

REPORT ON BOILERS.

No. 12093

Received at London Office

FEB 23 1938

Date of writing Report

19

When handed in at Local Office

19

Port of *Belfast*

Visits included in 7.8. mch.

No. in Survey held at

Belfast

Date, First Survey

Last Survey *14 July* 19*38*

on the

DEVIS SINGLE SCREW OIL ENGINE

(Number of Visits)

Tons { Gross *4054*
Net *3744*

Master

Built at

Belfast

By whom built

*Harland & Wolff L.*Yard No. *1002*When built *1938*

Engines made at

Belfast

By whom made

*Harland & Wolff L.*Engine No. *1002*When made *1938*

Boilers made at

Belfast

By whom made

*Harland & Wolff L.*Boiler No. *1002*When made *1938*

Nominal Horse Power

898

Owners

*Lampport & Holt L.*Port belonging to *Liverpool*MULTITUBULAR BOILERS ~~MAN, AUXILIARY, OR~~ DONKEY.

Manufacturers of Steel

Coleman & Co.(Letter for Record *S*)

Total Heating Surface of Boilers

15254

Is forced draught fitted

No

Coal or Oil fired

Oil

No. and Description of Boilers

*One S.E. cylindrical*Working Pressure *120 lbs*

Tested by hydraulic pressure to

230 lb

Date of test

31-8-37

No. of Certificate

1036

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler *1-2 1/2" double opening H.L. (opp.)*

Area of each set of valves per boiler

{ per Rule *7.28"*
as fitted *7.9"*

Pressure to which they are adjusted

120 lb

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

16"

Is oil fuel carried in the double bottom under boilers

Yes

Smallest distance between shell of boiler and tank top plating

2' 3"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

12' 6"

Length

10' 6"

Shell plates: Material

S

Tensile strength

29/33 ton

Thickness

23/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

Long. seams

T.R.D.B.

Diameter of rivet holes in

{ circ. seams *1 1/2"*
long. seams *1 1/2"*

Pitch of rivets

2.959"

Percentage of strength of circ. end seams

{ plate *66.32*
rivets *51.62*

Percentage of strength of circ. intermediate seam

{ plate *62*
rivets *51.62*

Percentage of strength of longitudinal joint

{ plate *62*
rivets *181.52*
combined *72.52*

Working pressure of shell by Rules

124 lb

Thickness of butt straps

{ outer *9/16"*
inner *1/2"*

No. and Description of Furnaces in each Boiler

Two Morion

Material

S

Tensile strength

24/30 ton

Smallest outside diameter

40 1/2"

Length of plain part

{ top *✓*
bottom *✓*

Thickness of plates

{ crown *3/16"*
bottom *3/16"*

Description of longitudinal joint

butt

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

Working pressure of furnace by Rules

152 lb

End plates in steam space: Material

S

Tensile strength

24/30 ton

Thickness

1 1/2"

Pitch of stays

16 1/2" x 16"

How are stays secured

Double nuts

Working pressure by Rules

127.9 lb

Tube plates: Material

{ front *S*
back *S*

Tensile strength

24/30 ton

Thickness

3/4"

Mean pitch of stay tubes in nests

11 1/2"

Pitch across wide water spaces

14 1/2"

Working pressure

{ front *154 lb*
back *158.8 lb*

Girders to combustion chamber tops: Material

S

Tensile strength

24/30 ton

Depth and thickness of girder

at centre

7 1/8" x 1 1/2"

Length as per Rule

29 15/16"

Distance apart

11"

No. and pitch of stays

in each

3 at 7"

Working pressure by Rules

128 lb

Combustion chamber plates: Material

S

Tensile strength

24/30 ton

Thickness: Sides

9/16"

Back

9/16"

Top

9/16"

Bottom

9/16"

Pitch of stays to ditto: Sides

10 1/2" x 8"

Back

9 x 9 1/4"

Top

11 x 7"

Are stays fitted with nuts or riveted over

Nuts

Working pressure by Rules

123 lb

Front plate at bottom: Material

S

Tensile strength

24/30 ton

Thickness

13/16"

Lower back plate: Material

S

Tensile strength

24/30 ton

Thickness

3/4"

Pitch of stays at wide water space

13"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

172 lb

Main stays: Material

S

Tensile strength

24/30 ton

Diameter

{ At body of stay, *2 1/2"*
or *2 1/2"*
Over threads *2 1/2"*

No. of threads per inch

6

Area supported by each stay

356"

Working pressure by Rules

124 lb

Screw stays: Material

S

Tensile strength

24/30 ton

Diameter

{ At turned off part, *1 1/2"*
or *1 3/8"*
Over threads *1 3/4"*

No. of threads per inch

9

Area supported by each stay

87.75"

Working pressure by Rules 143 lb Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 3/8" or Over threads 1 3/4"

No. of threads per inch 9 Area supported by each stay 107.5 sq in Working pressure by Rules 145 lb

Tubes: Material W.I. External diameter { Plain 3 1/4" Stay 3 1/4" Thickness { 8 w.g. 1/4" 9/32" 5/16" No. of threads per inch 9

Pitch of tubes 4 1/2" Working pressure by Rules 171 lb Manhole compensation: Size of opening in shell plate 16 1/2" x 12 1/2" Section of compensating ring 36 x 32 x 1 1/2" No. of rivets and diameter of rivet holes 28 - 1 1/8"

Outer row rivet pitch at ends 9" Depth of flange if manhole flanged 1 1/2" 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 95 Rivets 95

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 Yes

The foregoing is a correct description,
 For HARBAND AND WOLF, LONDON
A. J. Marshall Manufacturer.

Dates of Survey { During progress of work in shops - - } 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 -

Is this Boiler a duplicate of a previous case - If so, state Vessel's name and Report No. MU. DELANE BEL N° 10271.

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

This boiler has been built under special survey to an approved design. The materials and workmanship are good. It has been satisfactorily tested by hydraulic pressure, installed & fastened on a seat at the Starboard end of the engine room. The safety valves were adjusted under steam & the accumulation test was satisfactory. In my opinion this boiler is eligible for use on a vessel Classed with the Society

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

See machinery report

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

Committee's Minute FRI 25 FEB 1938

Assigned See Bel J.C. 12093