'2" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 2'4" Stroke 13'2" Can one be overhauled while the other is at work yes

No. of Donkey Engines 6 Ball Wren 9x10x24 2 Wren 8x10x15 2 oil fuel pumps 14x3x6

Sizes of Pumps 8x6x13 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 1 @ 3'8", 1 @ 2'8", 2 @ 2'8" Cofferdams In Holds, &c. Carrying petroleum in bulk

No. of Bilge Injections 2 sizes 4" Connected to condenser, or to circulating pump C.R. 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

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

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 Engines aft Is it fitted with a watertight door worked from

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 1'3" 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 1'4" Pitch of rivets 8'8" Lap of plates or width of butt straps 18'8"

Per centages of strength of longitudinal joint rivets 85.04 plate 92.40 Working pressure of shell by rules 180 lbs Size of manhole in shell 16x12

Size of compensating ring 2'8" x 3'-0" No. and Description of Furnaces in each boiler 3 Morrison Corrugated Steel Outside diameter 3'-1'4"

Length of plain part top bottom Thickness of plates crown 1'1" bottom 3'3" Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 191 lbs Combustion chamber plates: Material Steel Thickness: Sides 7'8" Back 7'8" Top 7'8" Bottom 3'4"

Pitch of stays to ditto: Sides 8'2" x 8'2" Back 9'4" x 8'2" Top 8' x 8'8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 188 lbs

Material of stays Steel Area at smallest part 1.4'6" Area supported by each stay 4'2.75" Working pressure by rules 210 lbs End plates in steam space:

Material Steel Thickness 1'8" Pitch of stays 1'1'2" x 2'0" How are stays secured D.N.W. Working pressure by rules 182 lbs Material of stays Steel

Area at smallest part 6.33" Area supported by each stay 3'4'6" Working pressure by rules 182 lbs Material of Front plates at bottom Steel

Thickness 1'8" Material of Lower back plate Steel Thickness 1'6" Greatest pitch of stays 13'2" x 4'1'2" Working pressure of plate by rules 224 lbs

Diameter of tubes 2'4" Pitch of tubes 4'8" x 4'8" Material of tube plates Steel Thickness: Front 1'8" Back 1'6" Mean pitch of stays 11'4" x 8'4"

Pitch across wide water spaces 14'4" x 8'4" Working pressures by rules 184 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 2 @ 8'4" x 3'4" Length as per rule 2'-6'8" Distance apart 8'8" 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

Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

UPERHEATER. Type none Date of Approval of Plan Tested by Hydraulic Pressure to

Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

004019-004028-0094

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 & 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 rod ends & ice traps 1 pair pump link bushes of each size of condenser tubes one air & one air pp. bucket, rod, & nuts complete & sets valves each for air & air pps. one set escape valve springs. 1 Propeller shaft & 2 C.I. propellers. 1 set 54 springs one set valve levers for bilge valves. 2 oil fuel burners & 18 tips 1 suction & 1 delivery filter basket & thermometers etc. Quantity of assorted bolts nuts & rim.

The foregoing is a correct description, (Engines not included)

For HARLAND AND WOLFF, LIMITED.

Delebeck

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1924 Nov 4. 5. 6. 14. 18. 28 Dec 1. 3. 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.

" " " donkey " " "

Dates of Examination of principal parts - Cylinders ✓ Slides ✓ Covers ✓ Pistons ✓ Rods ✓ Connecting rods ✓ Crank shaft ✓ Thrust shaft ✓ Tunnel shafts ✓ Screw shaft ✓ Propeller ✓ Stern tube ✓ Steam pipes tested ✓ Engine and boiler seatings ✓ Engines holding down bolts ✓ Completion of pumping arrangements ✓ Boilers fixed ✓ Engines tried under steam ✓ Completion of fitting sea connections ✓ Stern tube ✓ Screw shaft and propeller ✓ Main boiler safety valves adjusted ✓ Thickness of adjusting washers ✓ Material of Crank shaft ✓ Identification Mark on Do. ✓ Material of Thrust shaft ✓ Identification Mark on Do. ✓ Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts ✓ Identification Marks on Do. ✓ Material of Steam Pipes ✓ Test pressure ✓ Is an installation fitted for burning oil fuel ✓ Is the flash point of the oil to be used over 150°F. ✓ Have the requirements of Section 49 of the Rules 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.)

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 & fixed 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. & 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. P. 9/4/25

William Rutter

Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee Charged in Glasgow When applied for, 27-4-1925
Special 3.5 ... £ 29 : 8 : 0
Electric Light ... £ 10 : 0 : 0
Donkey Boiler Fee ... £ 10 : 0 : 0
Travelling Expenses (if any) £ ✓ : 1 : 0

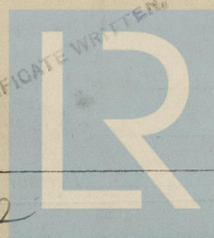
Committee's Minute

FRI. 17 APR 1925

Assigned

+ LMC 3.25 CL

Fitted for oil fuel 3.25 F.P. above 150°F



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