

REPORT ON MACHINERY.

No. 13065

Port of WEST HARTLEPOOL.

Received at London Office SAT. 22 SEP 1906

No. in Survey held at West Hartlepool Date, first Survey 12th March Last Survey 14/9 1906

Reg. Book. S. J. Harpenden (Number of Visits 27)

Master C. C. Smith Built at W Hartlepool by whom built James Coitby & Co Tons { Gross 3552.54 Net 2301.66 When built 1906

Engines made at Hartlepool By whom made Richardson Westgarth & Co when made 1906

Boilers made at W Hartlepool By whom made W Hartlepool when made 1906

Registered Horse Power 292 Owners J. & B. Harrison Ltd Port belonging to London.

Nom. Horse Power as per Section 28 318.6 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 24 x 39 x 60 Length of Stroke 45 Revs. per minute 60 Dia. of Screw shaft 14 1/2 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 No 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 Yes Length of stern bush 4'-10"

Dia. of Tunnel shaft 12 1/4 Dia. of Crank shaft journals 12 1/4 Dia. of Crank pin 13 Size of Crank webs 8 x 25 Dia. of thrust shaft under

collars 13 Dia. of screw 16-9 Pitch of Screw 16 x 6 No. of Blades 4 State whether moveable No Total surface 88.9 sq ft

No. of Feed pumps 2 Diameter of ditto 3 Stroke 27 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 3/4 Stroke 27 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 6 x 4 x 6 & 8 1/2 x 7 D No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room (4) 3 1/2 dia In Holds, &c. No 1 hold 2-3 1/2 No 2 hold 2-3 1/2

No. of Bilge Injections 1 sizes 5" Connected to condenser, or to circulating pump Cir Is a separate Donkey Suction fitted in Engine room & size Yes 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 Yes

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 Yes

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 2/8/06 of Stern Tube 16/8/06 Screw shaft and Propeller 18/8/06

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top Platform

OILERS, &c.—(Letter for record S) Manufacturers of Steel Glydebridge Steel Co Lin

Total Heating Surface of Boilers 4403 sq ft Is Forced Draft fitted No No. and Description of Boilers 2 Single Ended

Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 3/8/06 No. of Certificate 3071

Can each boiler be worked separately Yes Area of fire grate in each boiler 52.31 sq ft No. and Description of Safety Valves to

each boiler 2 Spring Area of each valve 11.04 sq ft 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 dia. of boilers 16'-0" Length 10'-9" Material of shell plates S

Thickness 1 1/32 Range of tensile strength 28/31 1/2 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams TR

long. seams TRDBS Diameter of rivet holes in long. seams 1 1/32 Pitch of rivets 8 3/4 Lap of plates or width of butt straps 19"

Percentages of strength of longitudinal joint rivets 89.6 Working pressure of shell by rules 187 lbs Size of manhole in shell 13 x 16 1/2

Size of compensating ring 1 1/32 No. and Description of Furnaces in each boiler 3 Morrison Material S Outside diameter 50 3/4

Length of plain part top 9 Thickness of plates 7/8 Description of longitudinal joint Weld No. of strengthening rings 1

Working pressure of furnace by the rules 198.5 lbs Combustion chamber plates: Material S Thickness: Sides 19/32 Back 7/8 Top 19/32 Bottom 7/8

Pitch of stays to ditto: Sides 7 1/2 x 7 1/8 Back 8 x 8 Top 7 7/8 x 7 1/4 stays are fitted with nuts or riveted heads Nuts Working pressure by rules 212 lbs

Material of stays S Diameter at smallest part 1 3/8 Area supported by each stay 64 sq ft Working pressure by rules 186 lbs End plates in steam space:

Material S Thickness 1 1/16 Pitch of stays 15 x 20 How are stays secured DN+W Working pressure by rules 185 lbs Material of stays S

Diameter at smallest part 27/8 Area supported by each stay 300 sq ft Working pressure by rules 216.5 lbs Material of Front plates at bottom S

Thickness 7/8 Material of Lower back plate S Thickness 13/16 Greatest pitch of stays 12 3/4 Working pressure of plate by rules 205 lbs

Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 Material of tube plates S Thickness: Front 15/16 Back 3/4 Mean pitch of stays 9"

Pitch across wide water spaces 14 1/4 Working pressures by rules 188 lbs Girders to Chamber tops: Material S Depth and

thickness of girder at centre 8 x 13 1/4 Length as per rule 3 1/2 Distance apart 7 7/8 Number and pitch of stays in each 37 1/4

Working pressure by rules 184.5 lbs Superheater or Steam chest; how connected to boiler No Can the superheater be shut off and the boiler worked

separately No Diameter No Length No Thickness of shell plates No Material No Description of longitudinal joint No Diam. of rivet

holes No Pitch of rivets No Working pressure of shell by rules No Diameter of flue No Material of flue plates No Thickness No

If stiffened with rings No Distance between rings No Working pressure by rules No End plates: Thickness No How stayed No

Working pressure of end plates No Area of safety valves to superheater No Are they fitted with easing gear No

Sample of Steel

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____

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:— 1 Spare propeller 1 spare propeller shaft & Spare gear as per rule requirements

The foregoing is a correct description,
for RICHARDSON, WESTGARTH & CO., LIMITED
Manufacturer.

Managing Director, _____

Dates of Survey while building: During progress of work in shops— 1906. Mar. 12. Apr. 4. 25. 27. May. 3. 24. 29. 31. June. 22. 28. July. 2. 4. 6. 9. 12. 13. 16. 20. 23. Aug. 1. 2. 3. 6. 21. Sept. 13. 14. Total No. of visits 27.

Is the approved plan of main boiler forwarded herewith Yes
" " " donkey " " " Yes

Dates of Examination of principal parts—Cylinders 3/7/06 Slides 24/5/06 Covers 4/7/06 Pistons 2/8/06 Rods 2/8/06
Connecting rods 2/8/06 Crank shaft 28/6/06 Thrust shaft 3/5/06 Tunnel shafts 7/6/06 Screw shaft 2/7/06 Propeller 16/8/06
Stern tube 16/8/06 Steam pipes tested 21/8/06 Engine and boiler seatings 16/8/06 Engines holding down bolts 16/8/06
Completion of pumping arrangements 14/9/06 Boilers fixed 14/9/06 Engines tried under steam 14/9/06
Main boiler safety valves adjusted 14/9/06 Thickness of adjusting washers PBPB 17/32 50 1/2 SBPB 1/2 50 17/32
Material of Crank shaft \$ Identification Mark on Do. 4443 Material of Thrust shaft 3 Identification Mark on Do. 4444
Material of Tunnel shafts \$ Identification Marks on Do. 4443 Material of Screw shafts 3 Iron Identification Marks on Do. 4443
Material of Steam Pipes W Iron Test pressure 500 lb

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

The Engines & Boilers of this vessel have been constructed under special survey & the materials & workmanship are sound & good. The Safety valves of the Main & Donkey boilers have been adjusted under steam to the working pressure & the Engines have been tried under steam & found satisfactory.

The Machinery of this vessel is now in good & safe working condition & is eligible in my opinion to have the notation of + L.M.C. 9. 06 (in red) in the Register Book.

It is submitted that this vessel is eligible for THE RECORD H.L.M.C. 9. 06.

The amount of Entry Fee... £ : : When applied for, 20.9.06
Special ... £ 25.19 : :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : : 25.9.06

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

Committee's Minute FRI, 28 SEP 1906

Assigned

West Hartlepool

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