

## REPORT ON BOILERS.

No. 10-150

Received at London Office 28 DEC 1931

Date of writing Report

19

When handed in at Local Office

24 Dec. 1931

Port of

Belfast.

No. in Survey held at

Belfast.

Date, First Survey

See 1-8. memo rpt.

Last Survey

19

No. Book.

on the Tain Se. MV. "CONUS"

(Number of Visits)

Gross 1132.

Tons

Net

Master

Built at Belfast.

By whom built

Workman, Clark (1928) Ltd. Yard No. 518. When built 1931.

Engines made at

Wallsend.

By whom made

North Eastern Marine Eng. Co. Ltd.

Engine No. 2771-2

When made 1931.

Boilers made at

Belfast.

By whom made

Workman, Clark (1928) Ltd.

Boiler No. 518.

When made 1931.

Nominal Horse Power

714.

Owners

Anglo-Saxon Petroleum Co. Ltd.

Port belonging to

London.

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

The British (Guest, Keen, Baldwins) Iron &amp; Steel Co. Ltd.

(Letter for Record S.)

Total Heating Surface of Boilers

Each 1247 sq. ft. Total 2494 sq. ft.

Is forced draught fitted

Yes.

Coal or Oil fired oil or waste gas.

No. and Description of Boilers

2. S.E. Multi

Working Pressure 150 lbs. sq. in.

Tested by hydraulic pressure to

275 lbs.

Date of test

3/2/31.

No. of Certificate

955.

Can each boiler be worked separately

Yes.

Area of Firegrate in each Boiler

✓

No. and Description of safety valves to each boiler

Two pair Rockburns Improved High Lift.

Area of each set of valves per boiler

per Rule 5.670 sq. in.

Pressure to which they are adjusted

150 lbs. 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

No main boilers.

Smallest distance between boilers or uptakes and bunkers or woodwork

18".

Is oil fuel carried in the double bottom under boilers

No.

Smallest distance between shell of boiler and tank top plating

✓

Is the bottom of the boiler insulated

Yes.

Largest internal dia. of boilers

11'-9".

Length

10'-6".

Shell plates: Material

Steel.

Tensile strength

28/32 tons.

Thickness

25/32"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end Double.

Long. seams

Double riveted, double B.S.

Diameter of rivet holes in

circ. seams 1 1/32"

long. seams 25/32"

Pitch of rivets

2.785"

5 15/16"

Percentage of strength of circ. end seams

plate 63%

rivets 59%

Percentage of strength of circ. intermediate seam

plate ✓

rivets ✓

Percentage of strength of longitudinal joint

plate 85.8%

rivets 86.01%

combined 88.8%

Working pressure of shell by Rules

155 lbs. sq. in.

Thickness of butt straps

outer 21/32"

inner 25/32"

No. and Description of Furnaces in each Boiler

2 - Deighton.

Material

Steel.

Tensile strength

26/30 tons.

Smallest outside diameter

41 15/16"

Length of plain part

top ✓

bottom ✓

Thickness of plates

crown 15/32"

bottom 15/32"

Description of longitudinal joint

welded.

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

✓

Working pressure of furnace by Rules

160.2 lbs. sq. in.

End plates in steam space: Material

Steel.

Tensile strength

26/30 tons.

Thickness

1"

Pitch of stays 17 x 15/16"

How are stays secured

Double nuts.

Working pressure by Rules

169.5 lbs. sq. in.

Tube plates: Material

front Steel.

back

Tensile strength

26/30 tons.

Thickness

3/4"

Mean pitch of stay tubes in nests

11 1/4 x 7 1/4"

Pitch across wide water spaces

13 1/2"

Working pressure

front 213 lbs. sq. in.

back 235 lbs. sq. in.

Girders to combustion chamber tops: Material

Steel.

Tensile strength

28/32 tons.

Depth and thickness of girder

at centre

7 1/2" x 1 1/2"

Length as per Rule

2'-9"

Distance, apart

8 1/2"

No. and pitch of stays

in each

2.

9"

Working pressure by Rules

166.4 lbs. sq. in.

Combustion chamber plates: Material

Steel.

Tensile strength

26/30 tons.

Thickness: Sides

19/32"

Back

3/4"

Top

19/32"

Bottom

11/16"

Pitch of stays to ditto: Sides

9 x 7 1/4"

Back

8 1/2 x 9"

Top

8 1/2 x 9"

Are stays fitted with nuts or riveted over

Side stays &amp; marginal back stays fitted with nuts. Centre back stays riveted over.

Working pressure by Rules

172.5 lbs. sq. in.

Front plate at bottom: Material

Steel.

Tensile strength

26/30 tons.

Thickness

1"

Lower back plate: Material

Steel.

Tensile strength

26/30 tons.

Thickness

13/16"

Pitch of stays at wide water space

13 1/2"

Are stays fitted with nuts or riveted over

Marginal stays only fitted with nuts.

Working Pressure

211 lbs. sq. in.

Main stays: Material

Steel.

Tensile strength

28/32 tons.

Diameter

At body of stay, 2 1/2"

or

Over threads

No. of threads per inch

6

Area supported by each stay

272 sq. in.

Working pressure by Rules

163 lbs. sq. in.

Screw stays: Material

Steel.

Tensile strength

26/30 tons.

Diameter

At turned off part, 1 1/2"

or

Over threads

1 3/4"

No. of threads per inch

9

Area supported by each stay

76 1/2 sq. in.



Working pressure by Rules 164 lb/sq in Are the stays drilled at the outer ends yes Margin stays: Diameter 1 1/4 At turned off part, or Over threads 1 1/4  
No. of threads per inch 9 Area supported by each stay 9.40 Working pressure by Rules 166.5  
Tubes: Material LAP WELDED W.I. External diameter 2 1/2 Plain 2 1/2 Thickness 5/16 to 1/4 No. of threads per inch 9  
Pitch of tubes 3 1/2 x 3 5/8 Working pressure by Rules 300 lb/sq in Manhole compensation: Size of opening in shell plate 15 x 19 Section of compensating ring 32 1/2 x 32 1/2 x 3/32 No. of rivets and diameter of rivet holes 42 1 1/2  
Outer row rivet pitch at ends 7 1/4 Depth of flange if manhole flanged 3 1/4 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  
Number of elements Material of tubes Manufacturers of Tubes Steel castings 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

The foregoing is a correct description,  
pro WORKMAN CLARK (1928) LIMITED,  
J. Cunningham Secretary, Manufacturer.

Dates of Survey { During progress of work in shops - - }  
while building { During erection on board vessel - - }

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

Total No. of visits

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

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

These boilers have been constructed under special survey. The materials and workmanship are sound and good. They have been efficiently fixed in the vessel and the safety valves adjusted under steam to 150 lb/sq in.

Survey Fee ... £ See Machy report. When applied for, 19  
Travelling Expenses (if any) £ See report. When received, 19

John K. Williams.  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 1 JAN 1932

Assigned

See other rpt  
Bel 28. 10750



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