

REPORT ON BOILERS.

No. 100.416

Received at London Office

28 MAY 1942

26 MAY 1942

Writing Report

19

When handed in at Local Office

19

Port of

NEWCASTLE-ON-TYNE

Survey held at Newcastle on Tyne

Date, First Survey 26 Aug. 1941 Last Survey 7 May 1942

on the s/s "CONGONIAN."

(Number of Visits) Gross 6082 Net 3452

Built at Newcastle

By whom built Swan, Hunter & Wigham Richardson Ltd

Yard No. 1708 When built 1942-

made at Newcastle

By whom made ditto.

Engine No. 1708 When made 1942-

made at do.

By whom made ditto.

Boiler No. 1708 When made 1942-

al Horse Power

Owners United Africa Co.

Port belonging to Liverpool.

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

Manufacturers of Steel

The Steel Company of Scotland

(Letter for Record S.)

Heating Surface of Boilers 8682 sq ft

Is forced draught fitted Yes

Coal or Oil fired Oil fired

Description of Boilers 3. Single ended.

Working Pressure 220 lbs

Tested by hydraulic pressure to 380 lbs

Date of test 9/2/42

No. of Certificates 945, 946, 947.

Can each boiler be worked separately Yes

Area of Firegrate in each Boiler Oil fired

No. and Description of safety valves to each boiler Two of 2 1/2" dia Cockerill's Imp'd High Lift.

Area of each set of valves per boiler (per Rule 8.86 sq m)

as fitted 9.8

Pressure to which they are adjusted 220 lbs

Are they fitted with casing gear Yes

Use of donkey boilers, state whether steam from main boilers can enter the donkey boiler No Donkey Bk.

Least distance between boilers or uptakes and bunkers or woodwork 18"

Is oil fuel carried in the double bottom under boilers Yes

Least distance between shell of boiler and tank top plating 2'-5"

Is the bottom of the boiler insulated Yes

Minimum internal dia. of boilers 15'-9 1/2"

Length 11'-6"

Shell plates: Material S.

Tensile strength 30 to 34 tons

Thickness 1 15/32"

Are the shell plates welded or flanged No

Description of riveting: circ. seams (end D.R. Exp. inter. none)

Use of seams T.R. dble. butt straps

Diameter of rivet holes in (circ. seams 1 17/32" long. seams 1 13/32")

Pitch of rivets (4.534" 10 7/16")

Percentage of strength of circ. end seams (plate 66.22 rivets 42.4)

Percentage of strength of circ. intermediate seam (plate none rivets)

Percentage of strength of longitudinal joint (plate 85.32 rivets 86.33 combined 87.92)

Working pressure of shell by Rules 221 lbs.

Thickness of butt straps (outer 1 1/8" inner 1 1/4")

No. and Description of Furnaces in each Boiler Three "Deighton" Corrugated

Tensile strength 26 to 30 tons

Smallest outside diameter 47 1/2"

Thickness of plain part (top bottom)

Thickness of plates (crown 2 3/32" bottom)

Description of longitudinal joint Fire welded

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

Working pressure of furnace by Rules 222 lbs.

Plates in steam space: Material S.

Tensile strength 26 to 30 tons

Thickness 1 3/8"

Pitch of stays 20 1/2" x 19"

Are stays secured Nuts inside & outside (screwed thro front plate only)

Working pressure by Rules 227 lbs

Plates: Material (front back) S.

Tensile strength 26 to 30 tons

Thickness (15/16" 27/32")

Pitch of stay tubes in nests 8 1/2" x 12 3/4"

Pitch across wide water spaces 8 1/2" x 14"

Working pressure (front 225 lbs back 221 lbs)

Stays to combustion chamber tops: Material S.

Tensile strength 28 to 32 tons

Depth and thickness of girder

Size 10" x 3/4" x two

Length as per Rule 32 15/32"

Distance apart 10"

No. and pitch of stays

Quantity 3 @ 7 3/4"

Working pressure by Rules 222 lbs

Combustion chamber plates: Material S.

Tensile strength 26 to 30 tons

Thickness: Sides 27/32" Back 11/16" Top 27/32" Bottom 27/32"

Pitch of stays to ditto: Sides 9 5/8" x 10"

Back 8 7/16" x 8 7/8" Top 7 3/4" x 10"

Are stays fitted with nuts or riveted over with nuts

Working pressure by Rules 220 lbs

Front plate at bottom: Material S.

Tensile strength 26 to 30 tons

Thickness 15/16"

Lower back plate: Material S.

Tensile strength 26 to 30 tons

Thickness 1 1/32"

Pitch of stays at wide water space 8 7/8" x 14"

Are stays fitted with nuts or riveted over with nuts

Working Pressure 243 lbs

Main stays: Material S.

Tensile strength 28 to 32 tons

At body of stay, or Over threads 3 5/8"

No. of threads per inch 6

Area supported by each stay 450.9 sq in

Working pressure by Rules 226 lbs

Screw stays: Material S.

Tensile strength 26 to 30 tons

At turned up part, or Over threads 1 3/4"

No. of threads per inch 9

Area supported by each stay 73 sq in

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Working pressure by Rules 249th Are the stays drilled at the outer ends No Margin stays: Diameter 1 7/8" x 2"
 No. of threads per inch 9 Area supported by each stay 96.6 sq in (for 1 7/8") Working pressure by Rules 220th
 Tubes: Material S External diameter 3 1/4" Thickness 8 wg. 5/16, 3/8" No. of threads per inch 9
 Pitch of tubes 4 1/4" x 4 1/4" Working pressure by Rules 220th Manhole compensation: Size of open
 shell plate 20" x 16" Section of compensating ring 22 1/2" x 1 15/32" No. of rivets and diameter of rivet holes 38 @ 1 17/32"
 Outer row rivet pitch at ends 10 1/2" Depth of flange if manhole flanged 3" Steam Dome: Material None
 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 diam _____
 stays _____ Inner radius of crown _____ Working pressure by Rules _____
 How connected to shell _____ Size of doubling plate under dome _____ Diameter of rivet holes and Built at _____
 of rivets in outer row in dome connection to shell _____

Type of Superheater N.E. Mar. Smoke tube type Manufacturers of Tubes Galbot Stead Steel forgings Frodingham & S. Co Steel castings
 Number of elements 204 Material of tubes S. D. 5th Internal diameter and thickness of tubes 15 mm, 2 1/2 mm
 Material of headers Forged Steel Tensile strength 26 to 30 ton Thickness 1 1/8" Can the superheater be shut off
 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 3.96 sq in (2 1/4" dia) Are the safety valves fitted with easing gear Yes Working pressure
 Rules 220th Pressure to which the safety valves are adjusted 205th Hydraulic test pressure
 tubes 1500th forgings and castings 660th and after assembly in place 440th Are drain
 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

FOR SWAN, HORTON & CO. LTD. The foregoing is a correct description,
 G. J. Sweeney, Director, Manufacturer of the goods

Dates of Survey See Machinery Report Are the approved plans of boiler and superheater forwarded herewith 10/4
 while building During erection on board vessel 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.)
 These Boilers have been constructed under special survey in accordance with the approved plans and the Society's Rules, and the materials and workmanship are good.

The Boilers have been efficiently fitted on board the vessel, and tested under steam under working conditions with satisfactory results.
 See also Machinery Report H.

Survey Fee ... £ See Machinery Report When applied for, 10
 Travelling Expenses (if any) £ : : When received, 10
 A. Watt, Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute TUE 16 JUN 1942
 Assigned See NWC. J.C. 1004/6
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