

REPORT ON MACHINERY.

No. 10922

Port of WEST HARTLEPOOL

MUN 10 JUL 1899

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No. in Survey held at West Hartlepool Date, first Survey 17th March Last Survey 5th July 1899
 Reg. Book. 339 on the S.S. "Doris" (Number of Visits 24)
 Master O. Amundsen Built at Sunderland By whom built Bartram & Co. Sunderland Tons { Gross 1399 / Net 875 }
 Engines made at Sunderland By whom made J. Dickenson when made 1894
 Boilers made at West Hartlepool By whom made Central Marine Engine Works when made 1899
 Registered Horse Power _____ Owners Acties Doris (Blou & Ohlen) Port belonging to Ed. Roover
 Nom. Horse Power as per Section 28 167 Is Electric Light fitted No

ENGINES, &c.—Description of Engines

Diameter of Cylinders _____ No. of Cylinders _____ No. of Cranks _____
 Diameter of Tunnel shaft _____ Length of Stroke _____ Revolutions per minute _____ Diameter of Screw shaft _____
 Diameter of Crank shaft journals _____ Diameter of Crank pin _____ Diameter of Crank webs _____
 Diameter of screw _____ Pitch of screw _____ No. of blades _____ State whether moveable _____ Total surface _____
 No. of Feed pumps _____ Diameter of ditto _____ Stroke _____ Can one be overhauled while the other is at work _____
 No. of Bilge pumps _____ Diameter of ditto _____ Stroke _____ Can one be overhauled while the other is at work _____
 No. of Donkey Engines _____ Sizes of Pumps _____ No. and size of Suctions connected to both Bilge and Donkey pumps _____
 In Engine Room _____ In Holds, &c. _____
 No. of bilge injections _____ sizes _____ Connected to condenser, or to circulating pump _____ Is a separate donkey suction fitted in Engine room & size _____
 Are all the bilge suction pipes fitted with roses _____ Are the roses in Engine room always accessible _____ Are the sluices on Engine room bulkheads always accessible _____
 Are all connections with the sea direct on the skin of the ship _____ Are they Valves or Cocks _____
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates _____ Are the discharge pipes above or below the deep water line _____
 Are they each fitted with a discharge valve always accessible on the plating of the vessel _____ Are the blow off cocks fitted with a spigot and brass covering plate _____
 How are they protected _____
 Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times _____
 Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges _____
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock _____ Is the screw shaft tunnel watertight _____
 Is it fitted with a watertight door _____ worked from _____

BOILERS, &c.—

(Letter for record _____) Total Heating Surface of Boilers 23265 Is forced draft fitted No
 and Description of Boilers Two Single ended Tub Working Pressure 80 lb Tested by hydraulic pressure to 100 lb
 Date of test 8.6.99 Can each boiler be worked separately Yes Area of fire grate in each boiler 338 No. and Description of safety valves to boiler Two Spring Area of each valve 7.07 Pressure to which they are adjusted 82 lb Are they fitted with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean diameter of boilers 12.3
 Date 9.2 Material of shell plates Steel Thickness 3/4" Description of riveting: circum. seams none long. seams 8/16 double
 Diameter of rivet holes in long. seams 3/8" Pitch of rivets 3 3/8" Lap of plates or width of butt straps 9 1/2"
 Percentages of strength of longitudinal joint _____ Working pressure of shell by rules 96 Size of manhole in shell 16 x 12"
 Description of compensating ring Stamped No. and Description of Furnaces in each boiler 2 Plain Material Steel Outside diameter 3.6"
 Thickness of plain part _____ Thickness of plates _____ Description of longitudinal joint 8/16 Strap No. of strengthening rings 1/2
 Working pressure of furnace by the rules 84 Combustion chamber plates: Material Steel Thickness: Sides 3/2" Back 3/2" Top 3/2" Bottom 1 1/2"
 Diameter of stays to ditto: Sides 8 Back 10 1/2" Top 11 x 8 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 82 lb
 Material of stays Steel Diameter at smallest part 1.25 Area supported by each stay 92 Working pressure by rules 93 lb End plates in steam space: Material Steel Thickness 3/4" Pitch of stays 14 x 18 How are stays secured By nuts Working pressure by rules 82 lb Material of stays Steel
 Diameter at smallest part 1.78 Area supported by each stay 306 Working pressure by rules 81.7 Material of Front plates at bottom Steel
 Material of Lower back plate Steel Thickness 5/8" Greatest pitch of stays 13" Working pressure of plate by rules 108
 Diameter of tubes 3" Pitch of tubes 4 1/4" Material of tube plates Steel Thickness: Front 3/32" Back 5/8" Mean pitch of stays 12 3/4"
 Distance across wide water spaces 14" Working pressures by rules 84 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 7 x 1 1/4" Length as per rule 2.3 Distance apart 11" Number and pitch of Stays in each Two 8 pitch
 Working pressure by rules 98 lb Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked independently _____
 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 _____
 Fitted 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 _____

DONKEY BOILER— Description *Old donkey boiler*
 Made at _____ By whom made _____ When made *8.88* Where fixed *Lothburgh*
 Working pressure *70 lb* tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves *Two Spring*
 No. of safety valves *2* Area of each *5.94* Pressure to which they are adjusted *70 lb* If fitted with easing gear *Yes* 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:—

The foregoing is a correct description,
 Manufacturer. *William B. Pommerehne*
FOR THE CENTRAL MARINE ENGINE WORKS (LONDON & CO. LTD.) MANAGER.

Dates of Survey while building
 During progress of work in shops— *18.9.88, 17.10.88, 13.11.88, 2.12.88, 3.1.89, 4.2.89, 10.3.89, 16.4.89, 15.5.89, 30.6.89, June 6.7.8, July 5.*
 During erection on board vessel— *Apr. 27, May 11.15, June 2.19.27.30, July 4.5.*
 Total No. of visits *24*

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

ENGINES—Length of stern bush _____ Diameter of crank shaft journals as per rule _____ Diameter of thrust shaft under collars as fitted _____
BOILERS—Range of tensile strength _____ Are they welded or flanged _____ **DONKEY BOILERS**—No. _____ Range of tensile strength _____
 Is the approved plan of main boiler forwarded herewith *Yes* Is the approved plan of donkey boiler forwarded herewith _____

Machinery. Bottoms lighted fastenings good, new wood in Steer knob, propeller shaft good, Stern flange bushed all shafting lined throughout new grips in their castings, crank shaft turned in lathe new main bearings fitted. Condenser tubes drawn clean refitted & tested. Pumps overhauled new feed pump flumper fitted to fore engine, Cylinders, S.P. cylinder bored & lined up to 29" new piston, rods turned & flanges bushed, new end on S.P. slide spindle bushed, S.P. piston adapted. Donkey engines left.

Main Boilers. Two new main boilers have been specially built during construction the material & workmanship good & when finished were tested to twice the working pressure & found tight & satisfactory at that pressure and have been efficiently fitted in the ship, main stop & safety valves fitted, all the valves overhauled, two new main steam pipes fitted branch steam pipes repaired all tested to 16 per square inch, safety valves adapted under

The amount of Entry Fee. . . £ : : When applied for, _____
 Special . . . £ 8 : : 7.7.18.99
 Donkey Boiler Fee *1.2.8* £ : : When received, 26.7.99
 Travelling Expenses (if any) £ : :
 1065. 11 JUL 1899

Richard Kiss
 Engineer Surveyor to Lloyd's Register of British & Foreign Ships



Lloyd's Register Foundation

Committee's Minute

Assigned

+ W.B. 99 subject

Certificate (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.

S. S. "Doris"

Main boilers. And set to 82 ^{lb.}

Donkey boiler. Examined the donkey boiler inside & outside found it in good condition, new safety valves & seats have been fitted and adjusted under steam to 40 lb.

The machinery of this vessel is now in good and safe working condition & eligible in my opinion to remain as classed to have the Record + 7.12.99 in the Register Book of the Society. Provided the donkey boiler be Annually Surveyed.

Richard Hirst

W. Smith.

- 5 JAN. 1899



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