

Rpt. 4.

REPORT ON MACHINERY.

Old No. 24344

No. 57816

Port of **NEWCASTLE ON TYNE.**

Received at London Office

1909
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1909

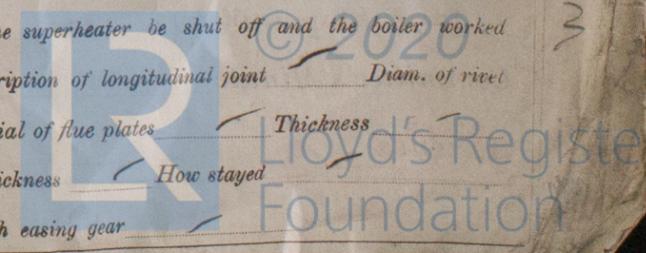
No. in Survey held at Newcastle on Tyne Date, first Survey 26th July 1909 Last Survey 2nd February 1910
 Reg. Book. on the s/s "Cacique" (Number of Visits 547)
 Master Built at Sunderland By whom built Wm. Short Bros. (S.S. No. 358) Tons Gross 4890 Net 3010
 Engines made at Newcastle on Tyne By whom made North Eastern Marine Engineering Co. Ltd. When built 1909
 Boilers made at Sitto By whom made Sitto when made 1909
 Registered Horse Power _____ Owners Grace Bros. Port belonging to London
 Nom. Horse Power as per Section 28 480 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Inverted quadruple expansion No. of Cylinders 4 No. of Cranks 4
 Dia. of Cylinders 24", 34", 49", 71" Length of Stroke 48" Revs. per minute 68 Dia. of Screw shaft as per rule 14.5" 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 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 5.6"
 Dia. of Tunnel shaft as per rule 13.0" Dia. of Crank shaft journals as per rule 13.75" Dia. of Crank pin 14.25" Size of Crank webs 26" x 9.5" Dia. of thrust shaft under collars 14.25" Dia. of screw 17.6" Pitch of Screw 18.0" No. of Blades 4 State whether moveable no Total surface 98"
 No. of Feed pumps 2 Diameter of ditto 9.25" Stroke 21" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 4.5" Stroke 27" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps B-7.5" x 10" F-7.5" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4 of 3.5" some of 3.5" in tunnel well In Holds, &c. 2 in each 3.5" dia.
 No. of Bilge Injections 1 sizes 9" Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes - 3.5"
 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 below
 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 nil How are they protected _____
 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 10-11-09 of Stern Tube 10-11-09 Screw shaft and Propeller 27.11.09
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from top platforms

BOILERS, &c.—(Letter for record S) Manufacturers of Steel J. Spencer & Sons
 Total Heating Surface of Boilers 6480 Is Forced Draft fitted yes No. and Description of Boilers 3 Cylindrical Mult. "
 Working Pressure 220 lbs Tested by hydraulic pressure to 440 lbs Date of test 12.11.09 No. of Certificate 7909
 Can each boiler be worked separately yes Area of fire grate in each boiler 50.6 No. and Description of Safety Valves to each boiler 2 spring Area of each valve 9.621 Pressure to which they are adjusted 225 lbs Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 27" Mean dia. of boilers 14.75" Length 12.375" Material of shell plates steel
 Thickness 1.19 Range of tensile strength 28.5/32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double lap
 long. seams cr. d. 2.5 Diameter of rivet holes in long. seams 1.19 Pitch of rivets 10" Lap of plates or width of butt straps 2.276"
 Per centages of strength of longitudinal joint rivets 93.05 Working pressure of shell by rules 266 lbs Size of manhole in shell 16 x 12
 Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Morrison Material steel Outside diameter 3.825"
 Length of plain part top _____ bottom _____ Thickness of plates crown 11/16 Description of longitudinal joint weld No. of strengthening rings _____
 Working pressure of furnace by the rules 254 lbs Combustion chamber plates: Material steel Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 1/2"
 Pitch of stays to ditto: Sides 8.5" x 9" Back 8.5" x 9" Top 8.5" x 9" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 261 lbs
 Material of stays steel Diameter at smallest part 2.32 Area supported by each stay 74 Working pressure by rules 286 lbs End plates in steam space: _____
 Material steel Thickness 1.375" Pitch of stays 19.5" x 19.5" How are stays secured du sw. Working pressure by rules 241 lbs Material of stays steel
 Diameter at smallest part 9.824 Area supported by each stay 369 Working pressure by rules 276 lbs Material of Front plates at bottom steel
 Thickness 1.76 Material of Lower back plate steel Thickness 1.76 Greatest pitch of stays 14.5" Working pressure of plate by rules 261 lbs
 Diameter of tubes 2.375" Pitch of tubes 4 x 4 Material of tube plates steel Thickness: Front 1.76 Back 1.76 Mean pitch of stays 8"
 Pitch across wide water spaces 14.5" Working pressures by rules 360 + 220 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 10.5" x 2.5" Length as per rule 38" Distance apart 9" Number and pitch of stays in each 3 - 8.5"
 Working pressure by rules 242 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 _____

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship?

W598-0223



VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description Attached

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 _____

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 _____

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 _____ Stayed by _____

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

SPARE GEAR. State the articles supplied: Propeller & shaft, 2 Each both ends for top & bottom ends.
4 main bearings & 12 Coupling bolts & nuts. Eccentric & rod, valve spindle & bottom end bearing
valves for all pumps, bronze impeller for centrifugal pump, boiler condenser tubes & sundries;
bolts, nuts & iron assorted &c.

The foregoing is a correct description,
 NORTH EASTERN MARINE ENGINEERING CO., LTD.
 Manufacturer.

1909
 During progress of work in shops - - Secretary, Jan 26 Aug 19 27 30 31 Sep 1 7 10 11 13 23 24 28 Oct 1 4 6 11 12 14 15 18 19 20 21 25 Nov 1 2
 Dates of Survey while building { During erection on board vessel - - } 3 4 5 8 9 10 11 12 13 17 19 22 23 26 27 Dec 1 3 6 7 9 10 12 14 16 20 21 22 Sld 1909 Nov 8 Dec 28 1910 Jan 7
 Total No. of visits 54 58 Is the approved plan of main boiler forwarded herewith Yes
 " " " donkey " " " Yes

Dates of Examination of principal parts—Cylinders 11.9.09 Slides 1.11.09 Covers 6.10.09 Pistons 8.11.09 Rods 11.11.09
 Connecting rods 19.1.09 Crank shaft 26.10.09 Thrust shaft 17.9.09 Tunnel shafts 12.10.09 Screw shaft 20.10.09 Propeller 12.11.09
 Stern tube 2.11.09 Steam pipes tested 5.11.09 Engine and boiler seatings 8.11.09 Engines holding down bolts 7.12.09
 Completion of pumping arrangements 22.12.09 Boilers fixed 7.12.09 Engines tried under steam 22.12.09
 Main boiler safety valves adjusted 22.12.09 Thickness of adjusting washers PP-21/32, P.S. 9/16 Fuel, C.P. 5/8, C.S. 5/8, SP 1/2 full, SS 9/16
 Material of Crank shaft Steel Identification Mark on Do. A.H.K. 27/10/09 Material of Thrust shaft Steel Identification Mark on Do. A.H.K. 17.9.09
 Material of Tunnel shafts Steel Identification Marks on Do. A.H.K. 12.10.09 Material of Screw shafts Working iron Identification Marks on Do. A.H.K. 20.10.09
 Material of Steam Pipes Iron Test pressure 660 lbs

General Remarks (State quality of workmanship, opinions as to class, &c. The Machinery of this vessel has been constructed under special survey the workmanship and materials used are both of good quality, the Engines have been tried under steam ahead & astern & worked satisfactorily)

We beg to recommend that this vessel is eligible in our opinion to have the record L.M.C. 2.10 in the Register Book

Date of build of Machinery 1910
A.P.K.
18.2.10

The amount of Entry Fee... £ 3 : 0 : 0 When applied for, 9 DEC 1909
 Special... £ 44 : 0 : 0
 Donkey Boiler Fee... £ : :
 Travelling Expenses (if any) £ : :
 Committee's Minute FRI. 18 FEB 1910
 Assigned + L.M.C. 2.10
F.D.

It is submitted that this vessel is eligible for THE RECORD, + L.M.C. 2.10.
 F.D. J.W.D. 15/2/10
K.W. Coomber & A.M. Kendall E.J. Stoddart
 Engineer Surveyors to Lloyd's Register of British & Foreign Shipping.

Newcastle

Certificate (if required) to be sent to the Registrar of Shipping in the space for Committee's Minute.

