

REPORT ON MACHINERY

No. 24755

SAT. MAR. 23. 1912

Received at London Office

Date of writing Report 19 When handed in at Local Office 22. 3. 12 Port of Hull.
No. in Survey held at Hull & Selby Date, First Survey Nov 17/11 Last Survey Mar 13th 19 12
Reg. Book 52 on the S.C.K. "DAVARA" (Number of Visits 30)
Master Built at Selby By whom built Buchanan & Sons Tons { Gross 291
Engines made at By whom made when made 1912
Boilers made at Hull By whom made Messrs. Charles R. Holmes & Co. Ltd when made 1912
Registered Horse Power Owners Mount Steam Fishing Co. Port belonging to Fleetwood
Nom. Horse Power as per Section 28 89 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 13 $\frac{1}{2}$ " - 23" - 34" Length of Stroke 26" Revs. per minute 105 Dia. of Screw shaft as per rule 4.49 Material of screw shaft 2
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 If two
liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 33"
Dia. of Tunnel shaft as per rule 6.9 Dia. of Crank shaft journals as per rule 4.24 Dia. of Crank pin 4 $\frac{1}{2}$ " Size of Crank webs 4 $\frac{1}{2}$ " x 4 $\frac{1}{2}$ " Dia. of thrust shaft under
collars 4 $\frac{1}{2}$ " Dia. of screw 9.6" Pitch of Screw 11.6" No. of Blades 4 State whether moveable No. Total surface 34 ft²
No. of Feed pumps 1 Diameter of ditto 2 $\frac{1}{2}$ " Stroke 14 $\frac{3}{4}$ " Can one be overhauled while the other is at work
No. of Bilge pumps 1 Diameter of ditto 2 $\frac{1}{2}$ " Stroke 14 $\frac{3}{4}$ " Can one be overhauled while the other is at work
No. of Donkey Engines 1 Sizes of Pumps 5" x 2 $\frac{1}{2}$ " x 5" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room Two 2" forward & aft In Holds, &c. Two 2" fore & main holds - 2"
Is the screw shaft tunnel watertight No. Is it fitted with a watertight door worked from
No. of Bilge Injections 1 sizes 3 $\frac{1}{2}$ " Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes 2 $\frac{1}{2}$ "
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
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 Cold 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 6.1.12 of Stern Tube 6.1.12 Screw shaft and Propeller 6.1.12
Is the Screw Shaft Tunnel watertight No. Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Messrs. Phoenix A.L. 305. Abt. Holder Union of Hold
Total Heating Surface of Boilers 1540 ft² Is Forced Draft fitted No. and Description of Boilers 164. Mult. Single Ended.
Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 16.2.12 No. of Certificate 1845.
Can each boiler be worked separately Area of fire grate in each boiler 46.845 ft² 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 21" Mean dia. of boilers 14.0" Length 10.9" Material of shell plates S.
Thickness 1 $\frac{3}{8}$ " Range of tensile strength 29 tons Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams L.D.
long. seams B.B.S.Y.R. Diameter of rivet holes in long. seams 1 $\frac{3}{8}$ " Pitch of rivets 8" Lap of plates or width of butt straps 18"
Per centages of strength of longitudinal joint rivets 89.2 Working pressure of shell by rules 182 lbs. Size of manhole in shell 16" x 12"
Size of compensating ring 4" x 1 $\frac{3}{8}$ " No. and Description of Furnaces in each boiler 3 plain Material S. Outside diameter 39"
Length of plain part top 6.4" Thickness of plates crown 3" Description of longitudinal joint welded No. of strengthening rings
bottom 4" Working pressure of furnace by the rules 190 lbs. Combustion chamber plates: Material S. Thickness: Sides 1 $\frac{1}{8}$ " Back 2 $\frac{3}{8}$ " Top 1 $\frac{1}{8}$ " Bottom 1 $\frac{1}{8}$ "
Pitch of stays to ditto: Sides 9 $\frac{1}{2}$ " x 9 $\frac{1}{2}$ " Back 9 $\frac{1}{2}$ " x 9 $\frac{1}{2}$ " Top 9 $\frac{1}{2}$ " x 9 $\frac{1}{2}$ " If stays are fitted with nuts or riveted heads No. Working pressure by rules 181 lbs.
Material of stays S. Diameter at smallest part 2.4 Area supported by each stay 115.445 Working pressure by rules 186 lbs. End plates in steam space:
Material S. Thickness 1 $\frac{1}{2}$ " Pitch of stays 20" x 20" How are stays secured P.M.S.N. Working pressure by rules 185 lbs. Material of stays S.
Diameter at smallest part 4.5" Area supported by each stay 400 Working pressure by rules 195 Material of Front plates at bottom S.
Thickness 1" Material of Lower back plate S. Thickness 1 $\frac{1}{8}$ " Greatest pitch of stays 4 $\frac{1}{2}$ " x 9 $\frac{1}{2}$ " Working pressure of plate by rules 184 lbs.
Diameter of tubes 3 $\frac{1}{2}$ " Pitch of tubes 5 $\frac{1}{2}$ " x 4 $\frac{1}{2}$ " Material of tube plates S. Thickness: Front 1" Back 1" Mean pitch of stays 10 $\frac{1}{2}$ "
Pitch across wide water spaces 13 $\frac{1}{2}$ " Working pressures by rules 189 lbs. Girders to Chamber tops: Material S. Depth and
thickness of girder at centre 10 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " Length as per rule 3.3 Distance apart 9 $\frac{1}{2}$ " Number and pitch of stays in each 3 - 9 $\frac{1}{2}$ "
Working pressure by rules 184 lbs. 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

W509-0057

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 casing 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 _____ Radius of do. _____ Stayed by _____

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

SPARE GEAR. State the articles supplied:— *Two each top & bottom end connecting rod bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set each feed & bilge pump valves, iron of various sizes, a quantity of assorted bolts, nuts etc.*

The foregoing is a correct description,
P. pro CHARLES D. HOLMES & CO. LTD. Manufacturer.

Dates of Survey while building { During progress of work in shops - - - } 1911 - Nov 17, 27, 28, Dec 7, 14, 18, 20, 1912 - Jan 1, 3, 5, 6, 9, 12, 16, 18, 23, 25, 30, Feb 1, 8, 13, 15.
 { During erection on board vessel - - - } Feb 16, 27, 29, Mar 1, 6, 8, 12, 13.
 Total No. of visits 30

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

Dates of Examination of principal parts—Cylinders 19.1.12 Slides 25.1.12 Covers 30.1.12 Pistons 25.1.12 Rods 23.1.12
 Connecting rods 25.1.12 Crank shaft 18.1.12 Thrust shaft 18.1.12 Tunnel shafts - Screw shaft 3.1.12 Propeller 3.1.12
 Stern tube 3.1.12 Steam pipes tested 29.2.12 Engine and boiler seatings 6.1.12 Engines holding down bolts 1.3.12
 Completion of pumping arrangements 7.3.12 Boilers fixed 1.3.12 Engines tried under steam 8.3.12
 Main boiler safety valves adjusted 8.3.12 Thickness of adjusting washers *FORWARD 3" AFT 3"*
 Material of Crank shaft *I* Identification Mark on Do. *N° 875, 40* Material of Thrust shaft *S* Identification Mark on Do. *N° 875, 74, D*
 Material of Tunnel shafts - Identification Marks on Do. - Material of Screw shafts *I* Identification Marks on Do. *N° 875, 74, 3*
 Material of Steam Pipes *Solid drawn copper* Test pressure *360 lbs. per square inch*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The engines & boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials & workmanship are sound & good. The boiler tested by hydraulic pressure, & with the engines secured on board & tested under steam they are now in good order & safe working condition & respectfully submitted as being eligible in my opinion to be classed with the notation of 'L.M.C. 3.12' in the Register Book.*

It is submitted that
 this vessel is eligible for
 THE RECORD, + LMC 3.12.

The amount of Entry Fee .. £ 1 : 0 :
 Special .. £ 13 : 4 :
 Donkey Boiler Fee .. £
 Travelling Expenses (if any) £ 8/2

When applied for, 22-3-12
 When received, 30.3.12

Committee's Minute

Assigned

TUE. MAR. 26. 1912

+ LMC 3.12

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



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