

# REPORT ON BOILERS.

No. 29114.

12 AUG 1925

Received at London Office

Date of writing Report

192

When handed in at Local Office - 7 AUG. 1925

Port of

Sunderland

No. in Survey held at Reg. Book.

Sunderland

Date, First Survey

Last Survey 4<sup>th</sup> Aug 1925

(Number of Visits

Gross 1260.90

Tons

Net 625 674.74

39009 on the S.S. 'FIREGLOW'

new steel S.S. 'FIREGLOW'

Master

Built at Sunderland

By whom built Messrs A.P. Austin Yard No. 309

When built 1925

Engines made at

Sunderland

By whom made North Eastern Marine Eng Co Engine No. 2609

When made 1925

Boilers made at

Sunderland

By whom made North Eastern Marine Eng Co. Boiler No. 2609

When made 1925

Nominal Horse Power

158

Owners Gas, Light & Coke Co Ltd.

Port belonging to

London

Mgrs: Stephenson Clarke & Co

## MULTITUBULAR BOILERS - MAIN, ~~UTILITY, OR DONKEY.~~

Manufacturers of Steel

David Colville & Sons Ltd.

(Letter for Record (S))

Total Heating Surface of Boilers

2550 sq ft

Is forced draught fitted

No

Coal or Oil fired

coal

No. and Description of Boilers

One - Single ended marine type

Working Pressure

180 lbs

Tested by hydraulic pressure to

320 lbs

Date of test 16-6-25

No. of Certificate 3923

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

43.7 sq ft

No. and Description of safety valves to each boiler

Two - Direct spring loaded

Area of each set of valves per boiler

per Rule 16.34 sq in

as fitted 19.2 sq in

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

No

Smallest distance between boiler uptakes and bunkers

4'-6"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and top plating of floor

1'-6"

Is the bottom of the boiler insulated

No

Largest internal dia. of boilers

16'-3 1/2"

Length 10'-6"

Shell plates: Material

Steel

Tensile strength 28-32 tons

Thickness

1 1/4"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

and D.R. Lap

long. seams

T.R.D.B.S.V

Diameter of rivet holes in

circ. seams 3/8"

long. seams 1 1/8"

Pitch of rivets

Front and bottom 3 1/4" Remainder 4"

9 7/8"

Percentage of strength of circ. end seams

plate

54.6

rivets 56.5

combined 46

Percentage of strength of circ. intermediate seam

plate

90.0

rivets 89.2

Working pressure of shell by Rules

180.9

Thickness of butt straps

outer 1"

inner 1 1/8"

No. and Description of Furnaces in each Boiler

4 - Deighton 40 cf.

Material

Steel

Tensile strength

26 to 30 tons

Smallest outside diameter

40 9/32"

Length of plain part

top

bottom

Thickness of plates

crown 3/32"

bottom 6/64"

Description of longitudinal joint

Welded

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

Yes

Working pressure of furnace by Rules

184 lbs

End plates in steam space

Material Steel

Tensile strength

26 to 30 tons

Thickness

1 3/8"

Pitch of stays 24 1/2" x 22 1/2"

How are stays secured

D. Nuts and washers

Working pressure by Rules

181 lbs

Tube plates

Material

front steel

back steel

Tensile strength

26 to 30 tons

Thickness

7/8" + 3/4" D.P. in shell

25"

32"

Working pressure

front 184 lbs

back 184 lbs

Girders to combustion chamber tops

Material Steel

Tensile strength

28 to 32 tons

Depth and thickness of girder

at centre 2 @ 9 1/8" x 1" thick

Length as per Rule

33"

Distance apart

13"

No. and pitch of stays

Working pressure by Rules

182.5 lbs

Combustion chamber plates

Material Steel

Tensile strength

26 to 30 tons

Thickness: Sides

25"

Back

25"

Top

25"

Bottom

15"

7/16"

Pitch of stays to ditto

Sides 11 3/8" x 10"

Back 10 5/16" x 11 1/4"

Top 7 3/4" x 13"

Are stays fitted with nuts or riveted over

Nuts

Working pressure by Rules

Sides 184 lbs

Back 181"

Top 184"

Front plate at bottom

Material Steel

Tensile strength

26 to 30 tons

Thickness

7/8"

Lower back plate

Material Steel

Tensile strength

26 to 30 tons

Thickness

7/8"

Pitch of stays at wide water space

14 1/2"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

183 lbs

Main stays

Material Steel

Tensile strength

28 to 30 tons

Diameter

At body of stay 3 3/8"

Over threads

No. of threads per inch

6

Area supported by each stay

551.25 sq in

Working pressure by Rules

181 lbs

Screw stays

Material Steel

Tensile strength

26 to 30 tons

Diameter

At turned off part 1 3/8"

Over threads

No. of threads per inch

9

Area supported by each stay

114 sq in

Working pressure by Rules 18/46 Are the stays drilled at the outer ends no Margin stays: Diameter 2" At turned off part or Over threads

No. of threads per inch 9 Area supported by each stay 1330" Working pressure by Rules 18/46

Tubes: Material Wootton External diameter 3 1/4" Thickness 8.W.G. No. of threads per inch 9

Pitch of tubes 4 1/2" x 4 1/2" Working pressure by Rules Margin 201 In next 2574 Manhole compensation: Size of opening in Master 16" x 12"

Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓

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 ✓

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 ✓

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,  
 FOR THE NORTH EASTERN MARINE ENGINEERING CO. LTD. Manufacturer.  
C. T. Adams

Dates of Survey During progress of work in shops - - Please see Mch. Rpt. Are the approved plans of boiler and superheater forwarded herewith ✓  
(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.)  
The materials and workmanship are good. The boiler has been constructed under special survey and satisfactorily fixed in the vessel.

Survey Fee ... .. £ See Mch. Rpt. When applied for, 192  
 Travelling Expenses (if any) £ See Mch. Rpt. When received, 192

George Anderson  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 14 AUG 1925

Assigned



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 Foundation