

REPORT ON BOILERS.

No. 95139

JUN 14 1937

Received at London Office

Date of writing Report

19

When handed in at Local Office

12/6/10 37

Port of

NEWCASTLE-ON-TYNE

No. in
Reg. Book.

Survey held at Newcastle on Tyne

Date, First Survey

16/7/36

Last Survey

9/6/1937

on the Steel Co. Motor Tanker "BRITISH DILIGENCE"

(Number of Visits)

Gross 8297

Net 4935

Master

Built at

Newcastle on Tyne

By whom built

Swan, Hunter & Wigham Richardson, Ls

Yard No. 1508

When built 1937

Engines made at

Sunderland

By whom made

Wm. Duxford & Sons, Ls

Engine No. 197

When made 1937

Boilers made at

Newcastle on Tyne

By whom made

Swan, Hunter & Wigham Richardson, Ls

Boiler No. 1508

When made 1937

on Key B/Lr.

Nominal Horse Power

 $\frac{1520}{15} = 101$

Owners

British Tanker Co. Ls

Port belonging to

LONDON

Two FURNACE OIL FIRED
MULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR~~ DONKEY.

Manufacturers of Steel

The Steel Coy. of Scotland, & Furnace plates by Parkhead & S. Coy. Rotherham

(Letter for Record S.)

Total Heating Surface of Boilers

1520 sq. ft.

Is forced draught fitted

Yes

Coal or Oil fired

OIL FIRED.

No. and Description of Boilers

ONE Single Ended Cyl. Multi-tubular.

Working Pressure

150 lb.

Tested by hydraulic pressure to

275 lb.

Date of test

8/1/37

No. of Certificate

705.

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 2 1/2" Cockburns Improved, High Lift Spring Loaded.

Area of each set of valves per boiler

per Rule 6.95 sq. ins.

as fitted

7.94

Pressure to which they are adjusted

150 lb.

Are they fitted with easing gear

Yes

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

No main boilers are fitted.

Smallest distance between boilers or uptakes and bunkers or woodwork

2'-10"

Is oil fuel carried in the

bunker

under boilers

Yes

Smallest distance between shell of boiler and tank top plating

2'-10"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

11'-4 1/2"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

30/34 tons

Thickness

3/4"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end D.R. lap.

long. seams

T.R. Dole butt straps

Diameter of rivet holes in

circ. seams

7/8"

long. seams

13/16"

Pitch of rivets

2.89"

5.75"

Percentage of strength of circ. end seams

plate

69.79

rivets

42.43

Percentage of strength of circ. intermediate seam

plate

85.86

rivets

86.41

Percentage of strength of longitudinal joint

plate

85.86

rivets

86.41

combined

89.02

Working pressure of shell by Rules

150 lb.

Thickness of butt straps

outer

9/16"

inner

11/16"

No. and Description of Furnaces in each Boiler

Two Deighton Corrugated

Material

Steel

Tensile strength

26/30 tons

Smallest outside diameter

37 3/16"

Length of plain part

top

2'-5"

bottom

2'-5" c.c. both

Thickness of plates

crown

13/32"

bottom

7/8" c.c. both

Description of longitudinal joint

furnaces fire welded.

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

none

Working pressure of furnace by Rules

155 lb.

End plates in steam space: Material

Steel

Tensile strength

26/30 tons

Thickness

7/8"

Pitch of stays

16 3/8" x 14"

How are stays secured

Dole nuts & washers

Working pressure by Rules

151 lb.

Tube plates: Material

front

Steel

back

Steel

Tensile strength

26/30 tons

Thickness

7/8"

Mean pitch of stay tubes in nests

9.375"

Pitch across wide water spaces

13 1/2" x 7 1/2"

Working pressure

front 158 lb.

back 156 lb.

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32 tons

Depth and thickness of girder

at centre

7 3/4" x 1 1/4"

Length as per Rule

29 2 1/2"

Distance apart

9 1/2"

No. and pitch of stays

in each

229"

Working pressure by Rules

152 lb.

Combustion chamber plates: Material

Steel

Tensile strength

26/30 tons

Thickness: Sides

5/8"

Back

23/32"

Top

5/8"

Bottom

5/8"

Pitch of stays to ditto: Sides

9 1/2" x 9 1/2"

Back

9" x 8"

Top

9 1/2" x 9"

Are stays fitted with nuts or riveted over

C.C. marginal & side stays are riveted both ends.

Working pressure by Rules

150 lb.

Front plate at bottom: Material

Steel

Tensile strength

26/30 tons

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26/30 tons

Thickness

7/8"

Pitch of stays at wide water space

14 3/4" x 9"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

210 lb.

Main stays: Material

Steel

Tensile strength

28/32 tons

Diameter

Two top stays 2 1/2"

No. of threads per inch

6

Area supported by each stay

(15 3/4" x 14 3/4") - 3.26 sq.

Over threads

others 2 1/4"

Working pressure by Rules

151 lb.

Screw stays: Material

Steel

Tensile strength

26/30 tons

Diameter

At turned off point

1 7/8" + 1 1/2"

No. of threads per inch

9

Area supported by each stay

(9 1/2" x 9 1/2") - 1.73 sq.

Over threads

Working pressure by Rules 172 lb. Are the stays drilled at the outer ends No ✓ Margin stays: Diameter 1 7/8" Over threads 178" ✓
No. of threads per inch 9 ✓ Area supported by each stay (10 3/4" x 9") = 1.73 sq ft Working pressure by Rules 160 lb. ✓

Tubes: Material IRON ✓ External diameter 2 1/2" ✓ Thickness 10. W.G. ✓ No. of threads per inch 9 ✓
Pitch of tubes 3 3/4" x 3 3/4" ✓ Working pressure by Rules 229 lb. ✓ Manhole compensation: Size of opening

shell plate 20" x 16" ✓ Section of compensating ring 7 3/8" x 3/4" x 2" ✓ No. of rivets and diameter of rivet holes 32 of 1 1/8" dia ✓
Outer row rivet pitch at ends 8" ✓ Depth of flange if manhole flanged 2 1/2" ✓ 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 Working pressure by Rules Thickness of crown No. and diameter

stays Inner radius of crown Working pressure by Rules

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 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

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 Working pressure as per Rules

Pressure to which the safety valves are adjusted Hydraulic test pressure

tubes, 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 foregoing is a correct description,

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 14/4/37 (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. British Fame. New Rpt 94124
British Endurance " 94275"

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

This Donkey Boiler has been built under special survey in accordance with the Society's Rules and approved plans, and the materials & workmanship are good.
The Boiler is fitted on top of the O.F. Bunker, on Starboard side in the Boiler Space forward of the Engine Room, having access from the top platform of the Engine Room.
The Boiler is fitted for burning Oil Fuel 637, flash point above 150°F. under forced draft.
The safety valves have been adjusted under steam to 150 lb/sq in and the accumulation test was satisfactory.

Survey Fee ... £ 10. 20/- When applied for, 10
Travelling Expenses (if any) £ : : When received, 10

A. Watt.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 18 JUN 1937

Assigned

See New Rpt 95739



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