

REPORT ON BOILERS.

Sld. No. 32832

Trade No. 16792

Received at London Office

FEB 29 1940

Date of writing Report 19/2/40 When handed in at Local Office 19/2/40 Port of MIDDLESBROUGH.

No. in Survey held at Stockton-on-Tees. Date, First Survey 27th July 1938 Last Survey 16/2/1940

Book. M/V LA CORDILLERA (Number of Visits 13) Gross 5185 Tons Net 3060

Master Built at Sunderland By whom built W. Leaford & Sons Ltd. Card No. 655 When built 1940

Engines made at Sunderland By whom made Wm Leaford & Sons Ltd. Engine No. 655 When made 1940

Boilers made at Stockton By whom made Stockton C. Engw & Riley Shdth Boiler No. 6388 When made 1940

Nominal Horse Power Owners Burnie Martin Ltd. Port belonging to London.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Company of Scotland Ltd (Letter for Record 5)

Total Heating Surface of Boilers 1660 ft² Is forced draught fitted No. Coal or Oil fired oil

No. and Description of Boilers 1- Single Ended Working Pressure 120 lbs

Tested by hydraulic pressure to 230 lbs Date of test 16/2/40 No. of Certificate 6987 Can each boiler be worked separately Yes.

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler Two direct Spring

Area of each set of valves per boiler { per Rule 15.3 as fitted 19.2 Pressure to which they are adjusted 120 Are they fitted with easing gear Yes.

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler at for end for

Smallest distance between boilers or uptakes and bunkers or woodwork 1'-10" Is oil fuel carried in the double bottom under boilers 6'-6"

Smallest distance between shell of boiler and tank top plating 1'-10" Is the bottom of the boiler insulated Yes.

Largest internal dia. of boilers 11'-10 5/8" Length 11'-6" Shell plates: Material Steel Tensile strength 29-33 tons

Thickness 11/16" Are the shell plates welded or flanged No. Description of riveting: circ. seams { end D.R. inter. 33/8" Pitch of rivets { 5 3/8" 33/8"

Long. seams T.R.D.B.S Diameter of rivet holes in { circ. seams 1 1/2" long. seams 1 3/16" Percentage of strength of circ. intermediate seam { plate 45.5 rivets 45.5

Percentage of strength of circ. end seams { plate 84.9 rivets 83.8 combined 90.6 Working pressure of shell by Rules 123 lbs

Thickness of butt straps { outer 9/16" inner 11/16" No. and Description of Furnaces in each Boiler 2- Corrugated (Deighton)

Material Steel Tensile strength 26-30 tons Smallest outside diameter 3'-8 1/16"

Length of plain part { top 13/32" bottom 13/32" Thickness of plates { crown 13/32" bottom 13/32" Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 131 lbs

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 27/32" Pitch of stays 17"x16"

How are stays secured D. Nuts or washers Working pressure by Rules 142 lbs

Tube plates: Material { front Steel Tensile strength 26-30 tons Thickness { 27/32" 13/16"

Mean pitch of stay tubes in nests 9 3/8" Pitch across wide water spaces 14" Working pressure { front 157 lbs back 249 "

Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder

at centre 7"x5 1/8" Double Length as per Rule 29 7/16" Distance apart 9" No. and pitch of stays

in each 209" Working pressure by Rules 135 lbs Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 19/32" Back 9/16" Top 19/32" Bottom 7/8"

Pitch of stays to ditto: Sides 9"x10" Back 9 1/2"x8 3/4" Top 9"x9" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 130 lbs Front plate at bottom: Material Steel Tensile strength 26-30 tons

Thickness 27/32" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 27/32"

Pitch of stays at wide water space 13 1/2"x9 1/2" Are stays fitted with nuts or riveted over Nuts

Working Pressure 200 lbs Main stays: Material Steel Tensile strength 28-32 tons

Diameter { At body of stay, 2 1/4" No. of threads per inch 6 Area supported by each stay 288.4 sq"

Working pressure by Rules 121 lbs Screw stays: Material Steel Tensile strength 26-30 tons

Diameter { At turned off part, 1 3/8" No. of threads per inch 9 Area supported by each stay 78.8 sq"

Working pressure by Rules 125 lbs Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 5/8" or Over threads

No. of threads per inch 9 Area supported by each stay 102 sq" Working pressure by Rules 150 lbs

Tubes: Material L.W. Iron External diameter { Plain 2 3/4 Stay 2 3/4 Thickness { 10 W.G. 5/16" No. of threads per inch 9

Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules Plain 160 Stay 276 lb Manhole compensation: Size of opening

shell plate 20" x 16" Section of compensating ring 7" x 1" No. of rivets and diameter of rivet holes 44 - 15/16"

Outer row rivet pitch at ends 6 1/4" Depth of flange if manhole flanged ✓ Steam Dome: Material None

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 Working pressure by Rules Thickness of crown No. and diameter

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 22 inclusive for boilers been complied with Yes.

The foregoing is a correct description,
H. J. Orrey Manufacture

Dates of Survey { During progress of work in shops - - 1938. 27th July, 15th 22nd Aug, 1st 5th Sept, 3rd 13. 24th Are the approved plans of boiler and superheater forwarded herewith yes (If not state date of approval.)

while building { During erection on board vessel - - - Oct. Nov. 24th 1940 Jan. 8th 29th, Feb. 13th 16th

Total No. of visits

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.) This boiler has been constructed under Special Survey, in accordance with the approved plan, & Rule Requirements. The material & workmanship are good, & on completion the boiler was tested by hydraulic pressure to 230 lb & found satisfactory. This boiler is being forwarded to Sunderland.

This boiler has been securely fixed on board the vessel, examined under steam & safety valves adjusted to working pressure in accordance with rule requirements

In recommendation please see heavy Rpt.

H. J. Orrey

Survey Fee ... £ 11 : 2 : - When applied for, 28/2/1940

Travelling Expenses (if any) £ : : When received, 15.4.1940 R.B.H.

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

Committee's Minute TUE. 9 APR 1940

Assigned See Std. J.E. 32833