

REPORT ON BOILERS.

No. 11456

Received at London Office

29 JAN 1935

Date of writing Report

193

When handed in at Local Office 26-1-35

193

Port of

Belfast
See 4 & 5. nely rpt.No. in
Reg. Book.

8336 on the

Belfast

Date, First Survey

Last Survey

22nd Jan 1935

(Number of Visits)

Gross 8000
Net 4700

Master

Built at

Belfast

By whom built

Workman Clark 1928^{Ltd}

Yard No. 536

When built 1935

Engines made at

Newcastle

By whom made

Hawthorn Leslie & Co L^d

Engine No. 3823

When made 1935

Boilers made at

Belfast

By whom made

Workman Clark 1928^{Ltd}

Boiler No. 536

When made 1935

Nominal Horse Power

502

Owners

Anglo Saxon Petroleum Co L^d

Port belonging to

London

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

Manufacturers of Steel

Colvilles L^d Glasgow.

(Letter for Record (S))

Total Heating Surface of Boilers

2502 sq. ft.

Is forced draught fitted

Yes

Coal or Oil fired Oil or
Waste gases

No. and Description of Boilers

One single ended cybn. multitubular

Working Pressure 180 lbs.

Tested by hydraulic pressure to

320 lbs.

Date of test

14-11-34

No. of Certificate

989

Can each boiler be worked separately

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

One high lift double 2 1/2"

Area of each set of valves per boiler

per Rule 1/2 = 9.5
as fitted 20 4.91

Pressure to which they are adjusted

180 lbs.

Are they fitted with easing gear

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

The boiler is placed on
Twin deck, aft of engine room

Is the bottom of the boiler insulated

Largest internal dia. of boilers

14' 6"

Length

11' 6"

Shell plates: Material

Steel

Tensile strength 28-32 tons

Thickness

1 3/16"

Are the shell plates

welded or flanged

flanged

Description of riveting: circ. seams

and DR.

long. seams D.B.S. T.R.

Diameter of rivet holes in

circ. seams

1 3/16"

Pitch of rivets

3-7 1/2"

Percentage of strength of circ. end seams

plate 64.7%
rivets 50.5%

Percentage of strength of circ. intermediate seam

plate 85.8%
rivets 85.75%

Percentage of strength of longitudinal joint

plate 85.75%
combined

Working pressure of shell by Rules

180.5 lbs.

Thickness of butt straps

outer 3/32"
inner 1/32"

No. and Description of Furnaces in each Boiler

3 Deighton

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

43 3/32"

Length of plain part

top
bottom

Thickness of plates

crown
bottom

35/64"

Description of longitudinal joint

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

Working pressure of furnace by Rules

180 lbs.

End plates in steam space: Material

Steel

Tensile strength

26-30

Thickness

1 1/4"

Pitch of stays 20" x 19 1/2"

How are stays secured

double nuts & washers

Working pressure by Rules

187 15/16"

Tube plates: Material

front Steel
back do

Tensile strength

26-30

Thickness

3/4"

Mean pitch of stay tubes in nests

9 1/4"

Pitch across wide water spaces

13 1/2"

Working pressure

front 186.
back 234

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre 9 1/2" x 3/4" double

Length as per Rule

Distance apart 9"

No. and pitch of stays

in each 3,

7 1/2 pitch

Working pressure by Rules

210

Combustion chamber plates: Material

Steel

Tensile strength

26-30

Thickness: Sides

1 1/16"

Back

1 3/16"

Top

1 1/16"

Bottom 7/8"

Pitch of stays to ditto: Sides

8" x 9 1/2"

Back

9" x 8 1/4"

Top

9" x 7 1/2"

Are stays fitted with nuts or riveted over back stays riveted.

Working pressure by Rules

210

Front plate at bottom: Material

Steel

Tensile strength 26-30 tons

Thickness

15/16"

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness 7/8"

Pitch of stays at wide water space

13 1/2" x 8 1/4"

Are stays fitted with nuts or riveted over

nuts fitted over stays

Working Pressure

200 lbs.

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

390 sq. in.

Working pressure by Rules

201 lbs.

Screw stays: Material

Steel

Tensile strength

26-30

Diameter

At turned off part,
or
Over threads

1 5/8"

No. of threads per inch

9

Area supported by each stay

74 1/4 sq. in.

Working pressure by Rules 205 Are the stays drilled at the outer ends yes Margin stays: Diameter ^{At turned off part,} 1 3/4"
 No. of threads per inch 9 Area supported by each stay 95 Working pressure by Rules 191
 Tubes: Material Wrought Iron External diameter ^{Plain} 2 1/2" Thickness ^{Stay} 5/16" No. of threads per inch 9
 Pitch of tubes 3 3/4" x 3 5/8" Working pressure by Rules 210 1/2 Manhole compensation: Size of opening in
 shell plate 15" x 19" Section of compensating ring 11" x 1 1/4" No. of rivets and diameter of rivet holes 36 - 1 1/4"
 Outer row rivet pitch at ends 4 7/8" 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 ^{Plate} -
 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} -
 Material of headers - Tensile strength - Steel castings - Internal diameter and thickness of tubes -
 the boiler be worked separately - Thickness - Can the superheater be shut off and
 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,
 pro WORKMAN CLARK (1928) LIMITED.
 J. Cunningham Secretary. Manufacturer.

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

Are the approved plans of boiler and superheater forwarded herewith yes
 (If not state date of approval.)
 Total No. of visits -

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

This boiler was constructed under special survey, and in accordance with the approved plan, and tested by hydraulic pressure in accordance with the Rules. The boiler was installed & fastened on the main deck in the main engine room. The safety valves were adjusted under steam, no appreciable accumulation was noted during the test under oil firing.

The workmanship & materials are good and the boiler in my opinion is eligible for use on a Classed vessel.

Survey Fee ... £ 16 : 14 : 0.
 Travelling Expenses (if any) £ : :

When applied for, 26/1/1935
 When received, 16-2-1935

Charles J. Hunter
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 12 FEB. 1935

Assigned

See Ref. J.E. 11456



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