

REPORT ON BOILERS.

No. 96422

JUL -9 1938

Date of writing Report 10 When handed in at Local Office 8/7/38 Received at London Office NEWCASTLE-ON-TYNE

No. in Reg. Book 1010 Survey held at Newcastle-on-Tyne Date, First Survey 27 Sept 1937 Last Survey 7th July 1938

on the "SAN DELFINO" (Number of Visits) Tons Gross Net

Master Built at Haverton Hill-on-Sea By whom built Furness S. B. Co Ltd Yard No. 283 When built 1938

Engines made at Newcastle-on-Tyne (S. Peles) By whom made R. W. Hawthorn Leslie & Co Ltd Engine No. 3941 When made 1938

Boilers made at Newcastle-on-Tyne (S. Peles) By whom made R. W. Hawthorn Leslie & Co Ltd Boiler No. 3941 When made 1938

Nominal Horse Power 502 Owners Eagle Oil & Shipping Co Ltd Port belonging to London

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

Manufacturers of Steel (Plates) The Steel Company of Scotland (Furnaces) Deighton & Co Ltd (Letter for Record 5)

Total Heating Surface of Boilers 3896 sq ft Is forced draught fitted yes Coal or Oil fired oil

No. and Description of Boilers 2 Single Ended (Dry Back) Working Pressure 180 lbs/sq"

Tested by hydraulic pressure to 320 lbs Date of test 5. 6-6-38 No. of Certificate 5. 781 Can each boiler be worked separately yes

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 2. Spring loaded. (Double)

Area of each set of valves per boiler Pressure to which they are adjusted Are they fitted with easing gear

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 Is oil fuel carried in the double bottom under boilers

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

Largest internal dia. of boilers 12' - 11 3/4" Length 11' - 0" Shell plates: Material Steel Tensile strength 28-32 tons

Thickness 1 1/32" Are the shell plates welded or flanged neither Description of riveting: circ. seams end DR lap

long. seams T.R.D.B.S. Diameter of rivet holes in circ. seams 1 1/16" Pitch of rivets 3.12"

Percentage of strength of circ. end seams rivets 66% Percentage of strength of circ. intermediate seam rivets 86.3%

Percentage of strength of longitudinal joint rivets 85.4% Working pressure of shell by Rules 182 lbs/sq"

Thickness of butt straps outer 25/32" inner 29/32" No. and Description of Furnaces in each Boiler 2 Corrugated Morrison Section

Material Steel Tensile strength 26-30 tons Smallest outside diameter 41 1/16"

Length of plain part top bottom Thickness of plates crown 1 1/32" bottom 1 1/32" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 187 lbs/sq"

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 1/16" Pitch of stays 18" x 15"

How are stays secured Double nuts Working pressure by Rules 189 lbs/sq"

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

Mean pitch of stay tubes in nests 8 9/16" Pitch across wide water spaces 14 1/2" x 3 3/4" Working pressure 195 lbs/sq"

Girders to combustion chamber tops: Material Tensile strength Working pressure 195 lbs/sq"

at centre Length as per Rule Distance apart No. and pitch of stays EXTERNAL COMBUSTION CHAMBER

in each Working pressure by Rules Combustion chamber plates: Material COMBUSTION CHAMBER

Tensile strength Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top Are stays fitted with nuts or riveted over

Working pressure by Rules Front plate at bottom: Material Steel Tensile strength 26-30 tons

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

Pitch of stays at wide water space 14 1/2" x 3 3/4" Are stays fitted with nuts or riveted over no

Working Pressure 195 lbs/sq" Main stays: Material Steel Tensile strength 28-32 tons

Diameter At body of stay 2 3/4" No. of threads per inch 6 Area supported by each stay 270 sq"

Working pressure by Rules Screw stays: Material None Tensile strength

Diameter At turned off part No. of threads per inch Area supported by each stay



W120-0095

Working pressure by Rules Are the stays drilled at the outer ends Margin stays: Diameter At turned off part, or Over threads.

No. of threads per inch Area supported by each stay Working pressure by Rules

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

Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules Plain 230 lbs / Stay 208 lbs Manhole compensation: Size of opening in shell plate 21" x 17" Section of compensating ring 19 1/2" x 1" No. of rivets and diameter of rivet holes 34 @ 1 3/16"

Outer row rivet pitch at ends 8" + 4 1/2" Depth of flange if manhole flanged 3 1/2" 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 diameter of stays _____ Inner radius of crown _____ Working pressure by Rules _____

How connected to shell _____ Size of doubling plate under dome _____ Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell _____

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 _____ 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 easing gear _____ Working pressure as per Rules _____ Pressure to which the safety valves are adjusted _____ Hydraulic test pressure _____ tubes _____ forgings and castings _____ and after assembly in place _____ Are drain cocks or 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

The foregoing is a correct description,
 W. HAWTHORN, LESLIE & CO. LIMITED
 R. Robinson, Manufacturer.

Dates of Survey During progress of work in shops - - Are the approved plans of boiler and superheater forwarded herewith Yes
 while building During erection on board vessel - - - (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.)

These boilers have been built under Special Survey in accordance with the Society's Rules and approved plan. The materials & workmanship are good.

These boilers have been sent to Messrs Furness S.B. Co Ltd Haverton Hill - on - Jess to be fitted on board.

Survey Fee ... £ 77 2/6 When applied for, 19
 Travelling Expenses (if any) £ See Incl. Report When received, 19

L. Pickett
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 18 OCT 1938
 Assigned See minute or L.C. machinery



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