

REPORT ON BOILERS.

No. 88955

Received at London Office 1 AUG 1932

Date of writing Report 27/7/32 When handed in at Local Office 27/7/32 Port of Newcastle-on-Tyne.

No. in Survey held at Wallsend-on-Tyne Date, First Survey 30 Dec/31 Last Survey 26 July 1932

Book. New Steel S S Harlesden (Number of Visits —) Gross 5483 Net 3220 Tons

Built at Lebburn By whom built Hawthornestier & Co Ltd Yard No. 586 When built 1932

Engines made at Wallsend By whom made North Eastern Marine & C. Co Ltd. Engine No. 2988 When made 1932

Boilers made at Wallsend By whom made North Eastern Marine & C. Co Ltd. Boiler No. 2988 When made 1932

Indicating Horse Power 480 Owners National S S Coy Ltd Port belonging to London

ULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel The Steel Company of Scotland Ltd. (Letter for Record P.)

Total Heating Surface of Boilers 4952 sq ft See App forced draught fitted yes Coal or Oil fired coal

Number and Description of Boilers Two single ended. Working Pressure 220 lbs

Tested by hydraulic pressure to 380 lbs Date of test 29-11-32 No. of Certificate 546 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 46 3/4 sq ft See App B No. and Description of safety valves to each boiler Two spring loaded

Area of each set of valves per boiler 13.9 per Rule 11.14 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 ✓

Smallest distance between ~~boilers~~ or uptakes and bunkers 3'-5" 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 15'-3 1/2" Length 11'-6" Shell plates: Material Steel Tensile strength 29 to 33 tons

Thickness 1 15/32" Are the shell plates welded or flanged no Description of riveting: circ. seams D.R. inter. ✓

Long. seams T.R.D.B.S. Diameter of rivet holes in 6H.4 circ. seams 1/2" Pitch of rivets 4 1/4" inter. 10 3/8"

Percentage of strength of circ. end seams 81.9 rivets 85.54 plate 86.95 combined 88.3 Working pressure of shell by Rules 222 lbs.

Percentage of strength of longitudinal joint 86.95 rivets 88.3 combined 88.3

Thickness of butt straps 1 1/8" outer 1 1/4" inner 1 1/4" No. and Description of Furnaces in each Boiler 3 corrugated.

Material Steel Tensile strength 26 to 30 tons Smallest outside diameter 3'-8 3/4"

Length of plain part ✓ Thickness of plates 3/4" crown 3/4" bottom 3/4" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 25 1/2 lbs.

Diaphragm plates in steam space: Material Steel Tensile strength 26 to 30 tons Thickness 1 15/32" Pitch of stays 1'-10" x 1'-8 3/4"

How are stays secured double nuts Working pressure by Rules 222 lbs.

Diaphragm plates: Material Steel Tensile strength 26 to 30 tons Thickness 3/4" front 31/32" back 3/4"

Span pitch of stay tubes in nests 8 1/2" Pitch across wide water spaces 14 1/4" x 8 1/2" Working pressure 235 front 278.3 back

Diaphragm girders to combustion chamber tops: Material Steel Tensile strength 29 to 33 tons Depth and thickness of girder 2 @ 10 1/4" x 7 1/8"

Centre 2 @ 10 1/4" x 7 1/8" Length as per Rule 2'-10" Distance apart 11" No. and pitch of stays 3 @ 1 5/8"

Working pressure by Rules 229 lbs. Combustion chamber plates: Material Steel

Tensile strength 26 to 30 tons Thickness: Sides 25/32" Back 25/32" Top 25/32" Bottom 25/32"

Pitch of stays to ditto: Sides 10 2/16" x 9 3/8" Back 4 15/16" x 9 3/4" Top 11" x 1 5/8" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 222 lbs. Front plate at bottom: Material Steel Tensile strength 26 to 30 tons

Thickness 31/32" Lower back plate: Material Steel Tensile strength 26 to 30 tons Thickness 29/32"

Pitch of stays at wide water space 14 1/4" x 9 3/4" Are stays fitted with nuts or riveted over nuts

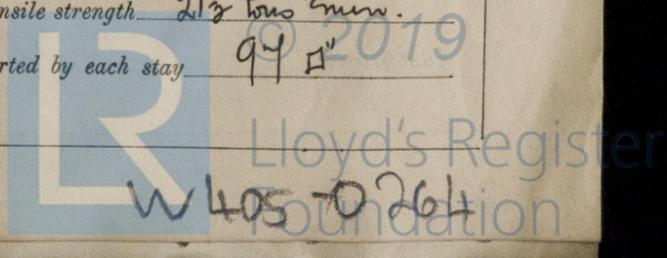
Working Pressure 225 lbs. Main stays: Material Steel Tensile strength 26 to 30 tons

Diameter 3 1/2" At body of stay, 3 3/4" No. of threads per inch 6. Area supported by each stay 456.5"

Over threads 3 3/4"

Working pressure by Rules 239 lbs. Screw stays: Material Wrought iron Tensile strength 21 1/2 tons min.

Diameter 2" At turned off part, 2" No. of threads per inch 9 Area supported by each stay 99"



Working pressure by Rules 255 lbs. Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part,} 2 1/4" _{or Over threads}

No. of threads per inch 9 Area supported by each stay 118.75 Working pressure by Rules 244 lbs.

Tubes: Material S.D. Steel External diameter ^{Plain} 3" Thickness ^{Stay} 5 L.S.G. 1/4 x 3/8 No. of threads per inch 9

Pitch of tubes 1 1/4" x 1 1/4" Working pressure by Rules WWS. 243 lbs. Manhole compensation: Size of opening in shell plate 3'-3" x 2'-11" Section of compensating ring 25 x 1 1/2 No. of rivets and diameter of rivet holes 34 @ 1 9/16"

Outer row rivet pitch at ends 10 3/4" Depth of flange if manhole flanged 3 1/2" 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 North Eastern for Ketube Manufacturers of ^{Tubes} Stuyvesant & Shipley Ltd ^{Steel castings} The Yorkingham Steel Co.

Number of elements 114 Material of tubes S.D. Steel Internal diameter and thickness of tubes 1 7/8" x 2 1/2"

Material of headers Wrought steel Tensile strength 26 to 30 tons Thickness 1/8" 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 3.1416 Are the safety valves fitted with easing gear yes Working pressure as per Rules 220 lbs Pressure to which the safety valves are adjusted 225 lbs Hydraulic test pressure: tubes 1500 lbs ^{forgings} 660 lbs ^{castings} 550 lbs and after assembly in place 550 lbs 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, W. G. Smith Manufacturer.

Dates of Survey ^{During progress of work in shops - - -} See inquiry report Are the approved plans of boiler and superheater forwarded herewith yes _(If not state date of approval.)

^{while building} ^{During erection on board vessel - - -} See inquiry report Total No. of visits _____

Is this Boiler a duplicate of a previous case _____ If so, state Vessel's name and Report No. _____

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

These boilers have been built under special survey, materials & workmanship good, hydraulic tests satisfactory.

Survey Fee £ : ✓ : When applied for, 19

Travelling Expenses (if any) £ : : When received, 19

William D. Little
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute WED. AUG 3 1932

Assigned See F.E. Rpt.

