

REPORT ON BOILERS.

No. 5358.

Received at London Office 12 MAR 1946

81 MAR 1946

Date of writing Report 10 When handed in at Local Office 10 Port of Hull

No. in Survey held at Hull Date, First Survey 18. 8. 45 Last Survey 18. 2. 19 46

on the JOSENA (Number of Visits 28.) Gross Tons 361 Net Tons 139

Built at Beverley By whom built Cook Wellin & Gemmill L. Yard No. 761 When built 1946

Engines made at Hull By whom made Chas D Holmes L. Engine No. 1721 When made -

Boilers made at Hull By whom made Chas D Holmes L. Boiler No. 1721 When made -

Nominal Horse Power Owners The Trident Steam Fishing Co. Ld. Port belonging to Hull

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby Frodingham Steel Co Ld. (Letter for Record 5)

Total Heating Surface of Boilers 1710 sq ft. Is forced draught fitted no Coal or Oil fired Coal

No. and Description of Boilers One single end cylindrical multitubular boiler Working Pressure 210 lbs

Tested by hydraulic pressure to 365 lbs Date of test 12.12.45 No. of Certificate 4258 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler 52 sq ft. No. and Description of safety valves to each boiler One 2 1/2" Double Spring Ordinary

Area of each set of valves per boiler { per Rule 9.5 sq in. as fitted 9.8 " Pressure to which they are adjusted 215 lbs Are they fitted with easing gear 460 ✓

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 12" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating None Is the bottom of the boiler insulated no

Largest internal dia. of boilers 14' 3 1/2" Length 10' 8" Shell plates: Material Steel Tensile strength 31-35 tons/sq in.

Thickness 1 1/4" Are the shell plates welded or flanged no Description of riveting: circ. seams { end D.R. Lap inter. ✓

long. seams T.R.D.B.S. Diameter of rivet holes in { circ. seams 1 5/16" Pitch of rivets { 3 3/4" rivets ✓

Percentage of strength of circ. end seams { plate 65.3 rivets 45.2 Percentage of strength of circ. intermediate seam { plate 85.1 rivets 85.8

Percentage of strength of longitudinal joint { plate 85.1 rivets 85.8 combined 87.6

Thickness of butt straps { outer 3 1/32" inner 1 3/32" No. and Description of Furnaces in each Boiler Three Brighton Section Corrugated Furnaces

Material Steel Tensile strength 26-30 tons/sq in. Smallest outside diameter 3' 5 3/4"

Length of plain part { top Thickness of plates { crown 5/8" bottom 5/8" Description of longitudinal joint welded ✓

Dimensions of stiffening rings on furnace or c.c. bottom none

End plates in steam space: Material Steel Tensile strength 26-30 tons/in² Thickness 1 3/16" Pitch of stays 18 1/2" x 19"

How are stays secured Double nuts + washers

Tube plates: Material { front Steel Tensile strength 26-30 tons/in² Thickness { 15/16" 7/8" back " " " " " " " "

Mean pitch of stay tubes in nests 9 3/4" x 9 3/4" Pitch across wide water spaces 14"

Girders to combustion chamber tops: Material Steel Tensile strength 29-33 tons/in² Depth and thickness of girder

at centre 10" x 7/8" Length as per Rule 2' - 8 29/32" Distance apart 10 1/2" No. and pitch of stays

in each Three at 8" centres Combustion chamber plates: Material Steel Tensile strength 26-30 tons/sq in.

Tensile strength 26-30 tons/in² Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 25/32" ✓

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

Front plate at bottom: Material Steel Tensile strength 26-30 tons/sq in.

Thickness 15/16" Lower back plate: Material Steel Tensile strength 26-30 tons/in² Thickness 7/8" ✓

Pitch of stays at wide water space 14" x 9 5/8" Are stays fitted with nuts or riveted over nuts ✓

Main stays: Material Steel Tensile strength 28/32 tons/sq in.

Diameter { At body of stay, or Over threads } 3 1/8" No. of threads per inch 8 ✓

Screw stays: Material Steel Tensile strength 26-30 tons

Diameter { At turned off part, or Over threads } 1 3/4" No. of threads per inch 10 ✓

"JOSENA"

Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part, ✓
or Over threads 2" & 2 1/8"

No. of threads per inch 10 ✓

Tubes: Material Steel ✓ External diameter { Plain 3 1/2" ✓
Stay 3 1/2" ✓ Thickness { 8 WG ✓
5/16, 3/8, 7/16 No. of threads per inch 9 ✓

Pitch of tubes 4 7/8" x 4 7/8" ✓ Manhole compensation: Size of opening in shell plate 16 x 12" ✓ Section of compensating ring 4' 9 1/2" DIA x 1 1/4" TK. No. of rivets and diameter of rivet holes 122 - 1 1/32"

Outer row rivet pitch at ends 10.35" ✓ Depth of flange if manhole flanged Top 3 1/4" Bot 3 3/8" ✓ Steam Dome: Material Steel

Tensile strength 26-30 tons m² Thickness of shell 3/4" Description of longitudinal joint S. R. LAP.

Diameter of rivet holes 1 1/32" Pitch of rivets 2 1/4" Percentage of strength of joint { Plate 54%
Rivets 43.8%

Internal diameter 2' 9" Thickness of crown 7/8" No. and diameter of stays 2 at 2 1/4" dia. Inner radius of crown Flat. ✓

How connected to shell Double row spoints Size of doubling plate under dome 4' 9 1/2" D. x 1 1/4" TK. Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 1 1/32" at 3 3/4" pitch. ✓

Type of Superheater NONE Manufacturers of { Tubes
Steel forgings
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 _____

Area of each safety valve _____ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler _____

Pressure to which the safety valves are adjusted _____ Are the safety valves fitted with easing gear _____

tubes _____ forgings and castings _____ and after assembly in place _____ Hydraulic test pressure: _____

valves fitted to free the superheater from water where necessary _____ Are drain cocks or _____

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with YES ✓

The foregoing is a correct description,
FOR CHARLES D. HAYES & CO., LTD.
D. W. Evans Manufacturer.
Manager

Dates of Survey { During progress of work in shops - - 1945. Aug 18. 29. Sept 5. 14. 20. Oct 5. 22. 31.
while building { During erection on board vessel - - - Nov. 6. 9. 19, Dec. 6. 12. 18. 1945. Jan 10.

Are the approved plans of boiler and superheater forwarded herewith 23. 4. 45.
(If not state date of approval.)

See machinery logs Total No. of visits 28.

Is this Boiler a duplicate of a previous case YES If so, state Vessel's name and Report No. "NAVENA" Hull RPT. NO. 53310

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

This boiler has been built and installed under Special Survey in accordance with the Society's Rules and Regulations and the Secretary's letters.

The workmanship and materials are good.

Boiler tested by 365 lb hydraulic pressure, examined under steam, safety valves adjusted as overleaf, accumulation test held and boiler found satisfactory on completion of all tests.

Survey Fee £ : : } When applied for, 19

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

W. S. Shields
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 22 MAR 1946

Assigned Su F.E. machy. rpt.

