

REPORT ON MACHINERY

No. 26425

TUES. 7 APR 1908

Received at London Office

Date of writing Report 23rd March 1908 When handed in at Local Office 1/4/1008 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 8th August 1905 Last Survey 30th March 1908
 Reg. Book. on the S. S. "Ruth" (Number of Visits 17)
 Master W. Walget Built at Matyport By whom built Matyport S. S. Co. (No 92) Tons { Gross 1908
 Engines made at Glasgow By whom made Autson & Co (No 274) when made 1905
 Boilers made at Do By whom made Do (No 544) when made 1905
 Registered Horse Power 78 Owners W. Wang Port belonging to Donoberg
 Nom. Horse Power as per Section 28 78 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 13½" 21½" 34½" Length of Stroke 27" Revs. per minute 120 Dia. of Screw shaft 7½" as per rule 7½" Material of 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' 10 5/8"
 Dia. of Tunnel shaft 6.62" as per rule 6.62" Dia. of Crank shaft journals 7½" as per rule 7½" Dia. of Crank pin 7½" Size of Crank webs 12 3/4" x 4 1/4" Dia. of thrust shaft under
 collars 7½" Dia. of screw 9-6" Pitch of Screw 10-0" No. of Blades 4 State whether moveable No Total surface 30 sq ft
 No. of Feed pumps 2 Diameter of ditto 2½" Stroke 13½" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 2½" Stroke 13½" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 3 Sizes of Pumps 6" x 7½" 4" x 6" 4" x 4" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 1-2" x 1 spec. 2" x 1 4½" x 2½" 6" x 7" In Holds, &c. 2-2"
2½" suction from bilge pump
 No. of Bilge Injections 1 sizes 3½" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes-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 ✓ 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
 Dates of examination of completion of fitting of Sea Connections and of Stern Tube and Screw shaft and Propeller Matyport
 Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door ✓ worked from ✓
covered stays. 400. Mer. R. S. Steel. Manufacturers of Steel David Colville & Sons

BOILERS, &c.—(Letter for record 7)
 Total Heating Surface of Boilers 14 1/4 3/4 sq ft Forced Draft fitted No No. and Description of Boilers one single ended
 Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test 7.12.05 No. of Certificate 7808
 Can each boiler be worked separately ✓ Area of fire grate in each boiler 49.7 sq ft No. and Description of Safety Valves to
 each boiler double spring loaded Area of each valve 5.94" Pressure to which they are adjusted 165 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 4-3" Mean dia. of boilers 13-0" Length 9-6" Material of shell plates Steel
 Thickness 1 1/16" Range of tensile strength 27/32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D. Riv
 long. seams T. R. D. B. S. Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 7 1/2" Lap of plates or width of butt straps 15 7/8"
 Per centages of strength of longitudinal joint 82 Working pressure of shell by rules 165 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring 27" x 27" x 1 1/16" No. and Description of Furnaces in each boiler 3 plain Material Steel Outside diameter 3' 3 1/2"
 Length of plain part 70" Thickness of plates 1 1/16" Description of longitudinal joint weld No. of strengthening rings none
 Working pressure of furnace by the rules 188 Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 5/8" Bottom 7/8"
 Pitch of stays to ditto: Sides 8 1/2" x 7 1/2" Back 8 1/2" x 7 1/2" Top 7 1/2" x 9 1/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 170
 Material of stays iron Diameter at smallest part 1.73" Area supported by each stay 63.75" Working pressure by rules 163 End plates in steam space:
 Material Steel Thickness 1 1/16" Pitch of stays 18 1/2" x 17 1/4" How are stays secured D. nuts Working pressure by rules 160 Material of stays Steel
 Diameter at smallest part 5.56" Area supported by each stay 319.125" Working pressure by rules 174 Material of Front plates at bottom Steel
 Thickness 1 1/16" Material of Lower back plate Steel Thickness 3 1/2" x 1 1/16" Greatest pitch of stays 14" x 8 1/8" Working pressure of plate by rules 192
 Diameter of tubes 3" Pitch of tubes 4 1/4" x 4 1/4" Material of tube plates Steel Thickness: Front 1 1/16" Back 1 1/16" Mean pitch of stays 8 1/2"
 Pitch across wide water spaces 14" Working pressures by rules 160 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 7 3/4" x 2 @ 3/4" Length as per rule 2-3 1/4" Distance apart 9 1/4" Number and pitch of stays in each 2 @ 7 1/2"
 Working pressure by rules 179 Superheater or Steam chest; how connected to boiler 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 ✓

VERTICAL DONKEY BOILER—Manufacturers of Steel

No. _____ Description _____ When made _____ Where fixed _____
 Made at _____ By whom made _____ No. of Certificate _____ Fire grate area _____ Description of Safety _____
 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 _____ Rivets _____
 Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ 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:—2 connecting rod top end bolts & nuts: 2 connecting rod bottom end bolts & nuts: 2 main bearing bolts: 1 set of coupling bolts: 1 set of feed and bilge pump valves: a quantity of assorted bolts & nuts: iron of various sizes: spare tail shaft.

The foregoing is a correct description,

FOR HUTSON & SONS LTD

Wm. Fairhead

Manufacturer.

Dates of Survey while building: During progress of work in shops—1905. Aug 18. 23. Oct 5. 13. 22. 26. Nov. 16. 29. Dec. 6. 7. 12. 16. 21. 27. 1906. Jan 9. 13. Feb. 1. 26. During erection on board vessel—Mar 12. 15. Apr. 5. 10. 20. June 2. 13. 18. Oct. 4. 15. Nov. 6. 12. 14. 20. Dec. 5. 1907. Jan 8. June 10. 1908. Feb 28. Total No. of visits 147 Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 22.9.05 Slides 22.9.05 Covers 22.9.05 Pistons 6.12.05 Rods 13.10.05 Connecting rods 13.10.05 Crank shaft 16.11.05 Thrust shaft 20.3.08 Tunnel shafts ✓ Screw shaft 9.1.06 Propeller 9.1.06 Stern tube 9.1.06 Steam pipes tested 11.3.08 Engine and boiler seatings Maryport Engines holding down bolts 11.3.08 Completion of pumping arrangements 23.3.08 Boilers fixed 11.3.08 Engines tried under steam 24.3.08 Main boiler safety valves adjusted 30.3.08 Thickness of adjusting washers Port 3/8" Star 5/16" Material of Crank shaft iron Identification Mark on Do. 274 Material of Thrust shaft iron Identification Mark on Do. 274 Material of Tunnel shafts none Identification Marks on Do. ✓ Material of Screw shafts iron Identification Marks on Do. 274 Material of Steam Pipes Copper Test pressure 320 lbs per sq. inch

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery has been built under special survey: the material and workmanship being good and satisfactorily tried under steam. It is submitted that above vessel will be eligible for a record of + L.M.C. 3.08: also machinery fitted 3.08.

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 3.08.

E AND B. MADE 05 FITTED 08.

See endorsement dated 5/12/08

ARK
9/12/08

7.4.08
7.4.08

The amount of Entry Fee.. £ 1-0-0: When applied for, 1/4/1908
 Special .. £ 11-14-0: When received, 2/4/1908
 Donkey Boiler Fee .. £ :
 Travelling Expenses (if any) £ :

Committee's Minute Glasgow. 6 APR 1908

Assigned + LMC 3.08.

E & B made 05 fitted 08 } subject to classification of hull.

H. Gardner Smith - A. S. Thomas.
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

1005. 7 APR 1908 Glasgow - 8th Dec 08.
 + E & B 1205 fitted 08 (unred)

MACHINERY CERTIFICATE WRITTEN 7.4.08