

# REPORT ON BOILERS.

Received at London Office 12 DEC 1930

Date of writing Report 11th Dec 1930. When handed in at Local Office 11th Dec 1930 Port of Dundee

No. in Reg. Book. Survey held at Dundee. Date, First Survey 20th Feb 1930 Last Survey 4th Dec 1930

on the Oil tank Vessel "SKOTAS" (Number of Visits 22) Gross Tons Net Tons

Master Built at Dundee By whom built Caldon S & E. Co Ltd Yard No. When built 1930

Engines made at Gøthenburg By whom made Gøtaverken Engine No. When made 1930

Boilers made at Dundee By whom made Caldon S & E. Co Ltd Boiler No. 536 When made 1930

Nominal Horse Power Owners Not known Port belonging to Not known

## MULTITUBULAR BOILERS - MAIN, AUXILIARY OR DONKEY.

(Key Bars) Vereinigte Stahlwerke A.G. Manufacturers of Steel Nitkovicce Zelezarny, Ljezko, Slovakia. Wm. Beardmore & Co. (Letter for Record S)

Total Heating Surface of Boilers 2903 Is forced draught fitted Yes Coal or Oil fired Oil & Exhaust gas

No. and Description of Boilers Two S.E. Marine Working Pressure 150

Tested by hydraulic pressure to 245 Date of test 10.9.30 No. of Certificate 1031 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler Oil No. and Description of safety valves to each boiler One pair lockburns Improved High Lift. Area of each set of valves per boiler 6.6 as fitted 4.8 Pressure to which they are adjusted 150 Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No main boilers.

Smallest distance between boilers or uptakes and bunkers or woodwork clear Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating of Deck Plat 2' Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 11'8" Length 11'3" Shell plates: Material Steel Tensile strength 29/33 Thickness 5 1/16 Are the shell plates welded or flanged No Description of riveting: circ. seams D.R. Lapr.

long. seams T.R.D.B.S. Diameter of rivet holes in circ. seams 1" long. seams 1 1/16 Pitch of rivets 3/4 5 5/8

Percentage of strength of circ. end seams plate 69% rivets 48% Percentage of strength of circ. intermediate seam plate 85.5 rivets 85.9

Percentage of strength of longitudinal joint plate 85.5 rivets 85.9 combined 88.4 Working pressure of shell by Rules 151

Thickness of butt straps outer 5/8 inner 3/4 No. and Description of Furnaces in each Boiler Two Dighton Material Steel Tensile strength 26/30 Smallest outside diameter 3' 4 1/4"

Length of plain part top bottom Thickness of plates crown bottom 1/2 Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules

End plates in steam space: Material Steel Tensile strength 26/30 Thickness 13/16 Pitch of stays 16 1/2" x 14"

How are stays secured Double Nuts and Washers Working pressure by Rules 155

Tube plates: Material front Steel back Steel Tensile strength 26/30 Thickness 13/16 3/4

Mean pitch of stay tubes in nests 9" Pitch across wide water spaces 13" x 4" Working pressure front 206 back 263

Girders to combustion chamber tops: Material Steel Tensile strength 28/32 Depth and thickness of girder at centre 4 1/2 x 5/8 Length as per Rule 2' - 6" Distance apart 8 1/2" No. and pitch of stays

in each Two at 9" Working pressure by Rules 154 Combustion chamber plates: Material Steel Tensile strength 26/30 Thickness: Sides 2 1/32 Back 2 1/32 Top 2 1/32 Bottom 2 1/32

Pitch of stays to ditto: Sides 9 x 4 Back 8 x 8 Top 9 x 8 1/2 Are stays fitted with nuts or riveted over Laps nuts others riveted

Working pressure by Rules S 9 B 154 156 T 182 Front plate at bottom: Material Steel Tensile strength 26/30 Thickness 13/16 Lower back plate: Material Steel Tensile strength 26/30 Thickness 13/16

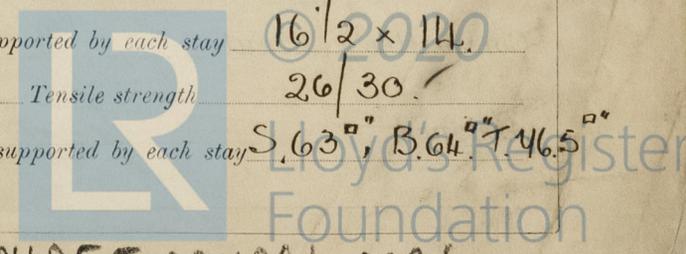
Pitch of stays at wide water space 12 x 8 Are stays fitted with nuts or riveted over Riveted

Working Pressure 141 Main stays: Material Steel Tensile strength 28/32

Diameter At body of stay 2 1/2 Over threads No. of threads per inch 6 Area supported by each stay 16 1/2 x 14

Working pressure by Rules 185 Screw stays: Material Steel Tensile strength 26/30

Diameter At turned off part or over threads S 1 5/8 B 1 3/4 T 1 1/2 No. of threads per inch 9 Area supported by each stay S 63 B 64 T 46.5



Working pressure by Rules <sup>S. B. 165</sup> 240. 244. 165. Are the stays drilled at the outer ends Yes Margin stays: Diameter <sup>At turned off part,</sup> 1 3/4 <sup>or</sup> 1 3/4 <sup>Over threads</sup>

No. of threads per inch 9 Area supported by each stay 80" Working pressure by Rules 220

Tubes: Material Iron External diameter <sup>Plain</sup> 2 1/2" Thickness <sup>10 ug.</sup> 3/8 x 5/16 No. of threads per inch 9

Pitch of tubes 3 1/2 x 3 3/4 Working pressure by Rules P. 145. S. 165. & 240. Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring (9 1/2 + 9 1/2) x 13/16 No. of rivets and diameter of rivet holes Two at 1" dia.

Outer row rivet pitch at ends 6 1/4 Depth of flange if manhole flanged 3" Steam Dome: Material Hoont.

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes Pitch of rivets Percentage of strength of joint <sup>Plate</sup> <sup>Rivets</sup>

Internal diameter Working pressure by Rules Thickness of crown No. and diameter of stays

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

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 Manufacturers of <sup>Tubes</sup> <sup>Steel castings</sup>

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, 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 23 inclusive for boilers been complied with Yes.

FOR AND ON BEHALF OF THE CALEDON SHIPBUILDING & ENGINEERING CO LD  
 The foregoing is a correct description, J. G. ... Secretary  
 Manufacturer.

Dates of Survey <sup>During progress of work in shops</sup> 1930 Feb-20, 23, Mar-5, 13, 19, Apr-18, 21, May-5 <sup>Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)</sup> 14, 31, June-14, July-4, Aug-6, 20, Sept-2 (10th Sept. test)

while building <sup>During erection on board vessel</sup> 1930 Nov-20, 24, 25, 28, Dec-4 Total No. of visits 22

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed under Special Survey in accordance with the approved Plan & the Rules of this Society. The materials & workmanship are good. The boilers have been satisfactorily fitted on board the Motor Vessel Skotass (Under Report No 8446) the safety valves adjusted under steam & tried for accumulation. The boilers examined under working conditions found satisfactory. This is a sister of the M.V. Lorna (Under Rpt-8438)

Survey Fee ... .. £ 19 : 8 : 0 When applied for, 11<sup>th</sup> Dec 1920

Travelling Expenses (if any) £ ✓ : : When received, 17.12.1920

Wm. Capeman  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI, 24 APR 1931

Assigned Su F. C. Rpt.

