

# REPORT ON BOILERS.

No. 29019

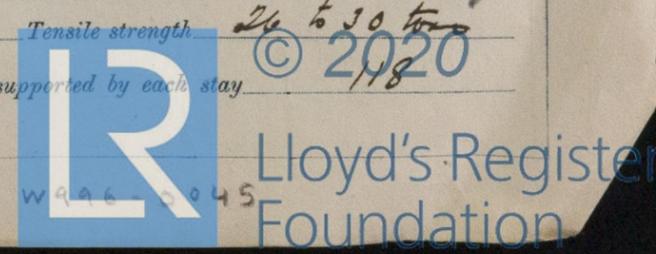
- MAR 1925

Received at London Office

Date of writing Report 1925 When handed in at Local Office 5 MAR 1925 Port of Sunderland  
 No. in Survey held at Sunderland Date, First Survey 26<sup>th</sup> May '24 Last Survey 27<sup>th</sup> Feb 1925  
 Reg. Book. on the new steel S. S. "SILVERMOOR" (Number of Visits 32) Tons {Gross 1906.36  
 Net 1088.79  
 Master Sunderland Built at Sunderland By whom built J. Crown & Sons Ltd Yard No. 177 When built 1925  
 Engines made at Sunderland By whom made N. E. Marine Eng Co Ltd Engine No. 2568 When made 1925  
 Boilers made at Sunderland By whom made N. E. Marine Eng Co Ltd Boiler No. 2568 When made 1925  
 Nominal Horse Power 216 Owners Moor Line Ltd. Port belonging to Newcastle.  
W. Runciman & Co Ltd Mgrs.

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

Manufacturers of Steel The Steel Company of Scotland (Letter for Record (S))  
 Total Heating Surface of Boilers 3594 Is forced draught fitted No Coal or Oil fired Coal  
 No. and Description of Boilers Two Cylindrical - Single Ended Marine Types Working Pressure 180 lbs  
 Tested by hydraulic pressure to 320 lbs Date of test 21-8-24 No. of Certificate 3894 Can each boiler be worked separately Yes  
 Area of Firegrate in each Boiler 46 No. and Description of safety valves to each boiler Two Direct Spring Loaded  
 Area of each set of valves per boiler {per Rule 11.52 as fitted 11.86 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 not so fitted  
 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 23" Is the bottom of the boiler insulated No  
 Largest internal dia. of boilers 13'-6 3/4" Length 11'-0" Shell plates: Material Steel Tensile strength 28 to 32 tons  
 Thickness 1 1/8" Are the shell plates welded or flanged No Description of riveting: circ. seams {end D.R. LAP. inter. ✓  
 long. seams T.R. D.B.S Diameter of rivet holes in {circ. seams 1 5/32" long. seams 1 5/32" Pitch of rivets {3 1/2" 8 3/8"  
 Percentage of strength of circ. end seams {plate 61.4 rivets 43.9 Percentage of strength of circ. intermediate seam {plate ✓ rivets ✓  
 Percentage of strength of longitudinal joint {plate 86.1 rivets 85.5 combined 89.4 Working pressure of shell by Rules 181 lbs  
 Thickness of butt straps {outer 4/8" inner 1" No. and Description of Furnaces in each Boiler 3. Deighton  
 Material Steel Tensile strength 26 to 30 tons Smallest outside diameter 35 5/32"  
 Length of plain part {top ✓ bottom ✓ Thickness of plates {crown 29/64" bottom 64" Description of longitudinal joint Welded  
 Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 184 lbs  
 End plates in steam space: Material Steel Tensile strength 26 to 30 tons Thickness 1 1/4" Pitch of stays 24" x 18"  
 How are stays secured Double Nuts & Washers Working pressure by Rules 182 lbs  
 Tube plates: Material {front Steel back Steel Tensile strength {26 to 30 tons Thickness {7/8" 3/4"  
 Mean pitch of stay tubes in nests 9 1/2" x 9" Pitch across wide water spaces 14 1/2" Working pressure {front 184 lbs back 193 lbs  
 Girders to combustion chamber tops: Material Steel Tensile strength 28 to 32 tons Depth and thickness of girder  
 at centre 2 @ 8 x 13/16 Thick Length as per Rule 32 15/32" Distance apart 9" No. and pitch of stays  
 in each 2 @ 10 1/8" Working pressure by Rules 189 lbs Combustion chamber plates: Material Steel  
 Tensile strength 26 to 30 tons Thickness: Sides 25/32" Back 25/32" Top 25/32" Bottom 25/32" Nuts in Clow  
 Pitch of stays to ditto: Sides 1 1/2" x 10 1/8" Back 1 1/2" x 10 1/8" Top 9" x 10 1/8" Are stays fitted with nuts or riveted over Back plates  
 Working pressure by Rules 182 lbs Front plate at bottom: Material Steel Tensile strength 26 to 30 tons  
 Thickness 7/8" Lower back plate: Material Steel Tensile strength 26 to 30 tons Thickness 29/32"  
 Pitch of stays at wide water space 14 1/2" x 10 1/2" Are stays fitted with nuts or riveted over Nuts  
 Working Pressure 210 lbs Main stays: Material Steel Tensile strength 28 to 32 tons  
 Diameter {At body of stay, 3 1/8" No. of threads per inch 6 Area supported by each stay 432 sq  
 Working pressure by Rules 194 Screw stays: Material Steel Tensile strength 26 to 30 tons  
 Diameter {At turned off part, 1 7/8" No. of threads per inch 9 Area supported by each stay 198



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Working pressure by Rules 180 lb. Are the stays drilled at the outer ends No Margin stays: Diameter  $\left\{ \begin{array}{l} \text{At turned off part,} \\ \text{or} \\ \text{Over threads} \end{array} \right. \underline{2"} \checkmark$

No. of threads per inch 9 Area supported by each stay 135 sq. Working pressure by Rules 183 lb.

Tubes: Material Went Iron External diameter  $\left\{ \begin{array}{l} \text{Plain} \\ \text{Stay} \end{array} \right. \left. \begin{array}{l} \underline{3\frac{1}{4}} \\ \underline{3\frac{1}{4}} \end{array} \right. \checkmark$  Thickness  $\left\{ \begin{array}{l} \underline{8 \text{ W.G.}} \\ \underline{\frac{1}{4} - \frac{5}{16} \text{ Margin}} \end{array} \right. \checkmark$  No. of threads per inch 9

Pitch of tubes  $4\frac{1}{16} \times 4\frac{1}{2}$  Working pressure by Rules 230 lb. Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓

Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged  $3\frac{1}{4}$  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  $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right. \checkmark$

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  $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right. \checkmark$

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 \_\_\_\_\_

Area of each safety valve \_\_\_\_\_ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler \_\_\_\_\_

Rules \_\_\_\_\_ Pressure to which the safety valves are adjusted \_\_\_\_\_ Working pressure as per \_\_\_\_\_

tubes \_\_\_\_\_ castings \_\_\_\_\_ and after assembly in place \_\_\_\_\_ Hydraulic test pressure: \_\_\_\_\_

to free the superheater from water where necessary \_\_\_\_\_ Are drain cocks or valves fitted \_\_\_\_\_

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes

The foregoing is a correct description,  
 THE NORTH EASTERN MARINE ENGINEERING CO. LTD.  
C. T. Adams Manufacturer.

Dates of Survey  $\left\{ \begin{array}{l} \text{During progress of} \\ \text{work in shops} \end{array} \right. \underline{\text{see machinery}}$  Are the approved plans of boiler and superheater forwarded herewith Yes

$\left\{ \begin{array}{l} \text{while} \\ \text{building} \end{array} \right. \left\{ \begin{array}{l} \text{During erection on} \\ \text{board vessel} \end{array} \right. \underline{\text{report}}$  (If not state date of approval.)

Total No. of visits \_\_\_\_\_

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

*The materials and workmanship are good  
 The boiler have been constructed under special survey  
 and satisfactorily fixed in the vessel.*

Survey Fee ... .. £ see machinery When applied for, 192

Travelling Expenses (if any) £ Report When received, 192

George Anderson  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 10 MAR 1925

Assigned \_\_\_\_\_