

REPORT ON BOILERS.

No. 32798

FEB -8 1940

Received at London Office

Date of writing Report

1940

When handed in at Local Office

18 Jan 1940

Port of

Sunderland.

No. in Survey held at
Reg. Book.

SUNDERLAND.

Date, First Survey

Last Survey

12 Jan 1940

on the

Screw Steamer "DAY DAWN"

(Number of Visits)

Gross 4768

Net 2772

Master

Built at

Sunderland

By whom built

W. Pickersgill & Son Ld.

Hull No.

When built

1940

Engines made at

Hartlepool

By whom made

Richardsons Heat Exch. Ld.

Engine No.

When made

1939

1940

Boilers made at

Sunderland

By whom made

G. Clark (1938) Ld.

Boiler No.

When made

1940

Nominal Horse Power

423.

Owners

Claymore Shipping Co. Ld.

Port belonging to

Laniff.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

The Appleby Loughborough Steel Co. Ld.

Total Heating Surface of Boilers

4650 sq ft

Is forced draught fitted

Yes.

(Letter for Record S. ✓)

Coal or Oil fired

Coal

No. and Description of Boilers

Two cylindrical multitubular marine

Working Pressure

220.

Tested by hydraulic pressure to

380 lbs

(St.) 27/1/39

(St.) N° 4311

(Per) 4/12/39

No. of Certificate

Can each boiler be worked separately

Yes.

Area of Firegrate in each Boiler

55 sq ft

No. and Description of safety valves to each boiler

2 lockdown Imp. High Lift.

Area of each set of valves per boiler

per Rule

as fitted

6.18 sq ft

Pressure to which they are adjusted

220

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 6'-0"

Is oil fuel carried in the double bottom under boilers

No.

Smallest distance between shell of boiler and tank top plating

2'-6"

Is the bottom of the boiler insulated

Yes.

Largest internal dia. of boilers

14'-9 1/8"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

29/33.

Thickness

1 7/16"

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 7/16"

Pitch of rivets

4"

Percentage of strength of circ. end seams

plate

rivets

64.0

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

rivets

85.25

Working pressure of shell by Rules

223.

Thickness of butt straps

outer

1 3/32"

No. and Description of Furnaces in each Boiler

3 corrugated (heights).

Material

Steel

Tensile strength

26/30

Smallest outside diameter

3'-9 3/8"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

1 1/16"

Description of longitudinal joint

welded.

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

✓

Working pressure of furnace by Rules

222

End plates in steam space:

Material

Steel

Tensile strength

26/30

Thickness

15/16"

Pitch of stays

20 1/2" x 14 1/2"

How are stays secured

Double nuts

Working pressure by Rules

222

Tube plates: Material

front

back

Steel

Tensile strength

26/30

Thickness

15/16"

24/32"

Mean pitch of stay tubes in nests

10.09

Pitch across wide water spaces

14"

Working pressure

front

back

229

252

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32

Depth and thickness of girder

at centre

10 5/8" x 1 1/2"

Length as per Rule

2'-10 1/2"

Distance apart

8 3/4" x 8"

No. and pitch of stays

in each

3 @ 8 3/8"

Working pressure by Rules

254

Combustion chamber plates: Material

Steel

Tensile strength

26/30

Thickness: Sides

23/32"

Back

1 1/16"

Top

23/32"

Bottom

15/16"

Pitch of stays to ditto:

Sides

9" x 8 3/8"

Back

8 1/2" x 4 1/2"

Top

8 3/4" x 8 3/8"

Are stays fitted with nuts or riveted over

nuts.

Working pressure by Rules

Back C. 233

W. 242

Front plate at bottom: Material

Steel

Tensile strength

26/30

Thickness

15/16"

Lower back plate: Material

Steel

Tensile strength

26/30

Thickness

29/32"

Pitch of stays at wide water space

15" x 8 1/2"

Are stays fitted with nuts or riveted over

nuts.

Working Pressure

224.

Main stays: Material

Steel

Tensile strength

28/32.

Diameter

At body of stay,

or

Over threads

3 1/4"

No. of threads per inch

6

Area supported by each stay

360 sq in

Working pressure by Rules

223

Screw stays: Material

Steel

Tensile strength

26/30

Diameter

At turned off part,

or

Over threads

1 3/4"

No. of threads per inch

9

Area supported by each stay

Ch. Top 13.4 sq in

Sides 45.3 sq in

Back C. 63.75 sq in

W. 68.0 sq in

W382-0217

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Foundation

Top 247 Back C. 238
Side 240 " W. 266

Working pressure by Rules ☒ Are the stays drilled at the outer ends ☒ No. Margin stays: Diameter ☒ At turned off part, ☒ Over threads ☒ 1 1/8"

No. of threads per inch 9. Area supported by each stay 95.8 sq. in.

Tubes: Material ☒ Iron. External diameter ☒ Plain 3" ☒ Stay 3" Thickness ☒ 8 H.C. Working pressure by Rules 222.

Pitch of tubes 4 1/4" x 4 1/8" Working pressure by Rules 250

shell plate (Boiler End) Section of compensating ring No. of rivets and diameter of rivet holes

Outer row rivet pitch at ends Depth of flange if manhole flanged Steam Dome: Material ☒ none.

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes Pitch of rivets Percentage of strength of joint ☒ Plate ☒ Rivets

Internal diameter Working pressure by Rules Thickness of crown No. and diameter

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 ☒ Smoke tubes (In Superheater) Manufacturers of Tubes

Number of elements 49. Material of tubes S.D. Steel Steel castings

Material of headers ☒ Forged Steel Tensile strength Thickness

the boiler be worked separately Is a safety valve fitted to every part of the superheater which can be shut off from the boiler ☒ No.

Area of each safety valve 1.45 sq. in. Are the safety valves fitted with easing gear ☒ No.

Rules Pressure to which the safety valves are adjusted 220? Working pressure as per Rules

tubes 1000 lbs/sq. in. castings 660 lbs/sq. in. and after assembly in place 440 lbs/sq. in. Hydraulic test pressure

to free the superheater from water where necessary ☒ No. Are drain cocks or valves fitted

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with ☒ No.

The foregoing is a correct description,
A. J. Berry
Manufacture

Dates of Survey ☒ During progress of work in shops - - - ☒ Please see Mech. Rpt. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

while building ☒ During erection on board vessel - - - Total No. of visits

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

These boilers have been constructed under Special Survey in accordance with the approved plan & the rules of the Society.

The materials & workmanship are good.

On completion the boilers have been tested by hydraulic pressure of 380 lbs/sq. in. & found tight & sound. They have been securely fired on board the vessel, & run under steam & safety valves of boilers & superheaters adjusted under steam to working pressure in accordance with the Rules.

For recommendation please see Mech. Rpt.

Survey Fee ... ☒ When applied for, 192

Travelling Expenses (if any) £ ☒ When received, 192

J. St. Leger.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 20 FEB 1940

Assigned

See Std. J.C. 32798



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