

REPORT ON BOILERS.

No. 28901

Received at London Office 1 SEP 1924

Date of writing Report 21/10/24 When handed in at Local Office 22/11/24 Port of Sunderland

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

on the S/S "KAFIRISTAN" (Number of Visits 51) Tons {Gross 5193 Net 3226

Master Shankar Lal Built at Sunderland By whom built Shankar Lal 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

RETAIN

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Dainville & Sons Ltd. The steel company of Scotland & John Spencer & Co. (Letter for Record S)

Total Heating Surface of Boilers 10710 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 yes

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 9.80} 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 WTR inter —}

Long. seams WBS TR Diameter of rivet holes in {circ. seams 1" long. seams 1"} Pitch of rivets {2 7/8" 7 1/16"}

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

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 1/16" 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" 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 1/16" Back 1/16" Top 1/16" 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"

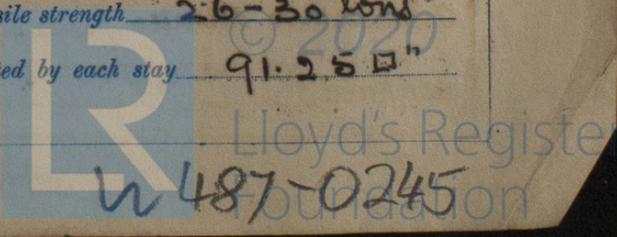
Pitch of stays at wide water space 14" Are stays fitted with nuts or riveted over nuts

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

Diameter {At body of stay, 2 9/8" or Over threads 2 9/8"} 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" or Over threads 1 3/4"} No. of threads per inch 9 Area supported by each stay 91.250"



REPORT ON BOILERS

Working pressure by Rules 199 Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part, 17/8 ✓
 or Over threads }
 No. of threads per inch 9 Area supported by each stay 115.60 Working pressure by Rules 184 ✓
 Tubes: Material W.M. iron ✓ External diameter { Plain 3 1/2 ✓ Thickness { 8 W.S. ✓ No. of threads per inch 9 ✓
 Stay 3 1/4 }
 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 3 3/4" 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 Are the approved plans of boiler and superheater forwarded herewith
 while building { During erection on board vessel - - } Machinery (If not state date of approval.)
 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 : _____ When applied for, 25 AUG 1924
 Travelling Expenses (if any) £ : : _____ When received, 27 FEB 1924
S. H. Davis
 Engineer Surveyor to Lloyd's Register of Shipping.

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