

Rpt. 5a.

AR 1946

D.O.

## REPORT ON BOILERS.

Std. No. 34478

New No. 18011

Received at London Office 20 MAR 1946

Date of writing Report 13<sup>th</sup> Mar. 1946 When handed in at Local Office 19<sup>th</sup> Mar. 1946 Port of Middlesbrough

No. in Surrey held at Stockton-on-Tees

Date, First Survey 7<sup>th</sup> September, 1945 Last Survey 7<sup>th</sup> March, 1946

BRITISH MARQUIS

(Number of Visits 17)

Gross 8563

Net 4908

Built at Sunderland By whom built Wm. Lees, Fred & Sons L<sup>td</sup>

Yard No. 735 When built 1946.

Engines made at Sunderland

By whom made Wm. Lees

Engine No. 735 When made 1946

Boilers made at Stockton

By whom made Stockton C.E. & Riley Boilers L<sup>td</sup>

Boiler No. 6927 When made 1945.

Nominal Horse Power

Owners British Tanker Co L<sup>td</sup>

Port belonging to London

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

Manufacturers of Steel Appleby Fotheringham Steel C<sup>o</sup> L<sup>td</sup>

Total Heating Surface of Boilers 2020 sq ft

Is forced draught fitted Yes.

(Letter for Record S.

Exhaust Gas Oil fired Yes.

No. and Description of Boilers 1. SE. Marine.

Working Pressure 150 lb/sq in

Tested by hydraulic pressure to 275 lb.

Date of test 7/3/46

No. of Certificate 7167

Can each boiler be worked separately Yes.

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler Two imp. high lift

Area of each set of valves per boiler

per Rule

as fitted 14.1 sq ft

Pressure to which they are adjusted 150 lb/sq in

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 -

Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating -

Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 12' 10 3/4"

Length 11' 6"

Shell plates: Material Steel

Tensile strength 29-33

Thickness 29/32"

Are the shell plates welded or flanged no.

Description of riveting: circ. seams

end DR. Laps.

long. seams TR.-D. 135

Diameter of rivet holes in

circ. seams 1 1/16"

long. seams 1 1/16"

Pitch of rivets

2.187"

7/16"

Percentage of strength of circ. end seams

plate 66.6%

rivets 48.7%

Percentage of strength of circ. intermediate seam

plate -

rivets -

Percentage of strength of longitudinal joint

plate 86.9%

rivets 103%

Thickness of butt straps

outer 23/32"

inner 27/32"

No. and Description of Furnaces in each Boiler 2 Dighton Corrugated

Material Steel

Tensile strength 26-30

Smallest outside diameter 3' 10"

Length of plain part

top

bottom

Thickness of plates

crown 1/2"

bottom 1/2"

Description of longitudinal joint

Welded.

Dimensions of stiffening rings on furnace or c.c. bottom

End plates in steam space: Material Steel

Tensile strength 26-30

Thickness 1"

Pitch of stays 18" x 17"

How are stays secured Double nuts &amp; washers, screwed into both plates.

Tube plates: Material

front Steel

back Steel

Tensile strength 26-30

Thickness

7/8"

3/4"

Mean pitch of stay tubes in nests 9 3/8"

Pitch across wide water spaces 13 1/2"

Girders to combustion chamber tops: Material Steel

Tensile strength 28-32

Depth and thickness of girder

at centre 7" - 2 @ 5/8"

Length as per Rule 2' 3 1/2"

Distance apart 9"

No. and pitch of stays

in each 2 @ 9"

Combustion chamber plates: Material Steel

Tensile strength 26-30

Thickness: Sides 2 1/32"

Back 1 9/32"

Top 2 1/32"

Bottom 2 1/32"

Pitch of stays to ditto: Sides 10" x 9"

Back 9 1/2" x 8 1/4"

Top 9" x 9"

Are stays fitted with nuts or riveted over Nuts.

Front plate at bottom: Material Steel

Tensile strength 26-30

Thickness 7/8"

Lower back plate: Material Steel

Tensile strength 23-30

Thickness 3/4"

Pitch of stays at wide water space 13 1/2"

Are stays fitted with nuts or riveted over Nuts

Main stays: Material Steel

Tensile strength 28-32

Diameter

At body of stay,

or

Over threads 2 3/4"

No. of threads per inch 6

Screw stays: Material Steel

Tensile strength 26-30

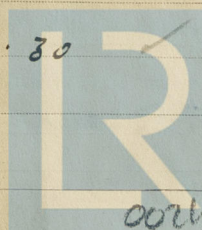
Diameter

At turned off part,

or

Over threads 1 1/2"

No. of threads per inch 9



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Foundation



Are the stays drilled at the outer ends no. ✓ Margin stays: Diameter { At turned off part, or Over threads 1 3/4" ✓  
No. of threads per inch 9.  
Tubes: Material Seamless Steel External diameter { Plain 2 1/2" ✓ Stay 2 1/2" ✓ Thickness { 10 SW G. ✓ 5/16" ✓ No. of threads per inch 9. ✓  
Pitch of tubes 3 3/4" x 3 3/4" ✓ Manhole compensation: Size of opening in shell plate 21" x 17" ✓ Section of compensating ring 8 3/4" x 1 1/8" ✓ No. of rivets and diameter of rivet holes 52 - 1 1/16" ✓  
Outer row rivet pitch at ends 7 1/16" ✓ 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 \_\_\_\_\_ Thickness of crown \_\_\_\_\_ No. and diameter of stays \_\_\_\_\_ Inner radius of crown \_\_\_\_\_  
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 forgings \_\_\_\_\_ 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 \_\_\_\_\_  
Pressure to which the safety valves are adjusted \_\_\_\_\_ Hydraulic test pressure: tubes \_\_\_\_\_ forgings and 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 22 inclusive for boilers been complied with \_\_\_\_\_

The foregoing is a correct description,  
H. G. Orley Manufacturer.

Dates of Survey { During progress of work in shops - - - { 1945. Sept. 7. 13. 6 Oct. 19. 31. Nov. 14. 23. 29. Are the approved plans of boiler and superheater forwarded herewith 9/2/45.  
while building { During erection on board vessel - - - { Dec. 14. 20. 28. 1946 Jan. 4. 11. 16. Feb. 7. 14. 28. Mar. 7. (If not state date of approval.)  
Total No. of visits 17.

Is this Boiler a duplicate of a previous case \_\_\_\_\_ If so, state Vessel's name and Report No. \_\_\_\_\_

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been constructed under Special Survey, & is accordance with the Rule Requirements & approved Plan. The materials & workmanship are good & on completion the boiler was hydraulically tested to 275 lb/sq. & found satisfactory. This boiler is being forwarded to Sunderland for Wm. Dwyer's contract No. 735.

This boiler has been securely fixed on board the Vessel fitted to burn oil fuel (F.P. above 150°F). Safety valves adjusted to working pressure as above.  
In recommendation please see Machinery Dept.  
H. G. Orley.

Survey Fee ... £ 20 : 5 : When applied for, 19/3/ 1946.  
Travelling Expenses (if any) £ : : When received, 19

C. L. H. M. on Short  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 14 JUN 1946  
Assigned See F.E. machy. r.p.t.