

REPORT ON BOILERS.

No. 79233

Received at London Office

Date of writing Report 1925 When handed in at Local Office 14/5/1925 Port of Newcastle-on-Tyne

No. in Survey held at Newcastle-on-Tyne Date, First Survey 6th Aug 1924 Last Survey 1st May 1925

9297 on the Steel S.S. INANDA (Number of Visits) Gross Tons Net

Master Built at Newcastle By whom built Wm. Hunter & Co. Ltd. Yard No. 1259. When built 1925

Engines made at Newcastle By whom made Wallsend Slipway & Eng. Co. Ltd. Engine No. 856 When made 1925

Boilers made at Newcastle By whom made Wallsend Slipway & Eng. Co. Ltd. Boiler No. 856. When made 1925

Indicated Horse Power 606 Owners T. J. Harrison Port belonging to Liverpool

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel David Colville & Son Ltd. (Letter for Record)

Total Heating Surface of Boilers 2194 sq ft Is forced draught fitted No. Coal or Oil fired Coal

No. and Description of Boilers One Single-ended Cylindrical Working Pressure 220 lbs.

Tested by hydraulic pressure to 380 lbs Date of test 16.1.25 No. of Certificate 9885 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 55 sq ft No. and Description of safety valves to each boiler Two Spring-loaded

Area of each set of valves per boiler per Rule 11.67 sq ft as fitted 11.88 sq ft Pressure to which they are adjusted 225 lbs Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler None

Smallest distance between boilers or uptakes and bunkers or woodwork Not under 12" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 2 1/2" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 189" Length 10'6" Shell plates: Material Steel Tensile strength 30-34 Tons

Thickness 1 1/2" Are the shell plates welded or flanged No Description of riveting: circ. seams Double

Long. seams Triple Riv. S.D.S. Diameter of rivet holes in circ. seams 1 5/8" long. seams 1 5/8" Pitch of rivets 4.64" 10 5/8"

Percentage of strength of circ. end seams plate 65 rivets 45.6 Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 84 rivets 93 Working pressure of shell by Rules 223 lbs

Thickness of butt straps outer 1 5/16" inner 1 5/16" No. and Description of Furnaces in each Boiler Three Marine

Material Steel Tensile strength 26-30 Tons Smallest outside diameter 45 3/8"

Length of plain part top bottom Thickness of plates crown 1/16" bottom 1/16" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules 222 lbs

End plates in steam space: Material Steel Tensile strength 26-30 Tons Thickness 1 3/32" Pitch of stays 18 x 16 3/4"

How are stays secured Double Nuts Working pressure by Rules 229 lbs

End plates: Material front Steel back Steel Tensile strength 26-30 Tons Thickness 1 3/16"

Mean pitch of stay tubes in nests 9 3/4" Pitch across wide water spaces 14 1/4" Working pressure front 232 lbs back 222 lbs

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

centre 7 3/4" - 1 1/2" Length as per Rule 30" Distance apart 7 3/4" No. and pitch of stays

each Two 9 3/8" Working pressure by Rules 223 lbs Combustion chamber plates: Material Steel

Tensile strength 26-30 Tons Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 7/8"

Pitch of stays to ditto: Sides 7 3/4" x 9 3/8" Back 8 3/4" x 8 1/2" Top 7 3/4" x 9 3/8" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 222 lbs Front plate at bottom: Material Steel Tensile strength 26-30 Tons

Thickness 1" Lower back plate: Material Steel Tensile strength 26-30 Tons Thickness 1 5/16"

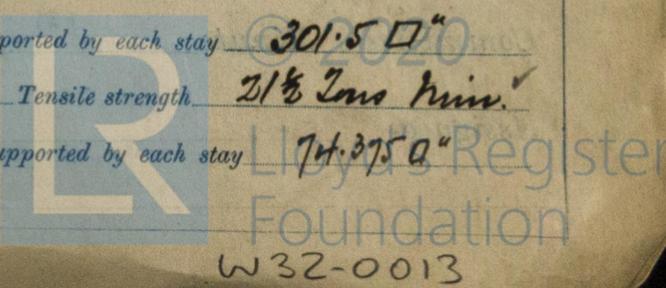
Pitch of stays at wide water space 14 1/2" Are stays fitted with nuts or riveted over Nuts

Working Pressure 224 lbs Main stays: Material Steel Tensile strength 28-32 Tons

Diameter At body of stay, 3" No. of threads per inch Six Area supported by each stay 301.5 sq in

Working pressure by Rules 222 lbs Screw stays: Material Iron Tensile strength 21 1/2 Tons Min.

Diameter At turned off part, 1 3/4" No. of threads per inch Nine Area supported by each stay 74.375 sq in



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Working pressure by Rules 244 lb Are the stays drilled at the outer ends No Margin stays: Diameter ^{At turned off part,} 2" _{or} ^{Over threads} 2"

No. of threads per inch nine Area supported by each stay 100.625 sq" Working pressure by Rules 246 lb

Tubes: Material Low External diameter ^{Plain} 3 1/2" ^{Stay} 3 1/2" Thickness ^{No. 7 W.G.} 3/8" - 5/16" No. of threads per inch nine

Pitch of tubes 4 3/8" Working pressure by Rules plain 26 lb stay 244 lb Manhole compensation: Size of opening in shell plate 19" x 15" Section of compensating ring 25 1/2" x 37 1/2" x 1 1/2" No. of rivets and diameter of rivet holes 36 - 1 5/8"

Outer row rivet pitch at ends 10 5/8" 10 5/8" Depth of flange if manhole flanged 3 1/2" Steam Dome: Material Low

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 Nath. Badeni Marine Eng. Co. Ltd. Manufacturers of Tubes Weldless Steel Tube Co. Ltd. ^{Steel castings}

Number of elements 49 Material of tubes S. D. Steel Internal diameter and thickness of tubes 17 mm, 2 1/2 mm

Material of headers Angled S.M. Steel Tensile strength 26-30 ton Thickness 1 1/2" Can the superheater be shut off and the boiler be worked separately Yes 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 3.14 sq" Are the safety valves fitted with easing gear Yes Working pressure as per Rules 220 lb Pressure to which the safety valves are adjusted 230 lb Hydraulic test pressure: tubes 1500 lb Headers 660 lb and after assembly in place 440 lb Are drain cocks or valves fitted to free the superheater from water where necessary Yes

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes

FOR THE WATTS AND SLIPPER ENGINEERS

The foregoing is a correct description,
A. Lamb Manufacturer.

Dates of Survey ^{During progress of work in shops - -} _____ ^{During erection on board vessel - - -} _____

while building ^{See Inchy Rpt.} _____

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) _____

Total No. of visits _____

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

This Boiler has been constructed under special survey and in accordance with the approved plans. The materials and workmanship are sound and good. The boiler was satisfactorily subjected to a hydraulic pressure test & efficiently fastened on board. The main and superheater safety valves were adjusted under steam. In my opinion the vessel is eligible for notation - L.M.C. H. 15 C.L.

Survey Fee £ See Inchy Rpt. When applied for. 192

Travelling Expenses (if any) £ : : When received. 192

R. Lee Anness
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 29 MAY 1925

Assigned _____

