

REPORT ON BOILERS.

No. 17043

Received at London Office

Date of writing Report 12. 12. 1927 When handed in at Local Office

Port of Rotterdam

No. in Survey held at Hendrik Ida Ambacht Date, First Survey 20. 9. 27 Last Survey 9. 12. 1927

on the Steer Sloop Tug "LADY ELIZABETH" (Number of Visits 5) Tons {Gross Net

Master Built at H. J. Ambacht By whom built Vonken & Hans Yard No. 184 When built 1927
Engines made at Dordrecht By whom made Machfab. Avoontuur Engine No. 1 When made 1927
Boilers made at Lubbeck By whom made H. Koch Boiler No. 1 When made 1927
Nominal Horse Power 79 Owners South African Harbour Administration Port belonging to Port Elizabeth

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel 1560 (Letter for Record S)

Total Heating Surface of Boilers 145 cb² Is forced draught fitted No Coal or Oil fired Coal

No. and Description of Boilers 1 Single ended horizontal Marine Boiler Working Pressure 185 lb 13 cb²

Tested by hydraulic pressure to 43 sq. ft. Date of test No. of Certificate Can each boiler be worked separately

Area of Firegrate in each Boiler 3.96 sq. ft. No. and Description of safety valves to each boiler 2 Spring loaded

Area of each set of valves per boiler {per Rule as fitted 46 cb² diam Pressure to which they are adjusted 13 cb² Are they fitted with easing gear Yes

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

Smallest distance between boilers or uptakes and bunkers or woodwork 3" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating No tank Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 3800 mm Length 3320 mm Shell plates: Material S.M. Steel Tensile strength 48-54 kg

Thickness 24 mm Are the shell plates welded or flanged No Description of riveting: circ. seams {end lap 2 x rivet inter. 104 mm

long. seams Double butt strap 4 x rivet diameter of rivet holes in {circ. seams 30 mm long. seams 30 mm Pitch of rivets {340 mm

Percentage of strength of circ. end seams {plate 69.8% rivets 44.6% Percentage of strength of circ. intermediate seam {plate 69.8% rivets 66.9%

Percentage of strength of longitudinal joint {plate 91.1% rivets 120% combined 95.6% & 118.5% Working pressure of shell by Rules 13.42 kg

Thickness of butt straps {outer 20 mm inner 20 mm No. and Description of Furnaces in each Boiler 2 Morrison patent

Material S.M. Steel Tensile strength 34-41 kg Smallest outside diameter 1130 mm

Length of plain part {top bottom Thickness of plates {crown 15 mm bottom 15 mm Description of longitudinal joint Welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 13 kg

End plates in steam space: Material S.M. Steel Tensile strength 34-41 kg Thickness 22 1/2 x 21 1/2 mm Pitch of stays 360 mm x 400

How are stays secured Secured in plates with double nuts washers Working pressure by Rules 15.4 kg

Tube plates: Material {front S.M. Steel back S.M. Steel Tensile strength {34-41 kg Thickness {22 1/2 mm 20 mm

Mean pitch of stay tubes in nests 286 mm Pitch across wide water spaces 115 x 380 mm Working pressure {front 16 kg back

Girders to combustion chamber tops: Material S.M. Steel Tensile strength 40-54 kg Depth and thickness of girder

at centre 210 x 256 mm Length as per Rule 720 mm Distance apart 180 mm No. and pitch of stays

in each 3 at 185 mm Working pressure by Rules 18.3 Combustion chamber plates: Material S.M. Steel

Tensile strength 34-41 kg Thickness: Sides 16 mm Back 16 mm Top 16 mm Bottom 20 mm

Pitch of stays to ditto: Sides 170 x 185 mm Back 185 mm Top 185 x 180 mm stays fitted with nuts or riveted over Fitted with nuts

Working pressure by Rules 14.4 kg Front plate at bottom: Material S.M. Steel Tensile strength 34-41 kg

Thickness 24 mm Lower back plate: Material S.M. Steel Tensile strength 34-41 kg Thickness 18 1/2 mm

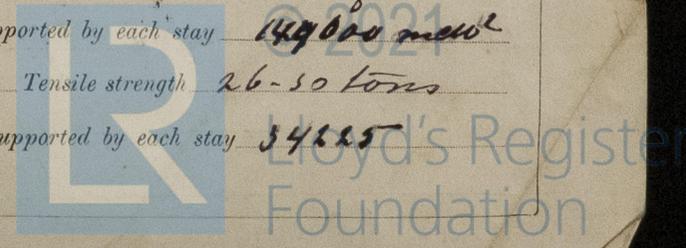
Pitch of stays at wide water space 300 mm Are stays fitted with nuts or riveted over Fitted with nuts

Working Pressure 14.2 kg Main stays: Material S.M. Steel Tensile strength 44-50 kg

Diameter {At body of stay, or Over threads 64 mm 68 No. of threads per inch 9 Area supported by each stay 149000 mm²

Working pressure by Rules 15.7 kg Screw stays: Material S.M. Steel Tensile strength 26-30 tons

Diameter {At turned off part, or Over threads 30 No. of threads per inch 9 Area supported by each stay 34225



Working pressure by Rules 16.5 kg Are the stays drilled at the outer ends NO Margin stays: Diameter ^{At turned off part,} 46 mill
 or ^{Over threads} 46 mill
 No. of threads per inch 9 Area supported by each stay 46712 mill Working pressure by Rules 19.1
 Tubes: Material Steel External diameter ^{Plain} 3 1/2" Thickness ^{4 mill} 4 mill No. of threads per inch 9
^{Stay} 3 1/2" ^{4 mill} 4 mill
 Pitch of tubes 115 x 110 mill Working pressure by Rules 15 kg Manhole compensation: Size of opening in
 shell plate 300 x 400 Section of compensating ring 760 x 844 x 24 mill No. of rivets and diameter of rivet holes 34 @ 50 mill
 Outer row rivet pitch at ends 220 mill Depth of flange if manhole flanged ✓ Steam Dome: Material ✓
 Tensile strength 2 Thickness of shell ✓ Description of longitudinal joint ✓
 Diameter of rivet holes ✓ Pitch of rivets ✓ Percentage of strength of joint ^{Plate} ✓
^{Rivets} ✓
 Internal diameter ✓ Working pressure by Rules ✓ Thickness of crown ✓ No. and diameter of
 stays ✓ Inner radius of crown ✓ Working pressure by Rules ✓
 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 ✓ Manufacturers of ^{Tubes} ✓
^{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 ✓ 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 ✓

The foregoing is a correct description,

Manufacturer.

Dates of Survey ^{During progress of work in shops - - -} ✓
^{while building} ^{During erection on board vessel - - -} ✓

Are the approved plans of boiler and superheater forwarded herewith Yes
 (If not state date of approval.)
 Total No. of visits ✓

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been examined internally and externally, its mountings and safety valves, scamlings verified with the approved plan and all found in order.

Survey Fee £ : : } When applied for, 192
 Travelling Expenses (if any) £ : : } When received, 192

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

Committee's Minute TUES. 20 DEC 1927
 Assigned See P. 1. attached

