

## REPORT ON BOILERS.

No. 12215

Received at London Office 17 JAN 1925

Date of writing Report 12/1/25 1925 When handed in at Local Office 12/1/1925 Port of Middlesbrough

No. in Reg. Book. 37829 on the Steel screw steamer AMBASSADOR Date, First Survey 6th Aug 1924 Last Survey 12/1/1925

(Number of Visits 1) (Gross Tons 4450) (Net Tons 2658)

Master Built at Stockton By whom built Popner S. B. &amp; Co. Ltd. Yard No. 547 When built 1925

Engines made at Stockton By whom made Furness Plain &amp; Co. Ltd. Engine No. 1959 When made 1925

Boilers made at Stockton By whom made Furness Plain &amp; Co. Ltd. Boiler No. 1959 When made 1925

Nominal Horse Power 422 Owners Hall Bros S.S. Coy. Ltd. Port belonging to Newcastle

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs D. Colville &amp; Sons Ltd. (Letter for Record (S) ✓)

Total Heating Surface of Boilers 7248 sq ft Is forced draught fitted no ✓ Coal or Oil fired coal ✓

No. and Description of Boilers 3 single ended ✓ Working Pressure 180 lbs ✓

Tested by hydraulic pressure to 320 Date of test 4.12.24 No. of Certificate 6419 Can each boiler be worked separately yes ✓

Area of Firegrate in each Boiler 64 sq ft No. and Description of safety valves to each boiler 2 direct acting - High lift ✓

Area of each set of valves per boiler {per Rule 10.32 as fitted 11.88 Pressure to which they are adjusted 185 lbs ✓ Are they fitted with easing gear yes ✓

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler ✓

Smallest distance between boilers or uptakes and bunkers or woodwork 3'-5" Is oil fuel carried in the double bottom under boilers no ✓

Smallest distance between shell of boiler and tank top plating 2'-6" Is the bottom of the boiler insulated no ✓

Largest internal dia. of boilers 15'-3 7/8" Length 11'-6" Shell plates: Material steel ✓ Tensile strength 28-32 tons ✓

Thickness 1 3/8" Are the shell plates welded or flanged no ✓ Description of riveting: circ. seams {end D. Riv. lap ✓ inter. ✓

Long. seams D. Butt - 3 Riveted ✓ Diameter of rivet holes in {circ. seams 1 3/8" ✓ long. seams 1 5/8" ✓ Pitch of rivets {4 1/2" ✓ 9 5/8" ✓

Percentage of strength of circ. end seams {plate 69.0 rivets 44.6 Percentage of strength of circ. intermediate seam {plate ✓ rivets ✓

Percentage of strength of longitudinal joint {plate 85.62 rivets 88.9 combined 89.02 Working pressure of shell by Rules 184 lbs ✓

Thickness of butt straps {outer 19 3/4 x 1" ✓ inner 19 3/4 x 1 1/2" ✓ No. and Description of Furnaces in each Boiler 3 Dighton ✓

Material steel ✓ Tensile strength 26-30 tons ✓ Smallest outside diameter 43 5/8" ✓

Length of plain part {top ✓ bottom gounlay ✓ Thickness of plates {crown 9/16" ✓ bottom 7/16" ✓ Description of longitudinal joint Weld ✓

Dimensions of stiffening rings on furnace or c.c. bottom none ✓ Working pressure of furnace by Rules 189 lbs ✓

End plates in steam space: Material steel ✓ Tensile strength 26-30 tons ✓ Thickness 1 3/8" ✓ Pitch of stays 19 1/2" x 16" ✓ 20" ✓

How are stays secured nuts and 11 1/2" x 1" cone washers ✓ Working pressure by Rules 190 lbs ✓

Tube plates: Material {front steel ✓ back steel ✓ Tensile strength {26-30 tons ✓ Thickness {1 1/8" ✓ 1 3/8" ✓

Mean pitch of stay tubes in nests 11 1/2" ✓ Pitch across wide water spaces 14" x 9 3/4" ✓ Working pressure {front 185 lbs ✓ back 199" ✓

Orders to combustion chamber tops: Material steel ✓ Tensile strength 28-32 tons ✓ Depth and thickness of girder

centre 8 1/4" x 1 5/8" ✓ Length as per Rule 32" ✓ Distance apart 9 3/4" ✓ No. and pitch of stays

each 2 @ 10" ✓ Working pressure by Rules 191 lbs ✓ Combustion chamber plates: Material steel ✓

Tensile strength 26-30 tons ✓ Thickness: Sides 23/32" ✓ Back 11/16" ✓ Top 23/32" ✓ Bottom 7/8" ✓

Pitch of stays to ditto: Sides 8 3/8" x 11" ✓ Back 9 3/8" x 9 3/8" ✓ Top 9 3/4" x 10" ✓ Are stays fitted with nuts or riveted over nuts ✓

Working pressure by Rules 186 lbs ✓ Front plate at bottom: Material steel ✓ Tensile strength 26-30 tons ✓

Thickness 1 1/8" ✓ Lower back plate: Material steel ✓ Tensile strength 26-30 tons ✓ Thickness 1 5/8" ✓

Pitch of stays at wide water space 14" x 9 3/8" ✓ Are stays fitted with nuts or riveted over nuts ✓

Working Pressure 254 lbs ✓ Main stays: Material steel ✓ Tensile strength 28-32 tons ✓

Griping. meter {At body of stay, 3 1/4" ✓ or 3 1/4" ✓ No. of threads per inch 6 ✓ Area supported by each stay 295" 2019

Working pressure by Rules 203 ✓ Screw stays: Material steel ✓ Tensile strength 26-30 tons ✓

meter {At turned off part, 1 3/8" ✓ or 1 3/8" ✓ No. of threads per inch 8 ✓ Area supported by each stay 87-88

Working pressure by Rules 203 ✓

meter {At turned off part, 1 3/8" ✓ or 1 3/8" ✓ No. of threads per inch 8 ✓ Area supported by each stay 87-88

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Working pressure by Rules 204 lb Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 7/8 or Over threads. 1 7/8 }  
No. of threads per inch 8 Area supported by each stay 103.125 Working pressure by Rules 201 lb  
Tubes: Material iron External diameter { Plain 3 1/2 Stay 3 1/2 } Thickness { 11/16 - 4.5.5 } No. of threads per inch 8  
Pitch of tubes 4 3/4" x 4 7/8" Working pressure by Rules 215 + 200 lb Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 8" x 1 3/4" No. of rivets and diameter of rivet holes 27 @ 1 3/8"  
Outer row rivet pitch at ends 9" Depth of flange if manhole flanged ✓ Steam Dome: Material none  
Tensile strength \_\_\_\_\_ Thickness of shell \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_  
Diameter of rivet holes \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Percentage of strength of joint { Plate \_\_\_\_\_ Rivets \_\_\_\_\_ }  
Internal diameter \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_ Thickness of crown \_\_\_\_\_ No. and diameter of stays \_\_\_\_\_ Inner radius of crown \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_  
How connected to shell \_\_\_\_\_ Size of doubling plate under dome \_\_\_\_\_ Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell \_\_\_\_\_

Type of Superheater \_\_\_\_\_ Manufacturers of { Tubes \_\_\_\_\_ Steel castings \_\_\_\_\_ }  
Number of elements \_\_\_\_\_ Material of tubes \_\_\_\_\_ Internal diameter and thickness of tubes \_\_\_\_\_  
Material of headers \_\_\_\_\_ Tensile strength \_\_\_\_\_ Thickness \_\_\_\_\_ Can the superheater be shut off and the boiler be worked separately \_\_\_\_\_ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler \_\_\_\_\_  
Area of each safety valve \_\_\_\_\_ Are the safety valves fitted with easing gear \_\_\_\_\_ Working pressure as per Rules \_\_\_\_\_ Pressure to which the safety valves are adjusted \_\_\_\_\_ Hydraulic test pressure: tubes \_\_\_\_\_, castings \_\_\_\_\_ and after assembly in place \_\_\_\_\_ Are drain cocks or valves fitted to free the superheater from water where necessary \_\_\_\_\_  
Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with yes

The foregoing is a correct description,  
BLAIR & CO., LIMITED.  
A. P. Hamilton Manufacturer.

Dates of Survey { During progress of work in shops - - } See Machinery Report. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) \_\_\_\_\_  
while building { During erection on board vessel - - } \_\_\_\_\_ Total No. of visits \_\_\_\_\_

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed under special survey & in accordance with the approved plan, materials & workmanship good, on completion were tested by hydraulic pressure with satisfactory results.  
The boilers have now been fitted on board in accordance with the Rules, examined under steam and safety valves adjusted.

Survey Fee ... £ See Engine Rpt : When applied for, 192  
Travelling Expenses (if any) £ See Engine Rpt : When received, 192

Wm Morrison & W.A. Roberts  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 23 JAN 1925

Assigned \_\_\_\_\_



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Foundation