

## REPORT ON BOILERS.

No. 33049

Received at London Office MAR - 5 - 1941

Date of writing Report 1941 When handed in at Local Office 15 Feb 1941 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey Last Survey 11 Feb 1941

Reg. Book. S.S. "STANFORD" (Number of Visits) Gross 5969.

on the 148 Tons Net 3584

Master Built at Sunderland By whom built Wm. Pickersgill & Co. Ltd. Yard No. 245 When built 1941.

Engines made at Sunderland By whom made G. Clark (1938) Ltd. Engine No. 1230 When made 1941.

Boilers made at Sunderland By whom made G. Clark (1938) Ltd. Boiler No. 1230 When made 1941.

Nominal Horse Power 398. Owners Stanhope S. S. Co. Ltd. Port belonging to London.

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

Manufacturers of Steel The Steel Company of Scotland Ltd. (Letter for Record S. ✓)

Total Heating Surface of Boilers 5342 sq. ft. Is forced draught fitted Yes. Coal or Oil fired Coal. ✓

No. and Description of Boilers Two Single Ended cylindrical multitubular marine Working Pressure 220. ✓

Tested by hydraulic pressure to 380 Date of test 20/12/40 No. of Certificate 4358 Can each boiler be worked separately Yes. ✓

Area of Firegrate in each Boiler 65.5 sq. ft. No. and Description of safety valves to each boiler Two direct Spring. ✓

Area of each set of valves per boiler (per Rule 14.38 sq. ft. as fitted 16.6 sq. ft. Pressure to which they are adjusted 220 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 1'-8" Is oil fuel carried in the double bottom under boilers No. ✓

Smallest distance between shell of boiler and tank top plating 2'-6" Is the bottom of the boiler insulated Yes. ✓

Largest internal dia. of boilers 15'-6" Length 12'-4 1/2" Shell plates: Material Steel Tensile strength 29/33. ✓

Thickness 1 1/2" Are the shell plates welded or flanged No. Description of riveting: circ. seams end D.R. Lap. ✓

long. seams T.R.D.B.S. Diameter of rivet holes in circ. seams 1 1/2" Pitch of rivets 4" 10 1/4" ✓

Percentage of strength of circ. end seams plate 62.5 rivets 46.4 Percentage of strength of circ. intermediate seam plate 85.36 rivets 85.45 ✓

Percentage of strength of longitudinal joint plate 85.45 rivets 84.82. Working pressure of shell by Rules 222. ✓

Thickness of butt straps (outer 15/32" inner 19/32" No. and Description of Furnaces in each Boiler Three Corrugated (Leighton). ✓

Material Steel Tensile strength 26/30. Smallest outside diameter 3'-9 3/4" ✓

Length of plain part (top bottom) ✓ Thickness of plates (crown bottom) 11/16" Description of longitudinal joint welded. ✓

Dimensions of stiffening rings on furnace or a.c. bottom ✓ Working pressure of furnace by Rules 220. ✓

End plates in steam space: Material Steel Tensile strength 26/30. Thickness 1 1/2" Pitch of stays 23'-20 3/16" ✓

How are stays secured Double auto washers. Working pressure by Rules 220. ✓

Tube plates: Material Steel Tensile strength 26/30. Thickness 15/16" 4/8" ✓

Mean pitch of stay tubes in nests 8.4" Pitch across wide water spaces 14 1/2" Working pressure (front back) 224 364. ✓

Girders to combustion chamber tops: Material Steel Tensile strength 29/33. Depth and thickness of girder 8 1/2" ✓

at centre 11 1/2" x 2" Length as per Rule 46 1/2" Distance apart No. and pitch of stays

in each 3 @ 11 1/8" Working pressure by Rules 233. Combustion chamber plates: Material Steel. ✓

Tensile strength 26/30. Thickness: Sides 25/32" Back 25/32" Top 25/32" Bottom 4/8" ✓

Pitch of stays to ditto: Sides 11 1/8" x 8 1/2" Back 10 1/2" x 9 1/8" Top 11 1/8" x 8 1/2" Are stays fitted with nuts or riveted over remainder caulked on outside of shell only. ✓

Working pressure by Rules 220, 223, 220 Front plate at bottom: Material Steel Tensile strength 26/30. Thickness 15/16" 31/32" ✓

Lower back plate: Material Steel Tensile strength 26/30. Thickness 31/32" ✓

Pitch of stays at wide water space 15 1/8" x 10 1/2" Are stays fitted with nuts or riveted over auto. ✓

Working Pressure 228. Main stays: Material Steel Tensile strength 28/32 ✓

Diameter (At body of stay, or Over threads) 3 1/2" 3 3/4" No. of threads per inch 6. Area supported by each stay 449 sq. in. ✓

Working pressure by Rules 226. Screw stays: Material Steel Tensile strength 26/30. 2020 ✓

Diameter (At turned off part, or Over threads) 1 3/4" (central bay) + 1 1/8" No. of threads per inch 9. Area supported by each stay 11 1/8" x 8 1/2" ✓



Working pressure by Rules **225** Are the stays drilled at the outer ends **no.** Margin stays: Diameter { At turned off part, or Over threads **2 1/8"**  
No. of threads per inch **9.** Area supported by each stay **11 3/4" x 10 1/2"** Working pressure by Rules **230.**  
Tubes: Material **S.D. Steel** THICKNESS Plain **8 WG.** Ext. Dia. **2 1/2"** No. of threads per inch **9.**  
Pitch of tubes **3 3/4" x 3 3/4"** Working pressure by Rules **Plain 300 7/16, 252 3/8, 254 7/16** Manhole compensation: Size of opening in shell plate **(Round plate)** Section of compensating ring **✓** No. of rivets and diameter of rivet holes **✓**  
Outer row rivet pitch at ends **✓** Depth of flange if manhole flanged **4 5/16"** 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 **none.** Manufacturers of { Tubes 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 as per Rules  
Pressure to which the safety valves are adjusted Hydraulic test pressure: tubes, 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 **Yes.**

The foregoing is a correct description,

Dates { During progress of work in shops - - - **Please see Mch. Rpt.** Are the approved plans of boiler and superheater forwarded herewith **Yes.** (If not state date of approval.)  
while building { During erection on board vessel - - -  
Total No. of visits

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

**These boilers have been constructed under Special Survey in accordance with the approved plan of the Society.**

**The materials & workmanship are good.**

**On Completion the boilers have been tested by hydraulic pressure of 380 lbs./sq. & found tight & sound. They have been securely fixed on board the vessel, Examined under Steam & Safety valves adjusted to working pressure in accordance with rule requirements.**

**For recommendation please see Mch. Rpt.**

Survey Fee ... .. £ **See Mch. Rpt.** When applied for, 192  
Travelling Expenses (if any) £ **See Mch. Rpt.** When received, 192

**Robert Fraser.**  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

**MAR 14 1941**

Assigned

**See Std. F.E. 33049**



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