

REPORT ON BOILERS.

No. 121374

Received at London Office.

26 JUL 1944

Date of writing Report.

10/7

When handed in at Local Office.

21 JUL 1944

Port of

Liverpool

No. in
Reg. Book

Survey held at

Birkenhead

Date, First Survey

11/2/43

Last Survey

23/6/44

on the

SS URMSTON GRANGE

(Number of Visits)

26

Tons

Gross

Net

Master

Built at

By whom built

Yard No.

When built

Engines made at

By whom made

Engine No.

When made

Boilers made at

Birkenhead

By whom made

Cammell Laird Ltd

Boiler No.

2264

When made

1944

Nominal Horse Power

146.6

Owners

Port belonging to

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Calverley Ltd.

(Letter for Record)

(5)

Total Heating Surface of Boilers

2650 sq ft

Is forced draught fitted

yes

Coal or Oil fired

Oil

No. and Description of Boilers

1 Single ended.

Working Pressure

200 lb.

Tested by hydraulic pressure to

350 lb.

Date of test

20/3/44

No. of Certificate

2644

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

63.36 sq ft

No. and Description of safety valves to each boiler

ONE DOUBLE SPRING I.H.L. VALVE
3 5/8" TO BOILER - 2 x 2 1/2" VALVES

Area of each set of valves per boiler

per Rule 8.6
as fitted 10.321

Pressure to which they are adjusted

200 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

None adjacent

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

At least 2' - 2 1/2"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

14' 9 3/8"

Length

11' 4 3/32"

Shell plates: Material

Steel

Tensile strength

29-33 Ton

Thickness

1 5/16"

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 1 3/8"

Pitch of rivets

4.0"

Percentage of strength of circ. end seams

plate 65.
rivets 45.

Percentage of strength of circ. intermediate seam

plate 85.5.
rivets 88.5.

Percentage of strength of longitudinal joint

plate 85.5.
rivets 88.5.
combined 88.7.

Working pressure of shell by Rules

202 lb.

Thickness of butt straps

outer 1 1/8"
inner 1 1/8"

No. and Description of Furnaces in each Boiler

3. Brighton Section

Material

Steel

Tensile strength

26-30 Ton

Smallest outside diameter

3' - 4 1/8"

Length of plain part

top 19/32"
bottom 19/32"

Thickness of plates

crown 19/32"
bottom 19/32"

Description of longitudinal joint

weld.

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

✓

Working pressure of furnace by Rules

208 lb.

End plates in steam space: Material

Steel

Tensile strength

26-30 Ton

Thickness

1 1/32"

Pitch of stays

20 3/8" x 20"

How are stays secured

D.N.

Working pressure by Rules

204 lb.

Tube plates: Material

front Steel
back Steel

Tensile strength

26-30 Ton

Thickness

7/8" 25/32"

Mean pitch of stay tubes in nests

9 1/32"

Pitch across wide water spaces

13 5/8"

Working pressure

front 240 lb. w.w.s.
back 203 lb.

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 Ton

Depth and thickness of girder

at centre

8 1/4" x 15 1/16" dble

Length as per Rule

31.47"

Distance apart

10 3/4" max.

No. and pitch of stays

in each

2 @ 9 7/8"

Working pressure by Rules

203 lb.

Combustion chamber plates: Material

Steel

Tensile strength

26-30 Ton

Thickness: Sides

25/32"

Back

25/32"

Top

25/32"

Bottom

25/32"

Pitch of stays to ditto: Sides

9 7/8" x 10 3/4"

Back

9 1/2" x 11"

Top

10 3/4" x 9 7/8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

200 lb.

Front plate at bottom: Material

Steel

Tensile strength

26-30 Ton

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26-30 Ton

Thickness

7/8"

Pitch of stays at wide water space

14 1/2"

Are stays fitted with nuts or riveted over

nuts

Working pressure

200 lb.

Main stays: Material

Steel

Tensile strength

28-32 Ton

Diameter

At body of stay 3 1/4"
Over threads 2 1/4"

No. of threads per inch

6

Area supported by each stay

20 3/8" x 20"

Working pressure by Rules

200 lb.

Screw stays: Material

Steel

Tensile strength

26-30 Ton

Diameter

At turned off part 1 7/8"
Over threads 2"

No. of threads per inch

9

Area supported by each stay

11" x 9 1/2" max.

Working pressure by Rules 202 lb Are the stays drilled at the outer ends no. Margin stays: Diameter { At turned off part, 2" or Over threads, 200 lb

No. of threads per inch 9 Area supported by each stay 130 sq. in. Working pressure by Rules 200 lb

Tubes: Material Iron External diameter { Plain 2 3/4" Thickness 8 gauge No. of threads per inch 9

Pitch of tubes 3 7/8" x 3 7/8" Working pressure by Rules 245 lb Manhole compensation: Size of opening in shell plate 2 1/4" x 1 1/4" Section of compensating ring 3'0" x 2'10 3/4" x 1 1/16" No. of rivets and diameter of rivet holes 44 @ 1 7/16"

Outer row rivet pitch at ends 9 5/8" 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 { Plate Rivets

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 Steel forgings Steel castings

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. Lawrence Manufacturer.

Dates of Survey while building { During progress of work in shops - - - Jan. 26, Mar. 2, 20, Apr. 24, May 11, 24, June 8, 16, 23 } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) 23/11/42

{ During erection on board vessel - - - } Total No. of visits 26

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. Bh 2259 Admiralty Lawley class

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under Special Survey, to approved plans in accordance with the Society's Rules. Materials and workmanship are good. The boiler is stored locally, pending allocation.

Now satisfactorily fitted on board SS URMSTON GRANGE.
Examined under steam, safety valves adjusted to 200 lb/sq. inch,
satisfactory accumulation test held.

C. Reed
LIV. 30/1/47

Survey Fee N.B. £ 17 : 14 : 0. When applied for, 21 JUL 1944

Travelling Expenses (if any) £ : : When received, 19

H. Sutherland
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute LIVERPOOL 25 JUL 1944

Assigned Transmit to London