

REPORT ON BOILERS.

No. 50837.

Received at London Office

15.

Date of writing Report 16-8-1940 When handed in at Local Office

2 SEP 1940

Port of

HULL

No. in Survey held at Reg. Book.

Hull

Date, First Survey

15-11-39.

Last Survey

12-8-1940.

on the Steam Trawler

VIZALMA.

(Number of Visits 39.)

Tons { Gross 580 Net 210

Master

Built at Beverley

By whom built Cook, Weldon & Grumell Yard No. 656 When built 1940-8.

Engines made at

Hull

By whom made C.D. Holmes & Co.

Engine No. 1558 When made do.

Boilers made at

do

By whom made do

Boiler No. do When made do.

Nominal Horse Power

165.

Owners Atlas Steam Towing Co. Ltd

Port belonging to Grimsby.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby, Frodingham Steel Co., Ltd. Colvilles, Ltd. (Letter for Record S)

Total Heating Surface of Boilers 2551 sq. ft. Is forced draught fitted Yes. Coal fired Coal.

No. and Description of Boilers One S.B. (Spt). Working Pressure 225 lbs/sq. in.

Tested by hydraulic pressure to 338 lbs/sq. in. Date of test 4-3-40 No. of Certificate 4025. Can each boiler be worked separately Yes.

Area of Firegrate in each Boiler 64 sq. ft. No. and Description of safety valves to each boiler One - Twin valve, Spring loaded.

Area of each set of valves per boiler { per Rule 16.1 sq. in. as fitted 19.25 sq. in. Pressure to which they are adjusted 225 lbs/sq. in. 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 12" Is oil fuel carried in the double bottom under boilers No.

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated No.

Largest internal dia. of boilers 15'-9 1/16" Length 11'-0" Shell plates: Material Steel. Tensile strength 31-35 tons/sq. in.

Thickness 1 15/32" Are the shell plates welded or flanged No. Description of riveting: circ. seams { end D.R. lap inter. 3 7/8" long. seams T.R. - D.B.S. Diameter of rivet holes in { circ. seams 1 15/32" long. seams 1 1/2". Pitch of rivets { 9 9/16"

Percentage of strength of circ. end seams { plate 62.1% rivets 44.2% Percentage of strength of circ. intermediate seam { plate rivets 84.3%

Percentage of strength of longitudinal joint { plate 84.3% rivets 86.9% combined 86% Working pressure of shell by Rules Yes.

Thickness of butt straps { outer 1 5/32" inner 1 9/32" No. and Description of Furnaces in each Boiler 3 cf. Dighton Section.

Material Steel Tensile strength 26/30 tons/sq. in. Smallest outside diameter 3'-10"

Length of plain part { top bottom Thickness of plates { crown 2 3/32" bottom 1 3/32" Description of longitudinal joint Welded.

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules Yes.

End plates in steam space: Material Steel Tensile strength 26/30 tons/sq. in. Thickness 1 1/4" Pitch of stays 18 5/8" x 19 1/4"

How are stays secured Double nuts & washers Working pressure by Rules Yes.

Tube plates: Material { front Steel Tensile strength 26/30 tons/sq. in. Thickness 31/32" back Steel Thickness 29/32"

Mean pitch of stay tubes in nests 10 15/16" Pitch across wide water spaces 14 1/4" Working pressure { front back

Girders to combustion chamber tops: Material Steel Tensile strength 29/33 tons/sq. in. Depth and thickness of girder at centre 9" x 7/8" x 2.

Length as per Rule 2'-8 1/4" Distance apart 9 1/4" No. and pitch of stays in each 3 - 7 1/2" Working pressure by Rules Yes.

Tensile strength 26/30 tons/sq. in. Thickness: Sides 2 3/32" Back 2 3/32" Top 1 1/16" Bottom 1 5/16" Combustion chamber plates: Material Steel.

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

Working pressure by Rules Yes. Front plate at bottom: Material Steel. Tensile strength 26/30 tons/sq. in. Thickness 29/32"

Lower back plate: Material Steel Tensile strength 26/30 tons/sq. in. Thickness 29/32"

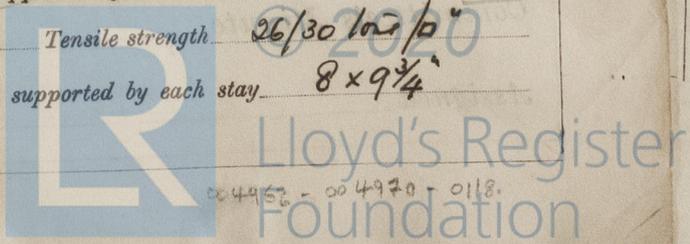
Pitch of stays at wide water space 14 1/2" x (9 1/2" + 9 3/16") / 2. Are stays fitted with nuts or riveted over Yes.

Working Pressure Yes. Main stays: Material Steel. Tensile strength 28/32 tons/sq. in.

Diameter { At body of stay 3 7/8" No. of threads per inch 8. Area supported by each stay 19 1/4" x (19 1/8" + 18 5/8") / 2.

Working pressure by Rules Yes. Screw stays: Material Steel. Tensile strength 26/30 tons/sq. in.

Diameter { At turned off part 1 3/4" No. of threads per inch 10. Area supported by each stay 8" x 9 1/4"



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Working pressure by Rules Are the stays drilled at the outer ends *CY0* Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part} \\ \text{or} \\ \text{Over threads} \end{array} \right. 1\frac{1}{8} \text{ \& } 2" \text{ \& } 2\frac{1}{8}"$

No. of threads per inch *10* Area supported by each stay $9\frac{1}{2} \times \frac{14\frac{1}{2} + 8\frac{1}{4}}{2}$ Working pressure by Rules

Tubes: Material *4W Iron* External diameter $\left\{ \begin{array}{l} \text{Plain} \\ \text{Stay} \end{array} \right. 3\frac{1}{2}"$ Thickness $\left\{ \begin{array}{l} \text{7. W.G.} \\ \text{5/16, 3/8, 7/16} \end{array} \right.$ No. of threads per inch *9*

Pitch of tubes $4\frac{3}{4} \times 4\frac{3}{4}$ Working pressure by Rules Manhole compensation: Size of opening in shell plate $16" \times 12"$ Section of compensating ring $4'-1" \times 1\frac{15}{32}"$ No. of rivets and diameter of rivet holes *57 - 1\frac{1}{2}" dia*

Outer row rivet pitch at ends $10\frac{1}{4}"$ Depth of flange if manhole flanged $\left\{ \begin{array}{l} \text{Top} \\ \text{Bottom} \end{array} \right. 3\frac{1}{2}"$ Steam Dome: Material *Steel*

Tensile strength $26/30 \text{ ton/2}$ Thickness of shell $3/4"$ Description of longitudinal joint *S.R lap*

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

Internal diameter $2'-9"$ Working pressure by Rules Thickness of crown $1\frac{5}{16}"$ No. and diameter of stays *2 - 2\frac{3}{8} dia* Inner radius of crown *Flat* Working pressure by Rules

How connected to shell *Riveted* Size of doubling plate under dome $4'-11\frac{1}{4} \text{ dia} \times 1\frac{15}{32}"$ Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell $1\frac{1}{2} \text{ dia } 10\frac{1}{4} \text{ pitch}$

Type of Superheater *Smoke tube type* Manufacturers of $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel forgings} \\ \text{Steel castings} \end{array} \right. \text{ See Man Rpt.}$

Number of elements *60* Material of tubes *Steel* Internal diameter and thickness of tubes $17\frac{1}{2} \text{ bore } 3\frac{1}{2} \text{ thick}$

Material of headers *Steel* Tensile strength *Man Rpt.* Thickness $5/8"$ 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 1.77 sq ft Are the safety valves fitted with easing gear *Yes* Working pressure as per Rules *250 lbs/2"* Hydraulic test pressure: tubes *Man Rpt.* forgings and castings *Man Rpt.* and after assembly in place $675 \text{ lbs/2}"$ 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 CHARLES BULLOCK MESSRS GUNTON & CO. Manufacturer.

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops} \\ \text{while building} \end{array} \right. \left\{ \begin{array}{l} \text{1939 Nov. 15, 24, Dec. 7, 9, 21, 1940, Jan. 5, 7, 12, 18, 26, 31, Feb. 5, 7, 9, 12, 15, 20, 29, Mar. 4, 7, 8, 18, 21, Apr. 3-9, 18, 22, 25, May 9, 24, 30, June 4, 5, 14, 21, July 11, 26, Aug. 2, 12.} \end{array} \right.$ Are the approved plans of boiler and superheater forwarded herewith *Yes* (If not state date of approval.)

Total No. of visits *39*

Is this Boiler a duplicate of a previous case *Yes* If so, state Vessel's name and Report No. *ST APOLLO Hull Rpt No 50776. LADY LILIAN " " " 50402*

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

This boiler has been built under Special Survey in accordance with the approved plans & the Rules. The workmanship & Materials are good & when tested by hydraulic pressure as prescribed it was found tight & satisfactory in every respect.

Survey Fee £ : : When applied for, 19

Travelling Expenses (if any) £ : : When received, 19

Robert J. Hollander & Partners
Engineer Surveyor to Lloyd's Register of Shipping.

PM. 13 SEP 1940

Committee's Minute

Assigned *See minute on 1st E. machy opt*

