

REPORT ON MACHINERY.

Port of WEST HARTLEPOOL.

THUR. 5 APR 1900

Received at London Office

18

No. in Survey held at Hartlepool Date, first Survey 19th Oct. 1898 Last Survey 30 March 1900
 Reg. Book. 188 on the ~~Whangape~~ ~~Adriana~~ ~~Asaba~~ (Number of Visits 105)
 Master Roberts. Built at Middlesbrough By whom built Sir R. Dixon & Co. Ltd. When built 1900
 Engines made at Hartlepool By whom made J. Richardson & Son Ltd. when made 1900
 Boilers made at Hartlepool By whom made J. Richardson & Son Ltd. when made 1900
 Registered Horse Power Owners A. L. Jones. Port belonging to Liverpool.
 Nom. Horse Power as per Section 28 255 Is Electric Light fitted No.

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders three No. of Cranks three
 Diameter of Cylinders 23" 36" 59" Length of Stroke 42" Revolutions per minute 60 Diameter of Screw shaft as per rule 11.9" as fitted 12"
 Diameter of Tunnel shaft as fitted 11" Diameter of Crank shaft journals 11 3/4" Diameter of Crank pin 12 1/4" Size of Crank webs 7 1/2" x 18 1/2"
 Diameter of screw 15" 9" Pitch of screw 15" 9" No. of blades 4 State whether moveable no Total surface 72 sq. ft.
 No. of Feed pumps 2 Diameter of ditto 2 1/4" Stroke 24" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 3 1/4" Stroke 24" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 1 Im Sizes of Pumps 2 1/2" x 6" double Ballast No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4 Im — 2 Im 3 1/2" x 3" dia. 2 Im 3" dia. 8 1/2" x 4" In Holds, &c. Fore Hold. 2 Im 3" dia.
 Main Hold. 2 Im 3" dia. Aft Hold. 2 Im 3" dia. Tunnel well 2 Im 2 1/2" dia.
 No. of bilge injections one sizes 5" Connected to condenser, or to circulating pump no pump a separate donkey suction fitted in Engine room & size 3 1/2"
 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 ✓
 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 none 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock new vessel. Is the screw shaft tunnel watertight apparently.
 Is it fitted with a watertight door yes. worked from keel plate grating.

BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 4040 sq. ft. Is forced draft fitted no
 No. and Description of Boilers 2 single ended. byl. Mull. Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs.
 Date of test 23.12.99 Can each boiler be worked separately yes Area of fire grate in each boiler 44.1 sq. ft. No. and Description of safety valves to
 each boiler 1 Im. Spring direct. Area of each valve 7 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 18" Mean diameter of boilers 14" 6"
 Length 10" 6" Material of shell plates steel Thickness 1 1/2" Description of riveting: circum. seams double long. seams treble
 Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 19 1/2"
 Per centages of strength of longitudinal joint rivets 85.9 plate 85.6 Working pressure of shell by rules 182 lbs. Size of manhole in shell 13" x 16 1/2"
 Size 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"
 Length of plain part top 7" 6" bottom 7" 0" Thickness of plates crown 9/16" bottom 9/16" Description of longitudinal joint welded No. of strengthening rings ✓
 Working pressure of furnace by the rules 193 lbs. Combustion chamber plates: Material steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 15/16"
 Pitch of stays to ditto: Sides 4 3/8" Back 4 3/8" Top 4 3/8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 182 lbs
 Material of stays steel Diameter at smallest part 1 3/8" Area supported by each stay 60 sq. in. Working pressure by rules 194 lbs End plates in steam space:
 Material steel Thickness 29/32" Pitch of stays 15 1/4" x 14 1/2" How are stays secured double nut Working pressure by rules 181 lbs. Material of stays steel
 Diameter at smallest part 2 1/2" Area supported by each stay 213 sq. in. Working pressure by rules 186 lbs. Material of Front plates at bottom steel
 Thickness 1 3/8" Material of Lower back plate steel Thickness 25/32" Greatest pitch of stays 12 1/2" Working pressure of plate by rules 192 lbs
 Diameter of tubes 3 1/2" Pitch of tubes 4 5/8" Material of tube plates steel Thickness: Front 1" Back 3/4" Mean pitch of stays 9 1/4"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 182 lbs. Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 7 1/4" x 1 5/8" Length as per rule 27" Distance apart 7 1/2" Number and pitch of Stays in each Im. 4 3/8"
 Working pressure by rules 192 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
 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 ✓

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. _____

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 _____

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building	During progress of work in shops -	1898. Oct. 19, 20, 22, 31. Nov. 2, 4, 9, 16, 30. Dec. 17, 21, 23, 24, 28, 30. 1899. Jan. 4, 5, 6, 7, 10, 11, 12, 13, 17, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. Feb. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. Mar. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. Apr. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. May 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. June 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. July 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. Aug. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. Sept. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. Oct. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. Nov. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. Dec. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31.
	During erection on board vessel -	1898. Oct. 19, 20, 22, 31. Nov. 2, 4, 9, 16, 30. Dec. 17, 21, 23, 24, 28, 30. 1899. Jan. 4, 5, 6, 7, 10, 11, 12, 13, 17, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. Feb. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. Mar. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. Apr. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. May 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. June 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. July 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. Aug. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. Sept. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. Oct. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. Nov. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. Dec. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31.
	Total No. of visits	(105) 1900 Jan. 5, 23, 31. Feb. 2, 8, 14, 23. March 8, 15, 19, 20.

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

ENGINES—Length of stern bush 4-1" Diameter of crank shaft journals as per rule 11.3"
as fitted 11.2" Diameter of thrust shaft under collars 12 1/2"

BOILERS—Range of tensile strength 28-32½ Are they welded or flanged no **DONKEY BOILERS**—No. 1 Range of tensile strength 27-3

Is the approved plan of main boiler forwarded herewith Yes Is the approved plan of donkey boiler forwarded herewith do.

The Main steam pipes have been tested by hydraulic pressure to 360 lbs. per sq. in. and found tight.

The engines and boilers of this vessel, have been constructed under Special Survey, in accordance with the Rule requirements, the materials and workmanships good, when completed and fitted on board were tried under steam at moorings with satisfactory results, and are now in safe and efficient working condition, and eligible in our opinion, to have **\$ L.M.C. \$3.00** recorded in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD. ✱ LMC3.00

The amount of Entry Fee	£	2	:	:	When applied for,
Special	£	32	:	15	13. 2. 1900
Donkey Boiler Fee	£		:	:	When received,
Travelling Expenses (if any) £			:	:	19. 3. 1900

Committee's Minute

FRI 6 APR 1900

Assigned

+ Rme 3.00

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

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Foundation