

REPORT ON MACHINERY.

No. 16896

Port of Hull

JULY 20 JUN 1905

Received at London Office 19

No. in Survey held at Hull Date, first Survey Feb. 18th Last Survey 8th June 1905
 Reg. Book. 53 Suff on the Steel Ss. K. Emerald (Number of Visits 28)
 Master Selby Built at Selby By whom built Bochane Sons Tons { Gross 209 Net 66
 Engines made at Hull By whom made Messrs Charles D. Holmes & Co when made 1905
 Boilers made at Hull By whom made Messrs Charles D. Holmes & Co when made 1905
 Registered Horse Power 67 Owners E. Carter Port belonging to Milford Haven
 Nom. Horse Power as per Section 28 67 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 12" - 21" - 34" Length of Stroke 24 Revs. per minute 106 Dia. of Screw shaft as per rule 7 1/2" 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 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
 Dia. of Turret shaft as per rule 6 3/8" Dia. of Crank shaft journals as per rule 6 3/4" Dia. of Crank pin 6 3/4" Size of Crank webs 12 1/2" x 4 1/2" Dia. of thrust shaft under collars 6 3/4" Dia. of screw 8 1/2" Pitch of screw 11 1/2" - 10 1/2" No. of blades 4 State whether moveable No Total surface 27 1/2 sq ft
 No. of Feed pumps 1 Diameter of ditto 2 1/2" Stroke 24" Can one be overhauled while the other is at work
 No. of Bilge pumps 1 Diameter of ditto 2 1/2" Stroke 24" Can one be overhauled while the other is at work
 No. of Donkey Engines One Sizes of Pumps 2 1/4" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two 2" In Holds, &c. One 2" to hold, and ejector suction from engine room bilge hold, with discharge on deck
 No. of bilge injections 1 sizes 3 Connected to condenser, or to circulating pump pumps 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 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock before launching Is the screw shaft tunnel watertight None
 Is it fitted with a watertight door worked from

BOILERS, &c.— (Letter for record 8) Total Heating Surface of Boilers 1096 sq ft Is forced draft fitted No
 No. and Description of Boilers One Cyl Multi Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs
 Date of test 18.5.05 Can each boiler be worked separately Area of fire grate in each boiler 35 sq ft No. and Description of safety valves to each boiler Two Spring Area of each valve 3.98 sq in 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 5 1/2" Mean dia. of boilers 12"-6" Length 10'-0" Material of shell plates Steel
 Thickness 1 1/2" Range of tensile strength 29.32 tons Are they welded or flanged Descrip. of riveting: cir. seams L D. long. seams D. B. S. L. R.
 Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 7" Lap of plates or width of butt straps 15"
 Per centages of strength of longitudinal joint rivets 86.5 Working pressure of shell by rules 185 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring 7" x 1 1/2" No. and Description of Furnaces in each boiler 2 Holmes Material Steel Outside diameter 3'-7"
 Length of plain part top 1 1/2" Thickness of plates crown 1 1/8" Description of longitudinal joint welded No. of strengthening rings 4 Corr.
 Working pressure of furnace by the rules 198 lbs Combustion chamber plates: Material Steel Thickness: Sides 23/32" Back 1 1/8" Top 23/32" Bottom 23/32"
 Pitch of stays to ditto: Sides 8" Back 9" x 8 1/2" Top 8 1/2" x 8 3/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 213 lbs
 Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 76.5 sq in Working pressure by rules 243 lbs End plates in steam space:
 Material Steel Thickness 1 1/2" Pitch of stays 17 1/2" x 17 1/2" How are stays secured D. Nuts Working pressure by rules 185 lbs Material of stays Steel
 Diameter at smallest part 2 1/2" Area supported by each stay 306.25 sq in Working pressure by rules 202 lbs Material of Front plates at bottom Steel
 Thickness 7/8" Material of Lower back plate Steel Thickness 1 1/8" Greatest pitch of stays 15" Working pressure of plate by rules 180 lbs
 Diameter of tubes 3 1/2" Pitch of tubes 4 7/8" Material of tube plates Steel Thickness: Front 7/8" Back 1/2" Mean pitch of stays 9 1/2"
 Pitch across wide water spaces 15" Working pressures by rules 180 lbs Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 9" x 13 1/2" Length as per rule 2'-8" Distance apart 8 3/4" Number and pitch of Stays in each 3 - 8 1/2"
 Working pressure by rules 193 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

WTS-0157



DONKEY BOILER— No. _____ Description _____

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

Working pressure tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____

No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ 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 _____ 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 _____

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

Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— Two each top bottom end connecting rod bolts cuts, two main bearing bolts cuts, one set coupling bolts cuts, one set each air circulating feed bilge pump valves, a quantity of assorted bolts etc.

The foregoing is a correct description,
Charles D. Holmes Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1905:— Feb. 18. Mar. 1. 7. 9. 17. 18. 22. 31. Apr. 1. 3. 5. 7. 11. 12. 20. May 1. 2. 9. 10. 16. 18. 22.
 { During erection on board vessel - - } May 23. 27. 30. Jun. 1. 3. 8.
 Total No. of visits 28

Is the approved plan of main boiler forwarded herewith Yes
 " " " donkey " " "

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery and boiler of this vessel have been inspected throughout construction, in accordance with the Society's Rules. The materials and workmanship are good. The boiler tested by hydraulic pressure, and with the engines placed on board and tested under steam. They are now in good order and safe working condition, and respectfully submitted as being eligible in my opinion to be classed with the notification of $\frac{1}{2}$ L. M. C. 6.05 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD L.M.C. 6.05.

Emd.
 20.6.05

J.M.

The amount of Entry Fee. . . £ 1 : . : . : When applied for, 19/6/1905
 Special £ 10 : 1 : . :
 Donkey Boiler Fee £ - : - : . :
 Travelling Expenses (if any) £ - : 8 : 2 : . : 3/1/1905

James Barclay
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
 10.6.05

Committee's Minute _____
 Assigned _____

FRI. 23 JUN 1905

MACHINERY CERTIFICATE WRITTEN.

+ L.M.C. 6.05



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