

283
Rpt. 5a.

Slid. No. 34041
Mat No. 17636.

REPORT ON BOILERS.

Received at London Office 17 MAY 1944

DATE OF WRITING REPORT 12/5/44 WHEN HANDED IN AT LOCAL OFFICE 16/5/44

Port of Niddesbrough

No. in Survey held at 10th May 1944

on the

EMPIRE CREST.

(Number of Visits 9.)

Gross 3738

Tons Net 2002

Built at Sunderland By whom built Sir J. Lamb & Sons Ltd

Yard No. 460 When built 1944

Engines made at Sunderland By whom made Wm. Duxford & Son

Engine No. 237 When made 1944

Boilers made at Niddesbrough By whom made Niddesbrough C.E. & Riley Brothers Ltd

Boiler No. 6818 When made 1944

Nominal Horse Power Owners Ministry of War Transport

Port belonging to Sunderland.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby Frodingham Steel Co. Ltd

(Letter for Record P.)

Total Heating Surface of Boilers 2758 sq ft Is forced draught fitted Yes

No. and Description of Boilers 1 SE. marine Working Pressure 150 lb/sq in

Tested by hydraulic pressure to 275 Date of test 10/5/44 No. of Certificate 7112 Can each boiler be worked separately

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 1-3 1/4" High Lift Double SV.

Area of each set of valves per boiler {per Rule 10.43 as fitted 16.59 Pressure to which they are adjusted 150 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 No.

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

Largest internal dia. of boilers 13'-10 1/8" Length 11'-6" Shell plates: Material Steel Tensile strength 29-33

Thickness 15 1/16" Are the shell plates welded or flanged No. Description of riveting: circ. seams {end 3-43 inter. 7 1/4

Long. seams TR. DRS. Diameter of rivet holes in {circ. seams 1 1/16 long. seams 1 1/16 Pitch of rivets {plate 3-43 rivets 7 1/4

Percentage of strength of circ. end seams {plate 69.1 rivets 43.8 Percentage of strength of circ. intermediate seam {plate 85.35 rivets 97.25 combined 90.03

Percentage of strength of longitudinal joint {plate 85.35 rivets 97.25 combined 90.03

Thickness of butt straps {outer 3/16" inner 7/8" No. and Description of Furnaces in each Boiler 3. Corrugated - Deighton.

Material Steel Tensile strength 26-30 Smallest outside diameter 3'-0 1/2"

Length of plain part {top bottom Thickness of plates {crown 13/32 bottom Description of longitudinal joint welded

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

End plates in steam space: Material Steel Tensile strength 26-30 Thickness 31/32" Pitch of stays 20" x 17"

How are stays secured Double nuts & washers.

Tube plates: Material {front back Steel Tensile strength 26-30 Thickness {7/8" 1 1/16" 2 1/32"

Mean pitch of stay tubes in nests 10'-308" Pitch across wide water spaces 13 1/2"

Girders to combustion chamber tops: Material Steel Tensile strength 26-30 Depth and thickness of girder

at centre 6' 8", 2 @ 7/8" Length as per Rule 2'-4 7/8" Distance apart 10" No. and pitch of stays

in each 2-10" Combustion chamber plates: Material Steel

Tensile strength 26-30 Thickness: Sides 2 1/32" Back 2 1/32" Top 2 1/32" Bottom 2 1/32"

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

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

Thickness 7/8" Lower back plate: Material Steel Tensile strength 26-30 Thickness 13/16"

Pitch of stays at wide water space 13 1/2" Are stays fitted with nuts or riveted over Nuts.

Main stays: Material Steel Tensile strength 28-32

Diameter {At body of stay, or Over threads 2 3/4" No. of threads per inch 6

Screw stays: Material Steel Tensile strength 26-30

Diameter {At turned off part, or Over threads 1 5/8" - 1 3/4" - 1 7/8" No. of threads per inch 9

Are the stays drilled at the outer ends

No.

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

No. of threads per inch

9.

Tubes: Material

Lat Welded Iron

External diameter

Plain

2 1/2"

Stay

2 1/2"

Thickness

9. W. G.

5/16"

No. of threads per inch

9

Pitch of tubes

3 1/4" x 3 5/8"

Manhole compensation: Size of opening

shell plate

21" x 7"

Section of compensating ring

7" x 1 1/8"

No. of rivets and diameter of rivet holes

48 - 1 1/16"

Outer row rivet pitch at ends

7 1/4"

Depth of flange if manhole flanged

Steam Dome: Material

Iron

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

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

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 at

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

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 or and on behalf of

The foregoing is a correct description,

G. W. Miller

Manufacture

1943 Dec 30, 1944 Jan 27, Feb 23, March 28,

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

April 6, 19, 27, May 4, 10

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

Total No. of visits 9

Is this Boiler a duplicate of a previous case

Yes

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

Indra Rpt. No. 17487. Empire

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

This boiler has been constructed under Special Survey & in accordance with the Rules Requirements & approved plan.

The materials & workmanship are good & on completion the boiler was hydraulically tested to 275 lb/sq. in. & found satisfactory.

This boiler is being dispatched to Sunderland for Wm. Dunsford's Contract No. 237.

This boiler has been securely fixed on board the vessel & safety valves adjusted to working pressure.

In recommendation please see Machinery Report.

H. H. Shaw

Survey Fee

£ 18 : 7 : 0

When applied for, 16/5/1944

Travelling Expenses (if any) £

When received, 19

Committee's Minute

TUES. 17 OCT 1944

Assigned

Lee J. Mackay, R.P.

H. H. Shaw

Engineer Surveyor to Lloyd's Register of Shipping.



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