

Rpt. 5a.

REPORT ON BOILERS.

No. 11974

Received at London Office SAT. JUN 14 1924

Date of writing Report 1924 When handed in at Local Office 13.6.24 1924 Port of Middlesbrough

No. in Reg. Book. Survey held at Stockton-on-Tees Date, First Survey 21st March '24 Last Survey 31st June 1924

on the S.S. STELLING (Number of Visits 20) (Gross Tons) (Net Tons)

Master Built at South Bank By whom built Smith's Dock Co. Ltd. Yard No. 796 When built 1924

Engines made at South Bank By whom made Smith's Dock Co. Ltd. Engine No. 262 When made 1924

Boilers made at Stockton By whom made Hume Blair & Co. Ltd. Boiler No. A53 When made 1924

Nominal Horse Power Owners Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Co. of Scotland Ltd. & J. Spencer & Sons Ltd. (Letter for Record (S))

Total Heating Surface of Boilers 4023 sq. ft. Is forced draught fitted No Coal or Oil fired Coal

No. and Description of Boilers Two Single Ended Working Pressure 180

Tested by hydraulic pressure to 320 Date of test 3.6.24 No. of Certificate 6366 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 52.5 sq. ft. No. and Description of safety valves to each boiler 2 Direct Spring

Area of each set of valves per boiler {per Rule 12.9" as fitted 14.12" Pressure to which they are adjusted 185 lb. Are they fitted with easing gear yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No donkey boiler fitted

Smallest distance between boilers on uptakes and bunkers or woodwork 2'-0" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 2'-6" Is the bottom of the boiler insulated No

Largest internal dia. of boilers 14'-9" Length 10'-6" Shell plates: Material Steel Tensile strength 28-32

Thickness 1 3/32 Are the shell plates welded or flanged no Description of riveting: circ. seams {end 8 Riv. lap inter. 4" long. seams 8 Riv. - 3 Riveted Diameter of rivet holes in {circ. seams 1 5/16 long. seams 1 1/4 Pitch of rivets {plate 8 3/8" rivets 8 3/8"

Percentage of strength of circ. end seams {plate 71.1 rivets 45.4 Percentage of strength of circ. intermediate seam {plate rivets 85.07 92.9 88.59

Percentage of strength of longitudinal joint {plate rivets combined Working pressure of shell by Rules 181 lb.

Thickness of butt straps {outer 18 1/4 x 1 5/16 inner 18 1/4 x 1 1/2 No. and Description of Furnaces in each Boiler 3 Brighton

Material Steel Tensile strength 26-30 Tons Smallest outside diameter 42 5/8"

Length of plain part {top bottom Thickness of plates {crown 9/16 bottom 7/16 Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 192

End plates in steam space: Material Steel Tensile strength 26-30 Thickness 1 3/16 Pitch of stays 15 1/2" x 20 1/2"

How are stays secured nuts & 10 1/2" x 1" brass washers Working pressure by Rules 210 lb.

Tube plates: Material {front Steel back Steel Tensile strength {26-30 Thickness {1 1/2" 3/2" 25"

Mean pitch of stay tubes in nests 10 1/2 Pitch across wide water spaces 14 1/4" x 9" Working pressure {front 188 back 197

Girders to combustion chamber tops: Material Steel Tensile strength 28-32 Depth and thickness of girder

at centre 8 3/4" x 1 3/8" Length as per Rule 32 9/16" Distance apart 9" No. and pitch of stays

in each 2 @ 10" Working pressure by Rules 189 Combustion chamber plates: Material Steel

Tensile strength 26-30 Thickness: Sides 1/16 Back 21/32 Top 1/16 Bottom 1"

Pitch of stays to ditto: Sides 9" x 10" Back 9 1/4" x 8 3/8" Top 9" x 10" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 185 Front plate at bottom: Material Steel Tensile strength 26-30

Thickness 1 1/2 Lower back plate: Material Steel Tensile strength 26-30 Thickness 7/8"

Pitch of stays at wide water space 14 1/4" x 8 3/8" Are stays fitted with nuts or riveted over nuts

Working Pressure 229 Main stays: Material Steel Tensile strength 28-32

Diameter {At body of stay 3" Over threads 3 1/2" No. of threads per inch 6 Area supported by each stay 322020

Working pressure by Rules 209 Screw stays: Material Steel Tensile strength 26-30

Diameter {At turned off part 1 3/4" Over threads 1 1/2" No. of threads per inch 8 Area supported by each stay 90

Working pressure by Rules 199 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 7/8"
 No. of threads per inch 8 Area supported by each stay 98.6 Working pressure by Rules 211
 Tubes; Material iron External diameter { Plain 3 1/4" Thickness { N° 8 4.5.9 No. of threads per inch 9
 Pitch of tubes 4 5/8" x 4 1/2" Working pressure by Rules 201 Manhole compensation: Size of opening in
 shell plate 16" x 12" Section of compensating ring 7 3/4" x 1 3/2" No. of rivets and diameter of rivet holes 28 @ 1 1/4"
 Outer row rivet pitch at ends 8 3/8" Depth of flange if manhole flanged ✓ 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 _____
 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,

BLAIR & CO., LIMITED. N. P. Hamilton Manufacturer.

Dates { During progress of work in shops - - 1924 Mar 21, 25, 28, Apr 3, 14, 23 Are the approved plans of boiler and superheater forwarded herewith yes
 while building { During erection on board vessel - - - 25, 29, May 1, 6, 8, 12, 14, 16, 20, 22, 26, 29, June 3 (If not state date of approval.)
 Total No. of visits 20

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

These boilers have been built under special survey: are of good material and workmanship and on completion were tested by hydraulic pressure with satisfactory results
The boilers are to be fitted on board at this port

These boilers have now been satisfactorily fitted on board examined under steam and safety valves adjusted
edw Oxford ✓

Survey Fee £ 26 : 16 : 0 When applied for, mouth of
 Travelling Expenses (if any) £ 00 : 00 : 00 When received, 1924

Wm Morrison
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 2 SEP 1924

Assigned _____

FRI. 24 OCT 1924
 FRI. 12 DEC 1924



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