

REPORT ON BOILERS.

No. 5442

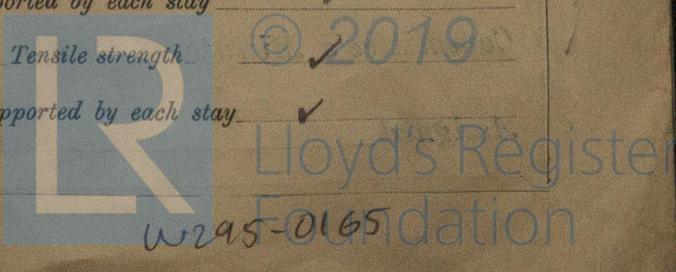
DEC 27 1939

Received at London Office

Report 11/12 1939 When handed in at Local Office 18/12 1939 Port of Oslo
by Rules Actual Survey held at Fredrikstad Moss Date, First Survey 29/9 Last Survey 29/11 1939
by Rules Actual the steel screw motor vessel "HELLESUND" (Number of Visits 8) Tons { Gross 366 Net 177
Built at Delfzijl By whom built Johs. Berg Yard No. When built 1916
at Trollhattan By whom made AB Nydqvist & Holm Engine No. 1093 When made 1939
at Fredrikstad By whom made Blommans Meh. Verkted Boiler No. When made 1939
orse Power Owners S/S S/S Veritas (O. Børesen) Port belonging to Oslo

TUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Suppliers of Steel Deutsche Rohrenwerke, Werk Thyssen, Colville Ltd. (Letter for Record 2/10/39)
Heating Surface of Boilers 20 m² Is forced draught fitted ho Coal or Oil fired oil
Description of Boilers one, multitubular, Working Pressure 7 kg/cm²
hydraulic pressure to 14 kg/cm² Date of test 20/10/39 No. of Certificate 127 Can each boiler be worked separately ✓
Register in each Boiler No. and Description of safety valves to each boiler Two spring loaded
Each set of valves per boiler { per Rule 16.57 cm² as fitted 22.8 " } Pressure to which they are adjusted 7 kg/cm² Are they fitted with easing gear Yes
Donkey boilers, state whether steam from main boilers can enter the donkey boiler ✓
Distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers ✓
Distance between shell of boiler and tank top plating Is the bottom of the boiler insulated
Internal dia. of boilers 1600 mm Length 1600 mm Shell plates: Material SM steel Tensile strength 44-55 kg/cm²
10.5 mm Are the shell plates welded or flanged ho Description of riveting: circ. seams { end SR inter. 43 mm }
Mark 3R. overlap. Diameter of rivet holes in { circ. seams 17 mm long. seams 17 " } Pitch of rivets { 76.5 " }
Mark of strength of circ. end seams { plate 60.5 rivets 39.08 } Percentage of strength of circ. intermediate seam { plate 77.7 rivets 74.4 }
Mark of strength of longitudinal joint { plate 77.7 rivets 74.4 } Working pressure of shell by Rules 9.2 kg/cm²
of butt straps { outer ✓ inner ✓ } No. and Description of Furnaces in each Boiler one plain
Tensile strength 41-47 kg/cm² Smallest outside diameter 628 mm
plain part { top 1545 mm bottom } Thickness of plates { crown 12.5 mm bottom 12.5 " } Description of longitudinal joint Elbow welded (butt joint)
with of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 10.5 kg/cm²
in steam space: Material M. steel Tensile strength 41-47 kg/cm² Thickness 21 mm Pitch of stays ✓
Stays secured no stays Working pressure by Rules 10.4 kg/cm²
Stays: Material { front SM steel back S.M. steel } Tensile strength 41-47 kg/cm² Thickness { 21 mm }
of stay tubes in nests 300 x 300 mm Pitch across wide water spaces ✓ Working pressure { front 7.8 kg/cm² back }
combustion chamber tops: Material ✓ Tensile strength ✓ Depth and thickness of girder ✓
Length as per Rule ✓ Distance apart ✓ No. and pitch of stays ✓
Working pressure by Rules ✓ Combustion chamber plates: Material ✓
Thickness: Sides ✓ Back ✓ Top ✓ Bottom ✓
Reinforcement to ditto: Sides ✓ Back ✓ Top ✓ Are stays fitted with nuts or riveted over ✓
Pressure by Rules ✓ Front plate at bottom: Material SM steel Tensile strength 41-47 kg/cm²
21 mm Lower back plate: Material SM steel Tensile strength 41-47 kg/cm² Thickness 21 mm
Stays at wide water space ✓ Are stays fitted with nuts or riveted over ✓
Pressure 8.2 kg/cm² Main stays: Material ✓ Tensile strength ✓
body of stay, or Register of ✓ No. of threads per inch ✓ Area supported by each stay ✓
Pressure by Rules ✓ Screw stays: Material ✓ Tensile strength ✓
turned off part, or ✓ No. of threads per inch ✓ Area supported by each stay ✓



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 3.4 mm / No. of threads per inch

Tubes: Material Steel External diameter Plain 3" (75mm) Thickness 8 mm Manhole compensation: Size

Pitch of tubes 100 x 100 mm Working pressure by Rules shell plate 400 x 300 mm Section of compensating ring 570 mm x 16 mm No. of rivets and diameter of rivet holes 30 @ 16 mm

Outer row rivet pitch at ends 38.5 mm - Depth of flange if manhole flanged Steam Dome: Material

Tensile strength Thickness of shell Description of longitudinal joint Percentage of strength of joint Rivets

Diameter of rivet holes Pitch of rivets Thickness of crown No. of stays

Internal diameter Working pressure by Rules Working pressure by Rules Diameter of rivet holes

How connected to shell Inner radius of crown Working pressure by Rules Diameter of rivet holes

of rivets in outer row in dome connection to shell Size of doubling plate under dome

Type of Superheater

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 the boiler be worked separately

Area of each safety valve Is a safety valve fitted to every part of the superheater which can be shut off from the boiler

Rules Pressure to which the safety valves are adjusted Working pressure

tubes forgings and castings and after assembly in place Hydraulic

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

The foregoing is a correct description
 pr. pr. Glommens mek. Verksted A/S
 H. O. Sunde

Dates of Survey During progress of work in shops - - 29/9 - 3/10 - 6/10 - 10/10 - 18/10 - 20/10 are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

while building During erection on board vessel - - - 7/11 - 29/11 Total No. of visits 8

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 in accordance with the approved plans in conformity with the Secretary's letters concerning same. The shell and end plates made from material tested by Det Norske Veritas, the furnace being made from material tested by this Society; check tests with satisfactory results were made on the shell and plates (see letter E 26/9/39). The workmanship throughout is good. - The welding where employed was carried out to our satisfaction by trained welders using approved electrodes.

On completion the boiler was tested by hydraulic pressure to 14 kg per sq. cm. The safety valves were adjusted under steam subsequently, to 7 kg.

It is recommended that this donkey boiler be classed in the Society's Register Book.

Survey Fee £ 149.60 } When applied for, 29/11 19 39
 Travelling Expenses (if any) £ 50.- } When received, 19

Purdie
 Engineer Surveyor to Lloyd's Register

Committee's Minute See Rgm Rpt. 2837
 Assigned

