

REPORT ON BOILERS.

No. 5827

11 JAN 1943

Received at London Office

Date of writing Report 26th Oct., 1942 When handed in at London Office 26th Oct., 1942 Port of Vancouver, B. C.No. in Survey held at Vancouver, B. C. Date, First Survey August 4, 1942 Last Survey October 24th, 1942
Reg. Book.(Number of Visits. 34)on the Steel Single Screw Steamer "FORT THOMPSON"Tons { Gross 7133.58
Net 4243.53Built at Vancouver, B. C. By whom built Burrard Dry Dock Co. Ltd. Yard No. 146 When built 1942Engines made at Montreal, P.Q. By whom made Dominion Engineering Wks. Engine No. 42 When made 1942Boilers made at Vancouver, B. C. By whom made Dominion Bridge Co. Ltd. Boiler No. 251
252 When made 1942
254Nominal Horse Power. 504 Owners Minister of Munitions & Supply Port belonging to of Canada.MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY OR DONKEY~~Manufacturers of Steel Worth Steel Co., Lukens Steel Co.,
American Welding Co., Bethlehem Steel Co. (Letter for Record S)Total Heating Surface of Boilers 7140 Sq. Ft. Is forced draught fitted Yes Coal or Oil fired CoalNo. and Description of Boilers Three Single ended Cylindrical Multitubular Working Pressure 220 lbs.Tested by hydraulic pressure to 380 lbs. Date of test 21-8-42 No. of Certificate 251
25-8-42 252 Can each boiler be worked separately Yes
29-8-42 254Area of Firegrate in each boiler 51 sq. ft. No. and Description of Safety valves to each boiler Two - 2 1/2" Dia. Morrison High LiftArea of each set of valves per boiler { per Rule 6.35 Sq. Ins. Pressure to which they are adjusted 220 Are they fitted with easing gear Yes
as fitted 7.95 Sq. Ins.In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No donkey boilerSmallest distance between boilers or uptakes and bunkers or woodwork 2 ft. Is oil fuel carried in the double bottom under boilers NoSmallest distance between shell of boiler and tank top plating 2 ft. Is the bottom of the boiler insulated YesLargest internal diameter of boilers 14'-6-3/16" Length 11'-9" ext. Shell plates: Material O.H. Steel Tensile strength 29-33 tonsThickness 1-13/32" Are the shell plates welded or flanged No Description of riveting: circ. seams { end Double
inter. --Long. seams Treble Riv. Double butt straps. Diameter of rivet holes in { circ. seams 1-1/2" Pitch of rivets { 4-3/16" approx.
long. seams 1-1/2" 10-1/16"Percentage of strength of circ. end seams { plate 64.2% Percentage of strength of circ. intermediate seam { plate --
rivets 47.6% rivets --Percentage of strength of longitudinal joint { plate 85.1%
rivets 92.8% combined 88.7%Thickness of butt straps { outer 1-3/32 No. and Description of Furnaces in each Boiler 3 Morrison corrugated Stephen Gourley
inner 1-7/32 end.Material O.H. Steel Tensile strength 26 - 30 tons Smallest outside diameter 41-9/16"Length of plain part { top 9-3/16" Thickness of plates { crown { 21/32" Description of longitudinal joint Forge Weld
bottom 9-3/16" bottom {

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

End plates in steam space: Material O.H. Steel Tensile strength 26 - 30 tons Thickness 1-7/16" Pitch of stays 21" x 21"How are stays secured Double nuts & 6-3/4" x 1/4" washers each endTube plates: Material { front O.H. Steel Tensile strength { 26 - 30 tons Thickness { 31/32
back O.H. Steel 26 to 30 tons 13/16Mean pitch of stay tubes in nests 9.82" Pitch across wide water spaces 8-1/4" x 14-1/2"Girders to combustion chamber tops: Material O.H. Steel Tensile strength 29 - 33 tons Depth and Thickness of girderDouble at centre 10-1/4" x 7/8" Length as per Rule 34" Distance apart 11" No. and pitch of staysin each 3 - 7-5/8 Combustion chamber plates: Material O.H. SteelTensile strength 26 - 30 tons Thickness: Sides 25/32 Back 23/32 Top 25/32 Bottom 25/32Pitch of stays to ditto: Sides 9"x10-3/16" Back 9"x8 1/2" Cent. CC Top 7-5/8" x 11" Are stays fitted with nuts or riveted over NutsFront plate at bottom: Material O.H. Steel Tensile strength 26 - 30 tonsThickness 31/32" Lower back plate: Material O.H. Steel Tensile strength 26 - 30 tons Thickness 29/32Pitch of stays at wide water space 9" x 14-1/2" Are stays fitted with nuts or riveted over NutsMain stays: Material O.H. Steel Tensile strength 28 - 32 tonsDiameter { At body of stay, 3-1/2" No. of threads per inch 6
or 3-3/4"
Over threadsScrew stays: Material O.H. Steel Tensile strength 26 - 30 tonsDiameter { At turned off part, 1.606 No. of threads per inch 9
or 1-3/4"
Over threads

Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1.856" or Over threads 2" 2"

No. of threads per inch 9

Tubes: Material O.H. Steel External diameter { Plain 3" Stay 3" Thickness { .16" 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

End shell plate 16" x 12" Section of compensating ring -- No. of rivets and diameter of rivet holes { Upper 4-1/4" Lower 3-1/2"

Outer row rivet pitch at ends -- Depth of flange if manhole flanged 4-1/4" Steam Dome: Material --

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 "ELESCO" -Smoke box type Manufacturers of

{ Tubes (National Tube Co.,
Steel forgings (Pittsburg, Penna.
Steel castings (

Number of elements 58 Material of tubes S.D. Steel Internal diameter and thickness of tubes .69" .095" (BWG min)

Material of headers O.H. Steel Tensile strength 33.5 tons Thickness 1-1/8" min. Can the superheater be shut off and the boiler be worked separately No Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes

Area of each safety valve 1.75 per sq. inch Are the safety valves fitted with easing gear Yes

Pressure to which the safety valves are adjusted 220 lbs. per sq. inch Hydraulic test pressure: tubes 1500 lbs. per sq. forgings and castings 600 lbs. per sq. and after assembly in place 440 lbs. per sq. Are drain cocks or valves fitted to free the superheater from water where necessary Yes

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

The foregoing is a correct description,

R.A.M. Lellan

Manufacturer.

Dates of Survey { During progress of work in shops - - 1942. Aug. 4, 7, 8, 13, 17, 19, 25, 29. Are the approved plans of boiler and superheater forwarded herewith Approved (If not state date of approval.) Plans in U.S.

while building { During erection on board vessel - - 1942. - Aug. 29, 30 Sept. 6, 9, 12, 18, 21, 22, 23, 24, 26, 29, 30. Total No. of visits 34

Oct. 5, 6, 8, 10, 14, 16, 17, 19, 20, 21, 22, 23, 24.

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. S.S. "FORT ST. JAMES" (Vancouver Report No. 5718)

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

These boilers have been constructed under Special Survey of tested materials in accordance with the approved plans, New York letters and otherwise in conformity with the Society's Rules. On completion the boilers were satisfactorily tested under hydraulic pressure to 380 lbs. per sq. inch.

They were fitted on board under Special Survey, examined under working conditions, safety valves adjusted under steam to the working pressure and a satisfactory accumulation test carried out.

Cross seam of both end plates is fusion welded by Union Melt Process, stress relieved and x-rayed under survey. Certificate attached, welds ground flush both sides of plate. Combustion chamber wrapper plates welded to back tube plate and combustion chamber back plate; wrapper plate butts also welded, all hand welding and ground flush and tested as per Rule.

Survey Fee £ \$150.00 :
Travelling Expenses (if any) £ \$ 15.00 :

When applied for, 26th Oct. 42
When received, ✓ 10

W.C. Baillie
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 15 JAN 1943

Assigned

See Ver. 2E 5827



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Foundation