

## REPORT ON BOILERS.

No. 5766.

Received at London Office

10 AUG 1942

Date of writing Report

JUNE 18<sup>th</sup> 1942

When handed in at

Local

Office

JUNE 18<sup>th</sup> 1942

Port of

VANCOUVER B.C.

No. in

Reg. Book.

Survey held at

NORTH VANCOUVER B.C.

Date, First Survey

JAN. 14<sup>th</sup> 1942

Last Survey

JUNE 15<sup>th</sup> 1942

on the

STEEL SINGLE SCREW STEAMER "FORT AUGUSTUS"

(Number of Visits)

28

Tons

Gross 7153.73

Net 4252.13

Built at

NORTH VANCOUVER

By whom built

NORTH VAN. SHIP REPAIRS LTD.

Yard No.

102

When built

1942

Engines made at

LACHINE, QUEBEC

By whom made

CANADIAN ALLIS CHALMERS LTD

Engine No.

62

When made

1942

Boilers made at

VANCOUVER B.C.

By whom made

DOMINION BRIDGE CO. LTD.

Boiler No.

140

When made

1942

Nominal Horse Power

504

Owners

H.M. GOVERNMENT IN UNITED KINGDOM

Port belonging to

MULTITUBULAR BOILERS—MAIN, ~~STEEL~~ ~~STEEL~~ ~~STEEL~~

Manufacturers of Steel

NORTH STEEL CO. - LUKENS STEEL CO.

AMERICAN WILSON CO. BATHLEMAN STEEL CO.

(Letter for Record)

Total Heating Surface of Boilers

2376 Sq. Ft. 7140 Sq. Ft. Total

Is forced draught fitted

YES

Coal or Oil fired

COAL

No. and Description of Boilers

THREE SINGLE ENDED CYLINDRICAL MULTITUBULAR

Working Pressure

220 LBS.

Tested by hydraulic pressure to

380 LBS.

Date of test

30-1-42

No. of Certificate

140

Can each boiler be worked separately

YES

Area of Firegrate in each boiler

51 Sq. Ft.

No. and Description of Safety valves to each boiler

Two - 2 1/2" Dia. MORRISON HIGH LIFT.

Area of each set of valves per boiler

{ per Rule 7.5 Sq. Ft.

{ as fitted 7.95 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

NO DONKEY BOILER

Smallest distance between boilers or uptakes and bunkers or woodwork

10 FEET.

Is oil fuel carried in the double bottom under boilers

NO

Smallest distance between shell of boiler and tank top plating

2 FEET.

Is the bottom of the boiler insulated

YES

Largest internal diameter of boilers

14'-6 3/16"

Length

11'-9" EXT.

Shell plates: Material

O.H. STEEL

Tensile strength

29-35 TONS

Thickness

1 3/32"

Are the shell plates welded or flanged

NO

Description of riveting: circ. seams

{ end DOUBLE

{ inter. 4 3/16" APPROX

Long. seams

TRIPLE RIV. DOUBLE BUTT STRAPS

Diameter of rivet holes in

{ circ. seams 1 1/2"

{ long. seams 1 1/8"

Pitch of rivets

{ 4 3/16" APPROX

{ 10 1/16"

Percentage of strength of circ. end seams

{ plate 64.2%

{ rivets 47.6%

Percentage of strength of circ. intermediate seam

{ plate 85.1%

{ rivets 92.8%

Percentage of strength of longitudinal joint

{ plate 85.1%

{ rivets 92.8%

{ combined 88.7%

Thickness of butt straps

{ outer 1 3/32"

{ inner 1 3/32"

No. and Description of Furnaces in each Boiler

THREE MARINE COMBUSTION STEPHEN ROULEY &amp; CO.

Material

O.H. STEEL

Tensile strength

26-30 TONS

Smallest outside diameter

41 9/16"

Length of plain part

{ top 9 7/16"

{ bottom 9 7/16"

Thickness of plates

{ crown 2 1/8"

{ bottom 1 5/8"

Description of longitudinal joint

FARGE WELD.

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 1/16"

Pitch of stays

21x21"

How are stays secured

DOUBLE NUTS - WASHERS 1 1/2" x 1 1/2" EACH END.

Tube plates: Material

{ front O.H. STEEL

{ back O.H. STEEL

Tensile strength

{ 26-30 TONS

{ 26-30 TONS

Thickness

{ 3/32"

{ 9/16"

Mean pitch of stay tubes in nests

9.82"

Pitch across wide water spaces

8 1/2" x 14 1/2"

Girders to combustion chamber tops: Material

O.H. STEEL

Tensile strength

29-35 TONS

Depth and Thickness of girder

DOUBLE at centre

10 1/4" x 7/8"

Length as per Rule

24"

Distance apart

11"

No. and pitch of stays

in each

3-7 1/8"

Combustion chamber plates: Material

O.H. STEEL

Tensile strength

26-30 TONS

Thickness: Sides

1 1/8"

Back

3/32"

Top

1 1/8"

Bottom

1 1/8"

Pitch of stays to ditto: Sides

9 x 10 3/16"

Back

9 x 10 3/16" CENT. CC.

Top

7 5/8" x 11"

Are stays fitted with nuts or riveted over

NUTS.

Front plate at bottom: Material

O.H. STEEL

Tensile strength

26-30 TONS

Thickness

3 1/32"

Lower back plate: Material

O.H. STEEL

Tensile strength

26-30 TONS

Thickness

3 1/32"

Pitch of stays at wide water space

9 x 14 1/2"

Are stays fitted with nuts or riveted over

NUTS.

Main stays: Material

O.H. STEEL

Tensile strength

28-32 TONS

Diameter

{ At body of stay, 3 1/2"

{ Over threads, 3 1/4"

No. of threads per inch

6

Screw stays: Material

O.H. STEEL

Tensile strength

26-30 TONS

Diameter

{ At turned off part, 1 5/8"

{ Over threads, 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 { At turned off part, 1.886 or 2" Over threads. 2"

No. of threads per inch 9

Tubes: Material OH STEEL External diameter { Plain 3" Stay 3" Thickness { .16" 3/8" - 1/2" No. of threads per inch 9

Pitch of tubes 4 1/2" x 4 1/4" Manhole compensation: Size of opening in END plate 16" x 12" Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓

Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 4 1/2" 3 1/2" 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 PENN. Steel castings ✓

Number of elements 58 Material of tubes SD STEEL Internal diameter and thickness of tubes 69" - 4 1/2" (ODWD) 1/2"

Material of headers OH STEEL Tensile strength 53,500 LBS Thickness 1 1/2" min. 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 YES

Area of each safety valve 1.750" Are the safety valves fitted with easing gear YES

Pressure to which the safety valves are adjusted 320 LBS Hydraulic test pressure: tubes 1500 LBS forgings and castings 600 LBS and after assembly in place 440 LBS 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,

Dominion Bridge Co Ltd Manufacturer. per J. J. Jones

Dates of Survey { During progress of work in shops -- JAN 14-19-22-27-30 -- 6-11 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Plan - UK

while building { During erection on board vessel -- APR 2 MAY 23 14-15-16-18-20-21-25-29-30 Total No. of visits 28

JUN 1-2-3-4-5-6-9-10-11-12-13

Is this Boiler a duplicate of a previous case YES If so, state Vessel's name and Report No. 3/5 FORT ALEXANDRIA REG. NO. 5753

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

These boilers have been constructed under Special Survey of tested material 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 320 lbs. 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 rayed under survey. Certificates attached. Welds ground flush both sides of plates.

Survey Fee ... 150 : When applied for, 15. 6. 1942 RB

Travelling Expenses (if any) 15 : When received, ✓ 19

REKING & Co. Baillie  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRL 14 AUG 1942

Assigned See Cr. JE 5766



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