

# REPORT ON BOILERS.

No. *V7900*

Received at London Office

Date of writing Report *18-10-1920* When handed in at Local Office

192 Port of *Rotterdam*

No. in Reg. Book. Survey held at *Rotterdam* Date, First Survey *20-11-20* Last Survey *9-10-1920*

on the *steel screw trawler "PESCADOR PRIMEIRO"* (Number of Visits *15*) Tons Gross *315.52* Net *143.48*

Master *-* Built at *Rotterdam* By whom built *Wiltons Eng. Slipway* Yard No. *209* When built *1920-21*

Engines made at *Rotterdam* By whom made *do* Engine No. *421* When made *1920-21*

Boilers made at *do* By whom made *do* Boiler No. *725* When made *1920-21*

Nominal Horse Power *96* Owners *Sociedad de Pesca d'Arresto Lda* Port belonging to *Lisboa*

## MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY~~, OR ~~DONKEY~~

Manufacturers of Steel *David Colville & Sons Ltd. Motherwell.* (Letter for Record *S.*)

Total Heating Surface of Boilers *4710 sq ft* Is forced draught fitted *no* Coal or Oil fired *Coal.*

No. and Description of Boilers *one multitubular boiler. 15B* Working Pressure *190 lb*

Tested by hydraulic pressure to *335 lb* Date of test *10-6-21* No. of Certificate *Nº 741* Can each boiler be worked separately *✓*

Area of Firegrate in each Boiler *47.5 sq ft* No. and Description of safety valves to each boiler *two spring loaded.*

Area of each set of valves per boiler *per Rule as fitted 2 x 10.35* Pressure to which they are adjusted *190 lb* 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 *over 6"* Is oil fuel carried in the double bottom under boilers *no*

Smallest distance between shell of boiler and tank top plating *✓* Is the bottom of the boiler insulated *no*

Largest internal dia. of boilers *13'-6"* Length *10'-4"* Shell plates: Material *S.M. steel* Tensile strength *20-32 T.*

Thickness *1 1/32"* Are the shell plates welded or flanged *no* Description of riveting: circ. seams *end 2 x riv. inter. 3 x riv.*

long. seams *double butt strap 3 x riv.* Diameter of rivet holes in *circ. seams 1 3/16" long. seams 1 3/16"* Pitch of rivets *3 1/8" 7 7/8"*

Percentage of strength of circ. end seams *plate 69.4% rivets 54.5%* Percentage of strength of circ. intermediate seam *plate 69.4% rivets 54.8%*

Percentage of strength of longitudinal joint *plate 85% rivets 86% combined 86.5%* Working pressure of shell by Rules *201 lb*

Thickness of butt straps *outer 1 1/8" inner 1 1/32"* No. and Description of Furnaces in each Boiler *two masonry. 2 CF.*

Material *S.M. steel* Tensile strength *26-30 T.* Smallest outside diameter *3'-11 9/16"*

Length of plain part *top ✓ bottom ✓* Thickness of plates *crowns 2 1/32" bottoms 1/32"* Description of longitudinal joint *welded.*

Dimensions of stiffening rings on furnace or c.c. bottom *✓* Working pressure of furnace by Rules *202 lb*

End plates in steam space: Material *S.M. steel* Tensile strength *26-30 T.* Thickness *1 1/8"* Pitch of stays *19 1/4" x 19 1/4"*

How are stays secured *screwed in plate, nut & washer outside.* Working pressure by Rules *226 lb*

Tube plates: Material *front } S.M. steel back }* Tensile strength *26-30 T.* Thickness *1 1/32" 7/8"*

Mean pitch of stay tubes in nests *11"* Pitch across wide water spaces *15 1/2"* Working pressure *front 321 lb back 220 lb*

Girders to combustion chamber tops: Material *S.M. steel* Tensile strength *20-32 T.* Depth and thickness of girder

at centre *7 3/4" x 2 x 7/8"* Length as per Rule *29"* Distance apart *9 1/2"* No. and pitch of stays

in each *3 x 7 3/4"* Working pressure by Rules *230 lb* Combustion chamber plates: Material *S.M. steel.*

Tensile strength *26-30 T.* Thickness: Sides *1/16"* Back *1/16"* Top *1/16"* Bottom *7/8"*

Pitch of stays to ditto: Sides *8" x 7 3/4"* Back *8 1/16" x 7 3/4"* Top *9 1/2" x 7 3/4"* Are stays fitted with nuts or riveted over *with nuts.*

Working pressure by Rules *264 lb* Front plate at bottom: Material *S.M. steel* Tensile strength *26-30 T.*

Thickness *1 1/32"* Lower back plate: Material *S.M. steel* Tensile strength *26-30 T.* Thickness *13/16" + 9/16"*

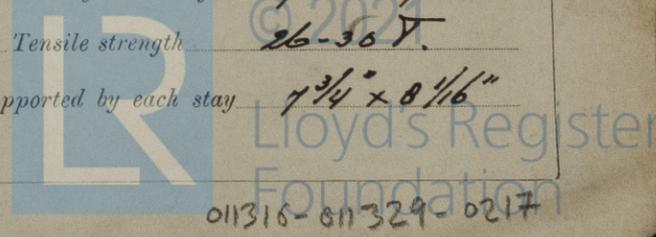
Pitch of stays at wide water space *16"* Are stays fitted with nuts or riveted over *nutted.*

Working Pressure *205 lb* Main stays: Material *S.M. steel* Tensile strength *20-32 T.*

Diameter *At body of stay, 3" or Over threads 3 1/4" + 3 1/2"* No. of threads per inch *7* Area supported by each stay *19 1/4" x 19 1/4"*

Working pressure by Rules *217 lb* Screw stays: Material *S.M. steel* Tensile strength *26-30 T.*

Diameter *At turned off part, 1 1/2" or Over threads 1 1/2"* No. of threads per inch *10* Area supported by each stay *7 3/4" x 8 1/16"*



Working pressure by Rules 201 1/4. Are the stays drilled at the outer ends no 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 10 Area supported by each stay 12 1/2 x 7 3/4" Working pressure by Rules 195 1/4

Tubes: Material S.M. steel External diameter <sup>Plain</sup> 3 1/4" <sup>Stay</sup> 3 1/4" Thickness 1/8" 5/16" No. of threads per inch 9

Pitch of tubes 4 3/8" x 4 7/16" Working pressure by Rules ✓ Manhole compensation: Size of opening in shell plate 17" x 21" Section of compensating ring 2'-6" x 2'-10 1/2" x 1 3/16" No. of rivets and diameter of rivet holes 32 x 1 3/16"

Outer row rivet pitch at ends 7 7/8" Depth of flange if manhole flanged 3 7/8" Steam Dome: Material ✓

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!

The foregoing is a correct description,  
**Wilton's Engineering & Slipway Co.** M. Wilton Manufacturer.

Dates of Survey <sup>During progress of work in shops - -</sup> 20/11-20 11/2-22/3-31/3-2/4 Are the approved plans of boiler and superheater forwarded herewith no <sup>(If not state date of approval.)</sup> 4-8-20

<sup>while building</sup> <sup>During erection on board vessel - - -</sup> 19/4-27/4-31/5-10/6-21 25/7-21 4/9-6-10-24/9-9/10-21 Total No. of visits 15

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) This boiler has been made under special survey in accordance with the approved plan, Secretary's letters and the Society's Rules, tested by hydraulic pressure and found sound and tight.

Survey Fee ... .. £ Please see machinery report. When applied for, 192

Travelling Expenses (if any) £ When received, 192

C.H. Bourne  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 6 NOV 1928

Assigned see Minute on Rot. Rpt  
17900 attached

