

Rpt. 5a.

REPORT ON BOILERS.

No. 2157

Received at London Office

-1 JAN 1926

Date of writing Report 23rd Decr. 1925 When handed in at Local Office 23rd Decr. 1925 Port of Barrow in Furness

No. in Survey held at Barrow Date, First Survey 11th October 1924 Last Survey 21st December 1925

on the Twin Screw Steamer "Otranto" (Number of Visits 47) Gross 20032 Tons Net 12031

Master [check] Built at Barrow By whom built Lickers Ltd Yard No. 619 When built 1925

Engines made at Barrow By whom made Lickers Ltd Engine No. 619 When made 1925

Boilers made at [check] By whom made [check] Boiler No. 619 When made 1925

Nominal Horse Power 4005 Owners Orient Steam Navigation Co Ltd Port belonging to Barrow

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Wm Beardmore & Co & David Colville & Sons Ltd (Letter for Record (3))

Total Heating Surface of Boilers (4 boilers) 12640 sq ft Is forced draught fitted Yes Coal or Oil fired Oil

No. and Description of Boilers 4 Single ended cylindrical multitubular Working Pressure 215 lb

Tested by hydraulic pressure to 343 lb Date of test 25-11-25 No. of Certificate 392, 394, 399 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 192 sq ft No. and Description of safety valves to each boiler Two duct spring loaded High lift

Area of each set of valves per boiler per Rule 13.42 (High lift) Pressure to which they are adjusted 220 lb Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler [check]

Smallest distance between boilers 18" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 2 1/2" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 16'-6" Length 11'-3" Shell plates: Material Steel Tensile strength 30 to 34 ton

Thickness 1 1/2" Are the shell plates welded or flanged No Description of riveting: circ. seams end As lap

long. seams Y.R. double butt straps Diameter of rivet holes in circ. seams 1 9/16" Pitch of rivets 4.074"

Percentage of strength of circ. end seams plate 60 Percentage of strength of circ. intermediate seam plate 84.574

Percentage of strength of longitudinal joint rivets 85.1 Working pressure of shell by Rules 215 lb

Thickness of butt straps outer 1 9/16" No. and Description of Furnaces in each Boiler 4 Morrison

Material Steel Tensile strength 26 to 30 ton Smallest outside diameter 41 3/4"

Length of plain part top [check] Thickness of plates crown 7/8" Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom [check] Working pressure of furnace by Rules 218 lb

End plates in steam space: Material Steel Tensile strength 26 to 30 ton Thickness 1 9/16" Pitch of stays 16 3/4" x 16 3/4"

How are stays secured Double nuts Working pressure by Rules 225 lb

Tube plates: Material front Steel Tensile strength 26 to 30 ton Thickness 1"

Mean pitch of stay tubes in nests 9.0625" Pitch across wide water spaces 10 1/2" Working pressure front 258 lb

Girders to combustion chamber tops: Material Steel Tensile strength 28 to 32 ton Depth and thickness of girder

at centre 8" x 1 1/2" Length as per Rule 29 27/32" Distance apart 8" No. and pitch of stays

in each 2 @ 10" Working pressure by Rules 240 lb Combustion chamber plates: Material Steel

Tensile strength 26 to 30 ton Thickness: Sides 2 3/32" Back 2 3/32" Top 2 3/32" Bottom 1 1/2"

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

Working pressure by Rules 216 lb Front plate at bottom: Material Steel Tensile strength 26 to 30 ton

Thickness 1" Lower back plate: Material Steel Tensile strength 26 to 30 ton Thickness 1 1/16"

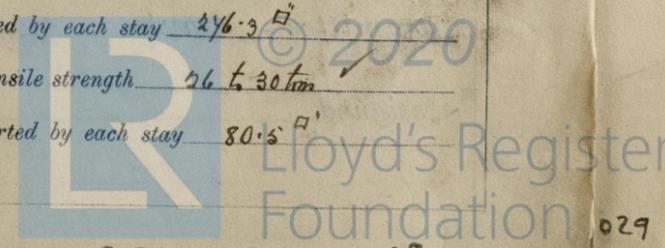
Pitch of stays at wide water space 14 1/2" x 4 3/4" Are stays fitted with nuts or riveted over Nuts

Working Pressure 240 lb Main stays: Material Steel Tensile strength 28 to 32 ton

Diameter At body of stay 2 3/4" No. of threads per inch 6 Area supported by each stay 276.3 sq in

Working pressure by Rules 237 lb Screw stays: Material Steel Tensile strength 26 to 30 ton

Diameter At turned off part 1 3/4" No. of threads per inch 9 Area supported by each stay 80.5 sq in



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Working pressure by Rules 225 lb Are the stays drilled at the outer ends No Margin stays: Diameter ^{At turned off part,} 2" _{or Over threads} 2" ✓

No. of threads per inch 9 Area supported by each stay 96.5 Working pressure by Rules 257 lb

Tubes: Material Iron External diameter ^{Plain} 2 1/2 ^{Stay} 2 1/2 Thickness 9 ^{1/4, 5/16 & 3/8} No. of threads per inch 9 ✓

Pitch of tubes 3 7/8" x 3 7/8" Working pressure by Rules 230 lb Manhole compensation: Size of opening in shell plate 21 1/2" x 14 1/2" Section of compensating ring 32 1/4" x 40 1/4" x 1 1/2" flanged No. of rivets and diameter of rivet holes 86 - 1 9/16" ✓

Outer row rivet pitch at ends 10 1/2" Depth of flange if manhole flanged 4 1/4" ✓ Steam Dome: Material ✓

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 _____

How connected to shell _____ Inner radius of crown _____ Working pressure by Rules _____

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 _____

Number of elements _____ Material of tubes Iron Manufacturers of ^{Tubes} _____ _{Steel castings} _____ Internal diameter and thickness of tubes _____

Material of headers _____ Tensile strength _____ Thickness _____ Can the superheater be shut off and the boiler be worked separately _____

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: _____

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 _____

The foregoing is a correct description,
FOR VICKERS LIMITED, Manufacturer.

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|--------------------------------|--|---|--|------------|
| Dates of Survey while building | During progress of work in shops - - - | 1924 Oct 11. 29. Nov 5. 7. 19. 25. Dec 2. 17. 1925: - Jan 9. 15. 28. Feb 13. Mar 3. 10. 17. 25. Apr 2. 9. 17. | Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) | DIRECTOR ✓ |
| | | July 2. 4. 11. 18. 24. 31. May 4. 6. 8. 15. 22. June 2. 20. 25. 29. | | |
| | During erection on board vessel - - - | June 17. 26. July 4. 11. 18. 24. Aug 12. Sept 9. Oct 12. Total No. of visits <u>17</u> | | |

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The boilers of this vessel are practically a duplicate of those fitted in the S.S. "Orama" (Barrow Rpt. 102091) The modification being in the diameter and arrangement of tubes due to the Superheaters being eliminated. These boilers have been constructed in accordance with the approved plans and the Rules. The workmanship and materials are good. (Please see machinery report)

Survey Fee £ Michy Lepint When applied for, 23rd Dec 1925

Travelling Expenses (if any) £ _____ When received, 192

Wm Cowie
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 5 JAN 1926

Assigned _____

