

REPORT ON BOILERS.

Received at London Office

9 - JAN 1952

Date of printing Report 19 When handed in at Local Office 22nd DEC. 1951 Port of DUNDEE.

No. of Survey held at Dundee Date, First Survey Last Survey 7-12-1951

Reg. No. on the Single screw oil Tank "EDDYBEACH" (Number of Visits) Gross 2157 Net 905

Built at Dundee By whom built Messrs Caledon S.B. & E. Co. Ltd. Yard No. 474 When built 1951.

Engines made at Renfrew Glasgow By whom made Messrs Lobnitz & Co. Ltd. Engine No. When made 1951.

Boilers made at Dundee By whom made Messrs Caledon S.B. & E. Co. Ltd. Boiler No. 674 When made 1951.

Nominal Horse Power 400 Owners The Admiralty Port belonging to London.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs Colvilles Ltd. Motherwell. (Letter for Record 5.)

Total Heating Surface of Boilers 7530 sq. ft. Is forced draught fitted Yes Coal or Oil fired oil

No. and Description of Boilers Two cylindrical multitubular Working Pressure 250 lbs/sq. in.

Tested by hydraulic pressure to 425 lbs/sq. in. Date of test 29.6.51. No. of Certificate 1073/4 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler - No. and Description of safety valves to each boiler One 2 1/2" Double Spring Imp. H.L.

Area of each set of valves per boiler 9.68 sq. ins. Pressure to which they are adjusted 250 lbs/sq. in. Are they fitted with easing gear Yes

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 16'-3" Length 12'-3" Shell plates: Material S.F. steel Tensile strength 30.34 tons/sq. in.

Thickness 1 3/32" Are the shell plates welded or flanged Flanged Description of riveting: circ. seams end inter.

long. seams T.R.O.B.S. Diameter of rivet holes in circ. seams 1 3/32" long. seams 1 23/32" Pitch of rivets 4.562" 11 3/8"

Percentage of strength of circ. end seams plate 60.5% rivets 47.5% Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 84.89% rivets 85.2% combined 86.7% THESE BOILERS REINSTALLED IN S.S. LEONIS 12/66. Rmb 6/5/66.

Thickness of butt straps outer 1 5/16" inner 1 7/16" No. and Description of Furnaces in each Boiler 3 "Brighton" section Corrugated.

Material S.F. steel Tensile strength 26.30 tons/sq. in. Smallest outside diameter 4'-2 5/8"

Length of plain part top bottom Thickness of plates crown 3/16" bottom Description of longitudinal joint welded.

Dimensions of stiffening rings on furnace or e.c. bottom -

End plates in steam space: Material S.F. steel Tensile strength 26.30 tons/sq. in. Thickness 29/32" Pitch of stays 8" x 9"

How are stays secured nuts inside and outside

Tube plates: Material front S.F. steel back S.F. steel Tensile strength 26.30 tons/sq. in. Thickness front 19/16" back 29/32"

Mean pitch of stay tubes in nests 8.31" Pitch across wide water spaces 19"

Girders to combustion chamber tops: Material S.F. steel Tensile strength 28.32 tons/sq. in. Depth and thickness of girder

at centre 11" x 7/8" Length as per Rule 3'-4" Distance apart 9" No. and pitch of stays

in each 3 of 9" Combustion chamber plates: Material S.F. steel

Tensile strength 26.30 tons/sq. in. Thickness: Sides 25/32" Back 23/32" Top 25/32" Bottom 15/16"

Pitch of stays to ditto: Sides 9" x 9" Back 9" x 8" Top 9" x 9" Are stays fitted with nuts or riveted over nuts

Front plate at bottom: Material S.F. steel Tensile strength 26.30 tons/sq. in.

Thickness 15/16" Lower back plate: Material S.F. steel Tensile strength 26.30 tons/sq. in. Thickness 29/32"

Pitch of stays at wide water space 19" Are stays fitted with nuts or riveted over nuts

Main stays: Material S.F. steel Tensile strength 28.32 tons/sq. in.

Diameter At body of stay, or Over threads 3" 3 1/4" No. of threads per inch 6 Heads per inch.

Screw stays: Material S.F. steel Tensile strength 26.30 tons/sq. in.

Diameter At turned off part, or Over threads 1 7/8" No. of threads per inch 9 Heads per inch.



Are the stays drilled at the outer ends *No.* ✓ Margin stays: Diameter { At turned off part, ✓
or
Over threads 2" ✓

No. of threads per inch 9. ✓

Tubes: Material *S.D. STEEL.* ✓ External diameter { Plain 2 1/2" ✓
Stay 2 1/2" ✓ Thickness { 8 L.S.G. ✓
5/16"; 3/8"; 7/16" No. of threads per inch 9. ✓

Pitch of tubes 3 3/4" (HORIZ.); 3 5/8" (VERT.) ✓ Manhole compensation: Size of opening in shell plate 21" x 17" ✓ Section of compensating ring *3'-0" x 3'-4" x 1 5/8" TH.* ✓ *FLANGED 16" x 12" HOLE.* No. of rivets and diameter of rivet holes 26; 1 23/32" DIA ✓

Outer row rivet pitch at ends 4.352" ✓ Depth of flange if manhole flanged 4 1/2" ✓ Steam Dome: Material ✓

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 ✓ Thickness of crown ✓ No. and diameter of stays ✓ Inner radius of crown ✓

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 ✓

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.* ✓

FOR AND ON BEHALF OF
THE CALEDON SHIPBUILDING & ENGINEERING CO. LTD.
The foregoing is a correct description,
J. J. O'Leary Manufacturer.
DIRECTOR

Dates of Survey { During progress of 1950 - May 19 - Nov. 21
work in shops - - - 1951 - April 13, 19 June 22, 29 - July 18
while building { During erection on 1951 Oct 16, 23. Nov. 16, 23, 27, 30
board vessel - - - Dec 7

Are the approved plans of boiler ~~submitted~~ forwarded herewith *Yes.* (11-8-49)
(If not state date of approval.)

Total No. of visits 14

Is this Boiler a duplicate of a previous case _____ If so, state Vessel's name and Report No. _____

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *The two main boilers described herein, have been built to Special Survey, in accordance with the approved plans, the requirements of the Rules and the Secretary's letters, suitable for working pressure of 250 lbs/sq. They have been efficiently installed on board the vessel. Safety valves have been adjusted under steam and found satisfactory and are eligible in our opinion to be classed + L.M.C. 12, 51.*

Survey Fee *2/5* ... £ 58 : 0 : 0 } When applied for, 24.12.1951
SPECIFICATION £ 58 : 0 : 0 }
Travelling Expenses (if any) £ : : } When received, 19

R. W. Skinner, for self & J. M. Laven.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW 8 JAN 1952*

Assigned *SEE ACCOMPANYING MACHINERY REPORT.*

