

REPORT ON BOILERS.

No. 17102

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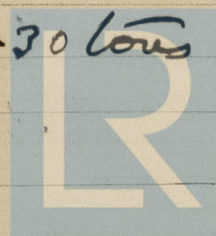
DEC 1941

Date of writing Report 11/9/41 When handed in at Local Office 12/9/41 Port of Middleburgh
 No. in Reg. Book. Stockton-on-Tees Date, First Survey 30.4.41 Last Survey 8/9/41
 on the SS. EMPIRE MARLOWE (Number of Visits 12) Gross Tons Net

Built at West Hartlepool By whom built Wm. Gray & Co. Ltd. Yard No. 1122 When built 1941
 Engines made at West Hartlepool By whom made Central Marine Engine Works Engine No. 1122 When made 1941
 Boilers made at Stockton By whom made Stockton C. Eng. Riley Bldg. Boiler No. 6565 When made 1941
 Nominal Horse Power 505 Owners Ministry of War Transport Port belonging to West Hartlepool

MULTITUBULAR BOILERS ~~MAIN~~, AUXILIARY, OR ~~DONKEY~~.

Manufacturers of Steel Steel Co. Scotland, & Appleby Frodham Steel Co. (Letter for Record S)
 Total Heating Surface of Boilers 1786 sq ft Is forced draught fitted Yes Coal or Oil fired Coal
 No. and Description of Boilers 1- Single Ended Working Pressure 220 lbs
 Tested by hydraulic pressure to 380 lbs Date of test 8/9/41 No. of Certificate 7029 Can each boiler be worked separately Yes
 Area of Firegrate in each Boiler 45 sq ft No. and Description of safety valves to each boiler 2 Lockburn's High Lift
 Area of each set of valves per boiler { per Rule 4.75 sq ft as fitted 6.28 sq ft Pressure to which they are adjusted 220 lbs 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 5'9" Is oil fuel carried in the double bottom under boilers No
 Smallest distance between shell of boiler and tank top plating 3'0" Is the bottom of the boiler insulated Yes
 Largest internal dia. of boilers 12'9 1/2" Length 11'6" Shell plates: Material Steel Tensile strength 29-33 tons
 Thickness 1 1/4" Are the shell plates welded or flanged No Description of riveting: circ. seams { end D.R. inter D.R.
 long. seams T.R.O.B.S. Diameter of rivet holes in { circ. seams } 1 5/16" Pitch of rivets { 3.79" 9.45"
 Percentage of strength of circ. end seams { plate 65.30 rivets 45.20 Percentage of strength of circ. intermediate seam { plate ✓ rivets ✓
 Percentage of strength of longitudinal joint { plate 85.60 rivets 87.80 combined 88.49
 Thickness of butt straps { outer 1" inner 1 1/8" No. and Description of Furnaces in each Boiler 3- Corrugated (Beighton)
 Material Steel Tensile strength 26-30 tons Smallest outside diameter 37 1/4"
 Length of plain part { top ✓ bottom ✓ Thickness of plates { crown 19/32" bottom ✓ Description of longitudinal joint Weld
 Dimensions of stiffening rings on furnace or c.c. bottom ✓
 End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 17/32" Pitch of stays 19" x 16"
 How are stays secured D. Nuts
 Tube plates: Material { front Steel back Steel Tensile strength { 26-30 tons Thickness { 15 1/16" 25 1/32"
 Mean pitch of stay tubes in nests 10 1/16" Pitch across wide water spaces 14"
 Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder
 at centre 8 1/2", 2 @ 5/8" Length as per Rule 31 7/32" Distance apart 7" No. and pitch of stays
 in each 2 @ 10" Combustion chamber plates: Material Steel
 Tensile strength 26-30 tons Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 3/4"
 Pitch of stays to ditto: Sides 10" x 7" Back 9 1/4" x 8" Top 10" x 7" Are stays fitted with nuts or riveted over Nuts in c.c.s. at back plate
 Front plate at bottom: Material Steel Tensile strength 26-30 tons
 Thickness 15/16" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 27/32"
 Pitch of stays at wide water space 14" x 8" Are stays fitted with nuts or riveted over Nuts
 Main stays: Material Steel Tensile strength 28-32 tons
 Diameter { body of stay 3" No. of threads per inch 6
 Screw stays: Material Steel Tensile strength 26-30 tons
 Diameter { at turned off part 1 3/4" No. of threads per inch 9



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Are the stays drilled at the outer ends *No.* Margin stays: Diameter *17/8"*
No. of threads per inch *9*
Tubes: Material *S.S. Steel* External diameter *3"* Thickness *3/8" + 5/16"* No. of threads per inch *9*
Pitch of tubes *4 1/8" x 4 1/4"* Manhole compensation: Size of opening in
shell plate *16 1/2" x 20 1/2"* Section of compensating ring *9 1/4" x 1 1/4"* No. of rivets and diameter of rivet holes *40 - 1 5/16"*
Outer row rivet pitch at ends *9 1/8"* 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
Internal diameter Thickness of crown No. and diameter of
stays Inner radius of crown
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
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
Pressure to which the safety valves are adjusted Hydraulic test pressure:
tubes forgings and 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
STOCKTON CHEMICAL ENGINEERS & RILEY BOILERS LTD.

The foregoing is a correct description.

Manufacturer.
DIRECTOR.

Dates of Survey
During progress of work in shops - -
while building During erection on board vessel - -

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) *16/6/1*

Total No. of visits

Is this Boiler a duplicate of a previous case *yes* If so, state Vessel's name and Report No. *Habb Apr No 17084*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

This boiler has been constructed under Special Survey, in accordance with the Rule Requirements, & approved plan. The materials & workmanship are good, & on completion the boiler was tested by hydraulic pressure to 380 lb & found tight & satisfactory.

This boiler is being forwarded to West Hartlepool for installation in Messrs Wm Gray & Co Ltd, Contract No 182

This boiler has now been satisfactorily fitted and secured on board and the safety valves adjusted.

Arthur W. Oxford.

West Hartlepool.

Survey Fee ... £ *11 : 18 -* When applied for, *19 9 19 11.*
Travelling Expenses (if any) £ : : When received, *19*

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

Committee's Minute

Assigned

See Hpl. J.C. 18222



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