

REPORT ON BOILERS.

Std. No. 32832

No. 16774

Received at London Office

JAN 22 1940

Date of writing Report 12/11/40 When handed in at Local Office 18/11/40 Port of

MIDDLESBROUGH

No. in Survey held at Stockton on Tees Date, First Survey 14th June 1939 Last Survey 11th January 1940

(Number of Visits 13

Gross 5185

Tons Net 3050

on the M/V "LA CORDILLERA" Built at Sunderland By whom built Wm. Barford & Sons Ltd. Yard No. 655 When built 1940

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

Boilers made at Stockton By whom made Stockton C. E. Riley Bros Ltd. Boiler No. 6389 When made 1939

Nominal Horse Power Owners Buries Marine Ltd. Port belonging to London.

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR, DONKEY.

Manufacturers of Steel Appleby - Frodingham Steel Co Ltd (Letter for Record 5) Exhaust gas
Heating Surface of Boilers 2540 sq ft 1040 1500 Is forced draught fitted No. Coal or Oil fired Oil

Description of Boilers Working Pressure 12 g lbs

Hydraulic pressure to 230 lbs Date of test 11/1/40 No. of Certificate 6984 Can each boiler be worked separately Yes.

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

each set of valves per boiler { per Rule 16.56 sq ft as fitted 19.24 sq ft Pressure to which they are adjusted 120 Are they fitted with easing gear Yes.

of donkey boilers, state whether steam from main boilers can enter the donkey boiler No. In 4:0 at

Distance between boilers or uptakes and bunkers or woodwork 1'-10" Is oil fuel carried in the double bottom under boilers No. Ind.

Distance between shell of boiler and tank top plating 1'-10" Is the bottom of the boiler insulated No.

Internal dia. of boilers 12'-10 9/16" Length 11'-6" Shell plates: Material Steel Tensile strength 29-33

Seams 23/32 Are the shell plates welded or flanged No. Description of riveting: circ. seams { end D.R. inter. -

Seams T.R. D.B.S. Diameter of rivet holes in { circ. seams 1 1/16" long. seams 1 3/16" Pitch of rivets { 33/8" 5 15/16"

Percentage of strength of circ. end seams { plate 68.5% rivets 43.5% Percentage of strength of circ. intermediate seam { plate 86.31% rivets 90.40% combined 97.50%

Percentage of strength of longitudinal joint { plate 86.31% rivets 90.40% combined 97.50% Working pressure of shell by Rules 122 lbs.

Thickness of butt straps { outer 9/16" inner 1/16" No. and Description of Furnaces in each Boiler 2 c/f Benton c.c. exhaust heat from back

Material Steel Tensile strength 26-30 Smallest outside diameter 35 1/4"

Length of plain part { top 3/8" bottom 3/8" Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 149 lbs

End plates in steam space: Material Steel Tensile strength 26-30 Thickness 29/32 Pitch of stays 16" x 19"

How are stays secured D. Nuts & washers Working pressure by Rules 122 lbs

Tube plates: Material { front Steel Tensile strength 26-30 Thickness { 3/4" 13/16"

Mean pitch of stay tubes in nests 8 5/8" OIL 9 1/4" GAS Pitch across wide water spaces 13 1/2" Working pressure { front 121 lbs back 274 lbs

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

at centre 8 1/2", 2 @ 5/8" Length as per Rule 30 5/8" Distance apart 12" No. and pitch of stays

in each 3 @ 7" Working pressure by Rules 123 lbs Combustion chamber plates: Material Steel

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

Pitch of stays to ditto: Sides 10 1/2" x 9" Back 9 1/2" x 8 1/4" Top 7" x 12" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 126 lbs Front plate at bottom: Material Steel Tensile strength 26-30

Thickness 3/4" Lower back plate: Material Steel Tensile strength 26-30 Thickness 3/4"

Pitch of stays at wide water space F 13 1/2"; B 13 1/2" x 9 1/2" Are stays fitted with nuts or riveted over Nuts

Working Pressure 127 lbs Main stays: Material Steel Tensile strength 28-32

Diameter { At body of stay, 2 3/8" No. of threads per inch 6 Area supported by each stay 304 sq in

Working pressure by Rules 129 lbs Screw stays: Material Steel Tensile strength 26-30

Diameter { At turned off part, 1 1/2" No. of threads per inch 6 Area supported by each stay 94.5 sq in

Working pressure by Rules 125 lbs Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 3/4" or Over threads 1 3/4"
No. of threads per inch 9 Area supported by each stay 101 sq" Working pressure by Rules 181 lbs
Tubes: Material L. W. Iron External diameter { Plain W 2 3/4" C 2" Thickness { W 5/16" No. of threads per inch 9
Pitch of tubes W 3 3/4" x 3 3/4" Stay W 2 3/4" C 2" Working pressure by Rules 138 lbs Manhole compensation: Size of opening in
shell plate 16" x 20" Section of compensating ring 6" x 1 1/8" No. of rivets and diameter of rivet holes 44 - 1 5/16"
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 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 22 inclusive for boilers been complied with Yes

For and on behalf of
The foregoing is a correct description.

G. B. Miller Manufacturer

Dates of Survey { During progress of work in shops - - - 1939 June 14, Aug. 22, Sept. 1, 3, 14, Oct. 2, 13, 24, Nov. 13, 21
while building { During erection on board vessel - - - Dec. 1, 11, Jan. 11

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) yes

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 built under Special Survey, and in accordance with the Rule Requirements, & approved plan. The materials & workmanship are good. The boiler was tested by hydraulic pressure to 230 lbs. on completion, & found satisfactory, & 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 memo. Rpt.

P. J. Fraser

Survey Fee £ 13 : 3 : 0 When applied for, 20/1/ 1940

Travelling Expenses (if any) £ : : When received, 13/4 1940 R.P.S.

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

Committee's Minute

TUE. 9 APR 1940

Assigned

See Std J.E. 32833



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Foundation