

REPORT ON MACHINERY.

No. 12694.

Port of West Hartlepool

Received at London Office WED. 29 AUG 1905

No. in Survey held at West Hartlepool Date, first Survey 14 February Last Survey 2nd August 1905

Reg. Book.

Supp. on the Steel Steamer Cameron Tons { Gross 3043.99
Net 1928.76
When built 1905

Master J. J. J. Built at West Hartlepool By whom built James L. B. & Co. Ltd

Engines made at Hartlepool By whom made Richardson, Wigham & Co. Ltd When made 1905

Boilers made at Hartlepool By whom made Richardson, Wigham & Co. Ltd When made 1905

Registered Horse Power _____ Owners A. J. & Co. Cameron & Co. Port belonging to West Hartlepool

Com. Horse Power as per Section 28 275 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Single Compound No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 24" 36" 64" Length of Stroke 42" Revs. per minute 65 Dia. of Screw shaft 12.54" Material of Iron
as per rule 11.26 as fitted 11.26 screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No 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 No If two

liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 55"

Dia. of Tunnel shaft 11.26" Dia. of Crank shaft journals 11.26" Dia. of Crank pin 12.5" Size of Crank webs 23.7 1/2" Dia. of thrust shaft under

rollers 12 1/2" Dia. of screw 16.0" Pitch of screw 16.6" No. of blades 44 State whether moveable No Total surface 75 sq ft

No. of Feed pumps Two Diameter of ditto 2 1/4" Stroke 27" Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two Diameter of ditto 3 1/4" Stroke 27" Can one be overhauled while the other is at work Yes

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

In Engine Room Three 3 1/2" In Holds, &c. One 3"

No. of bilge injections Five Connected to condenser, or to circulating pump Yes 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 No Are they Valves or Cocks Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates No Are the discharge pipes above or below the deep water line Below

Are they each fitted with a discharge valve always accessible on the plating of the vessel No Are the blow off cocks fitted with a spigot and brass covering plate Yes

What pipes are carried through the bunkers No 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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock Nov 1904 Is the screw shaft tunnel watertight Yes

Is it fitted with a watertight door Yes worked from Top Station

BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 4264 sq ft Is forced draft fitted No

No. and Description of Boilers Two Lyle Induced Air Furnaces Working Pressure 160 lb Tested by hydraulic pressure to 320 lb

Date of test 19/6/05 Can each boiler be worked separately Yes Area of fire grate in each boiler 50 sq ft No. and Description of safety valves to

each boiler Two Spring Area of each valve 7.07 sq in Pressure to which they are adjusted 165 lb Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 29" Mean dia. of boilers 15.6" Length 10.0" Material of shell plates Steel

Thickness 1 1/8" Range of tensile strength 29,000 Are they welded or flanged No Descrip. of riveting: cir. seams all in lap long. seams all lap

Diameter of rivet holes in long. seams 17/32" Pitch of rivets 7 1/4" Lap of plates or width of butt straps 17 1/2"

Per centages of strength of longitudinal joint 85.37 Working pressure of shell by rules 161 lb Size of manhole in shell 16 1/2" x 13"

Size of compensating ring 29 x 30 = 17 1/2" No. and Description of Furnaces in each boiler Three Induced Air Material Steel Outside diameter 48 1/4"

Length of plain part top 1 1/2" Thickness of plates bottom 1 1/2" Description of longitudinal joint Welded No. of strengthening rings Compound

Working pressure of furnace by the rules 168 lb Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 13/16"

Pitch of stays to ditto: Sides 5 1/2" x 8" Back 5 1/2" x 8" Top 5 1/2" x 8" If stays are fitted with nuts or riveted heads No Working pressure by rules 161 lb

Material of stays Steel Diameter at smallest part 1 3/8" Area supported by each stay 60 sq in Working pressure by rules 175 lb End plates in steam space:

Material Steel Thickness 1" Pitch of stays 18 1/2" x 16" How are stays secured all nut Working pressure by rules 161 lb Material of stays Steel

Diameter at smallest part 2 3/8" Area supported by each stay 296 sq in Working pressure by rules 167 lb Material of Front plates at bottom Steel

Thickness 1 3/16" Material of Lower back plate Steel Thickness 1 1/4" Greatest pitch of stays 13" Working pressure of plate by rules 162 lb

Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" Material of tube plates Steel Thickness: Front 15/16" Back 12/16" Mean pitch of stays 9"

Pitch across wide water spaces 14 1/4" Working pressures by rules 166 lb Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 7 x 15 1/8" Length as per rule 28" Distance apart 8 1/2" Number and pitch of Stays in each two 8 1/2"

Working pressure by rules 165 lb 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 _____

W1274-0233

DONKEY BOILER—

No. *one* Description *Cochran Patent*Made at *Amman*

By whom made

*Cochran & Co*When made *1905* Where fixed *Atchafalca*Working pressure *100 lb* tested by hydraulic pressure to *200 lb* No. of Certificate *7613* Fire grate area *284 sq ft* Description of safety valves *Spring*No. of safety valves *two* Area of each *5.41* Pressure to which they are adjusted *100 lb* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *7.6* Length *16.5* Material of shell plates *Steel* Thickness *9/16* Range of tensile strength *27-32* Descrip. of riveting long. seams *all in lap* Dia. of rivet holes *29/32* Whether punched or drilled *drilled* Pitch of rivets *2 7/8*Lap of plating *4 1/2* Per centage of strength of joint Rivets *676* Thickness of shell crown plates *1/2* Radius of do. *3.9* No. of Stays to do. *—*Dia. of stays. *—* Diameter of furnace Top *5.9* Bottom *—* Length of furnace *23 1/2* Thickness of furnace plates *—* Description of joint *lap* Thickness of furnace crown plates *23/32* Stayed by *—* Working pressure of shell by rules *102 lb*Working pressure of furnace by rules *111 lb* Diameter of uptake *2 1/2* Thickness of uptake plates *13/16* Thickness of water tubes *1/4*SPARE GEAR. State the articles supplied:— *Two top end bolts. Two bottom end bolts. One main leading bolt. One set coupling bolts. One set dead pump valves. One set bridge pump valves. Bolt and nuts. Mud iron & scraper.*The foregoing is a correct description,
For **RICHARDSONS, WESTGARTH & CO. LIMITED**
L.D. Gage Manufacturer.

Dates of Survey while building	{	During progress of work in shops—	<i>1905 Feb. 8, 9, 14, 20, 23, 24, 27, 28. Mar. 1, 2, 3, 4, 6, 7, 8, 9, 10, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30. Apr. 5, 10, 13, 14, 15, 20, 26, 28.</i>
		During erection on board vessel—	<i>May 4, 5, 6, 8, 11, 12, 15, 22, 23, 24, 25, 26, 29, 31. June 8, 9, 15, 16, 17, 19, 20, 21, 23, 24, 26, 27, 29, 30. July 4, 7, 10, 11, 13, 17, 20, 27, 31. Aug 3, 4, 14, 15, 21.</i>
		Total No. of visits	<i>83</i>

Is the approved plan of main boiler forwarded herewith *Yes*" " " donkey " " " *No*General Remarks (State quality of workmanship, opinions as to class, &c. *Workmanship good.*)

Note

This case is similar in all respects to the S.S. "Gloriana" was last reported Report No 12635 dated 22/5/05 excepting that the Propeller shaft has a continuous liner.

The Main Steam Pipes have been tested to 450 lb and found tight and sound (are of iron).

The Machinery and Boilers of this vessel have been constructed under Special Survey and placed on board in accordance with The Society's Rules. They are now in my opinion in safe working condition and the case is respectfully submitted for the certification + L.M.C. 8.05 in The Register Book.

**It is submitted that
this vessel is eligible for
17th RECORD**

L.M.C. 8.05

*Engl.
29.8.05*

*ES
29.8.05*

The amount of Entry Fee..	£	<i>2</i>	:	:	When applied for,	<i>24.8.05</i>
Special ..	£	<i>33</i>	:	<i>15</i>	:	<i>19.05</i>
Donkey Boiler Fee ..	£	:	:	:	When received,	<i>26.8.05</i>
Travelling Expenses (if any) £	:	:	:	:	:	<i>19.05</i>

*For W. L. Smith (J.P.) & Samuel Lane
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.*

Committee's Minute *FRI. 1 SEP 1905*Assigned *+ L.M.C. 8.05*