

# REPORT ON BOILERS.

No. 11,097

20 JUL 1942

Received at London Office

Date of writing Report

16<sup>th</sup> July 1942

When handed in at Local Office

14<sup>th</sup> July 1942

Port of

Manchester

No. in Survey held at

Hyde, near Manchester

Date, First Survey

17-11-41

Last Survey

25-5-1942

eg. Book.

British Merit

(Number of Visits 17)

Gross Tons

Net

on the

Glasgow

By whom built

Harland &amp; Wolff Ltd

Yard No.

1117G

When built

1942

Engines made at

By whom made

Engine No.

When made

Hyde, near Manchester

J. Adamson &amp; Co. Ltd.

99

Boiler No.

When made

1942

Boilers made at

Nominal Horse Power

128 each boiler

Owners

Port belonging to

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Colville Ltd. Glasgow

(Letter for Record S)

Total Heating Surface of Boilers

1918 sq. ft. each boiler

Is forced draught fitted

Yes

Oil fired and/or e.g. gas.

No. and Description of Boilers

Two S.E. Cyl. Multitubular Donkey Boilers

Working Pressure

150 lb/sq. in.

Cocks tested by hydraulic pressure to

275 lb.

Date of test

4-5-42

No. of Certificate

100

Can each boiler be worked separately

Not fitted by J. Adamson &amp; Co.

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

Area of each set of valves per boiler

per Rule

Pressure to which they are adjusted

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

Is the bottom of the boiler insulated

Largest internal dia. of boilers

12'-6"

Length

11'-0" inside

Shell plates: Material

S.M. Steel

Tensile strength

29-33 T.

Thickness

7/8"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end double

Long. seams

Double riv. double butt straps

Diameter of rivet holes in

circ. seams

13/32"

Pitch of rivets

3.038"

Percentage of strength of circ. end seams

plate 64.0

rivets 56.0

Percentage of strength of circ. intermediate seam

plate 84.57

rivets 106.7

Percentage of strength of longitudinal joint

plate 84.57

rivets 106.7

Working pressure of shell by Rules

154.6 lb/sq. in.

Thickness of butt straps

outer 11/16"

inner 13/16"

No. and Description of Furnaces in each Boiler

Two corrugated, Deighton section.

Material

S.M. Steel

Tensile strength

26-30 T.

Smallest outside diameter

3'-6"

Length of plain part

top

Thickness of plates

crown 1/2"

Description of longitudinal joint

weld.

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

Working pressure of furnace by Rules

171 lb.

End plates in steam space: Material

S.M. Steel

Tensile strength

26-30 T.

Thickness

15/16"

Pitch of stays

15" x 16 3/4"

How are stays secured

double nuts

Working pressure by Rules

159.7 lb.

Tube plates: Material

front S.M. Steel

Tensile strength

26-30 T.

Thickness

7/8"

Mean pitch of stay tubes in nests

9.53"

Pitch across wide water spaces

13 1/2" x 7 1/4"

Working pressure

front 161.4 lb.

back 261.6 lb.

Girders to combustion chamber tops: Material

S.M. Steel

Tensile strength

28-32 T.

Depth and thickness of girder

At centre

8 1/4", 1 1/2" (2 x)

Length as per Rule

29 15/16"

Distance apart

11"

No. and pitch of stays

In each

3 at 7 1/4"

Working pressure by Rules

162.3 lb.

Combustion chamber plates: Material

S.M. Steel

Tensile strength

26-30 T.

Thickness: Sides

3/4"

Back

3/4"

Top

3/4"

Bottom

3/4"

Pitch of stays to ditto: Sides

9 3/4" x 8 1/4"

Back

8" x 9 1/4"

Top

7 1/4" x 11"

Girders + margin stays with nuts inner end riveted over.

Working pressure by Rules

162.5 lb.

Front plate at bottom: Material

S.M. Steel

Tensile strength

26-30 T.

Thickness

7/8"

Lower back plate: Material

S.M. Steel

Tensile strength

26-30 T.

Thickness

15/16"

Pitch of stays at wide water space

13" x 9 1/4"

Are stays fitted with nuts or riveted over

Riveted over.

Working Pressure

188.3 lb.

Main stays: Material

S.M. Steel

Tensile strength

28-32 T.

Diameter

At body of stay, 2 1/2"

No. of threads per inch

6

Area supported by each stay

255.4 sq. in.

Working pressure by Rules

173.4 lb.

Screw stays: Material

S.M. Steel

Tensile strength

26-30 T.

Diameter

At turned off part, 1 1/2"

No. of threads per inch

11

Area supported by each stay

80.44 sq. in.

002457-002464-0218

Working pressure by Rules **155.9 lb.** Are the stays drilled at the outer ends **Mr.** Margin stays: Diameter { At turned off part, or Over threads **15/8", 2" at corner**  
No. of threads per inch **11** Area supported by each stay **97.12 sq. ins.** Working pressure by Rules **156.7 lbs.**  
Tubes: Material **S.M. Steel** External diameter { Plain **2 1/2"** Thickness { **10 LSG.** No. of threads per inch **9**  
Pitch of tubes **3 3/4" x 3 7/8"** Working pressure by Rules **150 lb.** Manhole compensation: Size of opening  
shell plate **12 1/2" x 16 1/2"** Section of compensating ring **17 9/16" x 3/4"** No. of rivets and diameter of rivet holes **28- 1 7/32" dia**  
Outer row rivet pitch at ends **9"** Depth of flange if manhole flanged **2" (welded ring)** 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 Rivets  
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 Manufacturers of { Tubes Steel castings  
Number of elements Material of tubes Internal diameter and thickness of tubes  
Material of headers Tensile strength Thickness Can the superheater be shut off  
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  
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 JOSEPH AMSON & CO. LIMITED, Manufacturer  
JOINT MANAGING DIRECTOR.

Dates of Survey { During progress of work in shops - - - 17-11-41, 5-1-42, 16-2-42, 16-3-42, 26-3-42, 30-3-42, 7-4-42, 18-5-42, 19-5-42, 21-5-42, 22-5-42, 25-5-42.  
while building { During erection on board vessel - - - 14-4-42, 21-4-42, 2-5-42, 4-5-42, 6-5-42  
Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) **18-11-41**  
Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed under Special Survey of tested materials and in accordance with the Secretary's letter, approved plans and the requirements of the Rules. The material and workmanship are of good quality, and the boilers when tested in the shop under hydraulic pressure of 275 lbs/sq. inch were found sound and tight. These boilers are in my opinion, suitable to be fitted on board a vessel classed with this Society for the purpose intended.  
For identification purposes, the boilers were marked:-

N<sup>o</sup> 99  
LLOYD'S TEST  
275 LBS  
W.P. 150 LBS  
W.T.M. 4.5.42

N<sup>o</sup> 100  
LLOYD'S TEST  
275 LBS  
W.P. 150 LBS  
E.L.K. 21.5.42.

Survey Fee **25 : 12 : 0** When applied for, **17-7-1942**  
25% for Supervision & Spec. **6 : 8 : 0**  
Travelling Expenses (if any) **4 : 10 : 0** When received, **192**

**L. J. Matheson & J. Knowles**  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned