

REPORT ON BOILERS.

28 AUG 1930

Received at London Office

Date of writing Report *1929* When handed in at Local Office *16th Aug 1930* Port of *NEWCASTLE-ON-TYNE*

No. in Survey held at Reg. Book. *Wallsend-on-Tyne.* Date, First Survey *6th Sept 1929* Last Survey *15th Aug 1930*

on the *New Steel M.V. "Lucerna"* (Number of Visits *1*) Gross Tons *6556* Net Tons *3928*

Master *Jarrow.* Built at *Jarrow.* By whom built *Palmer's S.S. & C. Co. Ltd* Yard No. *998* When built *1930*

Engines made at *Wallsend* By whom made *Wallsend Slipway & E.C. Co. Ltd* Engine No. *894* When made *1930*

Boilers made at *Wallsend.* By whom made *Wallsend Slipway & E.C. Co. Ltd.* Boiler No. *894* When made *1930*

Nominal Horse Power *4 x 9* Owners *H. C. Moss & Coy.* Port belonging to *Liverpool.*

MULTITUBULAR BOILERS — MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *A. Schille & Sons Ltd.* (Letter for Record *S.*)

Total Heating Surface of Boilers *2164* Is forced draught fitted *yes* Coal or Oil fired *oil*

No. and Description of Boilers *Two single ended.* Working Pressure *120 lbs*

Tested by hydraulic pressure to *230 lbs.* Date of test *2-6-30* No. of Certificate *H69.* Can each boiler be worked separately *yes.*

Area of Firegrate in each Boiler *oil fuel only.* No. and Description of safety valves to each boiler *Two spring loaded, high lift.*

Area of each set of valves per boiler *per Rule 12.03* Pressure to which they are adjusted *125 lbs* Are they fitted with easing gear *yes*

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 *2'-0"* Is oil fuel carried in the double bottom under boilers *yes*

Smallest distance between shell of boiler and tank top plating *2'-1"* Is the bottom of the boiler insulated *no*

Largest internal dia. of boilers *10'-4 3/4"* Length *11'-6"* Shell plates: Material *Steel* Tensile strength *29 to 33 tons*

Thickness *5/8"* Are the shell plates welded or flanged *no* Description of riveting: circ. seams *5.R* end *5.R* inter. *✓*

long. seams *J.R.D.B.S.* Diameter of rivet holes in *15/16"* Pitch of rivets *2.095* *4 1/16"*

Percentage of strength of circ. end seams *55.7* Percentage of strength of circ. intermediate seam *81.7*

Percentage of strength of longitudinal joint *83* Working pressure of shell by Rules *124 lbs.*

Thickness of butt straps *5/8"* No. and Description of Furnaces in each Boiler *Two corrugated (Draughton)*

Material *Steel* Tensile strength *26 to 30 tons* Smallest outside diameter *2'-11 1/4"*

Length of plain part *✓* Thickness of plates *3/8"* Description of longitudinal joint *weld.*

Dimensions of stiffening rings on furnace or c.c. bottom *none* Working pressure of furnace by Rules *150 lbs.*

End plates in steam space: Material *Steel* Tensile strength *26 to 30 tons* Thickness *1"* Pitch of stays *20 3/4" x 21*

How are stays secured *double nuts.* Working pressure by Rules *121 lbs.*

Tube plates: Material *Steel* Tensile strength *26 to 30 tons* Thickness *3/4"*

Mean pitch of stay tubes in nests *10 5/8"* Pitch across wide water spaces *13 1/4" x 7 1/4"* Working pressure *120.6 lbs*

Girders to combustion chamber tops: Material *Steel* Tensile strength *29 to 33 tons* Depth and thickness of girder *14 1/4" lbs*

at centre *2 @ 5/8" x 7 1/8"* Length as per Rule *2'-6 9/32"* Distance apart *10"* No. and pitch of stays *Steel*

in each *2 @ 9 1/16"* Working pressure by Rules *123 lbs.* Combustion chamber plates: Material *Steel*

Tensile strength *26 to 30 tons* Thickness: Sides *19/32"* Back *19/32"* Top *19/32"* Bottom *19/32"*

Pitch of stays to ditto: Sides *9 7/16" x 10"* Back *10" x 9"* Top *10" x 9 7/16"* Are stays fitted with nuts or riveted over *nuts*

Working pressure by Rules *128 lbs.* Front plate at bottom: Material *Steel* Tensile strength *26 to 30 tons*

Thickness *3/4"* Lower back plate: Material *Steel* Tensile strength *26 to 30 tons* Thickness *1 1/16"*

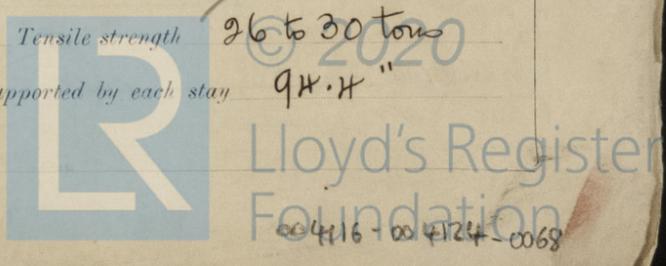
Pitch of stays at wide water space *14" x 9"* Are stays fitted with nuts or riveted over *nuts*

Working Pressure *137 lbs.* Main stays: Material *Steel* Tensile strength *28 to 32 tons*

Diameter *At body of stay, 2 3/4"* No. of threads per inch *6* Area supported by each stay *415"*

Working pressure by Rules *133 lbs.* Screw stays: Material *Steel* Tensile strength *26 to 30 tons*

Diameter *At turned off part, 1 1/2"* No. of threads per inch *9* Area supported by each stay *94.4"*



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Working pressure by Rules 132 lbs Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, or Over threads 1 5/8" }
 No. of threads per inch 9 Area supported by each stay 108" Working pressure by Rules 140 lbs
 Tubes: Material Steel External diameter { Plain 2 1/2" Stay 2 1/2" } Thickness { 11 L.S.G. 1/4" + 5/16" } No. of threads per inch 9
 Pitch of tubes 3 5/8" x 3 3/4" Working pressure by Rules next 140 lbs Manhole compensation: Size of opening in shell plate 19 1/2" x 15 1/2" Section of compensating ring 10 x 5/8" No. of rivets and diameter of rivet holes 44 @ 2 1/4" x 3/4"
 Outer row rivet pitch at ends 1 1/2" Depth of flange if manhole flanged 2 5/8" Steam Dome: Material none.
 Tensile strength 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 Babcock & Wilcox Ltd. ^{Drum type} Manufacturers of Tubes ✓ Steel castings ✓
 Number of elements 36 Material of tubes S.D. Steel Internal diameter and thickness of tubes 1 1/4" x 10 L.S.G.
 Material of headers Steel Tensile strength ✓ Thickness ✓ Can the superheater be shut off and the boiler be worked separately yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler yes
 Area of each safety valve 1.47 sq ft Are the safety valves fitted with easing gear yes Working pressure as per Rules 120 lbs Pressure to which the safety valves are adjusted 125 lbs Hydraulic test pressure: tubes ✓ castings ✓ and after assembly in place 250 lbs Are drain cocks or valves fitted to free the superheater from water where necessary yes.
 Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with yes.

The foregoing is a correct description,
 FOR THE WALLSEND SLIPWAY & ENGINEERING CO. LIMITED. Manufacturer.
 [Signature] DIRECTOR

Dates of Survey { During progress of work in shops - - - } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) yes.
 { During erection on board vessel - - - } Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
 These Boilers have been built under Special Survey. Materials & workmanship good. Hydraulic tests satisfactory. They have been efficiently installed & fixed in place, examined under steam & safety valves adjusted.

120 lbs
 1 1/2"
 108"
 2 1/2"
 11 L.S.G. 1/4" + 5/16"
 3 5/8" x 3 3/4"
 10 x 5/8"
 44 @ 2 1/4" x 3/4"
 1 1/2"
 2 5/8"
 none.
 1 1/4" x 10 L.S.G.
 1.47 sq ft
 125 lbs
 250 lbs
 120 lbs
 125 lbs
 250 lbs

Survey Fee ... £ : : When applied for. 192
 Travelling Expenses (if any) £ : : When received. 192

[Signature] William P. [Signature]
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 5 SEP 1930

Assigned See F. E. Rep.