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SUNDERLAND RPT. NO. 35597

# REPORT ON BOILERS.

No. 19225.

Received at London Office.

Date of writing Report **7th Nov. 1950.** When handed in at Local Office **10th Nov. 1950.** Port of **MIDDLESBROUGH.**

No. in Reg. Book **Survey held at Steekton-on-Tees.** Date, First Survey **17th August.** Last Survey **6th Nov. 1950.**

on the **"BRITISH CRAFTSMAN"** (Number of Visits **9.**) Gross **897** Tons Net **500.8**

Master **Sunderland** Built at **Sunderland** By whom built **W. Deyford & Son. Ld.** Yard No. **483** When built **1951**

Engines made at **Sunderland.** By whom made **Wm. Deyford & Sons.** Engine No. **783** When made **1950**

Boilers made at **Steekton-on-Tees.** By whom made **Steekton Chemical Engineers & Riley Boilers Ltd.** Boiler No. **7199** When made **1950**

Named Horse Power **British Tanker Co. Ltd.** Port belonging to **London**

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel **Steel Co. of Scotland.** (Letter for Record **S**)  
General Heating Surface of Boilers **Appleby-Fredingham Steel Co. Ltd.** 2020 sq. ft. Is forced draught fitted **Yes** Coal or Oil fired **Oil & Ex. Gas.**

No. and Description of Boilers **1 S.E. Multitubular.** Working Pressure **150 lbs per sq. inch.**

Tested back pressure **275 lbs** Date of test **6.11.50.** No. of Certificate **7320** Can each boiler be worked separately **Yes.**

Area of Firegrate in each boiler **14.12** No. and Description of safety valves to each boiler **3" double high lift.**

Area of each set of valves per boiler **14.14** Pressure to which they are adjusted **150 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 apertures and members on woodwork **Is not carried in the double bottom under boilers.**

Smallest distance between smoking boiler and tank top plating **Is the bottom of the boiler insulated.**

Largest internal dia. of boilers **12' 10.3/16"** 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 **DR. Lap**

long. seams **TR. DBS.** Diameter of rivet holes in **1.1/16"** Pitch of rivets **3.187**

Percentage of strength of circ. end seams **66.6%** Percentage of strength of circ. intermediate seam **7.1/16"**

Percentage of strength of longitudinal joint **103** Working pressure of shell by Rules **157 lbs**

Thickness of butt straps **23/32"** 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 **1/2"** Thickness of plates **1/2"** Description of longitudinal joint **Welded.**

Dimensions of stiffening rings on furnace or c.c. bottom **Working pressure of furnace by Rules.**

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 and washers screwed into both plates.** Working pressure by Rules **150 lbs**

Tube plates: Material **steel** Tensile strength **26.30** Thickness **7/8"**

Pitch of stays in tests **9.3/8"** Pitch across wide water spaces **13 1/2"** Working pressure **158 lbs**

Girders to combustion chamber: Material **Steel** Tensile strength **28.32** Depth and thickness of girder **167 lbs**

Working pressure **26/30** Distance apart **9"** No. and pitch of stays

Working pressure by Rules **174 lbs** Combustion chamber plates: Material **Steel**

Thickness: Sides **21/32"** Back **19/32"** Top **21/32"** Bottom **21/32"**

Pitch of stays to sides **10" x 9"** Back **9 1/2" x 8 1/2"** Top **9" x 9"** Are stays fitted with nuts or riveted over **nuts**

Working pressure by Rules **152 lbs** 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 **nuts**

Working pressure **150 lbs** Main stays: Material **Steel** Tensile strength **28.32**

Diameter **2 1/4"** No. of threads per inch **6** Area supported by each stay **306 sq. in.**

Working pressure by Rules **180 lbs** Screw stays: Material **Steel** Tensile strength **26.30**

Diameter **1 1/2"** No. of threads per inch **9** Area supported by each stay **78.5**



Working pressure by Rules 160 lbs ✓ Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 3/4" or Over threads, 1 3/4" ✓  
No. of threads per inch 9 ✓ Area supported by each stay 103.1 sq. in. Working pressure by Rules 176 lbs  
Tubes: Material Seamless Steel External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 10 S.W.G. No. of threads per inch 9 ✓  
Pitch of tubes 3 5/8" x 3 5/8" Working pressure by Rules Main 175 lbs Stay 142 lbs 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 \_\_\_\_\_ 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 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 \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_  
Rules \_\_\_\_\_ Pressure to which the safety valves are adjusted \_\_\_\_\_ Hydraulic test pressure \_\_\_\_\_  
tubes \_\_\_\_\_ forgings and castings \_\_\_\_\_ and after assembly in place \_\_\_\_\_  
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 For and on behalf of \_\_\_\_\_  
1950  
Dates of Survey { During progress of work in shops - - } Aug. 17.29 Sep. 28. Oct. 2.6.12 Are the approved plans of boiler and superheater forwarded herewith (If not, state date of approval) \_\_\_\_\_ No  
while building { During erection on board vessel - - - } 18. Nov. 2.6. Total No. of visits 9. DIRECTOR

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. M.B. Rpt. No. 19149

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

This boiler has been constructed under Special Survey and in accordance with the Rule Requirements and approved plan.  
The materials and workmanship are good, and on completion the boiler was hydraulically tested to 275 lbs per sq. inch and found satisfactory.  
This boiler is being forwarded to Sunderland for Wm. Delford's Contract No. 783.

The boiler has been securely fixed on board the vessel  
and is in working order under steam & working pressure  
In recommendation please see Machinery Rpt.

H. J. Lamm.

Survey Fee 33 13 - 10.11. 50.  
Expenses (if any) \_\_\_\_\_

Comptroller's Minute \_\_\_\_\_  
Assigned See F.E. Machinery Rpt.  
TUES. 3 JUL 1951  
Lloyd's Register Foundation