

REPORT ON BOILERS.

No. 46050

to of writing Report

192

When handed in at Local Office

21-10-1926 Port of

Received at London Office

21 Oct 1926

No. in
Book.

Surrey held at

Glasgow

Date, First Survey

22nd Feb'y

Last Survey

18-10

1926

(Number of Visits 68)

Gross 8621

Tons

Net

on the new steel 5 1/2" PULPIT POINT

Built at

Port Glasgow

By whom built

Lithgows Ltd

Yard No. 792

When built 1926

Engines made at

Glasgow

By whom made

D. Rowan & Co Ltd

Engine No. 832

When made 1926

Boilers made at

"

By whom made

"

Boiler No. 835

When made 1926

Nominal Horse Power

666

Owners

Vacuum Oil Co Ltd

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Plate steel 2 1/2" of Scotland 1 1/2"

Stays—Phoenix A.S. for Bergham and Hatten Betriell

Manufacturers of Steel

Gutehoffnungshütte A.G. of Oberhausen

Fried Krupp A.G. Essen

(Letter for Record 5)

Total Heating Surface of Boilers

9300 sq ft

Is forced draught fitted

yes

Coal or Oil fired

oil

and Description of Boilers

3 S.E.

Working Pressure

220

Tested by hydraulic pressure to

380

Date of test

30-7-26

No. of Certificate

17180

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

oil fuel

No. and Description of safety valves to each boiler

two 'high lift'

Area of each set of valves per boiler

per Rule 4.95"

as fitted 7.07"

Pressure to which they are adjusted

225

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

3'-0"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

3'-0"

Is the bottom of the boiler insulated

yes

Exact internal dia. of boilers

16'-0"

Length

12'-1 1/8"

Shell plates: Material

steel

Tensile strength 30-34 tons

Thickness

1 3/16"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

inter.

g. seams

DBS. TR

Diameter of rivet holes in

circ. seams

F 1 3/8" B 1 1/2"

Pitch of rivets

F 3.428" B 4.16"

Percentage of strength of circ. end seams

plate

F 59.9 B 63.9

rivets

F 44.9 B 43.9

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

84.9

rivets

89.3

combined

87.8

Working pressure of shell by Rules

221

Thickness of butt straps

outer 1 1/8"

inner 1 1/4"

No. and Description of Furnaces in each Boiler

3 Deighton

corrugated

Material

steel

Tensile strength

26-30 tons

Smallest outside diameter

44 7/8"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

11/16"

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

225

Stays in steam space: Material

steel

Tensile strength

26-30 tons

Thickness

1 25/64"

Pitch of stays

23 1/4" x 16 3/4"

How are stays secured

W.N.

Working pressure by Rules

221

Stays in steam space: Material

steel

Tensile strength

26-30 tons

Thickness

7/8"

3/4"

Pitch of stay tubes in nests

9 1/4"

Pitch across wide water spaces

13 1/2"

Working pressure

front 220

back 234

Stays to combustion chamber tops: Material

steel

Tensile strength

28-32 tons

Depth and thickness of girder

Centre

2 @ 10 1/8" x 7/8"

Length as per Rule

36.5"

Distance apart

9"

No. and pitch of stays

Each

4 @ 7 3/8"

Working pressure by Rules

248

Combustion chamber plates: Material

steel

Tensile strength

26-30 tons

Thickness: Sides

21/32"

Back centre

21/32"

Top

21/32"

Bottom

Pitch of stays to ditto: Sides

8 x 7 3/8"

Back centre

8 1/2 x 7 3/8"

Top

9 x 7 3/8"

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

7/8"

Lower back plate: Material

steel

Tensile strength

26-30 tons

Thickness

13/16"

Pitch of stays at wide water space

13 1/2" x 7 3/8"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

224

Main stays: Material

steel

Tensile strength

28-30 tons

Gage

At body of stay, or Over threads

3 1/4"

No. of threads per inch

6

Area supported by each stay

403 sq"

Working pressure by Rules

229

Screw stays: Material

steel

Tensile strength

26-30 tons

Gage

At turned off part, or Over threads

1 5/8"

No. of threads per inch

9

Area supported by each stay

66.2 sq"

Lloyd's Register Foundation

W136-0015

Working pressure by Rules 229 Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part, or Over threads 1 3/4" ✓
No. of threads per inch 9 ✓ Area supported by each stay 75.62" ✓ Working pressure by Rules 240
Tubes: Material Iron External diameter { Plain 2 1/2" ✓ Stay 2 1/2" ✓ Thickness { 9/16" ✓ 3/8" ✓ 7/16" ✓ No. of threads per inch 9 ✓
Pitch of tubes 3 7/8" x 3 3/4" ✓ Working pressure by Rules 230 Manhole compensation: Size of opening in shell plate 19 1/2" x 15 1/2" ✓ Section of compensating ring 10 1/2" x 1 9/16" ✓ No. of rivets and diameter of rivet holes 34 @ 1 9/16" ✓
Outer row rivet pitch at ends 10 1/2" ✓ Depth of flange if manhole flanged 3" ✓ 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 _____ 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 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 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 23 inclusive for boilers been complied with yes ✓
The foregoing is a correct description, for David Rowan & Co. Ltd. Arch. H. Grierson } Manufactured

Dates of Survey { During progress of work in shops - - } See Accompanying Machinery Report Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
while building { During erection on board vessel - - } See Accompanying Machinery Report Total No. of visits 68

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
The materials and workmanship are good.
The boilers have been constructed under Special Survey in accordance with the Rules. They have been satisfactorily fitted in the vessel and their safety valves adjusted under steam.

A.L.
21/10/26.

Survey Fee ... £ : : When applied for, 192
Travelling Expenses (if any) £ : : When received, 192

S. Davis
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute GLASGOW 26 OCT 1926

Assigned See attached machinery report. WEM