

REPORT ON BOILERS.

No. 104962

Received at London Office..... 23 DEC 1950

IN D.O.

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

Manufacturers of Steel. COLVILLES L^{td}

Total Heating Surface of Boilers 2198 x 2 = 4396 sq ft Is forced draught fitted YES (Letter for Record S)

No. and Description of Boilers TWO SINGLE ENDED Coal or Oil fired Oil

Tested by hydraulic pressure to 320 LBS/SQ IN Date of test 11/1/50 No. of Certificate 1426 Working Pressure 180 LBS/SQ IN

Area of Firegrate in each Boiler 11.6 No. and Description of safety valves to each boiler ONE 2 1/4" STEEL DOUBLE IMPROVED HIGH LIFT

Area of each set of valves per boiler 7.94 Pressure to which they are adjusted 180 LBS/SQ IN Are they fitted with easing gear YES

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler NO MAIN BOILERS

Smallest distance between boilers or uptakes and bunkers or woodwork 2'-6" Is oil fuel carried in the double bottom under boilers NO

Smallest distance between shell of boiler and tank top plating 13'-9 3/4" Is the bottom of the boiler insulated YES

Largest internal dia. of boilers 11'-6" OVERALL Shell plates: Material MILD STEEL Tensile strength 29/33 TONS/SQ IN

Thickness 1 1/8" Are the shell plates welded or flanged NO Description of riveting: circ. seams 3 1/2" end 2 1/2" inter 3 1/2"

Long. seams TK DOUBLE BOT STRAPS Diameter of rivet holes in 1 3/8" Pitch of rivets 8 3/8"

Percentage of strength of circ. end seams 66.1% Percentage of strength of circ. intermediate seam 44.7%

Percentage of strength of longitudinal joint 85.8% Working pressure of shell by Rules 185.6 LBS/SQ IN

Thickness of butt straps 7/8" No. and Description of Furnaces in each Boiler THREE CORRUGATED DEIGHTON TYPE

Material MILD STEEL Tensile strength 26/30 TONS/SQ IN Smallest outside diameter 3'-2 1/4"

Length of plain part 1" Thickness of plates 1 1/2" Description of longitudinal joint WELD

Dimensions of stiffening rings on furnace or c.c. bottom NONE Working pressure of furnace by Rules 188 LBS/SQ IN

Diagonal plates in steam space: Material MILD STEEL Tensile strength 26/30 TONS/SQ IN Thickness 1 3/8" Pitch of stays 17 3/4" x 24 1/2"

How are stays secured NUTS IN & OUT Working pressure by Rules 193.7 LBS/SQ IN

Diagonal plates: Material MILD STEEL Tensile strength 26/30 TONS/SQ IN Thickness 23/32"

Minimum pitch of stay tubes in nests 10" Pitch across wide water spaces 14" Working pressure 217 LBS/SQ IN

Diagonal plates to combustion chamber tops: Material MILD STEEL Tensile strength 29/33 TONS/SQ IN Depth and thickness of girders 23 1/2" x 14"

Centre 7" x 3/4" Length as per Rule 2'-7" Distance apart 6" No. and pitch of stays 180 LBS/SQ IN

Each EW WHOLE LENGTH Working pressure by Rules 180 LBS/SQ IN Combustion chamber plates: Material MILD STEEL

Tensile strength 26/30 TONS/SQ IN Thickness: Sides 23/32" Back 1 1/4" Top 23/32" Bottom 23/32"

Pitch of stays to ditto: Sides 8 7/8" x 11" Back 9 5/8" x 8 3/4" Top GILDED EW Are stays fitted with nuts or riveted over EW TO PLATES

Working pressure by Rules 181.68 LBS/SQ IN Front plate at bottom: Material MILD STEEL Tensile strength 26/30 TONS/SQ IN

Thickness 29/32" Lower back plate: Material MILD STEEL Tensile strength 26/30 TONS/SQ IN Thickness 7/8"

Pitch of stays at wide water space 14" Are stays fitted with nuts or riveted over NO EW THROUGH PLATES

Working pressure 217 LBS/SQ IN Main stays: Material MILD STEEL Tensile strength 28/32 TONS/SQ IN

At body of stay 3" No. of threads per inch 6 Area supported by each stay 17 3/4" x 24 1/2"

Over threads 3 1/4" Screw stays: Material MILD STEEL Tensile strength 26/30 TONS/SQ IN

Working pressure by Rules 180.2 LBS/SQ IN No. of threads per inch 9 Area supported by each stay 1 1/2" (8 3/4" x 9 5/8")

At turned off part 1 3/4" 1 1/4" STAYS EW TO CC PLATES

Over threads 1 3/4" 0. SCREWED THROUGH SHELL

9/1/51
JM

Working pressure by Rules 185 lbs/p ✓ Are the stays drilled at the outer ends No ✓ Margin stays: Diameter At turned off part, 1 3/4" & 1 7/8" ✓
No. of threads per inch EW To Plans ✓ Area supported by each stay 9 5/8" x 11 7/8" ✓ Working pressure by Rules 199 lbs/p ✓
Tubes: Material MLO STEEL ✓ External diameter 2 3/4" ✓ Thickness 3 1/8" ✓ No. of threads per inch 9 ✓
Pitch of tubes 4" x 4" ✓ Working pressure by Rules 215 lbs/p ✓ Manhole compensation: Size of opening None ✓
shell plate ✓ Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓
Outer row rivet pitch at ends ✓ 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 ✓ Working pressure by Rules ✓ Thickness of crown ✓ No. and diameter ✓
stays ✓ Inner radius of crown ✓ Working pressure by Rules ✓ Diameter of rivet holes and pitch ✓
How connected to shell ✓ Size of doubling plate under dome ✓
of rivets in outer row in dome connection to shell ✓
Type of Superheater None ✓ 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 ✓
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 ✓
Rules ✓ Pressure to which the safety valves are adjusted ✓ Hydraulic test press ✓
tubes ✓ forgings and castings ✓ and after assembly in place ✓ Are drain cocks ✓
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
THE NORTH EASTERN MARINE ENGINEERING CO. (1938) L
Manufactured by Henry Harte ✓

Dates of Survey while building { During progress of work in shops - - - (1950) Feb. 2.28 June 1 July 20 Sept 13 Oct 11 1951 are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
During erection on board vessel - - - 25 Nov 18 22 30 Dec 1 20 Total No. of visits 13 ✓

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.) The boilers have been constructed under special survey in accordance with the approved plan
The materials & workmanship are good
The boilers will be despatched to Middlesbrough to be installed on board
These boilers have been securely fitted on board, tried under working conditions and found satisfactory.
On completion the safety valves were adjusted under steam to 180 lbs./sq. in.
H. Harte

Survey Fee 36.7 M. £ 61 : 14 : 0 ✓ When applied for 21 DEC 1950 ✓
Travelling Expenses (if any) £ : : When received 19 ✓

J. A. Crute
Engineer Surveyor to Lloyd's Register of Ships

TUES. 11 DEC 1951

Committee's Minute ✓
Assigned See FE memo, etc.