

REPORT ON MACHINERY.

No. 25758

Received at London Office

FRI. JAN. -3. 1913

Date of writing Report 19 When handed in at Local Office 1/11 to 13 Port of Hull.
 No. in Survey held at Hull. Date, First Survey Sep. 23rd Last Survey Dec 20th 1912
 Reg. Book. (Number of Visits 22)
 Compl. on the S.S. K. "CAULONIA"
 Master Built at Selby. By whom built Lockhart & Sons. When built 1912
 Engines made at } By whom made } when made 1912
 Boilers made at } Hull. By whom made } Messrs. Charles F. Holmes & Co. Ltd. when made 1912
 Registered Horse Power Owners Gimsby Alliance Stevedoring Co. Ltd. Port belonging to Gimsby.
 Nom. Horse Power as per Section 28 80 80 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

ENGINES, &c.—Description of Engines Triple Expansion. No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 13"-23"-34" Length of Stroke 24" Revs. per minute 7.456 as per rule. 4.21 Material of screw shaft Iron
 as fitted 8 screw shaft
 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
 Is 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 36"
 Dia. of Tunnel shaft as per rule 6.611 as fitted 4 1/2 Dia. of Crank shaft journals as per rule 6.946 as fitted 4 1/2 Dia. of Crank pin 4 1/2 Size of Crank webs 4 1/2 x 4 1/2 Dia. of thrust shaft under
 collars 4 1/2 Dia. of screw 9-1 1/2 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 1/2 Stroke 24 Can one be overhauled while the other is at work Yes.
 No. of Bilge pumps 2 Diameter of ditto 2 1/2 Stroke 24 Can one be overhauled while the other is at work Yes.
 No. of Donkey Engines 1 Sizes of Pumps 6" x 3 1/2" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 in Engine Room 2 2" one forward & one aft. In Holds, &c. 1-2" to main hold, 1-2" to fore
 hold. Ejector suction from all bilges with discharge on deck.
 No. of Bilge Injections 1 sizes 3 Connected to condenser, or to circulating pump pump. Is a separate Donkey Suction fitted in Engine room & size 2 1/2" 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 0
 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 cuttings 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 12.10.12 of Stern Tube 12.10.12 Screw shaft and Propeller 12.10.12
 Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Phoenix & G. W. H. Winder Taring of Winder.
 Total Heating Surface of Boilers 1332 sq ft Is Forced Draft fitted No. No. and Description of Boilers One up. mult. simple ended.
 Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 26.11.12 No. of Certificate 1945
 Can each boiler be worked separately Area of fire grate in each boiler 42.75 sq ft No. and Description of Safety Valves to
 each boiler Two Spring Area of each valve 4.90 Pressure to which they are adjusted 195 lbs. Are they fitted with easing gear Yes.
 Smallest distance between boilers on uptakes and bunkers or woodwork 6" Mean dia. of boilers 13.6 Length 10.6 Material of shell plates S.
 Thickness 1/2 Range of tensile strength 28 tons Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams D.P.S.T.
 Long. seams D.P.S.T.P. Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 8 1/2 Lap of plates or width of butt straps 18 1/2
 Percentages of strength of longitudinal joint rivets 94.5 plate 85.25 Working pressure of shell by rules 185 lbs. Size of manhole in shell 16" x 12"
 Size of compensating ring 8" x 1 1/2 No. and Description of Furnaces in each boiler 3 plain Material S. Outside diameter 38"
 Length of plain part top 5.10 3/4 bottom 6.6 Thickness of plates crown 23 bottom 32 Description of longitudinal joint Weld. No. of strengthening rings 0
 Working pressure of furnace by the rules 180 lbs. Combustion chamber plates: Material S. Thickness: Sides 7/16 Back 7/16 Top 7/16 Bottom 1"
 Pitch of stays to ditto: Sides 9 x 7 3/4 Back 9 x 8 1/2 Top 9 1/2 x 7 3/4 If stays are fitted with nuts or riveted heads No. Working pressure by rules 213 lbs.
 Material of stays S. Diameter at smallest part 2.45 Area supported by each stay 101.25 Working pressure by rules 213 lbs. End plates in steam space:
 Material S. Thickness 1 1/2 Pitch of stays 19 x 15 How are stays secured To X SW. Working pressure by rules 182 lbs. Material of stays S.
 Diameter at smallest part 3.30 Area supported by each stay 285 Working pressure by rules 230 lbs. Material of Front plates at bottom S.
 Thickness 1 Material of Lower back plate S. Thickness 1 1/2 Greatest pitch of stays 14 x 9 Working pressure of plate by rules 219 lbs.
 Diameter of tubes 3 1/2 Pitch of tubes 6 x 4 3/4 Material of tube plates S. Thickness: Front 1 Back 3/8 Mean pitch of stays 11"
 Pitch across wide water spaces 14 Working pressures by rules 185 lbs. Girders to Chamber tops: Material S. Depth and
 thickness of girder at centre 9 1/2 - 1 3/4 Length as per rule 34.94 Distance apart 9.5 Number and pitch of stays in each 3 - 4 3/4
 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
 Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 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

W270-0111
W270-0112



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 _____ 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 _____ 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 fwd & aft pump valves, iron of various sizes, a quantity of assorted bolts, nuts etc.

The foregoing is a correct description,
J. Arthur Holmes Manufacturer.
 DIRECTOR

Dates of Survey while building { During progress of work in shops -- } 1912. Sep 23. Oct 3. 8. 12. 16. 18. 23. 29. Nov 4. 8. 13. 15. 19. 21. 26. Dec 6. 9. 11. 12. 14. 16. 20
 { During erection on board vessel --- }
 Total No. of visits _____

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

" " " donkey " " " *yes*

Dates of Examination of principal parts—Cylinders 4.11.12 Slides 19.11.12 Covers 19.11.12 Pistons 19.11.12 Rods 13.11.12
 Connecting rods 15.11.12 Crank shaft 13.11.12 Thrust shaft 19.11.12 Tunnel shafts ✓ Screw shaft 3.10.12 Propeller 3.10.12
 Stern tube 3.10.12 Steam pipes tested 9.12.12 Engine and boiler seatings 12.10.12 Engines holding down bolts 6.12.12
 Completion of pumping arrangements 20.12.12 Boilers fixed 9.12.12 Engines tried under steam 16.12.12
 Main boiler safety valves adjusted 16.12.12 Thickness of adjusting washers Forward $\frac{3}{8}$ " Aft $\frac{3}{8}$ "
 Material of Crank shaft S. Identification Mark on Do. N° 957.6.D. Material of Thrust shaft S. Identification Mark on Do. N° 957.6.D.
 Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts I. Identification Marks on Do. N° 957.6.D.
 Material of Steam Pipes Solid drawn copper ✓ Test pressure 300 lbs. per sq. inch hydraulic

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 & are fully submitted as being eligible in my opinion to be classed with the notation of "S" L.M.C. 12.12 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + LMC 12.12.

J.W.D. *A.R.R.*
 6/1/13.

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

The amount of Entry Fee .. £ 1 : 0 :
 Special .. £ 12 : 0 :
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : 4/1 :
 When applied for, 2/1/13
 When received, 31.1.13

Committee's Minute TUE. JAN -7 1913
 Assigned + L.M.C. 12.12

MACHINERY CERTIFICATE WRITTEN.



Certificate (if required) to be sent to Hull

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