

REPORT ON BOILERS.

No. 69254

Received at London Office

FEB 1945

Date of writing Report

19

When handed in at Local Office

29. 1.

1945

Port of

Glasgow

No. in Survey held at

Glasgow

Date, First Survey

9. 12. 43

Last Survey

5. 1.

1945

Reg. Book.

on the

EMPIRE JUMNA

(Number of Visits)

48

Tons

Gross 2370

Net 1281

Built at Grangemouth By whom built The Grangemouth Dockyard Co. Ltd.

Yard No. 458 When built 1944

Engines made at Glasgow

By whom made David Rowan & Co. Ltd.

Engine No. 1157 When made 1944

Boilers made at - do -

By whom made - do -

Boiler No. 1157 When made 1944

Nominal Horse Power 242

Owners The Ministry of War Transport

Port belonging to Grangemouth

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles Ltd.

(Letter for Record (S) ✓)

1944 Total Heating Surface of Boilers 3360 ft² ✓

Is forced draught fitted

Yes ✓

Coal or Oil fired Oil ✓

No. and Description of Boilers One single ended boiler ✓

Working Pressure 220 lb/sq in ✓

Tested by hydraulic pressure to 380 lb/sq in Date of test 7-8-44 No. of Certificate 21768

Can each boiler be worked separately ✓

Area of Firegrate in each Boiler ✓

No. and Description of safety valves to each boiler 2½" Improved high lift double ✓

Area of each set of valves per boiler

per Rule 8.95 ft² ✓as fitted 9.8 ft² ✓ Pressure to which they are adjusted 220 lb/sq in 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 2'-5" ✓

Is oil fuel carried in the double bottom under boilers No ✓

Smallest distance between shell of boiler and tank top plating Open floors ✓

Is the bottom of the boiler insulated Yes ✓

Largest internal dia. of boilers 16'-0" ✓

Length 12'-0" ✓

Shell plates: Material

S ✓

Tensile strength 29/33 Tons ✓

Thickness 1 17/32" ✓

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 BACK 1 7/16" FRONT 1 7/16" ✓

Pitch of rivets

BACK 4.16" FRONT 3.64" ✓

Percentage of strength of circ. end seams

plate BACK 62.4 FRONT 60.5 ✓

rivets BACK 47.8 FRONT 46.3 ✓

Percentage of strength of circ. intermediate seam

plate ✓

Percentage of strength of longitudinal joint

plate 85.5 ✓

rivets 85.8 ✓

combined 88.2 ✓

Thickness of butt straps

outer 1 5/32" ✓

inner 1 9/32" ✓

No. and Description of Furnaces in each Boiler

Three Dighton ✓

Material S ✓

Tensile strength

26/30 Tons ✓

Smallest outside diameter

3'-10 13/32" ✓

Length of plain part

top ✓

bottom ✓

Thickness of plates

crown 45" ✓

bottom 64" ✓

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 7/16" ✓

Pitch of stays 20"x2'-0 1/2" ✓

How are stays secured

D.N. ✓

Tube plates: Material

front S. ✓

back S. ✓

Tensile strength

26/30 Tons ✓

Thickness

4/8" ✓

25/32" ✓

Mean pitch of stay tubes in nests

9 1/4" ✓

Pitch across wide water spaces

13 1/2" ✓

Girders to combustion chamber tops: Material

S ✓

Tensile strength

28/32 Tons ✓

Depth and thickness of girder

at centre 2 @ 9 3/4" x 7/8" ✓

Length as per Rule

2'-10 9/16" ✓

Distance apart

9 3/4" ✓

No. and pitch of stays

in each 3 @ 8 1/4" ✓

Combustion chamber plates: Material

S. ✓

Tensile strength

26/30 Tons ✓

Thickness: Sides

23/32" ✓

Back

21/32" ✓

Top

23/32" ✓

Bottom

27/32" ✓

Pitch of stays to ditto: Sides

9 3/4" x 8 1/4" ✓

Back

8 1/2" x 8" ✓

Top

8 1/4" x 9 3/4" ✓

Are stays fitted with nuts or riveted over

Nuts. ✓

Front plate at bottom: Material

S. ✓

Tensile strength

26/30 Tons ✓

Thickness

7/8" ✓

Lower back plate: Material

S. ✓

Tensile strength

26/30 Tons ✓

Thickness

13/16" ✓

Pitch of stays at wide water space

13 7/16" ✓

Are stays fitted with nuts or riveted over

Nuts. ✓

Main stays: Material

S. ✓

Tensile strength

28/32 Tons ✓

Diameter

At body of stay, 3 1/2" & 3 1/4" ✓

Over threads ✓

No. of threads per inch

6 ✓

Screw stays: Material

S ✓

Tensile strength

26/30 Tons ✓

Diameter

At turned off part, 1 5/8" & 1 3/4" ✓

Over threads ✓

No. of threads per inch

9 ✓

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Are the stays drilled at the outer ends No ✓

Margin stays: Diameter { At turned off part, 1 7/8" & 2 1/4" ✓
or
Over threads

No. of threads per inch 9 ✓

Tubes: Material Iron ✓ External diameter { Plain 2 1/2" ✓
Stay 2 1/2" ✓ Thickness { 9 W.G. ✓
5/16" 3/8" 1/2" ✓ No. of threads per inch 9 ✓

Pitch of tubes 3 5/8" x 3 3/4" ✓ Manhole compensation: Size of opening

end shell plate 16" x 12" ✓ Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓

Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 4 1/8" ✓ 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 Thickness of crown No. and diameter

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 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

Pressure to which the safety valves are adjusted Hydraulic test pressure

tubes forgings and castings and after assembly in place Are drain cocks

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,
For David Rowan & Co. Ltd. Manufacture
Archd. H. Grierson

Dates of Survey { During progress of work in shops - - -
while building { During erection on board vessel - - -

Are the approved plans of boiler and superheater forwarded herewith Yes.
(If not state date of approval.)

See attached machinery report

Total No. of visits ✓

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. "Empire Pym" Glas. Rept. No 68260

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey in accordance with the Society's Rules and approved plans. The materials and workmanship are good. It has been satisfactorily installed in the vessel and the safety valves have been adjusted to the working pressure. The specification requirements have been carried out satisfactorily.

Survey Fee ... £ See Machy. Rept. When applied for, 19

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

Jas. Stevenson & M. Dale
Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW 30 JAN 1945

SEE ACCOMPANYING MACHINERY REPORT

Assigned



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