

REPORT ON MACHINERY.

No. 18871

Port of Hull

Received at London Office THUR. 11 APR 1907

No. in Survey held at Hull & Selby Date, first Survey Nov 26/06 Last Survey Mar 24th 1907
 Reg. Book. 49 on the Screw Trawler "Ruby" (Number of Visits 28)
 Master Selby Built at Selby By whom built Cochrane & Sons Tons { Gross 275 Net 104
 Engines made at Hull By whom made Amos & Smith When built 1907
 Boilers made at do By whom made do when made 1907
 Registered Horse Power 83 Owners Cole, Carter & Salvin Port belonging to Milford Haven
 Nom. Horse Power as per Section 28 83 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 13" 22 1/2", 37" Length of Stroke 24" Revs. per minute 112 Dia. of Screw shaft as per rule 7.381 Material of screw shaft Iron
 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 ✓ Length of stern bush 2'-9"
 Dia. of Tunnel shaft as per rule 6.59 Dia. of Crank shaft journals as per rule 6.9 Dia. of Crank pin 7 1/2" Size of Crank webs 14 3/8 x 4 3/4" Dia. of thrust shaft under collars 7" Dia. of screw 9'-0" Pitch of Screw 11'-0" No. of Blades 4 State whether moveable No Total surface 30 sq. ft.
 No. of Feed pumps 2 Diameter of ditto 2 3/8" Stroke 12" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 2 3/8" Stroke 12" Can one be overhauled while the other is at work yes
 No. of Donkey Engines One Sizes of Pumps 6" x 3" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room One 2" dia In Holds, &c. One 2" dia.
Ejector suction from all bilges & discharge on deck.
 No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump Cond. Is a separate Donkey Suction fitted in Engine room & size 2" Ejector
 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 None
 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 Hold suction How are they protected Wood casing
 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
 Dates of examination of completion of fitting of Sea Connections 19.12.06 of Stern Tube 19.12.06 Screw shaft and Propeller 19.12.06
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record) Manufacturers of Steel Wm. Beardmore & Co. Ltd.
 Total Heating Surface of Boilers 14254 sq. ft. Forced Draft fitted No No. and Description of Boilers One S.E. byl. Mull.
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 14.2.07 No. of Certificate 1546
 Can each boiler be worked separately ✓ Area of fire grate in each boiler 41.25 sq. ft. No. and Description of Safety Valves to each boiler Two spring Area of each valve 4.9" 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 4" Mean dia. of boilers 13'-3" Length 10'-0" Material of shell plates Steel
 Thickness 1 3/32" Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams bx Lap long. seams bx Lap
 Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 7.55" Lap of plates or width of butt straps 16 3/4"
 Per centages of strength of longitudinal joint rivets 94.5 Working pressure of shell by rules 180 lbs Size of manhole in shell 16" x 12" plate 84.6
 Size of compensating ring 40" x 30" x 1 3/32" No. and Description of Furnaces in each boiler Two Brighton Material Steel Outside diameter 4'-1 1/4"
 Length of plain part top ✓ Thickness of plates crown 19" Description of longitudinal joint Welded No. of strengthening rings ✓ bottom 32"
 Working pressure of furnace by the rules 192 lbs Combustion chamber plates: Material Steel Thickness: Sides 1/16" Back 5/8" Top 5/8" Bottom 1/16"
 Pitch of stays to ditto: Sides 9" x 8" Back 8 1/2" x 8 1/2" Top 8" x 7" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 187 lbs
 Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 72" Working pressure by rules 196 lbs End plates in steam space: ✓
 Material Steel Thickness 1" Pitch of stays 16" x 16" How are stays secured Welded into end plates Working pressure by rules 185 lbs Material of stays Steel
 Diameter at smallest part 5.05" Area supported by each stay 256" Working pressure by rules 197 Material of Front plates at bottom Steel
 Thickness 29/32" Material of Lower back plate Steel Thickness 29/32" Greatest pitch of stays 14" Working pressure of plate by rules 180 lbs
 Diameter of tubes 3 1/2" Pitch of tubes 5" x 4 3/4" Material of tube plates Steel Thickness: Front 29/32" Back 27/32" Mean pitch of stays 9 3/4"
 Pitch across wide water spaces 14" Working pressures by rules 183 lbs Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 9" x 2" Length as per rule 2'-9" Distance apart 8" Number and pitch of stays in each 30 7"
 Working pressure by rules 211 lbs Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked separately ✓
 Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet holes ✓ Pitch of rivets ✓ Working pressure of shell by rules ✓ Diameter of flue ✓ Material of flue plates ✓ Thickness ✓
 If stiffened with rings ✓ Distance between rings ✓ Working pressure by rules ✓ End plates: Thickness ✓ How stayed ✓
 Working pressure of end plates ✓ Area of safety valves to superheater ✓ Are they fitted with easing gear ✓

If not stated whether, and when, one will be sent

Lloyd's Register Foundation W637-0047

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety _____

Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____

Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Plates _____

Working pressure of shell by rules _____ Thickness of shell crown plates _____ Radius of do. _____ No. of stays to do. _____ Dia. of stays _____

Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— *Two top + two bottom-end connecting rod bolts + nuts. Two main bearing bolts + nuts. One set of coupling bolts + nuts. One set of feed + bilge pump valves. Main + donkey feed check valves. Assorted bolts + nuts etc.*

The foregoing is a correct description, FOR AMOS & SMITH

Manufacturer. *W. S. Hill*

Dates of Survey while building { During progress of work in shops - - 1906 - Nov 26, Dec 7, 13, 14, 17, 19 - MANAGING PARTNER 1907 - Jan 1, 2, 7, 9, 10, 18, 25, Feb 7, 14, 18, 27.
 { During erection on board vessel - - Mar 1, 5, 12, 13, 14, 16, 19, 21, 23, 26, 27.
 Total No. of visits 28

Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders 2.1.07 Slides 27.2.07 Covers 27.2.07 Pistons 25.1.07 Rods 7.2.07
 Connecting rods 7.2.07 Crank shaft 7.2.07 Thrust shaft 27.2.07 Tunnel shafts ✓ Screw shaft 17.12.06 Propeller 13.12.06
 Stern tube 13.12.06 Steam pipes tested 16.3.07 Engine and boiler seatings 19.12.06 Engines holding down bolts 1.3.07
 Completion of pumping arrangements 21.3.07 Boilers fixed 5.3.07 Engines tried under steam 21.3.07
 Main boiler safety valves adjusted 21.3.07 Thickness of adjusting washers $P \frac{3}{8}'' S \frac{5}{16}''$ ✓
 Material of Crank shaft *Steel* Identification Mark on Do. 317 J.K. 2.1907 Material of Thrust shaft *Steel* Identification Mark on Do. 317 J.K. 2.1907
 Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *Iron* Identification Marks on Do. 317 J.K. 12.1906
 Material of Steam Pipes *Solid drawn copper* Test pressure 360 lbs ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)
The Engines and Boiler of this vessel have been constructed under Special Survey, are of good material and workmanship, and have been fitted and secured on board in accordance with the Rules. They are now in good working condition and in my opinion eligible to have the notation of +LMC 3.07 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. +LMC 3.07

J.S.M.
R.L. 11/4/07

The amount of Entry Fee. . . £ 1 : : : :
 Special £ 12 . 9 : : : :
 Donkey Boiler Fee £ . : : : :
 Travelling Expenses (if any) £ . : 8 2 : : : :
 When applied for, 10/4/1907
 When received, 30/4/07

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI, APR 12 1907

Assigned

+LMC 3.07

MACHINERY CERTIFICATE WRITTEN

