

REPORT ON BOILERS.

No. 68031

Received at London Office

Date of writing Report 27-1-1944 When handed in at Local Office 31.1.1944

Port of GLASGOW

No. in Reg. Book. Survey held at

Glasgow

Date, First Survey 15.1.43

Last Survey 11-1-1944

1944

On the

"EMPIRE CLARA"

A/MS

1150

(Number of Visits 14)

Tons { Gross
Net

Built at

Selly

By whom built

Bochran & Sons Ltd.

Yard No. 1300

When built 1945

Engines made at

Providence Rhode Is USA

By whom made

Franklin Mach & Foundry Ltd.

Engine No. 1018

When made 1943

Boilers made at

GLASGOW

By whom made

BARCLAY CURLEY & Co. Ltd.

Boiler No. 42/21

When made 1944

Nominal Horse Power

Owners

Ministry of War Transport

Port belonging to

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY

Manufacturers of Steel

COLVILLE'S

(Letter for Record S)

Total Heating Surface of Boilers

1786 ft

Is forced draught fitted?

yes

Coal or Oil fired

Oil

No. and Description of Boilers

One single-ended

Working Pressure 220 lb

Tested by hydraulic pressure to

380 lb

Date of test

29-9-43

No. of Certificate

21512

Can each boiler be worked separately

✓

Area of Firegrate in each Boiler

45 ft

No. and Description of safety valves to each boiler

One 2 I.H.L. Double

Area of each set of valves per boiler

{ per Rule

4.752"

{ as fitted

6.287"

Pressure to which they are adjusted

226 lb

Are they fitted with easing gear

yes

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

6'0" between boiler bunks

Smallest distance between boilers or uptakes and bunkers or woodwork

20" between boiler & Is oil fuel carried in the double bottom under boilers

pumps bulkhead

NONE

Smallest distance between shell of boiler and tank top plating

NONE

Is the bottom of the boiler insulated

Yes

Largest external dia. of boilers

13'0"

Length

11'6"

Shell plates: Material

S

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

D.B.S. TR.

Diameter of rivet holes in

{ circ. seams

1 5/16"

{ long. seams

1 5/16"

Pitch of rivets

3.79"

9/8"

Percentage of strength of circ. end seams

{ plate

65.3

{ rivets

45.2

Percentage of strength of circ. intermediate seam

{ plate

85.6

{ rivets

87.8

Percentage of strength of longitudinal joint

{ plate

85.6

{ rivets

87.8

{ combined

89.7

Thickness of butt straps

{ outer

1 1/8"

No. and Description of Furnaces in each Boiler

3 Draught

Material

S

Tensile strength

26/30 tons

Smallest outside diameter

37 1/4"

Length of plain part

{ top

{ bottom

Thickness of plates

{ crown

1 9/32"

{ bottom

Description of longitudinal joint

Welded

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

End plates in steam space: Material

S

Tensile strength

26/30 tons

Thickness

1 1/32"

Pitch of stays

19" x 16"

How are stays secured

D.N.

Tube plates: Material

{ front

{ back

S

Tensile strength

26/30 tons

Thickness

{ 1 5/16"

{ 2 5/32"

Mean pitch of stay tubes in nests

9.76"

Pitch across wide water spaces

14"

Girders to combustion chamber tops: Material

S

Tensile strength

28/32 tons

Depth and thickness of girder

at centre

8 1/2" x 5/8"

Length as per Rule

2' 7 1/32"

Distance apart

6' 7 7/8"

No. and pitch of stays

in each

2 @ 10"

Combustion chamber plates: Material

S

Tensile strength

26/30 tons

Thickness: Sides

1/16"

Back

1/16"

Top

1/16"

Bottom

3/4"

Pitch of stays to ditto: Sides

7" x 10"

Back

8" x 9 1/4"

Top

7" x 10"

Are stays fitted with nuts or riveted over

Nuts

Front plate at bottom: Material

S

Tensile strength

26/30 tons

Thickness

1 5/16"

Lower back plate: Material

S

Tensile strength

26/30 tons

Thickness

2 7/32"

Pitch of stays at wide water space

14"

Are stays fitted with nuts or riveted over

Nuts

Main stays: Material

S

Tensile strength

28/32 tons

Diameter

{ At body of stay,

2 7/8"

{ or

{ Over threads

No. of threads per inch

6

Screw stays: Material

S

Tensile strength

26/30 tons

Diameter

{ At turned off part,

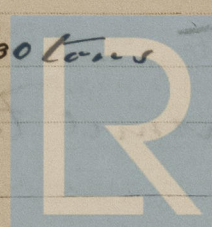
1 3/4"

{ or

{ Over threads

No. of threads per inch

9



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F. CLARA

Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, or Over threads 1 3/4" x 1 7/8"

No. of threads per inch 9

Tubes: Material S. External diameter { Plain 3" Stay 3" Thickness { 8/16" x 3/8" No. of threads per inch 9

Pitch of tubes 4 1/8" x 4 1/4" Manhole compensation: Size of opening in shell plate 16 1/2" x 20 1/2" Section of compensating ring 9.75 x 1 1/4" No. of rivets and diameter of rivet holes 40 @ 1 5/16"

Outer row rivet pitch at ends 9 1/8" Depth of flange if manhole flanged 3 7/8" 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 _____ Thickness of crown _____ No. and diameter of stays _____ Inner radius of crown _____

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 _____

Area of each safety valve _____ Are the safety valves fitted with easing gear _____

Pressure to which the safety valves are adjusted _____ Hydraulic test pressure: _____

tubes _____ forgings and castings _____ and after assembly _____ 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, Alfred Macneil Manufacturer.

Dates of Survey { During progress of work in shops - - - 1943 Jan 15 Feb 4 Mar 24.31 Jan 8 Jul 7 Aug 5-17. Are the approved plans of boiler and superheater forwarded herewith 14-9-42 (If not state date of approval.)

while building { During erection on board vessel - - - 1944 Jan 11 Total No. of visits 14

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. B.L.S. Bl. 42/3 J.L.S. Rept. N° 67859

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey in accordance with the Rules and approved plans, and the materials and workmanship are good.

As this boiler is in allocated, it has been placed in storage meantime at the North British Engine Works, Whiteinch.

The specification requirements have been carried out satisfactorily.

Above boiler installed in Empire Clara by Amos Smith at Hull, Hamins under working conditions, safety valves adjusted to 226 lb (ring sizes P & S 3/8"), accumulation test held and found satisfactory on completion of all tests.

W.S. Shields, Hull.

Survey Fee ... £ 11 : 15 : When applied for, 1 FEB 1944

Travelling Expenses (if any) £ 2 : 19 : 6 When received, 19

W. Russell
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 1 FEB 1944

Assigned Transmit to Loughingham // See F.E. machy. opt.

FRI. 30 NOV 1945

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