

## REPORT ON BOILERS.

No. 17237

Received at London Office 23 APR 1942 9 - OCT 1942

Writing Report

12/4/42

When handed in at Local Office

20/4/42

Port of

MIDDLESBROUGH

Survey held at

Stockton

Date, First Survey 23<sup>rd</sup> Dec., 1941. Last Survey 3<sup>rd</sup> April, 1942

on the

M.V. "EMPIRE. WORDSWORTH"

(Number of Visits 10)

Gross  
Tons  
Net

at Sunderland

By whom built

Sir J. Laing &amp; Sons Ltd.

Yard No.

742

When built 1942

made at

Newcastle

By whom made

Hawthorn Leslie &amp; Co. Ltd.

Engine No.

3981.

When made 1942

made at

Stockton

By whom made

Stockton Chemical Engng. &amp; Refry. Bakers Ltd.

Boiler No.

6607.

When made 1942

Ministry of War Transport

Port belonging to

Sunderland

VERTICAL DONKEY BOILER. ["NELVIN" THIMBLE TUBE]

at Stockton

By whom made

Stockton Chemical Engng. &amp; Refry. Bakers Ltd.

Boiler No.

6607.

When made 1942

Where fixed

Manufacturers of Steel

Appley &amp; Hordern Steel Co. Ltd.

Heating Surface of Boiler

478 sq ft

Is forced draught fitted

No

Exn. Gas or

Coal or Oil fired

Yes

Description of Boilers

1 - "NELVIN" THIMBLE TUBE.

Working pressure

180 lb/sq in

by hydraulic pressure to

320 lb/sq in

Date of test

3/4/42

No. of Certificate

7044

of Firegrate in each Boiler

No. and Description of safety valves to each boiler

1 Double 1 3/4" dia

of each set of valves per boiler

per rule 3.54 sq in 3.07  
as fitted 4.8 sq in

Pressure to which they are adjusted

185 lb/sq in

Are they fitted with easing gear

yes

Whether steam from main boilers can enter the donkey boiler

Yes

Smallest distance between boiler or uptake and bunkers

Is oil fuel carried in the double bottom under boiler

Yes

Smallest distance between base of boiler and tank top plating

Is the base of the boiler insulated

Yes

Largest internal dia. of boiler

6'-7 1/4"

Height

16'-9"

Material

Steel

Tensile strength

29/33

Thickness

5/8"

shell plates welded or flanged

No

Description of riveting: circ. seams

end DR.

inter. DR.

BOTH DR.

long. seams DR - DBS

rivet holes in

circ. seams 1 1/8"  
long. seams 1 5/16"

Pitch of rivets

Top 3.22 in 3.27 in  
Bot 3.25 in 3.31 in

Percentage of strength of circ. seams

plates 7.24 6.75  
rivets 4.76 4.47

of Longitudinal joint

plates 7.24 7.54  
rivets 9.12 8.56  
combined

g pressure of shell by rules

180.5

Thickness of butt straps

outer 5/8"  
inner 5/8"

Crown: Whether complete hemisphere, dished partial spherical, or flat

Dished

Material

Steel

strength

26/30

Thickness

17/32"

Radius

6'-0"

Working pressure by rules

184

Position of Furnace: Plain, spherical, or dished crown

Plain

Material

Steel

Tensile strength

26/30

ss

1 5/8"

External diameter

top 4'-0"  
bottom 4'-0"

Length as per rule

7'-4 1/2"

Working pressure by rules

support stays circumferentially

Yes

and vertically

Yes

Are stays fitted with nuts or riveted over

of stays over thread

Yes

Radius of spherical or dished furnace crown

Yes

Working pressure by rule

Yes

ss of Ogee Ring

1 1/32"

Diameter as per rule

D 7 7/8"  
a 7 7/8"

Working pressure by rule

Yes

tion Chamber: Material

Tensile strength

Thickness of top plate

if dished

Working pressure by rule

Thickness of back plate

Diameter if circular

as per rule

Pitch of stays

Are stays fitted with nuts or riveted over

of stays over thread

Working pressure of back plate by rules

ates: Material

front

Tensile strength

Thickness

Mean pitch of stay tubes in nests

ising shell, Dia. as per rule

front

Pitch in outer vertical rows

Dia. of tube holes FRONT

stay

BACK

stay

alternate tube in outer vertical rows a stay tube

Working pressure by rules

front

back

to combustion chamber tops: Material

Tensile strength

ed thickness of girder at centre

Length as per rule

apart

No. and pitch of stays in each

Working pressure by rule



Crown stays: Material \_\_\_\_\_ Tensile strength \_\_\_\_\_ Diameter { at body of stay \_\_\_\_\_  
or \_\_\_\_\_  
over threads \_\_\_\_\_  
No. of threads per inch \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_

Screw stays: Material \_\_\_\_\_ Tensile strength \_\_\_\_\_ Diameter { at turned off part \_\_\_\_\_  
or \_\_\_\_\_  
over threads \_\_\_\_\_ No. of threads per inch \_\_\_\_\_  
Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Are the stays drilled at the outer ends \_\_\_\_\_

Tubes: Material \_\_\_\_\_ External diameter { plain \_\_\_\_\_ Thickness { \_\_\_\_\_  
stay \_\_\_\_\_  
No. of threads per inch \_\_\_\_\_ Pitch of tubes \_\_\_\_\_ Working pressure by rules \_\_\_\_\_

Manhole Compensation: Size of opening in shell plate 16" x 12" Section of compensating ring \_\_\_\_\_ No. of rivets and \_\_\_\_\_  
of rivet holes \_\_\_\_\_ Outer row rivet pitch at ends \_\_\_\_\_ Depth of flange if manhole flanged 3 3/4"

Uptake: External diameter 2'-8" Thickness of uptake plate 1 1/16"

Cross Tubes: No. \_\_\_\_\_ External diameters { \_\_\_\_\_ Thickness of plates \_\_\_\_\_

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with \_\_\_\_\_

For and on behalf of  
The foregoing is a correct description,  
STURTEVANT ENGINEERS & RULY  
Manu  
DIRECTOR

Dates of Survey { During progress of work in shops - 1941 Dec. 22, 30, 1942 Jan. 4, 13, Feb. 6, 19, 24, March 3, 17, April 3, Is the approved plan of boiler forwarded herewith No. 10/  
while building { During erection on board vessel - \_\_\_\_\_  
Total No. of visits 10.  
(If not state date of approval.)

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

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

This Boiler has been constructed under Special Survey & in accordance with the Rule Requirements & approved plan.

The materials & workmanship are good, & on completion the boiler was hydraulically tested to 320 lb 10" & found satisfactory.

[This Boiler has been forwarded to Messrs Hawthorn Leslie for installation on Contract No. 39]

This boiler has been installed on board in accordance with the Requirements of the Rules & found satisfactory under working conditions

R. E. Moffitt

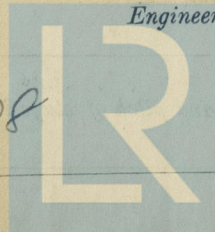
Survey Fee ... £ 3 : 4 : When applied for, 21/4/1942  
Travelling Expenses (if any) £ : : When received, 19

Committee's Minute  
Assigned

FRL 16 OCT 1942

See No. A.E. 33498

L. P. Smart  
Engineer Surveyor to Lloyd's Register of Shipping



Lloyd's Register  
Foundation