

REPORT ON MACHINERY.

Date of writing Report: 28-5-1926 When handed in at Local Office: 29-5-1926 Port of Belfast
 No. in Survey held at Belfast Date, First Survey 18 Jan 1926 Last Survey 20 May 1926
 Reg. Book. New Steel Y.S.S. "San Nicolas" (Number of Visits 45)
 Master Belfast Built at Belfast By whom built Harland & Wolff Ltd Tons 1926
 Engines made at Belfast By whom made Harland & Wolff Ltd when made 1926
 Boilers made at Belfast By whom made Harland & Wolff Ltd when made 1926
 Registered Horse Power 196 Owners Pago Shipping Coy 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 Yarrow Screw 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 Revs. per minute 125 Dia. of Screw shaft 4 1/4 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 no 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 no
 If two liners are fitted, is the shaft lapped or protected between the liners no 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 1/4 Size of Crank webs 11 1/2 x 11 1/2 Dia. of thrust shaft under collars 4 1/4 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 Ballast Weirs 9 x 10 x 2 1/2 (2) (see feed & fire weirs) 1 1/2 x 5 1/2 x 1 1/2, 2 oil fuel 1 1/2 x 3 x 6
 Sizes of Pumps See Service Weirs 8 1/2 x 6 x 13 No. and size of Suctions connected to both Bilge and Donkey pumps: In Engine Room 1 @ 3 1/2", 1 @ 2 1/2" & 2 @ 2 1/2" coffee dams In Holds, &c. 1 @ 3 1/2" each buoyancy tank, 1 @ 2 1/2" coffee dam
 No. of Bilge Injections 2 sizes 4" Connected to condenser, or to circulating pump no Is a separate Donkey Suction fitted in Engine room & size yes, 3 1/2"
 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 no
 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 off Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record 3) Manufacturers of Steel P. Colville & Sons Ltd Glasgow
 Total Heating Surface of Boilers 3407 sq ft Is Forced Draft fitted no No. and Description of Boilers Two Single Ended (258)
 Working Pressure 180 lbs Tested by hydraulic pressure to 320 lbs Date of test 7-11-26 & 13-11-26 No. of Certificate 882 & 883
 Can each boiler be worked separately yes Equivalent Area of fire grate in each boiler 49 sq ft No. and Description of Safety Valves to each boiler 2 Spring loaded
 Area of each valve 9.6 sq ft 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 to 32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D.R.
 long. seams T.R.D.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 Marison Material Steel Outside diameter 3'-11 1/2"
 Length of plain part top 14" Thickness of plates crown 37" Description of longitudinal joint weld No. of strengthening rings no
 Working pressure of furnace by the rules 191 lbs Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 3/4"
 Pitch of stays to ditto: Sides 8 1/2" x 8 1/2" Back 9 1/4" x 1 1/2" Top 8" x 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 1.46 sq ft Area supported by each stay 17.25 sq ft Working pressure by rules 210 lbs End plates in steam space: Material Steel Thickness 1 1/8"
 Pitch of stays 11 1/2" x 20" How are stays secured D.N. Wash Working pressure by rules 182 lbs Material of stays Steel
 Area at smallest part 6.33 sq ft Area supported by each stay 346 sq ft Working pressure by rules 182 lbs Material of Front plates at bottom Steel
 Thickness 1/8" Material of Lower back plate Steel Thickness 1 1/16" Greatest pitch of stays 13 1/2" x 1 1/2" Working pressure of plate by rules 224 lbs
 Diameter of tubes 3 1/4" Pitch of tubes 4 3/4" x 4 1/2" Material of tube plates Steel Thickness: Front 1/8" Back 13/16" Mean pitch of stays 11 1/4" x 8 3/4"
 Pitch across wide water spaces 14 1/4" x 8 1/2" Working pressures by rules 184 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 2 @ 8 1/4" x 3/4" 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 no
 Diameter no Thickness of shell plates no Material no Description of longitudinal joint no Diam. of rivet holes no
 Pitch of rivets no Working pressure of shell by rules no Crown plates no Thickness no How stayed no

SUPERHEATER. Type no Date of Approval of Plan no Tested by Hydraulic Pressure to no
 Date of Test no Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler no
 Diameter of Safety Valve no Pressure to which each is adjusted no Is Easing Gear fitted no



UK 214-0226

IS A DONKEY BOILER FITTED?

None

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - Two each bolts + nuts for top + bottom ends + main bearings. 1 set coupling bolts, 1 set valves for each donkey pump, 2 sets valves for air, circulating feed + bidge pumps. 1 set packing rings for H.P. + L.P. pistons, 1 set top bottom end bushes, 2 eccentric straps, 1 pair pump link brasses. 1 set escape valve springs. 1 set condenser tubes, 1 air + 1 air sp. bucket rod + nuts complete, 1 set safety valve springs. 1 set shaft + 2 cast iron propellers, 1 set safety valve springs, 1 set valve lids for boiler valves, 2 oil fuel burners + 8 tips, 1 suction + 1 delivery filter basket, 2 thermometers etc, quantity of assorted bolts nuts + iron

The foregoing is a correct description,

for HARLAND AND WOLFF, LIMIT

J. S. Keay. Manufacturer.

Dates of Survey while building: During progress of work in shops - 1926 Jan 18-20-21-25 Feb 1-4-5-9-10-11-12-15-16-17-19-20-22-26 Mar 1-2-4-5-8-11-15-17-18. During erection on board vessel - 23-26 Apr 1-2-7-10-12-13-14-23-27-28-30 May 3-7-13-18-20 = 45. Total No. of visits: 45. Is the approved plan of main boiler forwarded herewith? Yes

Dates of Examination of principal parts: Cylinders 1-11-26 Slides 10-11-26 Covers 7-3-26 Pistons 13-3-26 Rods 7-3-26 Connecting rods 13-3-26 Crank shaft 11-3-26 Thrust shaft 8-3-26 Tunnel shafts ✓ Screw shaft 12-3-26 Propeller 1-11-26 Stern tube 1-11-26 Steam pipes tested 24-11-26 + 1-11-26 Engine and boiler seatings 10-11-26 Engines holding down bolts 4-5-26 Completion of pumping arrangements 4-5-26 Boilers fixed 30-11-26 Engines tried under steam 20-5-26 Completion of fitting sea connections 12-11-26 Stern tube 12-11-26 Screw shaft and propeller 12-11-26 Main boiler safety valves adjusted 12-5-26 Thickness of adjusting washers 9 Bl 3/8 11/32 8 Bl 13/32 3/8. Material of Crank shaft Steel Identification Mark on Do. 439 WB Material of Thrust shaft Steel Identification Mark on Do. 439 WB Material of Tunnel shafts ✓ Identification Marks on Do. Material of Screw shafts Steel Identification Marks on Do. 439 WB Material of Steam Pipes Solid drawn Copper Test pressure 360 lbs. 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? Yes If so, state name of vessel: Y.S.S. Inveruba

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 tests satisfactory. The whole of the machinery has been satisfactorily installed + fixed in the vessel and was tried under steam, and is in good + safe working condition and eligible in my opinion to be classed and have records, LMC. 5-26. Sail shafts C.L. Electric Light, Fitted for oil fuel 5-26. Flash point above 150°F.

It is submitted that this vessel is eligible for THE RECORD. + LMC 5. 26. CL. Fitted for oil fuel, F.P. above 150°F.

The amount of Entry Fee ... £ 3 : 0 0 : When applied for, 27 May 1926. Special Electric Light ... £ 49 : 0 0 : Donkey Boiler Fee ... £ 10 : 0 0 : Travelling Expenses (if any) £ : : When received, 5.6.26

William Dutton, Engineer Surveyor to Lloyd's Register of Shipping. 31/5/26

Committee's Minute TUES. 1 JUN 1926 Assigned + L.M.C. 5-26. Fitted for Oil fuel 5-26 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.