

REPORT ON MACHINERY.

No. 12925.

TUES. 1 MAY 1906

Port of WEST HARTLEPOOL.

Received at London Office

No. in Survey held at HARTLEPOOL

Date, first Survey 6th Sept 1905 Last Survey 27th April 1906

Reg. Book.

(Number of Visits 43)

on the S.S. Bessborough

Master R. J. P. Bessborough Built at W. Hartlepool By whom built Furness W. & Co. Ltd. When built 1906

Engines made at Hartlepool By whom made Richardson, Wigham & Co. Ltd. when made 1906

Boilers made at Hartlepool By whom made Richardson, Wigham & Co. Ltd. when made 1906

Registered Horse Power Owners Hull Steam Shipping Co. Ltd. Port belonging to Hull

Nom. Horse Power as per Section 28 317 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

Tons Gross 3807.22 Net 2469.98

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

Dia. of Cylinders 24, 39, 66 Length of Stroke 45 Revs. per minute 60 Dia. of Screw shaft as per rule 14.3 Material of screw shaft as fitted 14.2

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Continuous 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 No Length of stern bush 4'-10"

Dia. of Tunnel shaft as per rule 12.65 Dia. of Crank shaft journals as per rule 12.65 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'-6" No. of Blades 4 State whether moveable No Total surface 87.5 sq'

No. of Feed pumps 2 Diameter of ditto 3 3/4 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. diam. No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2 No 3 holed 3 1/2 2 No 4 holed 3 1/2 1 Linnec well 2 1/2 dia In Holds, &c. 2 No 3 holed 3 1/2 2 No 2 holed 2 1/2

No. of Bilge Injections 1 sizes 5 Connected to condenser, or to circulating pump No 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 No

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 3/3/06 of Stern Tube 3/3/06 Screw shaft and Propeller 3/3/06

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Eng. Room top platform

BOILERS, &c.—(Letter for record B) Manufacturers of Steel Clydebridge Steel Co. Ltd.

Total Heating Surface of Boilers 4891 Is Forced Draft fitted No No. and Description of Boilers Two Single ended

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 1/2/06 No. of Certificate 3034

Can each boiler be worked separately Yes Area of fire grate in each boiler 52.3 sq' No. and Description of Safety Valves to each boiler 2 Spring Area of each valve 7.06 sq' 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 Steel

Thickness 19/32 Range of tensile strength 28.5/32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DR

long. seams TR DBS Diameter of rivet holes in long. seams 19/32 Pitch of rivets 8 3/8 Top of plates or width of butt straps 18 1/4

Per centages of strength of longitudinal joint rivets 86.5 plate 85.2 Working pressure of shell by rules 181.5 lbs Size of manhole in shell 12 x 16 1/2

Size of compensating ring 19/32 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 crown 19/32 Description of longitudinal joint welded. No. of strengthening rings 1

Working pressure of furnace by the rules 186 lbs Combustion chamber plates: Material S Thickness: Sides 19/32 Back 19/32 Top 19/32 Bottom 14/16

Pitch of stays to ditto: Sides 7/2 x 8 1/2 Back 8 x 8 1/2 Top 8 1/2 x 7 1/4 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 183.5 lbs

Material of stays S Diameter at smallest part 1 1/2 Area supported by each stay 650 Working pressure by rules 180 lbs End plates in steam space: Material S Thickness 1" Pitch of stays 16 1/4 x 16 1/8 How are stays secured DN 410 Working pressure by rules 180 lbs Material of stays S

Diameter at smallest part 2 1/2 Area supported by each stay 16 1/4 x 16 1/8 Working pressure by rules 180 lbs Material of Front plates at bottom S

Thickness 24/16 Material of Lower back plate S Thickness 13/16 Greatest pitch of stays 13" Working pressure of plate by rules 194 lbs

Diameter of tubes 3 3/4 Pitch of tubes 4 1/2 Material of tube plates S Thickness: Front 15/16 Back 12/16 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 1/2 x 19 1/4 Length as per rule 22 3/4 Distance apart 8 3/4 Number and pitch of stays in each (3) 7 1/4

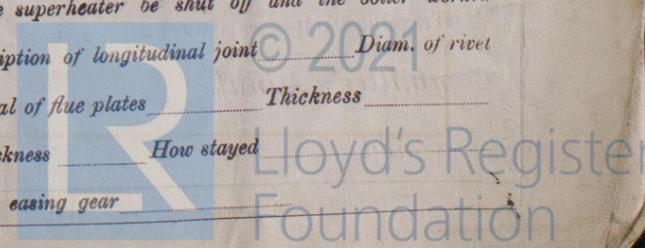
Working pressure by rules 187 lbs Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

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

W596-0165



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 _____ 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. Spare tail and shaft 1 anvil & set of tools 1 Tube expander 1 Box Laps & dies 50 Friebars etc. & Spare gear as per rule requirement

The foregoing is a correct description,
for **RICHARDSONS, WESTGARH & CO., LIMITED.** Manufacturers.

Dates of Survey while building	During progress of work in shops—	1905. Sept. 6. 27. Oct. 3. Nov. 15. 16. 20. 24. 27. 28. 29. Dec. 1. 4. 5. 6. 7. 8. 11. 12. 13. 15. 18. 29. 1906. Jan. 5. 9. 10. 19. 23. 26.
	During erection on board vessel—	Feb. 1. 2. 5. 6. 8. 12. 14. 16. 24. 27. 28. Mar. 2. 3. Apr. 23. 27.
	Total No. of visits	48

Is the approved plan of main boiler forwarded herewith *Yes please for duplicate*

Dates of Examination of principal parts—	Cylinders 5/1/06	Slides 2/2/06	Covers 2/3/06	Pistons 3/2/06	Rods 10/1/06
Connecting rods	8/2/05	Crank shaft 3/1/06	Thrust shaft 13/2/05	Tunnel shafts 6/12/05	Screw shaft 14/2/06
Stern tube	13/2/06	Steam pipes tested 2/3/06	Engine and boiler seatings 28/2/06	Engines holding down bolts 28/2/06	
Completion of pumping arrangements	3/3/06	Boilers fixed 3/3/06	Engines tried under steam 3/3/06		
Main boiler safety valves adjusted	3/3/06	Thickness of adjusting washers	SB 8 5/16 P 5/16 PB 8 5/16 P 5/16		
Material of Crank shaft	Wagon S	Identification Mark on Do.	4346747	Material of Thrust shaft	Wagon S
Material of Tunnel shafts	"	Identification Marks on Do.	"	Material of Screw shafts	Scrap S
Material of Steam Pipes	W Iron	Test pressure	630 llo.		

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 engines have been tried under steam & the safety valves of the main & donkey boilers have been adjusted under steam to the working pressure. The machinery of this vessel is now in good order & safe working condition & eligible in my opinion to have the notation of + LMC 4.06 (in red) in the Register Book.

It is submitted that this vessel is eligible for THE RECORD L.M.C. 4.06

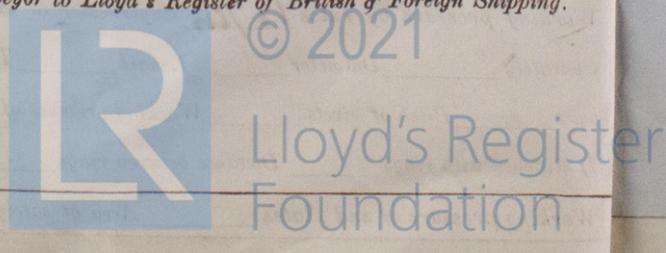
The amount of Entry Fee	£ 3	When applied for	27. 4. 1906
Special	£ 35. 17	When received	1. 5. 06
Donkey Boiler Fee	£ :		
Travelling Expenses (if any)	£ :		

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

Committee's Minute **FRI. 4 MAY 1906**

Assigned + LMC 4.06

MACHINERY CERTIFICATE WRITTEN.



Certificate (if required) to be sent to the Committee's Minute.

FLAT (If I GAR Stat this way B) DOU Len an thick POOL BEL FOR man Plat 12 FR RE Low Bow Top Rig Sai EQ Num Cert 28 7 57 3 11 Bo Pu Wi En W Co Nu Ce Ca Sta Nu Bu Th Bu