

REPORT ON BOILERS.

Std. No. 30561

Hue No. 86507

30 JAN 1931

-4 DEC 1930

Received at London Office

Date of writing Report

19

When handed in at Local Office

25/11

1930

Port of Newcastle-on-Tyne

No. in Survey held at
Reg. Book.

Jarrow

Date, First Survey 3rd Oct

Last Survey 18 Nov 1930

on the

M.V. BRITISH SCIENCE

(Number of Visits 12.)

Gross
Tons
Net

Master Built at Hebburn By whom built Palmers Co. Ltd

Yard No. 1003 When built 1930

Engines made at Sunderland

By whom made W. Doxford & Sons Ltd

Engine No. 182 When made 1930

Boilers made at Jarrow

By whom made Palmers Co. Ltd

Boiler No. 8027 When made 1930

Nominal Horse Power

Owners British Tanker Co. Ltd

Port belonging to

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

Manufacturers of Steel The Steel Company of Scotland Ltd.

(Letter for Record S)

Total Heating Surface of Boilers

2138 sq ft

Is forced draught fitted YES

Coal or Oil fired OIL EXHAUST GAS

No. and Description of Boilers ONE SINGLE ENDED

Working Pressure 150 LBS.

Tested by hydraulic pressure to 275 LBS

Date of test 6.11.30

No. of Certificate 521

Can each boiler be worked separately YES

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler Two spring loaded.

Area of each set of valves per boiler

per Rule 19.4 sq ft

Pressure to which they are adjusted 155 LBS

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 8'-0"

Is oil fuel carried in the double bottom under boilers YES

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated YES

Largest internal dia. of boilers

12' 4 5/16"

Length

11' 6"

Shell plates: Material STEEL

Tensile strength 29-33 TONS

Thickness

37/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end DRL

Long. seams TRDBS

Diameter of rivet holes in

circ. seams 1 1/16"

long. seams 1 5/16"

Pitch of rivets

3-254"

6 5/8"

Percentage of strength of circ. end seams

plate 67.3

rivets 51.2

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.8

rivets 91.7

combined 90.0

Working pressure of shell by Rules

152 LBS

Thickness of butt straps

outer 21/32"

inner 25/32"

No. and Description of Furnaces in each Boiler TWO DEIGHTON

Tensile strength 26-30 TONS

Smallest outside diameter 2' 6"

Length of plain part

top 10 1/2"

bottom 10 1/2"

Thickness of plates

crown 3/8"

bottom 3/8"

Description of longitudinal joint WELD

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

Working pressure of furnace by Rules 165 LBS

End plates in steam space: Material

STEEL

Tensile strength

26-30 TONS

Thickness

31/32"

Pitch of stays 16.5 x 14"

How are stays secured

DOUBLE NUTS & WASHERS

Working pressure by Rules

151 LBS

Tube plates: Material

front STEEL

back

Tensile strength

26-30 TONS

Thickness

25/32"

21/32"

Lean pitch of stay tubes in nests

9' 375"

Pitch across wide water spaces

1' 2 1/4"

Working pressure

front 153 LBS

back 160 LBS

Girders to combustion chamber tops: Material

STEEL

Tensile strength

29-33 TONS

Depth and thickness of girder

centre

1" x 7 1/2"

Length as per Rule

2' 4 23/32"

Distance apart

8 1/4"

No. and pitch of stays

each

2 @ 10"

Working pressure by Rules

155 LBS

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

8 1/4" x 10"

Back

8" x 9 1/2"

Top

8 1/4" x 10"

Are stays fitted with nuts or riveted over

BOTH

Working pressure by Rules

152 LBS

Front plate at bottom: Material

STEEL

Tensile strength

26-30 TONS

Thickness

25/32"

Lower back plate: Material

STEEL

Tensile strength

26-30 TONS

Thickness

29/32"

Pitch of stays at wide water space

14.25" x 9.5"

Are stays fitted with nuts or riveted over

NUTS

Working Pressure

152 LBS

Main stays: Material

STEEL

Tensile strength

28-32 TONS

Diameter

At body of stay, 2 5/8"

Over threads

No. of threads per inch

6

Area supported by each stay

313.5 sq in

Working pressure by Rules

158 LBS

Screw stays: Material

STEEL

Tensile strength

26-30 TONS

Diameter

At turned off part, 1 1/2"

Over threads

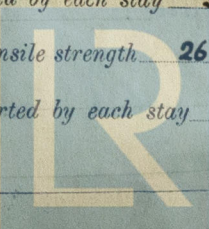
No. of threads per inch

9

Area supported by each stay

82.5 sq in

W11-0035

Lloyd's Register
Foundation

Working pressure by Rules 152 LBS / Are the stays drilled at the outer ends No / Margin stays: Diameter { At turned off part, or Over threads 1 5/8", 1 3/4", 1 7/8"
No. of threads per inch 9 / Area supported by each stay 127.9 / Working pressure by Rules 166 LBS
Tubes: Material W. IRON / External diameter { Plain 2 1/2", 3 1/4" / Thickness { 10 WG, 9 WG / No. of threads per inch 9
Pitch of tubes 3 3/4" x 3 3/4" & 4 1/2" x 4 1/2" / Working pressure by Rules 175 LBS. & 180 LBS. / Manhole compensation: Size of opening in shell plate 16" x 20" / Section of compensating ring 2' 8" x 2' 9" x 25' / No. of rivets and diameter of rivet holes 40 @ 1 1/8"
Outer row rivet pitch at ends 7 3/16" / Depth of flange if manhole flanged 4" / 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 of 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 - / 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 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 - / 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
Palmer's Shipbuilding & Iron Co., Ltd. Manufacturer.
N. Brown

Dates of Survey { During progress of work in shops -- } 1930 Oct. 3. 13. 14. 17. 20. 21. 23. 31. Nov. 5. 6. 10. / Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes
while building { During erection on board vessel --- } 18. / Total No. of visits 12.

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under Special Survey, the materials and workmanship are good.

This boiler has been satisfactorily fitted on board the vessel. The safety valves adjusted under steam. For notation see machinery report.

Survey Fee £ 14 : 5 : 0

When applied for, 5 DEC 1930

Travelling Expenses (if any) £ - : - : -

When received, 14/2/31

Thomas Napier
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute: TUE. 10 FEB 1931

Assigned See other Nov. 26. 1931



© 2019

Lloyd's Register
Foundation