

5a.

REPORT ON BOILERS.

No. 55948

24 JUL 1935

Received at London Office

Writing Report

10

When handed in at Local Office

17.7.35 Port of Glasgow

Survey held at Glasgow

Date, First Survey 1.3.35

Last Survey 10.7.35

1935

on the new steel ship AURETTA

(Number of Visits 32)

Tons { Gross Net

Built at Burntisland By whom built Burntisland S B Co Yard No. 186 When built 1935

made at Glasgow

By whom made David Rowan & Co Ltd

Engine No. 980

When made 1935

made at Glasgow

By whom made David Rowan & Co Ltd

Boiler No. 980

When made 1935

al Horse Power 283

Owners

Port belonging to

TUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Bohills Ltd

(Letter for Record (S))

Heating Surface of Boilers

1050 sq ft

Is forced draught fitted

no

Coal or Oil fired coal

Description of Boilers

one single ended

Working Pressure 220

Tested by hydraulic pressure to

380

Date of test 6-6-35

No. of Certificate 19553

Can each boiler be worked separately

of Firegrate in each Boiler

34 sq ft

No. and Description of safety valves to each boiler

1 1/2" Improved High Lift

of each set of valves per boiler

per Rule 2.7920 as fitted 3.520

Pressure to which they are adjusted

Are they fitted with easing gear yes

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

Least distance between boilers or uptakes and bunkers or woodwork

6'-6"

Is oil fuel carried in the double bottom under boilers

No

Least distance between shell of boiler and tank top plating

2'-6"

Is the bottom of the boiler insulated

Yes

Least internal dia. of boilers

11'-0"

Length 10'-6"

Shell plates: Material steel

Tensile strength 29-33 tons

Thickness

1 1/2"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end 8 R

Seams

D.B.S. T.R.

Diameter of rivet holes in

circ. seams } all 1 1/8" long. seams }

Pitch of rivets

3.069 7 5/8"

Percentage of strength of circ. end seams

plate 63.3 rivets 48.2

Percentage of strength of circ. intermediate seam

plate rivets

Percentage of strength of longitudinal joint

plate 85.24 rivets 90.7 combined 88.7

Working pressure of shell by Rules

222 lbs

Thickness of butt straps

outer 1 3/16" inner 1 5/16"

No. and Description of Furnaces in each Boiler

Two Deighton

Material

steel

Tensile strength 26-30 tons

Smallest outside diameter 3'-2 5/8"

Thickness of plain part

top bottom

Thickness of plates

crown 7 3/4" bottom 7 6/4"

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

220 lbs

Plates in steam space: Material

steel

Tensile strength 26-30 tons

Thickness 3 1/2"

Pitch of stays 14" x 14"

Are stays secured

W.N.

Working pressure by Rules

221 lbs

Front plates: Material

front steel back

Tensile strength 26-30 tons

Thickness

3 1/2" 2 5/8"

Pitch of stay tubes in nests

9.7"

Pitch across wide water spaces

14"

Working pressure

front 246 lbs back 232 lbs

Boilers to combustion chamber tops: Material

steel

Tensile strength 28-32 tons

Depth and thickness of girder

Centre

2 @ 6 3/4" x 7/8"

Length as per Rule

2'-4 1/2"

Distance apart

7 1/2"

No. and pitch of stays

Each

2 @ 9"

Working pressure by Rules

227

Combustion chamber plates: Material

steel

Tensile strength

26-30 tons

Thickness: Sides

2 3/32"

Back

2 3/32"

Top

2 3/32"

Bottom

2 3/32"

Pitch of stays to ditto: Sides

9" x 7 1/2"

Back

9 1/2" x 8 7/8"

Top

9" x 7 1/2"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

221

Front plate at bottom: Material

steel

Tensile strength 26-30 tons

Thickness

3 1/2"

Lower back plate: Material

steel

Tensile strength 26-30 tons

Thickness

3 1/2"

Pitch of stays at wide water space

13 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

302 lbs

Main stays: Material

steel

Tensile strength 28-32 tons

At body of stay

2 1/4"

No. of threads per inch

6

Area supported by each stay

196 sq in

Over threads

Working pressure by Rules

220

Screw stays: Material

steel

Tensile strength

26-30 tons

At turned off part

1 7/8"

1 3/4"

1 7/8"

No. of threads per inch

9

Area supported by each stay

67.5; 81.8; 94.5 sq in

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W230-0297

Working pressure by Rules 225 lb Are the stays drilled at the outer ends no Margin stays: Diameter 1 7/8" At turned off part or Over threads
 No. of threads per inch 9 Area supported by each stay 94.50" Working pressure by Rules 224
 Tubes: Material Iron External diameter 3" Thickness 8 W.G. No. of threads per inch 9
 Pitch of tubes 4 1/8" x 4 3/16" Working pressure by Rules 250 Manhole compensation: Size of open shell plate 19 1/2" x 15 1/2" Section of compensating ring 8 1/2" x 1 1/8" No. of rivets and diameter of rivet holes 34 @ 1 3/16"
 Outer row rivet pitch at ends 8" Depth of flange if manhole flanged 3" Steam Dome: Material Iron
 Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____
 Diameter of rivet holes 0.81 Pitch of rivets _____ Percentage of strength of joint 88% Plate Rivets
 Internal diameter 0.80 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 of rivets in outer row in dome connection to shell _____

Type of Superheater none 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 from the boiler?
 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 by Rules _____
 Pressure to which the safety valves are adjusted _____ Hydraulic test pressure _____
 tubes _____, castings _____ and after assembly in place _____ Are drain cocks or valves 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,
 For David Rowan & Co. Ltd. Arch. H. Grierson Manufact

Dates of Survey _____ During progress of work in shops - - - Are the approved plans of boiler and superheater forwarded herewith? yes
 while building _____ During erection on board vessel - - - **SEE ACCOMPANYING MACHINERY REPORT.** Total No. of visits 11

Is this Boiler a duplicate of a previous case? no If so, state Vessel's name and Report No. _____

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
The materials and workmanship are good.
The boiler has been constructed under special survey and is being sent to Buntingford to be fitted in the vessel.
17/7/35

This boiler has been efficiently fitted on board, examined under steam, safety valves adjusted & found satisfactory.
18/7/35

Survey Fee £ 7 : - : - When applied for 22 JUL 1935
 Travelling Expenses (if any) £ _____ When received 6/9/1935
Sch. Davis
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute GLASGOW 23 JUL 1935
 Assigned SEE ACCOMPANYING MACHINERY REPORT
 TUL 24 SEP 1935
 Lloyd's Register Foundation