

# REPORT ON BOILERS.

No. 50477

Received at London Office FEB -2 1940

31 JAN 1940

of writing Report

19

When handed in at Local Office

19

Port of Muss.

in Survey held at Muss.

Date, First Survey 5.9.39.

Last Survey 9.1.1940.

on the S/S. "WATE" (Main Trawler)

(Number of Visits 25.) Tons { Gross 314  
Net 116.

Built at Sully.

By whom built Cochran & Son Ltd. Yard No. 1210 When built 1940.

Engines made at Muss.

By whom made Amos & Smith, Ltd. Engine No. 672 When made 1940

Boilers made at Muss.

By whom made Amos & Smith, Ltd. Boiler No. 672 When made 1940

Indicated Horse Power 124.5

Owners Messrs. Beale & Wood, Ltd. Port belonging to Cardiff.

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

Manufacturers of Steel Appledram - Frodingham Steel Co. Ltd. (Letter for Record 3.")

Heating Surface of Boilers 2000 sq. ft. Is forced draught fitted Yes Coal or Oil fired Oil.

Description of Boilers One S.P. Working Pressure 200 lbs./sq. in.

Tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Can each boiler be worked separately Yes

Number of Firegrate in each Boiler \_\_\_\_\_ No. and Description of safety valves to each boiler Two twin valves spring loaded.

Pressure of each set of valves per boiler { per Rule 11.51 Pressure to which they are adjusted 200 lbs. Are they fitted with easing gear Yes  
as fitted 11.8795

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

Smallest distance between boilers or uptakes and bunkers or woodwork 18" 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.

Smallest internal dia. of boilers 13'-9 9/16" Length 10'-11 1/2" Shell plates: Material Steel Tensile strength 29/33 Tons.

Thickness 1 7/32" Are the shell plates welded or flanged No. Description of riveting: circ. seams { end Double riveted.  
inter. Yes

Longitudinal seams Double riveted. Diameter of rivet holes in { circ. seams 1 1/4" Pitch of rivets { 3 3/4"  
long. seams 1 1/4" 8 9/16"

Percentage of strength of circ. end seams { rivets 42.5% Percentage of strength of circ. intermediate seam { plate Yes  
rivets Yes

Percentage of strength of longitudinal joint { plate 85.4% Working pressure of shell by Rules 201 lbs./sq. in.  
rivets 87.5%  
combined 11.2%

Thickness of butt straps { outer 3 1/32" No. and Description of Furnaces in each Boiler 3. C.F. Design Type.  
inner 1 1/32"

Material Steel Tensile strength 26/30 Tons/sq. in. Smallest outside diameter 41 3/16"

Thickness of plain part { top \_\_\_\_\_ Thickness of plates { crown 1 1/32" Description of longitudinal joint Long. weld.  
bottom \_\_\_\_\_ bottom \_\_\_\_\_

Dimensions of stiffening rings on furnace or c.c. bottom \_\_\_\_\_ Working pressure of furnace by Rules 229 lbs./sq. in.

Stays in steam space: Material Steel Tensile strength 26/30 Tons. Thickness 1 1/8" Pitch of stays 16 1/2" x 19 1/2"

Are stays secured Secured into plate washers. Working pressure by Rules 203 lbs./sq. in.

Front plates: Material { front Steel Tensile strength { 26/30 Tons/sq. in. Thickness { 15 1/16"  
back Steel 7 7/8"

Pitch of stay tubes in nests 7 3/8" Pitch across wide water spaces 13 1/2" Working pressure { front 258 lbs./sq. in.  
back \_\_\_\_\_

Stays to combustion chamber tops: Material Steel Tensile strength 29/33 Tons. Depth and thickness of girder \_\_\_\_\_

Centre 9 1/4" x 13 1/4" Length as per Rule 32 9/16" - 34 1/2" Distance apart 9" No. and pitch of stays \_\_\_\_\_

Each 3 @ 8" Working pressure by Rules 238 lbs./sq. in. Combustion chamber plates: Material Steel

Tensile strength 26/30 Tons. Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 1 1/16"

Pitch of stays to ditto: Sides 9 1/4" x 8 1/2" Back 9 1/4" x 8 1/4" Top 8 x 9" Are stays fitted with nuts or riveted over Nuts.

Working pressure by Rules 227 lbs./sq. in. Front plate at bottom: Material Steel Tensile strength 26/30 Tons/sq. in.

Thickness 15 1/16" Lower back plate: Material Steel Tensile strength 26/30 Tons. Thickness 7 7/8"

Pitch of stays at wide water space 13 1/2" x 9" Are stays fitted with nuts or riveted over Nuts.

Working Pressure 250 lbs./sq. in. Main stays: Material Steel Tensile strength 28/32 Tons/sq. in.

Number of threads per inch 6. Area supported by each stay 815 sq. in.

Working pressure by Rules 213 lbs./sq. in. Screw stays: Material Steel Tensile strength 26/30 Tons.

Number of threads per inch 9. Area supported by each stay 81 sq. in.

At turned off part, \_\_\_\_\_

Over threads 2" 1 7/8" 1 3/4"



W300-0237

Working pressure by Rules 224 lbs Are the stays drilled at the outer ends NO. Margin stays: Diameter { At turned off part, or Over threads 1 7/8" 2

No. of threads per inch 9. Area supported by each stay 113 sq in Working pressure by Rules 209 lbs

Tubes: Material Stm. External diameter { Plain 2 1/2" Thickness { 9 w.s. No. of threads per inch 9  
Stay 2 1/2" 7/16" 3/8" 5/16"

Pitch of tubes 4 x 3 1/16" Working pressure by Rules 230 lbs/sq in Manhole compensation: Size of open shell plate 16 x 12" Section of compensating ring 56 5/8" x 1" No. of rivets and diameter of rivet holes 94

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

Tensile strength 26/30 tons. Thickness of shell 3/4" Description of longitudinal joint S.R. Lap.

Diameter of rivet holes 1 1/2" Pitch of rivets 2 1/4" Percentage of strength of joint { Plate 54% Rivets 43.6%

Internal diameter 26" Working pressure by Rules 210 lbs/sq in Thickness of crown 1" No. and diam stays 2 @ 2 1/2" Inner radius of crown ✓ Working pressure by Rules 200 lbs

How connected to shell Single riveted. Size of doubling plate under dome 1" x 56 5/8" Diameter of rivet holes and of rivets in outer row in dome connection to shell 1 1/4" x 10 1/4" pitch

**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 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 \_\_\_\_\_

Rules \_\_\_\_\_ Pressure to which the safety valves are adjusted \_\_\_\_\_ Hydraulic test pressure \_\_\_\_\_

tubes \_\_\_\_\_ forgings and castings \_\_\_\_\_ and after assembly in place \_\_\_\_\_ Are drain 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,

*A. C. Cowley* Manufg

Dates of Survey { During progress of work in shops - - } 1939 SEP. 5, 12, 14, 15, 20, 21, 22, 28, 25, 26, Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
while building { During erection on board vessel - - - } OCT. 9, 11, 14, NOV. 1, 6, 10, 11, 21, 29,  
DEC. 15, 21, 29, 1940 JAN. 2, 5, 9. Total No. of visits 25.

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) See See Rept. No. 50477

*See accompanying report. 4.*

Survey Fee ... .. £ : : } When applied for, 19  
Travelling Expenses (if any) £ : : } When received, 19

*Lydia J. ... & ...*  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute TUE. 13 FEB. 1940

Assigned See Rept. No. 50477

