

REPORT ON BOILERS.

No. 19204

Received at London Office

19/2/42

Date of writing Report

10/2/

1942

When handed in at Local Office

16/2/

1942

Port of

Middlesbrough

No. in Survey held at

Stockton

Date, First Survey 18th Sept., 1941Last Survey 6th Feb., 1942

1942

No. in

Reg. Book.

on the

Steel Single Screw tug

"EMPIRE TOBY"

(Number of Visits 13)

Gross 129

Tons Net Nil

Built at

Thorne

By whom built

R. Dunston Ltd

Yard No. T 376 When built 1942

Engines made at

Hume Wigan

By whom made

R. Dunston Worsley Meanes

Engine No. 1376 When made

Boilers made at

Stockton

By whom made

Stockton Chemical Engineers & Riley Boilers Ltd

Boiler No. 6584 When made 1942

Nominal Horse Power

Owners Ministry of War Transport

Port belonging to

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

The Steel Company of Scotland

(Letter for Record S)

Total Heating Surface of Boilers

1367 sq ft

Is forced draught fitted Yes

Coal or Oil fired Coal

No. and Description of Boilers

1. SE. Marine Boiler

Working Pressure 200 lb/sq in

Tested by hydraulic pressure to

350

Date of test 6/2/42

No. of Certificate 7043

Can each boiler be worked separately

Area of Firegrate in each Boiler

36.5 sq ft

No. and Description of safety valves to each boiler

2 2" C.I. Double SV's

Area of each set of valves per boiler

per Rule 7.94 sq in

as fitted 9.52 sq in

Pressure to which they are adjusted 200 lb

Are they fitted with casing 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

18"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

9"

Is the bottom of the boiler insulated

No

Largest internal dia. of boilers

11'-6"

Length

11'-0"

Shell plates: Material

Steel

Tensile strength

29/30

Thickness

1 1/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

D.R.

Long. seams

TR-DBS

Diameter of rivet holes in

circ. seams 1 1/4"

long. seams 1 1/16"

Pitch of rivets

3-61

Percentage of strength of circ. end seams

plate 65.4

rivets 52.2

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.59

rivets 86.66

combined 86.45

Thickness of butt straps

outer 13/16"

inner 15/16"

No. and Description of Furnaces in each Boiler

2 Furnaces

Material

Steel

Tensile strength

26/30

Smallest outside diameter

3'-5"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

19/32

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

15/16"

Pitch of stays 16" x 14" x 14"

How are stays secured

Q. nuts & washers

Tube plates: Material

front Steel

back

Tensile strength

26/30

-16

Thickness

15/16"

7/8"

Lean pitch of stay tubes in nests

87/8"

Pitch across wide water spaces

14"

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32

Depth and thickness of girder

Centre

7 3/4" - 2 x 3 1/4"

Length as per Rule

2'-6"

Distance apart

8 1/4"

No. and pitch of stays

Each

2 - 9 1/4"

Combustion chamber plates: Material

Steel

Tensile strength

26/30

Thickness: Sides

11/16"

Back

11/16"

Top

11/16"

Bottom

11/16"

Pitch of stays to ditto: Sides

9 1/4" x 8 3/4"

Back

9 1/2" x 8 1/2"

Top

8 1/4" x 9 1/4"

Are stays fitted with nuts or riveted over

Nuts

Front plate at bottom: Material

Steel

Tensile strength

26/30

Thickness

15/16"

Lower back plate: Material

Steel

Tensile strength

26/30

Thickness

15/16"

Pitch of stays at wide water space

14"

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 5/8"

No. of threads per inch

6

Crew stays: Material

Steel

Tensile strength

26/30

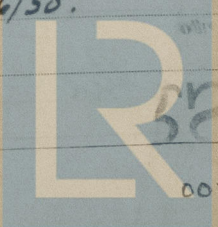
Diameter

At turned off part, or over threads

1 7/8" x 1 3/4"

No. of threads per inch

9



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Are the stays drilled at the outer ends Yes ✓ Margin stays: Diameter { At turned off part, 17/8" or Over threads

No. of threads per inch 9 ✓

Tubes: Material Weldless Steel ✓ External diameter { Plain 2 3/4" Stay 2 3/4" Thickness { 8 W.G. 5/16" No. of threads per inch 9 ✓

Pitch of tubes 4" x 3 3/4" ✓ Manhole compensation: Size of opening in shell plate 17" x 27" Section of compensating ring 7 1/2" x 1 1/32" No. of rivets and diameter of rivet holes 52 - 1 1/16" ✓

Outer row rivet pitch at ends 7 1/2" ✓ Depth of flange if manhole flanged 3 ✓ 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 _____ Manufacture 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 For and on behalf of

STOKTON CHEMICAL ENGINEERS & RILEY BOILERS LTD.
The foregoing is a correct description,

C. W. Riley Manufacturer.
DIRECTOR.

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

Are the approved plans of boiler and superheater forwarded herewith 16/7/41
(If not state date of approval.)

Total No. of visits _____

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. Empire Imp

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

This boiler has been constructed under Special Survey & in accordance with Rule Requirements & approved plan.
The materials & workmanship are good & on completion the boiler was hydraulically tested to 350 lbs/sq. in. & found satisfactory.

Survey Fee ... £ 9 : 2 : 0 When applied for, 16/2/1942
Travelling Expenses (if any) £ : : When received, 19

L. H. Stuart
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRL 18 SEP 1942

Assigned

See H.L. & E. 51724



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