

REPORT ON BOILERS.

No. 58680

12 SEP 1952

Received at London Office

26 SEP 1952

Date of writing Report 19..... When handed in at Local Office 19..... Port of Hull
 No. in g. Book. Survey held at Hull Date, First Survey 13. 12. 51. Last Survey 25. 8. 19. 52
 on the S. Se. Steam Trawler "St Celestin" (Number of Visits 23)
 Gross 790
 Net 287
 Built at Beverley By whom built Cook, Welton & Gemmel Ltd Yard No. 864 When built 1952
 Engines made at Hull By whom made Charles D Holmes & Co Ltd Engine No. 1832 When made 1952
 Boilers made at Hull By whom made - do - Boiler No. 1832 When made 1952
 Nominal Horse Power 238 MN Owners J. Hamling & Co Ltd Port belonging to Hull

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby-Frodingham Steel Co Ltd (Letter for Record S)
 Total Heating Surface of Boilers 3125 sq ft Superheater 1250 sq ft Is forced draught fitted Yes Coal or Oil fired Oil
 No. and Description of Boilers One S.E. Cylindrical return tube Working Pressure 225 lbs
 Tested by hydraulic pressure to 390 lbs Date of test 28-5-52 No. of Certificate 4383 Can each boiler be worked separately Yes
 Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler One 2 3/4" double spring I.H.L.
 Area of each set of valves per boiler { per Rule, approved Pressure to which they are adjusted 225 lbs Are they fitted with easing gear Yes
 as fitted, 11-8" sq in
 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 4 ft Is oil fuel carried in the double bottom under boilers ✓
 Smallest distance between shell of boiler and tank top plating Open floors Is the bottom of the boiler insulated No
 Largest internal dia. of boilers 16'-2 3/4" Length 11'-9" Shell plates: Material steel Tensile strength 31-35 tons
 Thickness 1 3/16" Are the shell plates welded or flanged No Description of riveting: circ. seams 1 15/32" end D.R. lap
 long. seams 1 9/16" Pitch of rivets 3 7/8"
 g. seams Treble rivetted double butt Diameter of rivet holes in { circ. seams 1 15/32" Pitch of rivets 10 1/4"
 long. seams 1 9/16"
 Percentage of strength of circ. end seams { plate 62.2 Percentage of strength of circ. intermediate seam { plate ✓
 rivets 42.8 rivets ✓
 Percentage of strength of longitudinal joint { plate 84.76 Working pressure of shell by Rules approved
 rivets 85.84 combined 86.68
 Thickness of butt straps { outer 1 5/32" No. and Description of Furnaces in each Boiler 3-Deighton type corrugated
 inner 1 9/32" Tensile strength 26-30 tons Smallest outside diameter 4'-0"
 Material steel Thickness of plates { crown 4 7/16" Description of longitudinal joint Elec welded
 bottom ✓ Working pressure of furnace by Rules approved
 Length of plain part { top ✓ Thickness of plates 1 3/32" Pitch of stays 19 1/2"
 bottom ✓ Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules approved
 Plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 3/32" Pitch of stays 19 1/2"
 How are stays secured Double nuts and 12" x 3 1/2" plate washers Working pressure by Rules approved
 Front plates: Material { front steel Tensile strength 26-30 tons Thickness 3 1/32"
 back steel Tensile strength 26-30 tons Thickness 29 1/32"
 In pitch of stay tubes in nests 10-969" Pitch across wide water spaces 14 3/4" Working pressure { front approved
 back approved
 Girders to combustion chamber tops: Material steel Tensile strength 29-33 tons Depth and thickness of girder
 Centre 10 1/2" 1" thick Length as per Rule 3' 1" Distance apart 9" No. and pitch of stays
 each EW to c.c. Working pressure by Rules approved Combustion chamber plates: Material steel
 Tensile strength 26-30 tons Thickness: Sides 3 1/4" Back 23 1/32" Top 23 1/32" Bottom 15 1/16"
 Pitch of stays to ditto: Sides 9 3/4" x 8" Back 9 1/2" x 8 1/4" Top Welded Are stays fitted with nuts or riveted over nuts fitted
 Working pressure by Rules approved Front plate at bottom: Material steel Tensile strength 26-30 tons
 Thickness 3 1/32" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 29 1/32"
 Pitch of stays at wide water space 14 3/8" Are stays fitted with nuts or riveted over nuts fitted
 Working pressure approved Main stays: Material steel Tensile strength 28-32 tons
 Meter { At body of stay ✓ No. of threads per inch 8 Area supported by each stay approved
 Over threads 3 3/8" Screw stays: Material steel Tensile strength 26-30 tons
 Working pressure by Rules approved No. of threads per inch 10 Area supported by each stay approved
 Meter { At turned off part ✓ Over threads 1 3/4"

004918-004926-0053

Working pressure by Rules *approved* Are the stays drilled at the outer ends *No* Margin stays: Diameter *At turned off part 1 3/8" 2" 2 1/8"*
No. of threads per inch *10* Area supported by each stay *approved* Working pressure by Rules *approved*
Tubes: Material *seamless steel* External diameter *Plain 3 1/2" Stay 3 1/2"* Thickness *7/16" 3/8" 7/16"* No. of threads per inch *9*
Pitch of tubes *4 3/4" x 4 3/4"* Working pressure by Rules *approved* Manhole compensation: Size of opening
shell plate *12" x 16"* Section of compensating ring *36 1/2" x 1 3/4"* No. of rivets and diameter of rivet holes *106 - 1 1/2"*
Outer row rivet pitch at ends *10 3/4"* Depth of flange if manhole flanged *3 1/4" in dome* Steam Dome: Material *steel*
Tensile strength *26-30* Thickness of shell *3/4"* Description of longitudinal joint *single rivetted 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"* Working pressure by Rules *approved* Thickness of crown *15/16"* No. and diameter
stays *2 - 2 3/8"* Inner radius of crown *flat* Working pressure by Rules *approved*
How connected to shell *Double rivetted* Size of doubling plate under dome *4'-11 1/4" x 1 3/4"* Diameter of rivet holes and pitch
of rivets in outer row in dome connection to shell *1 1/2" 4" pitch*
Type of Superheater *Melisco* Manufacturers of *See Manchester Certificates*
Number of elements *53* Material of tubes *steel* Internal diameter and thickness of tubes *20"m 2.5"m*
Material of headers *steel* Tensile strength *✓* Thickness *✓* Can the superheater be shut off *Yes*
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 *3.14 sq. in.* Are the safety valves fitted with easing gear *Yes* Working pressure as *✓*
Rules *approved* Pressure to which the safety valves are adjusted *230 lbs/sq. in.* Hydraulic test pressure
tubes *1000 lbs* forgings and castings *675 lbs/sq. in.* and after assembly in place *675 lbs/sq. in.* Are drain cocks
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,
FOR CHARLES D. HOLMES & CO., LTD.

Dates of Survey while building *1951 Dec. 13.*
During progress of work in shops *1952 Jan. 24, 28, Feb. 4, 25, Mar. 2, 5, Apr. 21, 25, May 6, 14, 20, 28.*
During erection on board vessel *See Rpt. 4*
Are the approved plans of boiler and superheater forwarded herewith *4-8-51*
(If not state date of approval.)
Total No. of visits *23*

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.)
The boiler has been constructed and installed under Special Survey in accordance with the Secretary's letters, approved plans and the Rules.
The materials and workmanship are good.
The boiler was examined under hydraulic test of 390 lbs per sq. in. on completion and found sound and tight.
The safety valves were adjusted under steam to 225 lbs per sq. in. and an accumulation test held.

See Machy Report.
Survey Fee *£* : : When applied for *19*
Travelling Expenses (if any) *£* : : When received *19*

F.A. Macfarlane
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI 17 OCT 1952*

Assigned *See F.E. Machy rpt.*