

REPORT ON BOILERS.

Bel. 12953

No. 16857

JUN 17 1940

Received at London Office

Date of writing Report 8/6/40 When handed in at Local Office 10/6/40 Port of Middlesbrough

No. in Survey held at Stockton-on-Tees Date, First Survey 13-11-39 Last Survey 6/6/1940

Reg. Book M.V. "PALMA" (Number of Visits 10) Gross 5419 Tons Net 3079

Built at Belfast By whom built Harland & Wolff Ltd. Yard No. 1028 When built 1941

Engines made at Belfast By whom made Harland & Wolff Ltd. Engine No. 1028 When made 1941

Boilers made at Stockton By whom made Boiler No. 6413 When made 1940

Owners Royal Mail Lines Ltd Port belonging to London

THIMBLE TUBE
VERTICAL, DONKEY BOILER.

Made at Stockton By whom made Stockton CE & RB Ltd Boiler No. 6413 When made 1940 Where fixed Engine Room

Manufacturers of Steel Appleby Frodingham Steel Company Ltd

Total Heating Surface of Boiler 258 sq ft Is forced draught fitted No Coal or Oil fired oil

No. and Description of Boilers "Nelson" Thimble Tube Working pressure 100 lbs

Tested by hydraulic pressure to 200 lbs Date of test 6/6/40 No. of Certificate 6995

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 2 @ 1.5" dia

Area of each set of valves per boiler per rule 2.81 sq ft as fitted 3.53 sq ft Pressure to which they are adjusted 100 lbs Are they fitted with easing gear Yes

State whether steam from main boilers can enter the donkey boiler Smallest distance between boiler or uptake and bunkers

or woodwork ample Is oil fuel carried in the double bottom under boiler No Smallest distance between base of boiler and tank top plating

Is the base of the boiler insulated Yes Largest internal dia. of boiler 5'-9 3/4" Height 13'-9"

Shell plates: Material Steel Tensile strength 28-32 Tons Thickness 3/8"

Are the shell plates welded or flanged No Description of riveting: circ. seams end SR DR long. seams D.R.D.B.S

Dia. of rivet holes in circ. seams INT 13/16 B 15/16 Pitch of rivets T 2.007, INT 2.029 B 3.043 Percentage of strength of circ. seams plate 59.6 69.5 rivets 56.6 49.4 of longitudinal joint plate 41.8 rivets 147.9 combined

Working pressure of shell by rules 105 lbs Thickness of butt straps outer 3/8" inner

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat Part Spherical Material Steel

Tensile strength 26-30 Tons Thickness 21/32" Radius 5'-0" Working pressure by rules 130 lbs

Description of Furnace: Plain, spherical, or dished crown Plain Material Steel Tensile strength 26-30 tons

Thickness 3/4" External diameter top 37 1/2" Length as per rule 5'-8 1/2" Working pressure by rules 101 lbs

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 2'-9" Working pressure by rule 106.5 lbs

Thickness of Ogee Ring Diameter as per rule Working pressure by rule

Combustion Chamber: Material Steel Tensile strength 26-30 Tons Thickness of top plate BOTTOM 23/32"

Radius if dished 5'-0" Working pressure by rule 113 lbs 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 back Tensile strength Thickness Mean pitch of stay tubes in nests

If comprising shell, Dia. as per rule front back Pitch in outer vertical rows Dia. of tube holes FRONT stay plain BACK stay plain

Is each alternate tube in outer vertical rows a stay tube Working pressure by rules front back

Girders to combustion chamber tops: Material Tensile strength Length as per rule

Depth and thickness of girder at centre Working pressure by rule

Distance apart No. and pitch of stays in each

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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 *Thinble Tubes (S.D. Steel)* External diameter ☒ *3 1/4"* Thickness ☒ *8 S.W.G.*
No. of threads per inch ☒ Pitch of tubes ☒ Working pressure by rules *230 lbs*

Manhole Compensation: Size of opening in shell plate *12" x 16"* Section of compensating ring ☒ No. of rivets and diameter ☒
of rivet holes ☒ Outer row rivet pitch at ends ☒ Depth of flange if manhole flanged *2 7/8"*

Uptake: External diameter *1'-9 1/4"* Thickness of uptake plate *5/8"*

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

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

For and on *behalf* is a correct description,
STOCKTON CHEMICAL ENGINEERS & RILEY BOILERS LTD.
Manufacturer.

Dates of Survey ☒ During progress of work in shops - *Nov. 13, Dec. 1, Jan. 24, Feb. 16, Mar. 4, 21, Apr. 17, May 9, 31, June 16.* Is the approved plan of boiler forwarded herewith (if not state date of approval.) *yes.*
☒ During erection on board vessel - *29 Jan 24 Feb 25 March 1941* Total No. of visits *13.*

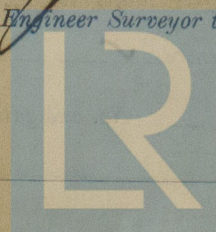
Is this Boiler a duplicate of a previous case *yes* If so, state Vessel's name and Report No. *Mdb Rpt- No 16830*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This boiler has been constructed under Special Survey, in accordance with the approved plan & Rule Requirement. The material & workmanship are good, & on completion the boiler was tested by hydraulic pressure to 200 lbs. The boiler has been forwarded to Belfast.*

This boiler has now been satisfactorily fitted on board the vessel and examined under steam, the safety valves have been adjusted to 100 lbs and accumulation of pressure test carried out. The oil fuel burning installation has been examined under working conditions and found satisfactory.
R. Shaw

Survey Fee ... *£ 4 : 4 :* When applied for, *15.6 - 19.40*
Travelling Expenses (if any) *£ :* When received, *7.8 - 19.40*

Committee's Minute
Assigned *TUE. 22 APR 1941*
See Bel 26.12953

R. J. Easthope
Engineer Surveyor to Lloyd's Register of Shipping.
 Lloyd's Register Foundation