

## REPORT ON BOILERS.

No. 103015  
26 JUL 1945

Received at London Office

Date of writing Report 15/7/45

When handed in at Local Office 24.7.45

Port of NEWCASTLE ON TYNE

No. in Survey held at

Wallsend on Tyne

Date, First Survey (1943) Jan 15<sup>th</sup>Last Survey 3<sup>rd</sup> July 1945

Reg. Book.

M/S. "EMPIRE CHANCELLOR"

(Number of Visits 170)

Gross Tons

Net Tons

Built at Sunderland

By whom built

Sir J. Laing &amp; Son Ld

Yard No. 756

When built 1945-7

Engines made at

Wallsend on Tyne (New)

By whom made

North Eastern Mar. Eng'g Co (1938) Ld

Engine No. 3035

When made 1945-7

Boilers made at

Wallsend on Tyne (New)

By whom made

ditto

Donkey Boilers No. 3078

When made 1945.

Nominal Horse Power

 $\frac{4076}{15} = 272$ 

Owners

Min. of War Transport

Port belonging to

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR~~ DONKEY.

Manufacturers of Steel

The Steel Coy. of Scotland, Ld

(Letter for Record S. ✓)

Total Heating Surface of Boilers

4076 sq. ft. ✓

Is forced draught fitted

Yes ✓

Coal or Oil fired

oil fired ✓

No. and Description of Boilers

2 Single Ended Cylindrical Multitubular Scotch.

Working Pressure

180 lb/sq. in. ✓

Tested by hydraulic pressure to

320 lb/sq. in. ✓

Date of test

21-1-1944

No. of Certificate

No 1093

Can each boiler be worked separately

Yes ✓

Area of Firegrate in each Boiler

✓ oil fired

No. and Description of safety valves to each boiler

Two of 3" dia. Grant Spring loaded.

Area of each set of valves per boiler

per Rule

13.2 sq. ins.

as fitted

14.14 "

Pressure to which they are adjusted

185 lb/sq. in. 180 lb/sq. in.

Are they fitted with easing gear

Yes ✓

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

✓

Smallest distance between boilers or uptakes and bunkers or woodwork

✓

Is oil fuel carried in the double bottom under boilers

Yes ✓

Smallest distance between shell of boiler and tank top plating

30"

Is the bottom of the boiler insulated

Yes ✓

Largest internal dia. of boilers

12' 9 1/16"

Length

11' 6"

Shell plates: Material

S.

Tensile strength

29-33 tons ✓

Thickness

1 1/2"

Are the shell plates welded or flanged

No ✓

Description of riveting: circ. seams

and DR.

inter. rivets

nil.

long. seams

T.R., DB Straps ✓

Diameter of rivet holes in

circ. seams

long. seams

1 1/8"

Pitch of rivets

3 1/4"

7 1/16"

Percentage of strength of circ. end seams

plate

65.3

rivets

47.0

Percentage of strength of circ. intermediate seam

plate

✓

rivets

Percentage of strength of longitudinal joint

plate

85.6

rivets

91.4

combined

89.5

Thickness of butt straps

outer

13/16"

inner

15/16"

No. and Description of Furnaces in each Boiler

3 C.f. (Deighton) ✓

Material

Stl.

Tensile strength

26-30 tons ✓

Smallest outside diameter

2' 8 1/8"

Length of plain part

top

✓

bottom

Thickness of plates

crown

bottom

7/16"

Description of longitudinal joint

fire welded.

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

✓

End plates in steam space: Material

Stl.

Tensile strength

26-30 tons ✓

Thickness

1 1/4"

Pitch of stays

18" x 19" ✓

How are stays secured

Nuts inside + outside

Tube plates: Material

front

Stl.

back

Stl.

Tensile strength

26-30 tons ✓

Thickness

29/32"

25/32"

Mean pitch of stay tubes in nests

10 1/4"

Pitch across wide water spaces

14 1/2" x 8"

Girders to combustion chamber tops: Material

Stl.

Tensile strength

29-33 tons

at centre

7 1/2" x 25/32" dble

Length as per Rule

2' 6"

Distance apart

9"

No. and pitch of stays

in each

2 at 9" ✓

Combustion chamber plates: Material

Stl.

Tensile strength

26-30 tons ✓

Thickness: Sides

21/32"

Back

23/32"

Top

21/32"

Bottom

21/32"

Pitch of stays to ditto: Sides

9" x 9" ✓

Back

10" x 10" ✓

Top

9" x 9" ✓

Are stays fitted with nuts or riveted over

With Nuts ✓

Front plate at bottom: Material

Stl.

Tensile strength

26-30 tons ✓

Thickness

29/32"

Lower back plate: Material

Stl.

Tensile strength

26-30 "

Thickness

7/8" ✓

Pitch of stays at wide water space

14 1/2" x 10"

Are stays fitted with nuts or riveted over

with nuts

Main stays: Material

Stl.

Tensile strength

28-32 tons ✓

Diameter

At body of stay,

or

3"

Over threads

3 1/4"

No. of threads per inch

6 ✓

Screw stays: Material

Stl.

Tensile strength

26-30 tons ✓

Diameter

At turned off part,

or

1 5/8", 1 3/4"

Over threads

No. of threads per inch

9. ✓

Contd P.T.O.

003591-003598-0059

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Are the stays drilled at the outer ends

No ✓

Margin stays : Diameter { At turned off part, or Over threads

2" ✓

No. of threads per inch

9 ✓

Tubes : Material

S.D. 5th

External diameter { Plain Stay

2 3/4" ✓

Thickness {

9 W.G. 3/8", 5/16"

No. of threads per inch

9 ✓

Pitch of tubes

4" x 4"

Manhole compensation: Size of opening in

shell plate

nil ✓

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

nil ✓

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

nil ✓

Manufacturers of { Tubes Steel forgings 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

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. (1936) LTD.

John Neill

Manufacturer.

Dates of Survey { During progress of work in shops - - - while building { During erection on board vessel - - -

See Machinery Report

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

DIRECTOR

31-3-42

Total No. of visits

Is this Boiler a duplicate of a previous case

Yes

If so, state Vessel's name and Report No.

M.S. Empire Inventor

Nuc. Rpt 101831.

of Dec 43.

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

These Donkey Boilers have been constructed & installed under Special Survey in accordance with the approved Plans, Specification & the Society's Rules.

The materials & workmanship are good. The Boilers were tested under working condition & found satisfactory.

See also Machy Rpt 46.

Survey Fee ... .. £ See Machy

Travelling Expenses (if any) £ Rpt 46.

When applied for, 19

When received, 19

A. Watt for R. Moffitt & Self.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 3 AUG 1945

Assigned

Su F.E. machy, rpt.



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