

REPORT ON BOILERS.

No. 16607

Received at London Office 14 MAR 1928

Date of writing Report

192

When handed in at Local Office

12.3.

1928

Port of

No. in Survey held at

Hartlepool

Date, First Survey

18th Nov. 27

Last Survey

8th March 1928

on the

M. V. "SCHUYLKILL"

(Number of Visits 26)

Gross Tons

Master

Built at Sunderland

By whom built Sir Jas. Laing & Co Ltd

Yard No. 702

When built 1928

Engines made at

Sunderland

By whom made William Duffell & Sons Ltd

Engine No. 168

When made 1928

Boilers made at

Hartlepool

By whom made Richardsons, Westgarth

Boiler No. D17A

When made 1928

Nominal Horse Power

151

Owners Anglo American Oil Co

Port belonging to

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

Manufacturers of Steel Messrs The Steel Co of Scotland.

(Letter for Record (S))

Total Heating Surface of Boilers 2265 sqft

Is forced draught fitted Yes

Coal or Oil fired Oil

No. and Description of Boilers 1 Single ended

Working Pressure 150 lbs.

Tested by hydraulic pressure to 275 lbs Date of test 1-2-28 No. of Certificate 3128

Can each boiler be worked separately

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

Double Spring Loaded

Area of each set of valves per boiler

per Rule 20.58

Pressure to which they are adjusted 155 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

8'-0"

Is oil fuel carried in the double bottom under boilers

Yes

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

12'-10"

Length

11'-5"

Shell plates: Material Steel

Tensile strength 28/32

Thickness

29/32

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

Double Riv. Lap

Long. seams

Double Riv. D. Butt Straps

Diameter of rivet holes in

circ. seams 1"

long. seams 1"

Pitch of rivets

3 1/8"

6 1/4"

Percentage of strength of circ. end seams

plate 68

rivets 45.7

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 84

rivets 85.5

Working pressure of shell by Rules

150 lbs.

combined 89.4

Thickness of butt straps

outer 23/32

inner 21/32

No. and Description of Furnaces in each Boiler

2 Morrison

Material Steel

Tensile strength 26/30

Smallest outside diameter

3'-1 3/8"

Length of plain part

top

bottom

Thickness of plates

crown 7/16"

bottom

Description of longitudinal joint

Welded

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

Working pressure of furnace by Rules

167 lbs

End plates in steam space: Material

Steel

Tensile strength 26/30

Thickness

1"

Pitch of stays 16 3/4" x 18 3/8"

How are stays secured

Double nuts

Working pressure by Rules

151.5 lbs.

Tube plates: Material

front Steel

back Steel

Tensile strength

26/30

Thickness

13/16"

1/16"

Lean pitch of stay tubes in nests

9 3/32"

Pitch across wide water spaces

13 1/2"

Working pressure

front 165.5 lbs

back 191 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

26/30

28/32

Depth and thickness of girder

Centre

1 1/4"

1 5/8"

Length as per Rule

2'-6 3/32"

Distance apart

Wings 9 1/4"

Centre 6"

No. and pitch of stays

Each

3

1 1/4"

Working pressure by Rules

158 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30

Thickness: Sides

9/16"

Back

23/32"

Top

9/16"

Bottom

1/16"

Pitch of stays to ditto: Sides

7 1/4" x 8"

Back

8" x 9"

Top

7 1/4" x 9 1/4"

Are stays fitted with nuts or riveted over

Riveted & Nuts

Working pressure by Rules

156 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30

Thickness

13/16"

Lower back plate: Material

Steel

Tensile strength

26/30

Thickness

3/4"

Pitch of stays at wide water space

13 1/2"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

184.5 lbs.

Main stays: Material

Steel

Tensile strength

28/32

Diameter

At body of stay

2 1/2" & 2 5/8"

No. of threads per inch

6

Area supported by each stay

15 1/8" x 18 3/8" & 16 3/4" x 18 3/8"

Working pressure by Rules

161 lbs & 163 lbs

Screw stays: Material

Steel

Tensile strength

26/30

Diameter

At turned off part

1 1/2"

No. of threads per inch

9

Area supported by each stay

8" x 9"

Working pressure by Rules *173 lbs* Are the stays drilled at the outer ends *Yes* Margin stays: Diameter { At turned off part, *1 5/8"* Over threads *1 3/8"*

No. of threads per inch *9* Area supported by each stay *8" x 11 1/4"* Working pressure by Rules *169 lbs*

Tubes: Material *Iron* External diameter { Plain *2 1/2"* Stay *2 1/2"* Thickness { No. 8, I.W.G. *5/16 & 3/8"* No. of threads per inch *9*

Pitch of tubes *3 3/4" x 3 23/32"* Working pressure by Rules *221 lbs* Manhole compensation: Size of opening in shell plate *12" x 16"* Section of compensating ring *12" x 1 3/16"* No. of rivets and diameter of rivet holes *36, 1"*

Outer row rivet pitch at ends *6 1/4"* Depth of flange if manhole flanged *1"* Steam Dome: Material *Iron*

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 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

The foregoing is a correct description,
 For RICHARDSONS, WESTGARTH & Co. LIMITED
[Signature] Manufacturer.

Dates of Survey { During progress of work in shops - - - *Nov. 8, 24, 28, Dec. 2, 8, 9, 12, 13, 15, 16, 19, 20, 21* Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval)
 while building { During erection on board vessel - - - *22, 28, Jan 4, 10, 16, 17, 23, 30, Feb 1, Mar 2, 5, 7, 8* Total No. of visits *26*

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

This boiler has been examined under Special Survey. The workmanship and materials are good. On completion it satisfactorily withstood the hydraulic test. All the boiler mountings have been tested to 400 lbs. The boiler is being despatched to Sunderland for fitting on board. The boiler has been satisfactorily fitted on board the vessel. The safety valves adjusted under steam; for notation see machinery report.

Survey Fee ... £ *15* : *2* : - When applied for, *15 Mar 1928*
 Travelling Expenses (if any) £ : : When received, *16.3. 1928*

[Signature]
R.D. Shilston & A. Daintith
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUES. 15 MAY 1928*
 Assigned *See Sec. 2. 1st Pt. 29/25*