

REPORT ON BOILERS.

No. 19324

Received at London Office

[3 JUN 1931

Date of writing Report 29. 8 1931

When handed in at Local Office 28th May 1931

Port of Greenock

No. in Reg. Book. Greenock

Date, First Survey 15th July 1930Last Survey 24th May 1931

on the

s/s "British Energy"

(Number of Visits)

Gross 4208.54

Tons Net 4194.10

Master

Built at

Greenock

By whom built

Greenock Dockyard & Co. Ltd.

Hull No. 422

When built 1931

Engines made at

Greenock

By whom made

John & Macrae & Co. Ltd.

Engine No. 1765

When made 1931

Boilers made at

ditto

By whom made

ditto

Boiler No. 1767

When made 1931

Nominal Horse Power

Owners

British Tankers Ltd.

Port belonging to

London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, ~~SAFETY~~.

Manufacturers of Steel

W. & A. R. B. & Co. Ltd. Glasgow & Scotland.

(Letter for Record S)

Total Heating Surface of Boilers

22474

Is forced draught fitted

Yes

Oil fired

Oil

No. and Description of Boilers

One Single End

Working Pressure 150

Tested by hydraulic pressure to

245

Date of test

19.2.31

No. of Certificate

20045

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

Oil Fuel

No. and Description of safety valves to each boiler

Bockwurm (Double High Lift)

Area of each set of valves per boiler

per Rule 13.612

as fitted 14.137

Pressure to which they are adjusted

155

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

1'-6"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

1'-6"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

12'-11 1/8"

Length

11'-6"

Shell plates: Material

S

Tensile strength

29.33

Thickness

7/8"

Are the shell plates welded or flanged

—

Description of riveting: circ. seams

end

long. seams

TR.D.B.S.

Diameter of rivet holes in

circ. seams

15/16"

long. seams

Pitch of rivets

2.853

6 3/4"

Percentage of strength of circ. end seams

plate

67.4

rivets

43.4

Percentage of strength of circ. intermediate seam

plate

—

rivets

Percentage of strength of longitudinal joint

plate

86.6

rivets

89.42

Working pressure of shell by Rules

152

Thickness of butt straps

outer 2 1/32"

inner 2 7/32"

No. and Description of Furnaces in each Boiler

2 Deighton

Material

S

Tensile strength

26.30

Smallest outside diameter

3' 2 7/8"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

Description of longitudinal joint

weld

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

—

Working pressure of furnace by Rules

161

End plates in steam space: Material

S

Tensile strength

26.30

Thickness

1 1/16"

Pitch of stays

20" x 16 1/2"

How are stays secured

D.N.W. washers

Working pressure by Rules

155

Tube plates: Material

front

back

S

Tensile strength

26.30

Thickness

29/32"

1 1/16"

Mean pitch of stay tubes in nests

10

Pitch across wide water spaces

13 3/4"

Working pressure

front

back

173

Girders to combustion chamber tops: Material

S

Tensile strength

29.33

Depth and thickness of girder

at centre

8' 3/4" (2)

Length as per Rule

2' 6 5/8"

Distance apart

9 3/4"

No. and pitch of stays

in each

3 at 7 1/4"

Working pressure by Rules

170

Combustion chamber plates: Material

S

Tensile strength

26.30

Thickness: Sides

1 1/16"

Back

3/4"

Top

1 1/16"

Bottom

1 1/16"

Pitch of stays to ditto: Sides

9 1/4" x 7 1/4"

Back

9 1/8"

Top

9 1/4" x 9 3/4"

Are stays fitted with nuts or riveted over

Riveted

Working pressure by Rules

160

Front plate at bottom: Material

S

Tensile strength

26.30

Thickness

29/32"

Lower back plate: Material

S

Tensile strength

26.30

Thickness

29/32"

Pitch of stays at wide water space

14"

Are stays fitted with nuts or riveted over

Riveted

Working Pressure

156

Main stays: Material

S

Tensile strength

26.32

Diameter

At body of stay,

or

Over threads

2 1/8"

No. of threads per inch

6

Area supported by each stay

330 sq. in.

Working pressure by Rules

150

Screw stays: Material

S

Tensile strength

26.30

Diameter

At turned off part,

or

Over threads

1 1/2"

No. of threads per inch

9

Area supported by each stay

72 sq. in.

Working pressure by Rules 174 Are the stays drilled at the outer ends 910 Margin stays: Diameter { At turned off part, 1 3/4" or Over threads -
No. of threads per inch 9 Area supported by each stay 110 sq. Working pressure by Rules 164
Tubes: Material 910 External diameter { Plain 23 1/4" Thickness { 10WG 1/4" 5/16" No. of threads per inch 9
Pitch of tubes 4" x 4" Working pressure by Rules 169 Manhole compensation: Size of opening in
shell plate 16" x 20" Section of compensating ring 2.9 x 2.5 x 1.1" No. of rivets and diameter of rivet holes 38 at 1 1/8"
Outer row rivet pitch at ends 8" Depth of flange if manhole flanged 3 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 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

The foregoing is a correct description,
For JOHN G. KINCAID & CO. LIMITED.
Director. Manufacturer.

Dates of Survey { During progress of work in shops - - - Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes
while building { During erection on board vessel - - - Total No. of visits ✓
SEE MACHINERY REPORT

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under Special Survey in accordance with the approved plans & the workmanship & material are of good quality & it is now securely fitted on board
This Report accompanies that of the Machinery.
(Being duplicate of T.B.H. British Protege" Enk Repl. No. 19340)

Survey Fee charged on Machinery Rept. When applied for, 192
Travelling Expenses (if any) When received, 192

W. Gordon-Mitchell
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 2 - JUN 1931
Assigned SEE ACCOMPANYING MACHINERY REPORT.