

REPORT ON BOILERS.

Sld. No. 34502
Mab No. 18052

Received at London Office

13 MAY 1946

Date of writing Report 8th May 1946 When handed in at Local Office 11th May 1946 Port of Middlesbrough

No. in Survey held at Stockton-on-Tees Date, First Survey 13th Sept. 1945 Last Survey 3rd May 1946

Reg. Book. "BRITISH COMMERCE" (Number of Visits 21) Tons { Gross 6092
Net 3335

Built at Sunderland By whom built Wm. Hayford & Sons L^{td} Yard No. 436 When built 1946

Engines made at Sunderland By whom made Wm. Hayford & Sons L^{td} Engine No. 436 When made 1946

Boilers made at Stockton-on-Tees By whom made Stockton C.E. & Riley Boilers L^{td} Boiler No. 6930 When made 1946

Nominal Horse Power _____ Owners _____ Port belonging to _____

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby Frodingham Steel Co. L^{td} (Letter for Record S.)

Total Heating Surface of Boilers 2020 sq. ft. Is forced draught fitted Yes Coal or Oil fired oil

No. and Description of Boilers 1 SE. Multitubular Marine Working Pressure 150 lbs. p.s.i.

Tested by hydraulic pressure to 275 lbs. Date of test 3/5/46 No. of Certificate 7172 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler _____ No. and Description of safety valves to each boiler Two imp. high lift

Area of each set of valves per boiler { per Rule 7.6 15.3 for ordinary valves Pressure to which they are adjusted 150 Are they fitted with easing gear Yes
as fitted 14.0

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 _____ Is oil fuel carried in the double bottom under boilers No.

Smallest distance between shell of boiler and tank top plating _____ Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 12' 10 3/16" Length 11' 6" Shell plates: Material Steel Tensile strength 29-33

Thickness 29/32" Are the shell plates welded or flanged No. Description of riveting: circ. seams { end D.R. Lap.
inter. _____

long. seams TR. D.B.S. Diameter of rivet holes in { circ. seams 1 1/16" Pitch of rivets { 3.187"
long. seams 1 1/16" { 7 1/16"

Percentage of strength of circ. end seams { plate 66.6% Percentage of strength of circ. intermediate seam { plate _____
rivets 48.7% rivets _____

Percentage of strength of longitudinal joint { plate 84.9% rivets 103%

Thickness of butt straps { outer 23/32" No. and Description of Furnaces in each Boiler 2 Dighton Corrugated
inner 27/32"

Material _____ Tensile strength 26-30 Smallest outside diameter 3' 10"

Length of plain part { top _____ Thickness of plates { crown 1/2" Description of longitudinal joint welded
bottom _____ bottom _____

Dimensions of stiffening rings on furnace or c.c. bottom _____

End plates in steam space: Material Steel Tensile strength 26-30 Thickness 1" Pitch of stays 18" x 17"

How are stays secured Double nuts & washers screwed into both plates

Tube plates: Material { front Steel Tensile strength { 26-30 Thickness { 7/8"
back _____ 3/4"

Mean pitch of stay tubes in nests 9 3/8" Pitch across wide water spaces 13 1/2"

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

at centre 7" - 2 @ 5/8" Length as per Rule 2' 3 1/2" Distance apart 9" No. and pitch of stays _____

in each 2 @ 9" Combustion chamber plates: Material Steel

Tensile strength 26-30 Thickness: Sides 2 1/32" Back 1 9/32" Top 2 1/32" Bottom 2 1/32"

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

Front plate at bottom: Material Steel Tensile strength 26-30

Thickness 7/8" Lower back plate: Material Steel Tensile strength 26-30 Thickness 3/4"

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

Main stays: Material Steel Tensile strength 28-32

Diameter { At body of stay, _____ No. of threads per inch 6
or _____
Over threads 2 3/4"

Screw stays: Material Steel Tensile strength 26-30

Diameter { At turned off part, _____ No. of threads per inch 9
or _____
Over threads 1 1/2"

Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, or Over threads 1 3/4"
No. of threads per inch 9.
Tubes: Material Seamless Steel External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 10 SW.G. 5/16" No. of threads per inch 9
Pitch of tubes 3 3/4" x 3 3/4" Manhole compensation: Size of opening in shell plate 21" x 17" Section of compensating ring 8 3/4" x 1 1/8" No. of rivets and diameter of rivet holes 52 - 1 1/16"
Outer row rivet pitch at ends 7 1/16" 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 _____ 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 { Tubes _____ Steel forgings _____ 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 _____
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 _____

The foregoing is a correct description, H. G. Mearns Manufacturer.

Dates of Survey { During progress of work in shops - - - 1945 Sept. 13, Oct. 31, Nov. 14, 23, 29, Dec. 14, 20, 28, 1946 Jan. 11, 16, Feb. 7, 10, 19, 28, Mar. 7, 19, 29, Apr. 11, 15, 26, May 3.
while building { During erection on board vessel - - - } Are the approved plans of boiler and superheater forwarded herewith 9/2/45
(If not state date of approval.)
Total No. of visits 21

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 Rule Requirements & approved plan.
The materials & workmanship are good & on completion the boiler was hydraulically tested to 275 lbs ps, & found satisfactory.
This boiler is being forwarded to Sunderland for Wm. Donford's Contract No. 736

This boiler has been securely fixed on board the vessel & safety valves adjusted to working pressure as above

In recommendation please see sketch p. 1.

H. G. Mearns.

Survey Fee £20 : 5 : 0 } When applied for, 11/5/ 19 46
Travelling Expenses (if any) £ : : } When received, 19 _____

L. E. Mearns
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 16 AUG 1946

Assigned See F.E. machy. rpt.



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