

REPORT ON MACHINERY.

Port of WEST HARTLEPOOL

Survey held at Hartlepool Date, first Survey 13th June, 1901 Last Survey 7th March, 1902
 Book. Steel S. S. Sloterdijk (Number of Visits 85)
 up on the Baron Built at H. Hartlepool By whom built Furness, Withy & Co. Ltd. When built 1902
 Lines made at Hartlepool By whom made Richardsons, Nestgarth & Co. Ltd. when made 1902
 ers made at do By whom made do when made 1902
 istered Horse Power 490 Owners Netherlands American S. Nav. Co. Port belonging to Rotterdam
 Horse Power as per Section 28 489 Is Refrigerating Machinery fitted No. Is Electric Light fitted Yes.

INES, &c.—Description of Engines Triple expansion No. of Cylinders three No. of Cranks three
 of Cylinders 28"-46"-44" Length of Stroke 48" Revs. per minute 70 Dia. of Screw shaft as per rule 15" Lgth. of stern bush 5'5" 4 1/2"
 of Tunnel shaft as per rule 14" Dia. of Crank shaft journals as per rule 14 3/4" Dia. of Crank pin 14 3/4" Size of Crank webs 9 1/2" x 23 1/2" Dia. of thrust shaft under
 ers 15" Dia. of screw 18-0 Pitch of screw Ad. 17'-0" to 20'-0" No. of blades 4 State whether moveable Yes Total surface 90 sq. ft.
 of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 27" Can one be overhauled while the other is at work Yes
 of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 27" Can one be overhauled while the other is at work Yes
 of Donkey Engines 2 Sizes of Pumps Feed 6 x 8 dupls. Mallett 10 x 9" No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room Four 3 1/2" dia. Pair of Mains pumps in Holds, &c. Thirteen. One 2 1/2" dia to fore peak, two 3 1/2" dia
 of bilge injections one sizes 4" Connected to condenser, or to circulating pump Yes Is a separate donkey suction fitted in Engine room & size Yes 3 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 none
 all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks both
 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
 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
 at 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 Yes
 the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges Yes
 en were stern tube, propeller, screw shaft, and all connections examined in dry dock new vessel Is the screw shaft tunnel watertight Yes
 t fitted with a watertight door Yes worked from upper platform

ERS, &c.— (Letter for record S) Total Heating Surface of Boilers 8140 sq. ft. Is forced draft fitted No
 and Description of Boilers 4 single ended. Giff. Muhl Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs.
 of test 3. 12-01 Can each boiler be worked separately Yes Area of fire grate in each boiler 54 sq. ft. No. and Description of safety valves to
 boiler Two spring direct Area of each valve 4.06 sq. ft. Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes
 llest distance between boilers or uptakes and bunkers or woodwork 22" Mean dia. of boilers 14'-6" Length 10'-6" Material of shell plates steel
 kness 1 1/32" Range of tensile strength 28-32 Are they welded or flanged no Descrip. of riveting: cir. seams treble long. seams treble
 meter of rivet holes in long. seams 1 1/32" Pitch of rivets 9 1/8" Lap of plates or width of butt straps 19 3/4"
 centages of strength of longitudinal joint 86-1 Working pressure of shell by rules 204 lbs. Size of manhole in shell 13" x 16 1/2"
 of compensating ring 30" x 30" x 1 1/2" No. and Description of Furnaces in each boiler 3 Morison Material steel Outside diameter 45 1/2"
 gth of furnace top 6'-6" Thickness of plates 9" Description of longitudinal joint 19 1/2" weld No. of strengthening rings ✓
 bottom 4'-2" Thickness of plates 9" Description of longitudinal joint 19 1/2" weld No. of strengthening rings ✓
 rking pressure of furnace by the rules 193 lbs. Combustion chamber plates: Material steel Thickness: Sides 5 1/8" Back 5 1/8" Top 5 1/8" Bottom 5 1/8"
 h of stays to ditto: Sides 4 1/8" Back 4 1/8" Top 4 1/8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 236 lbs.
 erial of stays steel Diameter at smallest part 1 3/8" Area supported by each stay 55 sq. ft. Working pressure by rules 200 lbs. End plates in steam space:
 erial steel Thickness 1 1/8" Pitch of stays 15 1/4" x 13 1/2" How are stays secured to N. & W. Working pressure by rules 197 lbs. Material of stays steel
 meter at smallest part 2 1/2" Area supported by each stay 202 sq. ft. Working pressure by rules 211 lbs. Material of Front plates at bottom steel
 kness 1 1/8" Material of Lower back plate steel Thickness 2 1/2" Greatest pitch of stays 12 3/8" Working pressure of plate by rules 190 lbs.
 meter of tubes 3 1/2" Pitch of tubes 4 5/8" Material of tube plates steel Thickness: Front 1 1/2" Back 2 1/2" Mean pitch of stays 9 1/4"
 h across wide water spaces 14 1/2" Working pressures by rules 194 lbs. Girders to Chamber tops: Material steel Depth and
 kness of girder at centre 4 1 1/8" Length as per rule 29' Distance apart 4 1/2" Number and pitch of Stays in each 2 - 4 1/8"
 rking pressure by rules 180 lbs. Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked
 ately ✓ 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 ✓
 ffitened with rings ✓ Distance between rings ✓ Working pressure by rules ✓ End plates: Thickness ✓ How stayed ✓
 rking pressure of end plates ✓ Area of safety valves to superheater ✓ Are they fitted with easing gear ✓

DONKEY BOILER— No. _____ Description *No donkey Boile.*

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. _____

Plates _____

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:— 2 Gon. rod top + 2 Gon. rod bottom end with pins, 2 main bearing, + one set of coupling bolts, one set of feed + bilge pump valves, quantity of iron, bolts + nuts, 4 bronze propeller plate, propeller shaft, set of fire bars, 2 safety valve springs, set of escape valve springs, and main + donkey feed check valve.

The foregoing is a correct description,

For RICHARDSON'S WESTGARTH & CO. LIMITED

Manufacturer.

During progress of		1901 June 13 16 17 19 July 1 3 Aug 1 6 13 16 17 18 Sept 1 5 10 12 13 17 18 20 21 23 24 25 26 27 30 Oct 1 2 3 4 7 8 9 11																														
Dates of Survey	work in shops - -																															
	During erection on board vessel - -	14 15 17 18 19 21 22 23 24 25 29 30 31 Nov 1 2 4 5 6 7 8 9 13 14 18 19 21 22 23 25 27 28 29 Dec 1 2 3 4 5 6 7 11 12 13 19 21 1902																														
	Total No. of visits	85																														

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

Is the approved plan of main boiler forwarded herewith Yes

“ “ “ donkey “ “

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

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 ✓
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 Yes If two liners are fitted, is the shaft lapped or protected between the liners ✓

The main steam pipes have been tested by hydraulic pressure to 360 lbs. pr. sq. in. and found tight. The engines and boilers of this vessel, have been built under Special Survey in accordance with the Rule requirements. The materials and workmanships are good and efficient, when completed and fitted on board were tried under steam at moorings with satisfactory results, and are now in good working order and, in my opinion, eligible to have notation L.M.C. 3 02 in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD ✠ L.M.C 3,02

Elec. Light.

17.3.02

18.3.02

The amount of Entry Fee..	£	3	:	:	When applied for,
Special	£	44	9	:	14 3 19
Donkey Boiler Fee	£	:	:	:	When received,
Travelling Expenses (if any) £	:	:	:	:	21 3 19

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

Committee's Minute

Assigned

FRI. MAR 21 1902

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