

REPORT ON BOILERS.

14 JAN 1944

13 JAN 1944

Received at London Office

Date of writing Report 31/12/1943 When handed in at Local Office 31/12/1943 Port of

NEWCASTLE-ON-TYNE

No. in Reg. Book. Survey held at Wallsend Date, First Survey 28th January '43 Last Survey 6th October 1943

on the SS "EMPIRE BERESFORD"

Number of Visits 12 Tons ^{Gross} _{Net}

Built at Sunderland By whom built Sir J. Laing & Sons Ltd Yard No. 753 When built 1943

Engines made at Wallsend By whom made N.E. Marine Eng Co (1938) Ltd Engine No. 3060 When made 1943

Boilers made at " By whom made " Boiler No. 3066 When made 1943

Nominal Horse Power " Owners Ministry of War Transport Port belonging to Sunderland

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles Ltd (Letter for Record S)

Total Heating Surface of Boilers 10020 ^{sq ft} Is forced draught fitted yes Coal or Oil fired oil

No. and Description of Boilers 3SB Working Pressure 220

Tested by hydraulic pressure to 380 Date of test 9.9.43 No. of Certificate 1059 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 8.88 No. and Description of safety valves to each boiler 1 Double improved high lift

Area of each set of valves per boiler 9.8 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 yes

Smallest distance between shell of boiler and tank top plating yes Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 16'-2 3/4" Length 12'-6" Shell plates: Material S Tensile strength 30-34

Thickness 1 23/64 Are the shell plates welded or flanged no Description of riveting: circ. seams DR

long. seams T.R. DBS Diameter of rivet holes in 1 9/16" Pitch of rivets 10 1/4"

Percentage of strength of circ. end seams 62.1 Percentage of strength of circ. intermediate seam 47

Percentage of strength of longitudinal joint 84.7 88.7 87.4

Thickness of butt straps 1 7/32 No. and Description of Furnaces in each Boiler 3 cf.

Material S Tensile strength 26-30 Smallest outside diameter 47 23/32"

Length of plain part yes Thickness of plates 47/164 Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom yes

End plates in steam space: Material S Tensile strength 26-30 Thickness 1 13/32" Pitch of stays 22 1/4 x 18 1/2"

How are stays secured Double nuts

Tube plates: Material S Tensile strength 26-30 Thickness 15/16" 7/8"

Mean pitch of stay tubes in nests 8.7" Pitch across wide water spaces 14 1/2 x 7 1/4"

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

at centre 11 3/4 x 1" dble Length as per Rule 46 1/2" Distance apart 8 1/2" wing 9" Centre No. and pitch of stays

in each 32 11 1/8" Combustion chamber plates: Material S

Tensile strength 26-30 Thickness: Sides 13/16" Back 23/32" Top 13/16" Bottom 29/32"

Pitch of stays to ditto: Sides 11 1/8" x 8 1/2" Back 9 1/4" x 8" Top 11 1/8" x 9" Are stays fitted with nuts or riveted over nuts

Front plate at bottom: Material S Tensile strength 26-30

Thickness 15/16" Lower back plate: Material S Tensile strength 26-30 Thickness 15/16"

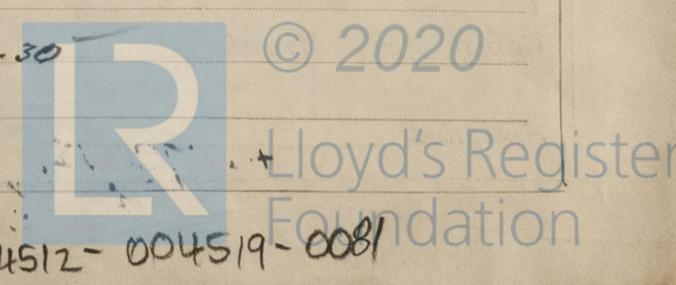
Pitch of stays at wide water space 15 3/8" x 8" Are stays fitted with nuts or riveted over nuts

Main stays: Material S Tensile strength 28-32

Diameter 3 1/4" & 3 1/2" No. of threads per inch 6

Screw stays: Material S Tensile strength 26-30

Diameter 1 3/4" & 2" No. of threads per inch 9



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Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, ✓
or 2" x 2 1/8"
Over threads ✓

No. of threads per inch 9

Tubes: Material LW Steel External diameter { Plain 2 1/2
Stay 2 1/2 Thickness { 7/16 8 W4 3/8 5/16 No. of threads per inch 9

Pitch of tubes 4 x 3 5/8" 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 _____ 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 { Plate _____
Rivets _____

Internal diameter _____ Thickness of crown _____ No. and diameter of stays _____ Inner radius of crown _____

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 Combustion Chamber Manufacturers of { Tubes Stewart's & Lloyds
Steel forgings Stewart's & Lloyds
Steel castings ✓

Number of elements 36 Material of tubes SD Steel Internal diameter and thickness of tubes 1-273 x 7W4

Material of headers SD Steel Tensile strength 26-28 Thickness 1" Can the superheater be shut off and the boiler be worked separately no

Area of each safety valve 3.14 Is a safety valve fitted to every part of the superheater which can be shut off from the boiler yes

Pressure to which the safety valves are adjusted 225 Hydraulic test pressure: tubes 1500 Headers forgings and castings 660 and after assembly in place 440 Are drain cocks or valves fitted to free the superheater from water where necessary yes

Are the safety valves fitted with easing gear yes

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with yes

THE NORTH EASTERN STEAM NAVIGATION CO. LTD. is a correct description,
John Neill Manufacturer.

Dates of Survey { During progress of work in shops - - } 28th January, 1943 to 6 Oct, 1943 (approx. 12 visits) Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) _____
while building { During erection on board vessel - - - } See Machinery Rpt Total No. of visits _____

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers & superheaters have been constructed & installed under Special Survey in accordance with the approved Plans, the Requirements of the Rules & the Specification

The materials & workmanship are good & the boilers & superheaters proved sound & tight under hydraulic test & satisfactory under steam

Survey Fee ... £ See Mech Report When applied for, 19
Travelling Expenses (if any) £ Report When received, 19

Beloffitt
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 21 JAN 1944

Assigned see minute on J.E. Rpt.

