

pt. 5a
IV-D
C 1949

REPORT ON BOILERS.

No. 14875

Received at London Office 2 DEC 1949

Boiler Report

When handed in at Local Office 30/11/1949 Port of Beefort

No. in Survey held at Beefort

Date, First Survey June 20th 1949 Last Survey 3rd Nov. 1949

(Number of Visits 24) Gross 8655 Tons Net

on the H.L. British Commander

Boiler built at Govan, Glasgow By whom built Harland & Wolff Ltd. Yard No. 13989 When built 1950

Engines made at Glasgow By whom made Harland & Wolff Ltd. Engine No. 13989 When made 1950

Boilers made at Beefort By whom made Harland & Wolff Ltd. Boiler No. 13986 When made

Nominal Horse Power Owners Port belonging to

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles (Letter for Record S.)

Total Heating Surface of Boilers 2047 x 2 sq. ft. Is forced draught fitted Yes Coal or Oil fired Oil & kch. fuses.

No. and Description of Boilers 2 Cylindrical smoke tube type Working Pressure 150 lb sq. in.

Tested by hydraulic pressure to 275 lb. Date of test 19.10.49 No. of Certificate 1435 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler @ 2 1/4 dia improved high lift double safety valve.

Area of each set of valves per boiler {per Rule 17.75 sq. in. as fitted 0.00 Pressure to which they are adjusted 150 lb sq. in. Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler no

Smallest distance between boilers or uptakes and bunkers or woodwork ✓ Is oil fuel carried in the double bottom under boilers 802 lbs fuel over 24/1/50

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

Largest internal dia. of boilers 12'-10 3/8" Length 11'-6" Shell plates: Material Steel Tensile strength 29.33 tons

Thickness 29/32" Are the shell plates welded or flanged no Description of riveting: circ. seams {end DR inter. DR

Long. seams T.R.D.B.S. Diameter of rivet holes in {circ. seams 1 3/32" long. seams 1 1/32" Pitch of rivets {3.08" 6 9/16"

Percentage of strength of circ. end seams {plate 64.5 rivets 53.0 Percentage of strength of circ. intermediate seam {plate 84.3 rivets 104

Percentage of strength of longitudinal joint {plate 84.3 rivets 104 combined 89.3 Working pressure of shell by Rules 155 lb sq. in.

Thickness of butt straps {outer 23/32" inner 27/32" No. and Description of Furnaces in each Boiler 2 Napton

Material Steel Tensile strength 26-30 tons sq. in. Smallest outside diameter 3'-8"

Length of plain part {top ✓ bottom ✓ Thickness of plates {crown 1/2" bottom 1/2" Description of longitudinal joint Forge Hdd.

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 163 lb sq. in.

End plates in steam space: Material Steel Tensile strength 26-30 tons sq. in. Thickness 5/16" Pitch of stays 16" x 15"

How are stays secured Nuts - in & out. Working pressure by Rules As approved.

End plates: Material {front Steel back Steel Tensile strength {26-30 tons sq. in. Thickness {7/8" 3/4" As approved.

Mean pitch of stay tubes in nests 8 5/16" Pitch across wide water spaces 13 1/4" Working pressure {front As approved. back As approved.

Orders to combustion chamber tops: Material Steel Tensile strength 28-32 tons sq. in. Depth and thickness of girder

Centre 9 1/2" x 1 1/32" Length as per Rule 32 1/2" Distance apart 9 3/8" No. and pitch of stays

each Welded. Working pressure by Rules As approved Combustion chamber plates: Material Steel

Tensile strength 26-30 tons sq. in. Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 3/4"

Pitch of stays to ditto: Sides 8 1/2" x 8 1/2" x 9" Back 8 1/4" x 9 1/2" Top ✓ Are stays fitted with nuts or riveted over at shell - others Welded.

Working pressure by Rules As approved Front plate at bottom: Material Steel Tensile strength 26-30 tons sq. in.

Thickness 7/8" Lower back plate: Material Steel Tensile strength 26-30 tons sq. in. Thickness 15/16"

Pitch of stays at wide water space 16 1/4" x 9 1/2" Are stays fitted with nuts or riveted over Welded.

Working Pressure As approved. Main stays: Material Steel Tensile strength 28-32 tons sq. in.

Diameter {At body of stay, 2 3/4" or Over threads. No. of threads per inch 6 Area supported by each stay Various.

Working pressure by Rules As approved. Screw stays: Material Steel Tensile strength 26-30 tons sq. in.

Diameter {At turned off part, 1 1/2" or Over threads. No. of threads per inch 9 Area supported by each stay 9 1/2" x 8 1/4"

Welded at shell only.
Welded in Combustion Chamber.

Working pressure by Rules *As approved* the stays drilled at the outer ends ✓ Margin stays: Diameter { At turned off part, $1\frac{3}{4} \times 2$ or Over threads }
 No. of threads per inch *Welded* ✓ Area supported by each stay Working pressure by Rules
 Tubes: Material *H.D.S.* External diameter { Plain $2\frac{1}{2}$ " ✓ Stay $2\frac{1}{2}$ " ✓ Thickness { 10 L.S.G. ✓ $\frac{1}{4}$ " $\frac{5}{16}$ " $\frac{13}{32}$ " No. of threads per inch *9* ✓
 Pitch of tubes $3\frac{3}{4} \times 3\frac{5}{8}$ " ✓ Working pressure by Rules *As approved*. Manhole compensation: Size of opening in shell plate $13\frac{3}{4}$ " ✓ Section of compensating ring $2'-8" \times 2'-4" \times \frac{3}{8}"$ No. of rivets and diameter of rivet holes *Welded to shell*
 Outer row rivet pitch at ends Depth of flange if manhole flanged Steam Dome: Material
 Tensile strength Thickness of shell Description of longitudinal joint
 Diameter of rivet holes Pitch of rivets Percentage of strength of joint { Plate Rivets }
 Internal diameter Working pressure by Rules Thickness of crown No. and diameter of stays
 How connected to shell Inner radius of crown Working pressure by Rules
 of rivets in outer row in dome connection to shell Size of doubling plate under dome Diameter of rivet holes and

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 the boiler be worked separately Is a safety valve fitted to every part of the superheater which can be shut off from the boiler
 Area of each safety valve Are the safety valves fitted with casing gear Working pressure as Rules Pressure to which the safety valves are adjusted Hydraulic test pressure tubes forgings and castings and after assembly in place Are drain cock valves fitted to free the superheater from water where necessary

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with *Yes*.
 For HARRISON AND WOLFF, LIMITED
 The foregoing is a correct description,
A. J. Murray Secretary

Dates of Survey { During progress of work in shops - - - June. 20. 23. 28. 30. July 6. 18. 19. 25. 28. Aug. 1. 10. 22. 25. Sept. 2. 9. 19. 20. 22. 23. Oct. 3. 13. 18. 28. Nov. 3. } Are the approved plans of boiler and superheater forwarded herewith No. (If not state date of approval.) *Approved letter 26. 11. 48. Plans retained for file*
 while building { During erection on board vessel - - - } Total No. of visits *24*

Is this Boiler a duplicate of a previous case *Yes*. If so, state Vessel's name and Report No. *13976. R/H No 14795.*

GENERAL REMARKS (State quality of workmanship, opinions as to class, etc.)
*These boilers have been built under special survey in accordance with the Rules and approved plan.
 The materials and workmanship are good.
 The boilers have been dispatched to Glasgow for installation in the vessel.*

These boilers have been efficiently installed in the vessel, been under steam, safety valves adjusted to 150 ± 0.5 p.s.i. and accumulation tests as per Rules carried out satisfactorily.
A. C. J. J. J.
 Glasgow
 January 1950.

Survey Fee ... £ 59 : 2 : - } When applied for, 30/11/1949
 Travelling Expenses (if any) £ : : } When received, 19

A. J. Murray
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute **GLASGOW** - 8 MAR 1950

Assigned SEE ACCOMPANYING MACHINERY REPORT.

