

REPORT ON MACHINERY.

No. 8476.

Date of writing Report 5.6.14 19 When handed in at Local Office 5.6.14 Port of MIDDLESBRO' SAT. JUN. 6-1914
No. in Survey held at Stockton-on-Tees Date, First Survey Feb. 10. Last Survey June 2nd 1914.
Reg. Book. on the Steel Screw Steamer "Pontwen" (Number of Visits 42) (S.S. No. 639) Tons { Gross
Master Built at Stockton By whom built Richardson Duck & Co. When built Net
Engines made at Stockton By whom made Messrs Blair & Co. Ltd. (No. 1791) when made 1914
Boilers made at Stockton By whom made Messrs Blair & Co. Ltd. when made 1914
Registered Horse Power Owners Port belonging to
Nom. Horse Power as per Section 28 385 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 26-42-70 Length of Stroke 48 Revs. per minute 63 Dia. of Screw shaft as per rule 14.48 Material of screw shaft as fitted 15 3/4 In. steel
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 light fil If two
liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 5'-4"
Dia. of Tunnel shaft as per rule 12.98 Dia. of Crank shaft journals as per rule 13.63 Dia. of Crank pin 14 3/4 Size of Crank webs 28 1/2 x 9 1/2 Dia. of thrust shaft under
collars 14 3/4 Dia. of screw 17'-6" Pitch of Screw 17'-6" No. of Blades 4 State whether moveable no Total surface 96 sq ft
No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 34 Can one be overhauled while the other is at work yes
No. of Bilge pumps 2 Diameter of ditto 5 Stroke 34 Can one be overhauled while the other is at work yes
No. of Donkey Engines 3 Sizes of Pumps 9 x 10 4 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 3 @ 3 1/2 In Holds, &c. 2 @ 3 1/2 in each hold
Tunnel with one @ 2 1/2
No. of Bilge Injections 1 sizes 6 3/4 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 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 suction 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 22.4.14 of Stern Tube 22.4.14 Screw shaft and Propeller 4.5.14
Is the Screw Shaft Tunnel watertight see hull 44 Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel Messrs John Spencer & Sons
Total Heating Surface of Boilers 6169 Is Forced Draft fitted no No. and Description of Boilers 3 single ended
Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 7.5.14 No. of Certificate 5289
Can each boiler be worked separately yes Area of fire grate in each boiler 57.7 sq ft No. and Description of Safety Valves to
each boiler 2 direct spring Area of each valve 7.07 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" External Mean dia. of boilers 15'-0" Length 11'-0" Material of shell plates steel
Thickness 1 1/2 Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2 R. lap
long. seams 2 B-3 Riv Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 8 1/2 Lap of plates or width of butt straps 16 3/8 x 1 1/2
5 Rivets per pitch rivets 88.2 Working pressure of shell by rules 184 Size of manhole in shell 16" x 12"
Per centages of strength of longitudinal joint plate 85.29
Size of compensating ring 7 1/2" x 1 3/4" No. and Description of Furnaces in each boiler 3 Brighton Material steel Outside diameter 45 3/8"
Length of plain part top Thickness of plates crown 9 Description of longitudinal joint Weld No. of strengthening rings
bottom 16
Working pressure of furnace by the rules 191 Combustion chamber plates: Material steel Thickness: Sides 1/16 Back 1/16 Top 1/16 Bottom 1/16
Pitch of stays to ditto: Sides 8 3/4 x 10 Back 9 3/4 x 9 Top 9 3/4 x 9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181
Material of stays steel Diameter at smallest part 1.99 Area supported by each stay 87.8 Working pressure by rules 204 End plates in steam space:
Tons 16 3/4 Material steel Thickness 1 1/2 Pitch of stays 20 1/2 x 17 How are stays secured nuts & washers Working pressure by rules 204 Material of stays steel
Diameter at smallest part 7.24 Area supported by each stay 349 Working pressure by rules 216 Material of Front plates at bottom steel
Thickness 1 1/2 Material of Lower back plate steel Thickness 1 1/2 Greatest pitch of stays 14 1/2 x 9 Working pressure of plate by rules 229
Diameter of tubes 3 1/2 Pitch of tubes 4 3/4 x 4 3/4 Material of tube plates steel Thickness: Front 1 1/2 Back 1 1/2 Mean pitch of stays 11"
Pitch across wide water spaces 14 1/2 Working pressures by rules 181 Girders to Chamber tops: Material steel Depth and
thickness of girder at centre 7 1/2 x 13 1/2 Length as per rule 29 Distance apart 9 3/4 Number and pitch of stays in each 2 @ 9"
Working pressure by rules 185 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
Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
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

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W421-0208

VERTICAL DONKEY BOILER—

Manufacturers of Steel

See Middlesbrough Report No 834

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
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:— Two each of con. rod top end and bottom end bolts & nuts main bearing bolts and nuts: one set of coupling bolts and nuts: one set of feed & bilge pump valves: assorted bolts and nuts; iron of various sizes; one propeller and one tail end shaft

The foregoing is a correct description,

FOR BLAIR & CO., LIMITED.

See Middlesbrough

Manufacturer.

Dates of Survey while building	During progress of work in shops—	SECRETARY. 1914 Feb. 10. Mar. 2. 4. 6. 9. 11. 12. 13. 16. 17. 19. 23. 26. 30. Apr. 1. 2. 6. 7. 8. 9. 11. 15. 17. 20. 21. 22. 23. 24.
	During erection on board vessel—	May 1. 4. 6. 7. 8. 12. 18. 20. 22. 25. June 2.
	Total No. of visits	42.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " " "

Dates of Examination of principal parts—Cylinders	26. 3. 14	Slides	30. 3. 14	Covers	26. 3. 14	Pistons	30. 3. 14	Rods	26. 3. 14
Connecting rods	30. 3. 14	Crank shaft	7. 4. 14	Thrust shaft	11. 3. 14	Tunnel shafts	4. 3. 14	Screw shaft	23. 4. 14
Propeller	7. 4. 14	Stern tube	1. 4. 14	Steam pipes tested	14. 5. 14	Engine and boiler seatings	22. 4. 14	Engines holding down bolts	8. 5. 14
Completion of pumping arrangements	22. 5. 14	Boilers fixed	22. 5. 14	Engines tried under steam	22. 5. 14	Main boiler safety valves adjusted	22. 5. 14	Thickness of adjusting washers	PB 5-3/8. 6. B 5-13/16. 5. B 5-13/16.
Material of Crank shaft	By Steel	Identification Mark on Do.	6887	Material of Thrust shaft	By Steel	Identification Mark on Do.	271	Material of Tunnel shafts	By Steel
Identification Marks on Do.	271. N	Material of Screw shafts	By Steel	Identification Marks on Do.	68	Material of Steam Pipes	Solid drawn copper (4 1/2 x 5. w. g.)	Test pressure	400 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been built under special survey. The machinery 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.

The machinery of this vessel is now in a good and safe working condition and renders the vessel eligible in my opinion to have the notation of **L.M.C.-6.14** in the Register Book.

It is submitted that this vessel is eligible for **THE RECORD. + L.M.C. 6.14.**

J.W.D. 8/6/14

The amount of Entry Fee..	£ 3 - 0 - 0	When applied for.	5. 6. 1914
Special ..	£ 39 - 5 - 0	When received.	8/6/14
Donkey Boiler Fee ..	£ :		
Travelling Expenses (if any) £	:		

Wm Morrison

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

Committee's Minute

TUE. JUN. 9 - 1914

Assigned

+ L.M.C. 6.14

MACHINERY CERTIFICATE WRITTEN



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Middlesbrough.

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