

# REPORT ON BOILERS.

Received at London Office

14 JAN 1943

6 JAN 1943

Date of writing Report

19

When handed in at Local Office

19

Port of **NEWCASTLE-ON-TYNE**

No. in Reg. Book

*Wallsend on Tyne*

Date, First Survey

*27/13/42*

Last Survey

*29/12/1942*

86515 on the

*SS "EMPIRE. COLLINS"*

(Number of Visits)

Gross Tons  
Net

Built at *Sunderland.*

By whom built

*Sir J. Laing & Sons Ltd*

Yard No. *745*

When built

Engines made at

*Wallsend.*

By whom made

*N.E. Marine Eng Co (1938) Ltd*

Engine No. *3033*

When made *1942*

Boilers made at

By whom made

Boiler No. *3033*

When made *1942*

Nominal Horse Power

Owners

*Ministry of War Transport*

Port belonging to

*Sunderland.*

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

Manufacturers of Steel

*Carpillies Ltd.*

(Letter for Record *S*)

Total Heating Surface of Boilers

*10020*

Is forced draught fitted

*440*

Coal or Oil fired

*oil*

No. and Description of Boilers

*3 SB.*

Working Pressure

*220*

Tested by hydraulic pressure to

*380*

Date of test

*3 9. 11. 42  
2 11. 11. 42  
1 12. 11. 42*

No. of Certificate

*1014  
1015  
1016*

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

per Rule  
as fitted

*8.88  
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

Is the bottom of the boiler insulated

*yes*

Largest internal dia. of boilers

*16'-2 31/32"*

Length

*12'-6"*

Shell plates: Material

*S*

Tensile strength

*30-34*

Thickness

*1 33/64"*

Are the shell plates welded or flanged

*no*

Description of riveting: circ. seams

*DR*

long. seams

*TR. DBS.*

Diameter of rivet holes in

circ. seams  
long. seams

*1 9/16"*

Pitch of rivets

*4 1/8"*

Percentage of strength of circ. end seams

plate

*62.1*

rivets

*47*

Percentage of strength of circ. intermediate seam

plate

Percentage of strength of longitudinal joint

plate

*84.75*

rivets

*88.7*

combined

*87.4*

Thickness of butt straps

outer

*1 9/32"*

inner

*1 9/32"*

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

top

*yes*

bottom

Thickness of plates

crown

*47/164"*

bottom

Description of longitudinal joint

*weld*

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

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

front

*S*

back

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

*3 @ 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 3/4" 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

At body of stay

*3 1/4" + 3 1/2"*

Over threads

No. of threads per inch

*6*

Screw stays: Material

*S*

Tensile strength

*26-30*

Diameter

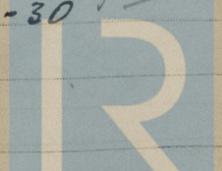
At turned off part

*1 3/4" + 2"*

Over threads

No. of threads per inch

*9*



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Foundation

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Are the stays drilled at the outer ends NO ✓ Margin stays: Diameter { At turned off part, or Over threads 2 1/8" & 2" ✓  
 No. of threads per inch 9  
 Tubes: Material L.W. Steel External diameter { Plain 2 1/2" ✓ Stay 2 1/2" ✓ Thickness { 8 L.W.G. ✓ No. of threads per inch 9 ✓  
3/8" & 5/16" & 7/16" ✓  
 Pitch of tubes 4 x 3 7/8" Manhole compensation: Size of opening in shell plate none Section of compensating ring \_\_\_\_\_ No. of rivets and diameter of rivet holes 21" ✓  
 Outer row rivet pitch at ends \_\_\_\_\_ Depth of flange if manhole flanged \_\_\_\_\_ 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 \_\_\_\_\_ 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 N.E.M. Combustion Chamber Manufacturers of { Tubes Talbot Stead ✓ Steel forgings Headers Stewart & Loyds ✓ Steel castings \_\_\_\_\_  
 Number of elements 36 ✓ Material of tubes S.D. Steel ✓ Internal diameter and thickness of tubes 1.273 7 W.G. ✓  
 Material of headers S.D. Steel ✓ Tensile strength 26-28 Thickness 1" Can the superheater be shut off and the boiler be worked separately NO ✓ 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 3.14" ✓ Are the safety valves fitted with casing gear yes ✓  
 Pressure to which the safety valves are adjusted 225 lbs. ✓ Hydraulic test pressure: tubes 1500 ✓ Headers 660 ✓ and after assembly in place 440 ✓ 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 yes ✓

**THE NORTH EASTERN MARINE ENGINEERING CO. (1938) LTD.**  
 The foregoing is a correct description,  
Harry Hunter **DIRECTOR**, Manufacturer.

Dates of Survey { During progress of work in shops - - - } See Melby Report ✓ Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
 while building { During erection on board vessel - - - } 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. NWC. 100141

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

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

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

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

Committee's Minute TUE 19 JAN 1943  
 Assigned See Ad. J.E. 33571

