

Rpt. 5a.

REPORT ON BOILERS.

No. 82605

14 APR 1928

Received at London Office

Date of writing Report 5 April 1928 When handed in at Local Office 5/4/1928 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Reg. Book.

Date, First Survey 16 Nov 127 Last Survey 3 April 1928

(Number of Visits —) Gross 1383 Tons Net 592

on the Single Screw Steamer ALNWICK

Master Built at Walker on Tyne By whom built Swan Hunter & Richardson Ltd Yard No. 1268 When built 1928. 4

Engines made at Walker on Tyne By whom made Swan Hunter & Richardson Ltd Engine No. 1268 When made 1928. 4

Boilers made at Walker on Tyne By whom made Swan Hunter & Richardson Ltd Boiler No. 1268 When made 1928. 4

Nominal Horse Power 392 Owners Tyne & Tees Steam Shipping Co Ltd Port belonging to Newcastle

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Plates & Stay Bars, Steel Coy of Scotland, Furnaces Deighton Coy Ltd (Letter for Record S)

Total Heating Surface of Boilers 5864 sq ft Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers two S. & E. Cylindrical Multitubular, Horizontal. Working Pressure 215 lb

Tested by hydraulic pressure to 373 lb Date of test 15.2.28 No. of Certificate 239 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 65 sq ft No. and Description of safety valves to each boiler two direct spring high lift

Area of each set of valves per boiler {per Rule 4.967 sq ft as fitted 9.8 sq ft Pressure to which they are adjusted 215 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.

Smallest distance between boilers or uptakes and bunkers or woodwork 5'-9" Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating open floor under boilers Is the bottom of the boiler insulated no

Largest internal dia. of boilers 15'-9 1/8" Length 12'-0" Shell plates: Material Steel Tensile strength 30/34 tons

Thickness 17/16 Are the shell plates welded or flanged no Description of riveting: circ. seams {end D R L inter. L & S

long. seams T. R. D B. S Diameter of rivet holes in {circ. seams 1 1/2" long. seams 1 7/16" Pitch of rivets {4.4" 9 1/2"

Percentage of strength of circ. end seams {plate 65.9% rivets 42.88% Percentage of strength of circ. intermediate seam {plate 84.86% rivets 85.42% combined 86.82%

Percentage of strength of longitudinal joint {plate 84.86% rivets 85.42% combined 86.82% Working pressure of shell by Rules 215 lb

Thickness of butt straps {outer 13/32" inner 17/32" No. and Description of Furnaces in each Boiler 3 Deighton, Corrugated.

Material Steel Tensile strength 26/30 tons Smallest outside diameter 47 7/16"

Length of plain part {top 23/32" bottom 1/32" Thickness of plates {crown 23/32" bottom 1/32" Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.e. bottom none Working pressure of furnace by Rules 222 lb

End plates in steam space: Material Steel Tensile strength 26/30 tons Thickness 1 1/8" Pitch of stays 18 3/4" x 13 3/4"

How are stays secured double nuts Working pressure by Rules 217 lb

Tube plates: Material {front Steel back Steel Tensile strength {26/30 tons Thickness {7/8" 1 1/32"

Mean pitch of stay tubes in nests 9 3/8" Pitch across wide water spaces 13 1/2" Working pressure {front 224 lb back 314 lb

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

at centre 9 1/4" x 1 1/2" Length as per Rule 32 7/16" Distance apart 8 3/4" No. and pitch of stays

in each 3 of 8" Working pressure by Rules 219 lb Combustion chamber plates: Material Steel

Tensile strength 26/30 tons Thickness: Sides 1 1/16" Back C 23/32" Top 1 1/16" Bottom 29/32"

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

Working pressure by Rules 215 lb Front plate at bottom: Material Steel Tensile strength 26/30 tons

Thickness 1 1/32" Lower back plate: Material Steel Tensile strength 26/30 tons Thickness 29/32"

Pitch of stays at wide water space 13 1/2" x 9" Are stays fitted with nuts or riveted over nuts

Working Pressure 256 lb Main stays: Material Steel Tensile strength 28/32 tons

Diameter {At body of stay, 2 3/4" No. of threads per inch 6 Area supported by each stay 253 sq in

Working pressure by Rules 217 lb Screw stays: Material Steel Tensile strength 26/30 tons

Diameter {At turned off part, 1 5/8" in girders No. of threads per inch 9 Area supported by each stay 68.3 sq in

Over threads 1 3/4 remainder

Working pressure by Rules 222 lb. Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part. 1 1/8" or Over threads 1 1/8"
No. of threads per inch 9 Area supported by each stay 97 sq Working pressure by Rules 220 lb.
Tubes: Material Iron External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 9 W G 1/2" 3/8" 9/16" No. of threads per inch 9
Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules 218 lb. Manhole compensation: Size of opening in
shell plate 20 x 16 Section of compensating ring 8 1/4 x 1 1/16 + flange No. of rivets and diameter of rivet holes 32 - 1 5/8"
Outer row rivet pitch at ends 11" 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 of
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 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 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 Working pressure as per
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.

Manufacturer.

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

See Body Report.

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

DIRECTOR

Yes

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 Steam and found satisfactory. New Safety Valves adjusted under Steam for the working pressure.
The Boilers fitted with forced draught.

Survey Fee £
Travelling Expenses (if any) £

See Body Report.

When applied for, 192
When received, 192

L. G. Shalleross

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 17 APR 1923

Assigned

See B. rpt. attached



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Foundation