

REPORT ON BOILERS.

No. 96601

Received at London Office

AUG 29 1938

Date of writing Report

10

When handed in at Local Office

26th Aug 1938

Port of

NEWCASTLE-ON-TYNE

No. in Survey held at
Reg. Book.

Newcastle-on-Tyne.

Date, First Survey

28 May 1937

Last Survey

25 Aug 1938.

87752 on the

Steel Sc. "DORYSSA"

(Number of Visits)

Gross 8078.

Net 4790.

Master

Built at

Newcastle-on-Tyne (Nethun)

By whom built

R.W. Hawthorn Leslie & Co Ltd

Yard No.

611.

When built 1938

Engines made at

Newcastle-on-Tyne (Nethun)

By whom made

R.W. Hawthorn Leslie & Co Ltd

Engine No.

3938. When made 1938

Boilers made at

Newcastle-on-Tyne (Nethun)

By whom made

R.W. Hawthorn Leslie & Co Ltd

Boiler No.

3938. When made 1938.

Nominal Horse Power

502

Owners

Anglo Saxon Petroleum Co Ltd

Port belonging to

London

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

Manufacturers of Steel

(Plates) The Steel Company of Scotland (Furnaces) Beighton Ltd

(Letter for Record

5.

Total Heating Surface of Boilers

2500 sq ft.

Is forced draught fitted

Yes.

Coal or Oil fired

oil.

No. and Description of Boilers

One Single Ended.

Working Pressure

180 lb/sq in.

Tested by hydraulic pressure to

320 lb/sq in.

Date of test

8-3-38

No. of Certificate

767.

Can each boiler be worked separately

✓

Area of Firegrate in each Boiler

✓

No. and Description of safety valves to each boiler

2 Double Spring Loaded.

Area of each set of valves per boiler

{ per Rule
as fitted

16 sq in.

Pressure to which they are adjusted

180 lb/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

✓

Is oil fuel carried in the double bottom under boilers

✓

Smallest distance between shell of boiler and tank top plating

✓

Is the bottom of the boiler insulated

Yes.

Largest internal dia. of boilers

14' - 3 5/8"

Length

11' - 6"

Shell plates: Material

Steel

Tensile strength

28-32 tons

Thickness

1 3/16"

Are the shell plates welded or flanged

Neither

Description of riveting: circ. seams

{ end
inter.

long. seams

D.R.D.B.S.

Diameter of rivet holes in

{ circ. seams
long. seams

1 1/4"

Pitch of rivets

3 1/2"

Percentage of strength of circ. end seams

{ plate
rivets

64.2 %

Percentage of strength of circ. intermediate seam

{ plate
rivets

48.4 %

Percentage of strength of longitudinal joint

{ plate
rivets

85.7 %

91 %

Working pressure of shell by Rules

183 lb/sq in.

Thickness of butt straps

{ outer
inner

1 1/2"

No. and Description of Furnaces in each Boiler

3 Morrison Section (Corrugated)

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

3' - 7 1/8"

Length of plain part

{ top
bottom

Thickness of plates

{ crown
bottom

9/16"

Description of longitudinal joint

Welded

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

None.

Working pressure of furnace by Rules

189 lb/sq in.

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

7/32"

Pitch of stays

21" x 17 3/4"

How are stays secured

Double nuts

Working pressure by Rules

183 lb/sq in.

Tube plates: Material

{ front
back

Steel

Tensile strength

26-30 tons

Thickness

13/16"

Mean pitch of stay tubes in nests

9 1/4"

Pitch across wide water spaces

13 3/4" x 7 3/4"

Working pressure

{ front 242 lb/sq in.
back 285 lb/sq in.

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

10" @ 1 1/2"

Length as per Rule

2' - 10 1/2"

Distance apart

10"

No. and pitch of stays

in each

3 @ 8"

Working pressure by Rules

194 lb/sq in.

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

45/64"

Back

45/64"

Top

45/64"

Bottom

7/8"

Pitch of stays to ditto: Sides

8" x 8"

Back

8" x 8"

Top

8" x 10"

Are stays fitted with nuts or riveted over

Riveted

Working pressure by Rules

180 lb/sq in.

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

15/16"

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

2 7/8"

Pitch of stays at wide water space

15" x 8"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

200 lb/sq in.

Main stays: Material

Steel

Tensile strength

28-32 tons

Diameter

{ At body of stay,
or
Over threads

3"

No. of threads per inch

6

Area supported by each stay

372.75 sq in.

Working pressure by Rules

181 lb/sq in.

Screw stays: Material

Steel

Tensile strength

26-30 tons.

Diameter

{ At turned off part,
or
Over threads

1 1/2" + 1 5/8"

No. of threads per inch

9

Area supported by each stay

64 sq in.

W241-0156

Working pressure by Rules 196 lb/sq. in. Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 3/4" or Over threads. 197 lb/sq. in.

No. of threads per inch 9. Area supported by each stay 92 sq. in. Working pressure by Rules 197 lb/sq. in.

Tubes: Material Steel External diameter { Plain 2 3/4" Stay 2 3/4" Thickness { 9/16" + 3/8" No. of threads per inch 9.

Pitch of tubes 4" x 3 7/8" Working pressure by Rules Plain 215 lb/sq. in. Stay Manhole compensation: Size of opening in shell plate 21" x 17" Section of compensating ring 21" x 1 3/16" No. of rivets and diameter of rivet holes 40 @ 1 1/4"

Outer row rivet pitch at ends 8 3/4" Depth of flange if manhole flanged 3 1/2" 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 _____ 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.

A. W. HAWTHORN, LESLIE & CO. LIMITED
The foregoing is a correct description,
P. B. Johnson Manufacturer.

Dates of Survey { During progress of work in shops - - - See Preliminary Report Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes.

{ While building { During erection on board vessel - - - See Preliminary Report Total No. of visits _____

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. 'DAPHNELLA' No. Rm 96399.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
The Boiler has been constructed under Special Survey in accordance with the Society's Rules & approved plan. The materials & workmanship are sound & good. The boiler was efficiently installed on board and its safety valves adjusted under steam to the approved working pressure.

[Faint handwritten notes and stamps in the background of the remarks section.]

Survey Fee ... £ See Preliminary Report When applied for, _____ 10

Travelling Expenses (if any) £ _____ When received, _____ 10

L. J. P. S. S. S.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 2 SEP 1938

Assigned See No. 96601