

# REPORT ON BOILERS.

4 FEB 1936

Received at London Office

Date of writing Report 19 When handed in at Local Office 19 Port of **HULL**

No. in Reg. Book 18228 Survey held at **Hull** Date, First Survey **15<sup>th</sup> Nov. 1935** Last Survey **4<sup>th</sup> Feb. 1936**

on the **Steam Trawler "Lady Philomena"** (Number of Visits **✓**) Tons { Gross **417** Net **157**

Master **✓** Built at **Beverley** By whom built **Cook, Welton & Gemmell** Yard No. **606** When built **1936**

Engines made at **Hull** By whom made **C.D. Holmes & Co. Ltd.** Engine No. **1490** When made **1936**

Boilers made at **do** By whom made **do** Boiler No. **do** When made **1936**

Nominal Horse Power **105** Owners **Jutland Amalgamated Trawlers Ltd.** Port belonging to **Hull.**

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

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

Total Heating Surface of Boilers **1940 sq. ft.** Is forced draught fitted **No** Coal or Oil fired **Coal.**

No. and Description of Boilers **One Single-ended.** Working Pressure **200 lbs<sup>sq</sup>**

Tested by hydraulic pressure to **350 lbs<sup>sq</sup>** Date of test **19/12/35** No. of Certificate **3925** Can each boiler be worked separately **✓**

Area of Firegrate in each Boiler **53.7 sq. ft.** No. and Description of safety valves to each boiler **Double, 2 3/4" dia. Spring-loaded.**

Area of each set of valves per boiler { per Rule **11.3 sq. ins.** as fitted **11.9 sq. ins.** Pressure to which they are adjusted **200 lbs<sup>sq</sup>** 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 **8 1/4"** 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 **No**

Largest internal dia. of boilers **14'-6"** Length **10'-8"** Shell plates: Material **Steel** Tensile strength **29/33 Tons<sup>sq</sup>**

Thickness **1 9/32"** Are the shell plates welded or flanged **No** Description of riveting: circ. seams { end **DR.** inter. **✓**

long. seams **T.R. D.B.S.** Diameter of rivet holes in { circ. seams **1 1/32"** long. seams **1 1/32"** Pitch of rivets { **3 3/4"** **9 1/4"**

Percentage of strength of circ. end seams { plate **64.3** rivets **46.8** Percentage of strength of circ. intermediate seam { plate **85.5** rivets **88.8** combined **88.7** Working pressure of shell by Rules **202 lbs<sup>sq</sup>**

Thickness of butt straps { outer **1"** inner **1 1/8"** No. and Description of Furnaces in each Boiler **3 Plain.**

Material **Steel** Tensile strength **26/30 Tons<sup>sq</sup>** Smallest outside diameter **3'-6 1/2"**

Length of plain part { top **6'-3"** bottom **5'-6"** Thickness of plates { crown **1 3/16"** bottom **1 3/16"** Description of longitudinal joint **Welded.**

Dimensions of stiffening rings on furnace or c.c. bottom **✓** Working pressure of furnace by Rules **206 lbs<sup>sq</sup>**

End plates in steam space: Material **Steel.** Tensile strength **26/30 Tons<sup>sq</sup>** Thickness **1 5/8"** Pitch of stays **19 3/4" x 18 1/4"**

How are stays secured **Double nuts and washers.** Working pressure by Rules **203 lbs<sup>sq</sup>**

Tube plates: Material { front **steel.** back **✓** Tensile strength { **26/30 Tons<sup>sq</sup>** Thickness { **15/16"** **7/8"**

Mean pitch of stay tubes in nests **10.7"** Pitch across wide water spaces **14"** Working pressure { front **209 lbs<sup>sq</sup>** back **242 lbs<sup>sq</sup>**

Girders to combustion chamber tops: Material **Steel** Tensile strength **29/33 Tons<sup>sq</sup>** Depth and thickness of girder at centre **10" x (7/8" x 2)** Length as per Rule **36 1/4"** Distance apart **9" wings, 9 1/2" Centre** No. and pitch of stays in each **3 @ 8"** Working pressure by Rules **233 lbs<sup>sq</sup>** Combustion chamber plates: Material **Steel.**

Tensile strength **26/30 Tons<sup>sq</sup>** Thickness: Sides **23/32"** Back **1/16"** Top **1/16"** Bottom **23/32"**

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

Working pressure by Rules **204 lbs<sup>sq</sup>** Front plate at bottom: Material **Steel** Tensile strength **26/30 Tons<sup>sq</sup>**

Thickness **15/16"** Lower back plate: Material **Steel.** Tensile strength **26/30 Tons<sup>sq</sup>** Thickness **7/8"**

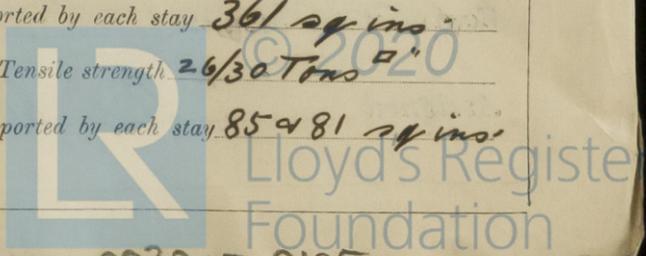
Pitch of stays at wide water space **14 1/4"** Are stays fitted with nuts or riveted over **Nuts.**

Working Pressure **227 lbs<sup>sq</sup>** Main stays: Material **Steel** Tensile strength **28/32 Tons<sup>sq</sup>**

Diameter { At body of stay, **3 1/4"** or **3 1/4"** No. of threads per inch **8** Area supported by each stay **361 sq. ins.**

Working pressure by Rules **203 lbs<sup>sq</sup>** Screw stays: Material **Steel** Tensile strength **26/30 Tons<sup>sq</sup>**

Diameter { At turned off part, **2", 1 7/8" & 1 3/4"** or **2", 1 7/8" & 1 3/4"** No. of threads per inch **10** Area supported by each stay **85 & 81 sq. ins.**



Working pressure by Rules  $225 \text{ lb}^2$  Are the stays drilled at the outer ends *No* Margin stays: Diameter  $\left\{ \begin{array}{l} \text{At turned off part,} \\ \text{Over threads} \end{array} \right. 2 \frac{1}{8} \text{"} \checkmark$   
 No. of threads per inch *10* Area supported by each stay *104.6 sq ins* Working pressure by Rules  $203 \text{ lb}^2$   
 Tubes: Material *Iron* External diameter  $\left\{ \begin{array}{l} \text{Plain} \\ \text{Stay} \end{array} \right. 3 \frac{1}{2} \text{"} \checkmark$  Thickness  $\left\{ \begin{array}{l} 8 \text{ MG.} \\ 5/16 \times 3/8 \end{array} \right. \checkmark$  No. of threads per inch *9*  
 Pitch of tubes  $4 \frac{3}{4} \times 4 \frac{3}{4} \checkmark$  Working pressure by Rules  $215 \text{ lb}^2$  Manhole compensation: Size of opening in shell plate  $16 \times 12 \checkmark$  Section of compensating ring  $57 \frac{1}{2} \text{ dia} \times 1 \frac{9}{32} \checkmark$  No. of rivets and diameter of rivet holes  $122 @ 1 \frac{1}{32} \checkmark$   
 Outer row rivet pitch at ends  $10.45 \text{"} \checkmark$  Depth of flange if manhole flanged  Steam Dome: Material *Steel*  
 Tensile strength  $26/30 \text{ Tons}^2 \checkmark$  Thickness of shell  $3/4 \text{"} \checkmark$  Description of longitudinal joint *SR Lap*  
 Diameter of rivet holes  $1 \frac{1}{32} \text{"} \checkmark$  Pitch of rivets  $2 \frac{1}{4} \text{"} \checkmark$  Percentage of strength of joint  $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right. 54.4 \checkmark$   
 Internal diameter  $2'-9 \text{"} \checkmark$  Working pressure by Rules  $231 \text{ lb}^2$  Thickness of crown  $7/8 \text{"} \checkmark$  No. and diameter of stays  $2 @ 2 \frac{1}{4} \text{"} \checkmark$  Inner radius of crown  Working pressure by Rules   
 How connected to shell *DR Lap Joint* Size of doubling plate under dome  $57 \frac{1}{2} \text{ dia} \times 1 \frac{9}{32} \checkmark$  Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell  $1 \frac{1}{32} \text{ dia} \times 10.45 \text{ Pitch} \checkmark$

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 \_\_\_\_\_  
 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 \_\_\_\_\_

The foregoing is a correct description,  
 FOR CHARLES T. HOLMES & CO. LTD.,  
*J. Cooper* Manufacturer

Dates of Survey  $\left\{ \begin{array}{l} \text{During progress of work in shops} \\ \text{while building} \end{array} \right. \left\{ \begin{array}{l} \text{See Mch} \\ \text{Rpt Herewith} \end{array} \right. \checkmark$   
 Are the approved plans of boiler and superheater forwarded herewith *Yes* (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. *Lady Beryl (Hul Rpt No 46425)*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
*This boiler has been constructed under Special Survey and in accordance with the approved plan. It has been satisfactorily fitted on board, examined under steam, and the safety valves adjusted as above.*

Survey Fee *Charged on Engine Rpt. Herewith* When applied for, 19  
 Travelling Expenses (if any) £ \_\_\_\_\_ When received, 19

*A. W. B. Edwards*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE. 18 FEB 1936*  
 Assigned *See other L.E. Rpt. Hul. 46555*

