

Rpt. 5a.

REPORT ON BOILERS.

No. 17562

Received at London Office 22 MAY 1936

Date of writing Report 16-5-36 When handed in at Local Office 19-5-36 Port of West Hartlepool

No. in Survey held at Hartlepool Date, First Survey 11-3-36 Last Survey 8-5-1936

on the Steam trawler Indian Star (Number of Visits 10) Gross 463 Tons Net 169

Master Built at South Bank By whom built Smith, Duns & Co. La. Yard No. 999 When built 1926

Engines made at South Bank By whom made Smith, Duns & Co. La. Engine No. 473 When made 1926

Boilers made at Hartlepool By whom made Richardson Westgarth & Co. Ltd. Boiler No. 473 When made 1936

Nominal Horse Power Owners front tube plate Port belonging to

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY

Manufacturers of Steel The Steel Company of Scotland (Letter for Record S)

Total Heating Surface of Boilers 2,500 sq. ft. 2465 sq. ft. forced draught fitted no. Coal or Oil fired Coal

No. and Description of Boilers One, single ended Working Pressure 225 lbs.

Tested by hydraulic pressure to 387 lbs. Date of test 8-5-36 No. of Certificate 3842 Can each boiler be worked separately -

Area of Firegrate in each Boiler 60 sq. ft. No. and Description of safety valves to each boiler Pair Corburns J. H. L.

Area of each set of valves per boiler per Rule 6.51 as fitted 9.8 Pressure to which they are adjusted 230 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 or woodwork 1'-0" Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated Yes.

Largest internal dia. of boilers 15' 6" Length 11' 0" Shell plates: Material steel Tensile strength 29-33 tons

Thickness 1 7/32" Are the shell plates welded or flanged Yes Description of riveting: circ. seams end D.R. Lap. inter. 3 7/8"

Long. seams J. R. D. B. S Diameter of rivet holes in circ. seams 1 7/16" long. seams 1 1/2" Pitch of rivets 10' 8"

Percentage of strength of circ. end seams plate 62.9 rivets 43.2 Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 85.18 rivets 84.7 combined 87.2 Working pressure of shell by Rules 225.8 lbs.

Thickness of butt straps outer 1 3/16" inner 1 9/16" No. and Description of Furnaces in each Boiler 3, Moulson type 30 sq.

Material steel Tensile strength 26-30 tons Smallest outside diameter 44 5/8"

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

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 225.4 lbs.

End plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 5/16" Pitch of stays 17 1/2" x 20"

How are stays secured double nuts & washers Working pressure by Rules 228 lbs.

End plates: Material front steel back Tensile strength 28-32 tons Thickness 1 7/32"

Lean pitch of stay tubes in nests 10' 1/16" Pitch across wide water spaces 14 1/2" x 9 1/4" Working pressure front 234 lbs back 230 lbs.

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

centre 9 3/8" x 7/8" Length as per Rule 34 1/32" Distance apart 8" centre, 9" wings No. and pitch of stays

each 3 x 8" Working pressure by Rules 229 lbs. Combustion chamber plates: Material steel

Tensile strength 26-30 tons Thickness: Sides 2 1/32" Back 2 1/32" Top 2 1/32" x 1 1/16" Bottom 1"

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

Working pressure by Rules 230 lbs, 234 lbs, 228 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 15 1/2" x 8" Are stays fitted with nuts or riveted over nuts.

Working Pressure 237 lbs. Main stays: Material steel Tensile strength 28-32 tons

Diameter At body of stay, 3 1/4" & 3" No. of threads per inch 6 Area supported by each stay 350 sq. ins & 297.5 sq. ins.

Working pressure by Rules 229 lbs & 226 lbs Screw stays: Material steel Tensile strength 26-30 tons

Diameter At turned off part, 1 5/8" No. of threads per inch 9 Area supported by each stay 65 sq. ins.

Working pressure by Rules 234 lbs. Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, or Over threads 1 7/8" ✓
No. of threads per inch 9. Area supported by each stay 90 sq. in. Working pressure by Rules 236 lbs. ✓
Tubes: Material Solid drawn steel External diameter { Plain 3 1/2" Stay 3 1/2" Thickness { 7/16" 3/8" 5/16" No. of threads per inch 9. ✓
Pitch of tubes 4 3/4" x 4 5/8" Working pressure by Rules 260 lbs. ✓ Manhole compensation: Size of opening in shell plate 14" x 20 1/2" Section of compensating ring 36" x 32" x 1 7/32" No. of rivets and diameter of rivet holes 30 x 1 1/2" ✓
Outer row rivet pitch at ends 10 1/8" Depth of flange if manhole flanged 3 1/2" ✓ Steam Dome: Material steel. ✓
Tensile strength 26-30 tons Thickness of shell 15/16" Description of longitudinal joint Y. R. Lap. ✓
Diameter of rivet holes 1 3/16" Pitch of rivets 4 1/4" Percentage of strength of joint { Plate 72 Rivets 73.7 ✓
Internal diameter 36" Working pressure by Rules 515 lbs. ✓ Thickness of crown 1" No. and diameter of stays ✓ Inner radius of crown 36" Working pressure by Rules 292 lbs. ✓
How connected to shell neck ring, riveted ✓ Size of doubling plate under dome ✓ Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 1 5/16" x 9.07" ✓

Type of Superheater Smoke tube ✓ Manufacturers of Tubes { The Superheater Co. Ltd. Manchester ✓
Number of elements 4 G. Material of tubes { steel forgings ✓
Material of headers steel forgings ✓ Tensile strength { 20 m.m. 2 1/2 m.m. ✓
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 1.76 sq Are the safety valves fitted with easing gear Yes ✓ Working pressure as per Rules Appx. 225 lbs. Pressure to which the safety valves are adjusted 230 lbs. ✓ Hydraulic test pressure: tubes castings and after assembly in place 675 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. R. Forrage Manufacturer. DIRECTOR.

Dates of Survey { During progress of work in shops - - } while building { During erection on board vessel - - }

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

Total No. of visits

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. Boiler 469. W. H. P. Rpt No. 17539.

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 for a working pressure of 225 lbs per sq. inch. The materials and workmanship have been found good and upon completion the Boiler was tested by hydraulic pressure 387 lbs per sq. inch with satisfactory results.

The Boiler will be forwarded to Middlesbrough for fitting on board vessel intended for.

This boiler has been securely fitted aboard and its safety valves adjusted under steam.

P. J. Ma
Indb. 6.836

Survey Fee ... £ 16 : 12 : 0 When applied for, 21-5-1936
Travelling Expenses (if any) £ : : When received, 3-6-1936 adp

P. Brooke Smith

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 25 AUG 1936

Assigned

See Indb. F.E. 15773



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