

## REPORT ON MACHINERY.

No. 47804.

Port of *Newcastle*No. in Survey held at *South Shields*Date, first Survey *May 12*

Received at London Office

Last Survey *20<sup>th</sup> October 1904*

Reg. Book.

(Number of Visits *23*)on the *S.S. SOUTHVILLE*Master *G. Han*Built at *South Shields*By whom built *Messrs J. Readhead & Sons*Tons { Gross *3518*  
Net *2266*Engines made at *South Shields*By whom made *Messrs J. Readhead & Sons*When built *1904*Boilers made at *do*By whom made *do*when made *1904-10*

Registered Horse Power

Owners *Balloy & Stanfield*Port belonging to *South Shields*Nom. Horse Power as per Section 28 *293.4*Is Refrigerating Machinery fitted *No*Is Electric Light fitted *No*

## ENGINES, &amp;c.—Description of Engines

*Tri-compound*No. of Cylinders *3*No. of Cranks *3*Dia. of Cylinders *24-40-65* Length of Stroke *45* Revs. per minute *60*Dia. of Screw shaft as per rule *13.17* Material of screw shaft *Scrap 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 *1 length*

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 *Fitting*

If two liners are fitted, is the shaft lapped of protected between the liners

Length of stern bush *4.5"*Dia. of Tunnel shaft as per rule *11.64*Dia. of Crank shaft journals as per rule *12.22*Dia. of Crank pin *12 1/4*Size of Crank webs *8 1/2 x 15 1/2*

Dia. of thrust shaft under

collars *12 3/4*Dia. of screw *16.3*Pitch of screw *15-17.6"*No. of blades *4*State whether moveable *No*

Total surface

*73 sq*No. of Feed pumps *2*Diameter of ditto *3 1/2*Stroke *24"*Can one be overhauled while the other is at work *Yes*No. of Bilge pumps *2*Diameter of ditto *4 3/8*Stroke *24"*Can one be overhauled while the other is at work *Yes*No. of Donkey Engines *2*Sizes of Pumps *1 1/2 x 9 x 13 4 6 x 4 x 6 8 1/2 x 6*

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *3*of *3 1/2" diam*

In Holds, &amp;c.

*Fore hold P & S. Two of 3 1/2"*Main *Two of 3 1/2" diam*after hold *F Two of 3 1/2" A Two of 3 1/2"*No. of bilge injections *1*sizes *5 1/2"*Connected to ~~condenser~~ to circulating pump *Pump*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 *No sluices*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 *—*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 York*Is the screw shaft tunnel watertight *Yes*Is it fitted with a watertight door *Yes*worked from *Engine room gratings*

## BOILERS, &amp;c.—

(Letter for record *2*)Total Heating Surface of Boilers *4507.3*Is forced draft fitted *No*No. and Description of Boilers *Two Single ended*Working Pressure *160*Tested by hydraulic pressure to *320 lb*Date of test *23-8-04*Can each boiler be worked separately *Yes*Area of fire grate in each boiler *45 sq*

No. and Description of safety valves to

each boiler *Two Spring loaded*Area of each valve *7.066*Pressure to which they are adjusted *165 lb*Are they fitted with easing gear *Yes*Smallest distance between boilers on ~~upstake~~ and bunkers on ~~woodwork~~ *22"*Mean dia. of boilers *15.8"*Length *10-4"*Material of shell plates *Stal*Thickness *1 3/16*Range of tensile strength *27/32*Are they welded or flanged *No*Descrip. of riveting: cir. seams *Lap D.R.*long. seams *D.B.S*Diameter of rivet holes in long. seams *1 3/8*Pitch of rivets *8 1/16*Lap of plates or width of butt straps *1-9 1/2"*Per centages of strength of longitudinal joint rivets *84.39*plate *84.51*Working pressure of shell by rules *160 lb*Size of manhole in shell *16 x 12"*Size of compensating ring *6" x 1 3/16*No. and Description of Furnaces in each boiler *3 Dighton*Material *Stal*Outside diameter *3-10"*Length of plain part *top**bottom*Thickness of plates *crown**1/2"*Description of longitudinal joint *Welded*No. of strengthening rings *—*Working pressure of furnace by the rules *162*Combustion chamber plates: Material *Stal*Thickness: Sides *5/8*Back *5/8*Top *5/8*Bottom *7/8*Pitch of stays to ditto: Sides *9 x 8 7/8*Back *8 1/2 x 8 1/2*Top *8 1/2 x 8 1/2*If stays are fitted with nuts or riveted heads *nuts*Working pressure by rules *167*End plates in steam space: *5.4 lb 169*Material of stays *Iron*Diameter at smallest part *1 1/4 x 1 1/8*Area supported by each stay *9 x 8 7/8*Working pressure by rules *162*End plates in steam space: *5.4 lb 169*Material of stays *Stal*Material *Stal*Thickness *1 1/8*Pitch of stays *17 1/4 x 17 1/8*How are stays secured *By nuts*Working pressure by rules *163*Material of stays *Stal*Diameter at smallest part *5.05*Area supported by each stay *17 1/4 x 17 1/8*Working pressure by rules *166*Material of Front plates at bottom *Stal*Thickness *3/4*Greatest pitch of stays *19 x 13*Working pressure of plate by rules *169*Pitch of tubes *4 3/4*Material of tube plates *Stal*Thickness: Front *3/4*Back *3/4*Mean pitch of stays *9 1/2 x 11.5"*Pitch across wide water spaces *14"*Working pressures by rules *177*Girders to Chamber tops: Material *Stal*

Depth and

thickness of girder at centre *8 x 1 1/2*Length as per rule *2.5 1/2*Distance apart *8 1/2*Number and pitch of Stays in each *Two 8"*Working pressure by rules *160*

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

How stayed

If stiffened with rings

Distance between rings

Working pressure of end plates

Area of safety valves to superheater

Working pressure by rules

End plates: Thickness

How stayed

Are they fitted with easing gear

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W649-0164



**DONKEY BOILER**— No. *One* Description *Blake's Improved Vertical*  
 Made at *Middlesbrough* By whom made *Richardson Westgarth & Co.* When made *11.5.04* Where fixed *Stokehold*  
 Working pressure *80* tested by hydraulic pressure to *110* No. of Certificate *3200* Fire grate area *28 sq* Description of safety valves *Spring loaded*  
 No. of safety valves *1* Area of each *15.9* 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 *7.6* Length *16.3* Material of shell plates *Steel* Thickness *15/32* Range of tensile strength *27 1/2* Descrip. of riveting long. seams *D.R. Lap* Dia. of rivet holes *15/16* Whether punched or drilled *drilled* Pitch of rivets *3"*  
 Lap of plating *4 5/8* Per centage of strength of joint *83.3* Rivets *68.75* Thickness of shell crown plates *15/32* Radius of do. *3.9* No. of Stays to do. *—*  
 Dia. of stays. *—* Diameter of furnace Top *3.9* Bottom *6.0* Length of furnace *4.7 1/2* Thickness of furnace plates *5/8* Description of joint *S.R. Lap* Thickness of furnace crown plates *Back 11/16* Stayed by *Cylindrical tube* Working pressure of shell by rules *81 lbs*  
 Working pressure of furnace by rules *91.6* Diameter of uptake *2 1/4* Thickness of uptake plates *1"* Thickness of water tubes *3 5/8*

**SPARE GEAR.** State the articles supplied:— *1 Spare propeller shaft, 2 Main Bearing, 2 top end 2 bottom end bolts & nuts, 1 set coupling bolts, 1 set feed, air, circulating & bilge pump valves, iron & bolts & nuts assorted*

The foregoing is a correct description.

*John Readhead & Sons* Manufacturer.

Dates of Survey { During progress of work in shops— *1904 May 12. 18. 20. 27 June 2. 15. 30 July 10. 22. 28. 29 Aug 10. 12. 23. 31 Sep 1. 8. 14. 20. 28 Oct 3. 5. 20*  
 while building { During erection on board vessel—  
 Total No. of visits *23*

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 of this vessel has been built under Special Survey & in my opinion is eligible for record F.L.M.C. 10.04*

It is submitted that  
 this vessel is eligible for  
 THE RECORD F.L.M.C. 10.04

*EmS.*

*25.10.04*

*E.S.*  
*25.10.04*

The amount of Entry Fee. £ *2*

Special £ *34.14*

Donkey Boiler Fee £

Travelling Expenses (if any) £

When applied for,

*24 OCT 1904*

When received,

*25.10.04*

FRI. 28 OCT 1904

MACHINERY CERTIFICATE  
 WRITTEN.

Committee's Minute

Assigned

*+ L.M.C. 10.04*

*C. A. Dryden Jones*

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



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*Newcastle-on-Tyne*

Certificate (if required) to be submitted to the Committee