

REPORT ON BOILERS.

No. 44137

Received at London Office 18 OCT 1933

17 OCT 1933

Date of writing Report

19

When handed in at Local Office

Port of

No. in Survey held at

Hull

Date, First Survey

30. 6. 33

Last Survey

5. 10. 1933

eg. Book

(Number of Visits)

Gross 421.9
Tons
Net 161.74

720 on the

Steam Trawler "ARAB"

Master

Built at Bursley

By whom built Robt. Dutton & Son Ltd

When built 1933

Engines made at

Hull

By whom made Charles Holmes & Co Ltd

Engine No. 1441 When made 1933

Boilers made at

Hull

By whom made do

Boiler No. 1441 When made 1933

Nominal Horse Power

111

Owners

Hellyer & Son Ltd

Port belonging to

Hull

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Appley Lim Co 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 210 lbs.

Tested by hydraulic pressure to

365 lbs.

Date of test 29.8.33

No. of Certificate 3866

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

Two spring loaded

Area of each set of valves per boiler

per Rule

11.86 sq. in.

Pressure to which they are adjusted 210 lbs.

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

9 1/2"

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

17 1/2"

Length 10'-8"

Shell plates: Material

1 1/32"

Tensile strength 79/33 Tons.

Thickness

1 1/32"

Are the shell plates welded or flanged ✓

Description of riveting: circ. seams

end

Long. seams

T.R. 53.8"

Diameter of rivet holes in

1 3/8"

Pitch of rivets

9 1/2"

Percentage of strength of circ. end seams

plate

63.2

Percentage of strength of circ. intermediate seam

plate

Percentage of strength of longitudinal joint

plate

85.13

Working pressure of shell by Rules

212 lbs.

Thickness of butt straps

outer 1 1/32"

No. and Description of Furnaces in each Boiler

Shut plain

Material

Steel

Tensile strength

26/30 Tons

Smallest outside diameter

42.5"

Length of plain part

top 1 1/2"

Thickness of plates

bottom 53/64"

Description of longitudinal joint

welded

Dimensions of stiffening rings on furnace or c.c. bottom

Working pressure of furnace by Rules

212 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30 Tons

Thickness

1 3/16"

Pitch of stays

19 1/4" x 18 1/4"

How are stays secured

Double nuts & washers

Working pressure by Rules

212 lbs.

Tube plates: Material

front Steel

Tensile strength

26/30 Tons

Thickness

15/16"

Mean pitch of stay tubes in nests

10.7"

Pitch across wide water spaces

14 1/4"

Working pressure

front 230 lbs.

back 222 lbs.

Girders to combustion chamber tops: Material

Steel

Tensile strength

29/33 Tons

Depth and thickness of girder

at centre

10' x 13 1/4"

Length as per Rule

36 7/32"

Distance apart

9

No. and pitch of stays

in each

3 @ 8"

Working pressure by Rules

227 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30 Tons

Thickness: Sides

3/4"

Back

23/32"

Top

23/32"

Bottom

3/4"

Pitch of stays to ditto: Sides

10" x 8 1/2"

Back

9 1/2" x 8 1/4"

Top

9" x 8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

215 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30 Tons

Thickness

15/16"

Lower back plate: Material

Steel

Tensile strength

26/30 Tons

Thickness

7/8"

Pitch of stays at wide water space

14 1/4" x 8 1/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

211 lbs.

Main stays: Material

Steel

Tensile strength

26/32 Tons

Diameter

At body of stay, 3 1/4"

No. of threads per inch

8

Area supported by each stay

360 sq. in.

Working pressure by Rules

220 lbs.

Screw stays: Material

Steel

Tensile strength

26/30 Tons

Diameter

At turned off part, 1 3/4"

No. of threads per inch

10

Area supported by each stay

85 sq. in.

Working pressure by Rules 212 Lbs. Are the stays drilled at the outer ends *ho* Margin stays: Diameter { At turned off part, or Over threads *17/8" x 2"*
No. of threads per inch 10 Area supported by each stay 98 sq. Working pressure by Rules 217 Lbs.
Tubes: Material *lin* External diameter { Plain *3 1/2"* Thickness { *5/16" + 3/8"* No. of threads per inch 9
Pitch of tubes *4 3/4"* Working pressure by Rules 215 Lbs. Manhole compensation: Size of opening in
shell plate *16" x 12"* Section of compensating ring *5 1/2" dia x 1 1/2"* No. of rivets and diameter of rivet holes *16 @ 1 1/2"*
Outer row rivet pitch at ends *10.4"* Depth of flange if manhole flanged *6.5"* Steam Dome: Material *Steel*
Tensile strength *76,300 Tons* Thickness of shell *3/4"* Description of longitudinal joint *J.R. Lap*
Diameter of rivet holes *1 1/2"* Pitch of rivets *2 1/4"* Percentage of strength of joint { Plate *54*
Rivets *43.8*
Internal diameter *33"* Working pressure by Rules Thickness of crown *7/8"* No. and diameter of
stays *2 @ 2 1/4"* Inner radius of crown Working pressure by Rules
How connected to shell *Riveted* Size of doubling plate under dome *5 1/2" x 1 1/2"* Diameter of rivet holes and pitch
of rivets in outer row in dome connection to shell *1 1/2" @ 10.4"*

Type of Superheater

Manufacturers of { Tubes
Steel castings
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 D. HOLMES & CO., LTD. Manufacturer.

(Dates of Survey { During progress of work in shops --
while building { During erection on board vessel --

See machinery report

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) *Yes*

Total No. of visits *1*

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This boiler has been built under special survey & in accordance with the approved plan. The materials & workmanship are sound & good. The boiler has been satisfactorily fitted on board, tried under steam & its safety valves adjusted as above.*

Survey Fee *£ 100* When applied for, 19

Travelling Expenses (if any) *£ 100* When received, 19

John Mackenzie
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE, 24 OCT 1933

Assigned *See other J.E. Rep*
Shil 44137



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Lloyd's Register Foundation

Rpt. 13.

RE

Date of survey

No. in Reg. Bo

17720

Built at

Owners

Electric

Is the Ve

System of

Pressure

Direct or

If alternat

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Position

is the vent

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Switchbo

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bars

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Instrum

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Switches

Joint B