

REPORT ON BOILERS.

No. 17418

Received at London Office 3 NOV 1934

Date of writing Report 29 October 1934 When handed in at Local Office 1-11-1934 Port of West Hartlepool

No. in Survey held at Hartlepool Date, First Survey 1st Oct Last Survey 29 Oct 1934

on the steam trawler "JEAN EVA" (Number of Visits 13) Tons { Gross 422 Net 161.

Master Built at South Bank By whom built Smith's Dock Co. Ltd. Yard No. 977 When built 1934

Engines made at South Bank By whom made Smith's Dock Co. Ltd. Engine No. 4440 When made 1934

Boilers made at Hartlepool By whom made Messrs Richardson Westgarth & Co. Ltd. Boiler No. D240 When made 1934

Indicated Horse Power Owners Consolidated Fisheries Ltd. Port belonging to Grimsby.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

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

Total Heating Surface of Boilers 2310 sq. ft. Is 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 384 lbs. Date of test 24-10-34 No. of Certificate 3823 Can each boiler be worked separately

Area of Firegrate in each Boiler 548 sq. ft. No. and Description of safety valves to each boiler Pair Cockerburns Improved High Lift

Area of each set of valves per boiler { per Rule 6.01 4 as fitted 7.94 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 bunkers and woodwork 1'-0" Is oil fuel carried in the double bottom under boilers No

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 10'9" Shell plates: Material Mild steel Tensile strength 29-33 tons

Thickness 1 17/32" Are the shell plates welded or flanged Description of riveting: circ. seams { end D.R. Lap. inter. 3 7/8" 10'8"

Long. seams T.R.D.B.S. Diameter of rivet holes in { circ. seams 17/16" long. seams 1 1/2" Pitch of rivets { 3 7/8" 10'8"

Percentage of strength of circ. end seams { plate 62.9 rivets 43.2 Percentage of strength of circ. intermediate seam { plate 85.18 rivets 84.74

Percentage of strength of longitudinal joint { plate 85.18 rivets 84.74 combined 87.27 Working pressure of shell by Rules 225.8 lbs.

Thickness of butt straps { outer 1 3/16" inner 1 5/16" No. and Description of Furnaces in each Boiler 3. Morrison type 204

Material Mild Steel Tensile strength 26-30 tons Smallest outside diameter 3'8 5/8"

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

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 225.8 lbs.

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

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

Tube plates: Material { front Mild steel Tensile strength 26-30 tons Thickness { 6 3/64" 7/8"

Mean pitch of stay tubes in nests 10 3/4" Pitch across wide water spaces 14 1/2" x 9" Working pressure { front 229 lbs. back 229 lbs.

Girders to combustion chamber tops: Material Mild steel Tensile strength 28-30 tons Depth and thickness of girder

At centre 9 1/4" x 7/8" Length as per Rule 34" Distance apart 8 3/4" No. and pitch of stays

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

Tensile strength 26-30 tons Thickness: Sides 1 1/16" Back 2 3/32" Top 1 1/16" & 2 1/32" Bottom 1"

Pitch of stays to ditto: Sides 9" x 8" Back 9 5/8" x 7 5/8" Top 8 3/4" x 8" Are stays fitted with nuts or riveted over Nuts.

Working pressure by Rules 228 lbs, 240 lbs, 235 lbs. Front plate at bottom: Material Mild steel Tensile strength 26-30 tons

Thickness 6 3/64" Lower back plate: Material Mild steel Tensile strength 26-30 tons Thickness 1 5/16"

Pitch of stays at wide water space 15 1/4" x 7 5/8" Are stays fitted with nuts or riveted over Nuts.

Working Pressure 248 lbs. Main stays: Material Mild 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. in. 297.55 sq. in.

Over threads 225.9 lbs. Screw stays: Material Mild steel Tensile strength 26-30 tons

Working pressure by Rules 225.9 lbs. Diameter { At turned off part, 1 3/4" No. of threads per inch 9 Area supported by each stay 43.4 sq. in.

Over threads 1 3/4"

Working pressure by Rules 244 lbs. Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, 1 7/8"
 No. of threads per inch 9. Area supported by each stay 94.359 ins. Working pressure by Rules 226 lbs.
 Tubes: Material Iron lapwelded External diameter { Plain 3 1/2" Thickness 7/16" No. of threads per inch (6) 9
 Pitch of tubes 5" x 4 1/2" 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. 1 1/2"
 Outer row rivet pitch at ends 10 1/8" Depth of flange if manhole flanged ✓ Steam Dome: Material Mild steel.
 Tensile strength 26-30 tons Thickness of shell 15/16" Description of longitudinal joint T. R. L.
 Diameter of rivet holes 1 3/16" Pitch of rivets 4 1/4" Percentage of strength of joint { Plate 72
 Internal diameter 36" Working pressure by Rules 515 lbs. Thickness of crown 1" Rivets 73.7
 stays ✓ Inner radius of crown 36" Working pressure by Rules 292 lbs. No. and diameter of
 How connected to shell Riveted Size of doubling plate under dome ✓ Diameter of rivet holes and pitch
 of rivets in outer row in dome connection to shell 15/16" x 9.07"
 Type of Superheater Smoke tube Manufacturers of { Tubes The Superheater Co. Ltd. Manchester.
 Number of elements 49 Material of tubes Solid drawn steel Steel castings for joints. Internal diameter and thickness of tubes 19 mm. 3 mm.
 Material of headers Steel forgings. Tensile strength ✓ Thickness 1" 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 1.76 sq. Are the safety valves fitted with easing gear Yes. Working pressure as per
 Rules app. 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 23 inclusive for boilers been complied with ✓

The foregoing is a correct description,
W. E. Forrester Manufacturer.
 DIRECTOR.

Dates of Survey { During progress of work in shops - - - 1934 Oct. 2, 4, 5, 8, 10, 12, 15, 17, 19, 22, 24, 29
 while building { During erection on board vessel - - -
 Are the approved plans of boiler and superheater forwarded herewith No.
 (If not state date of approval.) 22-8-34.
 Total No. of visits 13

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 square inch. The materials and workmanship have been found good. Upon completion the Boiler was tested by hydraulic pressure of 387 lbs per square inch with satisfactory results. The Boiler is to be dispatched to Middlesbrough for fitting on board the vessel.

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

Survey Fee £ 15-8-0
 Travelling Expenses (if any) £ 16-12-0

When applied for, 2-11-1934
 When received, 14/12/1934

P. Brooke Smith

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 21 DEC 1934

Assigned

Sec Ind. 26 15287



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