

## REPORT ON BOILERS.

No. 46504

25 JAN 1936

Date of writing Report

19

When handed in at Local Office

19

Port of

Received at London Office

No. in Survey held at  
Reg. Book.

Hull

Date, First Survey

14th October 1935

Last Survey

13th January 1936

on the Steam Trawler "Thornwick Bay"

(Number of Visits)

Gross

Tons

Net

Master

Built at Beverley

By whom built

Cook, Welton &amp; Gemmell

Yard No.

604

When built 1936

Engines made at

Hull

By whom made

Amos &amp; Smith Ltd.

Engine No.

645

When made 1936

Boilers made at

do

By whom made

do

Boiler No.

645

When made 1936

Nominal Horse Power

112

Owners

Marine Steam Fishing Co Ltd.

Port belonging to

Hull.

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

Manufacturers of Steel

Appleby - Frodingham Steel Co Ltd.

(Letter for Record)

S

Total Heating Surface of Boilers

1960 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

24/12/35

No. of Certificate

3926

Can each boiler be worked separately

✓

Area of Firegrate in each Boiler

51 sq. ft.

No. and Description of safety valves to each boiler

Two Spring loaded.

Area of each set of valves per boiler

per Rule 10.9 sq. ins.

as fitted 11.9 "

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

10 "

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'-9"

Length

10'-9"

Shell plates: Material

Steel

Tensile strength

29/33 Tons

Thickness

1 3/8 "

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end D.R. lap.

long. seams

T.R. D.B.S.

Diameter of rivet holes in

circ. seams } 1 3/8 "

long. seams }

Pitch of rivets

4 "

Percentage of strength of circ. end seams

plate 65.7

rivets 42.75

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.6

rivets 84.25

combined 87.95

Working pressure of shell by Rules

211 lbs.

Thickness of butt straps

outer 1 1/2 "

inner 1 5/32 "

No. and Description of Furnaces in each Boiler

3 Plain furnaces, with Gurnley necks.

Material

Steel

Tensile strength

26/30 Tons

Smallest outside diameter

42 1/2 "

Length of plain part

top 77 "

bottom 74 1/2 "

Thickness of plates

crown 53/64 "

bottom 53/64 "

Description of longitudinal joint

Welded.

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

✓

Working pressure of furnace by Rules

211.5 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30 Tons

Thickness

1 1/4 "

Pitch of stays

19" by 20"

How are stays secured

Double nuts and washers.

Working pressure by Rules

215 lbs.

Tube plates: Material

front } Steel

back }

Tensile strength

26/30 Tons

Thickness

5/16 "

7/8 "

Mean pitch of stay tubes in nests

11 "

Pitch across wide water spaces

14 "

Working pressure

front 212 lbs.

back 230 lbs.

Girders to combustion chamber tops: Material

Steel

Tensile strength

29/33 Tons

Depth and thickness of girder

at centre

9 3/4 x 2 x 7/8 "

Length as per Rule

3'-1"

Distance apart

8 1/2 " wings. 9" Centre.

in each

3 @ 8"

Working pressure by Rules

211 lbs.

Combustion chamber plates: Material

Steel.

Tensile strength

26/30 Tons

Thickness: Sides

3/4 "

Back

11/16 " wings

Back

Top 11/16 "

Bottom

3/4 "

Pitch of stays to ditto: Sides

9" x 8"

Back

9 1/2 x 8" wings

Back

8" x 8 1/2" wings

Top

8" x 9" Centre.

Are stays fitted with nuts or riveted over

Nuts.

Working pressure by Rules

215 lbs. (centre back)

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" x 7 1/8 "

Are stays fitted with nuts or riveted over

Nuts.

Working Pressure

243 lbs.

Main stays: Material

Steel.

Tensile strength

28/32 Tons

Diameter

At body of stay, 3 1/4 "

or

Over threads

No. of threads per inch

6

Area supported by each stay

380 "

Working pressure by Rules

211 lbs.

Screw stays: Material

Steel

Tensile strength

26/30 Tons

Diameter

At turned off part, 1 3/4 "

or

Over threads 1 7/8 " &amp; 2 "

No. of threads per inch

9

Area supported by each stay

78.75" (centre back)



Working pressure by Rules  $231 \frac{1}{2} \text{ lb}^2$  Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part,  $1 \frac{7}{8}''$  or Over threads }  
No. of threads per inch 9 Area supported by each stay 96 sq ins. Working pressure by Rules  $222 \frac{1}{2} \text{ lb}^2$   
Tubes: Material W.I. External diameter { Plain  $3 \frac{1}{2}''$  Stay } Thickness 8 W.G. No. of threads per inch 9  
Pitch of tubes  $5'' \times 4 \frac{3}{4}''$  Working pressure by Rules  $215 \frac{1}{2} \text{ lb}^2$  Manhole compensation: Size of opening in shell plate  $16 \times 12$  (in dome) Section of compensating ring Steam dome. No. of rivets and diameter of rivet holes ✓  
Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged ✓ Steam Dome: Material Steel  
Tensile strength  $26/30 \text{ Tons}^2$  Thickness of shell  $\frac{3}{4}''$  Description of longitudinal joint S.R. Lap.  
Diameter of rivet holes  $1 \frac{1}{2}''$  Pitch of rivets  $2 \frac{1}{4}''$  Percentage of strength of joint { Plate  $54.2\%$  Rivets  $43.5\%$  }  
Internal diameter  $3'-0''$  Working pressure by Rules  $210 \frac{1}{2} \text{ lb}^2$  Thickness of crown  $1''$  No. and diameter of stays 2 @  $2 \frac{1}{2}''$  Inner radius of crown Flat. Working pressure by Rules Ample.  
How connected to shell S.R. Lap. Size of doubling plate under dome  $4'-5 \frac{3}{4}'' \text{ dia} \times 1 \frac{1}{8}''$  Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell  $1 \frac{3}{8}'' \times 9 \frac{3}{4}''$

Type of Superheater Smoke Tube Type. Manufacturers of Tubes The Superheater Co. Ltd. Mchtr.  
Number of elements 41 Material of tubes SD Steel Steel castings Merr & Gophling & Sons Ltd Sunderland.  
Material of headers Forged Steel. Tensile strength  $28/32 \text{ Tons}^2$  Thickness  $\frac{5}{8}''$  Internal diameter and thickness of tubes 20 mm by 2.5 mm.  
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  $3.14 \text{ sq ins}$  Are the safety valves fitted with easing gear Yes Working pressure as per Rules  $217 \frac{1}{2} \text{ lb}^2$  Pressure to which the safety valves are adjusted  $210 \frac{1}{2} \text{ lb}^2$  Hydraulic test pressure: tubes  $1000 \text{ lb}^2$  castings  $630 \text{ lb}^2$  and after assembly in place  $420 \text{ lb}^2$  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 For AMOS & SMITH LTD.

The foregoing is a correct description,

A. L. Kennedy Manufacturer.  
MANAGER

Dates of Survey { During progress of work in shops - - } See machinery Are the approved plans of boiler and superheater forwarded herewith Yes.  
while building { During erection on board vessel - - } Report herewith (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. "Drengley" (Hull Rpt N° 45423)

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 safety valves adjusted as above.

Survey Fee charged on mchly Rpt When applied for, 19  
Travelling Expenses (if any) £ ✓ When received, 19

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

Committee's Minute FRI. 31 JAN 1936

Assigned + Linc 136  
C.L.



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Lloyd's Register  
Foundation

Rpt. 13.

Date of writing

No. in  
Reg. Book

Built at

Owners

Electric L

Is the Vess

System of

Pressure of

Direct or A

If alternatin

Has the Aut

Generators

are they over

Where more

series with ea

approved

Are all termin

short circuited

Position of

in way of the

woodwork or

are the genera

Earthing, a

in metallic co

a fuse on each

Switchboard

injury and da

horizontally fr

materials ✓

is it of an app

non-hygroscopi

type ✓

✓

omnibus bars

"off" position

switches No

D.R. L.

Are turbine dr

fire-resisting m

voltmeters

Earl

do these compl