

REPORT ON BOILERS.

No. 28981

Received at London Office

31 DEC 1924

Date of writing Report

192

When handed in at Local Office

30 DEC 1924

Port of

Sunderland

No. in Survey held at
1. Book.

Sunderland

Date, First Survey

Last Survey 15th Dec

1924

(Number of Visits)

Gross

Net

on the

new Steel S.S. "PARAGUANA"

Master

Built at

Garrow-on-Tyne

By whom built

Palmer Shipb. Co

Yard No.

953

When built

1924

Engines made at

Sunderland

By whom made

MacColl & Pallock

Engine No.

344

When made

1924

Boilers made at

Sunderland

By whom made

MacColl & Pallock

Boiler No.

344

When made

1924

Nominal Horse Power

186

Owners

Gulf Refining Co

Port belonging to

Maracaibo

Venezuela.

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

Manufacturers of Steel

John Spencer & David Colville & Sons Ltd

(Letter for Record (S))

Total Heating Surface of Boilers

3249

Is forced draught fitted

No

Coal or Oil fired

oil

No. and Description of Boilers

Two single ended marine type

Working Pressure

180 lbs

Tested by hydraulic pressure to

320

Date of test

14-11-24

No. of Certificate

3906

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

oil

No. and Description of safety valves to each boiler

Two Direct Spring loaded

Area of each set of valves per boiler

per Rule

12.44

as fitted

14.12

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

yes

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

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

23 1/4"

Is the bottom of the boiler insulated

no

Largest internal dia. of boilers

12'-6 2/2"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

28 to 32 tons

Thickness

1 3/4"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end D.R. LAP

Long. seams

T.R.D.B.S

Diameter of rivet holes in

circ. seams

1 1/8"

long. seams

1 1/8"

Pitch of rivets

3 1/2"

4.9"

Percentage of strength of circ. end seams

plate 69.49

rivets 42.8

Percentage of strength of circ. intermediate seam

plate 85.46

rivets 92.2

Percentage of strength of longitudinal joint

plate 85.46

rivets 92.2

Working pressure of shell by Rules

182 lbs.

Thickness of butt straps

outer 7/8"

inner 1"

No. and Description of Furnaces in each Boiler

2 - Deighton

Material

Steel

Tensile strength

26 to 30 tons

Smallest outside diameter

45 3/8"

Length of plain part

top

bottom

Thickness of plates

crown 9/16"

bottom 7/16"

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

184 lbs.

End plates in steam space: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 1/2"

Pitch of stays

18 x 16 1/2"

How are stays secured

Double nuts and washers

Working pressure by Rules

186 lbs.

Tube plates: Material

front Steel

back Steel

Tensile strength

26 to 30 tons

Thickness

3/32"

3/4"

Mean pitch of stay tubes in nests

12 3/4 x 8 1/4"

Pitch across wide water spaces

14"

Working pressure

front 184 lbs.

back 182 lbs.

Girders to combustion chamber tops: Material

Steel

Tensile strength

26 to 30 tons

Depth and thickness of girder

at centre

2 @ 8 1/8 x 7/8"

Length as per Rule

31 5/8"

Distance apart

10"

No. and pitch of stays

in each

2 @ 10"

Working pressure by Rules

185

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness: Sides

1/16"

Back

2 1/32"

Top

2 3/32"

Bottom

1/16"

Pitch of stays to ditto: Sides

9 1/4 x 9 3/8"

Back

9 1/4 x 9"

Top

10" x 10"

Are stays fitted with nuts or riveted over

Nuts in C.C.

Working pressure by Rules

180

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons

Thickness

27/32"

Lower back plate: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 3/16"

Pitch of stays at wide water space

13" x 9"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

215

Main stays: Material

Steel

Tensile strength

28 to 32 tons

Diameter

At body of stay, 4 wing stay 2 3/4"

or other stay 2 5/8"

No. of threads per inch

6

Area supported by each stay

297 sq"

Working pressure by Rules

186

Screw stays: Material

Steel

Tensile strength

26 to 30 tons

Diameter

At body of stay, 1 3/4" at side

or other stay 1 5/8" at back

No. of threads per inch

9

Area supported by each stay

83.250"

Lloyd's Register

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REPORT ON BOILERS

Working pressure by Rules 182 Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { 1 1/4 ✓
Over threads 1 1/4 ✓
No. of threads per inch 9 Area supported by each stay 100 Working pressure by Rules 180
Tubes: Material Iron ✓ External diameter { Plain 3 ✓ Thickness { 2 W.B. ✓ No. of threads per inch 9 ✓
Stay 3 ✓ 5/16 ✓
Pitch of tubes 4 1/4 x 4 1/8 ✓ Working pressure by Rules 190 Manhole compensation: Size of opening in
shell plate 16" x 12" ✓ Section of compensating ring 15" x 1 3/4 No. of rivets and diameter of rivet holes 28-1 1/8 ✓
Outer row rivet pitch at ends _____ Depth of flange if manhole flanged _____ ✓ 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 23 inclusive for boilers been complied with Yes

The foregoing is a correct description,

J. H. M. MACCOLL & POLLOCK LTD

Manufacturer.

Dates { During progress of Please see
of Survey { work in shops - - -
while { During erection on machinery report.
building { board vessel - - -

Are the approved plans of boiler and superheater forwarded herewith Yes
(If not state date of approval.)
Total No. of visits _____

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

Survey Fee £ Please see machinery report.
Travelling Expenses (if any) £ _____
When applied for, 192 _____
When received, 192 _____

G. Anderson & H. A. H. H. H.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 6 FEB 1925

Assigned _____



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Foundation