

# REPORT ON BOILERS.

No. 51299

Received at London Office 20 AUG 1941

Date of writing Report

19

When handed in at Local Office

19

Port of HULL.

No. in Survey held at  
g. Book.

HULL.

Date, First Survey

30.8.40

Last Survey

27.6.41

1941

on the Single Screw Steam Tug.

EMPIRE OAK

(Number of Visits)

Gross 482

Tons Net 440

uilt at Gode

By whom built Messrs Gode Shipbuilding & Repairing Co. Ltd

Yard No. 534. When built 1941-6

Engines made at Hull

By whom made Messrs. Ames & Smith Ltd.

Engine No. 679. When made 1941-6

Boilers made at Hull

By whom made Messrs Ames & Smith Ltd

Boiler No. 679. When made 1941-6

ominal Horse Power

Owners

Ministry of Shipping

Port belonging to

Gode

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

Manufacturers of Steel

Appley Frodingham Steel Co Ltd

(Letter for Record 5.

otal Heating Surface of Boilers

3020 sq ft.

Is forced draught fitted

Yes.

Coal or Oil fired Oil fired.

io. and Description of Boilers

One S.B.

Working Pressure 215 lb/sq in.

Tested by hydraulic pressure to

375 lb/sq in.

Date of test

21/3/41.

No. of Certificate 4093.

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler (sq ft)

No. and Description of safety valves to each boiler

2 in No. Spring loaded.

Area of each set of valves per boiler

(per Rule 20.52.0"

as fitted 22.09 0"

Pressure to which they are adjusted

215/0"

Are they fitted with easing gear

Yes

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

None

Smallest distance between boilers or uptakes and bunkers or woodwork

2'-3"

Is oil fuel carried in the double bottom under boilers

No.

Smallest distance between shell of boiler and tank top plating

Open floor.

Is the bottom of the boiler insulated

No.

Largest internal dia. of boilers

16'-9 1/16"

Length 10'-10 3/16"

Shell plates: Material

Steel

Tensile strength 30-34 ton/sq in.

Thickness 1 7/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

Double

Long. seams

T.R. - D.B.S.

Diameter of rivet holes in

(circ. seams 1 7/32"

long. seams 1 7/32"

Pitch of rivets

10 1/2"

Percentage of strength of circ. end seams

(plate 65% rivets 42.1%

Percentage of strength of circ. intermediate seam

(plate - rivets -

Percentage of strength of longitudinal joint

(plate 84.8% rivets 85.2% combined 87.5%

Thickness of butt straps

(outer 1 3/16" inner 1 5/16"

No. and Description of Furnaces in each Boiler

3 Cf. Deighna Section

Material Steel

Tensile strength

Smallest outside diameter 4'-2 9/16"

Length of plain part

(top 2 1/2" bottom 2 1/2"

Thickness of plates

(crown 2 1/2" bottom 2 1/2"

Description of longitudinal joint

Welded.

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

None

End plates in steam space: Material

Steel.

Tensile strength

26/30 ton/sq in.

Thickness

1 5/16"

Pitch of stays 18 3/8" x 22 1/2"

How are stays secured

Nut & plate washers inside nut.

Tube plates: Material

(front Steel back Steel.

Tensile strength

26/30

Thickness

1 5/16"

7/8"

Mean pitch of stay tubes in nests

10 1/2"

Pitch across wide water spaces

12 3/4"

Girders to combustion chamber tops: Material

Steel.

Tensile strength 29/22 ton/sq in.

Depth and thickness of girder

at centre 9 1/2" x (7/8" x 2)

Length as per Rule

2'-9 3/32"

Distance apart

9 1/2" max.

No. and pitch of stays

in each 3 @ 8"

Combustion chamber plates: Material

Steel.

Tensile strength

26/30 ton/sq in.

Thickness: Sides

2 3/32"

Back 2 3/32"

Top 2 3/32"

Bottom 7/8"

Pitch of stays to ditto: Sides

9 1/2" x 8 1/2"

Back 8 3/4" x 8 3/4"

Top 9 1/2" x 8"

Are stays fitted with nuts or riveted over

Nut.

Front plate at bottom: Material

Steel.

Tensile strength 26/30 ton/sq in.

Thickness 1 5/16"

Lower back plate: Material

Steel.

Tensile strength 26/30 ton/sq in.

Thickness 7/8"

Pitch of stays at wide water space

12 3/4"

Are stays fitted with nuts or riveted over

Nut.

Main stays: Material

Steel

Tensile strength 28/22 ton/sq in.

Diameter

(At body of stay, 3 1/2" or Over threads 3 1/2"

No. of threads per inch

9.

Screw stays: Material

Steel

Tensile strength

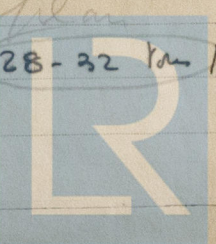
28-32 ton/sq in.

Diameter

(At turned off part, 1 3/4" or Over threads 1 3/4"

No. of threads per inch

9.



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W243-0278



Are the stays drilled at the outer ends No.

Margin stays: Diameter At turned off part, or Over threads 2" Dia.

No. of threads per inch 9.

Tubes: Material Iron.

External diameter Plain 3"  
Stay 3"

Thickness 8.W.G.  
5/16", 3/8", 7/16" No. of threads per inch 9"

Pitch of tubes 4 1/4"

shell plate 16" x 12"

Section of compensating ring Lab. plate 1 1/2" thick

No. of rivets and diameter of rivet holes 32 @ 1 1/2" dia.

Outer row rivet pitch at ends

Depth of flange if manhole flanged None

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 None

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

For AMOS & SMITH LTD.

The foregoing is a correct description,

Manufacturer.

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 (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. Str. Tug EMPIRE LARCH.

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

This Boiler has been Constructed under Special Survey in accordance with the approved plans & to the Rules.

The Workmanship & materials are good and when subjected to a hydraulic pressure test of 375 lb / sq. in. it was found satisfactory in every respect.

Survey Fee ... £  
Travelling Expenses (if any) £

When applied for, 19  
When received, 19

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned See Incl 26 51299