

REPORT ON BOILERS.

Date of writing Report 19 When handed in at Local Office 25 JUL 1942 Received at London Office 27 JUL 1942
 Port of NEWCASTLE-ON-TYNE
 No. in Survey held at Wallsend Date, First Survey 25th Nov. 1941. Last Survey 7th July 1942.
 Reg. Book. 36472 on the SS "EMPIRE. HAZLITT." (Number of Visits 7036)
 Tons { Gross 7036
 Net 4933
 Master S. Shields Built at S. Shields By whom built J. Readhead & Sons Ltd No. 528 When built 1942.
 Engines made at Wallsend. By whom made N.E. Marine Eng Co (1938) Ltd Engine No. 3022 When made 1942
 Boilers made at " By whom made " Boiler No. 3022 When made 1942
 Nominal Horse Power " Owners Ministry of War Transport Port belonging to S. Shields

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Co of Scotland Ltd (Letter for Record S)
 Total Heating Surface of Boilers 7248 Is forced draught fitted yes Coal or Oil fired coal
 No. and Description of Boilers 3 SB Working Pressure 220
 Tested by hydraulic pressure to 380 Date of test 30.3.42 No. of Certificate 959 Can each boiler be worked separately yes
 Area of Firegrate in each Boiler 55 sq ft No. and Description of safety valves to each boiler 1 Double improved high lift
 Area of each set of valves per boiler { per Rule 6.42 as fitted 7.94 Pressure to which they are adjusted 225 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 yes Is oil fuel carried in the double bottom under boilers no
 Smallest distance between shell of boiler and tank top plating 2'-2" Is the bottom of the boiler insulated yes
 Largest internal dia. of boilers 15'-0 1/16" Length 11'-8 1/32" Shell plates: Material S Tensile strength 29-33
 Thickness 1 1/32" Are the shell plates welded or flanged no Description of riveting: circ. seams { end DR inter. ✓
 long. seams TR. DBS Diameter of rivet holes in { circ. seams 1 1/2" Pitch of rivets { 4 1/8" 10 3/8"
 Percentage of strength of circ. end seams { plate 63.6 rivets 46.2 Percentage of strength of circ. intermediate seam { plate 85.5 rivets 86.2
 Percentage of strength of longitudinal joint { plate 85.5 rivets 86.2 combined 88.3 Working pressure of shell by Rules ✓
 Thickness of butt straps { outer 1 1/8" inner 1 1/4" No. and Description of Furnaces in each Boiler 3 cf.
 Material S Tensile strength 26-30 Smallest outside diameter 3'-9 3/4"
 Length of plain part { top ✓ bottom ✓ Thickness of plates { crown 1 1/16" bottom 1 1/16" Description of longitudinal joint weld
 Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules ✓
 End plates in steam space: Material S Tensile strength 26-30 Thickness 1 1/32" Pitch of stays 19 3/4" x 19 7/8"
 How are stays secured Double nuts Working pressure by Rules 2
 Tube plates: Material { front S back S Tensile strength { 26-30 Thickness { 15/16" 25/32"
 Mean pitch of stay tubes in nests 9 5/16" Pitch across wide water spaces 14" x 8 1/4" Working pressure { front ✓ back ✓
 Girders to combustion chamber tops: Material S Tensile strength 28-32 Depth and thickness of girder
 at centre 10 1/2" x 1 1/16" Dble Length as per Rule 33 7/32" Distance apart 9 1/4" No. and pitch of stays
 in each 32 8" Working pressure by Rules ✓ Combustion chamber plates: Material S
 Tensile strength 26-30 Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 7/8"
 Pitch of stays to ditto: Sides 9 1/4" x 8" Back 9 1/4" x 8" Top 9 1/4" x 8" Are stays fitted with nuts or riveted over nuts
 Working pressure by Rules ✓ Front plate at bottom: Material S Tensile strength 26-30
 Thickness 15/16" Lower back plate: Material S Tensile strength 26-30 Thickness 27/32"
 Pitch of stays at wide water space 14" x 8" Are stays fitted with nuts or riveted over nuts
 Working Pressure ✓ Main stays: Material S Tensile strength 28-32
 Diameter { At body of stay, 3 1/4" or Over threads No. of threads per inch 6 Area supported by each stay ✓
 Working pressure by Rules ✓ Screw stays: Material S Tensile strength 26-30
 Diameter { At turned off part, 1 3/4" or Over threads No. of threads per inch 9 Area supported by each stay ✓

Working pressure by Rules Are the stays drilled at the outer ends Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part,} \\ \text{or} \\ \text{Over threads} \end{array} \right. 1\frac{1}{8}"$

No. of threads per inch 9 Area supported by each stay Working pressure by Rules

Tubes: Material SD Steel External diameter $\left\{ \begin{array}{l} \text{Plain } 3" \\ \text{Stay } 3" \end{array} \right.$ Thickness $\left\{ \begin{array}{l} \text{8 W.G.} \\ \text{3/8" + 5/16"} \end{array} \right.$ No. of threads per inch 9

Pitch of tubes $4\frac{1}{4}" \times 4\frac{1}{8}"$ Working pressure by Rules Manhole compensation: Size of opening in shell plate none Section of compensating ring No. of rivets and diameter of rivet holes

Outer row rivet pitch at ends Depth of flange if manhole flanged $4\frac{1}{2}"$ (End plate) Steam Dome: Material none

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes Pitch of rivets Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$

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 $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel forgings} \\ \text{Steel castings} \end{array} \right.$

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 casing gear Working pressure as per Rules Pressure to which the safety valves are adjusted Hydraulic test pressure: tubes forgings and 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 22 inclusive for boilers been complied with yes

THE NORTH EASTERN MARINE ENGINEERING CO. (1933) LTD.
The foregoing is a correct description,
John Neill Manufacturer.
DIRECTOR

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops - -} \\ \text{while building } \left\{ \begin{array}{l} \text{During erection on board vessel - -} \end{array} \right. \end{array} \right.$ See Machinery Report.

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

Total No. of visits

Is this Boiler a duplicate of a previous case yes. If so, state Vessel's name and Report No. *Empire Story Nwe. 100255.*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *These boilers have been made & installed under Special Survey in accordance with the approved Plan, the Specification & the Requirements of the Rules. They proved sound & tight under hydraulic test & satisfactory under working conditions.*

Survey Fee ... £ *See Mch. Rpt.* When applied for, 19

Travelling Expenses (if any) £ : : When received, 19

Belmont
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute JUL 31 1942

Assigned *See Nwe. J.C. 100567*



Rpt. 13.

Date of survey

No. in Reg. 365.

Built at

Owners

Electrical

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