

REPORT ON BOILERS.

No. 118687.

Date of writing Report

5.9.42

When handed in at Local Office

17 NOV 1942

Received at London Office

18 NOV 1942

No. in Reg. Book.

Survey held at

Birkenhead

Port of

LIVERPOOL

Date, First Survey

14-1-42

Last Survey

6-11

1942

on the

2 Army Boiler for 14v British Promise

(Number of Visits)

Gross 8443

Tons

Net

Master

Built at

Birkenhead

By whom built

Cammell Laird & Co

Yard No.

1068

When built 1942

Engines made at

Belfast

By whom made

Harland & Wolff

Engine No.

When made 1942

Boilers made at

BIRKENHEAD

By whom made

CAMMELL LAIRD & CO LD

Boiler No.

1068

When made 1942

Nominal Horse Power

246

Owners

Port belonging to

MULTITUBULAR BOILERS ~~MAIN~~, AUXILIARY, ~~OR~~ DONKEY.

Manufacturers of Steel

Cahvetts Ltd

Total Heating Surface of Boilers

3700 sq (two blys)

(Letter for Record

(5)

No. and Description of Boilers

2 S.E.

Is forced draught fitted

yes

Coal or Oil fired

Oil

Tested by hydraulic pressure to

275 lb

Date of test

29/8/41

No. of Certificate

2544

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

2

No. and Description of safety valves to each boiler

2 Spring loaded 2-High Lift

Area of each set of valves per boiler

per Rule 7.01

as fitted 7.94 2-High Lift

Pressure to which they are adjusted

150 lb

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

well clear

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

on upper flat

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

12'-6"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

29-33 Ton

Thickness

27/32"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

D.R

long. seams

T.R.D.B.S

Diameter of rivet holes in

circ. seams 15/16"

long. seams 1/16"

Pitch of rivets

2.63"

Percentage of strength of circ. end seams

plate

64

rivets

49

Percentage of strength of circ. intermediate seam

plate

85.5

Percentage of strength of longitudinal joint

plate

93.0

rivets

89.0

Working pressure of shell by Rules

151 lb

Thickness of butt straps

outer

11/16"

inner

13/16"

No. and Description of Furnaces in each Boiler

2 Morrison Section

Material

Steel

Tensile strength

26-30 Ton

Smallest outside diameter

3'-8 1/2"

Length of plain part

top

bottom

Thickness of plates

crown 1/2"

bottom 1/2"

Description of longitudinal joint

weld

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

End plates in steam space: Material

Steel

Tensile strength

26-30 Ton

Thickness

3/32"

Pitch of stays

17 1/2" x 15"

How are stays secured

D.N.

Working pressure by Rules

162 lb

Tube plates: Material

front

Steel

back

Tensile strength

26-30 Ton

Thickness

27/32"

25/32"

Pitch across wide water spaces

13 3/4"

Working pressure

front

195 lb

back

208

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 Ton

Length as per Rule

34 1/2"

Distance apart

9"

at centre

9' x 23/32" double

in each

3 @ 8"

Working pressure by Rules

168 lb

Combustion chamber plates: Material

Steel

Tensile strength

26-30 Ton

Thickness: Sides

11/16"

Back

23/32"

Top

11/16"

Bottom

7/8"

Pitch of stays to ditto: Sides

9' x 8"

Back

9 1/2' x 8 5/8"

Top

9' x 8"

Are stays fitted with nuts or riveted over

nuts at bk. back riveted

Working pressure by Rules

152 lb

Front plate at bottom: Material

Steel

Tensile strength

26-30 Ton

Thickness

27/32"

Lower back plate: Material

Steel

Tensile strength

26-30 Ton

Thickness

13/16"

Pitch of stays at wide water space

14 3/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

178 lb

Main stays: Material

Steel

Tensile strength

28-32 Ton

Diameter

At body of stay

2 1/2"

No. of threads per inch

6

Area supported by each stay

17 1/2" x 15"

Working pressure by Rules

168 lb

Screw stays: Material

Steel

Tensile strength

26-30 Ton

Diameter

At turned off part

1 1/2"

Over threads

1 3/4"

No. of threads per inch

9

Area supported by each stay

9 1/2' x 8 5/8" max

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Working pressure by Rules *159 lb* Are the stays drilled at the outer ends *no* Margin stays: Diameter *At turned off part 3/4" Comma 17/8*
No. of threads per inch *9* Area supported by each stay *106-6* Working pressure by Rules *170 lb*
Tubes: Material *Iron* External diameter *2 3/4"* Thickness *5/16" + 3/8"* No. of threads per inch *9*
Pitch of tubes *4" x 3 7/8"* Working pressure by Rules *177 lb* Manhole compensation: Size of opening in
shell plate *2 1/4" x 17 1/4"* Section of compensating ring *2-10" x 2-4 1/2"* No. of rivets and diameter of rivet holes *54 @ 1 5/16"*
Outer row rivet pitch at ends *6 1/2"* Depth of flange if manhole flanged *3 1/2"* Steam Dome: Material
Tensile strength Thickness of shell Description of longitudinal joint
Diameter of rivet holes Pitch of rivets Percentage of strength of joint
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 *W. H. Innes & Co.*
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 forgings and 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.
W. H. Innes & Co. Manufacturer.
DIRECTOR & ENGINEERING MANAGER.
Dates of Survey *Jan 14, Mar 31, Apr 29, May 15, June 6, July 8, 24, Aug 21, 29, Sept 15, 29, Oct 6, 8, 9, 20, 23, Nov 3, 4, 7, 20, 25*
During progress of work in shops - *Jan 20, 28, Feb 9, 16, Mar 16, 23, Apr 1, 2, 6, 15, 21, 23, 28* Are the approved plans of boiler and superheater forwarded herewith *yes*
while building *May 6, 19, 27, 28, 29, 30, June 3, 5, 15, 26, 27, 29, July 3, 7, 8, 10, 13, 14, 15, 21, 22, 24, 27, 28* (If not state date of approval.)
During erection on board vessel - *30, Aug 6, 10, 17, 21, 25, 29, Sept 3, 4, 9, 18, 25, Oct 2, 6, 12* Total No. of visits *85*
13, 7, 9, 14, 15, 19, 28, Nov 2, 4, 5, 6

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *These boilers have been properly fitted on board the British Promise, tried under working conditions, and their safety valves adjusted to 150 lb sq. all being found in order. They have been built under special Survey, to approved plans in accordance with the Society Rules. Materials and workmanship are good.*

Survey Fee *N.B.* *24/12/0* *110* When applied for, *17 NOV 1902*
Travelling Expenses (if any) £ *24/12/0* When received, *19*

H. Sutherland
Engineer Surveyor to Lloyd's Register of Shipping.
Committee's Minute *LIVERPOOL 17 NOV 1902*
Assigned *See Minute on Lis. R. Report.* *ABC*
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