

REPORT ON BOILERS.

No. 28901

Received at London Office

1 SEP 1924

Date of writing Report 31-7-24 When handed in at Local Office 22-8-24 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey 1924 Last Survey 1924

on the S/S "KAFIRISTAN" (Number of Visits 5) Tons {Gross 5193 Net 3226}

Master Built at Sunderland By whom built Short Brothers Yard No. 417 When built 1924

Engines made at Sunderland By whom made John Dickinson & Sons Ltd. Engine No. 877 When made 1924

Boilers made at Sunderland By whom made John Dickinson & Sons Ltd. Boiler No. 1083 When made 1924

Nominal Horse Power 363 Owners Common Bros. Port belonging to Newcastle

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Darnley & Sons Ltd. The Steel Company of Scotland & John Spence & Co. (Letter for Record S)

Total Heating Surface of Boilers 1071 sq ft Is forced draught fitted no Coal or Oil fired coal

No. and Description of Boilers one single ended marine Working Pressure 180

Tested by hydraulic pressure to 320 Date of test 31-7-24 No. of Certificate 3894 Can each boiler be worked separately

Area of Firegrate in each Boiler 31.9 sq ft No. and Description of safety valves to each boiler two direct spring

Area of each set of valves per boiler {per Rule 7.080 as fitted 9.800} Pressure to which they are adjusted 180 Are they fitted with easing gear yes

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

Smallest distance between boilers or uptakes and bunkers or woodwork 17" Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating no tank Is the bottom of the boiler insulated no

Largest internal dia. of boilers 10'-10 3/16" Length 10'-6" Shell plates: Material steel Tensile strength 28-30 tons

Thickness 32 Are the shell plates welded or flanged no Description of riveting: circ. seams {end 17R inter. 278}

Long. seams 17B 5 TR Diameter of rivet holes in {circ. seams 1" long. seams 1" Pitch of rivets {278 7 1/8"

Percentage of strength of circ. end seams {plate 65.2 rivets 49.7 Percentage of strength of circ. intermediate seam {plate 85.8 rivets 94.6}

Percentage of strength of longitudinal joint {plate 85.8 rivets 94.6 combined 90.6 Working pressure of shell by Rules 180

Thickness of butt straps {outer 11/16" inner 13/16" No. and Description of Furnaces in each Boiler two plain

Material steel Tensile strength 26-30 tons Smallest outside diameter 3'-2"

Length of plain part {top 6'-5" bottom 6'-11 1/4" Thickness of plates {crown 3/4" bottom 3/4" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 188

End plates in steam space: Material steel Tensile strength 26-30 tons Thickness 7/8" 1 1/2" Pitch of stays 15" x 14 1/2"

How are stays secured WN&W Working pressure by Rules 181

Tube plates: Material {front steel back " Tensile strength {26-30 tons Thickness {7/8" 7/8"

Mean pitch of stay tubes in nests 9" Pitch across wide water spaces 13 3/4" (5" WP) Working pressure {front 182 back 342}

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

at centre 2 @ 6 1/4" x 7/8" Length as per Rule 2'-5 15/16" Distance apart 7 1/2" No. and pitch of stays

in each 2 @ 10" Working pressure by Rules 181 Combustion chamber plates: Material steel

Tensile strength 26-30 tons Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom 15/16"

Pitch of stays to ditto: Sides 10" x 9" Back 10" x 9 1/8" Top 10" x 7 1/2" Are stays fitted with nuts or riveted over nuts in ends

Working pressure by Rules 180 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 1 1/2"

Pitch of stays at wide water space 14" Are stays fitted with nuts or riveted over nuts

Working Pressure 296 Main stays: Material steel Tensile strength 28-30 tons

Diameter {At body of stay, 2 7/8" No. of threads per inch 6 Area supported by each stay 217.80"

Working pressure by Rules 180 Screw stays: Material steel Tensile strength 26-30 tons

Diameter {At turned off part, 1 3/4" No. of threads per inch 9 Area supported by each stay 91.250"

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Working pressure by Rules 199 Are the stays drilled at the outer ends ☒ Margin stays: Diameter { At turned off part, 17/8" or Over threads 184" }
No. of threads per inch 9 Area supported by each stay 115.60" Working pressure by Rules 184"
Tubes: Material W.M. non External diameter { Plain 3 1/2" Stay 3 1/4" } Thickness { 8 W.S. 5/16" } No. of threads per inch 9
Pitch of tubes 4 1/2" x 4 1/2" Working pressure by Rules Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 8" x 2 1/2" No. of rivets and diameter of rivet holes 30 @ 1"
Outer row rivet pitch at ends 7 1/2" 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 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 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

S. Dickson The foregoing is a correct description, Manufacturer.

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

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 satisfactorily fixed on the upper deck of the vessel.
Safety valves adjusted under steam.

Survey Fee £ 7 : 2 : 0 When applied for, 25 AUG 1924
Travelling Expenses (if any) £ : : : When received, 27 SEP 1924

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

Committee's Minute FRI 5 SEP 1924 FRI 27 FEB 1931

Assigned