

# REPORT ON BOILERS.

No. 100676

Received at London Office 3 SEP 1942

Date of writing Report 19 When handed in at Local Office 2-9-1942 Port of **NEWCASTLE-ON-TYNE**

No. in Survey held at 7. Book. Date, First Survey 18-1-42 Last Survey 26-8-1942

3464 on the **SS. "EMPIRE THACKERAY"** (Number of Visits 34.)

Gross Tons }  
Net Tons }

Built at **Sunderland.** By whom built **Sir J. Laing & Sons Ltd** Yard No. 744 When built 1942

Engines made at **Wallsend.** By whom made **N.E. Marine Eng Co (1938) Ltd** Engine No. 3025 When made 1942

Boilers made at " By whom made " Boiler No. 3025 When made 1942.

Minimum Horse Power Owners Port belonging to

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel **Appleby-Frodingham Steel Co Ltd.** (Letter for Record **S**)

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

No. and Description of Boilers **2 SB.** Working Pressure **200**

Tested by hydraulic pressure to **350** Date of test **8-4-42.** No. of Certificate **961** Can each boiler be worked separately **yes**

Area of Firegrate in each Boiler **48 sq ft.** No. and Description of safety valves to each boiler **1 Dble Improved High Lift**

Area of each set of valves per boiler { per Rule **5-9** as fitted **7-8** Pressure to which they are adjusted **205** 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 **2'-3"** 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 **yes**

Largest internal dia. of boilers **13'-6"** Length **11'-6"** Shell plates: Material **S** Tensile strength **29-33**

Thickness **1 3/16"** Are the shell plates welded or flanged **no** Description of riveting: circ. seams { end **TR** inter. **S**

Long. seams **TR. DBS** Diameter of rivet holes in { circ. seams **1 1/4"** long. seams **1 1/4"** Pitch of rivets { **3 7/8"** **8 3/4"**

Percentage of strength of circ. end seams { plate **65.5** rivets **45.2** Percentage of strength of circ. intermediate seam { plate **85.7** rivets **87.8** combined **88.9** Working pressure of shell by Rules **yes**

Thickness of butt straps { outer **29/32** inner **1 1/32"** No. and Description of Furnaces in each Boiler **3 cf.**

Material **S** Tensile strength **26-30** Smallest outside diameter **3'-0 13/16"**

Length of plain part { top **yes** bottom **yes** Thickness of plates { crown **17/32"** bottom **17/32"** Description of longitudinal joint **weld**

Dimensions of stiffening rings on furnace or c.c. bottom **yes** Working pressure of furnace by Rules **yes**

End plates in steam space: Material **S** Tensile strength **26-30** Thickness **1 7/16"** Pitch of stays **25 x 18"**

How are stays secured **Double Nuts** Working pressure by Rules **yes**

End plates: Material { front **S** back **S** Tensile strength { **26-30** Thickness { **1 5/16"** **25/32"**

Can pitch of stay tubes in nests **9'-6" x 9'-6"** Pitch across wide water spaces **14 1/2" x 8 1/4"** Working pressure { front **yes** back **yes**

Orders to combustion chamber tops: Material **S** Tensile strength **29-33** Depth and thickness of girder

centre **9 x 13/16" dble** Length as per Rule **2'-8"** Distance apart **10 1/4"** No. and pitch of stays

each **2 @ 9 1/2"** Working pressure by Rules **yes** Combustion chamber plates: Material **S**

Tensile strength **26-30** Thickness: Sides **3/4"** Back **3/4"** Top **3/4"** Bottom **3/4"**

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

Working pressure by Rules **yes** Front plate at bottom: Material **S** Tensile strength **26-30**

Thickness **1 5/16"** Lower back plate: Material **S** Tensile strength **26-30** Thickness **29/32"**

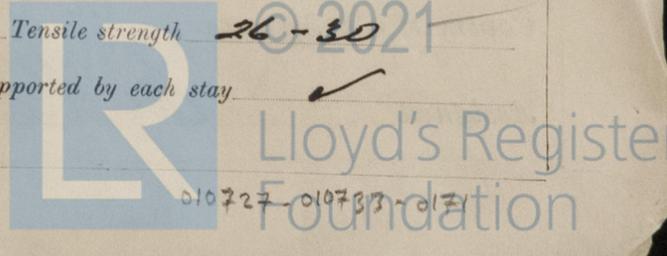
Pitch of stays at wide water space **14 1/2" x 10 1/4"** Are stays fitted with nuts or riveted over **nuts**

Working Pressure **yes** Main stays: Material **S** Tensile strength **28-32**

Girth { At body of stay, **3 1/4"** No. of threads per inch **6** Area supported by each stay **yes** or Over threads **3 1/2"**

Working pressure by Rules **yes** Screw stays: Material **S** Tensile strength **26-30**

Girth { At turned off part, **1 1/8"** No. of threads per inch **9** Area supported by each stay **yes** or Over threads **1 1/8"**



Working pressure by Rules  Are the stays drilled at the outer ends NO Margin stays: Diameter  $\left\{ \begin{array}{l} \text{At turned off part,} \\ \text{or} \\ \text{Over threads} \end{array} \right. \frac{2}{1}$

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

Tubes: Material S.D. Steel External diameter  $\left\{ \begin{array}{l} \text{Plain} \\ \text{Stay} \end{array} \right. \begin{array}{l} 3'' \\ 3'' \end{array}$  Thickness  $\left\{ \begin{array}{l} 8 \text{ W.G.} \\ \frac{3}{16} + \frac{5}{16} \end{array} \right.$  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

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 \_\_\_\_\_ 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 from the boiler \_\_\_\_\_

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 cock 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 foregoing is a correct description,  
 THE NORTH EASTERN MARINE ENGINEERING CO. (1933) LTD.  
John Neill Manufacture

Dates of Survey  $\left\{ \begin{array}{l} \text{During progress of} \\ \text{work in shops - -} \\ \text{while building} \\ \text{During erection on} \\ \text{board vessel - - -} \end{array} \right.$  Are the approved plans of boiler and superheater forwarded herewith Plans of  
 (If not state date of approval.) to Newcastle Rpt. no. 100679

Total No. of visits \_\_\_\_\_

*See machinery report.*

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. Nwe Rpt 99956.

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 Requirements of the Rules & the Specification. The materials & workmanship are good & the boilers proved satisfactory under hydraulic & steaming tests.

Survey Fee ... .. £ See Mely Rpt. } When applied for, 19  
 Travelling Expenses (if any) £ See Mely Rpt. } When received, 19

B. Moffitt  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 18 SEP 1942  
 Assigned See Id. 33477