Rpt. 5a.

REPORT ON BOILERS.

No. 53549

Received at London Office - 1 JUL 1946

Date of writing Report ____ 19 ____ When handed in at Local Office ____ 19 ____ Port of Hull

No. in Reg. Book. ____ Survey held at Hull ____ Date, First Survey 29.8.45 ____ Last Survey 16th Apr 1946

on the Steam Trawler "ST. JOHN" (Number of Visits ✓) Tons Gross 136 Net 92

Built at Beverley By whom built Cook, Welton & Gemmell Ltd. Yard No. 763 When built 1946

Engines made at Hull By whom made Chas. D. Holmes & Co. Ltd. Engine No. 1725 When made ____

Boilers made at Do. By whom made Do. Boiler No. 1725 When made ____

Nominal Horse Power ____ Owners St. Andrews Stm. Fishing Co. Ltd. Port belonging to ____

MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY, OR DONKEY~~.

Manufacturers of Steel Steel Co. of Scotland ✓ (Letter for Record S ✓)

Total Heating Surface of Boilers 2480 Ft² / 1100 Sq. Ft. } Total 3,580 Ft². ✓ forced draught fitted YES ✓ Coal or Oil fired Oil ✓

No. and Description of Boilers One single end multitubular cylindrical ✓ **Working Pressure** 220 lb. ✓

Tested by hydraulic pressure to 380 lb Date of test 15/3/46 No. of Certificate 4264 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 3½ D.S. ORDY. ✓ (This figure was obtained by including superheat. surface)

Area of each set of valves per boiler { per Rule 19.04 In² 13.2 D" / as fitted 19.2 In² } Pressure to which they are adjusted 225 lb ✓ 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 sea~~ 8 ft 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 15'-6" ✓ Length 11'-0" ✓ **Shell plates:** Material STL ✓ Tensile strength 31-35 Tons/In² ✓

Thickness 1 13/32" ✓ 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 13/32" ✓ / long. seams 1 1/16" ✓ } Pitch of rivets { 3¾" ✓ / 9⅜" ✓ }

Percentage of strength of circ. end seams { plate 62 / rivets 57 } Percentage of strength of circ. intermediate seam { plate ____ / rivets ____ }

Percentage of strength of longitudinal joint { plate 84.6 ✓ / rivets 85.7 ✓ / combined 86.5 ✓ }

Thickness of butt straps { outer 1 3/32" ✓ / inner 1 7/32" ✓ } **No. and Description of Furnaces in each Boiler** THREE CORRUGATED, DEIGHTON TYPE ✓

Material STL. ✓ Tensile strength 26-30 Tons In² ✓ Smallest outside diameter 3'-9 1/8" ✓

Length of plain part { top ____ / bottom ____ } Thickness of plates { crown / bottom } 11/16" ✓ Description of longitudinal joint WELDED ✓

Dimensions of stiffening rings on furnace or c.c. bottom NONE ✓

End plates in steam space: Material STL. ✓ Tensile strength 26-30 Tons In² ✓ Thickness 1 7/32" ✓ Pitch of stays 18¾" × (19") 19¾

How are stays secured Double nuts & washers. ✓

Tube plates: Material { front STL ✓ / back STL ✓ } Tensile strength { 26-30 Tons In² ✓ / Do. } Thickness { 15/16" ✓ / 29/32" ✓ }

Mean pitch of stay tubes in nests 9½ ✓ × 9¾" ✓ Pitch across wide water spaces 14¼" ✓

Girders to combustion chamber tops: Material STL. ✓ Tensile strength 29-33 Tons In² ✓ Depth and thickness of girder at centre 9½" ✓ Two 7/8" ✓ Length as per Rule 2'-9 3/8" ✓ Distance apart 9¼" & 8" ✓ No. and pitch of stays in each THREE 7¾" ✓

Combustion chamber plates: Material STL. ✓ Tensile strength 26-30 Tons In² ✓ Thickness: Sides 23/32" ✓ Back 23/32" ✓ Top (Plain) 11/16 23/32" ✓ Bottom 7/8" ✓

Pitch of stays to ditto: Sides 9½ × 8¼" ✓ Back 9¾ × 8¼" ✓ Top 9¼" × 7¾" ✓ Are stays fitted with nuts or riveted over NUTS ✓

Front plate at bottom: Material STL. ✓ Tensile strength 26-30 Tons In² ✓ Thickness 15/16" ✓

Lower back plate: Material STL. ✓ Tensile strength 26-30 Tons In² ✓ Thickness 29/32" ✓

Pitch of stays at wide water space 14¼" × 8¼" ✓ Are stays fitted with nuts or riveted over NUTS ✓

Main stays: Material STL ✓ Tensile strength 28-32 Tons In² ✓

Diameter { At body of stay. / or / Over threads } 3¼" ✓ No. of threads per inch 8 ✓

Screw stays: Material STL ✓ Tensile strength 26-30 Tons In² ✓

Diameter { At turned off part, / or / Over threads } 1¾" ✓ No. of threads per inch 10 ✓

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"ST. JOHN"

Are the stays drilled at the outer ends NO ✓ Margin stays: Diameter { At turned off part, or Over threads } ✓ 1 7/8", 2", 2 1/8".

No. of threads per inch 10

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

Pitch of tubes 4 7/8" × 4 3/4"

Manhole compensation: Size of opening in shell plate 16" × 12" ✓ Section of compensating ring 4'-11 1/4" DIA × 1 13/32" ✓ No. of rivets and diameter of rivet holes 118. 1 7/16". ✓

Outer row rivet pitch at ends 4'-6 3/4" PCD Depth of flange if manhole flanged 3 1/4" ✓ In dome **Steam Dome:** Material STL. ✓

Tensile strength 26-30 TONS/IN² 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 TWO 2 3/8" ✓

Inner radius of crown FLAT. ✓

How connected to shell D.R. ✓ Size of doubling plate under dome 4'-11 1/4" DIA × 1 13/32" TK. Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 1 7/16". 3'-9 3/4" P.C.D.

Type of Superheater The Superheater Co Altrincham Manufacturers of { Tubes, Steel forgings, Steel castings } See Manchester Dept.

Number of elements 48 ✓ Material of tubes STL. ✓ Internal diameter and thickness of tubes

Material of headers Cast Stl. Tensile strength Thickness 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 1·77 IN² Are the safety valves fitted with easing gear YES ✓

Pressure to which the safety valves are adjusted 225 lb. ✓ Hydraulic test pressure: tubes 660 lb ✓ forgings and castings 660 lb. ✓ and after assembly in place 660 lb ✓ 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. ✓

Heating Surface of Sph. = 1,100 FT². ✓

The foregoing is a correct description,

FOR CHARLES D. HOLMES & CO. LTD. MANCHESTER

W. R. Evans Manufacturer.

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

Are the approved plans of boiler and superheater forwarded herewith 26.7.45. (If not state date of approval.)

Total No. of visits

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

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

This boiler has been constructed and installed under Special Survey in accordance with the Secretary's letter, the approved plans and the Rules. The workmanship and materials are good. Boiler has been tested by 380 lb hydraulic pressure, examined under steam, safety valves adjusted as overleaf, accumulation test held and found satisfactory on completion of all tests.

Survey Fee ... ... £ : See machy dept

Travelling Expenses (if any) £

When applied for, 19

When received, 19

W. S. Shields.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 26 JUL 1946

Assigned See F.E. machy. dept.

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