

REPORT ON BOILERS.

No. 80372

Received at London Office

12 MAY 1926

Date of writing Report

192

When handed in at Local Office

5/5/1926

Port of NEWCASTLE

No. in Survey held at

WALKER

Date, First Survey 27/8/25

Last Survey 27/4/1926

1926

g. Book.

(Number of Visits)

Gross 3445

on the S/S. NORTHLAND

Tons Net 2029

Master

Built at WALKER

By whom built S. H. W. R. L^d

Yard No. 1214 When built 1926

Engines made at

WALKER

By whom made SWAN. HUNTER. WIGHAM. RICHARDSON. L^d

Engine No. 1214 When made 1926

Boilers made at

WALKER

By whom made SWAN. HUNTER. WIGHAM. RICHARDSON. L^d

Boiler No. 1214 When made 1926

Nominal Horse Power

393

Owners Clarke Steamship Coy Ltd

Port belonging to Quebec

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *Steel Coy of Scotland - (Plates) - Leeds Forge Co Ltd. (Furnaces)* ✓ (Letter for Record *S* ✓)

Total Heating Surface of Boilers *6195 sq ft* ✓ Is forced draught fitted *yes* ✓ Coal or Oil fired *Coal or oil* ✓

No. and Description of Boilers *3 cylindrical. Multitubular. Single ended.* ✓ Working Pressure *180 lb* ✓

Tested by hydraulic pressure to *320 lb* Date of test *19.11.25* No. of Certificate *9957* ✓ Can each boiler be worked separately *yes* ✓

Area of Firegrate in each Boiler *52.7 sq ft* No. and Description of safety valves to each boiler *two direct spring. High lift valves* ✓

Area of each set of valves per boiler { per Rule *10.59 sq ft* ✓ as fitted *11.86 sq ft* ✓ Pressure to which they are adjusted *185 lb* ✓ 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 fitted* ✓

Smallest distance between boilers or uptakes and bunkers or woodwork *18"* ✓ Is oil fuel carried in the double bottom under boilers *yes* ✓

Smallest distance between shell of boiler and tank top plating *18"* ✓ Is the bottom of the boiler insulated *no* ✓

Largest internal dia. of boilers *13'-6"* ✓ Length *11'-6"* ✓ Shell plates: Material *Steel* ✓ Tensile strength *30/34 tons* ✓

Thickness *1 1/16"* ✓ Are the shell plates welded or flanged *no* ✓ Description of riveting: circ. seams { end *DR. L* ✓ inter. *DR. L* ✓

Long. seams *D.B. S-TR* ✓ Diameter of rivet holes in { circ. seams *1 1/8"* ✓ long. seams *1 1/8"* ✓ Pitch of rivets { *3.37* ✓ *4 13/16* ✓

Percentage of strength of circ. end seams { plate *66.61 %* ✓ rivets *42.56 %* ✓ Percentage of strength of circ. intermediate seam { plate *85.6 %* ✓ rivets *86.06 %* ✓

Percentage of strength of longitudinal joint { plate *85.6 %* ✓ rivets *86.06 %* ✓ combined *88.41 %* ✓ Working pressure of shell by Rules *184 lb* ✓

Thickness of butt straps { outer *15/16"* ✓ inner *15/16"* ✓ No. and Description of Furnaces in each Boiler *3 Deightons* ✓

Material *Steel* ✓ Tensile strength *26/30 tons* ✓ Smallest outside diameter *3'-15/16"* ✓

Length of plain part { top *15/32"* ✓ bottom *15/32"* ✓ Thickness of plates { crown *15/32"* ✓ bottom *15/32"* ✓ Description of longitudinal joint *weld* ✓

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules *180 lb* ✓

Stays in steam space: Material *Steel* ✓ Tensile strength *26/30 tons* ✓ Thickness *1 1/8"* ✓ Pitch of stays *18" x 18"* ✓

How are stays secured *Double nuts* ✓ Working pressure by Rules *181 lb* ✓

Stays plates: Material { front *Steel* ✓ back *Steel* ✓ Tensile strength { *26/30 tons* ✓ *26/30 tons* ✓ Thickness { *F 15/16"* ✓ *B. 1 1/16"* ✓

Mean pitch of stay tubes in nests *9 3/8"* ✓ Pitch across wide water spaces *13 1/2"* ✓ Working pressure { front *183 lb* ✓ back *190 lb* ✓

Stays to combustion chamber tops: Material *Steel* ✓ Tensile strength *28/32 tons* ✓ Depth and thickness of girder

Centre *8 1/2" x 1 1/4"* ✓ Length as per Rule *31 1/16"* ✓ Distance apart *8 1/2"* ✓ No. and pitch of stays

Each *2 of 9 3/4 pitch* ✓ Working pressure by Rules *181 lbs* ✓ Combustion chamber plates: Material *Steel* ✓

Tensile strength *26/30 tons* ✓ Thickness: Sides *1 1/16"* ✓ Back *W. 5/8"* ✓ Top *1 1/16"* ✓ Bottom *1 1/16"* ✓

Pitch of stays to ditto: Sides *10 3/4 x 8 1/8"* ✓ Back *9 x 8 1/4"* ✓ Top *9 3/4 x 8 1/2"* ✓ Are stays fitted with nuts or riveted over *Nuts* ✓

Working pressure by Rules *181 lb* ✓ 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 *7/8"* ✓

Pitch of stays at wide water space *13 3/4" x 9"* ✓ Are stays fitted with nuts or riveted over *Nuts* ✓

Working Pressure *233 lb* ✓ Main stays: Material *Steel* ✓ Tensile strength *28/32 tons* ✓

Diameter { At body of stay, *27/8"* ✓ No. of threads per inch *6* ✓ Area supported by each stay *332 sq in* ✓

Working pressure by Rules *184 lb* ✓ Screw stays: Material *Steel* ✓ Tensile strength *26/30 tons* ✓

Diameter { At turned off part, *15/8"* ✓ No. of threads per inch *9* ✓ Area supported by each stay *77 sq in* ✓

Working pressure by Rules *197 lb* Are the stays drilled at the outer ends *no* Margin stays: Diameter { At turned off part. *1 3/4"* or Over threads *1 3/4"*
No. of threads per inch *9* Area supported by each stay *98.15"* Working pressure by Rules *182 lb*
Tubes: Material *iron* External diameter { Plain *2 1/2"* Thickness { *9 WG* No. of threads per inch *9*
Stay *2 1/2"* *3/8 - 5/16*
Pitch of tubes *3 3/4" x 3 3/4"* Working pressure by Rules *218 lb* Manhole compensation: Size of opening
shell plate *20" x 16"* Section of compensating ring *8 1/2" x 1 1/6" flange* No. of rivets and diameter of rivet holes *32 - 1 3/8"*
Outer row rivet pitch at ends *9 5/8"* Depth of flange if manhole flanged
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 Working pressure by Rules Thickness of crown No. and diameter
stays Inner radius of crown Working pressure by Rules
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 *none fitted* Manufacturers of { Tubes 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
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 pressure
tubes 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 23 inclusive for boilers been complied with

The foregoing is a correct description,
SWAN, HUNTER & WIGHAM RICHARDSON, LTD.

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

See inquiry report

Are the approved plans of boiler and superheater forwarded *checked*
(If not state date of approval.)
Total No. of visits

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

The Boilers built under Special Survey the material and workmanship found good and efficient
The Boilers Satisfactorily fitted up on board the Vessel, tested under working conditions and found satisfactory -
The Boilers fitted up for burning oil fuel under forced draught, flash point the fuel oil to be above 150°F

please see Engine report
Survey Fee ... £ : :
Travelling Expenses (if any) £ : :

When applied for, 192
When received, 192

L. G. Shallcross.

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

FRI. 21 MAY 192

Assigned

See J. Exp. attached



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Lloyd's Register
Foundation