

REPORT ON BOILERS.

No. 79285

Received at London Office 18 AUG 1925

Date of writing Report May 23rd 1925 When handed in at Local Office May 23rd 1925 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle-on-Tyne Date, First Survey Feb 19th Last Survey Aug. 4th 1925
 (Number of Visits 28) Tons { Gross 1560 approx
 Net 900 "

on the steel S.S. Redriff
 Built at Newcastle By whom built Tyne Iron & Co. Ltd. Yard No. 229 When built 1925
 Engines made at Newcastle By whom made North Eastern Marine Eng. Co. Ltd. Engine No. 2607 When made 1925
 Boilers made at Newcastle By whom made North Eastern Marine Eng. Co. Ltd. Boiler No. 2607 When made 1925
 Nominal Horse Power 182 Owners South Metropolitan Gas Co Port belonging to London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Co of Scotland. David Colville. John Thompson Ltd. (Letter for Record 5)
 Total Heating Surface of Boilers 3260 sq ft Is forced draught fitted no Coal or Oil fired coal
 No. and Description of Boilers Two Single-Ended Cylindrical 28B. Working Pressure 180 lbs.
 Tested by hydraulic pressure to 320 lbs Date of test 1.5.25 No. of Certificate 9917 Can each boiler be worked separately yes
 Area of Firegrate in each Boiler 47.0 sq ft No. and Description of safety valves to each boiler Two Spring-loaded High-lift
 Area of each set of valves per boiler { per Rule 9 x 3 = 60" Pressure to which they are adjusted 180 Are they fitted with easing gear yes
 { as fitted 7.96 sq ft
 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 2'-0" Is oil fuel carried in the double bottom under boilers no
 Smallest distance between shell of boiler and tank top plating 2'-0" Is the bottom of the boiler insulated no
 Largest internal dia. of boilers 13'-0 3/8" Length 10'-6" Shell plates: Material Steel Tensile strength 28 1/2 - 32 1/2 Tons
 Thickness 1 1/8" Are the shell plates welded or flanged no Description of riveting: circ. seams { end Double
 { inter. 3 1/8"
 Long. seams Triple Rivet S.B.S. Diameter of rivet holes in { circ. seams 1 1/4" Pitch of rivets { 8"
 { long. seams 1 1/8"
 Percentage of strength of circ. end seams { plate 63 Percentage of strength of circ. intermediate seam { plate 7
 { rivets 42.15 { rivets 7
 Percentage of strength of longitudinal joint { plate 85.9 Working pressure of shell by Rules 181.8 lbs.
 { rivets 88.7
 { combined 95.7
 Thickness of butt straps { outer 3/8" No. and Description of Furnaces in each Boiler Three - Deighton J.C.F.
 { inner 1" Tensile strength 26-30 Tons Smallest outside diameter 36 1/2"
 Material Steel Thickness of plates { crown 1 1/8" Description of longitudinal joint held
 { bottom 1 1/8" Working pressure of furnace by Rules 183 lbs.
 Dimensions of stiffening rings on furnace or c.c. bottom yes Thickness 1 1/8" Pitch of stays 21 x 17"
 End plates in steam space: Material Steel Tensile strength 26-30 Tons Working pressure by Rules 183 lbs.
 How are stays secured Double nuts & 3/8" Drashers Working pressure by Rules 183 lbs.
 Tube plates: Material { front Steel Tensile strength { 26-30 Tons Thickness { 1 1/8"
 { back Steel { 26-30 Tons { 3/4"
 Mean pitch of stay tubes in nests 9" Pitch across wide water spaces 14 1/2" Working pressure { front 181 lbs.
 { back 248 lbs.
 Orders to combustion chamber tops: Material Steel Tensile strength 28-32 Tons Depth and thickness of girder
 at centre 8 1/4" x 1 1/2" Length as per Rule 30" Distance apart 10 1/2" No. and pitch of stays
 at each Two 9 1/2" Working pressure by Rules 188 lbs. Combustion chamber plates: Material Steel
 Tensile strength 26-30 lbs. Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 7/8"
 Pitch of stays to ditto: Sides 10 1/2" x 9 1/2" Back 10 1/2" x 8 1/2" Top 10 1/2" x 9 1/2" Are stays fitted with nuts or riveted over nuts
 Working pressure by Rules 181 lbs. Front plate at bottom: Material Steel Tensile strength 26-30 Tons
 Thickness 1 1/8" Lower back plate: Material Steel Tensile strength 26-30 Tons Thickness 7/8"
 Pitch of stays at wide water space 14 1/2" Are stays fitted with nuts or riveted over nuts
 Working Pressure 253 lbs. Main stays: Material Steel Tensile strength 28-32 Tons
 Diameter { At body of stay, 2 3/4" No. of threads per inch fine Area supported by each stay 3570"
 { Over threads 183 lbs. Screw stays: Material Steel Tensile strength 26-30 Tons
 Diameter { At turned off part, 1 3/4" No. of threads per inch fine Area supported by each stay 99.75 D"
 { Over threads 12 1/4"

Working pressure by Rules 181 lb Are the stays drilled at the outer ends No Margin stays: Diameter ^{At turned off part,} 1 3/8" ^{or} 1 3/8" ^{Over threads} ✓

No. of threads per inch nine Area supported by each stay 109.43 sq" Working pressure by Rules 196 lb

Tubes: Material lin External diameter ^{Plain} 3 1/4" ^{Stay} 3 1/4" Thickness ^{No. 8. W. G.} 5/16" + 1/4" No. of threads per inch nine ✓

Pitch of tubes 1 1/2" Working pressure by Rules plain 230 lb stay 257 lb Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 34 1/4" x 30 1/4" x 1 1/2" No. of rivets and diameter of rivet holes 36 - 1 5/16" ✓

Outer row rivet pitch at ends 9 1/2" ✓ Depth of flange if manhole flanged 4" ✓ Steam Dome: Material nine

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 -

How connected to shell - Inner radius of crown - Working pressure by Rules -

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 - 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,

THE NORTH EASTERN MARINE ENGINEERING CO. LTD. Manufacturer.

Dates of Survey ^{During progress of work in shops - -} Feb 19th to May 22nd 1925 Are the approved plans of boiler and superheater forwarded herewith Yes ^(If not state date of approval.)

^{while building} ^{During erection on board vessel - - -} 15 Aug. 4th 1925 Total No. of visits 26

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

see other sheet

Survey Fee ... see other sheet When applied for, 192

Travelling Expenses (if any) £ : : When received, 192

James Patton & Rlee Arnesen.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 21 AUG 1925

Assigned



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