

REPORT ON BOILERS.

No. 7940

Received at London Office

Date of writing Report

192

When handed in at Local Office

7. 5. 28

Port of

Glasgow

No. in Survey held at
Reg. Book.

Glasgow

Date, First Survey

9. 11. 27

Last Survey

3-5-

1928

on the new steel S/S "BENMOHR"

(Number of Visits 64)

Gross 5920

Net 3751

Master

Built at

Glasgow

By whom built

Charles Bonnell & Co. Ltd.

Yard No.

411

When built 1928

Engines made at

Glasgow

By whom made

David Rowan & Co. Ltd.

Engine No.

879

When made 1928

Boilers made at

Glasgow

By whom made

David Rowan & Co. Ltd.

Boiler No.

879

When made 1928

Nominal Horse Power

675

Owners

Ben Line Steamers Ltd

Port belonging to

Leith

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Gutehoffnungshütte A.G. Oberhausen

(Letter for Record 6)

Total Heating Surface of Boilers

1700 sq ft

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

one single ended marine

Working Pressure 220

Tested by hydraulic pressure to

380

Date of test 14-3-28

No. of Certificate 17825

Can each boiler be worked separately

Area of Firegrate in each Boiler

53.6 sq ft

No. and Description of safety valves to each boiler

2 - high lift

Area of each set of valves per boiler

per Rule 3.0250

as fitted 3.140

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

2'-5"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-4"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

13'-6"

Length

11'-0"

Shell plates: Material

steel

Tensile strength 28-32 tons

Thickness

1 1/2"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

long. seams

DB S. TR

Diameter of rivet holes in

circ. seams

F 1 5/8" B 1 3/8"

Pitch of rivets

F 3 4 1/2" B 3 8 3/8"

Percentage of strength of circ. end seams

plate F 61.6 B 64.1

rivets F 48.4 B 47.5

Percentage of strength of circ. intermediate seam

plate

Percentage of strength of longitudinal joint

plate 85.8

rivets 87.4

combined 89

Working pressure of shell by Rules

221

Thickness of butt straps

outer 1"

inner 1 1/8"

No. and Description of Furnaces in each Boiler

Three Deighton

Material

steel

Tensile strength 26-30 tons

Smallest outside diameter 40 3/16"

Length of plain part

top

bottom

Thickness of plates

crown 3 3/4"

bottom 6 1/4"

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

221

End plates in steam space: Material

steel

Tensile strength 26-30 tons

Thickness

1 1/4"

Pitch of stays 19" x 17 3/8"

How are stays secured

DB

Working pressure by Rules

220

Tube plates: Material

front steel

back "

Tensile strength 26-30 tons

Thickness

15"

13"

Mean pitch of stay tubes in nests

10 1/2"

Pitch across wide water spaces

14"

Working pressure

front 222

back 226

Girders to combustion chamber tops: Material

steel

Tensile strength 28-32 tons

Depth and thickness of girder

at centre 2 @ 7 3/4" x 7/8"

Length as per Rule

3 1/2"

Distance apart

8 3/8"

No. and pitch of stays

in each 2 @ 10"

Working pressure by Rules

220

Combustion chamber plates: Material

steel

Tensile strength

26-30 tons

Thickness: Sides

4 1/4"

Back

4 1/4"

Top

4 1/4"

Bottom

2 1/2"

Pitch of stays to ditto: Sides

10" x 8 3/8"

Back

8 1/4" x 8 1/4"

Top

8 3/8" x 10"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

223

Front plate at bottom: Material

steel

Tensile strength

26-30 tons

Thickness

15"

Lower back plate: Material

steel

Tensile strength

26-30 tons

Thickness

13"

Pitch of stays at wide water space

13 1/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

223

Main stays: Material

steel

Tensile strength

28-32 tons

Diameter

At body of stay, 3" & 2 3/4"

Over threads

No. of threads per inch

6

Area supported by each stay 339 & 295 sq in

Working pressure by Rules

231 & 222

Screw stays: Material

steel

Tensile strength

26-30 tons

Diameter

At turned off part, 1 3/4" & 1 5/8"

Over threads

No. of threads per inch

9

Area supported by each stay 83.7 & 68 sq in

Lloyd's Register
Foundation

W/151-0017

Working pressure by Rules 222 & 224 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 7/8" or Over threads 1 7/8"
No. of threads per inch 9 Area supported by each stay 886 sq" Working pressure by Rules 240
Tubes: Material Iron External diameter { Plain 3 1/4" Stay 3 1/4" Thickness { 7/16" & 3/8" No. of threads per inch 9
Pitch of tubes 4 1/2" x 4 3/8" Working pressure by Rules 280 Manhole compensation: Size of opening in shell plate 19 1/2" x 15 1/2" V Section of compensating ring 9 1/4" x 1 1/2" No. of rivets and diameter of rivet holes 32 @ 1 3/8"
Outer row rivet pitch at ends 9 1/16" Depth of flange if manhole flanged 3" Steam Dome: Material none
Tensile strength 110 Thickness of shell 1 1/2" Description of longitudinal joint
Diameter of rivet holes 1 1/8" Pitch of rivets 1 1/2" Percentage of strength of joint { Plate Rivets
Internal diameter 18" Working pressure by Rules 280 Thickness of crown 1 1/2" No. and diameter of stays
How connected to shell direct Inner radius of crown 18" Working pressure by Rules 280
Size of doubling plate under dome 18" x 18" 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 1 Material of tubes cast iron Internal diameter and thickness of tubes
Material of headers cast iron Tensile strength 110 Thickness 1 1/2" 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 1 sq. in. Are the safety valves fitted with easing gear Working pressure as per Rules
Pressure to which the safety valves are adjusted 280 Hydraulic test pressure
tubes castings and after assembly in place 280 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. Manufacturer
Leith - W. Grierson

Dates of Survey { During progress of work in shops - - - See accompanying
while building { During erection on board vessel - - - Machy report
Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
Total No. of visits 5

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, satisfactorily fitted in the vessel and their safety valves adjusted under steam.

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

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

Committee's Minute GLASGOW 15 MAY 1928

Assigned See accompanying Machy Report.

