

5a.

DONKEY REPORT ON BOILERS.

No. 94319

23 OCT 1936

Received at London Office

NEWCASTLE ON TYNE

Writing Report

19

When handed in at Local Office

21.10.36

Port of

Survey held at

Newcastle on Tyne

Date, First Survey

9 March

Last Survey

21/10/ 1936

on the

Motor Tanker SEPIA.

(Number of Visits)

Gross 6214
Net 3620

er

Built at Newcastle

By whom built Swan Hunter & Wigham

Yard No. 1519

When built 1936

nes made at

Newcastle

By whom made R. & W. Hawthorn, Leslie & Co. Ltd

Engine No. 3879

When made 1936

Key

made at

Newcastle

By whom made Swan Hunter & Wigham Richardson Ltd

Boiler No. 1524

When made 1936

inal Horse Power

171. = $\frac{2565 \text{ sq ft}}{15}$

Owners Anglo Saxon Petroleum Co Ltd

Port belonging to LONDON

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

The Steel Coy of Scotland, Furnace Plates by Parkhead

Iron & Steel Co., Rotherham.

(Letter for Record)

l Heating Surface of Boilers

2565 sq ft

Is forced draught fitted Yes

Coal or Oil fired

Oil fired & waste heat

and Description of Boilers

One 3 furnace multitubular Scotch

Working Pressure 180 lbs/sq

ed by hydraulic pressure to

320 lb

Date of test 21-8-36

No. of Certificate 685

Can each boiler be worked separately

Yes

a of Firegrate in each Boiler

Oil fired

No. and Description of safety valves to each boiler

Two Spring Loaded High Lift Type

a of each set of valves per boiler

per Rule 9.61

as fitted 9.8

Pressure to which they are adjusted 180 lb

Are they fitted with easing gear

Yes

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

No main Boilers (Oil Engines)

allest distance between boilers or uptakes and bunkers or woodwork

Yes

Is oil fuel carried in the double bottom under boilers

Boiler is on flat above ER

allest distance between shell of boiler and tank top plating

Yes

Is the bottom of the boiler insulated

Yes

gest internal dia. of boilers

14' 5 3/16"

Length 11' 4 1/2"

Shell plates: Material

M. Steel

Tensile strength

29-33 tons

6 thickness

1 5/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

dbl riv. overlap

7. seams

trib. riveted
dbl butt straps

Diameter of rivet holes in

circ. seams 1 5/16"

long. seams 1 3/16"

Pitch of rivets

4' 4 1/7"

centage of strength of circ. end seams

plate 70.28%

rivets 42.02%

Percentage of strength of circ. intermediate seam

plate

rivets

centage of strength of longitudinal joint

plate 85.60%

rivets 86.32%

combined 88.47%

Working pressure of shell by Rules

182 lbs/sq

ickness of butt straps

outer 7/8"

inner 1"

No. and Description of Furnaces in each Boiler

3 Morrison Susp. Furnaces

aterial

Steel

Tensile strength

26 to 30 tons

Smallest outside diameter

3' 8 3/8"

length of plain part

top 8 3/4"

bottom 2 4 1/2" (cc. bott)

Thickness of plates

crown 9/16"

bottom 1" (cc. bott)

Description of longitudinal joint

fireweld

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

none

Working pressure of furnace by Rules

184 lbs.

id plates in steam space: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 1/8"

Pitch of stays

19" x 16 3/4"

ow are stays secured

Screwed thro plates, & nuts inside & outside

Working pressure by Rules

182 lbs.

be plates: Material

front Steel

back Steel

Tensile strength

26 to 30 tons

Thickness

1 3/16"

ean pitch of stay tubes in nests

9.726"

Pitch across wide water spaces

14 3/16" x 7 7/8"

Working pressure

front 189 lbs.

back 249 lbs.

rders to combustion chamber tops: Material

Steel

Tensile strength

28 to 32 tons

Depth and thickness of girder

center

9" x 1 1/4"

each

3 at 8"

Length as per Rule

30 17/32"

Distance apart

9 1/2"

No. and pitch of stays

Steel

ensile strength

26 to 30 tons

Thickness: Sides

3/4"

Back

2 7/32"

Top

3/4"

Bottom

1"

itch of stays to ditto: Sides

8" x 7 1/2"

Back

9 1/2" x 8 1/2"

Top

9 1/2" x 8"

Are stays fitted with nuts or riveted over

Riveted over.

orking pressure by Rules

190 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 5/16"

hickness

1"

Lower back plate: Material

Steel

Tensile strength

26 to 30 tons

Are stays fitted with nuts or riveted over

with nuts

itch of stays at wide water space

14 1/2" x 8 1/2"

Working Pressure

256 lbs (min)

Main stays: Material

Steel

Tensile strength

28 to 32 tons

iameter

At body of stay, 3" dia

Over threads

No. of threads per inch

6

Area supported by each stay

(19 1/2" x 17 1/2") - 6.1

orking pressure by Rules

200 lbs

Screw stays: Material

Steel

Tensile strength

26 to 30 tons

iameter

At turned off part, 1 5/8" + 1 1/2"

Over threads

No. of threads per inch

9

Area supported by each stay

1 5/8" = (9 1/2" x 8) - 1.7

1 1/2" = (8" x 7 1/2") - 1.45

Working pressure by Rules 205 lb Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, + or 1 7/8, 1 3/4, 1 Over threads }
 No. of threads per inch 9 Area supported by each stay (9 x 9 1/2) - 1.7 Working pressure by Rules 186 lb
 Tubes: Material IRON External diameter { Plain 2 3/4 O/D Stay 2 3/4 O/D Thickness { 9 W.G. 3/8, 5/16, 1/4 No. of threads per inch 9
 Pitch of tubes 3 5/16 x 3 55/64 Working pressure by Rules 183 lb Manhole compensation: Size of open shell plate 16" Section of compensating ring 21 x 1 5/32" No. of rivets and diameter of rivet holes 32 rivets 1 3/8"
 Outer row rivet pitch at ends 9 7/8 Depth of flange if manhole flanged 2 3/4 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 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 from the boiler ✓
 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 ✓
 Rules ✓ Pressure to which the safety valves are adjusted ✓ Hydraulic test pressure ✓
 tubes ✓, castings ✓ and after assembly in place ✓ Are drain cocks or valves to free the superheater from water where necessary ✓

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

FOR The foregoing is a correct description, SWAN, HUNTER & WIGHAM RICHARDSON, LTD. Manufactured by J. J. Swell No. 21/6

Dates of Survey while building { During progress of work in shops - - - See incl. Report Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) 21/6
 { During erection on board vessel - - - See incl. Report Total No. of visits ✓

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. ELONA NWC Rpt. 93417
MACTRA " " 93536

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
The Donkey Boiler has been constructed under special survey in accordance with the Rules and approved plan.
The materials and workmanship are good, and the boiler was found satisfactory under hydraulic test.
The Boiler has been fitted on board, and the Safety valves adjusted under steam, and the vessel is eligible for the notation DB. 180 lbs.

Survey Fee £ 17.2.0 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. 30 OCT 1936
 Assigned See NWC. J.B. 94319

