

REPORT ON BOILERS.

No. 90264

-9 JUNE 1926

Received at London Office

12 JUN 1926

of writing Report

192

When handed in at Local Office

192

Port of LIVERPOOL

in Survey held at

FLEETWOOD.

Date, First Survey

15th April

Last Survey

8th June

1926

314 on the

Boiler of ST. ELENA.

(Number of Visits

Gross

257.

Tons

Net

100.

ter

Built at

ABERDEEN

By whom built

A. HALL & CO LD

Yard No. 580

When built 1921

ines made at

ABERDEEN.

By whom made

A. HALL & CO LD

Engine No. 273

When made 1921

ers made at

ABERDEEN.

By whom made

A. HALL & CO LD.

Boiler No. 263

When made 1921

inal Horse Power

89.6

Owners

CLIFTON STEAM TRAWLERS LD

Port belonging to

FLEETWOOD.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Total Heating Surface of Boilers

1697 92 FEET

Is forced draught fitted

No.

(Letter for Record

S

and Description of Boilers

ONE CYLINDRICAL MULTITUBULAR

Tested by hydraulic pressure to

360 LBS

Date of test

16.9.21

No. of Certificate

Can each boiler be worked separately

Area of Firegrate in each Boiler

50.60

No. and Description of safety valves to each boiler

2 - 2 1/4" DIA. SPRING LOADED.

Area of each set of valves per boiler

per Rule

10.86 0"

as fitted

11.88 0"

Pressure to which they are adjusted

180 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

ABOUT 8"

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

13'-6"

Length

10'-8"

Shell plates: Material

STEEL

Tensile strength

28.32 TONS.

Thickness

13/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

DOUBLE

Pitch of rivets

TREBLE

Diameter of rivet holes in

circ. seams

13/16"

long. seams

13/16"

Pitch of rivets

3 1/2"

8 5/8"

Percentage of strength of circ. end seams

plate

66.1

rivets

52.1

Percentage of strength of circ. intermediate seam

plate

86.2

rivets

Percentage of strength of longitudinal joint

plate

90.5

rivets

combined

93.1

Working pressure of shell by Rules

179 LBS

(182 LBS OLD RULES)

Thickness of butt straps

outer

1 1/16"

inner

1 1/16"

No. and Description of Furnaces in each Boiler

3 PLAIN.

Material

STEEL

Tensile strength

Smallest outside diameter

3'-6"

Length of plain part

top

6'-6 1/2"

bottom

Thickness of plates

crown

49/64"

bottom

3 1/2" x 3 1/2" x 3/4" BAR

Description of longitudinal joint

WELDED

Dimensions of stiffening rings on furnace

End plates in steam space: Material

STEEL

Tensile strength

Thickness

13/16"

Pitch of stays

18 3/4" x 18"

How are stays secured

DOUBLE NUTS & OUTSIDE WASHERS.

Working pressure by Rules

200 LBS.

End plates: Material

front

STEEL.

back

Tensile strength

Thickness

13/16"

Can pitch of stay tubes in nests

10' 3/4"

Pitch across wide water spaces

14"

Working pressure

front

221 LBS.

back

221 LBS.

Orders to combustion chamber tops: Material

STEEL

Tensile strength

centre

8 3/4" x 13/16"

Length as per Rule

2'-7 1/2"

Distance apart

10 3/4"

Depth and thickness of girder

each

2 - 10"

Working pressure by Rules

189 LBS.

Combustion chamber plates: Material

STEEL.

Tensile strength

Thickness: Sides

11/16"

Back

23/32"

Top

3/4"

Bottom

11/16"

Pitch of stays to ditto: Sides

9" x 10"

Back

9" x 10 3/8"

Top

10" x 10 3/4"

Are stays fitted with nuts or riveted over

NUTS FITTED.

Working pressure by Rules

182 LBS.

Front plate at bottom: Material

STEEL

Tensile strength

Thickness

27/32"

Lower back plate: Material

STEEL.

Tensile strength

Thickness

27/32"

Pitch of stays at wide water space

14 1/2" x 7 1/2"

Are stays fitted with nuts or riveted over

NUTS FITTED.

Working Pressure

203 LBS.

Main stays: Material

STEEL.

Tensile strength

Diameter

At body of stay,

or

3"

No. of threads per inch

6

Area supported by each stay

337.6 sq in.

Working pressure by Rules

198 LBS.

Screw stays: Material

Tensile strength

Diameter

At turned off part,

or

1 3/4" x 1 7/8"

No. of threads per inch

10

Area supported by each stay

93.8 x 107.5 sq in.

Working pressure by Rules 194 LBS. Are the stays drilled at the outer ends No Margin stays: Diameter ^{At turned off part} 1 3/4" x 1 7/8"
 No. of threads per inch 10. Area supported by each stay 88 sq in Working pressure by Rules 180 LBS.
 Tubes: Material _____ External diameter ^{Plain} 3 1/4" Thickness ^{Stay} 8 BWG, 5/16" & 3/8" No. of threads per inch 9.
 Pitch of tubes 4 1/2" Working pressure by Rules 230 LBS. Manhole compensation: Size of opening in
 shell plate 15" x 19" Section of compensating ring 8 5/8" x 1 1/8" No. of rivets and diameter of rivet holes 32 - 1 1/8" DIA.
 Outer row rivet pitch at ends 8 5/8" Depth of flange if manhole flanged 3" Steam Dome: Material _____
 Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____
 Diameter of rivet holes _____ Pitch of rivets _____ Percentage of strength of joint ^{Plate} _____
 Internal diameter _____ Working pressure by Rules _____ Thickness of crown _____ No. and diameter of
 stays _____ Inner radius of crown _____ Working pressure by Rules _____
 How connected to shell _____ Size of doubling plate under dome _____ Diameter of rivet holes and pitch
 of rivets in outer row in dome connection to shell _____

Type of Superheater _____ Manufacturers of ^{Tubes} _____
 Number of elements _____ Material of tubes _____ ^{Steel castings} _____
 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 23 inclusive for boilers been complied with _____

The foregoing is a correct description, _____

Manufacturer. _____

Dates of Survey ^{During progress of} work in shops - - Are the approved plans of boiler and superheater forwarded herewith
 while ^{During erection on} board vessel - - (If not state date of approval.)
 building See Machinery rpt. Total No. of visits 1

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

This Boiler was not built under Special Survey but has now been opened out and examined internally and externally with its mountings and safety valves. The rings have been checked with the approved plan of the enter level "GAVA". The workmanship and materials appear to be of a good quality and when examined under steam the Boiler was found tight and satisfactory.

Survey Fee ... £ : : When applied for, 192
 Travelling Expenses (if any) £ : : When received, 192

J. W. H. Nicolson
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute LIVERPOOL 11 JUNE 1926

Assigned See Machinery rpt.

