

Rpt. 5a.

REPORT ON BOILERS.

No. 11685

27 MAY 1936

Received at London Office 13 FEB 1938

Date of writing Report

19

When handed in at Local Office

12. 2. 1936

Port of

Belfast

No. in Survey held at
Reg. Book.

Date, First Survey 6 Sept 1935

Last Survey 7 Feb 1936

1936

on the

M.V. "SIMNIA"

(Number of Visits 21)

Gross 6197.29

Tons Net 3605.28

Master

Built at

Glasgow

By whom built

Harland & Wolff Ltd.

Yard No.

9626

When built 1936

Engines made at

Glasgow

By whom made

Harland & Wolff Ltd.

Engine No.

9626

When made 1936

Boilers made at

Belfast

By whom made

Harland & Wolff Ltd.

Boiler No.

9626

When made 1936

Nominal Horse Power

Owners

The Anglo-Saxon Petroleum Co. Ltd.

Port belonging to

London

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Bolton & Co. Ltd.

(Letter for Record 5)

Total Heating Surface of Boilers

2473 sq ft

Is forced draught fitted

Yes

Coal or Oil fired Oil Exhaust fan

No. and Description of Boilers

One single ended cylindrical

Working Pressure 180 lbs

Tested by hydraulic pressure to

320 lbs

Date of test

7 Feb 1936

No. of Certificate

1011

Can each boiler be worked separately

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

2 spring loaded High Lift

Area of each set of valves per boiler

per Rule

15.85 7.92 sq ft

as fitted

14.13 sq ft

Pressure to which they are adjusted 180 lbs

Are they fitted with easing gear

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

Boiler fitted in
tween decks

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

14' 6"

Length

11' 6"

Shell plates: Material

Steel

Tensile strength

29-33 tons

Thickness

1 1/4"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end double

long. seams

keble

Diameter of rivet holes in

circ. seams

1 1/8"

long. seams

1 1/4"

Pitch of rivets

3.127"

Percentage of strength of circ. end seams

plate 64.3

rivets 47.8

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.29

rivets 91.25

combined 88.9

Working pressure of shell by Rules

180 lbs

Thickness of butt straps

outer 2 3/32"

inner 1 3/32"

No. and Description of Furnaces in each Boiler

Three Morrison

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

43 1/8"

Length of plain part

top

bottom

Thickness of plates

crown 9 1/16"

bottom 9 1/16"

Description of longitudinal joint

weld

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

Working pressure of furnace by Rules

189 lbs

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

1 5/16"

Pitch of stays 16" x 18 1/2"

How are stays secured double nuts + washers, screwed into end plates

Working pressure by Rules

186 lbs

Tube plates: Material

front Steel

back Steel

Tensile strength

26-30 tons

Thickness

7/8"

Mean pitch of stay tubes in nests

8.35"

Pitch across wide water spaces

14"

Working pressure

front 186 lbs

back 276 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre 8 3/4" - 1 3/4"

Length as per Rule

33"

Distance apart

10 1/4"

No. and pitch of stays

in each three 7 3/8"

Working pressure by Rules

187 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

3/4"

Back

3/4"

Top

3/4"

Bottom

7"

Pitch of stays to ditto: Sides

7 3/8" x 8 1/2"

Back

7 3/8" x 8 1/2"

Top

10 1/4" x 7 3/8"

Are stays fitted with nuts or riveted over margin stays nutted

Working pressure by Rules

190 lbs

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

7"

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

7"

Pitch of stays at wide water space

13"

Are stays fitted with nuts or riveted over margin stays nutted

Working Pressure

233 lbs

Main stays: Material

Steel

Tensile strength

28-32 tons

Diameter

At body of stay, 2 3/4"

Over threads 3" + 3/8"

No. of threads per inch

Six

Area supported by each stay

296 sq in

Working pressure by Rules

220 lbs

Screw stays: Material

Steel

Tensile strength

26-30 tons

Diameter

At turned off part, 1 1/2"

Over threads

No. of threads per inch

Ten

Area supported by each stay

66.93

W84-0084

Working pressure by Rules 187 lb. Are the stays drilled at the outer ends Yes Margin stays: Diameter { At turned off part, Over threads 1 1/4" x 2" ✓

No. of threads per inch 2 1/2 ✓ Area supported by each stay 88.18 sq. in. Working pressure by Rules 205 lb. ✓

Tubes: Material wrought iron ✓ External diameter { Plain 2 3/4" ✓ Stay 2 3/4" ✓ Thickness { No. 7 1/2" ✓ 9/32" 5/16" 7/32" No. of threads per inch 2 1/2 ✓

Pitch of tubes 4" x 3 7/8" ✓ Working pressure by Rules 187 lb. ✓ Manhole compensation: Size of opening 16" x 12" ✓

Section of compensating ring 36" x 32" x 1 1/2" McNeil ✓ No. of rivets and diameter of rivet holes 28 - 1 3/8" ✓

Outer row rivet pitch at ends 9" ✓ Depth of flange if manhole flanged 2" ✓ 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 Rivets

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

stays Inner radius of crown Working pressure by Rules

How connected to shell Size of doubling plate under dome Diameter of rivet holes and

of rivets in outer row in dome connection to shell

Type of Superheater

Number of elements Material of tubes Manufacturers of Tubes Steel castings

Material of headers Tensile strength Thickness Can the superheater be shut off

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

Rules Pressure to which the safety valves are adjusted Hydraulic test pressure

tubes castings and after assembly in place Are drain cocks or valves

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 HARLAND AND WOLFF, LIMITED
A. Marshall
Assistant Secretary
Are the approved plans of boiler and superheater forwarded herewith 13 May 1936
(If not state date of approval.)

1935
Dates of Survey { During progress of work in shops - Sep 16 Oct 8, 21, 31 Nov 7, 8, 12, 13, 16, 17, 21, 22, 27, 29 Dec 4, 7
while building { During erection on board vessel - - -

Total No. of visits 21

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. 2444 9619

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

This boiler has been constructed under special survey to an approved design. The workmanship & materials are good. It has been subjected to a hydraulic test in accordance with the rules and is eligible, in my opinion for use on a vessel classed with the Society. It is intended for a vessel building at Green.

This boiler has been satisfactorily installed on board the M.V. "SIMNIA". The safety valves have been adjusted under steam and tried for accumulation and the boiler examined under working conditions and found good.

W. Berth

Survey Fee ... £ 16 : 10 : - When applied for, 12. 2. 19 36
Travelling Expenses (if any) £ : : When received, 19. 3. 19 36

Committee's Minute GLASGOW 26 MAY 1936

Assigned SEE ACCOMPANYING MACHINERY REPORT. *MB*