

REPORT ON BOILERS.

No. 85442

Received at London Office 11 MAR 1930

Date of writing Report

10

When handed in at Local Office

8th Mar 1930

Port of Newcastle-on-Tyne.

No. in Survey held at

Newcastle

Date, First Survey

28 May 1929

Last Survey

4 March 1930

Reg. Book.

(Number of Visits)

Gross 8033

Net 4498

on the

STEEL SC. M.V. "ANGLO SWEDE"

Master

Built at

Walker

By whom built Sir W.G. Armstrong Whitworth & Co. Ltd. Yard No. 1048

When built 1930

Engines made at

Stockholm

By whom made

Aktiebolaget Atlas Diesel & Co. Ltd.

Engine No. 50122 When made 1930

Boiler made at

Scotswood

By whom made

Sir W.G. Armstrong Whitworth & Co. (Eng.) Ltd. Boiler No. 79. When made 1930

Nominal Horse Power

848

Owners

Rederiaktiebolaget Tanker

Port belonging to

Stockholm

MULTITUBULAR BOILERS ~~MAIN AUXILIARY OR~~ DONKEY.

Manufacturers of Steel The Steel Company of Scotland (Plates) J. Thompson Wolverhampton (Furnaces) Letter for Record S.

Total Heating Surface of Boilers

2280 sq ft.

Is forced draught fitted

Yes.

Coal or Oil fired

oil

No. and Description of Boilers

One S.E. multitubular

Working Pressure

180 lb/sq in.

Tested by hydraulic pressure to

320 lb/sq in.

Date of test 14-9-29. No. of Certificate

395

Can each boiler be worked separately

Yes.

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

2 spring loaded (High Lift)

Area of each set of valves per boiler

per Rule $\frac{1}{2} \times 17.55 = 8.775$
as fitted 9.8 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'-6"

Length

11'-0"

Shell plates: Material

Steel

Tensile strength

28-32 tons

Thickness

1 1/32"

Are the shell plates welded or flanged

neither

Description of riveting: circ. seams

end D.R. Lap.

long. seams

T.R. Double Butt Straps

Diameter of rivet holes in

circ. seams 1 1/4"
long. seams 1 1/4"

Pitch of rivets

3.7 ins.
8 7/8"

Percentage of strength of circ. end seams

plate 66.2%
rivets 44.7%

Percentage of strength of circ. intermediate seam

plate
rivets

Percentage of strength of longitudinal joint

plate 86%
rivets 86%
combined 89.4%

Working pressure of shell by Rules

186 lb/sq in.

Thickness of butt straps

outer 1 5/16"
inner 1 1/16"

No. and Description of Furnaces in each Boiler

3. Morrison Section.

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

3'-6 1/2"

Length of plain part

top 10 1/2"
bottom

Thickness of plates

crown 1 1/8"
bottom 1 1/32"

Description of longitudinal joint

welded.

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

none

Working pressure of furnace by Rules

180 lb/sq in.

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

1 1/32"

Pitch of stays 19" x 19 1/2"

How are stays secured

Nuts & washers inside & outside

Working pressure by Rules

182 lb/sq in.

Tube plates: Material

front Steel
back Steel

Tensile strength

26-30 tons

Thickness

1 9/16"
1 1/32"

Mean pitch of stay tubes in nests

9.375"

Pitch across wide water spaces

13 1/2" x 7.5"

Working pressure

front 183 lb/sq in.
back 250 lb/sq in.

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

8 1/4" x 1 1/2"

Length as per Rule

2'-6 1/2"

Distance apart

9"

No. and pitch of stays

in each

2 @ 9 1/2"

Working pressure by Rules

210 lb/sq in.

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

2 3/32"

Back

2 3/32"

Top

2 3/32"

Bottom

1 7/8"

Pitch of stays to ditto: Sides

7 7/8" x 8 1/2"

Back

8.3" x 8"

Top

9" x 9 1/2"

Are stays fitted with nuts or riveted over

rivetted.

Working pressure by Rules

212 lb/sq in.

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

1 5/16"

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

2 3/32"

Pitch of stays at wide water space

14 3/4" x 8"

Are stays fitted with nuts or riveted over

rivetted.

Working Pressure

240 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

376 sq in.

Working pressure by Rules

182 lb/sq in.

Screw stays: Material

Steel

Tensile strength

26-30 tons

Diameter

At turned off part, or over threads

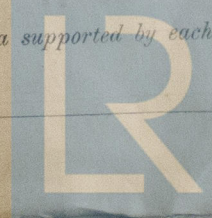
1 5/8"

No. of threads per inch

9.

Area supported by each stay

66.4 sq in.



Lloyd's Register Foundation

0200-1711M

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Working pressure by Rules $230 \frac{60}{10}$ Are the stays drilled at the outer ends *ho.* Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part. } 1\frac{1}{8}'' \\ \text{Over threads} \end{array} \right.$
No. of threads per inch *9.* Area supported by each stay 92.96 sq ins. Working pressure by Rules $226 \frac{60}{10}$
Tubes: Material *Steel* External diameter $\left\{ \begin{array}{l} \text{Plain } 2\frac{1}{2}'' \\ \text{Stay } 2\frac{1}{2}'' \end{array} \right.$ Thickness $\left\{ \begin{array}{l} 9 \text{ wg. } 7\frac{1}{16}'' + 3\frac{3}{8}'' \\ \end{array} \right.$ No. of threads per inch *9.*
Pitch of tubes $3\frac{3}{4}''$ Working pressure by Rules *Plain 230 lbs. Stay 210 lbs.* Manhole compensation: Size of opening
shell plate $21'' \times 17''$ Section of compensating ring $19.375'' \times 1.218''$ No. of rivets and diameter of rivet holes $40 @ 1\frac{5}{16}''$
Outer row rivet pitch at ends $4'' + 9''$ Depth of flange if manhole flanged $3\frac{3}{8}''$ 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 $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$
Internal diameter Working pressure by Rules Thickness of crown No. and diameter
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 $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$
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 22 inclusive for boilers been complied with *Yes.*
The foregoing is a correct description,
FOR *SIR W. G. ARMSTRONG WHITWORTH & COMPANY (ENGINEERS) LIMITED* Manufacture

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops - -} \\ \text{while building} \end{array} \right.$ *See Weekly Report* Are the approved plans of boiler and superheater forwarded herewith *Yes.*
(If not state date of approval.)
Total No. of visits

Is this Boiler a duplicate of a previous case *ho.* If so, state Vessel's name and Report No.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This Boiler has been built under Special Survey. The material & workmanship are sound and good. The Boilers was hydraulically tested as per Rules & found satisfactory. The safety valves were adjusted under steam to the approved working pressure.*

Survey Fee £ *15 : 4 : -* When applied for, *See Weekly Report.*
Travelling Expenses (if any) £ : : When received, *19*

L. Baskett.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 14 MAR 1930*
Assigned *See Nwc. 76. 85442*