

REPORT ON BOILERS.

No. 44465

Date of writing Report 21.4.37 When handed in at Local Office 23 APR 1937 Received at London Office APR 24 1937 Port of HULL

No. in Reg. Book. 68311 Survey held at Hull Date, First Survey 29th Jan. 1937 Last Survey 14th April 1937

on the Steam Trawler "LADY SHIRLEY" (Number of Visits ✓) Gross 471.85 Tons Net 176.57

Master ✓ Built at Beverley By whom built Lock, Welton & Gemmel Ltd Yard No. 615 When built 1937-4
Engines made at Hull By whom made B. D. Holmes & Co., Ltd Engine No. 1504 When made 1937
Boilers made at Hull By whom made B. D. Holmes & Co., Ltd Boiler No. 1504 When made 1937
Nominal Horse Power 120 Owners Julland Amalgamated Trawlers Ltd Port belonging to Hull

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel The Steel Company of Scotland Limited (Letter for Record "S")

Total Heating Surface of Boilers 2160 square feet Is forced draught fitted No Coal or Oil fired Coal

No. and Description of Boilers One Single Ended Return Tube Working Pressure 215 lbs/sq

Tested by hydraulic pressure to 373 lbs/sq Date of test 30.3.37 No. of Certificate 3970 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler 59 sq ft No. and Description of safety valves to each boiler Two spring loaded 3" diameter

Area of each set of valves per boiler per Rule 11.8 Pressure to which they are adjusted 215 lbs/sq Are they fitted with easing gear No

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 9" Is oil fuel carried in the double bottom under boilers ✓

Smallest distance between shell of boiler and tank top plating ✓ Is the bottom of the boiler insulated ✓

Largest internal dia. of boilers 15'-0" Length 11'-0" Shell plates: Material Steel Tensile strength 30.34 Tons/sq

Thickness 1 3/8" Are the shell plates welded or flanged No Description of riveting: circ. seams Double riveted

long. seams Double riveted D.B.S. Diameter of rivet holes in circ. seams 1 3/8" Pitch of rivets 3 3/4"

Percentage of strength of circ. end seams plate 63.3 rivets 44.2 Percentage of strength of circ. intermediate seam plate ✓ rivets ✓

Percentage of strength of longitudinal joint plate 85.2 rivets 84.89 combined 87.7 Working pressure of shell by Rules 216 lbs/sq

Thickness of butt straps outer 1 1/8" inner 1 3/8" No. and Description of Furnaces in each Boiler Three Doughton Corrugated 30"

Material Steel Tensile strength 26-30 Tons/sq Smallest outside diameter 3'-8 1/2"

Length of plain part top ✓ bottom ✓ Thickness of plates crown 2 1/32" bottom 2 1/32" Description of longitudinal joint Welded

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 217 lbs/sq

End plates in steam space: Material Steel Tensile strength 26-30 Tons/sq Thickness 1 1/32" Pitch of stays 18 1/2" x 19 1/2"

How are stays secured Double nuts & washers Working pressure by Rules 218 lbs/sq

Tube plates: Material front Steel back Steel Tensile strength 26-30 Tons/sq Thickness 2 1/32"

Mean pitch of stay tubes in nests 10.69" Pitch across wide water spaces 14" Working pressure front 225 lbs/sq back 220 lbs/sq

Girders to combustion chamber tops: Material Steel Tensile strength 29-33 Tons/sq Depth and thickness of girder at centre 9 3/4" Wings 7/8" Double Length as per Rule 3'-0 1/4" Distance apart 8" Centre 9 1/8" Max Wings No. and pitch of stays in each 3 x 8 1/4" pitch Working pressure by Rules 221 lbs/sq Combustion chamber plates: Material Steel

Tensile strength 26-30 Tons/sq Thickness: Sides 2 5/32" Back 1 1/8" Top 1 1/8" Bottom 2 5/32"

Pitch of stays to ditto: Sides 10 1/4" x 8 1/2" Back 9 1/2" x 7 3/4" Top 8 1/4" x 9 1/8" Max Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 218 lbs/sq Front plate at bottom: Material Steel Tensile strength 26-30 Tons/sq

Thickness 1 5/8" Lower back plate: Material Steel Tensile strength 26-30 Tons/sq Thickness 2 1/32"

Pitch of stays at wide water space 14" x 7 3/4" Are stays fitted with nuts or riveted over Nuts

Working Pressure 221 lbs/sq Main stays: Material Steel Tensile strength 28 Tons MINIMUM

Diameter At body of stay, 3 1/4" or Over threads ✓ No. of threads per inch 8 Area supported by each stay 361 square inches

Working pressure by Rules 215 lbs/sq Screw stays: Material Steel Tensile strength 26 Tons MINIMUM

Diameter At turned off part, 1 3/4" or Over threads ✓ No. of threads per inch 10 Area supported by each stay 73.6 square inches

If not, state whether, and when, one will be sent? Is a Report also sent on the condition of the ship?

Working pressure by Rules $245 \text{ lbs}/\square$ Are the stays drilled at the outer ends *No* Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part, } 7/8" \\ \text{or } 9/8" \\ \text{Over threads } 1 1/8" \end{array} \right.$

No. of threads per inch *10* Area supported by each stay *87 square inches* Working pressure by Rules $234 \text{ lbs}/\square$

Tubes: Material *L. W. Iron* External diameter $\left\{ \begin{array}{l} \text{Plain } 3 1/2" \\ \text{Stay } 3 1/2" \end{array} \right.$ Thickness $\left\{ \begin{array}{l} 8 \text{ w.g. } 3/16" \\ 5/16" \end{array} \right.$ No. of threads per inch *9*

Pitch of tubes $4 3/4" \times 4 3/4"$ Working pressure by Rules $215 \text{ lbs}/\square$ Manhole compensation: Size of opening in shell plate $16" \times 12"$ Section of compensating ring $4-9 3/4" \times 1 1/8" \text{ thick}$ No. of rivets and diameter of rivet holes $16-1 1/32"$

Outer row rivet pitch at ends $4-5 3/8" \text{ p.c.}$ Depth of flange if manhole flanged _____ Steam Dome: Material *Steel*

Tensile strength $26-30 \text{ Tons}/\square$ Thickness of shell $3/4"$ Description of longitudinal joint *Single riveted lap.*

Diameter of rivet holes $1 1/32"$ Pitch of rivets $2 1/4"$ Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plates } 54 \\ \text{Rivets } 43.8 \end{array} \right.$

Internal diameter $2-9"$ Working pressure by Rules $230 \text{ lbs}/\square$ Thickness of crown $7/8"$ No. and diameter of stays *2 at 2 1/4" diameter* Inner radius of crown _____ Working pressure by Rules _____

How connected to shell *Double riveted* Size of doubling plate under dome $4-9 3/4" \text{ dia} \times 1 1/8" \text{ thick}$ Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell $1 1/8" \text{ dia} \times 3-9" \text{ p.c.d.}$

Type of Superheater *None* Manufacturers of $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel forgings} \\ \text{Steel castings} \end{array} \right.$

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 _____ 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 _____ forgings and 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,
 FOR CHARLES D. HOLMES & CO., LTD. Manufacturer.
J. Cooke

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops} \\ \text{while building} \end{array} \right.$ *Please see Mch. Rpt. herewith* Are the approved plans of boiler and superheater forwarded herewith *No* (If not state date of approval.)

Total No. of visits _____

Is this Boiler a duplicate of a previous case *Yes* If so, state Vessel's name and Report No. *REIGHTON WYKE 47562.*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *The boiler has been built under Special Survey and in accordance with the approved plan, the material and workmanship being sound & good*

The approved plan has been retained for guidance in building main boiler for C1505

Charged on engine report herewith.

Survey Fee ... £ : : } When applied for, 10
 Travelling Expenses (if any) £ : : } When received, 10

J. A. Orde
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI 30 APR 1937*

Assigned *See Encl. I.E. 47765*

