

## REPORT ON MACHINERY.

No. 3942

Port of MIDDLESBROUGH-ON-TEES.Received at London Office PHIL 12 AUG 1904

No. in Survey held at Middlesbrough Date, first Survey 16 May Last Survey 9th Aug. 1904  
 Reg. Book. S S "Cherrybrook" (Number of Visits 29) Gross 759.41  
20 Supp. on the Tons Net 1104.36  
 Master E Adams Built at Middlesbro By whom built W<sup>m</sup> Harkness & Son Ltd When built 1904  
 Engines made at Middlesbro By whom made Richardsons Westgarth & Co Ltd when made 1904  
 Boilers made at Middlesbro By whom made ditto when made 1904  
 Registered Horse Power \_\_\_\_\_ Owners Whiteway & Ball Port belonging to Teignmouth  
 Nom. Horse Power as per Section 28 109 Is Refrigerating Machinery fitted no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 16½" - 27" - 44" Length of Stroke 30" Revs. per minute \_\_\_\_\_ Dia. of Screw shaft as per rule 2.57 Material of Ingot Steel  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liner Is the after end of the stem tube made water tight  
 in the propeller boss yes If the liner is in more than one length are the joints burned \_\_\_\_\_ 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 \_\_\_\_\_ If two  
 liners are fitted, is the shaft lapped or protected between the liners Cedexall's patent fitted Length of stern bush 4'-0"  
 Dia. of Tunnel shaft as per rule 4.9" Dia. of Crank shaft journals as per rule 8.3" Dia. of Crank pin 9" Size of Crank webs 6" x 14½" Dia. of thrust shaft under  
 collars 9" Dia. of screw 11'-6" Pitch of screw 13'-6" No. of blades 4 State whether moveable no Total surface 40 sq. ft.  
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 18" Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 Diameter of ditto 3" Stroke 18" Can one be overhauled while the other is at work yes  
 No. of Donkey Engines 2 Duplex Sizes of Pumps 1 ½" x 3" x 4" Ballast 6" x 6" x 10" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Three of 2½" In Holds, &c. Two of 2" in each hold  
One of 2½" in tunnel  
 No. of bilge injections 1 sizes 3½" Connected to condenser, or to circulating pump C.P. Is a separate donkey suction fitted in Engine room & size yes 4"  
 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 none  
 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 for hold suction How are they protected strong wood casing  
 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 new vessel Is the screw shaft tunnel watertight see ship report  
 Is it fitted with a watertight door yes worked from Upper grating

BOILERS, &c.—(Letter for record (T)) Total Heating Surface of Boilers 1680 sq. ft. Is forced draft fitted no  
 No. and Description of Boilers One cyl. multi single ended Working Pressure 160 lb Tested by hydraulic pressure to 320 lb  
 Date of test 12.7.04 Can each boiler be worked separately \_\_\_\_\_ Area of fire grate in each boiler 57½ sq. ft. No. and Description of safety valves to  
 each boiler Two direct spring Area of each valve 9.62" 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 10½" Mean dia. of boilers 14'-0" Length 10'-0" Material of shell plates Steel  
 Thickness 1½" Range of tensile strength 29/32 Are they welded or flanged no Descrip. of riveting: cir. seams DR lap long. seams DR butt St.  
 Diameter of rivet holes in long. seams 1½" Pitch of rivets 7½" row 3½" 2 rows Top of plates or width of butt straps 16½" x 3½"  
 Per centages of strength of longitudinal joint rivets 87 Working pressure of shell by rules 166 lbs Size of manhole in shell 12" x 16"  
 Size of compensating ring 8½" x 1½" each side No. and Description of Furnaces in each boiler 3 plain Material steel Outside diameter 3'-7½"  
 Length of plain part top 6'-8½" bottom 6'-7½" Thickness of plates crown 3" bottom 3" Description of longitudinal joint Welded No. of strengthening rings ✓  
 Working pressure of furnace by the rules 167 lb Combustion chamber plates: Material S. Thickness: Sides 4" Back 5" Top 11" Bottom 11"  
 Pitch of stays to ditto: Sides 8½" x 10½" Back 8½" x 9½" Top 8½" x 10½" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 166 lb  
 Material of stays S. Diameter at smallest part 2.09" Area supported by each stay 89.25" Working pressure by rules 175 lb End plates in steam space:  
 Material Steel Thickness 1½" Pitch of stays 19½" x 20" How are stays secured Nuts & 4 lb Working pressure by rules 162 lb Material of stays Steel  
 Diameter at smallest part 10.54" Area supported by each stay 345" Working pressure by rules 172 lb Material of Front plates at bottom Steel  
 Thickness 15" Material of Lower back plate Steel Thickness 13" Greatest pitch of stays 14½" x 8½" Working pressure of plate by rules 163.5  
 Diameter of tubes 3½" Pitch of tubes 4½" x 4½" Material of tube plates Steel Thickness: Front 15" Back 3½" Mean pitch of stays 11½"  
 Pitch across wide water spaces 14½" Working pressures by rules 166 lb Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 8" x 1½" Length as per rule 2'-4½" Distance apart 10½" Number and pitch of Stays in each Two 8½"  
 Working pressure by rules 189 lb Superheater or Steam chest; how connected to boiler None 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 \_\_\_\_\_

If not, state whether, and when, one will be sent?

Is a Report also sent on the Hull of the ship?

machined to 10  
off 4.36



DONKEY BOILER— No. *One* Description *Vertical with 3 cross tubes*  
Made at *Middlesbrough* By whom made *J.D. Ridley & Sons* When made *13-7-04* Where fixed *Stoke Hold*  
Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *3259* Fire grate area *19 sq ft* Description of safety valves *direct spring*  
No. of safety valves *one* Area of each *9.62 sq in* Pressure to which they are adjusted *80 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler *6'-0"* Length *10'-6"* Material of shell plates *Steel* Thickness *13/32"* Range of tensile strength *27/32* Descrip. of riveting long. seams *DR lap* Dia. of rivet holes *13/16"* Whether punched or drilled *drilled* Pitch of rivets *2.5"*  
Lap of plating *4 1/4"* Per centage of strength of joint *82.88* Rivets *69* Thickness of shell crown plates *9/16"* Radius of do. *5'-9"* No. of Stays to do. *6*  
Dia. of stays *2" eff.* Diameter of furnace Top *4'-8"* Bottom *5'-4"* Length of furnace *3'-10"* Thickness of furnace plates *17/32"* Description of joint *SR lap* Thickness of furnace crown plates *31/32"* Stayed by *as above* Working pressure of shell by rules *84 lbs*  
Working pressure of furnace by rules *88.5 lbs* Diameter of uptake *15"* Thickness of uptake plates *1/2"* Thickness of water tubes *1/2"*

SPARE GEAR. State the articles supplied:— *2 Bolts & nuts for connecting rods, piston rods & main bearings & 1 set for couplings. 1 set feed, belger & donkey pump valves. 1/2 set air pump valves 1 feed check valve. Safety & escape valve springs 6 piston bolts. assorted bolts and nuts. propeller.*

The foregoing is a correct description,  
For **RICHARDSONS, WESTCARTH & Co. Ltd.**

Manufacturer.

*J.D. Ridley* MANAGING DIRECTOR.  
Dates of Survey  
During progress of work in shops—  
During erection on board vessel—  
Total No. of visits—  
*May 16. 18. 20. 26. 28. 31. June 1. 1. 6. 8. 9. 20. 21. 22. 24. 24. 27. 30. July 4. 7. 11. 14. 18. 22. 25. 27. 28. Aug 3-9-1904*  
*29.*

Is the approved plan of main boiler forwarded herewith *yes*

" " " donkey " " " *yes*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery is not placed aft. Cedewalls patent lubricating box fitted to the steam tube.*)

*This vessel's machinery has been constructed under special survey. The materials and workmanship are good and efficient. After fitting and securing on board it has been satisfactorily tried under steam, and is now in good working condition and eligible in my opinion to have the record* **LMC 8.04.**

It is submitted that  
this vessel is eligible for  
THE RECORD. **LMC 8.04**

*R.D. Shilston*  
*19.8.04*

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

The amount of Entry Fee... £ *2* : - :  
Special ... £ *16* : *7* :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, *12. August 1904*  
When received, *13.12.1904*

*R.D. Shilston*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

TUES. 23 AUG 1904

Assigned

*+ LMC 8.04*