

REPORT ON MACHINERY.

Port of NewcastleSurvey held at Newcastle
Book.Date, first Survey May 8th 1901

Received at London Office

Last Survey Dec 17th 1901(Number of Visits 31)

33 on the

SS EuphratesGross 2809.36
Tons
Net 1793.17ter E. E. SmithBuilt at NewcastleBy whom built Armstrong Whitworth & Co.When built 12-1901nes made at NewcastleBy whom made The North Eastern Marine Eng'g Co. when made 12-1901ers made at NewcastleBy whom made The North Eastern Marine Eng'g Co. when made 12-1901

stered Horse Power

Owners Bucknall BrosPort belonging to LondonHorse Power as per Section 28 280Is Refrigerating Machinery fitted noIs Electric Light fitted yes

INES, &c.—Description of Engines

TripleNo. of Cylinders 3No. of Cranks 3of Cylinders 22 $\frac{1}{2}$, 36 $\frac{1}{2}$, 61" Length of Stroke 42" Revs. per minute 70 Dia. of Screw shaft as per rule 13 $\frac{1}{2}$ " Lgth. of stern bush 4-9"of Tunnel shaft as per rule 10 $\frac{3}{4}$ " Dia. of Crank shaft journals as per rule 11 $\frac{1}{4}$ " Dia. of Crank pin 12" Size of Crank webs 23 $\frac{1}{2}$, 7 $\frac{1}{2}$ " Dia. of thrust shaft underrs 12" Dia. of screw 15-6" Pitch of screw 15-6" No. of blades 4 State whether moveable yes Total surface 74 $\frac{1}{2}$ "of Feed pumps 2 Diameter of ditto 4" Stroke 22" Can one be overhauled while the other is at work yesof Bilge pumps 2 Diameter of ditto 3 $\frac{3}{4}$ " Stroke 22" Can one be overhauled while the other is at work yesof Donkey Engines 3 dup Sizes of Pumps 6 \times 4 \times 6, 6 \times 5 $\frac{1}{2}$ \times 6, 9 \times 10 \times 9 No. and size of Suctions connected to both Bilge and Donkey pumpsEngine Room four 3" & one 3 $\frac{1}{2}$ " In Holds, &c. Fore, Main & After main holds twoeach, Hold well one 3 $\frac{1}{2}$ "of bilge injections 1 sizes 6" Connected to condenser, or to circulating pump pump Is a separate donkey suction fitted in Engine room & size yes 3 $\frac{1}{2}$ "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 noneall connections with the sea direct on the skin of the ship yes Are they Valves or Cocks boththey 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 abovethey 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 yest pipes are carried through the bunkers none How are they protected ✓all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times yesthe bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges yesa were stern tube, propeller, screw shaft, and all connections examined before launch Is the screw shaft tunnel watertight yesfitted with a watertight door yes worked from upper deckLERS, &c.— (Letter for record Y) Total Heating Surface of Boilers 3810 $\frac{1}{2}$ " Is forced draft fitted yesand Description of Boilers 3 Mult. Single ended Working Pressure 160 $\frac{1}{2}$ " Tested by hydraulic pressure to 320 $\frac{1}{2}$ "of test 14.8.07 Can each boiler be worked separately yes Area of fire grate in each boiler 23 $\frac{1}{2}$ " No. and Description of safety valves toboiler 2 direct spring Area of each valve 4-9" Pressure to which they are adjusted 160 $\frac{1}{2}$ " Are they fitted with easing gear yestest distance between boilers or uptakes and bunkers on woodwork 18" Mean dia. of boilers 11-4 $\frac{1}{4}$ " Length 11-0" Material of shell plates Steelness $\frac{7}{8}$ " Range of tensile strength 29.32 Are they welded or flanged no Descrip. of riveting: cir. seams lap. d. r long. seams D.B.S. D.R.eter of rivet holes in long. seams 1 $\frac{1}{8}$ " Pitch of rivets 6 $\frac{1}{4}$ " Lap of plates or width of butt straps 11 $\frac{1}{8}$ "entages of strength of longitudinal joint 81 Working pressure of shell by rules 163 $\frac{1}{2}$ " Size of manhole in end 16 $\frac{1}{2}$ 12"compensating ring flanged in No. and Description of Furnaces in each boiler 2-plain Material Steel Outside diameter 41"th of plain part top 6-6" Thickness of plates bottom 6-6" Description of longitudinal joint welded No. of strengthening rings noneing pressure of furnace by the rules 164 $\frac{1}{2}$ " Combustion chamber plates: Material Steel Thickness: Sides $\frac{1}{16}$ " Back $\frac{1}{16}$ " Top $\frac{1}{16}$ " Bottom $\frac{1}{16}$ "of stays to ditto: Sides 10 \times 9 $\frac{1}{2}$ " Back 10 \times 9 $\frac{1}{2}$ " Top 10 \times 9 $\frac{1}{2}$ " If stays are fitted with nuts or riveted heads nut Working pressure by rules 172 $\frac{1}{2}$ "rial of stays Iron Diameter at smallest part $\frac{5}{8}$ " Area supported by each stay 97.5" Working pressure by rules 160 $\frac{1}{2}$ " End plates in steam space:rial Steel Thickness 1 $\frac{1}{2}$ " Pitch of stays 24 \times 18 $\frac{1}{4}$ " How are stays secured D.N.W. Working pressure by rules 161 $\frac{1}{2}$ " Material of stays Steeleter at smallest part 3 $\frac{1}{16}$ " Area supported by each stay 450" Working pressure by rules 167 $\frac{1}{2}$ " Material of Front plates at bottom Steelkness $\frac{7}{8}$ " Material of Lower back plate Steel Thickness $\frac{3}{4}$ " Greatest pitch of stays 14 $\frac{1}{2}$ & ddd Working pressure of plate by rules 164 $\frac{1}{2}$ "meter of tubes 2 $\frac{1}{2}$ " Pitch of tubes 3 $\frac{7}{8}$ & 3 $\frac{3}{4}$ " Material of tube plates Steel Thickness: Front $\frac{7}{8}$ " Back $\frac{3}{4}$ " Mean pitch of stays 7 $\frac{5}{8}$ "h across wide water spaces 14 $\frac{1}{2}$ & ddd Working pressures by rules 216 $\frac{1}{2}$ " Girders to Chamber tops: Material Steel Depth andtness of girder at centre 8 $\frac{1}{4}$ & 2 plates Length as per rule 30" Distance apart 10" Number and pitch of Stays in each 2-9 $\frac{1}{2}$ "orking pressure by rules 164 $\frac{1}{2}$ " Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler workedrately — Diameter — Length — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivetPitch of rivets — Working pressure of shell by rules — Diameter of flue — Material of flue plates — Thickness —fitted with rings — Distance between rings — Working pressure by rules — End plates: Thickness — How stayed —orking pressure of end plates — Area of safety valves to superheater — Are they fitted with easing gear —

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W912-0104

DONKEY BOILER— No. 0 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 boiler _____

enter the donkey boiler *None* Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of t _____

strength _____ Descrip. of riveting long. spms _____ Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____

Lap of plating _____ Per centage of strength of joint _____ 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 _____ Descript _____

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 top & two bottom end bolts, two main beam bolts, one set coupling bolts, one set feed & bilge pump valves, two sets of springs, one propeller shaft, two propeller blades, and a quantity of assorted bolts & rivets.*

The foregoing is a correct description.

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LD. Manufacturer.

Dates of Survey while building _____

During progress of work in shops— _____

During erection on board vessel— _____

Total No. of visits *31*

Is the approved plan of main boiler forwarded herewith *no, retained for sister ship*

Is the approved plan of donkey boiler forwarded herewith _____

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

Material of screw shaft *Iron (bar)* Is the screw shaft fitted with a continuous liner the whole length of the stern tube *no*

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 *no*

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 *no* If two liners are fitted, is the shaft lapped or protected between the liners *yes*

The machinery of this vessel has been constructed & fitted on board under Special Survey the workmanship is sound & good. The machinery has been tried under steam as required by the Rules & found satisfactory & is in my opinion eligible for the record of *+LMC 12.01* in the Register Book.

It is submitted that this vessel is eligible for the record *+LMC 12.01* *FD* *elec. light*

The amount of Entry Fee £ *28* : *0* : *0* When applied for _____

Special £ *33* : *19* : *0* Dec. 24 1901

Donkey Boiler Fee £ _____ When received _____

Travelling Expenses (if any) £ _____ 31.12.01

Committee's Minute **FRI. 27 DEC 1901**

Assigned

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



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MACHINERY CERTIFICATE WRITTEN.

VE

These partic

Signal Letters

Official Num

114.80

No., Date, and

Whether British Foreign Built.

British

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Number of Ma

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