

Inve. No. 37912
 Sta. 19571.

REPORT ON MACHINERY.

Port of

Newcastle

MON 27 FEB 1899

Survey held at North Shields & W Hartlepool Date, first Survey 19th Aug 19th Last Survey 14th 1899
 on the s/s Fremington
 Built at Sunderland By whom built R Thompson & Co When built 2-1899
 made at North Shields By whom made Messrs Hedley & Bouge when made 2-1899
 made at West Hartlepool By whom made Central Marine Engineering Co when made 2-1899
 Horse Power Owners Liverpool & North Devon S.S. Co Ltd Port belonging to Liverpool
 Horse Power as per Section 28 73 Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Compound No. of Cylinders 2 No. of Cranks 2
 Diameter of Cylinders 16 $\frac{1}{2}$ x 37" Length of Stroke 24" Revolutions per minute 100 Diameter of Screw shaft as per rule 7 $\frac{1}{2}$ "
 Diameter of Tunnel shaft as fitted 7" Diameter of Crank shaft journals 7" Diameter of Crank pin 7" Size of Crank webs 11 x 4 $\frac{1}{2}$ "
 Diameter of screw 8'-0" Pitch of screw 12'-0" No. of blades 4 State whether moveable no Total surface 235 sq ft
 Feed pumps 1 Diameter of ditto 3 $\frac{1}{2}$ " Stroke 12" Can one be overhauled while the other is at work ✓
 Bilge pumps 1 Diameter of ditto 3 $\frac{1}{2}$ " Stroke 12" Can one be overhauled while the other is at work ✓
 Donkey Engines one Sizes of Pumps 6 x 4 x 6" duplex No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room two 2 $\frac{1}{4}$ ", one 3 $\frac{1}{2}$ ", one 2 $\frac{1}{2}$ " In Holds, &c. fore, two 2 $\frac{1}{4}$ "
 Bilge injections 1 sizes 3 $\frac{1}{2}$ " Connected to circulating pump yes Is a separate donkey suction fitted in Engine room & size yes 2 $\frac{1}{2}$ "
 Are 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 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
 Are the pipes carried through the bunkers bilge tank suction How are they protected heavily eased with wood
 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 no
 Were stern tube, propeller, screw shaft, and all connections examined in dry dock before launch yes Is the screw shaft tunnel watertight no tunnel
 Is the tunnel fitted with a watertight door worked from ✓
 ENGINES, &c.—(Letter for record S) Total Heating Surface of Boilers 1400 Is forced draft fitted no
 Description of Boilers One Mult Single ended Working Pressure 120 lbs Tested by hydraulic pressure to 240 lbs
 Can each boiler be worked separately — Area of fire grate in each boiler 35 sq ft No. and Description of safety valves to
 boiler two spring loaded Area of each valve 7.07 sq ft Pressure to which they are adjusted 125 lbs Are they fitted
 easing gear yes Smallest distance between boilers or uptakes and bunkers 5'-0" Mean diameter of boilers 12'-6"
 Material of shell plates steel Thickness $\frac{3}{4}$ " Description of riveting: circum. seams none long. seams D.B straps
 Diameter of rivet holes in long. seams $\frac{7}{8}$ " Pitch of rivets 6 $\frac{1}{4}$ " Lap of plates or width of butt straps 13 $\frac{3}{8}$ "
 Percentages of strength of longitudinal joint rivets 96.3 Working pressure of shell by rules 120 lbs Size of manhole in shell end 16 x 12
 plate 86.0 Description of Furnaces in each boiler two plain Material steel Outside diameter 3'-7 $\frac{1}{2}$ "
 compensating ring flanged No. and Description of longitudinal joint Double butt straps No. of strengthening rings none
 Thickness of plates top 6'-8 $\frac{1}{2}$ " bottom 6'-6" crown } 5" Description of longitudinal joint Double butt straps No. of strengthening rings none
 Working pressure of furnace by the rules 129 lbs Combustion chamber plates: Material steel Thickness: Sides 9" Back 9" Top 9" Bottom 5"
 of stays to ditto: Sides 10 x 8 $\frac{3}{4}$ " Back 10 x 9" Top 9 $\frac{1}{2}$ " If stays are fitted with nuts or riveted heads nuts Working pressure by rules 121 lbs
 Material of stays steel Diameter at smallest part 1-38" Area supported by each stay 90 sq in Working pressure by rules 133 lbs End plates in steam space:
 Material steel Thickness 7" Pitch of stays 17 $\frac{1}{2}$ x 16 $\frac{1}{4}$ " How are stays secured D N & W Working pressure by rules 120 lbs Material of stays steel
 Diameter at smallest part 1-28" Area supported by each stay 284 sq in Working pressure by rules 130 lbs Material of Front plates at bottom steel
 Thickness 7" Material of Lower back plate steel Thickness 7" Greatest pitch of stays 13 x 10 Working pressure of plate by rules 196 lbs
 Diameter of tubes 3 $\frac{1}{2}$ " Pitch of tubes 4 $\frac{1}{2}$ x 4 $\frac{1}{2}$ " Material of tube plates steel Thickness: Front 7" Back 2 $\frac{5}{8}$ " Mean pitch of stays 13 $\frac{1}{2}$ "
 across wide water spaces 14 $\frac{1}{4}$ " Working pressures by rules 120 lbs Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 8 x 1 $\frac{1}{4}$ " Length as per rule 25 $\frac{1}{2}$ " Distance apart 9 $\frac{1}{2}$ " Number and pitch of Stays in each one
 Working pressure by rules 138 lbs Superheater or Steam chest; how connected to boiler none 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 —

© 2021

Lloyd's Register
Foundation

DONKEY BOILER— Description *None fitted*

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 _____

Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____

Description of riveting long seams _____ Diameter 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:— *One set of coupling bolts, two top end, two bottom end & two main bearing bolts & nuts, one set of feed one set of bilge pump valves also one set of air & circulating pump valves bolts nuts & assorted pieces of iron.*

The foregoing is a correct description,

Manufacturer. *Hodley & Boyd, Engineers*

Dates of Survey { During progress of work in shops - *1st Survey 19th August 1898*
 while building { During erection on board vessel - *last Survey 14th Feb 1899*
 Total No. of visits *10* *old visits 1898 - Dec 1, 3, 14 - 3 visits*

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

ENGINES—Length of stern bush *31"* Diameter of crank shaft journals *as per rule 6 3/4"* Diameter of thrust shaft under collars *9"*

BOILERS—Range of tensile strength *24-30 tons* Are they welded *and flanged* *yes* **DONKEY BOILERS**—No. *none* Range of tensile strength _____

Is the approved plan of main boiler forwarded herewith *no* Is the approved plan of donkey boiler forwarded herewith _____

The machinery of this vessel has been constructed & fitted on board under special Survey the workmanship being sound & good. The machinery has been tried under steam & found to work well which in my opinion renders the vessel eligible for the record of + L.M.C 2-99 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 2.99. Electric Light.

ACM

27.2.99.

28.2.99

The amount of Entry Fee. £ *10* : *0* : *0* When applied for, *24/2/99*
 Special. £ *10* : *0* : *0* When received, *28/2/99*
 Donkey Boiler Fee. £ *10* : *0* : *0*
 Travelling Expenses (if any) £ *10* : *0* : *0*

Committee's Minute

TUES. 28 FEB 1899

MACHINERY CERTIFICATE WRITTEN.

Assigned

+ L.M.C 2.99

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



© 2021

Lloyd's Register Foundation

NEWCASTLE-ON-TYNE Sunderland.

Certificate (if required) to be sent to

(The Surveyors are requested not to write on or below the space for Committee's Minute.)