

## REPORT ON BOILERS.

No. 8387

Received at London Office 30 DEC 1933

Date of writing Report 13<sup>th</sup> Dec 1933 When handed in at Local Office 27<sup>th</sup> Dec 1933 Port of BilbaoNo. in  
Reg. Book

Survey held at

Hercules

Date, First Survey 31<sup>st</sup> Jan.Last Survey 23<sup>rd</sup> Oct 1933

(Number of Visits 5) Gross 3500

Tons

Net

22909 on the steamer "CAMPILO"

Built at Valencia

By whom built Union Naval de Levante

Yard No. 22 When built 1933

Engines made at Barcelona

By whom made La Maquinista Terrestre y Maritima

Engine No. 1 When made 1933

Boilers made at

By whom made

Boiler No. When made

Owners Cia. Arrendatarios del Marfollon de Petroleos S.A. Port belonging to

Dunlop

## VERTICAL DONKEY BOILER.

Made at Hercules By whom made Soc. Española de Constr. Naval

Boiler No. When made 1933 Where fixed

Manufacturers of Steel Altos Hornos de Vizcaya

Total Heating Surface of Boiler 28.5 m<sup>2</sup> (306.75 sq ft) Is forced draught fitted

Coal or Oil fired Oil

No. and Description of Boilers One vertical Auxiliary Boiler, Cochran type

Working pressure 150 lb/sq in

Tested by hydraulic pressure to 275 lb/sq in Date of test 21<sup>st</sup> Oct 1933

No. of Certificate 127

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler Two direct spring loaded 1 1/2" dia each

Area of each set of valves per boiler per rule 2.79 sq in as fitted 3.53 Pressure to which they are adjusted

Are they fitted with easing gear

State whether steam from main boilers can enter the donkey boiler

Smallest distance between boiler or uptake and bunkers

or woodwork Is oil fuel carried in the double bottom under boiler

Smallest distance between base of boiler and tank top plating

Is the base of the boiler insulated

Largest internal dia. of boiler 1450 mm Height 4800 mm

Shell plates: Material S.M. steel

Tensile strength 44/50 kg/cm<sup>2</sup>

Thickness 14 mm

Are the shell plates welded or flanged No

Description of riveting: circ. seams

end Single

inter. Double

long. seams Double

Dia. of rivet holes in circ. seams 24.7 mm

Pitch of rivets 23.7 mm

Percentage of strength of circ. seams

plate 72.5%

rivets 74.7%

of longitudinal joint

plate 74.7%

rivets 74.7%

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Working pressure of shell by rules 14.25 kg/cm<sup>2</sup>

Thickness of butt straps outer 10 mm inner 13 mm

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat Dished

Material S.M. steel

Tensile strength 44.1 kg/cm<sup>2</sup>

Thickness 18 mm

Radius 1450 mm

Working pressure by rules 11.2 kg/cm<sup>2</sup>

Description of Furnace: Plain, spherical, or dished crown Spherical

Material S.M. steel

Tensile strength 41/47 kg/cm<sup>2</sup>

Thickness 18 mm

External diameter

Length as per rule

Working pressure by rules

Pitch of support stays circumferentially

and vertically

Are stays fitted with nuts or riveted over

Diameter of stays over thread

Radius of spherical or dished furnace crown 545 mm

Working pressure by rule 16.14 kg/cm<sup>2</sup>

Thickness of Ogee Ring 21 mm

Diameter as per rule

Working pressure by rule

Combustion Chamber: Material

Tensile strength

Thickness of top plate

Radius if dished

Working pressure by rule

Thickness of back plate

Diameter if circular

Length as per rule

Pitch of stays

Are stays fitted with nuts or riveted over

Diameter of stays over thread

Working pressure of back plate by rules

Tube Plates: Material front S.M. steel back S.M. steel

Tensile strength 45.5 kg/cm<sup>2</sup>

Thickness 25 mm

Mean pitch of stay tubes in nests 184 mm

If comprising shell, Dia. as per rule front 1220 mm back 1310 mm

Pitch in outer vertical rows 92 mm

Dia. of tube holes FRONT

stay 68.5 mm

BACK

stay 63.5 mm

plain 63.5 mm

Is each alternate tube in outer vertical rows a stay tube Yes

Working pressure by rules

front 10.98 kg/cm<sup>2</sup>back 12.35 kg/cm<sup>2</sup>

Girders to combustion chamber tops: Material

Tensile strength

Depth and thickness of girder at centre

Length as per rule

Distance apart

No. and pitch of stays in each

Working pressure by rule

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Crown stays: Material ☒ Tensile strength ☒ Diameter ☒ at body of stay, or over threads

No. of threads per inch ☒ Area supported by each stay ☒ Working pressure by rules ☒

Screw stays: Material ☒ Tensile strength ☒ Diameter ☒ at turned off part, or over threads No. of threads per inch ☒

Area supported by each stay ☒ Working pressure by rules ☒ Are the stays drilled at the outer ends ☒

Tubes: Material S.M. steel, seamless at ends External diameter ☒ plain 63.57 Thickness 3.257  
stay 63.57

No. of threads per inch 9 Pitch of tubes 927 x 927 Working pressure by rules Plain 1904, Stg 3092

Manhole Compensation: Size of opening in shell plate 5107 x 4057 Section of compensating ring 227 x 1737 No. of rivets and diameter of rivet holes 40 @ 237 dia Outer row rivet pitch at ends 1007 Depth of flange if manhole flanged 837

Uptake: External diameter ☒ Thickness of uptake plate ☒

Cross Tubes: No. ☒ External diameters ☒ Thickness of plates ☒

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with ☒

The foregoing is a correct description,  
SOCIEDAD ESPAÑOLA DE CONSTRUCCION NAVAL.  
Manufacturer.

Dates of Survey while building During progress of work in shops - 1933: Jan 31; July 14, 26; Aug 31; Dec 23; Is the approved plan of boiler forwarded herewith 9/1/33  
(If not state date of approval.)  
During erection on board vessel - - -  
Total No. of visits 5

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This auxiliary boiler has been constructed under survey, of tested materials and in accordance with the approved plan. The workmanship is good and on completion the boiler was tested by hydrostatic pressure to 275 lbs/sq in and found tight and sound. The furnace has been constructed in accordance with the originally proposed design with a welded circumferential seam only, the bottom portion being pressed to shape in one piece without vertical welds, the furnace throat being butt welded. This boiler is eligible in our opinion to be classed B when satisfactorily fitted on board and its safety valves adjusted under steam.

Survey Fee ... 252 : When applied for 28th Nov. 1933  
Travelling Expenses (if any) 870 : When received, 18th Dec. 1933

Committee's Minute FRI, 20 JUL 1934

Assigned See Val. 300

Engineer-Surveyor to Lloyd's Register of Shipping.



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