

## REPORT ON BOILERS.

Std. No. 34502

Mab No. 18047

Received at London Office

8 MAY 1946

Date of writing Report 3<sup>rd</sup> May 1946 When handed in at Local Office 7<sup>th</sup> May 1946 Port of Middlesbrough

No. in Survey held at Stockton-on-Tees Reg. Book.

Date, First Survey 13<sup>th</sup> September 1945 Last Survey 29<sup>th</sup> April 1946

BRITISH COMMERCE

(Number of Visits 21)

Gross 6092

Net 3335

Built at Sunderland By whom built Wm Haydn &amp; Sons Ltd

Yard No. 436

When built 1946

Engines made at Sunderland

By whom made Wm. Dunsford

Engine No. 736

When made 1946

Boilers made at Stockton-on-Tees

By whom made Stephen C.E. &amp; Riley Pls Ltd

Boiler No. 6929

When made 1946

Nominal Horse Power

Owners

Port belonging to

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

Manufacturers of Steel Appleby Frodingham Steel Co. Ltd

(Letter for Record 5)

Total Heating Surface of Boilers 2020 sq ft

Is forced draught fitted Yes

Coal or Oil fired oil

No. and Description of Boilers 1 SE. multitubular marine

Working Pressure 150 lb/sq in

Tested by hydraulic pressure to 275 lb. Date of test 29/4/46 No. of Certificate 7171

Can each boiler be worked separately Yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler 2 No. 15.3 for main valves

Area of each set of valves per boiler { per Rule 7.6 as fitted 14.0 }

Pressure to which they are adjusted 150

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 3/16"

Length 11' 6"

Shell plates: Material steel

Tensile strength 29-33

Thickness 2 1/32"

Are the shell plates welded or flanged No

Description of riveting: circ. seams { end DR. Lap. inter. }

long. seams TR-DBS

Diameter of rivet holes in { circ. seams 1 1/16" long. seams 1 1/16" }

Pitch of rivets { 3.187 7 1/16" }

Percentage of strength of circ. end seams { plate 66.6% rivets 48.7% }

Percentage of strength of circ. intermediate seam { plate 84.9% rivets 103% }

Percentage of strength of longitudinal joint { plate 84.9% rivets 103% combined }

Thickness of butt straps { outer 2 3/32" inner 2 7/32" }

No. and Description of Furnaces in each Boiler 2 Deighton 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.e. bottom

End plates in steam space: Material steel

Tensile strength 26-30

Thickness 1"

Pitch of stays 18"x17"

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

Tube plates: Material { front 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"x9"

Back 9 1/2"x8 1/4"

Top 9"x9"

Are stays fitted with nuts or riveted over No

Front plate at bottom: Material steel

Tensile strength 26-30

Thickness 7/8"

Lower back plate: Material steel

Tensile strength 26-30

Thickness 3/4"

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

Are stays fitted with nuts or riveted over No

Main stays: Material steel

Tensile strength 28-32

Diameter { At body of stay, or Over threads }

2 3/16"

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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Are the stays drilled at the outer ends Yes Margin stays: Diameter { At turned off part, 1 3/4" 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 SWG 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 1/4"  
Outer row rivet pitch at ends 7 1/6" 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  
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. J. O'Neil Manufacturer.

Dates of Survey { During progress of work in shops - 1945. Sept. 13. Oct. 31. Nov. 14. 23. 29. Dec. 14. Are the approved plans of boiler and superheater forwarded herewith while building { During erection on board vessel - Apr. 4. 15. 26. 29. 20. 28. 1946. Jan. 11. 16. Feb. 7. 14. 19. 28. Mar. 7. 19. 29. (If not state date of approval.)  
Total No. of visits 21

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 & in accordance with the Rule Requirements & approved plan.  
The materials & workmanship are good, & on completion the boiler was hydrostatically tested to 275 lb. & found satisfactory.  
This boiler is being forwarded to Sunderland for Wm. Dargra's Contract N° 736.

This boiler has been securely fixed on board the vessel & Safety valves adjusted to working pressure as above.  
For recommendation please see Machinery Rpt.

Not Known.

Survey Fee ... £ 20 : 5 : 0 When applied for, 7/5/ 1946.  
Travelling Expenses (if any) £ : : When received, 19

E. Norman Stuart  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 16 AUG 1946

Assigned See F.E. machy. rpt.



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