

# REPORT ON BOILERS.

No. 30092

Received at London Office 7 AUG 1929

Port of Sunderland

No. in Survey held at Sunderland Date First Survey Aug 3 1929 Last Survey Aug 3 1929

2213 on the S.S. "SARASTONE" (Number of Visits 51 Gross Tons 51 Net Tons 43)

Master Burntisland Built at Burntisland By whom built Messrs. The Burntisland Shipbuilding Co. Ltd. Yard No. 154 When built 1929

Engines made at Sunderland By whom made Messrs. The North Eastern Marine Eng. Co. Ltd. Engine No. 2698 When made 1929

Boilers made at Sunderland By whom made Messrs. The North Eastern Marine Eng. Co. Ltd. Boiler No. 2698 When made 1929

Nominal Horse Power 224 Owners Stone & Rolfe, Ltd. Port belonging to Slanelly

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

Manufacturers of Steel The Frodingham Iron & Steel Co. Ltd., The Appleby Iron Co. Ltd. (Letter for Record (S) ☒)

Total Heating Surface of Boilers 3926 sq. ft. Is forced draught fitted No. Coal or Oil fired Coal.

No. and Description of Boilers Two—Single Ended Marine Type 250 Working Pressure 180 lbs. □

Tested by hydraulic pressure to 320 lbs. □ Date of test 12.6.29 No. of Certificate 4037 Can each boiler be worked separately Yes.

Area of Firegrate in each Boiler 50 sq. ft. No. and Description of safety valves to each boiler Two—Direct Spring Loaded.

Area of each set of valves per boiler per Rule 12.59 □ Pressure to which they are adjusted 185 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 uptakes and bunkers or woodwork 6'-1" Is oil fuel carried in the double bottom under boilers No.

Smallest distance between shell of boiler and tank top plating 2'-0" Is the bottom of the boiler insulated No.

Largest internal dia. of boilers 14'-3 23/32" Length 10'-6" (Full) Shell plates: Material Steel Tensile strength 29-33 tons □

Thickness 1 9/16" Are the shell plates welded or flanged No. Description of riveting: circ. seams and D.R. Lap.

g. seams T.R.D.B.S. Diameter of rivet holes in circ. seams 1 3/16" Pitch of rivets 3 1/2"

Percentage of strength of circ. end seams plate 66. rivets 43.7 Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 85.9. rivets 85.5. combined 88.9. Working pressure of shell by Rules 181 lbs. □

Thickness of butt straps outer 7/8" inner 1" No. and Description of Furnaces in each Boiler Three—Corrugated Deighton Section

Material Steel Tensile strength 26-30 tons □ Smallest outside diameter 3'-3 3/4"

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 ☒ Working pressure of furnace by Rules 181 lbs. □

End plates in steam space: Material Steel Tensile strength 26-30 tons □ Thickness 1 1/4" Pitch of stays 21" x 19"

How are stays secured Double nuts Working pressure by Rules 182 lbs. □

End plates: Material front Steel back Steel Tensile strength 26-30 tons □ Thickness 3/4"

Lean pitch of stay tubes in nests 10.5" Pitch across wide water spaces 14 1/2" Working pressure front 183 lbs. □ back 182 lbs. □

Orders to combustion chamber tops: Material Steel Tensile strength 28-32 tons □ Depth and thickness of girder

centre 8 1/2" x 1 1/2" Length as per Rule 30.53" Distance apart 10" No. and pitch of stays

each 2 @ 9 1/2" Working pressure by Rules 183 lbs. □ Combustion chamber plates: Material Steel

Tensile strength 26-30 tons □ Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 23/32"

Pitch of stays to ditto: Sides 10 1/2" x 9 1/2" Back 10 1/2" x 9 1/2" Top 10" x 9 1/2" Are stays fitted with nuts or riveted over Fitted with nuts.

Working pressure by Rules 181 lbs. □ (Sides & Backs. LEAST) Front plate at bottom: Material Steel Tensile strength 26-30 tons □

Thickness 7/8" Lower back plate: Material Steel Tensile strength 26-30 tons □ Thickness 7/8"

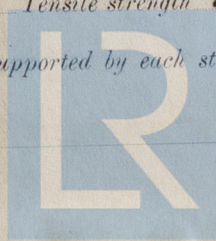
Pitch of stays at wide water space 14 1/2" Are stays fitted with nuts or riveted over Fitted with nuts.

Working Pressure 180 lbs. □ Main stays: Material Steel Tensile strength 28-32 tons □

Diameter At body of stay, 2 7/8" Over threads 3 1/4" No. of threads per inch 6 Area supported by each stay 399 □

Working pressure by Rules 180 lbs. □ Screw stays: Material Steel Tensile strength 26-30 tons □

Diameter At turned off part, 1 3/4" Over threads 1 3/4" No. of threads per inch 9 Area supported by each stay 99.15 □





Working pressure by Rules 181 lb 0 Are the stays drilled at the outer ends no Margin stays: Diameter 1 1/8 At turned off part.  
No. of threads per inch 9 Area supported by each stay 118.10 Working pressure by Rules 180 lb 0 Over threads  
Tubes: Material Steel External diameter 3 1/4 Thickness 8 W.G. No. of threads per inch 9  
Pitch of tubes 4 1/2 x 4 5/8 Working pressure by Rules PLAIN - 230 lb 0 STAY - 793 Manhole compensation: Size of opening in  
END shell plate 16 x 12 Section of compensating ring — No. of rivets and diameter of rivet holes 8 1/2  
Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 3 1/4 Steam Dome: Material —  
Tensile strength 121 Thickness of shell — Description of longitudinal joint —  
Diameter of rivet holes 8 1/2 Pitch of rivets — Percentage of strength of joint — Plate  
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  
Number of elements — Material of tubes — Steel castings  
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 — 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,

THE NORTH EASTERN MARINE ENGINEERING CO. LTD.

John Neill

Manufacturer.

Dates of Survey — During progress of work in shops —  
while building — During erection on board vessel —

Please see Mech. Rpt.

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes.

Total No. of visits —

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

The Boilers have been built under Special Survey and the Materials and Workmanship are good. On Completion they were satisfactorily fitted in the vessel. For notation please see Machinery Report.

Survey Fee —

Travelling Expenses (if any) —

When applied for, —

192

When received, —

192

Committee's Minute —

WED. 7 AUG 1929

Assigned —

See other 7 E Rpt

Aspd Be & A. I. Griffith.  
Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation