

REPORT ON BOILERS.

No. 87354

15 JUL 1931

Received at London Office

Date of writing Report

1931

When handed in at Local Office

11/11/31

Port of Newcastle - on - Tyne.

No. in Survey held at Reg. Book.

Wallsend - on - Tyne

Date, First Survey

11 Nov 1930

Last Survey

8 July 1931

1931

on the

New Steel S. S. Pan Bolivar.

(Number of Visits)

Gross

9320

Tons

Net

5718

Master

Built at

Wallsend.

By whom built

Swan Hunter & Co Ltd

Yard No.

1465

When built

1931.

Engines made at

Wallsend.

By whom made

Wallsend Shipway & Co Ltd

Engine No.

906

When made

1931

Boilers made at

Wallsend.

By whom made

Wallsend Shipway & Co Ltd

Boiler No.

906

When made

1931

Nominal Horse Power

413.

Owners

Pan American Petroleum Transport Co Ltd.

Port belonging to

Los Angeles.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

The Steel Company of Scotland Ltd

(Letter for Record

S.

Total Heating Surface of Boilers

8640 sq ft

Is forced draught fitted

yes

Coal or Oil fired

oil

No. and Description of Boilers

Three single ended.

Working Pressure

220 lbs.

Tested by hydraulic pressure to

380 lbs.

Date of test

2-2-31.

No. of Certificate

545.

Can each boiler be worked separately

yes.

Area of Firegrate in each Boiler

O.F. only.

No. and Description of safety valves to each boiler

Two spring loaded. High lift.

Area of each set of valves per boiler

per Rule 18.29 sq ft

Pressure to which they are adjusted

225 lbs.

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'-11"

Is oil fuel carried in the double bottom under boilers

yes only.

Smallest distance between shell of boiler and tank top plating

2'-6"

Is the bottom of the boiler insulated

yes.

Largest internal dia. of boilers

16'-2 1/8"

Length

11'-9"

Shell plates: Material

Steel

Tensile strength

30.4 to 35 tons

Thickness

1 9/16"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

D.R.

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 19/32"

Pitch of rivets

4.645"

11"

Percentage of strength of circ. end seams

plate

64.5

rivets

Percentage of strength of circ. intermediate seam

plate

✓

Percentage of strength of longitudinal joint

plate

85.5

rivets

Working pressure of shell by Rules

223 lbs.

Thickness of butt straps

outer

1 3/16"

inner

1 5/16"

No. and Description of Furnaces in each Boiler

H corr. (Deighton)

Material

Steel

Tensile strength

26 to 30 tons

Smallest outside diameter

3'-5 1/4"

Length of plain part

top

✓

Thickness of plates

crown

5/8"

Description of longitudinal joint

weld.

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

none

Working pressure of furnace by Rules

221 lbs.

End plates in steam space: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 1/4"

Pitch of stays

15 1/2" x 19 1/2"

How are stays secured

double nuts

Working pressure by Rules

235 lbs.

Tube plates: Material

front

Steel

back

Tensile strength

26 to 30 tons

Thickness

1 3/16"

Mean pitch of stay tubes in nests

9.8"

Pitch across wide water spaces

13 3/4" x 8 1/2"

Working pressure

front

232 lbs

back

229 lbs.

Girders to combustion chamber tops: Material

Steel

Tensile strength

29 to 33 tons

Depth and thickness of girder

at centre

2 @ 11 3/8" x 3/4"

Length as per Rule

2'-10 1/2"

Distance apart

9"

No. and pitch of stays

in each

3 @ 8 1/8"

Working pressure by Rules

225 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness: Sides

1 1/16"

Back

23 3/32"

Top

1 1/16"

Bottom

1 1/8"

Pitch of stays to ditto: Sides

8 1/8" x 9"

Back

1 3/4" x 1"

Top

8 1/8" x 9"

Are stays fitted with nuts or riveted over

Side margin nuts.

Working pressure by Rules

222 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1"

Lower back plate: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 1/8"

Pitch of stays at wide water space

14 1/2" x 1 3/4"

Are stays fitted with nuts or riveted over

riveted

Working Pressure

470 lbs.

Main stays: Material

Steel

Tensile strength

28 to 32 tons

Diameter

At body of stay,

3 1/2"

No. of threads per inch

6

Area supported by each stay

302 1/4"

Working pressure by Rules

222 lbs.

Screw stays: Material

Steel

Tensile strength

26 to 30 tons

Diameter

At turned off part,

1 1/2"

No. of threads per inch

9

Area supported by each stay

54 1/4"

Working pressure by Rules 231 lbs Are the stays drilled at the outer ends yes Margin stays: Diameter { At turned off part, 1 7/8" or Over threads

No. of threads per inch 9 Area supported by each stay 84.4" Working pressure by Rules 250 lbs

Tubes: Material S.D. Steel External diameter { Plain 3" Thickness 3/8 - 5/16 - 1/4" No. of threads per inch 9

Pitch of tubes 4 3/8" x 4 3/8" + 4 1/4" x 4 3/8" Working pressure by Rules 221 lbs Manhole compensation: Size of opening in shell plate 16" x 20" Section of compensating ring 13 1/2" x 1 9/16" No. of rivets and diameter of rivet holes 36 x 1 1/32"

Outer row rivet pitch at ends 11" Depth of flange if manhole flanged 3 9/16" Steam Dome: Material none

Tensile strength 2041 Thickness of shell 3/8" Description of longitudinal joint

Diameter of rivet holes 3/16" Pitch of rivets 2 1/2" Percentage of strength of joint { Plate Rivets

Internal diameter 2 1/2" Working pressure by Rules 221 lbs Thickness of crown 3/8" No. and diameter of stays

How connected to shell 2 1/2" Inner radius of crown 3 9/16" Working pressure by Rules 221 lbs

Size of doubling plate under dome 6 1/4" Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell

Type of Superheater North Eastern Smoke tube Manufacturers of { Tubes Weldless Steel Tube Coy Ltd Steel castings Wrothington Steel Co Ltd

Number of elements 156 Material of tubes S.D. Steel Internal diameter and thickness of tubes 1 1/4" M x 2 1/2" M the

Material of headers wrot steel Tensile strength 26 to 30 tons Thickness 1 3/8" Can the superheater be shut off and the boiler be worked separately yes

Area of each safety valve 1 1/4" Is a safety valve fitted to every part of the superheater which can be shut off from the boiler yes Working pressure as per Rules 220 lbs

Pressure to which the safety valves are adjusted 225 lbs Hydraulic test pressure: tubes 1500 lbs 660 lbs and after assembly in place 550 lbs Are drain cocks or valves fitted to free the superheater from water where necessary yes

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

FOR THE WALLSEND SLIPWAY & ENGINEERING CO. LIMITED. The foregoing is a correct description. J. M. Pherson. Manufacturer.

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

while building { During erection on board vessel - - - } Total No. of visits

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

These Boilers have been built under Special Survey, Materials & Workmanship good. Hydraulic tests Satisfactory. They have been efficiently installed & fired in place, examined under steam & safety valves adjusted.

Survey Fee ... £ : 102 When applied for, 192

Travelling Expenses (if any) £ : 192 When received, 192

William Butler. Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 21 JUL 1931

Assigned La F. B. Rpt.