

REPORT ON BOILERS.

No. 11976

JUL 15 1937

Received at London Office

Date of writing Report 10 When handed in at Local Office 10 Port of Belfast
see F.E. mch. report.

No. in Surrey held at Belfast Date, First Survey Last Survey 6-7-37 19
Reg. Book

on the SINGLE SCREW "DELIUS" GIL ENGINES (Number of Visits) Gross 6065
Tons Net 3749

Built at Belfast By whom built Harland & Wolff L^d Yard No. 980 When built 1937

Engines made at Belfast By whom made Harland & Wolff L^d Engine No. 980 When made 1937

Boilers made at Belfast By whom made Harland & Wolff L^d Boiler No. 980 When made 1937

Owners Lampson & Holt L^d Port belonging to Liverpool

VERTICAL DONKEY BOILER.

Made at Belfast By whom made Harland & Wolff L^d Boiler No. 980 When made 1937 Where fixed E.R.

Manufacturers of Steel Colvilles L^d

Total Heating Surface of Boiler 750⁰ Is forced draught fitted No Coal Oil fired and/or Gas

No. and Description of Boilers One Clarkson Shimble Tube Working pressure 120 lbs

Tested by hydraulic pressure to 230 lbs Date of test 22-4-37 No. of Certificate 1030

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler One 2 1/2" double opening Marine ordinary lift

Area of each set of valves per boiler { per rule 6.94⁰ } Pressure to which they are adjusted 120 lbs Are they fitted with easing gear Yes
as fitted 9.82⁰

State whether steam from main boilers can enter the donkey boiler ✓ Smallest distance between boiler or uptake and bunkers or-woodwork ✓

Is oil fuel carried in the double bottom under boiler ✓ Smallest distance between base of boiler and tank top plating ✓

Is the base of the boiler insulated No Largest internal dia. of boiler 6'-2 1/8" Height 16'-3"

Shell plates: Material S Tensile strength 26/32 ton Thickness 7/8"

Are the shell plates welded or flanged Yes at butt joints Description of riveting: circ. seams { end DR } long. seams Double
inter. ✓

Dia. of rivet holes in { circ. seams 1/16" } Pitch of rivets { 3.25" } Percentage of strength of circ. seams { plate 67.3 } of Longitudinal joint { plate 71.8 }
long. seams 1/8" } { 4.29" } { rivets 51.4 } { rivets 72.1 }
combined 79.9

Working pressure of shell by rules 150 lbs Thickness of butt straps { outer 1/2" }
inner 1/16"

Shell Crown: Whether ~~complete hemisphere~~, dished partial spherical, or flat Yes Material S

Tensile strength 26/30 Thickness 1 1/16" Radius 5'-6" Working pressure by rules 147.5

Description of Furnace: Plain, spherical, or dished crown Material Tensile strength

Thickness External diameter { top } Length as per rule Working pressure by rules
bottom

Pitch of support stays circumferentially and vertically Are stays fitted with nuts or riveted over

Diameter of stays over thread Radius of spherical or dished furnace crown Working pressure by rule

Thickness of Ogee Ring 3/32" Diameter as per rule { D 6'-0 1/2" } Working pressure by rule 123 lbs
a 3'-9 7/8"

Combustion Chamber: Material S Tensile strength 26/30 ton Thickness of top plate 9/16"

Radius if dished 3'-0" Working pressure by rule 127.7 Thickness of tube back plate 3/32" Diameter if circular 3'-7 15/16"

Length as per rule 6'-3" Pitch of stays Are stays fitted with nuts or riveted over ✓

Diameter of stays over thread Working pressure of Combustion Chamber back plate by rules 160 lbs

Tube Plates: Material { front } Tensile strength { } Thickness { } Mean pitch of stay tubes in nests
back

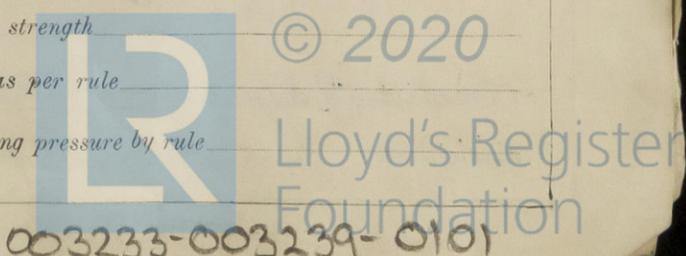
If comprising shell, Dia. as per rule { front } Pitch in outer vertical rows { } Dia. of tube holes FRONT { stay } BACK { stay }
back { } plain { } plain { }

Is each alternate tube in outer vertical rows a stay tube Working pressure by rules { front }
back { }

Girders to combustion chamber tops: Material Tensile strength

Depth and thickness of girder at centre Length as per rule

Distance apart No. and pitch of stays in each Working pressure by rule



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Crown stays: Material _____ Tensile strength _____ Diameter $\left\{ \begin{array}{l} \text{at body of stay,} \\ \text{or} \\ \text{over threads} \end{array} \right.$ _____
 No. of threads per inch _____ Area supported by each stay _____ Working pressure by rules _____

Screw stays: Material _____ Tensile strength _____ Diameter $\left\{ \begin{array}{l} \text{at turned off part,} \\ \text{or} \\ \text{over threads} \end{array} \right.$ _____ No. of threads per inch _____
 Area supported by each stay _____ Working pressure by rules _____ Are the stays drilled at the outer ends _____

Tubes: Material Steel External diameter $\left\{ \begin{array}{l} \text{Shell } 3\frac{1}{4} \\ \text{CC } 3\frac{1}{4} \end{array} \right.$ Thickness 9 B.W.G.
 No. of threads per inch \checkmark Pitch of tubes Shell No. 6 3/4 CC No. 6 4 3/8 Working pressure by rules \checkmark

Manhole Compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 28 1/4" x 24 1/4" x 1 1/2" No. of rivets and diameter in crown _____
 of rivet holes 40 - 1 1/8" Outer row rivet pitch at ends 3.53 Depth of flange if manhole flanged 16 x 12, 3 1/8"

Uptake: External diameter 1' - 10 3/16" Thickness of uptake plate 1/2"

Cross Tubes: No. \checkmark External diameters $\left\{ \begin{array}{l} \text{ } \\ \text{ } \end{array} \right.$ Thickness of plates \checkmark

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

The foregoing is a correct description,
 For HARLAND AND WOLFF, LIMITED,
A. G. Marshall Manufacturer,
 Assistant Secretary.

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of} \\ \text{work in shops - -} \end{array} \right.$ Is the approved plan of boiler forwarded herewith Yes
 while building $\left\{ \begin{array}{l} \text{During erection on} \\ \text{board vessel - -} \end{array} \right.$ (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 under Special Survey & is an approved design. The materials & workmanship are good. It has been satisfactorily tested by hydraulic pressure, installed & fastened on a platform at the aft end of the engine room. The safety valves were adjusted under steam, the accumulation test was satisfactory. In our opinion this boiler is eligible for use on a classed vessel.

Survey Fee ... £ 19 : When applied for, ... 19
 Travelling Expenses (if any) £ 19 : When received, ... 19

see Memo of 1/7

Charles J. Hunter, R. Lee Ames
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 30 JUL 1937
 Assigned Su other F.E. rpt

