

REPORT ON BOILERS.

No. 16873

Received at London Office 15 APR 1930

Date of writing Report 14.4.30 When handed in at Local Office 14.4.30 Port of Grimsby

No. in Reg. Book 40783 Survey held at Lincoln Date, First Survey 6.12.29 Last Survey 7.4.30

on the STEEL TWIN SC. INNISFALLEN (Number of Visits 10) Tons Gross Net

Built at Belfast By whom built Harland & Wolff Ltd. Yard No. 870 When built 1930

Engines made at Belfast By whom made Harland & Wolff Ltd. Engine No. 870 When made 1930

Boilers made at Lincoln By whom made Babcock & Wilcox, Ltd. Boiler No. 69/195 When made 1930

City of Cork Steam Packet Co. Ltd. Port belonging to Cork

VERTICAL DONKEY BOILER.

Made at Lincoln By whom made Babcock & Wilcox Ltd. Boiler No. 69/195 When made 1930 Where fixed Flat on main deck in main motor room

Manufacturers of Steel Parkgate Iron Works Ltd. Total Heating Surface of Boiler 802 sq. ft. Is forced draught fitted Coal or Oil fired Fuel gas Working pressure 80 lb

No. and Description of Boilers One, Spencer, Boucourt Waste Heat. Tested by hydraulic pressure to 160 lbs. Date of test 13-3-30 No. of Certificate 288

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler Two Spring-loaded Area of each set of valves per boiler per rule 12.66 sq. in. as fitted 14.12 sq. in. Pressure to which they are adjusted 80 lb. Are they fitted with easing gear Yes

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

Is oil fuel carried in the double bottom under boiler No. Is the base of the boiler insulated Largest internal dia. of boiler 7'-0" Height 13'-9 3/4"

Shell plates: Material S.M. steel Tensile strength 28/32 Tons Thickness 3/8"

Are the shell plates welded or flanged No. Description of riveting: circ. seams end S.M. Lap inter. long. seams D.R. D.B. straps

Dia. of rivet holes in circ. seams 13/16" Pitch of rivets 2 1/16" & 1 1/16" Percentage of strength of circ. seams plate 60 & 58 rivets 55 & 59 of Longitudinal joint plate 76 & 7 rivets 108 combined

Working pressure of shell by rules 93 lb. Thickness of butt straps outer 3/8" inner 3/8"

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat Flat Material S.M. steel Tensile strength 26/30 Tons Thickness 5/8" Radius Working pressure by rules 90 lb

Description of Furnace: Plain, spherical, or dished crown plain Material S.M. steel Tensile strength 26/30 Tons Thickness 5/8" External diameter top 4'-6" bottom 4'-11" Length as per rule 4'-3 1/4" Working pressure by rules 128 lb

Pitch of support stays circumferentially and vertically 9 1/2" Are stays fitted with nuts or riveted over Stay tubes & nuts

Diameter of stays over thread 1 7/8" Radius of spherical or dished furnace crown Working pressure by rule 97 lb

Thickness of Ogee Ring Diameter as per rule Working pressure by rule

Combustion Chamber: Material Tensile strength Thickness of top plate

Dia. if dished Working pressure by rule Thickness of back plate Diameter if circular

Length as per rule Pitch of stays Are stays fitted with nuts or riveted over

Diameter of stays over thread Working pressure of back plate by rules

End Plates: Material front S.M. steel back Tensile strength 26/30 T. Thickness 5/8" Mean pitch of stay tubes in nests 9 1/2"

Comprising shell, Dia. as per rule front back Pitch in outer vertical rows 9 1/2" Dia. of tube holes FRONT stay 1 5/8" plain 1 1/2" BACK stay plain

Each alternate tube in outer vertical rows a stay tube Working pressure by rules front 90 lb back

Ends to combustion chamber tops: Material Tensile strength Length as per rule Working pressure by rule

Thickness and thickness of girder at centre No. and pitch of stays in each Working pressure by rule

Crown stays: Material ✓ Tensile strength ✓ Diameter ✓ { at body of stay, ✓
 or over threads ✓
 No. of threads per inch ✓ Area supported by each stay ✓ Working pressure by rules ✓
Screw stays: Material ✓ Tensile strength ✓ Diameter ✓ { at turned off part, ✓
 or over threads ✓ No. of threads per inch ✓
 Area supported by each stay ✓ Working pressure by rules ✓ Are the stays drilled at the outer ends ✓
Tubes: Material S.B. M.S. External diameter { plain 1 1/2" ✓ Thickness { 11 Swg. ✓
 stay 1 5/8" ✓ 3/16" 2 1/4" ✓
 No. of threads per inch 9" ✓ Pitch of tubes 2 3/8" ✓ Working pressure by rules ✓
Manhole Compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 3 3/4" x 5 7/8" No. of rivets and diameter
 of rivet holes 40 - 3/4" Outer row rivet pitch at ends 3" Depth of flange if manhole flanged ✓
Uptake: External diameter ✓ Thickness of uptake plate ✓
Cross Tubes: No. 32 ✓ External diameters { 2 1/4" ✓ Tubes 10 Swg. & 3/16"
2 1/4" ✓ Thickness of plates ✓

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with ✓

The foregoing is a correct description,

Survey request form attached.

J. A. Smith

Manufacturer.

Dates of Survey { During progress of work in shops - 1929 Dec 18, Jan 2, 9, 22 Feb 26 Mar 7, 12, 13 Is the approved plan of boiler forwarded herewith
 while building { During erection on board vessel - ap 7 (If not state date of approval.)
 Total No. of visits 10

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey and in accordance with the Rules and approved plan as per Secty's letter 3/1/30. The materials and workmanship are good.

This boiler has been efficiently mounted and fastened on a flat of the main deck in the main motor room. The safety valves have been adjusted under steam and showed an accumulation of 2 lbs when the boiler was oil-fired. It was examined also under waste heat conditions accumulation 2 lbs. max gas temp. = 400° C. Exhaust gas is fitted.

R. Lee Annes
Belfast.

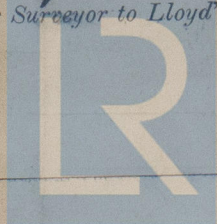
Survey Fee ... £ 5 : 6 : 9 When applied for, 22.3.30
 Travelling Expenses (if any) £ 2 : 4 : 9 When received, 13.5.30
See Sec's G.C.4.

W. G. H. Kinlay
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
Assigned

FRI. 4 JUL 1930

See F. E. Rpt.



Lloyd's Register
Foundation