

REPORT ON BOILERS.

No. 60212

Received at London Office SEP 21 1938

Date of writing Report

19

When handed in at Local Office

20: 9. 1938

Port of

Glasgow

No. in Reg. Book. Survey held at

Glasgow

Date, First Survey

25: 5: 37

Last Survey

17-9-1938

(Number of Visits 114)

Gross 5620

on the

new steel 5 1/2" MANCHESTER PROGRESS.

Tons

Net 3343

Master

Built at Glasgow

By whom built Blythswood S.B.C.

Yard No. 51

When built 1938

Engines made at

Glasgow

By whom made David Rowan & Co Ltd

Engine No. 1022 When made 1938

Boilers made at

Glasgow

By whom made David Rowan & Co Ltd

Boiler No. 1022 When made 1938

Nominal Horse Power

796

Owners Manchester Siners Ltd

Port belonging to Manchester

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Bohills Ltd

(Letter for Record (S))

Total Heating Surface of Boilers

9195 sq ft

Is forced draught fitted yes

Coal or Oil fired coal

No. and Description of Boilers

Three single ended

Working Pressure 225 lb

Tested by hydraulic pressure to

388

Date of test 5-4-38

No. of Certificate 20155

Can each boiler be worked separately yes

Area of Firegrate in each Boiler

44.5 sq ft

No. and Description of safety valves to each boiler 2 Improved high lift

Area of each set of valves per boiler

per Rule 8.054 sq in

as fitted 9.8 sq in 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

5'-0"

Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating

2'-8"

Is the bottom of the boiler insulated yes

Largest internal dia. of boilers

10'-0"

Length 12'-0"

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 NR

long. seams

NR S. TR.

Diameter of rivet holes in

circ. seams F 1 3/8" B 1 9/16"

Pitch of rivets F 3.377" B 4.164"

Percentage of strength of circ. end seams

plate F.60 B623 rivets F44.5 B46.8

Percentage of strength of circ. intermediate seam

plate rivets

Percentage of strength of longitudinal joint

plate 85.38 rivets 85.1 combined 87.8

Working pressure of shell by Rules 225

Thickness of butt straps

outer 1 9/16" inner 1 1/16"

No. and Description of Furnaces in each Boiler

Three Deighton

Material

steel

Tensile strength 26-30 tons

Smallest outside diameter 3'-10 7/16"

Length of plain part

top bottom

Thickness of plates crown 2 3/32" bottom 2 3/32"

Description of longitudinal joint welded

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

none

Working pressure of furnace by Rules 227

End plates in steam space:

Material steel

Tensile strength 26-30 tons

Thickness 1 5/32"

Pitch of stays 20 1/4" x 22"

How are stays secured

DN

Working pressure by Rules 225

Tube plates: Material

front back steel

Tensile strength 26-30 tons

Thickness 1 5/16" 2 7/32"

Mean pitch of stay tubes in nests

10 1/2"

Pitch across wide water spaces 14"

Working pressure front 229 back 232

Girders to combustion chamber tops:

Material steel

Tensile strength 28-32 tons

Depth and thickness of girder

at centre

2 @ 9 3/8" x 7 1/8"

Length as per Rule 34 15/32"

Distance apart 8 7/8"

No. and pitch of stays

in each

3 @ 8 1/4"

Working pressure by Rules 228

Combustion chamber plates: Material steel

Tensile strength

26-30 tons

Thickness: Sides 1 1/16"

Back 1 1/16"

Top 1 1/16"

Bottom 2 7/32" 1 3/16"

Pitch of stays to ditto:

Sides 8 1/4" x 8 1/8" Back 8 1/2" x 8"

Top 8 1/4" x 8 7/8"

Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 226

Front plate at bottom: Material steel

Tensile strength 26-30 tons

Thickness

1 5/16"

Lower back plate: Material steel

Tensile strength 26-30 tons

Thickness 2 7/32"

Pitch of stays at wide water space

13 7/8"

Are stays fitted with nuts or riveted over nuts

Working Pressure 227

Main stays: Material steel

Tensile strength 28-32 tons

Diameter

At body of stay, 3 1/2" & 3 1/4"

No. of threads per inch 6

Area supported by each stay 480 sq in & 388 sq in

Working pressure by Rules 226 & 240

Screw stays: Material steel

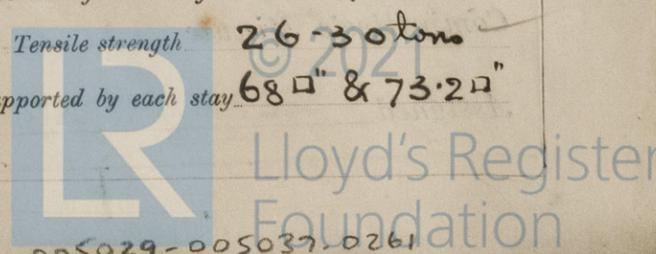
Tensile strength 26-30 tons

Diameter

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

No. of threads per inch 9

Area supported by each stay 68 sq in & 73.2 sq in



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Working pressure by Rules 225 & 247 Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part.} 1 7/8" _{or Over threads.}

No. of threads per inch 9 Area supported by each stay 89.3 sq" Working pressure by Rules 238

Tubes: Material Iron External diameter ^{Plain} 3" _{Stay} 3" Thickness ^{8 w.s.} 5/16" 3/8" No. of threads per inch 9

Pitch of tubes 4 1/4" x 4 7/8" Working pressure by Rules 250 Manhole compensation: Size of opening in shell plate 19 1/2" x 15 1/2" Section of compensating ring 10 3/4" x 1 3/4" No. of rivets and diameter of rivet holes 36 @ 1 9/16"

Outer row rivet pitch at ends 10 1/16" 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 Smoke tube Manufacturers of NE Marine Eng Co Ltd Wallsend-on-Tyne

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 no Is a safety valve fitted to every part of the superheater which can be shut off from the boiler yes

Area of each safety valve 1760" Are the safety valves fitted with easing gear yes Working pressure as per Rules _____ Pressure to which the safety valves are adjusted 225 Hydraulic test pressure: tubes _____ forgings and castings _____ and after assembly in place 450 Are drain cocks or valves fitted to free the superheater from water where necessary yes

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 Manufacturer.
Arch. N. 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 ACCOMPANYING MACHINERY REPORT.

* Except that this boiler has Ashlin back ends furnaces and two less wing tubes in consequence of this.
 Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. Manchester City, Gls Rpt. No. 58730

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

These boilers have been fitted with the Bennis System of mechanical strokes
The materials and workmanship are good.
The boilers have been constructed under special survey, satisfactorily fitted in the vessel and their safety valves adjusted under steam

20/9/38

Survey Fee £ _____ } When applied for, 10
 Travelling Expenses (if any) £ _____ } When received, 10

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

Committee's Minute GLASGOW 20 SEP 1938

Assigned SEE ACCOMPANYING MACHINERY REPORT.



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