

REPORT ON BOILERS.

No. 96017

Received at London Office MAR 10 1938

Date of writing Report 19 When handed in at Local Office 8/31 1938 Port of NEWCASTLE-ON-TYNE

No. in Reg. Book. Survey held at Wallsend Date, First Survey 30 July 1937 Last Survey 1st March 1938

on the *Wallsend "Wells Trade"* (Number of Visits) Gross Tons Net

Master Built at Sunderland By whom built J.L. Thompson Yard No. 584 When built 1938
Engines made at Wallsend By whom made North Eastern Marine Eng. Co. Ltd Engine No. 2890 When made 1938
Boilers made at Wallsend By whom made North Eastern Marine Eng. Co. Ltd Boiler No. 2890 When made 1938
Nominal Horse Power 373 Owners Traders Navigation Co. Ltd. Port belonging to London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *Steel Company of Scotland* (Letter for Record 5)

Total Heating Surface of Boilers 4006 sq ft Is forced draught fitted *Yes* Coal or Oil fired *coal*

No. and Description of Boilers *Two single ended multitubular* Working Pressure 220 lbs

Tested by hydraulic pressure to 380 lbs Date of test 11-11-37 No. of Certificate 743 Can each boiler be worked separately *Yes*

Area of Firegrate in each Boiler 40.5 sq ft No. and Description of safety valves to each boiler *Two spring loaded.*

Area of each set of valves per boiler {per Rule 10.6 sq ft as fitted 11.86 sq ft} Pressure to which they are adjusted 225 lbs Are they fitted with easing gear *Yes*

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler *Yes*

Smallest distance between boilers or uptakes and bunkers or woodwork 10'-3" Is oil fuel carried in the double bottom under boilers *No*

Smallest distance between shell of boiler and tank top plating 24" Is the bottom of the boiler insulated *Yes*

Largest internal dia. of boilers 13-9 5/16" Length 11'-6" Shell plates: Material *Steel* Tensile strength 29-33 tons

Thickness 1 11/32" Are the shell plates welded or flanged *No* Description of riveting: circ. seams {end L.D.R. inter. 4"}

long. seams *Stl Straps. T.R.* Diameter of rivet holes in {circ. seams 1 7/8" long. seams 1 3/8" Pitch of rivets {9 7/8"}

Percentage of strength of circ. end seams {plate 64 rivets 48} Percentage of strength of circ. intermediate seam {plate - rivets -}

Percentage of strength of longitudinal joint {plate 85.4 rivets 87.1 combined 88.2} Working pressure of shell by Rules 223 lbs

Thickness of butt straps {outer 1 1/8" inner 1 3/16" No. and Description of Furnaces in each Boiler *Three brightons*

Material *Steel* Tensile strength 26-30 tons Smallest outside diameter 38 1/4"

Length of plain part {top - bottom -} Thickness of plates {crown 1 9/32" bottom 1 9/32" Description of longitudinal joint *weld*

Dimensions of stiffening rings on furnace or c.c. bottom *None* Working pressure of furnace by Rules 225 lbs

End plates in steam space: Material *Steel* Tensile strength 26-30 tons Thickness 1 17/32" Pitch of stays 25" x 19"

How are stays secured *double nuts* Working pressure by Rules 224 lbs

Tube plates: Material {front back} *Steel* Tensile strength {26-30 tons} Thickness {31/32" 25/32"}

Mean pitch of stay tubes in nests 9.8 Pitch across wide water spaces 14 1/4" Working pressure {front 229 lbs back 228 lbs}

Girders to combustion chamber tops: Material *Steel* Tensile strength 29-33 tons Depth and thickness of girder

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

in each 2 @ 10 1/4" Working pressure by Rules 237 lbs Combustion chamber plates: Material *Steel*

Tensile strength 26-30 tons Thickness: Sides 25/32" Back 3/4" Top 25/32" Bottom 25/32"

Pitch of stays to ditto: Sides 10 1/4" x 9" Back 10" x 8 7/8" Top 10 1/4" x 9 1/4" Are stays fitted with nuts or riveted over *Nuts*

Working pressure by Rules 222 lbs Front plate at bottom: Material *Steel* Tensile strength 26-30 tons

Thickness 31/32" Lower back plate: Material *Steel* Tensile strength 26-30 tons Thickness 15/16"

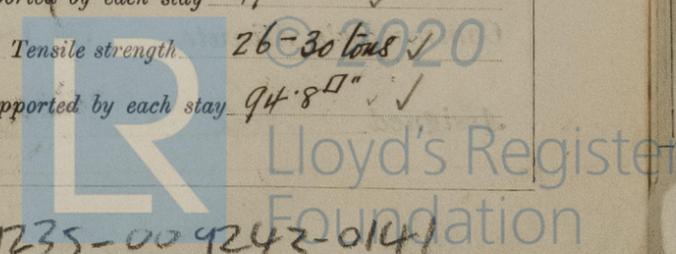
Pitch of stays at wide water space 14 1/4" Are stays fitted with nuts or riveted over *Nuts*

Working Pressure 220 lbs Main stays: Material *Steel* Tensile strength 28-32 tons

Diameter {At body of stay 3 1/2" or Over threads -} No. of threads per inch 6 Area supported by each stay 475 sq in

Working pressure by Rules 227 lbs Screw stays: Material *Steel* Tensile strength 26-30 tons

Diameter {At turned off part 1 7/8" or Over threads -} No. of threads per inch 9 Area supported by each stay 94.8 sq in



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Working pressure by Rules 225 lbs Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 2 1/8" or Over threads 2 1/8" }
 No. of threads per inch 9 Area supported by each stay 115.6 sq" Working pressure by Rules 246 lbs
 Tubes: Material Stal. S.S. External diameter { Plain 3" Stay 3" } Thickness { 3/8" & 5/16" } No. of threads per inch 9
 Pitch of tubes 4 1/4" x 4 1/4" Working pressure by Rules 225 lbs Manhole compensation: Size of opening in
 END shell 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 3/8" 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 — 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 Smoke Tube Manufacturers of { Tubes Stewart & Lloyds Steel forgings Bradingham Steel Co. Steel castings Redup 1856 }
 Number of elements 96 Material of tubes Stal. Internal diameter and thickness of tubes 15 m/m x 2.5 m/m
 Material of headers Stal. Tensile strength 26-30 tons Thickness 1 1/8" Can the superheater be shut off and
 the boiler be worked separately Yes 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 3.1416 sq" Are the safety valves fitted with easing gear Yes Working pressure as per
 Rules 220 lbs Pressure to which the safety valves are adjusted ? 225 lbs Hydraulic test pressure:
 tubes 1500 lbs forgings and castings 660 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 ✓

The foregoing is a correct description,
 THE NORTH EASTERN MARINE ENGINEERING CO., LTD.
John Neill Manufacturer.

Dates of Survey { During progress of work in shops - - } See Incky Report Are the approved plans of boiler and superheater forwarded herewith Yes
 while building { During erection on board vessel - - } (If not state date of approval.)
 Total No. of visits —

Is this Boiler a duplicate of a previous case no If so, state Vessel's name and Report No. ✓

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been built under Special Survey, in accordance with the Rules and approved plan. The workmanship and materials are good: on completion they were tested by hydraulic pressure to 380 lbs per square inch and found tight and satisfactory. They have been fitted on board in an efficient manner tried under steam and found satisfactory.

Survey Fee £ Charged on Incky Report When applied for, 19
 Travelling Expenses (if any) £ : : When received, 19

J. Selles
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 18 MAR 1938

Assigned See Sea 96017

