

REPORT ON BOILERS.

No. 100736

Received at London Office

28 SEP 1942

Date of writing Report

19

When handed in at Local Office

19

42.

Port of

NEWCASTLE-ON-TYNE

No. in Reg. Book. Survey held at

Newcastle on Tyne

Date, First Survey

1. 7. 42

Last Survey

1. 9. 19 42.

on the M.V. "NUCULANA"

(Number of Visits

Gross 8179
Tons Net 4767

Master

Built at

Newcastle (Hetherington)

By whom built

R.W. Hawthorn, Leslie & Co. Ltd.

Card No.

649

When built

1942-

Engines made at

Newcastle (St. Peter's)

By whom made

ditto

Engine No.

3977

When made

1942-

Boilers made at

"

By whom made

ditto

Boiler No.

3977

When made

1942-

Nominal Horse Power

233

Owners

Anglo-Saxon Petroleum Co. Ltd.

Port belonging to

London.

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

Manufacturers of Steel

Colvilles Ltd

(Letter for Record

S.

Total Heating Surface of Boilers

3500 sq. ft.

Is forced draught fitted

Yes

Coal or Oil fired

oil fired

No. and Description of Boilers

One Single Ended

Working Pressure

180 lbs/sq. in.

Tested by hydraulic pressure to

320 lbs/sq. in.

Date of test

20/5/42

No. of Certificate

976

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

Two of 4" dia Spring Loaded.

Area of each set of valves per boiler

per Rule

22.44 sq. ins.

as fitted

25.12

Pressure to which they are adjusted

180 lbs/sq. in.

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

turn deck

3'-4"

Is oil fuel carried in the double bottom under boilers

No.

Smallest distance between shell of boiler and tank top plating

3'-4"

The Boiler is fitted on Deck flat in E.R.

Is the bottom of the boiler insulated

Yes.

Largest internal dia. of boilers

16'-0 3/8"

Length

12'-6" mean

Shell plates: Material

S.H.

Tensile strength

28-32 tons/sq. in.

Thickness

1 5/16"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end

DR overlap.

long. seams

T.R. Dbl. butt straps

Diameter of rivet holes in

circ. seams

1 3/8"

Pitch of rivets

3.95"

Percentage of strength of circ. end seams

plate

65.2

rivets

47.1

Percentage of strength of circ. intermediate seam

plate

NONE.

Percentage of strength of longitudinal joint

plate

85.3

rivets

93.

combined

89.3.

Working pressure of shell by Rules

180.6 lbs.

Thickness of butt straps

outer 1"

inner 1 1/8"

No. and Description of Furnaces in each Boiler

3. "Morison" Corrugated.

Material

S.

Tensile strength

26-30 tons

Smallest outside diameter

4'-0 1/4"

Length of plain part

top

bottom

Thickness of plates

crown

5/8"

Description of longitudinal joint

Fire welded

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

None

Working pressure of furnace by Rules

189 lbs.

End plates in steam space: Material

S.

Tensile strength

26 to 30 tons

Thickness

1 1/2"

Pitch of stays

22" x 20 3/4" max.

How are stays secured

Nuts inside & outside

Working pressure by Rules

185 lbs. min.

Tube plates: Material

front S.

back

Tensile strength

26 to 30 tons

Thickness

1 13/16"

Mean pitch of stay tubes in nests

9 7/8"

Pitch across wide water spaces

13 3/4" x 7 3/4"

Working pressure

front

200 lbs

back

243 lbs.

Girders to combustion chamber tops: Material

S.

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

10 3/4" x 3 1/4" x 2"

Length as per Rule

37 1/2" - 1/4"

Distance apart

10 1/2"

No. and pitch of stays

in each

3 @ 8 3/4"

Working pressure by Rules

182.5 lbs.

Combustion chamber plates: Material

S.

Tensile strength

26 to 30 tons

Thickness: Sides

4 5/64"

Back

4 5/64"

Top

4 5/64"

Bottom

1"

Pitch of stays to ditto: Sides

8 3/4" x 7"

Back

8 3/4" x 7 1/8"

Top

10 1/2" x 8 3/4"

Are stays fitted with nuts or riveted over

Remainder are riveted over.

Working pressure by Rules

182 lbs. min.

Front plate at bottom: Material

S.

Tensile strength

26 to 30 tons

Thickness

1"

Lower back plate: Material

S.

Tensile strength

26 to 30 tons

Thickness

27/32"

Pitch of stays at wide water space

15" x 8 1/4"

Are stays fitted with nuts or riveted over

Fitted with nuts.

Working Pressure

198

Main stays: Material

S.

Tensile strength

28-32 tons

Diameter

At body of stay,

3 1/4"

Over threads

No. of threads per inch

6.

Area supported by each stay

450 sq. ins. max.

Working pressure by Rules

206 lbs.

Screw stays: Material

S.

Tensile strength

26 to 30 tons

Diameter

At turned off part,

1 1/2" + 1 3/4"

Over threads

No. of threads per inch

9.

Area supported by each stay

92 sq. ins. for 1 3/4" dia

63.5" x 1 5/8" dia

Contr P.T.O.

Working pressure by Rules 197 lb min. Are the stays drilled at the outer ends No Margin stays: Diameter 1 3/4" Over threads

No. of threads per inch 9 Area supported by each stay 93.5 sq in Working pressure by Rules 194 lb

Tubes: Material W.I. lap welded External diameter 2 3/4" Thickness 9.45 No. of threads per inch 9

Pitch of tubes 4" x 3 7/8" vert. Working pressure by Rules 214 lb min. Manhole compensation: Size of opening in shell plate 21" x 17" Section of compensating ring 25" x 1 5/8" No. of rivets and diameter of rivet holes 36 7/16 dia

Outer row rivet pitch at ends 10" Depth of flange if manhole flanged 4 1/2" Steam Dome: 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 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 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 Working pressure as per Rules

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 Yes

The foregoing is a correct description P. B. Johnson 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 17/1/41 (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. NICANIA. NWC Rpt No 100491.

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

This Donkey Boiler has been constructed under Special Survey in accordance with the approved plans and the Society's Rules. and the materials and workmanship are good

Survey Fee £ See machy Rpt 46. When applied for, 19

Travelling Expenses (if any) £ When received, 19

A. Watt.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 2 OCT 1942

Assigned See NWC Rpt 100736