

# REPORT ON MACHINERY

MON. JAN. 26. 1914

No. 8250.

MON. DEC. 29. 1913

Received at London Office

Date of writing Report 23/12/13 When handed in at Local Office 23. 12. 13 Port of MIDDLESBRO'

No. in Survey held at Stockton-on-Tees Date, First Survey 16<sup>th</sup> October Last Survey 18<sup>th</sup> Dec 1913.  
Reg. Book. on the Steel screw steamer "Stanley" (Number of Visits 25) S.S. No. 534

Master W. Hartlepool Built at W. Hartlepool By whom built J. B. & D. Co. Ltd. When built

Engines made at Stockton By whom made Thos. Blair & Co. Ltd. (No. 1789) when made

Boilers made at Stockton By whom made Thos. Blair & Co. Ltd. when made

Registered Horse Power \_\_\_\_\_ Owners \_\_\_\_\_ Port belonging to \_\_\_\_\_

Nom. Horse Power as per Section 28 435 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Tri-compound No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 25-42-68 Length of Stroke 48 Revs. per minute 62 Dia. of Screw shaft 14.33 Material of dry steel  
as fitted 15.5 screw shaft

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 in one 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 tight fit If two

liners are fitted, is the shaft lapped or protected between the liners \_\_\_\_\_ Length of stern bush 5'-4"

Dia. of Tunnel shaft 12.74 as per rule 13.38 Dia. of Crank shaft journals 14 as fitted \_\_\_\_\_ Dia. of Crank pin 14.5 Size of Crank webs 27.5 x 9.5 Dia. of thrust shaft under

collars 14.5 Dia. of screw 17'-6" Pitch of Screw 17'-6" No. of Blades 4 State whether moveable no Total surface 94 sq

No. of Feed pumps 2 Diameter of ditto 3.5 Stroke 34 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 4.5 Stroke 34 Can one be overhauled while the other is at work yes

No. of Donkey Engines 3 Sizes of Pumps Ballast 11 x 10, Fuel 4.5 x 10 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 @ 3.5 In Holds, &c. 2 @ 3.5 in each hold

Tunnel with 1 @ 3"

No. of Bilge Injections 1 sizes 7" Connected to condenser, or to circulating pump yes 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 no

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 Suctions to forward holds How are they protected Wood ceiling

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 23/11/13 of Stern Tube 23/11/13 Screw shaft and Propeller 9.12.13

Is the Screw Shaft Tunnel watertight see hull Rpt Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel Thos. Blair & Co. Ltd. 2 SB & 1 Aux SB.

Total Heating Surface of Boilers 7902 Is Forced Draft fitted no No. and Description of Boilers 2 single ended main & 1 aux

Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 5.12.13 No. of Certificate 5202

Can each boiler be worked separately yes Area of fire grate in each boiler 70.1 sq No. and Description of Safety Valves to

each boiler 2 direct spring Area of each valve 8.29 Pressure to which they are adjusted 185 Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 3'-0" Mean dia. of boilers 17'-0" Length 11'-6" Material of shell plates steel

Thickness 1.5 Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2 Riv. lap

long. seams 2 Riv. 3 Riv. Diameter of rivet holes in long. seams 1.5 Pitch of rivets 9.5 Lap of plates or width of butt straps 20.5 x 1.5

Per centages of strength of longitudinal joint 87.1 Working pressure of shell by rules 186 Size of manhole in shell 16" x 12"

Size of compensating ring 7.5 x 1.5 No. and Description of Furnaces in each boiler 3 Morrison Material steel Outside diameter 50.76

Length of plain part top Thickness of plates bottom 1.5 Description of longitudinal joint Weld No. of strengthening rings 1

Working pressure of furnace by the rules 187 Combustion chamber plates: Material steel Thickness: Sides 2.5 Back 1.5 Top 2.5 Bottom 2.5

Pitch of stays to ditto: Sides 9.5 x 8 Back 9.5 x 8.5 Top 9.5 x 8 If stays are fitted with nuts or riceted heads nuts Working pressure by rules 188

Material of stays steel Diameter at smallest part 1.99 Area supported by each stay 84.7 Working pressure by rules 212 End plates in steam space:

Material steel Thickness 1.5 Pitch of stays 20 x 22.5 How are stays secured nuts & washers Working pressure by rules 189 Material of stays steel

Diameter at smallest part 8.48 Area supported by each stay 450 Working pressure by rules 196 Material of Front plates at bottom steel

Thickness 1 Material of Lower back plate steel Thickness 1.5 Greatest pitch of stays 17.5 x 9.5 Working pressure of plate by rules 205

Diameter of tubes 3.5 Pitch of tubes 4.5 x 4.5 Material of tube plates steel Thickness: Front 1.5 Back 1.5 Mean pitch of stays 11.5

Pitch across wide water spaces 14.5 Working pressures by rules 191 Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 8.5 x 2 Length as per rule 33 Distance apart 9.5 Number and pitch of stays in each 3 @ 8

Working pressure by rules 186 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 \_\_\_\_\_

Length. Water Caps  
Feet. Tons  
1.3.5.9.12.1  
2.1.2.2.2.5.26  
No. of Visits 59



**VERTICAL DONKEY BOILER—**

Manufacturers of Steel *Aux Boiler see report attached*

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 \_\_\_\_\_ Radius of do. \_\_\_\_\_ Stayed by \_\_\_\_\_

Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:— *One thrust shaft, one tail end shaft; one propeller  
The top end bolts. The bottom end bolts. The main bearing bolts. One set coupling bolts.  
One set feed pump & valve. One set bilge pump & valve. One set check & valve. One set  
HP and one set NP piston & connecting rods. One set piston springs. Bolts. Nuts &c.*

The foregoing is a correct description,  
**FOR BLAIR & CO., LIMITED.**  
*B.W. Stettinshy* Manufacturer.

Dates of Survey while building

During progress of work in shops --	SECRETARY. Oct. 16, 17, 20, 24, 27, 29, 31. Nov. 3, 5, 7, 10, 14, 19, 20, 21, 24, 25, 28. Dec. 1, 2, 9, 11, 15, 18.
	At West Hpl. 1913. Nov 24. 88. 1914. Jan 15. 16.
	Total No. of visits 25 + 4.

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

" " " *aux donkey* " " " *yes*

Dates of Examination of principal parts—Cylinders *1.12.13* Slides *5.11.13* Covers *5.11.13* Pistons *1.12.13* Rods *1.12.13*

Connecting rods *1.12.13* Crank shaft *5.12.13* Thrust shaft *3.11.13* Tunnel shafts *29.10.13* Screw shaft *1.12.13* Propeller *2.12.13*

Stern tube *21.11.13* Steam pipes tested *15.12.13* Engine and boiler seatings *24.10.13* Engines holding down bolts *12.12.13*

Completion of pumping arrangements *18.12.13* Boilers fixed *18.12.13* Engines tried under steam *18.12.13*

Main boiler safety valves adjusted *18.12.13* Thickness of adjusting washers *PB 5-7/32, SB 5-7/32, Aux B AV 3/32*

Material of Crank shaft *Eng Steel* Identification Mark on Do. *6870* Material of Thrust shaft *Eng Steel* Identification Mark on Do. *9596-N*

Material of Tunnel shafts *Eng Steel* Identification Marks on Do. *9596-N* Material of Screw shafts *Eng Steel* Identification Marks on Do. *6870*

Material of Steam Pipes *Solid drawn copper* Test pressure *400 lbs*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *To complete the survey the motions to the after holds and tunnel require to be fitted and the spare gear examined. It is proposed to complete the survey at Harthpool. The surveyors have been advised the machinery of this vessel has been built under special survey. The materials and workmanship are sound and good. The boilers and main steam pipes were tested by hydraulic pressure and the engines and boilers examined under steam and all found satisfactory. In my opinion this vessel will be eligible to have the record of L.M.C. with a date when the survey has been completed.*

*This survey has now been completed and the case is respectfully submitted for the notification + L.M.C. 1-14 in the Register Book.*

It is submitted that this vessel is eligible for **THE RECORD, + L.M.C. 1.14.**

MIDDLESBRO' 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	£ 3 : 0 : 0	When applied for,	
Special	£ 41 : 15 : 0	24.12.1913.	
Donkey Boiler Fee	£ 5 : 0 : 0	When received,	
Travelling Expenses (if any)	£ :	14/11/14	Advised to West Hpl.

Committee's Minute  
*Assigned*  
TUE. JAN. 27. 1914  
*+ L.M.C. 1.14*

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



MACHINERY CERTIFICATE WRITTEN.