

REPORT ON MACHINERY.

Port of WEST HARTLEPOOL

Received at London Office WED. 27 OCT 1897

No. in Survey held at West Hartlepool Date, first Survey July 26th Last Survey 1st Oct. 1897
 Reg. Book. 594 on the Iron S.S. "Ryhope" (Unclassed) (Number of Visits 24)
 Master E. Fair - 96 Built at Sunderland By whom built J. Loring Tons { Gross 412 Net 432
 Engines made at Newcastle By whom made Hallsend Slipway Co. when made 1881
 Boilers made at West Hartlepool By whom made Central Marine Eng. Works when made 1894
 Registered Horse Power _____ Owners H. Gory & Son (Lim) Port belonging to London
 Nom. Horse Power as per Section 28 _____ Is Electric Light fitted No.

ENGINES, &c.—Description of Engines

Diameter of Cylinders	Length of Stroke	Revolutions per minute	No. of Cylinders	No. of Cranks
Diameter of Tunnel shaft <small>as per rule</small>	Diameter of Crank shaft journals	Diameter of Crank pin	Diameter of Screw shaft <small>as per rule</small>	Diameter of Screw shaft <small>as fitted</small>
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		
What pipes are carried through the bunkers		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 B) Total Heating Surface of Boilers 1445 sq. ft. Is forced draft fitted No
 No. and Description of Boilers One single ended, byl. Mult. Working Pressure 120 lbs. Tested by hydraulic pressure to 240 lbs.
 Date of test 1. 10. 97 Can each boiler be worked separately _____ Area of fire grate in each boiler 42.5 sq. ft. No. and Description of safety valves to each boiler Two Spring direct. Area of each valve 8.29 sq. in. Pressure to which they are adjusted _____ Are they fitted with easing gear _____
 Smallest distance between boilers or uptakes and bunkers or woodwork _____ Mean diameter of boilers 13'-6"
 Length 10'-6" Material of shell plates steel Thickness 13/16" Description of riveting: circum. seams no cir. seams long. seams treble
 Diameter of rivet holes in long. seams 7/8" Pitch of rivets 6 1/2" Lap of plates or width of butt straps 13 3/8"
 Per centages of strength of longitudinal joint rievts. 90 plate 85.5 Working pressure of shell by rules 121.9 lbs. Size of manhole in end 16" x 12"
 Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 plain Material steel Outside diameter 39"
 Length of plain part top 7'-2 3/4" bottom 7'-3" Thickness of plates crown 5/8" bottom 5/8" Description of longitudinal joint double butt strap No. of strengthening rings _____
 Working pressure of furnace by the rules 123.4 lbs. Combustion chamber plates: Material steel Thickness: Sides 17/32" Back 17/32" Top 17/32" Bottom 5/8"
 Pitch of stays to ditto: Sides 8 1/2" Back 9 1/2" Top 9 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 120.4 lbs.
 Material of stays steel Diameter at smallest part 1.25 in. Area supported by each stay 72 sq. in. Working pressure by rules 135.9 lbs. End plates in steam space: Material steel Thickness 15/16" Pitch of stays 19" x 16" How are stays secured double nuts Working pressure by rules 127.6 lbs. Material of stays steel
 Diameter at smallest part 2 29/64 in. Area supported by each stay 304 sq. in. Working pressure by rules 121.6 lbs. Material of Front plates at bottom steel
 Thickness 13/16" Material of Lower back plate steel Thickness 15/16" Greatest pitch of stays 16" Working pressure of plate by rules 121.2 lbs.
 Diameter of tubes 3 1/2" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates steel Thickness: Front 13/16" Back 5/8" Mean pitch of stays 9"
 Pitch across wide water spaces 14 1/2" Working pressures by rules E. 124. 13. 172 lbs. Girders to Chamber tops: Material steel Depth and thickness of girder at centre 7" x 1 1/2" Length as per rule 24" Distance apart 8 1/2" Number and pitch of Stays in each one
 Working pressure by rules 127. 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 _____



DONKEY BOILER— Description

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:—

The foregoing is a correct description,

FOR THE CENTRAL MARINE ENGINE WORKS,
(25, Gray & Co. St.)

Manufacturers of Main Boiler. *Thomas Mudd.*

Dates of Survey while building } 1897. July 26. 28. August 6. 20. 27. 30. Sept. 7. 8. 9. 10. 11. 13. 14. 15. 16. 17. 20. 21. 22. 23. 25. 30.
 During progress of work in shops - - }
 During erection on board vessel - - }
 Total No. of visits } *24.*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The Main Boiler of this vessel has been constructed under special survey, material and workmanship good, the ultimate tensile strength of shell does not exceed 30 tons per sq. in., was afterwards tested under 240 lbs. hydraulic pressure and found tight, and is now, in my opinion, eligible to have the notation of N.B. 97 in black marked in the Register Book; when the work in connection with fitting this boiler on board the vessel has been completed.*

The boiler has been sent to Messers. S. P. Austin & Son (Lim). Sunderland.

This Boiler appears to have been constructed under special survey but as it does not appear to be intended for a classed vessel, it is submitted that no further action need be taken.

The Sunderland Surveyors should be requested to inform this office when the boiler has been fitted on board the vessel in order that the record N.B. 97 in black may be made in the Reg Book.

The amount of Entry Fee... £ : : When applied for,
 Special £ 5 : 18 : } 26.10.97
 Donkey Boiler Fee £ : : }
 Travelling Expenses (if any) £ : : } 11.11.97

W. Smith
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
 29/10/97

Committee's Minute

Assigned

*Not for Class! Council
 (Unclassed)
 See to Bd. 2.11.97*



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