

REPORT ON BOILERS.

Std. No. 30047

No. 13662

Date of writing Report

26.4.29

When handed in at Local Office

26.4.29

Received at London Office

27 APR 1929 JUN 1929

No. in Survey held at

STOCKTON.

Date, First Survey

Port of MIDDLESBROUGH

Std. No. 1929

26.4.1929

90959

on the donkey boiler for S.S. "LLANISHEN" (Thos. Riley Bros. No. 5849)

Number of Visits

Gross 5053

Net 3015

Master

Built at Sunderland.

By whom built Barham & Sons

Yard No. 266

When built 1929.

Engines made at

Stockton

By whom made

Blair Co (1926) Ltd.

Engine No. 1982

When made 1929

Boilers made at

do.

By whom made

do.

Boiler No. 1982

When made 1929

Nominal Horse Power

Owners Evan Thomas Radcliffe & Co.

Port belonging to

London

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Appleby Iron Co.

(Letter for Record S.)

Total Heating Surface of Boilers

1550 sq. ft.

Is forced draught fitted

no.

Coal or Oil fired

Coal.

No. and Description of Boilers

One S.B.

Working Pressure 120 lbs.

Tested by hydraulic pressure to

230 lbs.

Date of test

26.4.29

No. of Certificate

6705.

Can each boiler be worked separately

✓

Area of Firegrate in each Boiler

50 sq. ft.

No. and Description of safety valves to each boiler

Pain Spring loaded.

Area of each set of valves per boiler

per Rule

14.34 sq. ft.

as fitted

19.24 sq. ft.

Pressure to which they are adjusted 125 lbs. Are they fitted with easing gear

yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

No. Non-return valve fitted.

Smallest distance between boilers

centres and bunkers

1' 9"

Is oil fuel carried in the double bottom under boilers

✓

Smallest distance between shell of boiler and tank top plating

2' 0"

Is the bottom of the boiler insulated

yes.

Largest internal dia. of boilers

12' 6"

✓

Length

11' 0"

✓

Shell plates: Material

Steel

Tensile strength

28/32.

Thickness

23/32

✓

Are the shell plates welded or flanged

no.

Description of riveting: circ. seams

end

D.R.

long. seams T.R.D.B.S (Snivels)

Diameter of rivet holes in

circ. seams

15/16"

long. seams

13/16"

Pitch of rivets

2 3/4" x 5 1/2"

✓

Percentage of strength of circ. end seams

plate

68.7

rivets

42.4

Percentage of strength of circ. intermediate seam

plate

✓

Percentage of strength of longitudinal joint

plate

86.3.

rivets

93.6.

combined

87.3.

Working pressure of shell by Rules

123 lbs.

Thickness of butt straps

outer

9/16"

inner

7/16"

No. and Description of Furnaces in each Boiler

3 Corrugated

301.

Material

Steel

Tensile strength

26/30

Smallest outside diameter

2-11 3/4"

Length of plain part

top

3/8"

bottom

3/8"

Thickness of plates

crown

3/8"

bottom

3/8"

Description of longitudinal joint

weld.

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

Working pressure of furnace by Rules

147 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30

Thickness

3/4"

Pitch of stays

16 3/4" x 15"

How are stays secured

D.N. & W.

Working pressure by Rules

121 lbs.

Tube plates: Material

front

Steel

back

Steel

Tensile strength

26/30

Thickness

1 1/8"

Mean pitch of stay tubes in nests

10"

Pitch across wide water spaces

13 7/8" x 8 1/2"

Working pressure

front

123 lbs.

back

137 lbs.

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32.

Depth and thickness of girder

at centre

8" x 7/8" (double)

Length as per Rule

2'-8"

Distance apart

10"

No. and pitch of stays

10 1/2"

in each

2-10 1/2"

Working pressure by Rules

146 lbs.

Tensile strength

26/30

Thickness: Sides

9/8"

Back

17/32"

Top

5/8"

Bottom

5/8"

Pitch of stays to ditto: Sides

10" x 10 1/2"

Back

8 1/2" x 9 1/4"

Top

10" x 10 1/2"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

121 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30

Thickness

1 1/8"

Lower back plate: Material

Steel

Tensile strength

26/30

Thickness

2 1/8"

Pitch of stays at wide water space

13 7/8" x 8 1/2"

✓

Are stays fitted with nuts or riveted over

nuts

Working Pressure

128 lbs.

Main stays: Material

Steel

Tensile strength

28/32.

Diameter

At body of stay,

or

Over threads

2 1/8"

No. of threads per inch

6.

Area supported by each stay

251 sq. in.

Working pressure by Rules

120 lbs.

Screw stays: Material

Steel

Tensile strength

26/30

Diameter

At turned off part,

or

Over threads

1 1/2"

No. of threads per inch

9

Area supported by each stay

105 sq. in.

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Lloyd's Register
Foundation

W51-0148

Working pressure by Rules 120 lbs. Are the stays drilled at the outer ends 20. Margin stays: Diameter { At turned off part, 1 1/2" or Over threads 1 1/2" ✓

No. of threads per inch 9 Area supported by each stay 104 1/4 Working pressure by Rules 120 lbs.

Tubes: Material Iron External diameter { Plain 3 1/4 1/2 3 9/16 Stay 3" 1/2 3 1/4 Thickness 10 WG. No. of threads per inch 9. ✓

Pitch of tubes 4 7/8 x 4 1/2 Working pressure by Rules p. 130 s. 2376 Manhole compensation: Size of opening in shell plate 20 x 16 Section of compensating ring 7 x 1 No. of rivets and diameter of rivet holes 44 - 5/16

Outer row rivet pitch at ends 6" Depth of flange if manhole flanged 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 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 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 Yes

The foregoing is a correct description, J. L. Shields Manufacturer.

Dates of Survey { During progress of work in shops - 1929 Feb 14, 21 Mar 18 Apr 5, 11, 16, 26 Are the approved plans of boiler and superheater forwarded herewith Yes (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.)

This boiler is a duplicate of Messrs. Riley Bros No. 5848 (H.M.R. 13489)

The materials and workmanship are good. This boiler has been built under special survey in accordance with the Rules and Approved Plan. It will be fitted aboard in this district.

The Donkey Boiler has been satisfactorily fitted in the vessel, and the Safety Valves adjusted under steam to 125 lbs.

Survey Fee ... £ 10-6-0 When applied for, Monthly

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

Committee's Minute TUE. 18 JUN 1929

Assigned see minute on Indb. Rpt 13714 attached

A. H. Mann & A. I. Griffith Engineer Surveyors to Lloyd's Register of Shipping.